

## Analysis of the Functional Performance of Self-Institutionalized Elderly People

Análise do Desempenho Funcional de Pessoas Idosas Autoinstitucionalizadas

Análisis del Rendimiento Funcional de Personas Idosas Autoinstitucionalización

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### ABSTRACT

**Objective:** The study's purpose has been to scrutinize the relation of the functional performance and “self-institutionalization” process in old age. **Methods:** It is a field research with descriptive, exploratory and transversal characteristics, having a qualitative approach and without intervention in the problem. This research used a sociodemographic questionnaire, the Katz index, the Lawton scale, the Mini-Mental State Examination and the Timed Up And Go test. **Results:** When the human being starts to grow old naturally, it is possible to notice a decline of the body's vital functions. The cardiac, respiratory, nervous and musculoskeletal systems are in the process of degradation, which causes the elderly to acquire functional losses over the years, being thus prone to the process of institutionalization, either by their own will or others' will. **Conclusions:** Considering the findings, it is possible to underline that the “self-institutionalized” elderly people have their own peculiar characteristics that deserve attention and differentiation from other elderly people institutionalized instigated by the will of others. Furthermore, it is also relevant to understand the factors related to the decision-making process of getting away from the family and entering an institutionalized environment.

**Descriptors:** Task Performance and Analysis, Elderly People, Institutionalization, Personal Autonomy.

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## RESUMO

**Objetivo:** Analisar a relação entre o desempenho funcional e o processo de “autoinstitucionalização” na velhice. **Métodos:** trata-se de uma pesquisa de campo, sem intervenção no problema, descritiva, exploratória e transversal, de abordagem quantitativa, foram utilizados um questionário sociodemográfico, o índice de Katz, escala de Lawton, mini exame do estado mental (MEEM) e o TUG. **Resultados:** quando o ser humano passa a envelhecer naturalmente nota-se um declínio das funções vitais do corpo, sistemas cardíaco, respiratório, nervoso e músculo-esquelético estão em processo de degradação, o que leva o ser idoso a adquirir perdas funcionais ao passar dos anos, estando assim propensos ao processo de institucionalização, seja por conta própria ou por vontade de terceiros. **Conclusão:** diante do estudo podemos destacar que o idoso “autoinstitucionalizado” apresenta características próprias que merecem diferenciação das características de pessoas idosas institucionalizadas por vontade alheia a sua além de entender os fatores relacionados aos motivos para a tomada da decisão de sair do seio familiar e ingressar em um meio institucionalizado.

**Descritores:** Função, Idoso, Institucionalização, Autonomia Pessoal.

## RESUMEN

**Objetivo:** Analizar la relación entre el desempeño funcional y el proceso de “autoinstitucionalización” en la vejez. **Métodos:** se trata de una investigación de campo, sin intervención en el problema, descriptiva, exploratoria y transversal, de abordaje cuantitativo, donde se utilizó un cuestionario sociodemográfico, además del índice de Katz, escala de Lawton, mini examen del estado mental (MEEM) y el TUG. **Resultados:** cuando el ser humano pasa a envejecer naturalmente se nota una declinación de las funciones vitales del cuerpo, sistemas cardíaco, respiratorio, nervioso y músculo-esquelético están en proceso de degradación, lo que lleva al ser mayor a adquirir pérdidas funcionales al paso de los años, y, por lo tanto, son propensos al proceso de institucionalización, ya sea por cuenta propia o por voluntad de terceros. **Conclusion:** ante el estudio podemos destacar que el anciano “autoinstitucionalizado” presenta características propias que merecen diferenciación de las características de personas ancianas institucionalizadas por voluntad ajena a su más allá de entender los factores relacionados con los motivos para la toma de la decisión de salir del seno familiar e ingresar en un medio institucionalizado.

**Descriptorios:** Análisis y Desempeño de Tareas, Anciano, Institucionalización, Autonomía Personal.

## INTRODUCTION

Population aging is a very important demographic factor nowadays. Each day the number of elderly people is increasing in a higher ratio than in any age group, and thus we have a significant increase of the elderly population. The World Health Organization (WHO) predicts that by 2025 there will be 1.2 billion people over the age of 60 years old, with people aged 80 and over being the fastest growing segment of the population.<sup>1,2</sup>

In Brazil, the reality is no different. The demographic transition, which was restricted to developed countries, has expanded rapidly to developing countries. The life expectancy in Brazil has increased considerably in an accelerated and significant way. In Brazil, the forecast is that by 2020 there will be 30.8 million elderly people or

14.2% of all Brazilians. Brazil is already considered the sixth country in the world in terms of population aging, with a life expectancy at birth of 73.1 years old, reaching 75.2 years old in the South Region. Regarding the North Region, in Pará State, the average life expectancy increased from 68.9 years old in 1996 to 71.7 years old in 2006 and 72.5 years old in 2010.<sup>3</sup>

The environment directly interferes with regard to aging, the individual who is going through the aging process must adapt to the aggressions of the environment in which he lives.<sup>4</sup> In addition to the environment, the aging process itself can bring about a decrease in physical fitness and functional performance, and this is further aggravated by the sedentary lifestyle, thus making the elderly person at the mercy of the care of others, chronic diseases can lead the elderly to become even more dependent, and one of the alternatives found by families to deal with such a situation is the institutionalization of their elderly.<sup>5</sup>

There is a definition for the Long-Term Care Facilities (LTCFs) given by the National Agency of Sanitary Surveillance in the *Resolução da Diretoria Colegiada* (RDC) [Collegiate Board of Directors] No. 283, as follows: governmental institutions, of residential character, destined to collective address of people aged 60 years or more, with or without family support, in the condition of freedom, dignity, and citizenship.<sup>6</sup>

Through research conducted in the national territory, 3,549 institutions for the elderly were described, of which, 65.2% are of philanthropic origin, being only 6.6% public, in the majority of municipal predominance, corresponding to 218 institutions, number lower than that of institutions of religious origin which amounts to approximately 700 shelters. In recent years, between 2000 and 2009, 57.8% of the institutions were privately created for profit, this points to a trend of change in the profile of the institutions, which for its operation requires payment for hospitalizations for the purpose to bear all costs and to obtain a profit margin that compensates the investment.<sup>7</sup>

Some factors may be listed as predisposing to the institutionalization process, and may indicate the age over 70 years old, the presence of chronic-degenerative diseases, such as depression, dementia, urinary incontinence; being single, living alone, having low schooling, being a woman, not owning a home, among other factors.<sup>5</sup>

In Brazil, institutionalized care becomes more frequent, with the adoption of a peculiar and recent practice among the Brazilian elderly: the process of “self-institutionalization”, common in Europe and the United States of America.<sup>8</sup> Seeing this context, the following question is raised: Does the “self-institutionalization” of older people have a direct influence on their functional performance?

Considering the accelerated increase of the elderly population, institutionalization in national territory and the decline of cognitive and motor functions during old

age, is the question of the relationship between functional performance and the process of self-institutionalization? Hence, there is still a shortage of research regarding the questioning as an important aspect to be explored, justifying the subject as being relevant to be investigated with emphasis on functional performance in elderly residents of LTCFs, as a form of contribution to the knowledge of the community with regards to alterations in motor function in the public studied.

Bearing in mind the aforementioned, this study aims to assess the relationship between functional performance and the process of "self-institutionalization" in old age, highlighting concepts and descriptors of functional capacity in the elderly, then tracing the sociodemographic and functional profile of elderly people living in LTCFs.

## METHODS

It is a field research with descriptive, exploratory and transversal characteristics, having a qualitative approach and without intervention in the problem. The research's main goal was to analyze the relationship between functional performance and self-institutionalization of elderly people living in a LTCF.

The study scenario was the LTCF named *Lar da Providência Carneiro da Cunha*, which is located in *João Pessoa* city, State of *Paraíba*. This LTCF has been hosting elderly people of both genders, independent and/or with varying degrees of dependency, for more than 100 years, who do not have the conditions to stay in their family environment due to either the fragility or rupture of their relationships.

In order to have an adequate sample, an intentional search was performed on a LTCF with elderly people aged 60 years and over, who agreed to voluntarily participate in the study, expressed in the Informed Consent Term. Inclusion criteria were the elderly residents of the LTCF, only in the city of the study, with cognitive and sensory functions preserved to respond to the research instruments and accepted to participate in the study. The non-inclusion of participants with cognitive or depressive disorders was performed according to the literature,<sup>9</sup> being justified by the fact that the presence of these factors could affect the ability to perform motor acts and logical thoughts, making it impossible to perform functional and functional tests, interviews, behaving as a variable of confusion.

Therefore, the sample was of the non-probabilistic type composed of 10 elderly of both genders, residents of the LTCF in *João Pessoa* city, State of *Paraíba*.

All research involving human beings may present risks; so the questioning about functional performance in the self-institutionalized elderly can provide the memory of pleasant and/or unpleasant moments experienced by the elderly participant, as well as the health professional interviewed. In this aspect, it was ensured to interrupt the progress of the questions respecting the space and privacy

of each participant and resuming the interview only when the same felt at ease.

As functional performance linked to self-institutionalization is little discussed by health professionals, especially physiotherapists, the reflections between health professionals and the elderly strengthen the knowledge coming from previous studies on the subject, fomenting proactive practices and actions in primary care both for professionals and for users inserted in this context, stimulating an aging process with quality and without the installation of avoidable disabilities and comorbidities.

In order to understand the relationship between the self-institutionalization of the elderly and their functional performance, a questionnaire was used for data collection for sociodemographic characterization developed by the authors, in addition to the others.

The Mini-Mental State Examination (MMSE) is an evaluation instrument that contains scores that are grouped and divided into seven categories. These assess the following domains: temporal orientation (5 points), spatial orientation (5 points), immediate and recall memories (3 points), attention and calculation (5 points), recall of the three words (3 points), language (8 points) and visual constructive capacity (1 points). The MMSE scores can range from zero to thirty points, where zero point indicates a higher degree of cognitive impairment of the participants and thirty points that correspond to the better cognitive capacity. The MMSE does not have the diagnostic utility, but serves to indicate which functions should be better investigated, besides being one of the few tests validated and adapted for the Brazilian population.<sup>10</sup>

The Katz Index is characterized as an assessment of the independence or functional dependence of patients for bathing, dressing, personal hygiene, continence, mobilization, and feeding.<sup>11</sup> The Lawton Index assesses the inability of individuals to perform instrumental activities providing indications of autonomy. The maximum independence score is 24 points.<sup>12</sup>

The Timed Up And Go (TUG) test is used to assess mobility, where the elderly are advised to sit in a chair and are asked to stand up and walk a three-meter round trip, being properly timed and classified according to the performance time: normal mobility (less than 10 seconds); good mobility (11 to 20 seconds); mobility (21 to 30 seconds) and impaired mobility (over 30 seconds).<sup>13</sup>

The socio-demographic questionnaire covered the variables related to sex; age; the degree of schooling, religion, origin, the practice of physical activities, work, and health status.

The interviews were scheduled personally with the participants, according to their availability, held on a previously agreed day and time. Subsequently, they were recorded in a digital voice recorder present as a function of a smartphone, followed by listening to the material collected, and its transcription in full, in order to detect any failure

or omission by the researchers. After transcription, the recordings were destroyed to preserve the confidentiality of the participants.

The numerical results, referring to functional independence, autonomy, and sociodemographic profile were treated through descriptive statistics using the construction of a database through the Electronic Statistical Package for Social Science (SPSS) version 22.0.

The results after processing and analysis of all the data were interpreted subsidized from the theoretical framework adopted for this study, presented in figures, tables, and themes.

The present project was appreciated by the College of Physiotherapy and later submitted to the evaluation of the Ethics and Research Committee. This study obeyed all the criteria established by the Resolution No. 466/12 from the National Health Council concerning the ethics in human research. Participation of the individuals was voluntary, all doubts were clarified and the participants signed a Free and Informed Consent Term.

The invitation and the initial approaches towards the subjects occurred after approval by the Research Ethics Committee, having been approved by the UNINAS-SAU - Recife city, State of Pernambuco, under the *Certificado de Apresentação para Apreciação Ética (CAAE)* [Certificate of Presentation for Ethical Appreciation] No. 73650117.2.0000.5193, which explains the study's purpose and objectives, besides presenting the Free and Informed Consent Term and also clarifying the doubts to the participants. The interviews were individual, recorded and previously scheduled after initial contact with the participants of the survey, and carried out on visits to the LTCF where the elderly live over the period from August to September 2017.

## RESULTS AND DISCUSSION

It is observed the predominance of the female sex in the elderly who developed self-institutionalization, the ages ranged from 70 to 99 years old, with an average of 86.5 years old. It can be seen that 76.6% of the elderly were within the age group from 70 to 79 years old, and 23.3% were between 80 and 89 years old. Note also the primacy of widowhood and lack of schooling, as well as the supremacy of the Catholic religion among those interviewed.

You can observe the predominance of females in the present study, a study carried out in a LTCF from the Minas Gerais State corroborates the results found stating that among the elderly studied 62.8% were female and claim that the current family configuration, where we see more and more women entering the labor market, being less available to provide care for the elderly of the associated family. The longer life expectancy of women may justify the greater presence of women in LTCFs.<sup>14</sup>

Noting the age of the elderly present in the study there was a predominance of elderly people aged 70 to 79 years old, another study considers the recent aging in the national context, this is different in developed countries, where mostly elderly 80 years or more.<sup>15</sup>

As for education, this study goes against another study, where it found a higher presence of illiterate elderly people,<sup>16</sup> and also differs from data from the last census where the relative weight of the elderly in the number of illiterate Brazilians went from 34.4% to 42.6%.<sup>3</sup> It was seen that most of the sample lived in the institution without a widowhood partner, which is not different from the *Trindade* study, which in a study performed 90.90% lived without a partner.<sup>17</sup>

**Table 1** presents the results of the functional assessment of the respondents from the cognitive assessment using the Mini-Mental State Examination (MMSE), the verification of the performance through the Timed Get Up and Go (TUG) test and the capacity of performing Daily Life Activities (DLAs) by applying the Lawton functional scales and the Katz Index.

**Table 1** – The research participants' functional assessment (n=10).

Participant	MMSE	TUG	Lawton Scale	Katz Index
Elderly 1	Mild impairment	Low functional performance	Severely dependent	Independent
Elderly 2	Mild impairment	Moderately low performance	Moderately dependent	Independent
Elderly 3	Moderate impairment	Moderately low performance	Moderately dependent	Independent
Elderly 4	No impairment	Low functional performance	Moderately dependent	Independent
Elderly 5	No impairment	Low functional performance	Moderately dependent	Independent
Elderly 6	Moderate impairment	Low functional performance	Severely dependent	Independent
Elderly 7	No impairment	Moderately low performance	Severely dependent	Independent
Elderly 8	No impairment	Low functional performance	Severely dependent	Independent
Elderly 9	No impairment	Low functional performance	Moderately dependent	Semi-dependent
Elderly 10	No impairment	Moderately low performance	Moderately dependent	Independent

Source: Research data, 2017.

When the human being starts to grow old naturally we notice a decline in the vital functions of the body, cardiac, respiratory, nervous and musculoskeletal systems are in the process of degradation, which causes the elderly to acquire functional losses over the years.

The cardiovascular system, when put into effort, decreases the efficiency of the heart in increasing the speed and strength of heartbeats, in addition, a reduction of resting heart rate, increase of cholesterol concentrations, as well as vascular resistance, leading to an increase in blood pressure.<sup>18</sup>

There is a decrease in pulmonary function and elasticity. Moreover, it is possible to verify the tightness of the chest cavity, increasing the residual volume that decreases the vital capacity, as well as a decrease in pulmonary ventilation and a reduction in the elasticity of the alveoli.<sup>18</sup>

Analyzing the nervous system in general, the aging of this one presents more markedly, in the decrease of the total weight of the encephalon and the attenuation of the cortical layer, which leads to a deepening of the ventricular cavities and the grooves, already the reduction in volume of the gyres occurs, mainly due to cortical atrophy consequent to neuronal apoptosis.<sup>19</sup>

The musculoskeletal system also undergoes considerable changes during the aging process, such as reduction in length, elasticity and number of fibers, concomitant with loss of muscle mass and elasticity of tendons and ligaments (which are connective tissues) and synovial fluids become less viscous.<sup>18</sup>

A study carried out in the *Santa Cruz* city, *Rio Grande do Norte* State, with elderly people using the Katz and Lawton scales, found a result where 86.9% of the sample were independent for basic activities of daily living, which can also be defined as self-activities care and 47% for instrumental activities of daily living, which can be conceptualized as activities related to the maintenance of the environment, these tasks being more complex. These results show that the independence for Instrumental Activities of Daily Living (IADLs), which are more complex activities, is lost before a Basic Activities of Daily Living (BADLs), which are simpler activities.<sup>20</sup>

A study carried out in the metropolitan area of *Belo Horizonte*, *Minas Gerais* State, about the functional capacity and use of health services among the elderly, showed that 64.2% were independent for the BADLs and IADLs, but among the 16.2% type of difficulty to perform one or more BADL and 19.6% presented difficulties to perform at least one IADL, which corroborates with the findings of the present study where the elderly studied presented greater independence for the accomplishment of BADLs.<sup>21</sup>

It is observed that functional capacity can be influenced by social, cultural, economic, demographic or psychosocial factors. In his evaluation through the Lawton scale, he obtained an average of  $8.09 \pm 2.91$  for institutionalized individuals; and for the non-institutionalized elderly, an average of  $15.32 \pm 1.35$  was obtained. By performing a correlation between the groups studied, we observed a discrepancy regarding the realization of IADLs revealing that the environment where the elderly are inserted directly affects their functional performance.<sup>17</sup>

It can be seen that due to physiological functional losses brought about by the aging process, the elderly become prone to the process of institutionalization, either by their own will or others' will.

## CONCLUSIONS

Herein, it was sought to analyze the relationship between functional performance and the process of "self-institutionalization" in old age, as well as to know the concepts and descriptors of Functional Capacity in the elderly, trying to

trace the sociodemographic and functional profile of the elderly resident in LTCFs. Also, a questionnaire was used to know the sociodemographic data of the studied sample, besides the MMSE tests, and the Katz and Lawton scales so that it was possible to know the functional and cognitive performance of each individual.

The results indicate that the elderly "self - institutionalized" has its own peculiar characteristics that deserve attention and differentiation of the characteristics of elderly people institutionalized by the will of others.

Therefore, the present research is relevant for the study and awareness about this public present in LTCFs, but it is so little studied and understood, understanding that each elderly person is a unique being with feelings, capacities and wills also unique that deserve specialized and individual attention, with the results shown here, we can learn more about "self-institutionalization" and its peculiarities.

It is recommended that this study should be expanded to a larger sample by characterizing a threshold that can be met in other studies. It should be pointed out that this study may be an incentive for other research to be carried out on aspects related to the institutionalization of elderly people and their various aspects, still little studied, from the point of view of LTCFs, once a population is known that still suffers from the lack of preparation of a developing country such as ours, to accommodate the growing demand for this service.

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