

Centro Universitário de Patos - UNIFIP
Curso de Medicina
v. 5, n. 3, jul/set. 2020, p.174-183.
ISSN: 2448-1394



FUNCTIONAL PROFILE OF POST-STROKE PATIENTS IN THE CITY OF PATOS – PB

PERFIL FUNCIONAL DE PACIENTES PÓS ACIDENTE VASCULAR CEREBRAL A CIDADE DE PATOS-PB

Samara Campos de Assis
Santa Casa de São Paulo – FMSCSP, São Paulo, Brasil
samaracamposdeassis@gmail.com

Rubens José Gagliardi
Santa Casa de São Paulo – FMSCSP, São Paulo, Brasil
rubensjg@apm.org.br

ABSTRACT

Objectives: To trace the functional profile of patients after stroke, verifying the demographic data and the functionality of these using the Functional Independence Measure (FIM) scale and the modified Rankin Scale. **Methods:** 100 individuals, with clinical diagnosis of stroke, were evaluated at Reference Services in the city of Patos, Paraíba, Brazil. **Results:** 53% of the individuals interviewed were female, with a mean age of 68.5 years, with the white race the most incident, 44% of whom had complete primary education, in which the prevalent family income was 1 minimum wage. It was found that 70% presented motor sequelae. On the FIM scale a moderate level of functional impairment was observed in their scores. In the Rankin Scale it was noted that 38% also had moderate disability. **Conclusion:** Individuals who survive stroke have limitations in their daily activities and restrictions on social participation, affecting both personal and family life.

Keywords: Cerebral Vascular Accident. Functional incapacity. Assessment of disability.

RESUMO

Objetivos: Traçar o perfil funcional de pacientes pós AVC, verificando os dados sócio demográficos e a funcionalidade destes pacientes utilizando-se a escala para Medida da Independência Funcional (MIF) e a Escala modificada de Rankin. **Métodos:** Foram avaliados 100 indivíduos, de ambos os sexos, com diagnóstico clínico de AVC, independente da etiologia, isquêmica ou hemorrágica, atendidos em serviços de referência na cidade de Patos – PB. **Resultados:** 53% dos entrevistados eram do sexo feminino, com idade média de 68,5 anos, sendo a raça branca a mais incidente, 44% dos quais possuíam ensino fundamental completo, onde a renda familiar prevalente era de 1 salário mínimo. Verificou-se que 70% apresentavam sequela motora. Na escala MIF, observou-se um nível moderado de comprometimento funcional em seus escores. Na Escala Rankin, observou-se que 38% também apresentavam incapacidade moderada. **Conclusão:** Os indivíduos que sobrevivem ao AVC têm limitações em suas atividades diárias e restrições à participação social, afetando sua vida pessoal e familiar.

Palavras-Chave: Acidente Vascular Cerebral; Incapacidade funcional; Avaliação da deficiência;

1. Introduction

Stroke refers to a set of neurological signs and symptoms, and is defined by the World Health Organization (WHO) as the rapid development of clinical signs of focal (or global) disorders of brain function, with symptoms that persist for more than 24 hours or lead to death, with no other apparent cause than that of vascular origin.¹

The neurovascular involvement experienced by stroke survivors generates several neurological deficiencies, such as motor, sensory and cognitive deficits. Such deficiencies can lead to limitations of tasks related to mobility and personal care mainly, resulting in different degrees of dependence²

It is important to incorporate evaluative measures of disabilities, in order to understand their impact. Some scales are used in the follow-up of clinical evolution and in research for diagnosis, prognosis and response to treatments.³

The realization of an evaluation capable of measuring the impact of the disease on the functionality of post-stroke subjects is very important in the elaboration of rehabilitation programs that take into consideration all the factors that interfere in the life of these individuals and, in this perspective, maintain or improve the function lost.⁴ The present study aims to trace the functional profile of patients with stroke sequelae through the FIM and Rankin scales in the city of Patos, Paraíba, Brazil.

Methods

This is an observational, cross-sectional, descriptive study with a convenience sample. The study was conducted in the city of Patos, in the countryside of Paraíba, which according to IBGE data has approximately 110 thousand inhabitants.

The study population consisted of all individuals who had suffered a stroke episode for more than 06 months, and who had been seen at the referral centers in that municipality. The sample consisted of 100 individuals. Being the research carried out in the period of February to June of 2017.

An interview was applied to obtain information about the functional profile of the individuals and the script was composed of thematic questions answered by the patient or companion that involve: age, sex, marital status, occupation, occupation, educational level and family income; type of stroke, affected side, and sequelae after disease.

Level of Functional Independence, and the Modified Rankin (MR) scale, both validated in Brazil, were used to assess the functionality of the individuals after the stroke. 3.5 The MIF is widely used worldwide, the instrument evaluates 18 categories scored from one to seven and classified according to the level of dependency to perform

the task, where score 1 means total dependency and 7 corresponds to complete independence. 2

The categories are grouped into six dimensions: self-care, sphincter control, transference, locomotion, communication and social cognition.⁶MR was also used in the present study, the scale was developed in 1957 by J. Rankin with the objective of evaluating the incapacities of the individuals affected by stroke, besides being able to be applied and interpreted by any professional in the health area, without reports difficulties for its application. ^{7,8}

MR is composed by six categories: 0 - asymptomatic, 1 - no significant disability, 2 - mild disability, 3 - moderate disability, 4 - moderately severe disability, 5 - severe disability, 6 - death. 7

Patients with other neurological pathologies beyond stroke were excluded from the study, those who did not agree to participate in the study, those with severe cognitive problems who were unaccompanied, as well. Data analysis was performed using SPSS software version 22.0 for Windows, with a significance level of 5% being considered. Correspondence analysis was performed for the FIM and MR (?) Scale, using the Chi-Square test and the perceptual map, through the Spearman Correlation.

This study was submitted to the Research Ethics Committee of the Faculdades Integradas de Patos (FIP) and approved with the opinion number 2,059,916. All subjects participated voluntarily and signed the Free and Informed Consent Form (TCLE) prior to the accomplishment of the same.

Results

Of the surveys respondents, 54% were female, aged between 61 and 70 years, with a mean age of 68.5 years (\pm 12.5). There is a higher incidence in white people, married, with incomplete elementary education, and a prevalent family income of 1 minimum wage, of which the majority lived in their own home and with the family, as described in table I.

Regarding the clinical data, the predominant type of stroke was ischemic, but 49% of the sample did not know how to respond to this question. Regarding the time of onset, it was observed that 48% suffered the stroke about 3 years ago or more. It was also verified that the side affected in relation to the sequel had equal representativeness, being 50% right side and 50% left side. When questioned about physical therapy, 66% answered that they did, and 40% performed more than 3 years ago, and that they improved after physiotherapeutic treatment, as shown in table II.

When applying the FIM and MR scales one can observe a moderate level of functional impairment and moderate disability respectively. Both resemble their results.

TABLE 1- Characterization of the sample regarding sociodemographic data of patients with stroke attended at reference services in the city of Patos - PB.

Sex		
Female	54	54,0
Male	46	46,0
Age group		
21-40 years	1	1,0
41-60 years	15	15,0
61-70 years	68	68,0
Over 70 years	16	16,0
Marital status		10,0
Single	10	58,0
Married	58	12,0
Divorced	12	20,0
Widowed	20	
Race		
White	48	48,0
Black	16	16,0
Brown	36	36,0
Education Level		
No studies	14	14.0
Teaching Fund. Incomplete	46	46.0
Incomplete high school	12	12.0
Complete high school	10	10.0
Higher education	6	6.0
Others	12	12.0
Income		
Up to 1 minimum wage	70	70.0
From 1 to 3 minimum wage	26	26.0
From 3 to 5 minimum wage	4	4.0
Home		
Own home	69	69.0
Rented house	31	31.0
Lives with family	61	61.0
Live alone	09	9.0
Others	30	30.0

Source: Data from the survey carried out at Reference Services of the City of Patos-PB.

TABLE 2 - Characterization of the sample regarding the clinical data of patients with stroke attended at reference services in the city of Patos - PB.

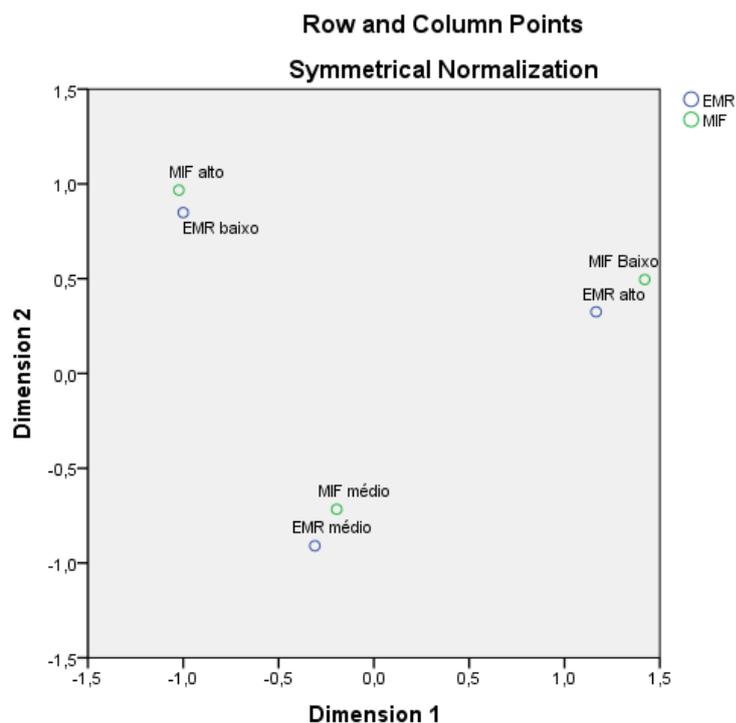
Variáveis	n	%
Tipo de AVC		
Type of stroke	36	36,0
Ischemic	15	15,0
Hemorrhagic	49	49,0
Did not know how to report		
Stroke time		
6 months -2 years	52	52,0
3-10 years	48	48,0
Sore side (sequel)		
Right		
Left	50	50,0
	50	50,0
Do physiotherapy		
Yes		
No	66	66,0
	34	34,0
Time of Physiotherapy		
0-6 months	22	22,0
7-12 months	14	14,0
More than 1 year	24	24,0
More than 3 years	40	40,0
There was improvement		
Yes	90	90,0
No	10	10,0

Source: Data from the survey carried out at Reference Services of the City of Patos-PB.

Table 3: Correspondence analysis for the MIF Scale and Rankin Scale categorized by their quartiles.

Dimension	Singular Value	Inertia	Qui-Square	p-value	Percent inertia
1	0,777	0,604	-	-	66,5
2	0,552	0,305	-	-	33,5
Total		0,909	88,145	< 0,001	100,0

Source: Data from the survey carried out at Reference Services of the City of Patos-PB.



Discussion

Stroke has been found predominantly in males, according to most of the literature findings that trace the profile of individuals who had this neurological condition.⁹⁻¹⁰ However, in this study, applying the Z test to the proportion of individuals in relation to sex, it was verified with the level of significance of 5%, that the sample is homogeneous, there was no statistically significant difference for this variable.

In the studies of Lopes Júnior et al., We can observe equal representativeness between the sexes.² However, some studies already show a higher prevalence in females.¹¹⁻¹⁴

As for age, the majority were in the age group between 61 and 70 years, corroborating with studies that show a greater prevalence in individuals of advanced age.¹⁵⁻¹⁶ These data are in agreement with the study done by Reis et al. in the state of Bahia, where a mean age of 69 years was observed, and homogeneous population in relation to sex.

In relation to race, there was a predominance of whites. This fact can be justified by the greater incidence of people who say they are white in the city of Patos. According to recent data from PNAD in Paraíba, 38% of people evaluated were white, 56% were brown, 4% were black, and 2% declared not to be able to make a self declaration about it. These numbers should be evaluated, as there is still a tendency in Brazil to declare

themselves more for clear-skinned than for dark-skinned, although this has changed recently.

The educational level of the participants in this study was relatively low. Many had not finished elementary school, worked as farmers, housewives and retirees and had an average income of up to 1 minimum wage, in agreement with previous research.^{17,18} These data characterize a common socioeconomic profile of a poor class where most of the individuals in the sample are inserted.

In relation to housing conditions, most have their own homes, and live with their families. The study conducted by Barbosa et al. found that functional disability is lower in married individuals and that they live with the family, when compared to the unmarried, widowed and divorced, the latter group presents a greater possibility of dependence in daily activities.¹⁹

Another study observed that 68% of the evaluated individuals were retired and unable to perform paid activities.²⁰ Similar to the data of the present study. Regarding the identification of the type of stroke, the percentage of people who did not know how to answer this question was greater than those who answered, they did not have exams that could analyze this question, thus corroborating, with the other studies that reveal concerning the prevention, recognition and reaction at the time of the episode.²¹⁻²²

In relation to the affected side observing the sequela, there was no divergence between the hemiforms, both with 50%, coinciding, thus, with another study, in which the affection was well distributed.²³ Regarding the time of onset, the majority reported having suffered a stroke between 6 months and 2 years, with predominantly motor sequelae. A relevant fact, since the sample is composed, for the most part, of individuals in the chronic phase, which corresponds more than 6 months to the said event.

The majority reported that has been done physiotherapy for an average of 3 years, evidencing improved autonomy and daily activities after the beginning of treatment. This fact can be justified by the existence in the city of Patos of Rehabilitation Centers and a faculty that has the Physiotherapy course, in which the community benefits, thus facilitating access to these services.

Post-stroke rehabilitation can enhance recovery processes and minimize functional disabilities, reducing potential costs for long-term care, contributing to improved patient satisfaction. Among the various instruments to evaluate the level of functional capacity of individuals affected by stroke, there is FIM, one of the instruments used here, where a moderate level of functional impairment can be observed in the individuals evaluated.

In a similar study carried out in Natal - RN, with stroke patients attending public physiotherapy services in that city, it was verified that the mean total motor FIM score

also indicated a moderate level of functional impairment, corroborating with the data of the present study.¹⁶

When applied to the Modified Rankin (MR) scale, most subjects had moderate disability. These data are similar to a study carried out in the city of João Pessoa, capital of the state, where functional impairment after stroke, according to MR, affected 81.8% of the individuals and, of these, 60.7% moderate to severe.²⁵ Another study conducted in 2016 with post-stroke individuals evaluated with MR showed moderate to severe degrees of disability.²⁶

When correlating the MIF and MR scales, it can be observed in Table 3 that there is a significant association according to the Chi-Square test for the categorization of these scales.²⁷ It was noticed that the lower the score of the scale, the greater the degree of dependence of the patient. The classification of patients by the two scales, form similar groups. Therefore, the scales are closely associated according to the Spearman Correlation.²⁸⁻²⁹

These scales were chosen because they meet criteria such as reliability, validity, accuracy, practicality and ease, as well as to determine the necessary care to be performed, so that the patient can perform their daily activities.³⁰

Conclusion

The information contained in this study allowed the identification of a socioeconomic profile of individuals after stroke, in which no significant difference was observed in relation to gender, mean age of 68.5 years, low schooling, low income, retirees, who did not know how to type of stroke had been affected, most of them performing physiotherapy, with predominantly motor sequelae and moderate disability. When the two scales were correlated, no difference was observed in their results, presenting similar groups in relation to the answers. Therefore, they are the two excellent means of evaluating functionality for patients with stroke. It is suggested that new studies be carried out on the subject in question, with a greater number of individuals.

References

- 1-Nunes S, Pereira C, Silva MG. Functional evolution of users after stroke in the first six months after injury. *Essfioonline*, v.1, n.3, 2005.
 - 2 - Guerra, Z.F, Eduardo, C.M, Júnior, P.R.M, Soares, P.A. Evaluation of functional capacity after stroke (stroke). *Brazilian Journal of Medical Sciences and Health*. 2017; 5 (5): 1-5.
- Journal of Medicine and Health Promotion*. 2020; 5(3): 174-183.

- 3- Soriano FFS, Baraldi K. Functional assessment scales applicable to post-stroke patients. *ConScientiae Saúde*. Vol.9. n. 3. 2010.
- 4- Carvalho AC, Vanderlei LC, Bofil TC, Pereira JDAS, Nawa, VA. Hemiplegic design- A model of group physiotherapy for chronic hemiplegics. *Rev. Ciência e Saúde, Rio Grande do Sul-RS*. V.14, n. 13, p. 161-168, 2007.
- 5- Riberto M, Miyazaki MH, Jucá SSH, Sakamoto H, Pinto PPN, Battistella LR. Validation of the Brazilian version of the measure of functional independence. *ActaFisiátrica*. Vol. 11, n. 2, (March / April 2004), p. 72-76.
- 6- Lino VTS, Pereira SRM, Camacho LAB, Filho STR, Buksman S. Transcultural adaptation of the Independence Scale in Daily Life Activities (Kats Scale). *Cad. Saúde Pública, Rio de Janeiro*, 24 (1): 103-112, jan, 2008.
- 7- Brito RG, Lins LCRF, Almeida CDA, Neto ESR, Araújo DP, Franco CIF. Specific Functional Assessment Instruments for Stroke. *Rev Neurocienc* 2013; 21 (4): 593-599.
- 8- Brazil, Ministry of Health. Guidelines for Attention to Rehabilitation of Persons with Stroke. DF. 2013.
- 9- Teles, M.S, Gusmão, C. Functional evaluation of patients with Cerebral Vascular Accident using the Fulg-Meyer protocol. *RevNeurocienc* 2012; 20 (1): 42-49.
- 10- Bensenor IM, Goulart AC, Szwarcwald CL, Vieira MLFP, Malta DC, Lotufo PA. Prevalence of stroke and associated disability in Brazil: National Health Survey - 2013. *Archivos de Neuro-Psiquiatria*. 2015; 73 (9): 746-750.
- 11- Copstein L, Fernandes JG, Bastos GAN. Prevalence and risk factors for stroke in a population of Southern Brazil. *ArqNeuropsiquiatr* 2013; 71 (5): 294-300.
- 12- Ribeiro KSQS, Neves RF, Brito GEG, Sousa KM, Lucena EMF, Batista HRL. Access to post-stroke rehabilitation in the city of João Pessoa, Paraíba. *Revista Baiana de Saúde Pública*. 2012; 36 (3): 699-712.
- 13- Fernandes MB, Cabral DL, Souza RJP, Sekitani HY, Salmela LFT, Laurentino GEC. Functional independence of chronic hemiparetic individuals and its relation to physiotherapy. *Fisioter Mov*. Curitiba, v.25, n.2. P. 333-341, apr-jun. 2012.
- 14- Oliveira JG, Damasceno KG, Souza LP, Lima MG. Clinical and epidemiological profile and the main nursing diagnostic labels for hospitalized patients with stroke in a large hospital in the legal Amazon. *Revista Amazônia Science & Health*. 2016.
- 15- Pereira JVM. Proposed Core Set for functional and cognitive evaluation in individuals affected by chronic phase stroke. (Course Completion Work) Campina Grande (PB): State University of Paraíba, 2016.
- 16- Bensenor IM, Goulart AC, Szwarcwald CL, Vieira MLFP, Malta DC, Lotufo PA. Prevalence of stroke and associated disability in Brazil: National Health Survey - 2013. *Archivos de Neuro-Psiquiatria*. 2015; 73 (9): 746-750.

- 17- Martin RSS, Godoy I, Franco RJS, Martin LC, Martins AS. Influence of socioeconomic status on cardiovascular risk factors. *J. Bras. Med.* 2014, 102 (2): 34-7.
- 18- Silva WHS, Lopes GLB, Yano KM, Tavares NSA, Rego IAO, Cavalcanti FAC. Effect of the rehabilitation program using virtual reality for balance and functionality of chronic stroke patients. *Motor: rev. educ. fis.* vol.21 no.3 Rio Claro July / Sept. 2015.
- 19- Barbosa RA, Vasconcelos TB, Sousa CT, Costa MFA, Santos MPA, Bastos VPD. Profile of adult stroke patients treated in a clinical-school physiotherapy. *Rev. Aten. Health, São Caetano do Sul*, v. 15, n. 51, p. 5-10, jan / mar., 2017.
- 20- Oliveira ARS, Araújo TL, Costa AGC, Morais HCC, Silva VM, Lopes MVO. Evaluation of patients with stroke accompanied by home care programs. *Rev EscEnferm USP.* 2013; 47 (5): 1147-53.
- 21- Ponte AS, Fedosse E. Characterization of subjects with acquired brain injury of productive age. *Rev. CEFAC.* 2016 Set-Out; 18 (5): 1097-1108.
- 22- Gomes ABAGR, Mauro H, Andreoli SV, et al. Popular knowledge about stroke in Brazil: a multicenter study during the "World Stroke Day". *ENeurologicalSci.* 2017 mar; 6: 63-67.
- 23- Rodrigues, IT, Santos, ME. Validation of a depression scale for aphasics: "Stroke Aphasic Depression Questionnaire - SAD-Q". *Synapse*, 2006. n.2, v.6.
- 24- Rosa TS, Moraes AB, Trevisan ME. Clinical-demographic characteristics of patients hospitalized for stroke. *Rev Neurociênc.* 2015; 23 (3): 405-412.
- 25- Moreira NRTL, Andrade AS, Ribeiro KSQS, Nascimento JA, Brito GEG. Quality of life in individuals affected by stroke. *Rev. Neurocienc* 2015. 23 (4): 530-537.
- 26- Mendes LM, Gadelha IDS, Brito GEG, Moraes RM, Ribeiro KSQS. Access of post-stroke subjects to physiotherapy services. *Rev enferm UFPE on line.* 2016; 10 (2): 387-394.
- 27- Siegel S. *Non-parametric statistics for behavioral sciences.* McGrawHill, Artmed Bookman. São Paulo, 2006.
- 28- Pedhazur E, Schemelkin L. *Measurement, design, and analysis: An integrated approach.* New York: Lawrence Erlbaum Associates, 1991.
- 29- Bussad, WO. *Basic Statistics*, 5ed. Saraiva 2002.
- 30- Teles, MS, Gusmão C. Functional evaluation of patients with cerebral vascular accident using the Fulg-Meyer protocol. *RevNeurocienc* 2012; 20 (1): 42-49.