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Original Article
Artigo Original

Post-stroke rehabilitation: identification of speech-language disorders signs and symptoms by physicians and nurses in Primary Health Care

Reabilitação pós-AVC: identificação de sinais e sintomas fonoaudiológicos por enfermeiros e médicos da Atenção Primária à Saúde

Paula Anderle[1]
Sheila Petry Rockenbach[2]
Bárbara Niegia Garcia de Goulart[1]

Keywords

Speech, Language and Hearing Sciences
Stroke
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ABSTRACT

Purpose: Stroke is a common disease for people and a global public health concern in terms of mortality, disability, and cost demand. This study aims to assess which groups of comorbidities related to speech-language disorders are identified by physicians and nurses of the Family Health Strategy (FHS) as to be referred to post-stroke speech-language rehabilitation at Primary and Secondary Health Care. **Methods:** Twenty-two physicians and nurses, from the FHS supported by the Family Health Support Center in southern Brazil, answered a questionnaire developed for this study, exploring socio-demographic variables, education background, professional performance and conduct to post-stroke patients. A descriptive data analysis (absolute and relative frequencies) was performed in SPSS Software 22. **Results:** Among the participants, 77.3% refer post-stroke patients to physiotherapy and 54.5% to speech-language rehabilitation. None refer to patients to treatment due to cognitive comprehension sequelae; 90.0% refer for significant speech-language disorders. In case of changes in the stomatognathic system, 80.0% of physicians do not refer to speech-language pathologists, and 83.3% of nurses usually do. **Conclusion:** The professionals showed difficulty in identifying speech-language pathological signs and symptoms related to cognition and the stomatognathic system, not referring to speech-language rehabilitation at primary or secondary health care. The results highlight the importance of continuing education and improvement of the knowledge of the primary health care teams, so that speech-language sequelae are properly identified and sent for rehabilitation.

Descritores

Fonoaudiologia
Acidente Vascular Cerebral
Reabilitação
Saúde Pública
Atenção Primária à Saúde

RESUMO

Objetivo: O Acidente Vascular Cerebral (AVC) é um agravo comum para a população e um problema para a saúde pública global em termos de mortalidade, deficiência e demanda de custos. O objetivo deste estudo é verificar quais grupos de comorbidades ligados aos distúrbios fonoaudiológicos são identificados por médicos e enfermeiros das equipes de Estratégia de Saúde da Família (ESF) para encaminhamento à reabilitação fonoaudiológica e continuidade do cuidado de pacientes pós-AVC nas Atenções Primária e Secundária à Saúde (APS). **Método:** Participaram 22 médicos e enfermeiros das equipes de ESF apoiadas pelo Núcleo de Apoio à Saúde da Família, no sul do Brasil. Um questionário desenvolvido para este estudo foi respondido, explorando variáveis sociodemográficas, histórico de formação, atuação profissional e condutas ao paciente com AVC. Análise descritiva dos dados (frequências absoluta e relativa) foi realizada no Software SPSS 22. **Resultados:** Dos entrevistados, 77,3% encaminham pacientes pós-AVC para fisioterapia e 54,5%, para reabilitação fonoaudiológica. Nenhum profissional realiza encaminhamento por sequelas cognitivas de compreensão; 90,0% encaminham por distúrbios de linguagem expressiva na fala. Para alterações do sistema estomatognático, 80,0% dos médicos não encaminham para fonoaudiólogo e 83,3% dos enfermeiros o fazem. **Conclusão:** Os profissionais demonstraram dificuldade em identificar distúrbios fonoaudiológicos ligados à cognição e ao sistema estomatognático, não encaminhando para reabilitação fonoaudiológica nas Atenções Primária e Secundária à Saúde. Os resultados apontam para a necessidade de ações que auxiliem no processo de educação permanente e melhorem o conhecimento das equipes de APS, para que as sequelas fonoaudiológicas sejam devidamente identificadas e encaminhadas para reabilitação.

Correspondence address:
Bárbara Niegia Garcia de Goulart
Universidade Federal do Rio Grande do Sul
Rua Ramiro Barcelos, 2700, Santa Cecília, Porto Alegre (RS), Brasil, CEP: 90035-004
E-mail: bngoulart@gmail.com

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Study conduct at the Programa de Residência Integrada Multiprofissional em Saúde, Community health emphasis, Universidade Luterana do Brasil – ULBRA - Canoas (RS), Brazil.

[1] Programa de Pós-graduação em Epidemiologia, Universidade Federal do Rio Grande do Sul – UFRGS - Porto Alegre (RS), Brasil.

[2] Programa de Residência Integrada Multiprofissional em Saúde, Universidade Luterana do Brasil – ULBRA - Canoas (RS), Brasil.

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INTRODUCTION

The global burden of stroke is 59.2%, and it is responsible for 5.7% of years lived with disabilities in people 70 years of age or older[1]. Besides that, approximately 90% of stroke survivors have functional sequelae[2], and only 5% to 20% of patients achieve full functional recovery[3]. A stroke is not only one of the most common disease today but also a global public health concern in terms of mortality, disability, and demand for medical and social overheads[4,5].

In recent years, life expectancy and population growth have been increasing; therefore, more people have reached ages at which neurological disorders are prevalent[6]. A population-based study in the United Kingdom highlights that the reduction of stroke incidence rates is due, mainly, to the prevention programs carried out by primary health care[7,6]. The same should happen in the follow-up and rehabilitation processes, to reduce the prevalence of sequelae after the stroke[2]. To improve post-discharge rehabilitation[2,8], clinical practice guidelines recommend rapid and comprehensive assessment, active control for evaluation and early planning of rehabilitation interventions – involving professional training programs and continuing education of multiprofessional stroke assistance teams. In this consensus, aiming at improving the care of the acute event and post-event sequelae, several countries joined the stroke care units[9,8].

In Brazil, in 2012, targeting the reduction of morbidity and mortality, and foreseeing the treatment from the acute event to the outpatient and home care rehabilitation programs, the Stroke Care Line was instituted. Thus, all health sectors must be involved in the treatment[10]. In public health centers, primary care teams are expected to provide ongoing care to patients who have been discharged from the hospital[11]. Hence, to assist the treatments in the Brazilian Primary Health Care, the Family Health Support Center, which may be composed by physicians, speech therapists, physiotherapists, psychologists, nutritionists, and others, offers theoretical and assistance support to professionals and patients respectively[12].

However, studies around the world show that the ongoing patient care in the community is far from ideal, highlighting the variations in the delivery of health services, unmet needs of specialties, and the lack of long-term care guidelines[13,5]. Moreover, these studies highlight that there is a sharing of knowledge and ongoing care between hospital and community teams when related to chronic diseases. Though this practice is not replicated when regarding post-stroke patients[11].

In developed countries where Primary Health Care is consolidated, as multidisciplinary monitoring and management[13] accelerate the treatment of patients and decrease the time in waiting for the treatment[11,5], family health professionals work in primary care centers to provide quality treatment and rehabilitation, besides carrying out the necessary referrals. Developing countries face additional challenges in terms of accessing specialized services in stroke care, and a lack of adequately trained staff to provide ongoing rehabilitation[5].

After the hospital discharge, whether at home or in the community, the benefits of the rehabilitation process with multidisciplinary teams are well documented[14]. About 60% of the surviving patients have motor sequelae, cognitive sequelae, and communication disorders[4]. Regarding the ongoing speech-language pathology care, few studies are performed in primary care, and those that exist indicate a decrease in speech-language therapy after hospital discharge[15]. Nonetheless, after the implementation of a follow-up service in primary care, a cohort study with 591 patients pointed an increase from 12% to 36% in the prevalence of patients in speech-language rehabilitation[14].

Considering the above and thinking about the importance of rehabilitation after a stroke, this study aims at assessing which groups of comorbidities, related to speech-language disorders, are identified by physicians and nurses of the Family Health Strategy (FHS) and referred to post-stroke speech-language rehabilitation at Primary and Secondary Health Care. Additionally, it intends to verify the consulting routines with other health professionals and referrals to the ongoing care of post-stroke patients.

METHODS

This is a cross-sectional study conducted with physicians and nurses from the Family Health Strategy (FHS) teams and supported by the Family Health Support Center (FHSC) in a town in the south of Brazil, in 2013. Of the 16 existing teams in the municipality in October of that year, eleven were eligible for FHSC support containing a range of 12 physicians and 12 nurses. Two physicians did not answer the survey and were excluded. That being so, of the 24 professionals from the 11 teams, 22 composed the final sample.

For data collection, a questionnaire was developed exclusively for this research (Appendix 1) and previously tested in a pilot study. The paper-pen format questionnaire, composed of eleven multiple choice questions, was answered by the participants. It contained sociodemographic data such as gender, age (in years), post-graduation training and professional background (years of work in primary care and work experience with speech therapist), as well as routines towards post-stroke patient (referral to specialties and the reason for referring to speech-language rehabilitation).

The descriptive data analysis (absolute and relative frequencies) was performed using SPSS Software 22. Variables were re-categorized: like length of service in primary care (up to 3 years / 4 years / more than 4 years, due to the period of hiring of employees) and post-graduation background (emphasis on primary care / other emphasis / do not have, as participants did not match to all possible answers).

The Ethics Committee approved this study under number 378.232. The participants were informed about the purpose of the work and, after agreeing, they signed the Informed Consent Form.

RESULTS

Ten physicians and twelve nurses from the FHS teams supported by the FHSC composed the sample, being the majority were females (81.8%). The average age was 35.5 years. Fifty percent of the professionals interviewed had post-graduation, and of these, 40.9% (n = 9) were specialized in Primary Care, Family Health, Public Health or Collective Health. Regarding years of work in Primary Care, 59.1% (n = 13) had up to 3 years of service (Table 1).

Among participants, 54.5% (n = 12) usually request specialist orientation for FHSC teams for post-stroke patients. The physiotherapist was requested by 31.8% of the participants,

followed by the speech therapist (27.3%). When asked about the referrals performed for the treatment of post-stroke patients, 77.3% and 72.7% of the sample referred to physiotherapy and neurology services, respectively, and 54.5% referred to speech-language therapy services. Physicians more often refer to neurologists (90.0%) and nurses usually refer to physiotherapists (75.0%).

In terms of work experience with speech-language therapists in their professional trajectory, 81.8% (n = 18) answered they had had contact with these professionals. This work experience occurred mainly in Basic Health Units in Primary Care (72.7%), during regular consultation (50.0%) or multi-professional consultation (40.9%) (Table 2). Regarding the reasons for

Table 1. Signs and symptoms identified by physicians and nurses of the FHS teams as reasons for referral to speech-language rehabilitation in a town in the south of Brazil, in 2013 (N = 22)

	Physicians		Nurses		Total	
	N	%	N	%	N	%
Gender						
Female	7	70.0	11	91.7	18	81.8
Male	3	30.0	1	8.3	4	18.2
Post-graduation						
Emphasis on primary care	0	0	9	75.0	9	40.9
Other emphasis	2	20.0	0	0	2	9.1
Do not have	8	80.0	3	25.0	11	50.0
Length of service in primary care						
Up to 3 years	9	90.0	4	33.3	13	59.1
4 years or more	1	10.0	8	66.7	9	40.9
Total	**10**	**100.0**	**12**	**100.0**	**22**	**100.0**

Table 2. Routines of specialist orientation and referrals performed by physicians and nurses of the FHS teams in a town in the south of Brazil, in 2013 (N = 22)

	Physicians		Nurses		Total	
	N	%	N	%	N	%
Specialist orientation request						
Yes	6	60.0	6	50.0	12	54.5
No	4	40.0	6	50.0	10	45.5
Professional specialist orientation*						
Speech-language pathologist	3	30.0	3	25.0	6	27.3
Physiotherapist	4	40.0	3	25.0	7	31.8
Nutritionist	0	0	2	16.7	2	9.1
Neurologist	2	20.0	0	0	2	9.1
Other	2	20.0	1	8.3	3	13.6
Referral to specialties*						
Speech-language pathologist	4	40.0	8	66.7	12	54.5
Physiotherapist	8	80.0	9	75.0	17	77.3
Nutritionist	2	20.0	5	41.7	7	31.8
Neurologist	9	90.0	7	58.3	16	72.7
Psychologist	2	20.0	5	41.7	7	31.8
Other	4	40.0	5	41.7	9	40.9
Work experience with speech therapist						
Yes	6	60.0	12	100.0	18	81.8
No	4	40.0	0	0	4	18.2
Local of work experience*						
Basic Health Units	6	60.0	10	83.3	16	72.7
Hospital	3	30.0	1	8.3	4	18.2
Multi-professional clinics	1	10.0	0	0	2	9.1
Other	0	0	1	8.3	1	4.5
How work experience occurred*						
Multi-professional consultation	4	40.0	5	41.7	9	40.9
Specialist orientation	0	0	2	16.7	2	9.1
Consultation	1	10.0	1	8.3	11	50.0
Discussion of cases	4	40.0	4	33.3	8	36.4
Professional consultation	3	30.0	1	8.3	4	18.2
Workshop	0	0	4	33.3	4	18.2
Other	0	0	2	16.7	2	9.1

*Multiple choice response, more than one option can be selected

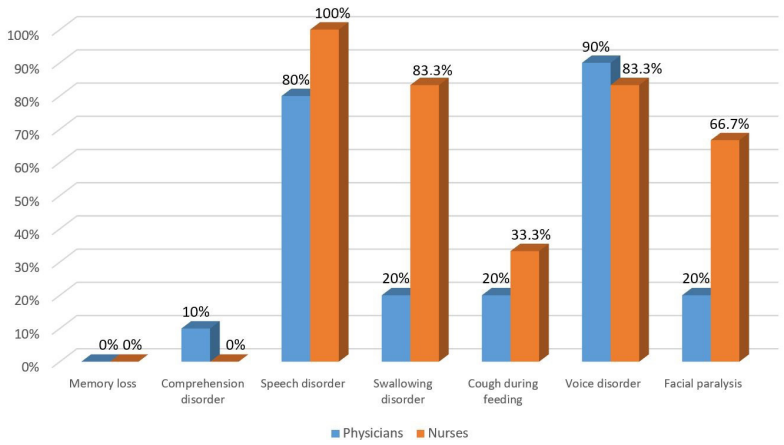

Figure 1. Identification of signs and symptoms referred to post-stroke speech-language rehabilitation by physicians and nurses of the FHS teams in a town in the south of Brazil, in 2013

referring to speech-language therapy for cognitive sequelae, none of the participants mentioned memory loss, and only one professional considered the comprehension disorder. For the speech disorder, 90.0% (n = 20) of the participants refer to speech-language pathologists. The swallowing disorder is considered as reasons for referral by 20% of physicians, and 83.3% of nurses and 72.7% (n = 16) of the participants do not refer patients who have cough during feeding (Figure 1).

DISCUSSION

Most of the professionals showed difficulties in naming symptoms that require ongoing speech-language rehabilitation in Primary Care and Secondary Health Care. Cognitive disorders such as memory deficit and comprehension disorder were not identified, as well as motor disorders related to speech and swallowing such as coughing during feeding. These sequelae need to be treated by a speech-language pathologist to be rehabilitated.

There are several studies on acute care services to stroke, and significant advances have been made on immediate treatment and early discharge[16,8]. However, when compared to the treatment and the management after the hospital discharge, the number of published studies decreases[17,7]. The increase in survival after strokes has an impact on the long-term care needs that need to be addressed, and interventions should be made by different health professionals in primary care[7].

A study on the characterization of speech-language disorders of adult patients hospitalized after a stroke showed that no participant did speech-language therapy during hospitalization, neither were they referred to speech-language therapy after discharge; that suggests that these patients, at best, would receive integral rehabilitation care through the referral from the basic health team[18]. However, with the results obtained in this research, which concluded that 54.5% (n = 12) refer patients to speech-language rehabilitation and 27.3% request specialist orientation support for this professional, it is noticed that this is not the reality for post-stroke patients in Primary Health Care. In the town where the study was conducted, the FHSC has been recently implemented, which may contribute to our findings, since there was no speech-language pathologist available previously and the professionals interviewed had no training routines or speech-language counseling.

In developed countries such as Norway, multidisciplinary teams share rehabilitation services, between the specialized sector and PHC[19]. These teams are composed by physiotherapists, occupational therapists and a nurse trained for stroke patients, who are responsible for planning and implementing rehabilitation after discharge[20]. In Brazil, physicians and nurses who composed the primary care teams are also responsible for carrying out this planning and refer patients to rehabilitation; and physicians do it more regularly.

In this research, it was observed that physicians request specialist orientation support more often than nurses; however, nurses report having more work experience with speech-language pathologists and refer to this professional. These results lead to a reflection on the configuration in the Family Health Care Strategy team structure and that the hierarchy for patient management, in which the physician makes requests for specialized care, may justify these findings. Regarding the co-work experience of physicians and the speech-language pathologists, this happened more often in multi-professional consultations and discussion of cases. This factor can influence the resolution of minimal speech-language difficulties of the patients, decreasing referrals by the physicians.

Patients affected by strokes can continue with cognitive, communication and swallowing impairments. The prevalence of cognitive sequelae occurs in about 22% of cases and aphasia is present in about 21% to 38% of individuals[21]. Dysphagia, swallowing disorder that can lead to malnutrition, dehydration, lung infection, and death[22], is present in about 29% to 81% of stroke survivors, with up to 52% of dysphagic patients performing laryngotracheal aspiration[23].

In this study, most participants, either physicians or nurses, do not recognize memory and comprehension disorder as speech-language sequelae that need rehabilitation treatment. Oral communication disorders, such as speech and voice disorder, seem to be better identified, showing up in 90.0% and 86.4%

of referrals, respectively. That probably happens because they have the highest prevalence in post-stroke sequels - about 70% of patients have oral communication disorder[24], and because they are more recognized as speech-language disorders.

Besides that, 72.7% of the participants do not recognize cough during feeding as a sign of dysphagia, and even more worrisome if considering the risks intrinsic to dysphagia. Although 54.5% refer patients to swallowing rehabilitation, 80.0% of physicians (who are responsible for most referrals) do not usually refer, something that possibly occurred due to the lack of information and lack of knowledge about the possible referrals and rehabilitation therapies available in the researched town, which agrees with the literature found[11]. A survey conducted with 121 family health care professionals of post-stroke care highlights that for 26.9% of the participants, the lack of information on rehabilitation therapy has made it difficult to provide the right care for primary care; and 31.5% reported feeling the need for regular meetings with a support team to discuss specific issues of patients affected by strokes. Besides that, 37.7% reported that a multi-professional team should do stroke treatments in PHC; however, 39.9% of the referrals were to a physiotherapist, and 11.8% were to a speech-language pathologist and a nutritionist[11]. These data differ from the results found in this research, but they highlight the hypothesis that regular meetings for continuing education, with guidance on the rehabilitation processes of these patients. They are essential in the context of PHC, since stroke has a high prevalence, with sequelae motor and cognitive disorder associated that require rehabilitation as early as possible for functional recovery and patient independence[25,26].

Another study conducted in Canada with 11,050 post-stroke patients pointed that during the hospitalization period, 57.7% to 61% of the patients were assisted by the speech-language pathologist; however, after hospital discharge, this follow-up fell to 4.3-5.3%[15]. With the results found in this study, it is noticed the need for greater interaction and sharing of knowledge among professionals, so that there is better identification of the sequelae to be rehabilitated.

The support for rehabilitation in the community, supported by primary care teams, is beneficial when compared to the hospital rehabilitation[20], and the coordination between health departments results in better treatment and better surveillance, and planning and management of resources[27]. In Brazil, programs such as FHSC[12] and home care assistance[28] were created to improve PHC actions and results, with multi-professional teams and specialist orientation teams that work together to benefit patients. These are strategies that corroborate the literature consulted and establish that changes within the system (team meetings, continuing education, and specialist orientation support) can improve the clinical practice of professionals[29].

The impact of a stroke should not only be seen in terms of incidence and mortality rates but also in terms of disability and impairment, which requires long-term care[30]. The hospital discharge process with ongoing care in PHC or, if necessary, in secondary care, should be provided by a multidisciplinary team to improve the rehabilitation process[14]. To that, we highlight the importance of joint planning for the treatment of patients affected by strokes.

This study has limitation once it was conducted in one single Brazilian town, resulting in a small census. Although it is relevant to reproduce this study in other regions of the country and other health teams, it is expected that the data presented contribute to improving the provision of services and to the management of stroke care in primary care.

CONCLUSION

Physicians and nurses from Family Health Strategy have difficulties in identifying signs and symptoms related to the speech and cognitive disorders, and to the stomatognathic system, which justify referral to speech-language rehabilitation in Primary Health Care or Secondary Care. Actions that improve the process of continuing education and the knowledge of primary health care teams could favor the proper identification and referral to the rehabilitation of speech-language sequelae, especially those related to characteristic symptoms of swallowing, communication, and cognition disorders.

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PA: participated in the conception and design of the study, collection, analysis, and interpretation of data, writing and review of the article, and final approval of the version to be published; SPR: contributed to the analysis and interpretation of data, writing and review of the article, and final approval of the version to be published; BNGG contributed to the analysis and interpretation of data, review of the manuscript, and final approval of the version to be published.

APPENDIX 1: QUESTIONNAIRE

1. Gender: (_) Female (_) Male Age:_____

2. Occupation: (_) Nurse (_) Physician

3. Post-graduation training?

(_) Public Health/Family Health (_) Epidemiologic Surveillance

(_) Emergencies (_) Residency Program in Family Health

(_) Do not have (_) Other. Cite?_____

4. Length of service in primary care:

(_) Up to 1 year (_) 1 to 3 years (_) 4 a 6 years (_) 6 to 9 years (_) 10 years or more

5. Length of service in primary care in the municipality:

(_) Up to 1 year (_) 1 to 3 years (_) 4 a 6 years (_) 6 to 9 years (_) 10 years or more

6. Type of hire employment?

(_) Contract (_) Statutory (_) Outsourced company (_) Self-employed contract

7. Work experience with speech-language pathologist? (_) Yes (_) No

8. If you answered YES above, how it occurred?

(_) Multi-professional consultation (_) Specialist orientation (_) Workshop

(_) Discussion of cases (_) Professional consultation

(_) Other. Cite?_____

9. If you answered the question above, were it occurred?

(_) Basic Health Unit (_) Family Health Care Unit (_) Hospital

(_) Clinic (_) Other. Cite?_____

10. Referrals to the ongoing care of post-stroke patients.

11. (_) Neurologist (_) Physiotherapist (_) Nutritionist (_) Psychologist

(_) Speech-language pathologist (_) Other. Cite?_____

12. Reason for referring post-stroke patients to speech-language rehabilitation?

(_) Memory loss

(_) Facial paralysis

(_) Swallowing disorder

(_) Speech disorder

(_) Comprehension disorder

(_) Voice disorder

(_) Cough during feeding