
Hospital bedside language assessment in post stroke patients

Avaliação da linguagem de pacientes no leito hospitalar depois do Acidente Vascular Cerebral

Evaluación de lenguaje de los pacientes en la cama de hospital después de Accidente Cerebrovascular

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Abstract

Introduction: Stroke is considered one of the principal causes of death or functional disability. Language disorders are among the possible symptoms that can result from a stroke. Therefore, it is important to include language in speech and language pathology hospital bedside assessment. **Objective:** To draw a profile of hospitalized patients after the stroke and to identify their language disorders **Method:** 11 patients hospitalized after stroke, with adequate level of consciousness to perform the language evaluation, were assessed by a semi-structured interview. **Results:** A higher incidence of Ischemic Cerebral Vascular Accident was found. Stroke was more frequent between 40 to 49 years, when there were no differences regarding gender. Language assessment pointed to different impairments: a) the verbal and mixed language (sign and verbal) happened in the same proportion; b) in most of the cases, language comprehension was preserved, as well as the maintenance of the discursive topic in the dialogue; c) 4 patients did not manage to introduce new discursive topic, 6 managed to form complete sentences and 9 presented phonoarticulatory and/or vocal alterations. **Conclusion:** Script application still in hospital bedside made possible to identify the main language disorders, to support the speech therapist guidelines to family members and health professionals who treat the patient in the hospital. To assess the language in the hospital bedside is essential to ratify the report of hospital discharge and to direct, when necessary, the patients to start the rehabilitation at the appropriate moment.

Keywords: Stroke; Language; Inpatients; Speech, Language and Hearing Sciences

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Resumo

Introdução: O Acidente Vascular Cerebral é apontado como uma das principais causas de óbito, além de ser a patologia que mais causa incapacidade funcional. Dentre as sequelas, estão as alterações de linguagem. Assim, torna-se importante conhecê-las ainda no leito hospitalar. **Objetivo:** Traçar o perfil dos pacientes internados após o acidente vascular cerebral e identificar comprometimentos da linguagem. **Método:** Foram avaliados 11 pacientes pós-AVC internados, que apresentaram nível de consciência suficiente para realização da avaliação de linguagem através da aplicação de um roteiro semi estruturado. **Resultados:** Encontrou-se maior ocorrência do acidente vascular cerebral isquêmico. O acidente vascular cerebral foi mais frequente entre 40 a 49 anos, não havendo diferenças em relação ao gênero. As avaliações de linguagem apontaram diferentes comprometimentos: a) a linguagem verbal e mista (gestual e verbal) ocorreram na mesma proporção; b) a compreensão da linguagem estava preservada na maioria dos casos, assim como a manutenção do tópico discursivo no diálogo; c) 4 pacientes não conseguiram introduzir novo tópico discursivo, apenas 6 conseguiram formar frases completas e 9 apresentaram alterações fonoarticulatórias e/ou vocais. **Conclusão:** A aplicação do roteiro ainda no leito hospitalar possibilitou identificar as principais alterações de linguagem, apoiar as orientações feitas pelo fonoaudiólogo aos familiares e aos profissionais de saúde que atendem o paciente no hospital. Avaliar a linguagem no leito hospitalar é imprescindível para referendar o relatório de alta hospitalar e encaminhar, quando necessário, os pacientes para iniciar a reabilitação no momento adequado.

Palavras-chave: Acidente Vascular Cerebral; Linguagem; Pacientes Internados; Fonoaudiologia

Resumen

Introducción: El accidente cerebrovascular es considerado una de las principales causas de óbito, y es la patología que causa más incapacidad funcional. Entre las secuelas están los trastornos del lenguaje. **Objetivo:** Trazar el perfil de los pacientes internados después del accidente cerebrovascular y identificar alteraciones del lenguaje. **Método:** Se evaluaron a 11 pacientes hospitalizados debido al accidente cerebral, que tenían un nivel de conciencia suficiente para realizar la evaluación del lenguaje mediante la aplicación de una entrevista semiestructurada. **Resultados:** La más alta incidencia de accidente cerebrovascular fue el de tipo isquémico y en sujetos con edades entre 40 y 49 años, sin diferencias de género. Las evaluaciones de lenguaje mostraron diferentes trastornos: a) el lenguaje verbal y misto sucedió en la misma proporción; b) la comprensión del lenguaje se presentó conservada en la mayoría de los casos, así como el mantenimiento del tema discursivo en el diálogo) 4 pacientes no introdujeron nuevo tema discursivo, 6 fueron capaces de formar oraciones completas y 9 tenían trastornos fonoarticulatorios y/o vocales. **Conclusión:** La aplicación de la entrevista semi estructurada todavía en la cama del hospitalaria permitió identificar los principales trastornos del lenguaje, apoyar las directrices formuladas por el terapeuta del habla para las familias y los profesionales que tratan al paciente. Evaluar el lenguaje en este contexto es esencial para respaldar el informe de alta hospitalaria y orientar a los pacientes, cuando sea necesario, para iniciar la rehabilitación en el momento apropiado.

Palabras clave: Accidente Cerebrovascular; Lenguaje; Pacientes internos; Terapia de Lenguaje

Introduction

This study was carried out as a mandatory partial requirement for obtainment of the residency certificate in the Health Multiprofessional Residency Program (Adult/Elderly). It was developed by a multiprofessional team comprising four nursing professionals, two nutritionists and two speech therapists. The resident of speech-language therapy must be able to: act with mastery and knowledge of public health policies; to plan and develop individual or collective interventions in all areas in which speech therapy can be inserted; accompany outpatients in the bed and under ambulatory assistance, who present feeding and swallowing difficulties and language alterations, preventing, identifying, evaluating and intervening on these problems; and develop researches according to the demands of the speech therapy¹.

The evaluation and follow-up of patients admitted to the ward and ICU of neurology at the university hospital is among the speech-language pathologist activities in the program. It is noteworthy that in this hospital there are still no speech therapists contracted to work in the wards and ICU of adults and the elderly. Thus, considering the need to know the profile of post-stroke patients admitted in this ward, the risk factors involved, and to perform the language evaluation in the hospital bed, the development of this research was justified.

Stroke was the leading cause of death in the world in 2008, accounting for 48% of the 36 million deaths from chronic noncommunicable diseases (NCD)². In Brazil, according to official data, it is the main cause of death, generating a great impact on population health, mainly among the elderly. Currently, cerebrovascular diseases account for more than 100,000 deaths in the country per year³.

Stroke is characterized by a sudden inability of the cerebral circulation, caused by a partial or total interruption of one or more cerebral vessels, which can have a sudden onset and duration of more than twenty-four hours, with persistent focal neurological deficit. The vascular lesion may be: ischemic, when a blockage of blood flow occurs, or hemorrhagic, when it causes the rupture of degenerate blood vessels^{4,5}. Risk factors associated with stroke are diabetes, hypertension, heart disease, smoking, and alcohol abuse⁶.

Stroke is considered, in the Western world, the pathology that most causes functional incapacity,

which refers to the difficulties resulting from the sequelae that the patient encounters to perform daily activities and to play roles in society, such as self-care tasks, difficulties in locomotion and in communication, and may be influenced by demographic and socioeconomic factors^{7,8,9}

Studies indicate that among the main alterations in the communication that had as a cause a neurological disorder or damage are aphasia, dysarthria and apraxia¹⁰. Such alterations can directly affect the quality of life of the subjects who suffered the stroke, leaving sequels, which may justify the speech therapy intervention in the hospital environment and after being discharged in speech therapies at the speech and language clinic.

Considering the possible changes in language resulting from stroke, it is of utmost importance to perform the language evaluation in the affected patients, in order to ascertain which linguistic aspects have been affected and how it is interacting through language, since it permeates all the social, cultural and psychic relations of the subject in the world. Thus, communication impairments have repercussions on psychosocial aspects, as they have great impacts on the individual's relationships with family, friends and even with the professionals responsible for their care¹¹.

Therefore, the multiprofessional intervention in the rehabilitation of the patient affected by a stroke aims at regaining autonomy in performing the instrumental activities of daily living and in the more refined activities involving cognition and communication¹². In this sense, the speech-language work besides intervening in the motor functions of deglutition, respiration, chewing and articulation should also act in the rehabilitation of language and cognition.

Rehabilitation will depend on a number of factors, such as: age, extent and type of the accident, the time of commencement of the multiprofessional intervention, the knowledge produced about the disease, the treatment techniques developed, the experience of the professionals, and the policies adopted in each institution¹². In view of these factors, the objective of this study is to outline the profile of hospitalized patients after the occurrence of a stroke, to ascertain the speech and language impairments found, and to point out the importance of speech therapy in the hospital environment.

Methods

This research is characterized as descriptive, transverse individual, non-compared and contemporary¹³. The study was approved by the Ethics Committee in Research of the University by the opinion 027442/2015. Data collection was performed in the neuroclinic and neurosurgery ward of a University Hospital, from May to September, 2015, with the University Multiprofessional Health Residency Program.

For the development of the research, the data of adult and elderly patients who suffered the Cerebral Vascular Accident and were hospitalized in the hospital wards, in which the two speech therapists are members of the Residency Program were collected.

Initially, the general data of all the patients who were hospitalized due to stroke were collected through a medical chart.

Later, as part of the routine assessment of speech therapists, the Glasgow Coma Scale (ECG) was applied to assess the state of consciousness of each subject hospitalized in this ward. The maximum ECG score is 15, indicating a patient with no neurological damage, and the lowest score is 3, indicating a poor prognostic sign. If the score is less than 8, it is considered that the patient is at a critical point of changes in the level of consciousness, which defines whether the individual is in a coma and in need of intubation^{14,15}. Thus, patients who presented a scoring score equal to or greater than 11 and had not undergone a surgical procedure in the last 24 hours were invited to participate in the subsequent stage of the study, that is, the language evaluation. For this, the patient or his / her companion / responsible person signed the Free and Informed Consent Term (TCLE) agreeing with their participation in the research.

Speech and language data were collected through a semistructured evaluation script (Appendix I) prepared by the researchers and applied by the resident researcher in a discursive context in which the responsible speech therapist established a dialogue with the assessed subject, such as in a spontaneous discursive situation. After that, the exact binomial test for proportion of these data was performed in SPSS software.

In the final period of the research, a new consultation was carried out on the patients' charts to verify the outcome of the patients' treatment, including if there had been an indication of speech-language pathology in the hospital discharge report.

Results

In this section, we first present the general data of the patients and, in sequence, those of the language evaluation.

During the investigation period, 24 patients were hospitalized due to stroke, but only 11 were included in the inclusion criteria for language evaluation. It should be noted that the number of patients found was lower than the number of stroke occurrences in the university hospital, because the evaluation was limited to patients admitted to the neuroclinic and neurosurgery wards where the speech therapist, resident researcher works, supported by the Residence Program Multiprofessional in Health (Adult / Elderly) of the University.

General Data

The general data referring to the total of 24 patients hospitalized during the study period are listed in Table 1.

Table 1. Distribution of patients by age group and race/color

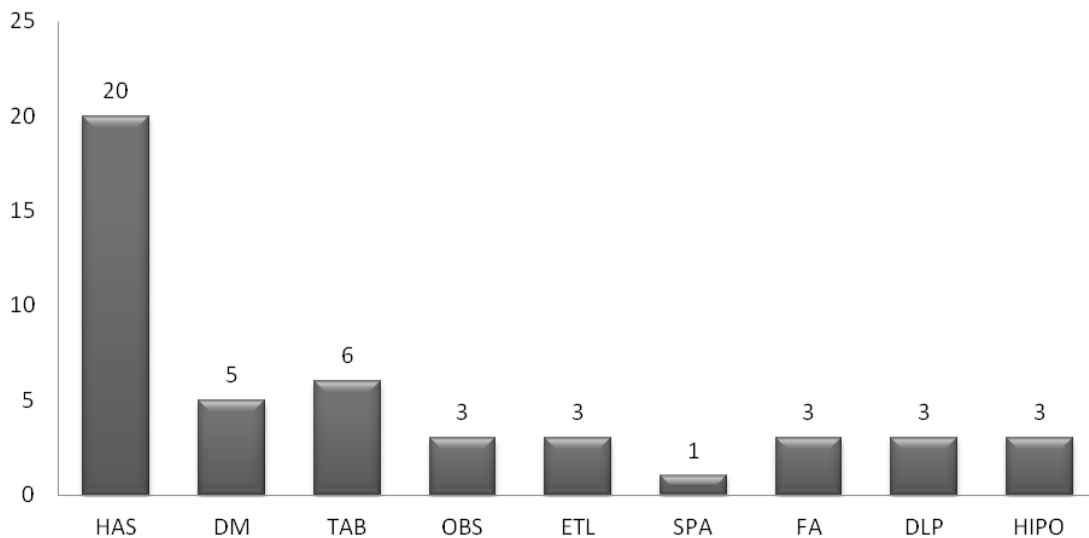
Age Group	Race/Color					
	White (n=19)		Brown (n=3)		Black (n=2)	
	n	%	n	%	n	%
20-29 years	1	5.2				
30-39 years	3	15.7	2	66.6		
40-49 years	4	21.0				
50-59 years	2	10.5			1	50.0
60-69 years	4	21.0				
70-79 years	2	10.5			1	50.0
80-89 years	3	15.7	1	33.3		
Total	19	100.0	3	100.0	2	100.0

Legend: %: percentage

The average age of patients with stroke was approximately 57 years old and the age group between 40 and 49 years old was the one with the highest occurrence of stroke, with five patients. According to table 1, the bands 30-39, 60-69 and 80-89 had the same number of patients (four), the bands of 50-59 and 70-79 presented three patients each and the age range of 20-29 only one patient. Race data indicate that stroke was more frequent in the white race. Through the exact binomial test, a level of significance of 5% was verified for the occurrence of stroke in the white race in relation to the other races ($p = 0.0008$).

Regarding gender, 12 patients were male and 12 female.

Graphic 1 shows how the risk factors for stroke in the sample of patients studied behave. The risk factors found in the sample were systemic arterial hypertension (SAH), obesity, diabetes mellitus, alcoholism, hypothyroidism, smoking, psychoactive substance use, atrial fibrillation and dyslipidemia. As can be seen, most patients had more than one risk factor.



Legend: SAH: Hypertension, DM: Diabetes Mellitus, OBS: Obesity, BAD: Smoking, ETL: Alcoholism, DLP: Dyslipidemia, SPA: Psychoactive Substance, AF: Atrial Fibrillation, HIPO: Hypothyroidism.

Graphic 1. Risk factors

Only two patients had no risk factors mentioned in the medical record. According to the data obtained in the medical records, the most frequent risk factors were: arterial hypertension (79.1%), followed by smoking (29.1%) and diabetes mellitus (20.8%). It can be observed that hypertension occurs in most patients, and is clearly a risk factor that contributes to the occurrence of stroke. According to the exact binomial test, the p-value obtained was 0.0007, that is, it was concluded that hypertension is a significant risk factor, even though the sample is small.

Language Assessment

Of the 24 patients who had a stroke, 13 reached a score equal to or less than 9, and 11 reached a score equal to or greater than 11. Thus, 11 patients met the inclusion criteria established for this investigation.

Table 2 shows the identification data of the 11 subjects and the type of stroke they suffered.

Table 2. General data

Patient	Gender	Age	Race	Profession	Education	Type of CVA
1	F	51	Black	Pedagogue	CHE	Hemorrhagic CVA
2	F	75	Black	Retired	IES	Ischemic CVA
3	F	33	White	Housekeeper	CHS	Ischemic CVA
4	F	29	White	Real estate agency	IHE	Ischemic CVA
5	F	43	White	Housekeeper	IES	Hemorrhagic CVA
6	M	84	White	Retired	ILLITERATE	Ischemic CVA
7	F	57	White	Housekeeper	IES	hemorrhagic CVA
8	F	82	White	Seamstress	IES	Ischemic CVA
9	M	44	White	Assistant of general services	IES	Ischemic CVA
10	F	39	White	Civil servant	CHS	Ischemic CVA
11	M	70	White	Retired	Functional illiteracy	Ischemic CVA

Caption: F: female, M: male, CHE: complete higher education, IES: Incomplete elementary school, IHEI: Incomplete higher education, CHS: complete high school, CVA: stroke.

Of the 11 patients evaluated, eight were female, most were white, with incomplete primary education, and ischemic stroke the most frequent. The three male patients were white and two were retired, with a low level of education (illiterate, functional illiterate and incomplete elementary school), and all had ischemic stroke. The youngest patient was 29 years old and the oldest was 84 years old. The patients who suffered hemorrhagic stroke were 51, 43 and 57 years old and were all female.

Table 3 identifies the type of communication mobilized by the patient, their intelligibility to the interlocutor and whether the writing was preserved or not, at the time of the evaluation. The communication was classified in verbal, gestural or mixed (gestural and verbal).

Patients 2 and 8 presented unintelligible speech / communication while patients 1, 5 and 7 presented

comprehensible speech / communication. According to the table 3, it has been observed that: a) patients 2 and 8 had ischemic stroke, whereas 1, 5 and 7 had hemorrhagic stroke and b) the oldest patient (6) presented verbal and intelligible communication and the (4) presented mixed communication, combining gestures and speech intelligibility.

Table 4 shows the time interval between the ICTUS and speech language assessment.

It should be remembered that a sufficient level of consciousness was required so that the patient could be evaluated. The lowest time interval was that of patient 10 (2 days later), followed by patients 4 and 6 (after 3 days), 9 (4 days), 3 (5 days), 11 (6 days), 8 (15 days), 7 (16 days), 2 (17 days), and for patient 1, the language evaluation occurred 2 months and 4 days later.

Table 3. Characterization of patient communication

Patient	Verbal/gestural/mixed communication	Intelligible speech	Writing
1	Mixed	Yes	No
2	Mixed	No	No
3	Verbal	Yes	Yes
4	Mixed	Yes	Yes
5	Verbal	Yes	Yes
6	Verbal	Yes	No
7	Verbal	Yes	No
8	Mixed	No	No
9	Gestural	Yes	Yes
10	Mixed	Yes	Yes
11	Verbal	Yes	No

Table 4. Time difference between the ictus and speech evaluation

Patient	Time between ICTUS and CVA evaluation	Type of CVA
1	2 months and 4 days	Hemorrhagic CVA
2	17 days	Ischemic CVA
3	5 days	Ischemic CVA
4	3 days	Ischemic CVA
5	16 days	Hemorrhagic CVA
6	3 days	Ischemic CVA
7	16 days	Ischemic CVA
8	15 days	Ischemic CVA
9	4 days	Ischemic CVA
10	2 days	Ischemic CVA
11	6 days	Ischemic CVA

Caption: CVA: stroke

It was found that the patients with the longest time interval were patients 1, 2, 5 and 8, three of whom had been affected by hemorrhagic stroke. The evaluation of the level of consciousness through the ECG was performed every day and if the patient presented the necessary level of consciousness and accepted participation in the research the evaluation was performed.

Table 5 summarizes some functional characteristics of subjects' language.

The first column shows that 5 patients (1 who suffered a hemorrhagic stroke and 4 who suffered from the ischemic) did not initiate dialogic turns. The second column shows that language comprehension was preserved in most patients (7) or partially preserved (four). However, the third and fourth columns show that six are partially understood by family members and hospital health professionals. This data was obtained through the observation of discursive situations in the hospital

environment between the patient and the relative, and the patient and the professionals, within the discursive context of the speech-language assessment, as stated in the evaluation script prepared for this research.

The fifth column still records that most patients can maintain the discursive topic (9) introduced by the therapist and only two do not. However, introducing a new discursive topic seems a slightly more difficult task for the set of patients, since 4 cannot do it.

Still in relation to the speech, the table shows that only two patients had the dialogue compromised, that is, the dialogue was truncated or the interlocutor (speech therapist) could not understand what was said by the patient. And despite the discursive difficulties that some patients presented, only two did not use speech to request something. It is emphasized that one of them was worth only of the sign communication.

Table 5. Description of discursive characteristics

Patient	Starts turns	Understands	Is understood by family members	Is understood by professionals	Maintains a discursive topic	Introduces a discursive topic	Commits to the speech	Uses speech to ask for things
1	No	Partially	Partially	Partially	Yes	No	Yes	Yes
2	No	Partially	Partially	Partially	No	No	No	No
3	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
4	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
6	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
7	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
8	No	Partially	Partially	Partially	Yes	No	No	Yes
9	No	Yes	Partially	Partially	Yes	No	No	No
10	No	Yes	Partially	Partially	Yes	Yes	No	Yes
11	Yes	Partially	Partially	Partially	No	Yes	Yes	Yes

Table 6. Enunciation characterization

Patient	Language units	Phonoarticulatory and/or vocal changes	Uses pronouns	Uses deictics	Expressions of greetings	Makes narrations
1	Words	Yes	Yes	No	Yes	No
2	Words	Yes	No	No	No	No
3	Complete phrases	No	Yes	Yes	Yes	Yes
4	Complete phrases	Yes	Yes	Yes	Yes	Yes
5	Complete phrases	Yes	Yes	Yes	Yes	Yes
6	Complete phrases	Yes	Yes	Yes	Yes	Yes
7	Complete phrases	Yes	Yes	Yes	Yes	Yes
8	Vowels	Yes	No	No	No	No
9	Absence	-----	-----	-----	-----	-----
10	Words	Yes	No	No	No	No
11	Complete phrases	Yes	Yes	Yes	Yes	No

Table 6 shows that the linguistic utterances of six patients are composed by complete sentences, three by words, one only by isolated vowels (vocalizations), and one does not communicate through speech (patient 9, aged 44, who had an ischemic stroke). It is noteworthy that of the 11 patients evaluated, nine presented phonoarticulatory alterations, one patient did not present them and one patient communicated gesturally.

With regard to the appearance of the pronouns in the patients' speech, it was verified, in the investigated group, that they are present in the speech of seven patients and absent in three (patients 2, 8 and 10). It was not verified the presence of pronouns in the speech of the patient 9, who communicated gesturally. In the speech of the 11 patients studied,

six have deictic elements and in four patients (1, 2, 8 and 10) this did not happen.

As for the appearance of formulated expressions of greetings in patients' speech, it was found that they were present in the speech of seven patients, that is, in most of them, and absent in the speech of three (2, 8 and 10). It is also observed that the narratives were present in the speech of five patients and absent in the speech of five (1, 2, 8, 10 2 11). To assess whether the patient was able to narrate, the speech therapist asked him to narrate what he remembered the day the stroke occurred or some situation in his daily life. It should be noted that patient 9 communicated by gestures and was unable to produce narratives through them, but was able to use them to make requests or to express feelings.

Discussion

The occurrence of stroke has been increasing among young people^{2,5,26}, occurring in 10% of patients under 55 years of age, corroborating the data found in the sample in which 13 of the 24 patients were aged between 29 years and 59 years old¹⁶.

Regarding gender, the studies indicate a higher incidence of stroke in males^{17,18}. In this study, no statistical difference was found between the genders, as well as in the study carried out by the Atherosclerosis Clinic of the Neurology Clinic of the Central Hospital of the Brotherhood of Santa Casa de Misericórdia of São Paulo in 2004¹⁹.

The most important behavioral risk factors associated with stroke are inadequate diet, sedentary lifestyle, smoking, and alcoholism. These factors account for about 80% of cases of coronary and cerebrovascular disease. The effects of an unhealthy diet and sedentary lifestyle can be identified in individuals by raising blood pressure, glucose, lipid levels, as well as being overweight and obese. They indicate an increased risk of developing stroke, heart failure and other complications²⁰.

Data on risk factors for stroke show that systemic arterial hypertension, smoking, and diabetes have appeared in many of the evaluated patients. The presence of SAH increases by about three to four times the risk of having a stroke. Understanding its high prevalence, SAH can be considered directly responsible for up to half of the cases of stroke. The risk of developing a stroke is twice as high in diabetics of both sexes and smoking increases by two to four times the chances of suffering the accident²¹.

The data of the language evaluation bring important information to be considered in the rehabilitation of the patient that is related to the prognosis of the treatment. The majority of the evaluated patients presented vocal and/or phonoarticulatory disorders that may be directly related to difficulties in chewing, swallowing, blowing and other functions performed by the stomatognathic structures, considering that vocal and phonoarticulatory disorders occur in varying degrees of severity and are linked to articulation and mobility impairments of the vocal organs²².

In addition, the data allow us to identify which are the most compromised cases in relation to the language functioning, in terms of linguistic utterances that are presented in the speeches of the

patients and in the linguistic units that are present in them.

When comparing the data in Table 3 with those in Table 4, it is possible to observe that patients over 50 years of age presented greater impairment of intelligibility and writing.

Patients 1, 2, 8, 9 and 10 presented the most impairment in language according to Tables 4, 6 and 7. All of these patients could not make narratives, did not initiate dialog turns, three were not able to write (patients 1, 2 and 8). With the exception of patient 9, who had predominantly gestural communication, the others (patients 2, 8 and 10) did not use pronouns and deictic, and all were partially understood by professionals and family members, four of whom presented mixed communication (patients 1,2,8 and 10) and one gestural (patient 9).

Due to the small number of patients evaluated, it was not possible to perform statistical analyzes correlating the results to the stroke type and the language impairment; however, it can be pointed out that the most compromised patients suffered the stroke in the middle cerebral artery according to the information contained in the medical records. In this sub-sample of patients with more impairments, we observed that the time interval between the IT-SUS and the language evaluation did not show any influence on the degree of language impairment, since among the five patients, there was the shorter interval (2 days) and the highest (2 months and 4 days) among all evaluated. It should be noted that of these five patients, four were women.

There is still no consensus on when to begin rehabilitation of the subject with stroke, the timing of this onset varies according to the literature²³. The rehabilitation program should be started as soon as possible, once the patient is stable and the lesions are identified, a rehabilitation plan should be instituted between forty-eight and seventy-two hours after stroke²³. After immediate care and with the patient being clinically and neurologically stable, it is important that the rehabilitation treatment starts intensively and repetitively, so that the results are maximized²⁴. The quality of life of patients with language disorders is directly related to the factors of psychosocial adaptation. The recovery of the post-stroke patient depends on a social environment, on how society tolerates, knows, and includes people who have some communication difficulties due to a circumscribed brain injury¹².

In recent times, it has been noted that work in the hospital area has been mainly concerned with issues related to swallowing. It is also observed that there are few studies in the area of language within the hospital environment. In addition, most of the protocols used for language evaluation are international, adapted and standardized for the context of the population evaluated^{25,26}. In the literature review, it is evident that in the Brazilian context, there are few standardized clinical tools for Brazilian Portuguese dedicated exclusively to the evaluation of language²³. In this sense, the script used in this research could contribute to the proposals of language evaluations performed in the hospital bed, mainly because it is based on a dialogical conception of language very close to the daily dialogues, without using standardized, decontextualized tests or protocols that try to evaluate metalinguistic abilities of patients and are criticized for depending on the patient's knowledge of the language.

The language evaluations in the hospital bed enable the identification of patients who need speech/language therapy and can assist the speech-language pathologist in orienting the family and health professionals associated with health care and functional rehabilitation.

In the information found in the medical records referring to treatment outcome and hospital discharge reports, four of the 24 patients died, one was discharged in a coma, six patients were referred for speech/language therapy, and 13 were not referred for speech/language therapy. It was observed that of the five patients who presented the most impairment in the language after the application of the script, only the medical report of discharge of two patients included a referral for speech/language therapy. This fact warns of the importance of the presence of the speech-language pathologist within the hospital to contribute to its performance in the conduct of post-discharge procedures, whose reports should also incorporate the collaboration of professionals from the multidisciplinary team.

Conclusion

The research sought to trace the profile of patients attended in the neuroclinic and neurosurgery wards, showing that of the 11 patients eligible to participate in the language evaluation, eight were female, the majority of the white race, with incom-

plete elementary education, and in the sample the ischemic stroke was more frequent.

Regarding the impairment of language functioning, it was possible to identify that the communication of patients in the hospital bed was both verbal and mixed, in the same proportion. The understanding of language was preserved in most cases, as well as the maintenance of the discursive topic in dialogue. Already the introduction of a new discursive topic did not happen in four cases, showing that this could have been a difficult task. Concerning the composition of the utterances, it was verified that only six were able to form complete sentences and only one of the patients did not present any vocal and/or phonoarticulatory disorders, besides the patient who communicated exclusively by gestures.

The application of the script was useful to identify the main language disorders, as well as to identify the most serious cases, showing its effectiveness as an evaluation tool. Thus, it can assist the speech-language pathologist in the training of professionals to deal with these language changes in the hospital environment, and also to guide family members more accurately. The training of professionals in the hospital environment should be considered, since it has the potential to attenuate the language barriers in patient care^{27,28,29}. Most of the patients did not receive referral in the discharge report for speech-language pathology, and many of them presented a need for therapy.

The investigation shows the need to conduct new researches, with an increase in the number of subjects, to support the trend of the results found so far.

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Appendix I

Speech and Language Assessment Roadmap

Identification

Name: _____ Date of Birth: _____
Age: _____
Birthplace: _____
Profession: _____
Education: _____
Marital status: _____

Date of occurrence:

Type of stroke: _____ Location of injury: _____

Speech and Language Assessment

-Does the patient respond to being called by his/her name?

If yes: () gesturally () verbally with intelligible words () with words and gestures to compose the meaning.

-Does the patient respond to being called by his/her name?

If yes: () gesturally () verbally () unintelligible sounds () unintelligible gestures

- Is the patient located in time and space? () Yes () No

-Does the patient participate in the dialogue with the therapist?

If yes: () gesturally () verbally with intelligible words () with words and gestures to compose the meaning.

-Does the patient start turns in the dialogue with the therapist?

If yes: () always () more than three times during the call () once () not once

Does the patient maintain the discursive topic? () Yes () No

-Does the patient change discursive topic and compromise the coherence of his speech?

() Yes () No. If yes, exemplify: _____

-Does the patient introduce a new discursive topic in the dialogue? () Yes () No

-Does the patient use speech to ask for something? () Yes () No

-The patient understands and obeys simple orders (such as shaking hands or smiling) () Yes () No

-Does the patient use gestures to ask for something? () Yes () No

-Does the patient express himself/herself in complete sentences?

() Makes himself/herself understood gesturally

() Using gestures and words at the same time, to make themselves understood

() Using gestures and words so as not to clarify their enunciation

() Verbally and make themselves understood

() Verbally but cannot make themselves understood

- Can the patient narrate? () Yes () No. Exemplify: _____

- Which language units are present in the patient's speech?

() complete sentences

() incomplete phrases

() words

() syllables

- Does the patient's speech present phonoarticulatory disorders? () Yes () No.

If so, which ones?

- In the patient's speech, are pronouns present? () Yes () No. If so, which ones?

- In the patient's speech are the deictic (here, there) present.

-The patient responds to the expressions of greetings (good morning, good afternoon, good evening)?

() Yes () No. If yes: () gesturally () by intelligible speech () by unintelligible speech.

-Does the patient use the formulaic expressions of greetings (good morning, good afternoon, good evening)?

() Yes () No.

-Does the patient refer to people who are not present at the enunciative scene?

() Yes () No.



-Does the patient express his or her health status verbally?

-The patient communicates with his relatives

- by gesture by speech
- by gestures and speech at the same time intelligibly
- by gestures and speech at the same time in an unintelligible way
- by gestures and is not understood
- Only by speech and does not make himself/herself understood

-“Can the patient say the names of family members and his/her address?” Yes No.

- Does the patient communicate with hospital health professionals?

- by gesture by speech
- by gestures and speech at the same time intelligibly
- by gestures and speech at the same time in an unintelligible way
- by gestures and is not understood
- only by speech and does not make himself/herself understood

-Does the patient ask the speech therapist about their speech and language prognosis?

If yes : gesturally verbally unintelligible sounds unintelligible gestures.

- Can the patient communicate by writing words?” Yes No.

- Does the patient ask about his/her treatment?

If yes: gesturally verbally unintelligible sounds unintelligible gestures.

Other observations:
