

Functional capacity of the amazonian long-lived elderly people

RESUMO | Objetivo: avaliar a capacidade funcional dos idosos longevos da zona urbana de um município do Estado do Amazonas. Método: Estudo descritivo, transversal e quantitativo, realizado com 135 idosos longevos cadastrados nas Unidades Básicas de Saúde em um município do Amazonas, no período de dezembro de 2019 a fevereiro de 2020. Resultados: Os resultados demonstraram predominância do sexo feminino (61,5%) e a faixa etária entre 80 a 89 (79,3%). Com relação as Atividades Básicas, verificou-se um maior frequência de independência nas eliminações intestinais (88,1%) e menor para dependência para escada (38,5%). Quanto às atividades instrumentais, houve uma alta independência por parte dos idosos na administração do consumo de remédios (51,1%), enquanto a dependência total foi maior para lavar e passar roupas (44,4%). Conclusão: avaliar a capacidade funcional dos idosos permite um conhecimento sobre seus impasses na realização de suas necessidades básicas e mostra as dificuldades enfrentadas por eles.

Descritores: Idoso; Saúde do idoso; Desempenho funcional; Envelhecimento; Longevidade

ABSTRACT | Objective: to evaluate the functional capacity of older elderly people in the urban area of a municipality in the State of Amazonas. Method: Descriptive, cross-sectional and quantitative study, conducted with 135 long-lived elderly registered in Basic Health Units in a municipality in Amazonas, from December 2019 to February 2020. Results: The results showed a predominance of females (61.5 %) and the age group between 80 and 89 (79.3%). Regarding the Basic Activities, there was a higher frequency of independence in intestinal eliminations (88.1%) and a lower frequency for dependence on stairs (38.5%). As for instrumental activities, there was a high degree of independence on the part of the elderly in administering medication consumption (51.1%), while total dependence was greater for washing and ironing clothes (44.4%). Conclusion: evaluating the functional capacity of the elderly allows a better understanding of their impasses in meeting their basic needs and shows the difficulties faced them.

Descriptors: Elderly; Elderly health; Functional performance; Aging; Longevity

RESUMEN | Objetivo: evaluar la capacidad funcional de adultos mayores longevos en el área urbana de un municipio del Estado de Amazonas. Método: Estudio descriptivo, transversal y cuantitativo, realizado con 135 adultos mayores longevos registrados en Unidades Básicas de Salud de un municipio de Amazonas, de diciembre de 2019 a febrero de 2020. Resultados: Los resultados mostraron un predominio del sexo femenino (61,5%) y el grupo de edad entre 80 y 89 (79,3%). Con respecto a las Actividades Básicas, hubo mayor frecuencia de independencia en las eliminaciones intestinales (88,1%) y menor frecuencia por dependencia de escalera (38,5%). En cuanto a las actividades instrumentales, hubo un alto grado de independencia por parte de los ancianos en la administración del consumo de medicamentos (51,1%), mientras que la dependencia total fue mayor para el lavado y planchado de ropa (44,4%). Conclusión: evaluar la capacidad funcional de los ancianos permite conocer sus impasses en la satisfacción de sus necesidades básicas y muestra las dificultades que enfrentan.

Descriptorios: Anciano; Salud de los ancianos; Presentación funcional; Envejecimiento; Longevidad.

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INTRODUCTION

The World Health Organization (WHO) determines a person as elderly through two aspects, in the case of developing countries, the individual is only admitted as an elderly person when he/she reaches the age of 60 years or more, while, in developed countries, to reach old age, you must be 65 years or older.¹ The elderly population covers a wide age range, so, for a better characterization of this population, some names are used to determine certain age groups, in this way, young elderly people are those aged between 60 and 69 years and long-lived elderly people are those aged 80 years or more.² With population aging

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and the increase in global life expectancy, the segment consisting of long-lived elderly people has come to represent the fastest growing age group in Brazil and in the world.³

The elderly population in Brazil is growing at an accelerated rate, in the year 2020, the elderly are expected to represent 14% of the Brazilian population, reaching approximately 30,9 million people. The high number of this population characterizes Brazil as one of the countries with the largest number of elderly people in the world. It is believed that, in the future, this index will be even higher than that of the population of children aged 0 to 14 years, representing around 26,7% of the total Brazilian population in the year 2060.⁴

In this sense, there is a major problem because the increase in life expectancy is associated with the development of Chronic Non-Communicable Diseases (NCDs), which leads to a concern regarding the high demand for health services and social assistance to this population, as these situations are generally associated with bad health conditions, such as functional dependence and disability. It is known that the older the oldest-old, the more likely they are to have comorbidities, which increases health care costs.^{3,5-7}

Aging, even without the presence of chronic diseases, entails some functional loss, so that natural aging when associated with several factors (such as high prevalence of CNCDs, cognitive/sensory decline, accidents and social isolation) can affect the functionality of elderly and, therefore, the performance of daily activities. In addition, this moment requires more attention and health care for the elderly, as it generates a change in the individual, in the family and in society itself, as the aging process causes specific changes, culminating in biopsychosocial variations.⁸⁻⁹

Functional capacity is related to the conservation of fundamental physical and mental abilities in favor of a more

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emancipated and free life and with the execution of Activities of Daily Living (ADL) in order to maintain a better preservation of personal well-being, self-esteem and greater social interaction.^{3,10} For the elderly, the maintenance of functional capacity is essential in their lives, being generally assessed by the level of difficulty (or the need for help) to perform: basic activities of daily living (BADL), which are configured as the skills for eating, dressing, bathing, using the toilet, getting up, and even walking; and/or instrumental activities of daily living (IADL), such as managing their own money, shopping, using transport, taking care of the house, among others.^{9,11}

A study carried out in the North region, in two Family Health Units (USF - Unidades de Saúde da Família), one in a rural area and another in an urban area, identified that elderly people in the urban area have a higher score for preserved functional capacity, probably due to the better opportunity in an urban environment with access to services offered by the health teams of the Family Health Program (PSF - Programa de Saúde da Família).⁹ These activities carried out by the PSF contribute to a good functional development of the elderly, aiming at more independence in a healthier and more active aging process.

In view of the great growth of the population in the country and the increase in life expectancy, there is a need for more studies on the functional capacity of the elderly, especially the long-lived. It is noteworthy that information about the elderly has been little worked with regard to the levels of knowledge about functional capacity. The data are based on limited samples, especially regarding the elderly population in Amazonas, on which there is a lack of scientific investigations.⁷ It is important to develop studies on this theme so that there is a better understanding of the aspects that involve the

aging process, since, often, the perception of the aging process is understood in a negative way. Such surveys can also provide data for the improvement of analyzes in the area of health science and gerontological nursing, encouraging further studies on the subject and further contributing to the development of actions and programs for the elderly population.

In this sense, the present work seeks to answer the following question: What is the functional capacity of long-lived elderly people in a municipality in the State of Amazonas? Thus, this study aims to assess the functional capacity of long-lived elderly in the urban area of a municipality in the State of Amazonas.

METHOD

This is a descriptive, cross-sectional and quantitative study, which comprises a scientific initiation project entitled "Health of the long-lived elderly: functional capacity and non-communicable chronic disease", which was carried out in the municipality of Coari, in the interior of Amazonas, Brazil.

The study participants were 135 long-lived elderly. Regarding the inclusion criteria, individuals aged 80 years or over, of both sexes, who were duly registered in a UBS in the city were included. Indigenous, elderly people without clinical and cognitive conditions were excluded to understand the questions of the collection instruments.

Data were collected in the homes of the elderly, from December 2019 to February 2020, through the application of a structured form by the authors; the Lawton-Brody Scale, which seeks to measure the degree of dependence on IADLs through eight routine tasks; and the Barthel Index, which aims to analyze the degree of dependence and the need for help in BADLs. These last two instruments are validated and adapted in Brazil and are considered param-

eters with a high level of reliability.¹²⁻¹³

Data were processed in the Statistical Package for Social Sciences (SPSS) software version 20.0 and the results presented with the support of descriptive statistics, in addition to categorical data were expressed by absolute (n) and relative (%) frequency.

The study was approved by the Ethics and Research Committee (CEP) of the Federal University of Amazonas (UFAM), with the opinion number 3.577.609 and the Certificate of Presentation of Ethical Appreciation (CAAE) number 20056119.0.0000.5020.

RESULTS

Of the 135 study participants, there was a predominance of females (61,5%) and the age group 80 and 89 years (79,3%), with a mean age of 85,8 ($\pm 5,0$) years (Table 1).

Most elderly were illiterate (59,3%) with a mean of 1,9 ($\pm 2,5$) years of study; in a marital situation without union (65,9%); individual income between zero and two minimum wages (83,0%) and with an average of 1.2 ($\pm 0,4$); currently retired (90,4%), with the majority reporting agriculture (55,6%) as a previous occupation.

Regarding the family arrangement, most revealed to be part of an extended family model (56,3%) and reside with family members (88,9%), have a family caregiver (86,7%).

Regarding the self-reported health condition, it was found that the participants reported that they had at least one CNCD (33,3%) with a mean of 1,8 ($\pm 1,2$), among which they were cited as the most frequent Systemic arterial hypertension, back pain, rheumatoid arthritis and Diabetes mellitus.

Analyzing the frequency of depen-

Variable	n	%
Sex		
Female	83	61,5
Male	52	38,5
Age group (years)		
80-89	107	79,3
90-99	26	19,3
≥ 100	2	1,4
Education		
Illiterate	80	59,3
Elementary School		
High School	1	0,7
Marital status		
With partner	46	34,1
Without partner	89	65,9
Individual income*		
0-2	112	83,0
> 2	23	17,0
Family arrangement		
Extended	76	56,3

Nuclear	23	17,0
Single parent	21	15,6
Others**	15	11,1
Family caregiver		
Yes	117	86,7
No	18	13,3
Number of CNCD***		
0	19	14,1
1	45	33,3
2	35	25,9
≥ 3	36	26,7

* Minimum wage in force in Brazil in 2019 = R\$998,00

**Different family configurations

***CNCD - Chronic non-communicable disease

Source: Prepared by the authors, 2021.

nd that, among the BADL, the highest index of independence is in performing intestinal eliminations (88,1%), followed by the act of eating (87,4%). With regard to the need for partial help, the most frequent activity was helping to go up or down stairs (20,0%) and to walk (18,5%). As for the need for total help, the activity that showed the greatest dependence was the use of stairs (18,5%) and personal hygiene (17,8%) (Table 1).

Regarding IADL, participants reported greater independence to manage the consumption of medication (51,1%) and to prepare their own meals (44,4%). The need for partial help was mentioned more frequently to use

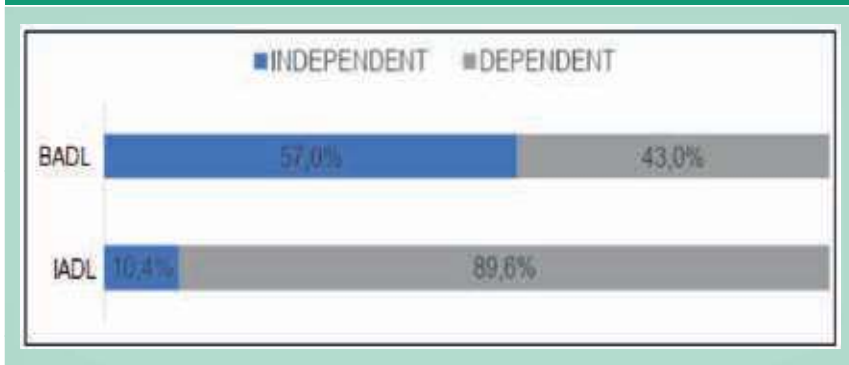
Table 1 – Characterization of functional dependence for the domains of each of the participants' basic and instrumental activities of daily living, AM, 2019-2020.

Activities	Independent		Partial dependency		Total dependency	
	n	%	n	%	n	%
Basic Activities of Daily Living (BADLs)						
Feed	118	87,4	9	6,7	8	5,9
Bath	112	83,0	0	0	23	17,0
Clothing	111	82,2	7	5,2	17	12,6
Personal Hygiene	111	82,2	0	0	24	17,8
Intestinal Eliminations	119	88,1	8	5,9	8	5,9
Bladder eliminations	108	80,0	13	9,6	14	10,4
Use of the toilet	115	85,2	6	4,4	14	10,4
Chair/bed passage	108	80,0	17	12,6	10	7,4
Deambulation	98	72,6	25	18,5	12	8,9
Stairs	83	61,5	27	20,0	25	18,5
Instrumental Activities of Daily Living (IADLs)						
Using the phone	47	34,8	48	35,6	40	29,6
Go to distant places	48	35,6	47	34,8	40	29,6
Shopping	43	31,9	39	28,9	53	39,3
Preparing meals	60	44,4	22	16,3	53	39,3
Tidy up the house	48	35,6	35	25,9	52	38,5
Handle Small Objects	49	36,3	35	25,9	51	37,8
Washing and ironing clothes	51	37,8	24	17,8	60	44,4
Taking medicine	69	51,1	32	23,7	34	25,2
Taking care of money	51	37,8	45	33,3	39	28,9

Source: Prepared by the authors, 2021.

dence for each basic and instrumen- tal activity of daily living, it was fou- the telephone (35,6%) and to travel to

Figure 1 – Graphical analysis of the degree of functional capacity for the Basic and Instrumental domains of the participants' Daily Life, AM, 2019-2020.



Note: BADL - Basic Activities of Daily Living; IADL - Instrumental Activities of Daily Living
Source: Prepared by the authors, 2021.

distant places (34,8%), while the need for total help was more frequently mentioned for washing and ironing clothes (44,4%) and followed by shopping and preparing meals (39,3%).

The evaluation of the degree of dependence for the BADL and IADL occurred using the definitions of functional independence (no need for help for any activity) and functional dependence (such as the need for partial or total help in at least one activity) (Figure 1).

The BADL domain has a prevalence of independence of 77(57%) and a dependency of 58 (43%). While for the IADL, there is a higher frequency of dependent elderly, with 121 (89,6%), and an independence of 14 (10,4%).

DISCUSSION

The age group with the highest percentage in this study was 80 to 89 years old, representing more than half of the elderly. A study also carried out in the North region presents similar data for the same age group.⁷ Other studies carried out with the long-lived population showed a higher prevalence of elderly people aged 80-84 years.^{3,14} Females were more dominant than males, which emphasizes the phenomenon of "the feminization of old age" and corroborates other similar studies.¹⁵⁻¹⁸

The most frequent level of educa-

tion among the elderly was illiteracy, which, according to the elderly people's reports, was generally associated with difficult access to schools. This result is similar to the findings of studies that indicate a high rate of illiteracy in this population, commonly related to the historical period (20th century) in which the long-lived elderly experienced their youth. At the time, access to the public school system was even more limited,^{7,9} especially in the Amazon, for having specific geographic characteristics that make access to public services even more difficult.¹⁹

As for marital status, most respondents declared not to be in a union, finding themselves single or widowed, which corroborates the results of other studies.^{3,17} Widowhood is the most prevalent marital status in this population and is commonly associated with the female sex, this is because it is known that life expectancy is higher among women than among men, which culminates in an increase in elderly women without a living partner.^{9,20}

The individual income of the elderly participating in this research corresponds to up to one minimum monthly wage, which is similar to that found in other studies,¹⁵⁻¹⁶ and it usually comes from the retirement of these elderly people.³ The majority reported having agriculture as their "previous occupa-

tion", a result that constitutes one of the main characteristics of the Amazonian populations, whose work is generally associated with the specificities and cultural diversities of the ecosystem where they live.¹⁹

Regarding the health situation, there was the presence of CNCDs in the elderly, similarly to what was found in other studies, in which more than half of the elderly interviewed reported having some type of chronic disease. Decreased visual acuity appears as the most frequent sensory deficit, followed by hearing loss.^{16,20-21}

With regard to the degree of dependence for ABVD, greater independence was observed to carry out intestinal eliminations, followed by eating. Studies in the area that used a different assessment instrument, but with the same objective, also found that most elderly people are "continent" and independent to eat.^{16,20,22} The importance of preserving the ability to control the sphincters is highlighted, as its inability in the oldest old can affect the maintenance of social life, causing the onset of diseases such as depression, which can potentiate functional incapacity.¹⁴

For basic activities, a higher frequency of dependence on activities such as the use of stairs and maintenance of personal hygiene was found. Another study carried out with hospitalized long-lived elderly showed similarities in the degree of dependence for the dimension of going up and down stairs.¹⁴ The personal hygiene activity, on the other hand, diverges from other studies, for example, which show a greater dependence among the elderly to dress or bathe.²²⁻²³

With regard to instrumental activities, greater independence was found for the management of medications and for the preparation of meals, which corroborates the results of other studies that showed that, in the evaluation of the memory category, more than half of the oldest old reported remembering

the medications to be taken and the bills to be paid;^{14,22} and, in relation to the preparation of meals, 75,9% said they were “able to plan and prepare complete meals”.²⁰

Most elderly people had higher levels of need for total help with IADL, such as washing and ironing clothes and shopping, as well as a need for partial help to use the telephone and to travel to distant places, using some means of transport. This is in line with the literature, as studies show that many elderly people are less independent in shopping, using the telephone, going to distant places and washing and ironing clothes.²²⁻²³ Long-lived elderly people tend, over time, to delegate many of the instrumental activities of daily living to third parties, usually due to difficulty in walking, vision deficit and/or as a result of complex urban displacement.¹⁴

When evaluating the degree of functional capacity of the elderly by domain, it was noticed that the BADL presented a higher frequency for independence. A result similar to that found in another study, in which the oldest elderly showed good functional performance for activities of daily living.¹⁴ However, the IADL showed a higher frequency of dependent elderly (89,6%), which differs from other literature in that 83% to 94% of the participants were independent.¹⁶⁻²⁰

Thus, the identification of functional performance is an important health indicator for the elderly in all age groups and must be carefully evaluated, aiming to control and maintain active and healthy aging.⁹ This monitoring of the elderly during their old age and the identification of factors that negatively influence their functionality, as well as combating these obstacles, can strengthen the development of a better quality of life.¹⁶

This study has as limitations the fact that the cross-sectional study was obtained in only a certain period of time; be carried out in an interior of Amazo-

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nas, which presents sociocultural and economic differences from other municipalities; the participant limits the elderly in the urban area, not being able to characterize the whole reality of the city.

CONCLUSION

This study evaluated the functional capacity of long-lived elderly people monitored in Basic Health Units, using the Barthel Index and the Lawton Scale. As for performance in Basic Activities, most were classified as having functional independence level, but less frequently they were represented as dependents for activities such as going up and down stairs. In the assessment of Instrumental Activities, most of the elderly were classified as functional dependence, and the domains with a degree of impairment were shopping, using the telephone, going to distant places and tidying up the house.

The findings of this study can contribute to the field of Nursing in primary health care, as management should prioritize care as a way to identify and encourage the independence and autonomy of basic and instrumental activities of the elderly, thereby improving care planning and the assistance promoted.

These results can provide subsidies for the construction of a specific care plan for each elderly person, according to their needs, and thus prevent any damage that could cause them incapacities and affect their quality of life. Therefore, it is essential to carry out research that evaluates these elderly people for a longer period, with the objective of reaching a more complete knowledge and obtaining better control of the functional capacity of the oldest old within the context of primary health care. 🐦

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