



## HYPERTENSIVE ELDERLY: EVALUATION OF FUNCTIONAL CAPACITY IN THE FAMILY HEALTH STRATEGY

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### ABSTRACT

**Objective:** To analyze the functional capacity of hypertensive elderly assisted in the Family Health Strategy. **Method:** Descriptive, cross-sectional, quantitative research with 359 hypertensive elderly patients. Instruments were used to characterize the elderly as to demographic characteristics and life habits, basic activities of daily living, instrumental activities of daily living and advanced activities of daily living. The research was approved by the Research Ethics Committee. **Results:** The majority of participants were elderly women, aged 60 to 79 years, brown, Catholic, married or common-law married, with 1 to 4 years of schooling, retirees who lived with other people at home, non-smokers, non-alcoholics, and non-practitioners of physical activity. There was a predominance of independence in functional capacity. **Final considerations:** The study of functional capacity of elderly people allows the implementation of targeted actions with the families to minimize possible suffering.

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### INTRODUCTION

Successful aging is the result of the interaction of multidimensional factors, encompassing issues related to physical and mental health, independence in daily life, and economic and psychosocial aspects (Eliopoulos, 2011). The aging process is a global reality and in Brazil it is related to changes in the demographic profile, particularly an increase in the population contingent of elderly people since the 1960s onwards, due to a decrease in birth rate, increase of life expectancy, development of new technologies that envisioned treatments that until a few years ago were unthinkable, and a

perspective and prognosis of life that is favorable for some diseases (Caldas and Amorim, 2004). Significant changes happen during aging. In the biological field, these transformations are related to a progressive physiological decline that affects the main systems and sense organs and decreases muscle strength, flexibility and balance. In addition, changes in the morbidity and mortality pattern of the population have contributed to a significant increase in Noncommunicable Chronic Diseases (NCCDs) (Zazá and Chagas, 2011). Systemic Arterial Hypertension (SAH) stands out among the wide range of diseases comprised in NCCDs. Considered a chronic disease, SAH is a serious public health problem in Brazil that affects around 20% of the adult population. That means that there are approximately 20 million people with hypertension in the country. The prevalence of hypertension varies from 5% in the population aged 18 to 24 years to 58% in the population over 65 years of age. It is

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considered a worldwide phenomenon and constitutes one of the greatest challenges of contemporary public health (Saints *et al.*, 2013). The control of SAH in Primary Health Care (PHC) is defined as a priority. However, hypertensive patients registered in the hiperdia system is low in relation to the epidemiologically estimated population of hypertensive patients. In the Family Health Strategy (FHS), a care plan is drawn up for each SAH patient. In general, the plan includes routine actions of health promotion and coping with risk factors such as inadequate nutrition, overweight and obesity, physical inactivity, alcohol abuse, social stress and smoking (Caldas, 2006). NNCDs associated with the typical changes implied in the aging process have been considered one of the main factors of functional incapacity in this part of the population. This fact is worrisome because functional incapacity exerts a significant influence on the quality of life of the elderly. Its main consequences are hospitalization and increased mortality of elderly individuals (Santos, 2007). The National Policy on the Elderly's Health suggests an overall assessment to control behavioral and environmental risk factors for chronic diseases and functional decline, which should be kept low, and protection factors for disabilities that should be high. In order to ensure a healthy, independent and high quality life for the elderly, risk factors (Almeida *et al.*, 2012).

In view of the above, concern with the functional capacity of hypertensive elderly subjects in the FHS and knowledge of their profile and degree of dependence is important to identify the demands which health professionals can work on so as to minimize complications or avoid the loss of functional capacity. Thus, the objectives of the present study were to evaluate the functional capacity of hypertensive elderly individuals assisted by the Family Health Strategy and to identify their socioeconomic and demographic profile, life habits and self-reported health, as well as verify the differences in the functional capacity of hypertensive elderly regarding Activities of Daily Living.

## MATERIALS AND METHODS

This is a descriptive cross-sectional study with a quantitative approach carried out between July 2014 and December 2014 with elderly people enrolled in the Family Health Strategy in São Luís-MA. The city of São Luís is divided into seven Sanitary Districts (SD), two in the rural area (Vila Esperança and Tirirical) and five in the urban area (Bequimão, Centro, Cohab, Coroadinho and Itaquibacanga). One Basic Health Unit (BHU) was drawn from each district, and each UBS informed the researchers about the total number of elderly people. The total sample was calculated by means of stratified sampling proportional to the number of elderly of each BHU. Thus, 359 elderly individuals were selected using the simple random sampling technique. The criteria for inclusion in the study were: elderly people of both sexes, aged 60 and over, with no cognitive deficit assessed through the Mini Mental State Examination (MMSE), with a diagnosis of arterial hypertension for at least a period of six months, and agreement to participate in the research before starting it. The exclusion criteria were: elderly people who had another medical diagnosis besides hypertension, who were unable to speak, or had sequelae, and those who had any physical or mental disability. Data collection was done by means of individual interviews with the elderly in their residence, in a reserved environment, guided by a form with questions that addressed

sociodemographic data and life habits. Functional capacity was evaluated through the Basic Activities of Daily Living (BADLs) and Instrumental Activities of Daily Living (IADLs) scales, respectively evaluated by the Katz Index (Katz *et al.* 1963) and Lawton Scale (Lawton and Brody, 1969), and the Advanced Activities of Daily Living (AADLs) scale with items based on the Berlin Ageing Study (Reuben *et al.*, 1990). Basic Activities of Daily Living: Katz Index (Katz *et al.*, 1963) encompasses basic activities such as showering, dressing, personal hygiene, transference, continence and food. A score 6 indicates that the elderly person is independent, that is, has the ability to perform daily tasks. A score 4 indicates partial dependence, and the elderly may or may not need assistance. A score equal to or lower than 2 indicates an important dependency.

Instrumental Activities of Daily Living: Lawton Scale (Lawton and Brody, 1969) include items such as using the telephone, using transportation, shopping, food preparation, household chores, medication use, and money management. The elderly person receives the scores 1, 2 and 3 in case he/she is dependent, needs assistance, or is independent, respectively. The minimum score is 3 (completely dependent) and the maximum is 21 (independent in all IADLs). Advanced Activities of Daily Living portray activities such as visiting others, receiving visits, going to church, participating in community centers, going to parties, going to cultural events, driving, taking day trips or longer trips, doing volunteer work and participating in associations or trade unions. The elderly person receives the score 1 if he/she has never done that activity, 2 if he/she stopped doing it, or 3 if he/she still does it. The lower the sum, the worse is the performance, and the higher the score, which varies from 12 to 36 points, the better is the elderly's functional capacity. The collected data were cataloged using the STATA program, and tables were processed in the Microsoft Excel software (2013). Descriptive analyses were done by means of absolute (n) and relative (%) frequency. This study is part of a larger project titled: Chronic Conditions in Elderly Patients assisted by the Family Health Strategy in São Luís-MA, approved by the Research Ethics Committee of the Presidente Dutra University Hospital, under Opinion n° 949100. The research was developed in accordance with Resolution 466/12 of the National Health Council for Research involving Human Beings. All elderly patients were clarified as to the objectives and procedures adopted during the research and about the possible risks and benefits, the possibility of withdrawing from participation in the study at any time without harm to the researchers or the institution, besides the guarantee of confidentiality of the information acquired. Their participation was formalized after they signed the Informed Consent Form (ICF), which was signed in two copies, one for the research participant and the other for the researcher.

## RESULTS

The female gender predominated in the sample (71.6%). The age ranged from 60 to 79 years. A considerable proportion of the elderly were married or common-law married (54.9%), widowed (36.2%), with a significant number. The majority (59.9%) declared the color brown. The Catholic religion was the predominant (59.9%); the majority had between 1 and 4 years of schooling (57.7%), were retired (85%), lived with other people at home (93.9%) and 54.3% of these people living with the elderly were husband/wife/partner (Table 1).

**Table 1. Socioeconomic and demographic characteristics of hypertensive elderly. São Luís, MA. 2015**

VARIABLES	N	%
Sex		
Female	257	71.6
Male	102	28.4
Age group		
60-----64	84	23.4
65-----69	69	19.2
70-----74	79	22.0
75-----79	81	22.6
>= 80	46	12.8
Marital status		
Married/Common-Law Married	197	54.9
Single	36	10.0
Divorced/Separated	9	2.5
Widowed	117	32.6
Self-reported skin color		
White	63	17.5
Black	72	20.1
Brown	215	59.9
Income		
<1 salary	26	7.4
1 salary	265	71.4
> 1 salary up to 3 salaries	63	17.5
From 3 to 5 salaries	5	3.7
Religion		
Catholic	215	59.9
Evangelical	115	32.0
Spiritist	25	7.0
None	4	1.1
Schooling		
Illiterate	54	15.0
1-4 years	207	57.7
5 to 8 years	35	9.7
8 years or more	63	17.5
Retired		
Yes	305	85.0
No	54	15
Origin		
São Luís	157	43.7
Countryside of the State/other State	202	56.3
Home arrangements		
Husband/wife/partner:	195	54.3
Children or stepchildren	86	24.0
Grandchildren	18	5.0
Other relatives	11	3.1
Non-relatives (friends, hired people, caretakers, caregivers and maids)	49	13.6
Total	359	100.0

**Table 2. Distribution of the Elderly regarding Basic Activities of Daily Living. São Luís, MA. 2015**

BADLs	Dependence		Partial dependence		Independent	
	N	%	n	%	n	%
Showering	9	2.5	94	26.2	256	71.3
Dressing	9	2.5	105	29.2	245	68.2
Going to bathroom/using the toilet	6	1.7	87	24.2	266	74.1
Lying and getting up from the bed/chair	46	12.8	79	22.0	234	65.2
Continence: urinating and/or evacuating	20	5.6	62	17.3	277	77.2
Eating	7	1.9	49	13.6	303	84.4

**Table 3 - Distribution of the elderly regarding Instrumental Activities of Daily Living São Luís, MA. 2015**

IADLs	Dependent		Needs assistance		Independent	
	N	%	n	%	n	%
Using the telephone	30	8.4	84	23.4	245	68.2
Using means of transportation	64	17.8	95	26.5	200	55.7
Shopping	77	21.4	88	24.5	194	54.0
Preparing meals	78	21.7	65	18.1	216	60.2
Cleaning the house	99	27.6	62	17.3	198	55.2
Washing clothes	101	28.1	66	18.4	192	53.5
Taking medicine	36	10.2	64	17.8	259	72.1
Administrating money	29	8.1	53	14.8	277	77.2

**Table 4. Distribution of the elderly regarding Advanced Activities of Daily Living. São Luís, MA. 2015**

AADLs	Never		Stopped doing		Still does	
	N	%	n	%	n	%
Visiting other people's homes	7	1.9	52	14.5	300	83.6
Receiving visits at home	6	1.7	53	14.8	300	83.6
Going to church or temple for religious rituals or social activities related to schooling	2	0.6	112	31.2	245	68.2
Participating in a co-existence center, a university of the third age or course	145	40.4	119	33.1	95	26.5
Attending social gatherings, parties or dances	36	10.0	64	17.8	259	72.1
Participating in cultural events such as concerts, shows, exhibitions, plays or movies	39	10.9	152	42.3	168	46.8
Driving automobiles	259	72.1	61	17.0	36	10.9
Making one-day trips out of town	29	8.1	139	38.7	191	53.2
Making longer trips out of town or country	91	25.3	115	32.0	153	42.6
Doing volunteer work	93	25.9	113	31.5	153	42.6
Having paid work activities	14	3.9	292	81.3	53	14.8
Participating in boards or councils of associations, clubs, schools, unions, cooperatives, social centers, or developing political activities	206	57.4	130	36.2	23	6.4

Among the basic activities of daily living, according to Table 2, most of the elderly was able to perform activities such as: showering (71.3%), dressing (68.2%), going to the bathroom (74.1%), bed/chair (65.2%), urinating and/or evacuating (77.2%), and eating (84.4%). However, some of the elderly had partial dependence. In some activities such as showering, the study showed that 26.2% of the elderly had limitations, and 29.2% had partial dependence in dressing. Regarding dependence in BADLs, lying and getting up from the bed (12.8%) was the most affected activity, followed by continence: urinating and/or evacuating (5.6%). Regarding the instrumental activities of daily living, Table 3 indicated that 68.2% used the telephone, 55.7% used transportation, 54.0% used to go shopping, 60.2% cooked, 55.2% cleaned the house, 53.5% washed clothes, 72.1% took medicines, and 77.2% administrated the finances. Regarding the needs of the hypertensive elderly patients in instrumental activities, using transportation (26.5%), shopping (24.5%) and using the telephone (23.4%) were the most prominent. In turn, the instrumental activities that made the hypertensive elderly more dependent were washing clothes (28.1%) and cleaning the house (27.6%). According to Table 4, with regard to the advanced activities of daily living that are still made by the hypertensive elderly people, 83.6% visited other people's homes, 83.6% received visits in their home and 72.1% participated in social gatherings, parties or dances. Among those activities not carried out by the hypertensive elderly people any longer, it is worth noting that having a paid work activity (81.3%), followed by participating in cultural events such as concerts, shows, exhibitions, plays, or the movies (42.3%) stood out. Among the activities that were never performed by the hypertensive elderly, driving automobiles (72.1%) was the most evident.

## DISCUSSION

In the present study, the independence in functional capacity was high, as also found by Barbosa *et al.* (2014). Based on this data, it can be inferred that the increase in life expectancy, health policies aimed at the elderly and studies that evaluate the health of the elderly contribute positively to this part of the population becoming increasingly more active and independent. Regarding the capacity to carry out BADLs of the hypertensive elderly, elderly people who performed these activities independently were majority. Segundo Costa *et al.* (2006), compromised independence to perform BADLs before age 70 suggests an unsuccessful aging.

This is because functional capacity is influenced by sociodemographic, economic, cultural, psychosocial factors such as lifestyle behaviors such as smoking, drinking, overeating, social relationships, marital relationships, among others (Pilger *et al.*, 2013). The elderly of the present study presented characteristics in their social profile that completely influence their functional capacity. The prevalence of the female gender, as in other studies, shows that the phenomenon of functional disability differs from men to women. Pilger *et al.*, (2013) demonstrated that disability is significantly higher among females. Some hypotheses suggest that the greater survival of women in relation to men, the higher prevalence of disabling nonfatal conditions among women (osteoporosis, osteoarthritis, and depression, for example) and the greater ability of women to report more health conditions than men of the same age group may explain this difference. Despite this, age group is a variable that has a strong influence on functional disability. In the present study the mean age of the elderly was between 60 and 79 years. The difficulty to perform activities of daily living increase progressively with advancing age. A study conducted in Belo Horizonte - MG showed that among elderly people, the risk of functional disability doubles with each decade of life (Giacomin *et al.*, 2008). Regarding the origin, the residents in the same home, and the home arrangement of the hypertensive elderly, it was clear that the majority came from the countryside of the state of Maranhão, and lived with husband, wife or partner. Studies suggest that the migration of people to large centers happens due the need to search for job and better living conditions, access to health services, material progress, and family reunion (Barbiere and Campos, 2013). Pilger *et al.* (2013) observed that living alone is associated with functional disability. A multicenter European study comparing the prevalence and incidence of disability and recovery among elderly people living in the community showed that even when cultural differences exist, social bonds (family and non-family) are protective factors against disability in old age (Ricci and Kubota. With regard to instrumental activities of daily living of the hypertensive elderly, a large part of the interviewees performed them independently. The activity in which the elderly show greater dependence is variable among studies. In studies carried out in Pelotas - RS, LafaieteCoutinho - BA, Cuiabá - MT and Goiania - GO, the activities in which the elderly had a greater dependence were displacements using some means of transportation, greater difficulty in using the telephone and greater inability to wash and iron clothes, respectively (Barbosa *et al.*, 2014).

Studies carried out by Millán-Calenti *et al.* (2010) and Santos *et al.* (2013) found that the greater the age, the greater are the chances of dependence in the IADLs and BADLs. Santos and Pavarini (2011) found a strong correlation between age group and the Katz Index. This is because to perform a task requires the integration of multiple physiological systems that eventually decline over the years (Barbosa *et al.*, 2014). Chronic diseases represent an important risk factor for functional disability in the elderly, and hypertension is a risk factor for stroke. Regardless of the variables, studies have confirmed the association between stroke and heart disease with dependence on BADLs and IADLs (Giacomin *et al.*, 2008). In study by Barbosa *et al.* (2014), the odds of having dependence in BADLs are 51-fold higher in elderly people who had stroke, because stroke can cause or complicate problems related to cognitive dysfunction, depression, urinary incontinence, among others, and has been referred to as the largest cause of dependency. It is necessary to emphasize that this disease can be easily avoided if there is correct control of cardiovascular risk factors such as arterial hypertension. Therefore, it is necessary to implement preventive and health promotion measures, which should focus on intervening in the natural history of the disease to delay its progress and complications. Health professionals need to be prepared to detect the onset of chronic diseases as early as possible so as to monitor and intervene according to the peculiarities of this population. Some limitations were observed in this study. The first is related to the instruments used, as some instruments present items more aimed at female individuals, such as the Lawton Scale. Secondly, the information can be considered fragile because it was collected from the elderly people who may be forgetful. The research had also as a limitation the researched population, because it was a local study limited to a period of time, making it impossible to portray the reality of the entire population. Although these details can be counteracted, it is expected that they improved in future studies, because it is important to conduct research with a greater number of elderly people and in different municipal and regional contexts. Understanding functional capacity as well as the socioeconomic and demographic factors poses a challenge to all who work in the public health service and society in general. Such variables should be investigated so that these dimensions provide subsidies for the care of the elderly populations, leading to quality of the care provided. Nursing professionals inserted in the health team should be alert for the assessment of functional capacity during the provision of care for elderly people, based on gerontological knowledge, in order to contribute with the real needs and difficulties of these individuals. An essential role that nurses must play in this reality is the improvement of health prevention and promotion measures, minimizing the elements that interfere with the functional capacity of these elderly people through therapeutic actions, and promoting autonomy and better living conditions.

## Conclusion

This study showed that although activities of daily living are apparently simple before certain limitations coming from some chronic conditions, falls or age itself, they should not be underestimated by health professionals. The study of functional capacity in the elderly allows not only identifying the level of dependency and autonomy, but also the implementation of actions targeted to families to minimize possible suffering. The present study made an important

contribution to increase the knowledge about the health of this group, as well as allowed to identify factors associated with functional capacity, and made comparisons with other research. The study reinforces the need for public policies to meet the real needs of this population. It also contributes to the nursing science in the development of practices and research aimed at comprehensive and interdisciplinary care to the elderly population to promote quality of life with autonomy and independence.

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