



ACCESS TIME TO REHABILITATION SERVICES FOR PEOPLE SUFFERING FROM A STROKE

TEMPO DE ACESSO AOS SERVIÇOS DE REABILITAÇÃO DE PESSOAS ACOMETIDAS POR AVE

TIEMPO DE ACCESO A LOS SERVICIOS DE REHABILITACIÓN DE PERSONAS QUE SUFRIERON UN AVE

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ABSTRACT

Objective: to verify the time between the stroke and the first access to rehabilitation and associated factors. **Method:** it is a cross-sectional, home study with 149 participants registered to the Family Health Strategy (ESF) in the city of João Pessoa/PB. To calculate the time taken to access to rehabilitation and associated factors, the survival analysis method was used. **Results:** of the respondents, 69.1% said to access to rehabilitation. The average time for access was 22.45 months. There were 42.2% of participants accessed the rehabilitation between 1-12 months; 21.2% between 13-24 months; 18.2% between 25-36 months; 7.7% at 37-48 months and 10.7% between 49-60 months. Education was associated with access. **Conclusion:** the results indicated the need to discuss access to rehabilitation services aimed at ensuring universal and comprehensive care. **Descriptors:** Stroke; Access to Health Services; Rehabilitation Services.

RESUMO

Objetivo: verificar o tempo entre o acometimento por AVE e o primeiro acesso à reabilitação e os fatores associados. **Método:** estudo transversal, domiciliar, realizado com 149 sujeitos adscritos à Estratégia Saúde da Família (ESF) do município de João Pessoa/PB. Para o cálculo do tempo decorrido para o acesso à reabilitação e seus fatores associados, utilizou-se o método de Análise de Sobrevida. **Resultados:** dos entrevistados, 69,1% declararam acesso à reabilitação. O tempo médio para o acesso foi de 22,45 meses. Em meses, 42,2% dos sujeitos acessaram a reabilitação entre 1-12; 21,2% entre 13-24; 18,2%, 25-36; 7,7%, 37-48 e 10,7%, 49-60. A escolaridade associou-se com o acesso. **Conclusão:** os resultados sinalizam a necessidade de se discutir o acesso aos serviços de reabilitação visando garantir a universalização e a integralidade da assistência. **Descritores:** Acidente Vascular Encefálico; Acesso aos Serviços de Saúde; Serviços de Reabilitação.

RESUMEN

Objetivo: verificar el tiempo entre el AVE y el primer acceso a la rehabilitación y los factores asociados. **Método:** estudio transversal, domiciliar, realizado con 149 sujetos registrados a la Estrategia Salud de la Familia (ESF) del municipio de João Pessoa/PB. Para el cálculo del tiempo transcurrido para el acceso a la rehabilitación y sus factores asociados, se utilizó el método de Análisis de Supervivencia. **Resultados:** de los entrevistados, 69,1% declararon acceso a la rehabilitación. El tiempo medio para el acceso fue de 22,45 meses. En meses, 42,2% de los sujetos tuvieron acceso a la rehabilitación entre 1-12; 21,2% entre 13-24; 18,2%, 25-36; 7,7%, 37-48 y 10,7%, 49-60. La escolaridad se asoció con el acceso. **Conclusión:** los resultados muestran la necesidad de discutir el acceso a los servicios de rehabilitación para garantizar la universalización y a integralidad de la asistencia. **Descriptores:** Accidente Vascular Encefálico; Acceso a los Servicios de Salud; Servicios de Rehabilitación.

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INTRODUCTION

The Brazilian epidemiological scenario is characterized by the predominance of non-communicable chronic diseases, which causes impacts to health services due to the growing long-term care demands, such as for rehabilitation services. Rehabilitation is understood as a set of practices to ensure the integration of the individual in the society. Its goal is to ensure adequate physical and functional, mental and/or social levels, increasing the inclusion and participation of those with a disability in all walks of life.¹

In this context, there are the requirements arising out of the complications and disabilities of individuals affected by cardiovascular accidents (CVA).² The CVA is considered an important public health problem worldwide³, gaining notoriety for being the 3rd cause of death in many countries in the world and the leading cause of disabilities.⁴ Among those who survive the stroke, approximately 90% have functional commitment⁵, causing even economic, social care and health implications to society.

During the acute phase of the stroke, the early onset of monitoring the rehabilitation services is essential to the functional reestablishment.⁶ In this sense, the earlier rehabilitation starts, the better the chances for the restoration of independence and optimization of functional outcomes; for improving cognitive state; for the prevention of complications; and for the return and integration of activities in the socio-family environment.⁵⁻⁷ Thus, it becomes necessary to investigate these patients access to rehabilitation services, to aim to generate knowledge that can support their access promptly. Considering the above, the objective of this study was:

To check the time between the onset of stroke and the first access to rehabilitation services and associated factors.

METHOD

It is a cross-sectional home study, conducted with people registered to the Family Health Strategy (ESF) in the city of João Pessoa/PB. To calculate the sample, a list was requested by the Board of the five health districts, created from the active search of Family Health Teams of cases of stroke occurred in the territories over the past five years. This screening found 324 subjects.

The minimum sample for the study ($n=147$) was calculated from the formula: $n=Z^2PQ/d^2$, where Z =variable with a standard normal

distribution; P =probability of finding the phenomenon studied; $Q=1-P$; d =desired accuracy. It was adopted $p=50\%$ because it is a multidimensional assessment and the desired accuracy of 10%. A team properly trained and data collection interviewed 152 subjects in their homes. Inclusion criteria were post-stroke patients with involvement of time not exceeding 60 months, concerning the interview date of application; having ties with the ESF. In cases where the subject had affected cognitive deficits, checked by Mini Mental State Examination (MMSE)⁸, or speech deficits, the instrument was answered by the caregiver. For this study, a subsample of 149 subjects was defined from the original sample, since three of them did not report the time between the input and involvement in rehabilitation.

For the socio-economic and clinic characterization, time identification between the stroke and the access to rehabilitation, a questionnaire was used from a careful review of the literature. To present the results concerning the characterization of the subjects, the descriptive statistics were used (Epi Info 7). The data were submitted to Survival Analysis, consisting of a set of techniques in which the dependent variable is the time to occurrence of an event of interest, called failure.⁹ The analysis was performed using the RTM software, of the public domain, version 2.14.2, using of "Survival" library. For this analysis, those who accessed the services immediately after the occurrence of stroke were excluded, that is failure time with equal to 0 (time access to rehabilitation less than 30 days). This measure was required, since in time zero undertook to perform the proposed method. Thus, it was considered a sample of 132 subjects.

The survival curve was estimated by the Kaplan-Meier method to check the likelihood of post-stroke individuals of not have access to rehabilitation services at any given time. The log-rank test was used to compare survival curves in stratified Kaplan-Meier, considering a 5% significance level.

The study was submitted to the Research Ethics Committee of the Health Sciences Center of the Federal University of Paraíba, approved with Protocol 430/09. All participants signed a Consent Agreement and Informed Form according to the Resolution 466/12 of the National Health Council.

RESULTS

The sample consisted of 149 subjects. As shown in Table 1, the distribution was homogeneous for both genders, average age

of 66 years old (standard deviation=13.0). Nearly half of the respondents (45.8%) had not completed any level of education. Most respondents said to be married or in a stable relationship (64.4%), with household income above one thousand reais (50.3%).

Table 1. Sociodemographic characteristics of the subjects. João Pessoa, 2011.

Socio-demographic characteristics	n=75	%
Gender		
Female	78	52.35
Male	71	47.65
Age group		
25-39	12	8.05
40-59	32	21.48
60 years old or more	105	70.47
Complete education		
complete	66	45.83
None	31	21.53
Basic	21	14.58
Elementary School	14	9.72
High School	5	3.47
Technical Education	7	4.86
Higher Education		
Marital Status	96	64.43
Married/Stable union	29	19.46
Widow-widower	24	16.11
Separated/single		
Home income (reais)	44	29.53
Up to 600 reais	30	20.13
From 601 to 1000 reais	24	16.10
From 1001 to 1499	51	34.20
Over 1500		

With regard to clinical characteristics of the stroke, 43.6% were unable to provide the kind of stroke they had. The ischemic stroke was reported by 41.6%. The stroke onset time was less than 25 months in 57.0% of respondents.

It was found that 103 individuals (69.1%) reported having access to rehabilitation. It was characterized by the assistance provided by the Physiotherapy (68.5%); by speech therapy (19.5%); other professions (7.40%) and occupational therapy (0.67%).

Of them, 18 (17.5%) had access within 30 days after the onset and 85 (82.5%) over a period of time longer than 30 days (late access). For individuals categorized as “slow access”, the average time between diagnosis of stroke and the inclusion in rehabilitation services was 22.45 months, and 42.2% of the subjects had access to rehabilitation services between 1 and 12 months; 21.2% had access

between 13 and 24 months; 18.2%, 25 and 36 months; 7.7%, 37 and 48 months; and 10.7%, 49 and 60 months.

Among the individuals who have had access in the first year after the onset, 12.2% had access to rehabilitation services to the 3rd month of involvement; 9.8%, from the 4th to 6th month; and 20.3%, between 7 and 12 months after the stroke.

Figure 1 is the survival curve of individuals who declared late access to rehabilitation. On the horizontal axis, there is the time in months and in the vertical axis there is the probability of access to rehabilitation services. It was possible to estimate that, over a period of six months after the stroke, the subjects showed 83% probability of not having had access to rehabilitation services. At 12 months, this probability was 70%; at 24 months, 51%; at 36 months, 33%; at 48 months was 60%, and at 24 months about 0.1%.

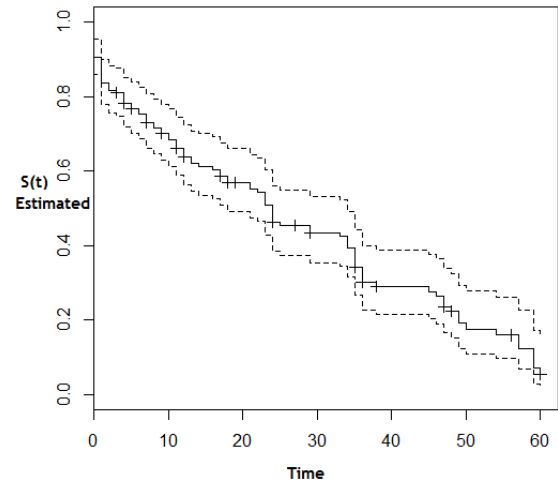
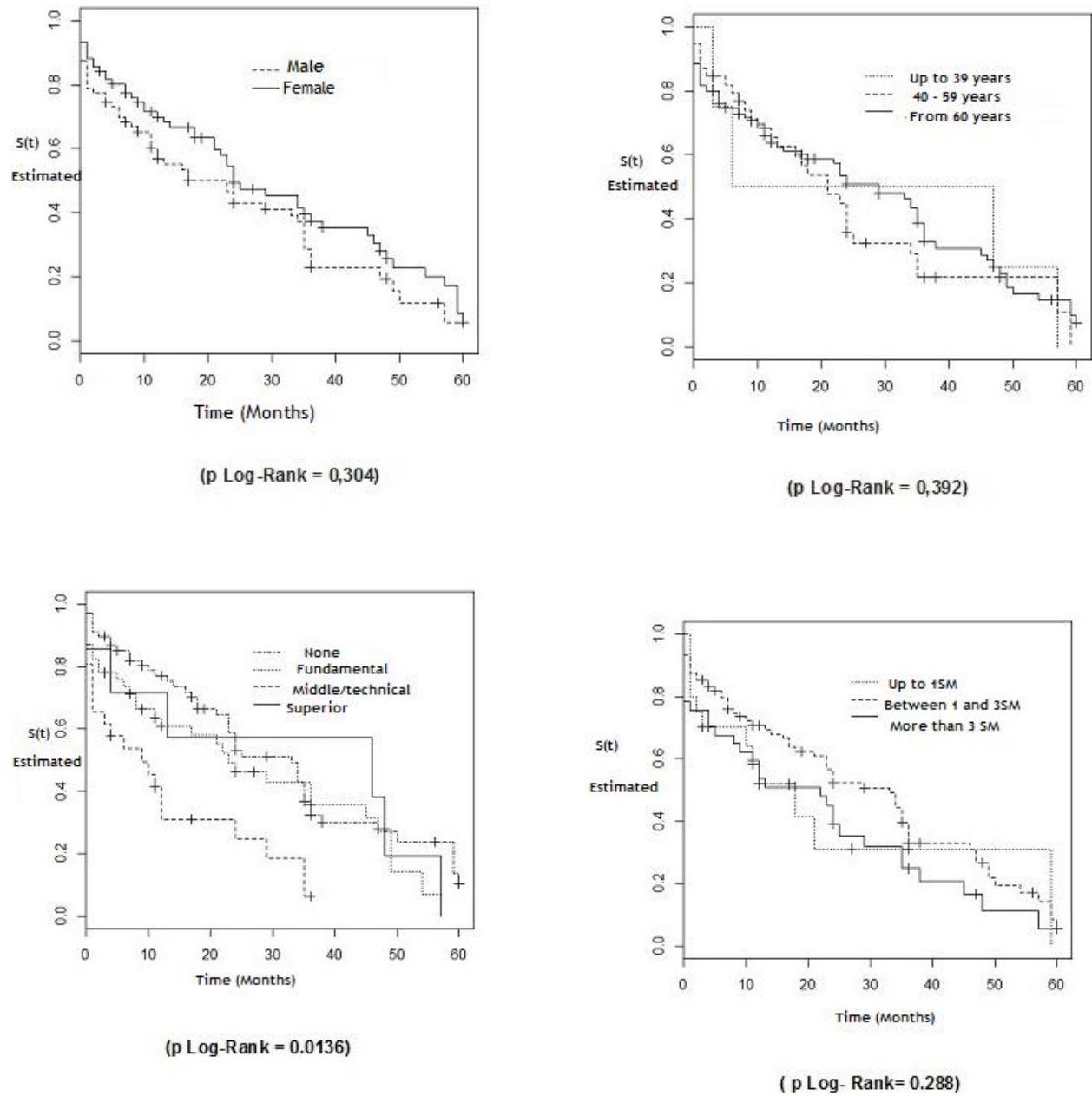


Figure 1. Survival function of Kaplan-Meier.

The stratified Kaplan-Meier method was performed for the variables gender, age, education, income by minimum wages (SM), marital status and number of strokes (Figure 2). By the Log-Rank Test, with the 5% level of significance, it was found that for the education variable, the survival curves are statistically different as the access time for rehabilitation services ($p=0.0136$).



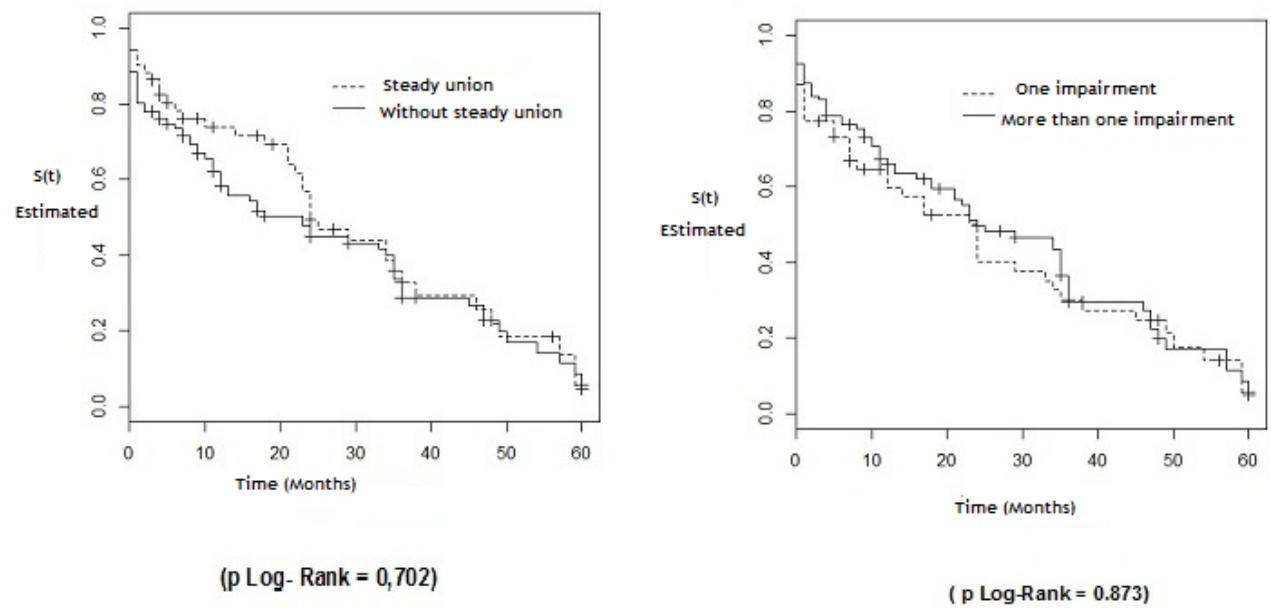


Figure 2. Survival function with probability distribution for gender, age, education, income, marital status and the number of strokes

DISCUSSION

From the results, it was possible to draw a profile of the subjects. There was no prevalence of stroke difference between the genders in our sample. Also, most respondents were elderly, showing the greater susceptibility of having the stroke over the years;¹⁰ married or in a stable relationship with poor education and low income affected predominantly by ischemic stroke. These characteristics were discussed in previously published studies.^{11,12}

It was found that about 3/4 of the subjects had access to rehabilitation services. Studies of individuals who have had a stroke revealed that during rehabilitation there is an improving in some areas, enabling a faster functional return.^{6,13,14} The access to rehabilitation services for post-stroke subjects acts as a significant predictor of social participation.¹⁵

In this study, the approach in the field of rehabilitation was predominantly carried out by physiotherapist professional^{14,16}; followed by speech therapists and occupational therapists. The physical complications related to the tone and strength, with limitations of the motor and functional activities, require the initial approach of the physiotherapist to minimize the impact of motor sequels related to stroke, working on improving their functional independence.¹⁷ Furthermore, it is observed that the provision of physiotherapy services in the Unified Health System is considerably higher compared to other professionals reported by the respondents.

In the field of speech therapy, approximately 40% of patients with sequels

after stroke have communication difficulties⁶. They can also have dysphagia, which interferes with the prognosis of independence of the affected person. It is noteworthy also the role and relevance of the Occupational Therapy (OT) in adaptation to Daily Living Activities (DLA), given the dependence for carrying out these activities due to the presence of sequels. However, it is observed short supply services of these professionals in the SUS. The presence of such professionals working together in the health network must be seen as priority.¹⁸

Although this study has not assessed the time spent in services, nor its impact on the lives of the affected patient, some considerations should be woven when considering the time elapsed between the onset and access to rehabilitation services. The entry time later adopted for this study (more than one month) reveals the fragility of access to rehabilitation services, and may also be attributed to damage to the health of the individual. Thus, the study shows that the earlier the rehabilitation process starts (up to 6 months), the lower the occurrence of individuals with the need to remain institutionalized in chronic phase, requiring less long-term rehabilitation resources.⁶

According to the European Stroke Initiative¹⁹, the better start time for the realization of rehabilitation should take place as early as possible, since it can reduce the number of post-stroke individuals. The least amount of days elapsed between the onset of symptoms and admission to rehabilitation services has shown significant associations concerning better functional outcomes, concerning the motor function, mobility and performance of activities of daily living;

besides exerting influence over the greatest progress in the results and, consequently, reduced stay in the service and cost reduction.²⁰

In studies using functional assessment tools, such as the Functional Independence Measure (FIM), Barthel Index and the Medical Outcomes Study 36 - Item Short - Form Health Survey (SF36) showed better functional outcomes in stroke of chronic phase between subjects who began rehabilitation within seven days of injury, compared with those who started treatment with 30 days of involvement.^{6,21}

Therefore, early initiation of rehabilitation interventions within three to 30 days post-stroke is strongly associated with better functional results.^{6,21} On the other hand, long waiting times for starting treatment have a negative impact on motor function and consequently in its functionality.²² It has been suggested that intensive rehabilitation up to six months can pass as improvements in mobility and activities of daily living²³, stressing the need for timely referral to obtain better results.¹⁶

Some studies indicate that rehabilitation promptly is an essential factor for a functional improvement, requiring less long-term rehabilitation resources. This relationship could be because the neurological recovery takes place primarily between the first and third-month post-stroke, and functional recovery especially between the 3rd and 6th months.^{6,24}

In this study, most of the subjects stated access to some rehabilitation services, but at a later time (> 30 days). Considering the organization of health services, in general, in Brazil, there are still barriers that hinder access to the needs presented by the individuals. Although the organizational model should advocate an articulated and organized flow, weaknesses are observed in the ways of access to services after referral, as well as the delay for marking sessions, factors that influence stopping the treatment²⁵ and compromise the chances functional recovery of individuals.

Other factors still committed to universal access to health services, exercising influence on patients' onset time to perform the longitudinal monitoring demanded by the stroke. Among these, it is highlighted the patient's motivation, satisfaction with the service and quality of care as well as the solving of rehabilitation actions.²⁶ It is also shown no formal referral; the lack of availability of vacancies and workers in services; environmental factors related to the

geographical obstacles resulting from the physical and architectural structure of public services; the displacement and transportation between home and the services; the cost of private services.²⁶

A study in the city of João Pessoa shows that the expansion of coverage of the Family Health Strategy did not happen at the same pace that specialized in services that are part of the rehabilitation services and can justify late access observed in this study.²⁵ According to the authors, considering the physical and socio-economic conditions of many municipal patients where the study was conducted, the search for rehabilitation occurs in several cases through primary care, resulting in long waiting times for treatment and consequent identification of a high unmet demand.²⁶

In Figure 2 about the education, it was possible to find that those with high school/technical were more likely to insert in rehabilitation services being carried out earlier so that the lower educational level of individuals. In the literature, higher education reference associated with increased survival, to better control and knowledge of the disease and its risk factors for cardiovascular disease and higher return on capacity to work.² In research carried out in a hospital in Fortaleza with 75 subjects affected by stroke, it was found that 72% of them had low education. To the study authors, socioeconomic status appears as an important factor for non-adherence to the completion of treatment, about blood pressure, considered as an important risk factor for early cardiovascular disease.²⁸

Therefore, it is possible to infer the relationship between the educational level of stroke patients and the inclusion in the initial phase after involvement in rehabilitation services: the higher the education level, the sooner will the patient's onset of stroke in rehabilitation service. This assumption is based on the perspective of the individual with higher educational degree know the importance of seeking rehabilitation services and has greater understanding of health guidelines, contributing to greater involvement and participation of this group.¹⁴

CONCLUSION

This study found that while most post-stroke individuals have had access to rehabilitation, the spent time between the diagnosis and rehabilitation care was carried out belatedly and predominantly by physiotherapy services. Early access was associated with higher levels of education.

Due to the impairments and limitations resulting from the stroke and the need for early interventions after the onset, it is important to give visibility to the factors that influence and limit access opportunities, especially in the SUS. The results and discussion are presented may contribute to the planning and management of health and rehabilitation services, ensuring the quality of care and the longitudinal and comprehensive health care.

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