Evaluation of functionality and disability of older elderly outpatients using the WHODAS 2.0

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Abstract

Objectives: To analyze the level of functionality and disability of older elderly persons receiving care at a university hospital in Curitiba, Paraná, and identify functional differences between men and women. *Method:* A descriptive, cross-sectional study with a quantitative approach, based on a convenience sample of elderly persons receiving outpatient care, was undertaken. The Brazilian version of the World Health Organization Disability Assessment Schedule (WHODAS 2.0). *Results:* A total of 28 people with a mean age of 86.21 (±4.17) were evaluated. Of these 50.0 % were male, 46.4 % were widowed, and 57.1 % performed the evaluated activities independently. There were no significant differences between genders in terms of age ($p \leq 0.635$) or years of study ($p \leq 0.329$), although women showed a higher level of disability than men in general ($p \leq 0.16$). *Conclusion:* The WHODAS 2.0 proved to be a sensitive tool for the analysis and comparison of the level of functionality of the older elderly. However, it is important to develop prospective studies, with non-convenience samples, for a better reflection on the disability and functionality of older elderly persons.

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INTRODUCTION

Research has indicated that the increased prevalence of chronic diseases influences the functional status of the elderly, reducing autonomy and independence[1,2]. Functionality is defined as the ability of an individual to manage their life or take care of themselves and is the basis of the concept of health for elderly persons, as well as the starting point for the assessment of their health[3].

Today, functionality is the great paradigm of geriatrics, as it is necessary to understand how the impairment of physical and mental health, autonomy, social integration, family support and economic independence can affect the functional capacity of older elderly persons[2].

This paradigm fits neatly with the expanded concept of health proposed by the World Health Organization (WHO), through the International Classification of Functionality, Disability and Health (ICF), which indicates the dynamic relationship between the health conditions, environmental factors and personal factors that ensure functionality[4].

Several studies have been conducted on this theme with the elderly population. However, most of these only cover elderly persons aged to 60 and 80 years, and studies of older elderly persons are lacking[1].

The present study aimed to evaluate the level of functionality and disability among older elderly persons at the Ambulatório de Saúde do Idoso do Complexo Hospital de Clínicas da Universidade Federal do Paraná (the Elderly Outpatient Clinic of the Paraná Federal University Clinical Hospital Complex) (CHC-UFPR), identifying the most prevalent functional limitations, the possible differences in functional profile between genders and the most frequent diseases.

METHOD

A descriptive, cross-sectional study with a quantitative approach was performed based on subjects receiving care at the Outpatient Clinic of a University Hospital. The study was approved by the Ethics Research Committee of the Paraná Federal University Clinical Hospital Complex

(record nº 33507914.8.0000.0096) and followed the ethical principles guiding human research.

The study was carried out in the Elderly Outpatient Clinic of CHC-UFPR, which treats elderly persons aged 80 or older or those aged over 60 who have at least one of these characteristics: polypathologies, polypharmacy, partial or total immobility, urinary or fecal incontinence, postural instability, recurrent falls, cognitive disability, history of frequent hospitalizations, or are dependent in activities of daily living (ADL).

The study included subjects of both genders, aged over 80 years, with multi-morbidities who attended the Elderly Outpatient Clinic of CHC-UFPR during the data collection period (August 2014 to January 2015). The subjects agreed to participate by signing a Free and Informed Consent Form. A convenience sample with consecutive selection was used and general health information was obtained from medical records. Data analysis was described in terms of frequency, distribution and comparison.

In the comparison, the Shapiro-Wilk normality test for small samples was applied for analysis of the sameness or difference between the means of the domains evaluated by the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0). Normal distribution was observed only for the means of the domains Mobility, Participation and Overall Mean, and the means of Cognition, Self-care, Getting Along and Life Activities were not normally distributed. Due to the differences in the distribution of the domain means, it was decided to compare the means using the t-test for independent samples, with the null hypothesis being no differences in the domains between genders, with $p \leq 0.05$.

To analyze disability the Brazilian version of the WHO WHODAS 2.0 was used, translated and adapted for Portuguese by Silveira et al.[5].

The WHODAS 2.06 was developed from the ICF, which is a generic instrument that measures the level of health and disability of the population and assists clinical practice. This instrument evaluates disability in six life domains: Cognition, Mobility, Self-care, Getting Along, Life Activities and Participation. In the present study, we used the full version of the questionnaire, which was applied by a single

interviewer in interview form with the research participant in the presence of their caregiver.

Each WHODAS 2:0[6] item evaluates the amount of difficulty the patient had, during the previous month, in carrying out their activities. The complex score was used for data analysis, which, after the recommended recoding, converts the results into a measure ranging from 0 to 100 (where 0=no disability and 100=complete disability)[6].

RESULTS

The sample consisted of 28 subjects, of whom 14 were men and 14 were women, with a mean age of 86.21 (±4.17) years, with no significant difference between the genders (p≤0.635).

Most elderly persons claimed to be independent (57.14%), and the condition of hospitalized was not indicated, as data collection was performed on an outpatient basis. In terms of years of study, the men attended regular school for an average of 5.00 (±5.17) years, while the women had only 2.36 (±2.023) years of schooling, although the difference between the genders was not significant (p≤0.329) (Table 1).

The research subjects had at least one, and no more than 12 health conditions (mean 4.5), with Systemic Arterial Hypertension (20 subjects), heart disease (13 subjects) and Diabetes Mellitus (11 subjects) the most frequent.

Regarding performance in the questioned activities, it was observed that the mobility domain presented the highest average difficulty (38.03%) and the cognition domain the lowest (11.75%) (Table 2).

In general, women had greater difficulty performing the activities than men, with an overall mean of 25.76% (±3.09) compared to 14.80% (±2.47) for men, with a significant difference between the genders of (p≤0.016) (Table 3).

Table 1. Sociodemographic characteristics of participants. Curitiba, Paraná, 2015.

Gender	Men (n=14)	Women (n=14)
Mean age	85.71 (±3.51)	86.71 (±4.82)
Age distribution		
80 to 89 years	11	11
90 to 99 years	3	3
Mean years of schooling	5.00 (±5.17)	2. 36 (±2.023)
Living condition		
Independent	10	6
Assisted	4	8
Marital status		
Never married	0	3
Married	8	3
Widowed	5	8
Cohabiting	1	0
Work activity		
Housewife	0	1
Retired	14	11
Other	0	2

Table created by authors of study.

Table 2. Characterization of sample based on domain means. Curitiba, Parana, 2015.

Domains	Mínimo	Maximum	Mean	Standard-deviation
Cognition Domain	0,0%	45.83%	11.75%	13.42%
Mobility Domain	0,0%	80.00%	38.03%	21.91%
Self-care Domain	0,0%	56.25%	17.63%	16.58%
Getting along Domain	10,00%	40.00%	16.07%	10.30%
Life Activities Domain	0,0%	62.50%	18.97%	19.28%
Participation Domain	0,0%	43.75%	19.19%	12.04%
Overall Mean	1,67%	43.68%	20.27%	11.68%

Table created by authors of study.

Table 3. Comparison of domains and age between genders. Curitiba, Parana, 2015.

Gender	Men	Women	(p≤0.05)
Age	85.71 (±3.51)	86.71 (±4.82)	0.635
Years of study	5 (±1.0)	2 (±1.0)	0.329
Cognition Domain	6.65% (±1.73)	16.96% (±4.42)	0.137
Mobility Domain	27.50% (±5.54)	48.57% (±4.84)	0.008
Self-care Domain	11.16% (±2.94)	24.11% (±5.07)	0.094
Getting along Domain	16.79% (±2.99)	15.36% (±2.59)	0.769
Life Activities Domain	12.05% (±3.31)	25.89% (±6.07)	0.137
Participation Domain	17.73% (±2.90)	23.66% (±3.17)	0.050
Overall Mean	14.80% (±2.47)	25.76% (±3.09)	0.016

Table created by authors of study.

DISCUSSION

Population aging is accompanied by several challenges. The WHO has stated that healthy aging should be a global priority, and warned that the development of strategies to address the health problems of the elderly population and the impact of chronic disease on quality of life is essential[7]. The organization also states that "although people are living longer, they are not necessarily healthier" as longevity is accompanied by chronic diseases that directly affect the quality of life and functional performance of this population[7].

The present study evaluated the level of functionality and the differences in functional profile between older elderly men and women attending the Elderly Outpatient Clinic of the CHC-UFPR. While those attended by the clinic were predominantly female, the distribution by gender and age group was symmetric, a coincidence arising from the sample, which was selected by convenience and consecutive methods.

Literature has described a feminization of old age. With respect to functionality, in general, women exhibit greater levels of disability than men. Female aging is associated with an increased prevalence of chronic diseases. Most of the population of older elderly women have a lower socioeconomic status than men, as many of them did not attend school and did not have formal jobs. Moreover, women tend to be widowed before men, as they seek health services less and take on social roles of higher external risk of morbidity and mortality[8,9].

As found in literature[1,2,10], the older elderly persons included in the survey had several chronic diseases.

Literature also describes a high frequency of auditory and visual deficit among the elderly [11,12], a fact that while not quantified in the present study, was observed, though not described. Reports of embarrassment at initiating and maintaining conversations and avoiding leaving home were constant, which can lead to social isolation, loss of occupational roles, mobility limitations, fragility and dependence.

The instrument used for functional analysis, the WHODAS 2.0, is a relatively new instrument and is little used, especially among the very old, who exhibit levels of disability not yet described in Brazilian literature. Only two articles with these characteristics allowed comparative analysis with the results of the present study. The first,[13] undertaken in Cinco Villas in Spain, featured the participation of 258 older elderly persons, living in the community, of whom 163 were women and 95 were men. When comparing the results, it is observed that the older elderly women from CHC-UFPR performed worse in the domains of self-care, life activities and participation. Perhaps this can be explained by differences in socioeconomic conditions and access to health services among the European and the Brazilian publics. No comparison for men was possible as this information was not available. These results show the need for an improvement in the care of this population provided by health teams, prioritizing the preservation of functionality, security and autonomy, as the prevention of disability should be a priority in the care of older elderly persons[2]. However, few studies exist to allow further comparisons.

The second study, carried out in Portugal, analyzed 329 institutionalized elderly persons with a mean age of 83.6 (±7.1) years. The majority were women diagnosed with dementia, and the worst result was obtained in the domain of mobility[14]. In the same manner, the mobility domain presented the greatest percentage of difficulty among subjects in the CHC-UFPR study. This result suggests the need for further adaption of this question, as it evaluates a distance that is excessively long compared to scales traditionally used to assess the functional capacity of the elderly.

In general, the level of functionality of the older elderly persons could be considered satisfactory. An overall mean of 43.68% was obtained, which corroborated with findings in literature[1,7,8,15]. However, research on the older elderly population remains scarce, and further investment in this area is required, as the aging process has been occurring in an accelerated form.

The present study has some limitations, such as the fact it is based on a small convenience sample. The application of the WHODAS 2.0 in probabilistic samples and prospective studies is therefore required.

CONCLUSION

The use of the WHODAS 2.0 scale proved that it can be recommended to analyze and guide the promotion of the health of the population, even though disability is an individual condition and may be influenced by multidimensional factors, suggesting a person-centered approach.

Further studies are required to analyze the application of WHODAS 2.0 with this and other populations, including comparative studies using the functional scales traditionally used in geriatric health.

Comprehensiveness in the care of older elderly persons should be a priority for the health system, together with the development of public policies that guarantee access to health services, which include the increase of strategies and tools that allow referral and counter-referral, as well as the training of specialized multi-professional teams[2].

To provide a foundation for the development of public policies aimed at this reality, further research involving the older elderly population is required, to guarantee access to care and the treatment of their needs.

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