Factors associated with performing activities of daily living in women after suffering a stroke*

Fatores associados à realização de atividades da vida diária em mulheres após acidente vascular cerebral

Factores asociados con la realización de actividades de la vida diaria en mujeres tras accidente cerebrovascular

Karízia Vilanova Andrade[1]

Izabel Cristina de Souza[1]

Marianne Maia Dutra Balsells[1]

Adman Câmara Soares Lima[1]

Escolástica Rejane Ferreira Moura[1]

Priscila de Souza Aquino[1]

* Extracted from the dissertation: "Acidente Vascular Cerebral em mulheres na idade fértil: impacto nas atividades de vida diária", Departamento de Enfermagem, Universidade Federal do Ceará, 2017.

[1] Universidade Federal do Ceará, Faculdade de Farmácia, Odontologia e Enfermagem, Departamento de Enfermagem, Fortaleza, CE, Brazil.

ABSTRACT

Objective: To associate sociodemographic variables and risk factors for stroke to the degree of dependence for performing the activities of daily living of women of childbearing age after suffering a stroke. **Method:** A prospective and analytical longitudinal study conducted in three public hospitals in Fortaleza, CE, Brazil. The Modified Barthel Index was used at the time of attending the unit and 3 months after the stroke to assess the degree of disability in the performance of activities of daily living. The chi-squared and likelihood ratio tests were chosen to analyze the association between variables. **Results:** There were 109 women of childbearing age who participated in the study. There was an association between higher degrees of dependence in women from the interior/rural areas, with lower income and black people (p = 0.032, p = 0.043, p = 0.03, respectively). Regarding personal risk factors, there was a greater dependency in women with heart disease (p = 0.040), sedentary (p = 0.030) and alcoholics (p = 0.017). **Conclusion:** The results show the factors associated with higher degrees of dependence for performing activities of daily living by women of childbearing age after the occurrence of stroke.

DESCRIPTORS

Stroke; Activities of Daily Living; Women´s Health; Nursing Care.

Corresponding author:
Marianne Maia Dutra Balsells
Rua Alexandre Baraúna, 1115
CEP 60416-000 – Fortaleza, CE, Brazil
mariannemdb@hotmail.com

INTRODUCTION

Stroke is the second most common cause of death and the third most common cause of disability. It affects individuals of different age groups and of both genders, and it is the main cause of death in most of Latin America, with most of the risk factors being preventable[1-2].

Among females, there are specific factors which predispose them to develop strokes, such as the use of hormonal contraceptives, pregnancy and complications such as eclampsia, use of hormone replacement, depression, stress and migraines. Although the risk of stroke among young women is generally very low, it may increase over time[3]. Women between the ages of 45 to 54 years have a higher risk of having a stroke than men in the same age group[4]. Another aspect to be considered in this group involves social and economic characteristics – unequal living and working conditions, culminating in different types of exposures and vulnerabilities[5].

Thus, there has been an increase in the number of female stroke victims aged 50 years or less, in full activity and at the peak of their income, totally or partially removing their productive capacity due to this neurological disorder which makes them susceptible to disabilities[4]. Therefore, it is imperative to know the risk factors found in women of childbearing age (15-49 years) and the impact of deficits on their activities of daily living (ADLs)[4]. The neurological deficit caused by stroke has a great impact on the patient's life, physically or cognitively affecting them, and impairing them to perform their ADLs[6].

In the evaluation of ADLs, international studies indicate the Modified Barthel Index (MBI) as one of the most used instruments, as it consists of an investigation of 10 items of functionality and establishes the degree of patient dependency, presenting reliable results and reliable validity[7]. This global instrument facilitates diagnostic evaluation and observation of patients' evolution.

Brazilian data indicate that the incidence of degrees of disability which interfere in ADLs is higher among women when compared to men[8]. Faced with this problem, it is expected that the present study will offer contributions to the scientific community, considering the scarcity of literature on surveys involving women of childbearing age who have suffered a stroke and the implications on ADLs. It is believed that the generated knowledge may influence preventive stroke and health promotion practices, as well as favor public policies aimed at women in their entirety, not only focused on their reproductive capacity, but on the general aspects of their health and disease process, in addition to providing subsidies for the care provided by health professionals at all care levels.

In this context, research addressing stroke in women of childbearing age is relevant in order to learn about the risk factors present, the severity and neurological impairment, as well as their associations with daily activities after diagnosis. In view of these considerations, this study aimed to associate the sociodemographic variables and risk factors for stroke with the degree of dependence for performing activities of daily living in women of childbearing age who have suffered a stroke.

METHOD

STUDY DESIGN

This is a quantitative study with a longitudinal prospective and analytical design.

SCENARIO

The study was carried out in three public hospitals in Fortaleza, CE, Brazil. These hospitals are references for providing care to patients who have had a suspected stroke. Considering the peculiarities of each hospital, the inpatient units which were part of the collection were: Emergency, Stroke Unit, Neurological Ward and Intensive Care Unit.

SAMPLE

The sample was selected by convenience, addressing all patients admitted during the data collection period. The sample consisted of 109 women who met the following inclusion criteria: being of childbearing age – aged 15 to 49 years, as recommended by the World Health Organization (WHO), having a medical diagnosis of stroke, and being hospitalized in one of the units of these hospitals. Women with no companion on three consecutive visits, patients admitted to the Intensive Care Unit (ICU) and/or with communication difficulties or those who had a change in diagnosis during medical visits were excluded. Therefore, three of the 112 women evaluated were excluded during the study.

The companions were asked to answer any questions when the patient was unconscious or had cognitive or understanding alterations which made it difficult. The medical record was consulted to confirm the stroke diagnosis and check information about the patient's history and admission data.

DATA COLLECTION

Data collection was carried out between the months of October 2015 and October 2016, covering two stages: 1. Initial assessment; and 2. Reassessment, 3 months after the stroke. Data collection started in the first stage with an interview in which an instrument with identification data was used – sociodemographic, family and personal history, gynecological and obstetric history, use of combined oral contraceptives (COC), the presence of other risk factors for stroke (arterial hypertension, diabetes, heart disease, transient ischemic attack (TIA), eclampsia, migraine, mental illness, physical activity, alcoholism, smoking and stress), and days of hospitalization.

The MBI was used to assess the degree of capacity for performing ADLs. This instrument assesses items such as food, personal hygiene, bathroom use, bathing, anal sphincter continence, bladder sphincter continence, dressing, transferring (bed and chair), going up and down stairs, walking and handling the wheelchair. Thus, the dependence level was classified through the analysis of these questions: 1) total dependence; 2) assistance in all aspects; 3) assistance in some steps of the task; 4) minimal assistance or supervision in the task; and 5) totally independent. Finally, the total scores for the patient's classification were counted as follows: 10 (total dependence), 11-30 (severe dependence), 31-45 (moderate dependence), 46-49 (slight dependence)

and 50 (total independence)[9]. All women were reevaluated 3 months after the stroke, after the acute phase. They were contacted through telephone calls and the MBI was applied again, with questions directed to evaluate their clinical evolution.

It is noteworthy that the data in both stages were collected by two nurses, a Master's student and a Doctorate student, both with experience in nursing care for stroke victims.

The outcome variable was the ability to perform ADLs, obtaining a score from 0 to 50, and the predictor variables comprised the risk factors for stroke and the sociodemographic variables.

DATA ANALYSIS AND PROCESSING

The Statistical Package for Social Sciences (SPSS) version 20.0 software program was used for data analysis. The 95% confidence interval was adopted. Normality for numerical variables was verified using the Kolmogorov-Smirnov (K-S) test, using the median for non-normal distributions. Pearson's chi-squared and likelihood ratio tests were chosen for analyzing the association between variables, and a 5% ($p < 0.05$) significance was adopted.

ETHICAL ASPECTS

The study was approved by the Research Ethics Committee of the Universidade Federal do Ceará, with Opinion No.

1.282.922/15, and by the Hospital Geral de Fortaleza with Opinion No. 1.327.321/15, meeting all ethical principles of research with human beings, according to Resolution No. 466/12, of the National Health Council[10]. All patients or companions signed the free and Informed Consent Form (ICF).

RESULTS

Regarding sociodemographic characteristics, it was found that the age ranged from 18 to 49 years, in which the 40 to 49 age group comprised the largest number of women; there were 70 (64.2%) young adults, with a median of 42 years. From this total, 74 (67.9%) had a stable union, 41 (37.6%) had an income of up to one minimum monthly salary, and 56 (51.3%) were not economically active. Most women (54, 50.4%) were from the capital city, with three women (2.8%) coming from other states. Regarding education, the study showed that 50 (45.9%) women had 10 to 12 years of studying, with a median of 10 years. For race, more than half the sample of women (64 – 58.7%) considered themselves brown compared to 26 (24.7%) who considered themselves white, and 13 (12.3%) who considered themselves black.

Regarding the investigated factors associated with the functional capacity of the interviewed women, there was an association with the sociodemographic variables found, as shown in Table 1.

Table 1 – Association of sociodemographic variables with the degree of dependence for performing ADLs in the acute phase and three months after – Fortaleza, CE, Brazil, 2016.

Variables	Modified Barthel Index											
	Total dependence		Severe dependence		Moderate dependence		Slight dependence		Independence		p-values	
	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial	3 months
Age range												
18 – 29	2(11.8)	-	5(29.4)	1(7.1)	6(35.3)	3(21.4)	1(5.9)	4(28.6)	3(17.6)	6(42.9)		
30 – 39	2(9.1)	1(5.3)	4(18.2)	-	4(18.2)	2(10.5)	3(13.6)	4(21.1)	9(40.9)	12(63.2)	0.191‡	0.582‡
40 – 49	5(7.2)	1(1.5)	26(37.7)	6(9.1)	20(29)	14(21.2)	10(14.5)	14(21.2)	8(11.6)	31(47)		
Origin												
Capital	3(5.6)	1(2)	13(24.1)	2(4)	12(22.2)	5(10)	12(22.2)	14(28)	14(25.9)	28(56)		
Interior/rural	5(10.2)	1(2.2)	19(38.8)	5(11.1)	17(34.7)	13(28.9)	2(4.1)	7(15.6)	6(12.2)	19(42.2)	0.032‡	0.232‡
Other states	-	-	2(66.7)	-	1(33.3)	-	-	1(50)	-	1(50)		
Education (years)												
0 – 9	5(10.2)	1(2.2)	17(34.7)	4(8.9)	14(28.4)	8(17.8)	7(14.3)	14(31.1)	6(12.2)	18(40)	0.573*	0.374‡
10 – 16	3(5.6)	1(2)	16(29.6)	3(5.9)	15(27.8)	10(19.6)	7(13)	8(15.7)	13(24.1)	29(56.9)		
Income (min. salaries)												
Up to 1	1(2.4)	-	14(33.3)	-	19(45.2)	11(29.7)	2(4.8)	11(29.7)	6(14.3)	15(40.5)		
1.1 – 2.0	4(12.9)	1(3.7)	10(32.3)	2(7.4)	5(16.1)	5(18.5)	6(19.4)	4(14.8)	6(19.4)	15(55.6)	0.043‡	0.025‡
2.1 – 8	4(13.8)	1(3.4)	7(24.1)	3(10.3)	6(20.7)	1(3.4)	6(20.7)	7(24.1)	6(20.7)	17(58.6)		
Occupation												
Home	3(5.4)	1(2)	16(28.6)	4(7.8)	18(32.1)	13(25.5)	8(14.3)	10(19.6)	11(19.6)	23(45.1)	0.592*	0.548‡
Outside home	6(11.5)	1(2.1)	19(36.5)	3(6.3)	12(23.1)	6(12.5)	6(11.5)	12(25)	9(17.3)	26(54.2)		
Union												
With companion	5(6.8)	2(2.9)	25(34.2)	4(5.9)	18(24.7)	16(23.5)	10(13.7)	12(17.6)	15(20.5)	34(50)	0.696*	0.181‡
Without companion	4(11.4)	-	10(28.6)	3(9.7)	12(34.3)	3(9.7)	4(11.4)	10(32.6)	5(14.3)	15(48.4)		
Race												
Black	3(23.1)	1(10)	3(23.1)	1(10)	4(30.8)	2(20)	1(7.7)	1(10)	2(15.4)	5(50)		
Brown	1(1.6)	-	19(30.2)	4(6.6)	23(36.5)	11(18)	8(12.7)	18(29.5)	12(19)	28(45.9)	0.03‡	0.231‡
White	4(15.4)	-	10(38.5)	2(8.3)	2(7.7)	6(25)	4(15.4)	2(8.3)	6(23.1)	14(58.3)		

‡ Likelihood ratio test; *Chi-squared test.

As noted in Table 1, there was an association between the origin and the degree of dependence for performing ADLs, since women in the initial assessment who were from rural/interior areas had a higher degree of total or severe dependence (p = 0.032), and almost half of the women in Fortaleza showed degrees ranging from slight dependence to independence. Income was another factor which influenced the degree of dependence, since women in the initial assessment with an income of up to one minimum salary had a higher prevalence of total to moderate dependence (p = 0.043) in relation to the others. Moreover, in the evaluation after 3 months, women with higher salaries were more classified as independent. Race also showed statistical significance with the degree of dependence (p = 0.030), since the black race showed a higher degree of total to moderate dependence in relation to the others in the initial assessment.

The women in the study were also interviewed regarding the presence and distribution of risk factors for the occurrence of stroke. The data regarding the association between personal risk factors and the degree of dependence for ADLs are allocated in Tables 2 and 3.

Table 2 – Association between comorbidities and the degree of dependence for ADLs – Fortaleza, CE, Brazil, 2016.

Variables	Modified Barthel Index											
	Total dependence		Severe dependence		Moderate dependence		Slight dependence		Independence		p-values	
	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial	3 months
Heart disease												
Yes	1(6.7)	0	5(33.3)	1(8.3)	8(53.3)	3(25)	-	5(41.7)	1(6.7)	3(25)	0.040‡	0.309‡
No	8(8.8)	2(2.4)	30(33)	6(7.1)	20(22)	16(8.8)	14(15.4)	16(18.8)	19(20.9)	45(52.9)		
Arterial hypertension												
Yes	5(11.6)	1(2.6)	13(30.2)	2(5.1)	13(30.2)	8(20.5)	5(11.6)	9(23.1)	7(16.3)	19(48.7)	0.853*	0.971‡
No	4(6.3)	1(1.7)	22(34.4)	5(8.5)	17(26.6)	11(18.6)	9(14.1)	13(22)	12(18.8)	29(49.2)		
Diabetes												
Yes	0	0	2(20)	1(9.1)	3(30)	2(18.2)	2(20)	1(9.1)	3(30)	7(63.6)	0.504‡	0.698‡
No	9(9.3)	2(2.3)	32(33)	6(6.9)	27(27.8)	16(18.4)	12(12.4)	21(24.1)	17(17.5)	42(48.3)		
Pre-eclampsia												
Yes	1(7.1)	0	4(28.6)	0	6(42.6)	2(16.7)	3(21.4)	5(41.7)	0	5(41.7)	0.104‡	0.350‡
No	7(7.7)	2(2.4)	30(33)	6(7.1)	23(25.3)	16(19)	11(12.1)	16(19)	20(22)	44(52.9)		
Eclampsia												
Yes	0	0	2(33.3)	1(20)	3(50)	1(20)	3(21.4)	0	1(16.7)	1(20)	0.485‡	0.542‡
No	8(8)	2(2.2)	32(32)	5(5.4)	27(27)	17(18.5)	14(14)	20(21.7)	19(19)	48(52.2)		
TIA												
Yes	0	0	3(42.9)	1(14.3)	2(28.6)	0	1(14.3)	2(28.6)	1(14.3)	4(57.1)	0.822‡	0.444‡
No	9(8.9)	2(2.2)	32(31.7)	6(6.5)	28(27.7)	19(20.7)	13(12.9)	20(21.7)	19(18.8)	45(48.9)		
Previous stroke												
Yes	1(7.1)	0	1(7.1)	2(14.3)	7(50)	2(14.3)	2(14.3)	4(28.6)	3(21.4)	6(42.9)	0.133‡	0.716‡
No	8(8.8)	2(2.4)	33(36.3)	5(6)	22(24.2)	16(19.3)	12(13.2)	18(21.7)	16(17.6)	42(50.6)		
Migraine												
Yes	4(6.3)	1(1.7)	14(22.2)	3(5.2)	23(36.5)	9(15.5)	10(15.9)	15(25.9)	12(19)	30(51.7)	0.053*	0.683‡
No	5(11.6)	1(2.5)	19(44.2)	4(10)	7(16.3)	9(22.5)	4(9.3)	7(17.5)	8(18.6)	19(47.5)		
Mental illness												
Yes	1(5.6)	0	5(27.8)	2(12.5)	7(38.9)	2(12.5)	3(16.7)	3(18.8)	2(11.1)	9(56.3)	0.714*	0.699*
No	8(9.5)	2(2.6)	28(33.3)	5(6.5)	21(25)	16(20.8)	11(12.1)	18(23.4)	16(19)	36(46.8)		

‡Likelihood ratio test; *Chi-squared test.

The association of comorbidities with the ability to perform ADLs showed that 93.3% of women who had heart disease also had severe to moderate dependence for ADLs in the acute phase, with statistical association (p = 0.040). In addition, 26 (60.4%) of the hypertensive women showed severe and moderate dependence in the acute phase.

Women who presented pre-eclampsia and eclampsia as a risk factor in the initial stage of stroke mostly developed total to moderate dependence for performing ADLs. Similarly, those who had previously been affected by acute neurological deficit, TIA and previous stroke indicated severe (42.9%) and moderate (50%) dependence for performing ADLs. More than half of the women (63%) had migraine as a risk factor.

Table 3 contains data on the association of lifestyle habits with the degree of dependence for ADLs.

Table 3 – Association between lifestyle habits and the degree of dependence for ADLs – Fortaleza, CE, Brazil, 2016.

Variables	Modified Barthel Index											
	Total dependence		Severe dependence		Moderate dependence		Slight dependence		Independence		p-values	
	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 months n (%)	Initial n (%)	3 meses n (%)	Initial n (%)	3 months n (%)	Initial	3 months
Physical activity												
Yes	2(9.1)	1(4.8)	4(18.2)	0	6(27.3)	1(4.8)	2(9.1)	4(19)	8(36.4)	15(71.4)	0.170‡	0.030‡
No	6(7.1)	1(1.3)	31(36.9)	7(9.1)	23(27.4)	18(23.4)	12(14.3)	18(23.4)	12(14.3)	33(42.9)		
Alcoholism												
Yes	4(18.2)	2(10.5)	8(36.4)	0	4(18.2)	6(31.6)	3(13.6)	4(21.1)	3(13.6)	7(36.8)	0.405‡	0.017‡
No	5(5.9)	0	27(31.8)	7(8.9)	25(29.4)	13(16.5)	11(12.9)	17(21.5)	17(20)	42(53.2)		
Smoking												
Yes	2(8.3)	1(4.5)	9(37.5)	2(9.1)	8(33.3)	5(22.7)	2(8.3)	6(27.3)	3(12.5)	8(36.4)	0.774‡	0.656‡
No	7(8.3)	1(1.3)	26(31)	5(6.5)	22(26.2)	14(18.2)	12(14.3)	16(20.8)	17(20.2)	41(53.2)		
Stress												
Yes	4(8.3)	1(2.3)	14(29.2)	4(9.1)	16(33.3)	7(15.9)	6(12.5)	11(25)	8(16.7)	21(47.7)	0.925*	0.952‡
No	5(8.9)	1(2)	19(33.9)	3(5.9)	14(25)	10(19.6)	8(14.3)	11(21.6)	10(17.9)	26(51)		
COC use												
Yes	4(10.5)	1(2.9)	10(26.3)	2(5.7)	12(31.6)	2(5.7)	1(2.6)	10(28.6)	11(28.9)	20(57.1)	0.048‡	0.088‡
No	5(7.1)	1(1.6)	25(35.7)	5(7.8)	18(25.7)	17(26.6)	13(18.6)	12(18.8)	9(12.9)	29(45.3)		

‡Likelihood ratio test; *Chi-squared test.

As shown in Table 3, physical activity and alcoholism had a significant association with the degree of dependence in the assessment after 3 months, since most independent women were physically active (15 – 71.4%, p = 0.030), and they were not an alcoholic (42 – 53.2%, p = 0.017). For the use of contraceptives in the acute phase, 30 (42.8%) non-users showed total to severe dependence, in contrast to 14 (36.8%) COC users. At the same time, 11 (28.9%) COC users had a higher degree of independence when compared to non-users, with p = 0.048.

DISCUSSION

Approximately 50 million post-stroke survivors worldwide have physical, cognitive and emotional dysfunctions, and 25% to 74% of these are dependent in performing their ADLs[6]. When women of childbearing age are affected by this condition and present such dysfunctions, they are exposed to specific female consequences considering cultural and social factors[4]. Thus, the association between sociodemographic variables and the degree of dependence was analyzed in order to address these issues.

Regarding origin, there was a worse score on the MBI in women who lived in the interior/rural area of Ceará, which can be explained by the delay in reaching the hospital resulting in neurological deficits, especially given the urgency of a stroke which requires immediate recognition and appropriate care. There is consensus in the scientific community that it is possible to improve the prognosis and reduce mortality with an effective care system. Therefore, a progressive increase in patients with access to this specific therapy in a timely manner reduces the occurrence of sequelae[11-12].

Another variable associated with statistical significance as to the degree of dependence for physical activity was income, in both the initial assessment and three months after the stroke. Studies show that several characteristics influence the care provided to patients who have suffered a stroke. Among these factors, economic status is considered a significant predictor for recovery and quality of life, and not only for women, but also for their caregivers[13]. The results of this study reinforce the WHO estimates, which attest to worsening in stroke cases, especially in low and middle income countries[14].

The statistical association found between race and dependence for performing ADLs is identified in other studies, such as in a study carried out in the United States which revealed that stroke episodes occur twice as often in black people when compared to white people, with mortality caused by stroke also higher in blacks[15]. A cross-sectional observational analysis study which assessed associations between cardiovascular disease and social determinants in urban and rural areas of a state in the United States found patterns with worse levels of cardiovascular health in black women, regardless of their socioeconomic status[16].

Although the present study is not a comparison between genders, it is noteworthy that women suffer more impact on ADLs (as evidenced by the literature), either by presenting worse results for mobility, implying a greater degree of dependence[17], as well as worsening in quality of life, leading to anxiety and depression[18].

When analyzing the presence of comorbidities, there was an association regarding heart disease and dependence for performing ADLs (p = 0.04), with the majority of women with heart disease being assessed with severe to moderate ADL dependence in the initial assessment. There is evidence which links heart disease to stroke occurrence, as shown in a follow-up study conducted in the United States of 3,723 participants with atrial heart disease, in which 585 (15.7%) experienced an episode of ischemic stroke (stroke) during an average 12.9 years. Although the

cases of stroke occurrence before identification of any heart disease are not high in absolute terms, cardiac embolism causes more severe stroke, and therefore requires greater action in order to reduce its occurrence[19]. It should be noted that although cardiovascular diseases are the main cause of death in Brazil, most women survive stroke when compared to men; however, the resulting sequelae interfere with functional capacity and quality of life, causing great repercussion on health systems, family relationships and social security[20].

There was no statistically significant association between the presence of Systemic Arterial Hypertension (SAH) for stroke and the degree of dependence for ADLs. However, it is relevant to highlight that SAH is a disease which requires control over its evolution, considering that drug treatment and changes in lifestyle significantly reduce mortality and morbidity due to cardiovascular disease. According to data from the World Health Organization (WHO), 55.3% of deaths/year caused by circulatory system diseases corresponded to complications resulting from arterial hypertension. About 40% of adults aged 25 and over were diagnosed with SAH[21].

In view of its progressive character, SAH is currently one of the main concerns of health authorities, as it is considered the main risk factor for cardiovascular morbidity and mortality. Regarding blood pressure control among hypertensive patients, women had lower systolic pressure values (p<0.05) when compared to men[22].

There was a statistical association for the factors related to lifestyle between the degree of dependence and physical activity and alcoholism in the evaluation 3 months after stroke onset. Independence was greater in physically active women and non-alcoholics. Of the women who performed physical activity, 36.4% were considered independent to perform ADLs in the initial stroke phase, and 71.4% after 3 months (p = 0.030). A study which evaluated health-related quality of life in a Korean population demonstrated that a lack of physical activity has a worse impact on quality of life indicators and greater problems in specific domains, such as: mobility, self-care, activities of daily living, pain/discomfort and anxiety/depression[23].

A recent worldwide analysis corroborates the high number of stroke cases attributable to potentially modifiable causes. Previous history of hypertension, irregular physical activity, smoking and high alcohol consumption are factors which are highlighted in the study[24]. The presence of these factors is associated with stroke risk with moderate to severe functional outcomes, suggesting that modest lifestyle changes may reduce the risk of disabling stroke events[25].

In Russia, 18.4% of female deaths from stroke are attributed to alcohol. The estimated effect of alcohol consumption on stroke mortality is greater among women aged 30 to 44 years, with their proportion of deaths being estimated at 43.5%[26].

There was a statistically significant association in the initial assessment with regard to COC use, in which contraceptive users were more independent than non-users. The use of oral contraceptives is signaled as the main risk factor among young women with stroke. However, the functional capacity in this population after the stroke is recovered quickly, as evidenced by a research developed in Iran in which the degree of independence reached 73.1% of the patients[27]. It must be taken into account that the younger age, which represents women who use this contraceptive method, influences the favorable recovery of neurological deficits[28].

It is noteworthy that despite the well-known relationship between COC and stroke, there is a gap in the literature on studies which assess the impacts of stroke on ADLs among users of this contraceptive method[29].

The limitations of this study are due to the fact that it is a single-center study, in addition to being performed in highly complex services, which may have favored the inclusion of more severe patients, therefore having reduced levels of physical activity and locomotion. Another limitation of the study was the exclusion of women without a companion on three consecutive visits, since many did not have one. In addition, COC usage time was not investigated. Further studies are suggested to compare and/or confirm these results.

As shown, the results herein contribute to inform about strokes in women and its repercussions by presenting relevant data which demonstrate the vulnerability of this public. These data can assist in managing strategies which minimize risks, as well as encourage qualified assistance to women affected by stroke. Thus, it is expected that the obtained results presented herein will contribute to further studies which address aspects related to the limitations of patients affected by stroke in order to produce and implement therapeutic approaches in line with this clinical condition.

CONCLUSION

Given the above, it is imperative to identify and classify women's profiles according to their risk factors for stroke so that they can be intervened upon early, thus avoiding repercussions in their lives. Low income, black race, heart disease, physical activity and alcoholism stood out among the main risk factors identified regarding the degree of dependence for ADLs.

Studying cerebrovascular diseases in young adult patients and their prevention are not only essential considering the increasing incidence and their individual impact, but also taking into account the socioeconomic repercussions caused by the high rate of morbidity and mortality in this economically active population. Women of childbearing age who are part of this group are little studied in the literature, and they should be the target of future research due to their particularities regarding their importance in the family at full reproductive and productive ages.

It is believed that the dissemination of this research offers subsidies for nursing practice in developing interventions aimed at women of childbearing age, contributing to an increase in stroke knowledge and management, thus resulting in improved quality of life in this population.

RESUMO

Objetivo: Associar as variáveis sociodemográficas e os fatores de risco para Acidente Vascular Cerebral ao grau de dependência para realização das atividades de vida diária de mulheres na idade fértil com Acidente Vascular Cerebral. **Método:** Pesquisa longitudinal prospectiva e analítica, realizada em três hospitais públicos de Fortaleza, CE. Para avaliar o grau de incapacidade no desempenho das atividades de vida diária, foi utilizado o Índice de Barthel Modificado no momento do comparecimento à unidade e 3 meses após o Acidente Vascular Cerebral. Para a análise de associação entre variáveis, optaram-se pelos testes Qui-quadrado e Razão de Verossimilhança. **Resultados:** Participaram do estudo 109 mulheres em idade fértil. Percebeu-se associação entre maiores graus de dependência nas mulheres procedentes do interior, com menor renda e de raça negra (p=0,032, p=0,043, p=0,03, respectivamente). Quanto aos fatores de risco pessoais, observou-se maior dependência nas mulheres com doença cardíaca (p=0,040), sedentárias (p=0,030) e alcoolistas (p=0,017). **Conclusão:** Os resultados apresentam os fatores associados aos maiores graus de dependência para realização das atividades de vida diária pelas mulheres em idade fértil, após a ocorrência de Acidente Vascular Cerebral.

DESCRITORES

Acidente Vascular Cerebral; Atividades Cotidianas; Saúde da Mulher; Cuidados de Enfermagem.

RESUMEN

Objetivo: Asociar las variables sociodemográficas y los factores de riesgo para Accidente Cerebrovascular con el grado de dependencia para la realización de las actividades de vida diaria de mujeres en la edad fértil con Accidente Cerebrovascular. **Método:** Investigación longitudinal prospectiva y analítica, llevada a cabo en tres hospitales públicos de Fortaleza, CE. A fin de evaluar el grado de discapacidad en el desempeño de las actividades de vida diaria, se utilizó el Índice de Barthel Modificado en el momento de la asistencia a la unidad y 3 meses después del Accidente Cerebrovascular. Para el análisis de asociación entre variables, se optó por las pruebas de Chi cuadrado y Razón de Verosimilitud. **Resultados:** Participaron en el estudio 109 mujeres en edad fértil. Se percibió asociación entre mayores grados de dependencia en las mujeres procedentes del interior, con menores ingresos y de raza negra (p=0,032, p=0,043, p=0,03, respectivamente). En cuanto a los factores de riesgo personales, se observó mayor dependencia en las mujeres con enfermedad cardiaca (p=0,040), sedentarias (p=0,030) y alcohólicas (p=0,017). **Conclusión:** Los resultados presentan los factores asociados con los mayores grados de dependencia para la realización de las actividades de vida diaria por las mujeres en edad fértil, tras la ocurrencia de Accidente Cerebrovascular.

DESCRIPTORES

Accidente Cerebrovascular; Actividades Cotidianas; Salud de la Mujer; Atención de Enfermería.

REFERENCES

1. Avezum A, Costa Filho FF, Pieri A, Martins SO, Marin Neto J. Stroke in Latin America: burden of disease and opportunities for prevention. Glob Heart. 2015;10(4):323-31. DOI: http://dx.doi.org/10.1016/j.gheart.2014.01.006

2. World Health Organization. Women and health: today´s evidence tomorrow´s agenda. [Internet]. Geneva: WHO; 2009 [cited 2018 July 16]. Available from: http://apps.who.int/iris/handle/10665/44168

3. World Health Organization. Medical eligibility criteria for contraceptive use [Internet]. Geneva: WHO; 2015 [cited 2016 Jan 01]. Available from: http://apps.who.int/iris/bitstream/10665/172915/1/WHO_RHR_15.07_eng.pdf.

4. Bushnell C, Reeves M, Zhao X, Pan W, Prvu-Bettger J, Zimmer L, et al. Sex differences in quality of life after ischemic stroke. Neurology. 2014;82(11):922-31. DOI: https://doi.org/10.1212/WNL.0000000000000208

5. Moreira CB, Fernandes AFC, Castro RCMB, Oliveira RDP, Pinheiro AKB. Social determinants of health related to adhesion to mammography screening. Rev Bras Enferm. 2018;71(1):97-103. DOI: http://dx.doi.org/10.1590/0034-7167-2016-2016-0623

6. Pei L, Zang XY, Wang Y, Chai QW, Wang JY, Sun CY, et al. Factors associated with activities of daily living among the disabled elders with stroke. Int J Nurs Sci. 2016;3(1):29-34. DOI: https://doi.org/10.1016/j.ijnss.2016.01.002

7. Figueiredo ZMC, Machado WG, Façanha DMA, Magalhães SR, Rodrigues ASR, Brito AMC. Avaliação da funcionalidade de pessoas com lesão medular para atividades da vida diária. Aquichan [Internet]. 2014 [citado 2018 jun. 15];14(2):148-158. Disponível em: www.redalyc.org/articulo.oa?id=74131358003

8. Alexandre TS, Corona LP, Nunes DP, Santos JLF, Duarte YAO, Lebrão ML. Disability in instrumental activities of daily living among older adults: gender differences. Rev Saúde Pública. 2014;48(3):379-89. DOI: http://dx.doi.org/10.1590/0034-8910.2014048004754

9. Shah S, Vanclay F, Cooper B. Improving the sensitivity of the Barthel Index for stroke Rehabilitation. J Clin Epidemiol. 1989;42(8):703-9. DOI: https://dx.doi.org/10.1016/0895-4356(89)90065-6

10. Brasil. Ministério da Saúde; Conselho Nacional de Saúde. Resolução n. 466, de 12 de dezembro de 2012. Diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos [Internet]. Brasília: 2012 [citado 2018 jul. 28]. Disponível em: http://conselho.saude.gov.br/ultimas_noticias/2013/06_jun_14_publicada_resolucao.html

11. Gomes RHS, Santos RS. Evaluation of functional capacity and functional disability in tracheotomized patients at a public hospital in Curitiba. Rev CEFAC. 2016;18(1):120-8. DOI: http://dx.doi.org/10.1590/1982-021620161813715

12. Oliveira MS, Araújo F. Implementation of a regional system for the emergency care of acute ischemic stroke: Initial results. Rev Port Cardiol. 2014;33(6):329-35. DOI: http://dx.doi.org/10.1016/j.repc.2013.11.004

13. Jeong YG, Jeong YJ, Kim WC, Kim JS. The mediating effect of caregiver burden on the caregivers' quality of life. J Phys Ther Sci. 2015;27(5):1543-7. DOI: https://doi.org/10.1589/jpts.27.1543

14. Barbosa Filho DJ, Barros CTL, Silva GA, Melo JG, Santos EFS. Recuperação após acidente vascular cerebral em adulto jovem submetido à fisioterapia alternativa. Rev Interfaces Saúde Humanas Tecnol. 2015;2(6):1-3. DOI: http://dx.doi.org/10.16891/2317.434X.142

15. Boehme AK, Siegler JE, Mullen MT, Albright KC, Lyerly MJ, Monlezum JD, et al. Racial and gender differences in stroke severity, outcomes and treatment in patients with acute ischemic stroke. J Stroke Cerebrovasc Dis. 2014;23(4):e255-61. DOI: http://10.1016/j.jstrokecerebrovasdis.2013.11.003

16. Davis SK, Gebreab S, Quarells R, Gibbons GH. Social determinants of cardiovascular health among black and white women residing in Stroke Belt and Buckle regions of the South. Ethn Dis [Internet]. 2014 [cited 2018 July 12];24(2):133-43. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4051397/

17. López Espuela F, Portilla Cuenca JC, Leno Díaz C, Párraga Sánchez JM, Gamez-Leyva G, Casado Naranjo I. Diferencias de género en la calidad de vida a largo plazo tras un ictus: influencia del estado funcional y el estado de ánimo. Neurologia [Internet]. 2017 [citado 2018 jun. 12];32(2):1-9. Disponible en: http://www.elsevier.es/es-revista-neurologia-295-avance-diferencias-genero-calidad-vida-largo-S021348531730347X

18. Morais HCC, Gonzaga NC, Aquino PS, Araújo TL. Strategies for self-management support by patients with stroke: integrative review. Rev Esc Enferm USP. [Internet]. 2015 [cited 2018 July 08];49(1):136-43. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342015000100136&lng=en&nrm=iso&tlng=en

19. Kamel H, Bartz TM, Elkind MSV, Okin PM, Thacker EL, Patton KK, et al. Atrial cardiopathy and the risk of ischemic stroke in the CHS (Cardiovascular Health Study). Stroke. 2018;49(4):980-6. DOI: https://doi.org/10.1161/STROKEAHA.117.020059

20. Mansur AP, Favarato D. Mortality due to cardiovascular diseases in women and men in the five Brazilian Regions, 1980-2012. Arq Bras Cardiol. 2016;107(2):137-46. DOI: http://dx.doi.org/10.5935/abc.20160102

21. World Health Organization. A global brief on hypertension: silent killer, global public health crisis [Internet]. Geneva: WHO; 2013 [cited 2018 July 28]. Available from: https://www.who.int/cardiovascular_diseases/publications/global_brief_hypertension/en/

22. Silva SSBE, Oliveira SFSB, Pierin AMG. The control of hypertension in men and women: a comparative analysis. Rev Esc Enferm USP [Internet]. 2016 [cited 2018 July 26];50(1):50-8. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342016000100050

23. Kwon S, Park JH, Kim WS, Han K, Lee Y, Paik NJ. Health-related quality of life and related factors in stroke survivors: data from Korea National Health and Nutrition Examination Survey (KNHANES) 2008 to 2014. PLoS One. 2018;13(4):1-12. DOI: http://doi.org/10.1371/journal.pone.0195713

24. Feigin VL, Krishnamurthi R. Stroke is largely preventable across the globe: where to next? Lancet. 2016;388(10046):733-4. DOI: https://doi.org/1016/S0140-6736(16)30679-1

25. Rist PM, Buring JE, Kase CS, Kurth T. Healthy lifestyle and functional outcomes from stroke in women. Am J Med. 2016;129(7):715-24. DOI: https://doi.org/10.1016/j.amjmed.2016.02.002

26. Razvodovsky YE. Fraction of stroke mortality attributable to alcohol consumption in Russia. Adicciones. 2014;26(2):126-33. DOI: https://doi.org/10.20882/adicciones.14

27. Ghiasian M, Mansour M, Mazaheri S, Pirdehghan A. Thrombosis of the cerebral veins and sinuses in Hamadan, West of Iran. J Stroke Cerebrovasc Dis. 2016;25(6):1313-9. DOI: https://doi.org/10.1016/j.jstrokecerebrovasdis.2016.02.022

28. Van Der Cruyssen K, Vereeck L, Saeys W, Remmen R. Prognostic factors for discharge destination after acute stroke: a comprehensive literature review. Disabil Rehabil. 2015;37(14):1214-27. DOI: http://dx.doi.org/10.3109/09638288.2014.961655

29. Lima ACS, Martins LCG, Lopes MVO, Araújo TL, Lima FET, Aquino PS, et al. Influence of hormonal contraceptives and the occurrence of stroke: integrative review. Rev Bras Enferm. 2017;70(3):647-55. DOI: http://dx.doi.org/10.1590/0034-7167-2016-0056