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# FUNCTIONAL CAPACITY AND ASSOCIATION WITH SOCIODEMOGRAPHIC ASPECTS OF OCTOGENARIAN

CAPACIDADE FUNCIONAL E ASSOCIAÇÃO COM ASPECTOS SOCIODEMOGRÁFICOS DE **OCTOGENÁRIOS** 

CAPACIDAD FUNCIONAL Y LA VINCULACIÓN CON LOS ASPECTOS SOCIODEMOGRÁFICOS DE **OCTOGENARIOS** 

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## **ABSTRACT**

Objective: to investigate the level of functional capacity of octogenarians and the association with sociodemographic aspects. Method: cross-sectional study with a quantitative approach, analytical and census, developed in a city in northeastern Brazil, from August to November 2011, being held in 26 of the Family Health Units (FHU). A sociodemographic questionnaire and Barthel Index were answered by 52 octogenarians. It was performed using the SPSS Cronbach's alpha test, chi-square and Fisher. Results: the total Cronbach's Alpha was 0.877. The average score of the Barthel Index was 79.71 points. An association was observed between the functional capacity of octogenarians and age (p = 0.031). Conclusion: the functional capacity of octogenarians presented level of mild dependence and demographic aspects are factors that can influence it, should the nurses consider these aspects in their practice in gerontogeriatric care. Descriptors: Aged; 80 and Over; Socioeconomic Factors; Activities of Daily Living; Nursing.

# **RESUMO**

Objetivo: investigar o nível de capacidade funcional de octogenários e a associação com os aspectos sociodemográficos. Método: estudo transversal, com abordagem quantitativa, analítico e censitário, desenvolvido em uma cidade do Nordeste do Brasil, no período de agosto a novembro de 2011, sendo realizado em 26 Unidades de Saúde da Família (USF). Um questionário sociodemográfico e o Índice de Barthel foram respondidos por 52 octogenários. Foram efetuados no SPSS os testes Alfa de Cronbach, Qui-quadrado e Fisher. Resultados: o Alfa de Cronbach total foi de 0,877. O escore médio do Índice de Barthel foi de 79,71 pontos. Observou-se associação entre a capacidade funcional dos octogenários e a idade (p=0,031). Conclusão: a capacidade funcional dos octogenários apresentou nível de leve dependência e os aspectos sociodemográficos são fatores que podem influenciá-la, devendo os enfermeiros considerar esses aspectos em sua práxis no cuidado gerontogeriátrico. Descritores: Idoso de 80 anos ou mais; Fatores Socioeconômicos; Atividades Cotidianas; Enfermagem.

# **RESUMEN**

Objetivo: investigar el nivel de la capacidad funcional de los octogenarios y la asociación con aspectos sociodemográficos. Método: estudio transversal con un enfoque cuantitativo, analítico y censo desarrollado en una ciudad en el noreste de Brasil, de agosto a noviembre de 2011, se llevó a cabo en 26 de las Unidades de Salud de la Familia (USF). Un cuestionario sociodemográfico y el índice de Barthel fueron contestadas por 52 octogenarios. Ellos se llevaron a cabo utilizando el test alfa de Cronbach SPSS, chi-cuadrado y Fisher. Resultados: el total de alfa de Cronbach fue 0,877. La puntuación media del índice de Barthel fue de 79,71 puntos. Se observó una asociación entre la capacidad funcional de los octogenarios y la edad (p = 0.031). Conclusión: la capacidad funcional de los octogenarios nivel presentado de dependencia leve y aspectos demográficos, son factores que pueden influir en ella, las enfermeras deben tener en cuenta estos aspectos en su práctica en el cuidado gerontogeriátrico. Descriptores: Anciano de 80 o más años; Factores Socioeconómicos; Actividades Cotidianas; Enfermería.

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INTRODUCTION

The growth of the elderly population has een observed worldwide with an increase of

been observed worldwide with an increase of approximately eight million per year, a trend that can put the elderly age group representing, in 2025, about one fifth of the population. This aging process is also noted in Brazil, where the population estimate indicates it as the sixth country in number of elderly. Noteworthy is the growth of the older population, considered over 80 years or octogenarians, generating changes in the age composition of the population.

Changes in the demographic profile due to urbanization, industrialization, increasing income, education, treatment and public health technologies, associated with epidemiological changes, such as the decline in infant mortality from infectious diseases, contributed to the aging of the population, favoring the emergence of new intrinsic needs for the elderly.<sup>4</sup>

When it comes to elder people, it is necessary to consider the limitations that may arise with advancing age, although today the aging not be considered only in the context of senility. Thus, the functional capacity of elder people changes over time, and may cause some dependence, either for reasons related to the loss or lack of physical autonomy, mental or intellectual, placing them in a vulnerable situation. There lies the need for aid for some seniors to perform their activities of daily living (ADLs), from a simple aid to a more complex and continuous, as in moving from one environment and the other on its own or in help for personal hygiene. 6-7

In some cases, there are difficulties for the elderly to preserve their autonomy and independence, defined as the ability to do something with the means, in general, related to functional disability. In the case of octogenarians, chronic degenerative diseases are often found and also relate to functional disability. This condition represents a public health problem since the realization of ADLs in person contributes to its maintenance and causes that person to remain active, developing basic activities in their day to day. 9

The specificity of elderly care can be defined by assessing the degree of dependence, resulting in accurate diagnosis through this indicator, supported by the functional response of the person. In this perspective, the nurse performs an important assistance in the evaluation and care of the elderly. Nurses should help in carrying out ADLs, encourage and promote self-care, and

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to evaluate the functional capacity of these people.

Aging causes great social and family impact of the limitations related to this phenomenon, it is necessary to evaluate the relationship functional independence between aspects. 10 demographic Thus, assumption that, in addition to health, social, economic and demographic factors may influence the elderly ability to carry out activities, this study aimed to investigate the level of functional capacity of octogenarians and its association with sociodemographic aspects.

The study is justified because the search for information that leads to the relationship between sociodemographic characteristics and the functional capacity of older people can support the geriatric nursing practice, as well as the (re) formulation of public policies appropriate to this population. In addition, it is believed in the relevance of this research, because the health of the elderly is included in the National Agenda for Research Priorities in Health.<sup>11</sup>

#### **METHOD**

A study carried out with the support of Higher Education Personnel Improvement Coordination - CAPES/Scholarship Program of Social Demand/CAPES DS/UEPB 2011.

Cross-sectional study, quantitative, analytical and census approach, developed in a city in northeastern Brazil, from August to November 2011, being held in 26 of the Family Health Units (FHU).

Data collection was carried out with 52 octogenarians who met the eligibility criteria: people aged 80 or more, ascribed in some USF selected without cognitive problems and who agreed to participate. To know the 52 subjects was estimated a representative random sample from a population of 2332 subjects, prevalence of 1.5% and using a sample size calculation.<sup>12</sup>

For the selection of subjects and the existing FHU in the city of Campina Grande, the sampling technique used conglomerate, considering the division of Campina Grande municipality in six health districts and the principle of proportionality. Thus, the FHU were selected in each district, until the value of the estimated sample was achieved, obtaining: six units in district II, five in the districts I and III, four in District VI and three in the districts IV and V. followed by octogenarians raffles were conducted in each FHU, all with the same probability of the study sample.

For data collection, two questionnaires were used as instruments: I, for research of sociodemographic variables; and II, called the Barthel Index (BI) on evaluation of functional capacity, which were filled by researcher by participants' responses during home visits with follow-up of a community health worker.

The Barthel Index consists of ten items related to the activities: dressing, bathing, eating, making hygiene, get out of bed and sit in a chair, control bladder and bowel, use the bathroom, walk and climbing stairs. The score of each item may vary from 0 to 15, depending on the performance to perform the activity in question. The total score ranges from 0 to 100, where a score of 100 indicates full independence; 60-95, mild dependence; 40-55, moderate; 20-35, severe; and <20, total dependence.<sup>13</sup>

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 15.0 for Windows and presented in tables. The analysis of demographic data and IB scores were performed using descriptive statistics.

To assess associations between the sociodemographic and functional capacity, it was made a dichotomy variable IB (Dependent = moderate level of disability, severe or total; Independent = mild level of disability or full functional capacity), and is effected the Chi-

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square and Fisher tests, considering that a significant association with p < 0.05.

To check the reliability of IB scale in the sample was used Alfa Conbrach Test, considering the Total Correlation Item, Cronbach Alpha with Deleted Item and Cronbach Total Alpha. It was considered as Alpha Conbrach Total satisfactory values > 0.70, indicating good internal consistency. 12

Data collection was initiated only after approval by the Research Ethics Committee of Higher Education and Development Center (CEP/CESED) under CAAE in 0346.0.000.405-10, as recommended by Resolution 196/96 of the National Health Council. After this time, in the first contact with the subjects, was explained how the research would be, and presented the Consent and Informed (CI), which was signed by all participants.

## **RESULTS**

# ♦ Sociodemographic profile

As shown in Table 1 most octogenarians are female, with a mean age of 86.38 years ( $\pm$ 5,57;  $X_{min}$ =80;  $X_{max}$ =99).

Table 1. Sociodemographic profile of octogenarians. Campina Grande / PB, Brazil, in 2011.

Campina Grande / Pb, Brazil, ili 2011.				
Variables	n	%		
Gender				
Male	20	38,5		
Female	32	61,5		
Age				
80 - 86 years	29	55,8		
87 - 93 years	15	28,8		
94 - 100 years	8	15,4		
Religion				
No creed	2	3,8		
Catholic	45	86,6		
Evangelic	3	5,8		
Kardecist	2	3,8		
Education				
No scholarity	21	40,4		
Elementary I	30	57,7		
Elementary II	1	1,9		
Maritall Status				
Single	8	15,4		
Married	19	36,5		
Widow(er)	24	46,2		
Divorced	1	1,9		
Income				
1 Minimal Wage	32	61,5		
2 Minimal Wages	16	30,8		
3 Minimal Wages	4	7,7		
n=52; * Minimal Wage = R\$: 510,00.				

# ◆ Barthel Index reliability test

According to data from Table 2, it appears that the scale of the Barthel Index showed satisfactory internal consistency, with a total Cronbach's alpha 0.877, indicating good reliability for measuring the functional capacity of the sample.

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Table 2. Questionnaire Barthel Index tested with Cronbach's alpha. Campina Grande / PB, Brazil, in 2011.

Barthel Index	Total	Cronbach's alpha	Total
Items	correlation of	with deleted item	Cronbach's
	corrected		alpha
	items		
Eat	0,618	0,866	0,877
Bath	0,739	0,858	
Dress	0,821	0,846	
Dress up	0,705	0,860	
Excrete	0,408	0,878	
Urination	0,162	0,886	
Use toilet	0,553	0,870	
Move	0,778	0,853	
Ramble	0,780	0,853	
Climbing stairs	0,612	0,866	

# ◆ Functional capacity

The data presented in Table 3 indicate that the higher dependence activities were urination, excrete, eat and use toilet.

**Table 3.** Frequency of functional capacity of octogenarians as sex. Campina Grande/PB, Brazil, in 2011.

Daily living activities		n	%
Eat	Independent	2	3,8
	Help	4	7,7
	Dependent	46	88,5
Wash	Independent	21	40,4
	Dependent	31	59,6
Dress	Independent	5	9,6
	Help	16	30,8
	Dependent	31	59,6
Dress up	Independent	20	38,5
	Dependent	32	61,5
Excrete	Normal Continence	5	9,6
	Occasional accident	47	90,4
Urination	Normal Continence	1	1,9
	Occasional accident	51	98,1
Use toilet	Independent	13	25
	Help	39	75
Move	Independent	4	7,7
	Little help	6	11,5
	Big help	6	11,5
	Dependent	36	69,3
Ramble	Independent	5	9,6
	Help	3	5,8
	Wheelchair	14	26,9
	Dependent	30	57,7
Climbing stairs	Independent	17	32,7
	Help	18	34,6
	Dependent	17	32,7

The presented mean score was 79.71 points ( $\pm 21,77$ ;  $X_{min}=25$ ;  $X_{max}=100$ ), classifying the show, in general, in degree from mild addiction. However, 17.3% of participants were classified grade ranging from moderate to total dependence.

# ♦ Relation between sociodemographic variables and functional capacity

According to the data presented in Table 4, there was an association between the functional capacity of octogenarians and age (p = 0.031).

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**Table 4.** Association between the sociodemographic characteristics and the functional capacity of octogenarians. Campina Grande/PB, Brazil 2011.

Sociodemographic	Functional capacity				
variables	Dep	endent	Indep	endent	
	n	%	n	%	p*
Gender					
Male	4	20	16	80	0,481
Female	5	15,6	27	84,4	
Age					
< 86 Years	2	6,9	27	93,1	0,031
> 86 Years	7	30,4	16	69,6	
Religion					
No creed	1	50	1	50	0,319
With creed	8	16	42	84	
Education					
No scholarity	3	14,3	18	85,7	0,467
Elementary 1 or 2	6	19,4	25	80,6	
Marital status					
No companion	1	12,5	7	87,5	0,578
With companion	8	18,2	36	81,8	
Income					
Up to 2 MW	8	16,7	40	83,3	0,456
More than 2 MW	1	25	3	75	

Dependent = moderate level of disability, severe or total; Independent = mild level of disability or full functional capacity; SM = minimum wage;

#### DISCUSSION

The female has the highest indicators of age, although in some regions, this correlation begins to fall. It is a characterization of old age known as feminization, perhaps resulting from exercise of motherhood responsibility imposed by this function, making women perform self-care actions more effectively than men. Furthermore, the fact that women face fewer risks than men, consume less tobacco and alcohol and/or maintain little aggressive and/or violent behavior are important determinants to consider, besides the high investment of the Brazilian state on woman's health specific policies. 14

With advancing age, new needs arise, and when it is observed that the average age is between 80 to 86 years. In the study, the care realization needs greater attention and dedication of the caregiver, since with aging, the human body often cannot have the same performance of yore, requiring assistance for ADLs.

The elder should be evaluated in a comprehensive and humane way, evaluating it from the psychological level to the spiritual, where each singularity is essential to plan the assistance and promote their biopsychosocial and spiritual well-being, understanding it in its specificity. In this context, with regard to religious belief, the highest frequency of Catholics is supported by data from the Brazilian Institute of Geography and Statistics (IBGE), which states that 64.6% of Brazilians are Catholic.<sup>15</sup>

As for education, a low level was observed, with the result that a large percentage of the subjects studied to the elementary school, followed by those who had no education at all. Another study indicates that this occurs because of the limited stimulus to studies on childhood time of the current octogenarians and exclusion that women were submitted regarding access to education, therefore, the search for knowledge.<sup>14</sup>

The poor education of octogenarians is worrying, because it ends up being related to the low income of the same. From this perspective, there is a loss of quality of life of the elderly, because with the restriction of income, there is a difficulty of access to food, health and education, essential for a dignified life in society. <sup>16</sup>

It is assumed that the shortage of financial resources to influence the health status of octogenarians, because health care costs are high, are preventive, charged by health plans or expenses associated with medications, making it necessary the state (re) create effective public policies for health promotion, and treatment of specific diseases for the elderly.

With regard to marital status, the highest frequency of elderly people living without a partner corroborates the literature, which shows that the main cause is widowhood, related to natural phase of aging. <sup>17</sup>

Regarding the functional capacity of octogenarians, the activities that have the greatest degree of dependence in the study are the urination, excrete, eating and use toilet, in which there is the need for the presence of caregivers to assist in carrying out

<sup>\*</sup> In numbers less than five, considered the Fisher test.

these activities, which can be family and/or professional. It is clear, therefore, that the functional capacity level of the elderly is directly linked to the elderly in full because both influence his/her health as he/her spending, in addition to interfering in family dynamics.<sup>17</sup>

Specifically, the elderly of this study are classified with mild level of dependence, differently from an investigation carried out in Portugal with 108 elderly people, in which there was serious level of dependence, and the urinary elimination functions (14,8%) and intestinal (10.2%) the most comprometidas.6 another study conducted in Pelotas/RS, with 589 subjects, identified prevalence of disability relating to basic activities of 26.8% (95% CI: 23.0, 30 8) and the lowest proportion of independence was to control functions of urination and/or evacuation.<sup>7</sup>

It was observed that age is a factor that is associated with the functional capacity of octogenarians. It was observed that with increasing age, there was a difference between the proportions of dependent elderly people when compared with subjects less than 86 years and those with more than 86 years. This means that age is an aspect that should be considered in the planning of nursing care for the elderly. A study conducted in São Paulo/SP, with 326 seniors also identified association between age and functional capacity (p <0.001). 17

The other sociodemographic variables resulting from this study showed no statistical association with functional capacity, but it was observed that independent octogenarian exercise their spirituality more often than dependent, leading to believe that their independence will influence their moral values and ethical. Regarding income, the subjects with greater resources had a higher frequency of independence when compared to those with lower financial potential. An investigation carried out with data from the National Sample Survey (PNAD), with a sample of 33,515 elderly, no association between income and functional capacity (p <0.001). 18

This research capability, it is reported that to check the consistency of the data collected through the Barthel Index, used the Cronbach alpha coefficient, which indicated satisfactory reliability for the measurement of functional capacity of the sample. It is noted that such a scale has performed with good consistence, and used in some studies.<sup>6,17</sup>

In this perspective, the research points to the importance of a focused look at the health of the elderly. For this, the nurse must understand the care needs to be able to work Functional capacity and association with...

and collaborate in improving the health of these individuals and reducing the functional dependency ratios<sup>19</sup>.

Regarding the limitations of this study, the small number of participants reduced the power of generalization of the results. Also, there is the difficulty of determining the directionality of the association between the conditioning factors and the functional capacity, as were collected concurrently.

# CONCLUSION

The functional capacity of octogenarians presented level of mild dependence. This finding is important and should be worked, once the functional capacity influence the entire context in which the old is present, involving his family, the community and health professionals such as nurses, working in the care of the aging process.

It was also verified that the sociodemographic aspects are factors that can influence the functional capacity. In this perspective, the main practical implication of the study is presented indicate that nurses should consider these aspects in their practice in gerontogeriatric care.

The challenges experienced by octogenarians and the effects of the aging process point to the need to (re) formulate health practices related to the elderly, so that they can promote in their daily assessment of functional capacity as a rule, the service Cheers. In this context, it was important to check the level of functional capacity and some aspects that can influence it, requiring that nursing strategies for the health of older people can focus on these people in the complex context in which they live.

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