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Instrumental Activities of Daily Living Among Older Adults in the Primary Health Care

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Abstract

Justification. National and international statistics show that health teams will have to respond to the need for care of the elderly, recognizing the importance of functional capacity as a variable for assessing their health status. **Objective.** To determine characteristics of the elderly that may influence their functional capacity according to the Instrumental Activities of Daily Living. **Design.** Quantitative, descriptive-correlational cross-sectional study. **Results.** Of 136 individuals studied (61% women) and an average age of 73.28 ± 6.77 years, it was observed that the Instrumental Activities of Daily Living depend significantly on: literacy level (p = 0.002), educational level (p = 0.024), community participation (p = 0.007), nutritional status (p = 0.028) and depression (p = 0.018).

Conclusion. Social, physical and mental factors are related to the functionality of the elderly. It is essential to generate public policies to protect this population group, with a multidisciplinary and systemic approach.

Keywords:

Instrumental Activities of Daily Living, Older People, Primary Health Care, Literacy, Community Participation, Nutritional Status, Depression.

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Introduction

The aging phenomenon that the world is experiencing is a response to sociocultural, political and economic changes that have had an impact on birth and fertility rates. In Latin America and the Caribbean, the population over 60 years of age is expected to increase steadily over the next few decades, with an increase of 57 million Older Persons (OP) projected between 2000 and 2025, and an increase of 86 million between 2025 and 2050. Along with the increase in this age group, population aging brings with it an increase in longevity, with greater life expectancy and new needs to be addressed by the different sectors linked to the OP. [1]

In Chile, the demographic aging process has developed in an accelerated manner and without historical precedents. Until 1970, 60-year-old PMs represented 8% of the population; in the 2002 Census, this figure increased to 11.4% and four years later, according to the 2006 Socioeconomic Characterization Survey (CASEN), people over 60 years of age reached 13% of the total population of the country. In the next 20 years, an annual growth rate of 3.7% is estimated for this age group, which will mean that 20% of Chileans by 2025 will be PMs. [2] It is possible to see that national and international statistics show that health teams and in particular the nursing profession will have to respond to the care needs of this age group, associated with physical, psychological and social changes that they experience during their aging. In this regard, the importance of "functional capacity" in the elderly as a parameter for evaluating their health status and, therefore, their quality of life is currently recognized, with "functionality" being defined as a person's

ability to perform Activities of Daily Living (ADL). [3-5] This is how the concept of "autonomy" emerges, which includes the ability to decide for oneself, assume consequences and make the necessary changes. On the contrary, "dependency" is conceived as the inability to perform daily activities by oneself partially or totally, where health-illness and its consequences influence the ability to live independently. Functional capacity as such includes Basic Activities of Daily Living (BADL), Instrumental Activities of Daily Living (IADL) and Advanced Activities of Daily Living (AAVD). These present a hierarchical relationship, in terms of how they are affected by aging, with advanced ones being lost first, then instrumental ones, and finally basic ones. [5,6]

For the purposes of this study, IADLs are defined as the most complex tasks that people perform in their daily lives, which require functioning in accordance with lifestyles and forms, requiring awareness of one's own being, one's own body, and knowledge of the world around them. They involve perceptual and motor skills, processing or elaboration skills to act in the environment, as well as to plan and solve problems. [5,7] This is how functionality, from the perspective of IADLs, is relevant for satisfactory aging, by enabling social relationships and network of contacts for people, where their total or partial absence constitutes a risk factor for morbidity and mortality. [3,8]

When placed in the context of gerontological nursing, it fulfills different functions, such as "direct care provider for PM" in different care scenarios, "educator" in the modification of risk factors and "advocate", favoring social protection and autonomy in decision-making for PM. Viewing aging from the perspective of

functionality and how it can evolve from autonomy to dependency, at its different levels, nursing translates into a fundamental pillar where the care of PM, seen from a holistic approach, integrates the multiple interactions that occur in the aging process, both in the aging individual and in the world around him. Therefore, the management of care in this age group must be supported by solid theoretical knowledge and scientific support that allow disciplinary development with leadership in the gerontological area. [9] According to the above, the objective of this work was to determine factors that could influence the AIVD of PM, an area that responds to the current "National Policy for the Elderly" in Chile, which includes as a central axis the principles of "self-reliance and active aging", aimed at ensuring the full integration of PM into society. [10]

Methodology

A quantitative, descriptive-correlational, cross-sectional study was conducted, for which PM enrolled in a Family Health Center (CESFAM) in the municipality of Chillán Viejo were investigated. From a population of 2,118 people over 64 years of age, from urban areas, not bedridden, a random sample of 132 people was calculated with proportional fixation to the three population sectors covered by the CESFAM. A 95% confidence level was considered, with a sampling error of 8% and an estimated prevalence of low dependency level around 62.96%, [recruiting] a final sample of 136 people.

The data collection was carried out through a home visit by fourth-year nursing students from the Universidad del Bío Bío, previously trained in the interview and data collection technique. Ethical aspects were safeguarded by informing the

objective of the visit and requesting authorization to be part of the research through informed consent. Once the conditions of the study were accepted, sociodemographic and health characteristics were determined through a data collection instrument developed by the authors of this research, which consists of 25 closed questions, of which 4 were oriented to demographic characteristics, 11 to social characteristics and 10 to health characteristics of the respondents. This instrument was based on the analysis of literature concerning characteristics of this age group, and was submitted to consultation with experts on the subject, who provided their suggestions. To determine the degree of understanding of the data collection instrument, it was validated with a pilot test in 20 individuals over 64 years of age enrolled in a CESFAM in the municipality of Chillán.

The application of the 5-item Geriatric Depression Scale (5-GDS), developed in 1999 by Hoyl et al., was also included. This scale was found to be as effective in diagnosing depression in the North American population as the 15-item version of the Yesavage Geriatric Depression Scale, with a sensitivity of 97% and specificity of 85%. [12] In Chile, this scale was validated by Hoyl et al., determining its possibility of use at a national level. [12] The degree of functionality was assessed using the Lawton and Brody Index. [13]

Statistical analysis was performed using SPSS 17, using Pearson's X^2 test or its alternative Linear by Linear Association (when there is an expected value less than five). In tetrachoric tables, Fisher's exact test was used. A significant association was accepted with a significance level of 0.05.

Results

Of the 136 PM studied, 61% were women (n=83). The sample was obtained from three sectors according to geographic distribution previously determined by CESFAM, in which 36.5% of the sample was obtained from sector 1 (n=50), the same percentage was provided from sector 2 (n=50) and 27.0% was collected from sector 3 (n=36). The average age was 73.28 ± 6.77 years, with no significant differences observed when disaggregated by study sector (sector 1: 73.04 ± 7.39; sector 2: 73.34 ± 6.60; sector 3: 73.78 ± 6.18; Fisher=0.123, p=0.884).

When studying the sociodemographic characteristics according to the sector from which the observation units were collected, it is possible to distinguish that the territorial sector (planned according to the strata called sector 1, 2 and 3) did not significantly affect the subjects' gender (p = 0.853), literacy level (p = 0.193), school education (p = 0.204), marital status (p = 0.564), or the FONASA brackets (indirect marker that allows estimating the socioeconomic level, p = 0.097). Therefore, they will not impact the analysis of the variables of interest.

It should be noted that there were "non-responding" PMs when asked about their sociodemographic characteristics, which is why the total sum in each of them does not coincide with the value of n=136, however, they do not affect the sample size, since a value of n=132 was originally calculated.

Descriptively, when analyzing the IADL according to the Lawton-Brody Scale for instrumental activities of daily living, 65% of respondents did not present alterations, that is, they presented "total independence for the IADL", considering a score of 8 points for such classification, on the contrary, the remaining 35% did present some degree of dependence to develop these activities, with scores less

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than 8 points. When disaggregating by each instrumental activity included in the Lawton-Brody Index, it was possible to see that the activities that presented the greatest difficulty in their performance were "drug consumption" with 15%, "shopping" with 12% and "transportation" with 11% (see Figure 1).

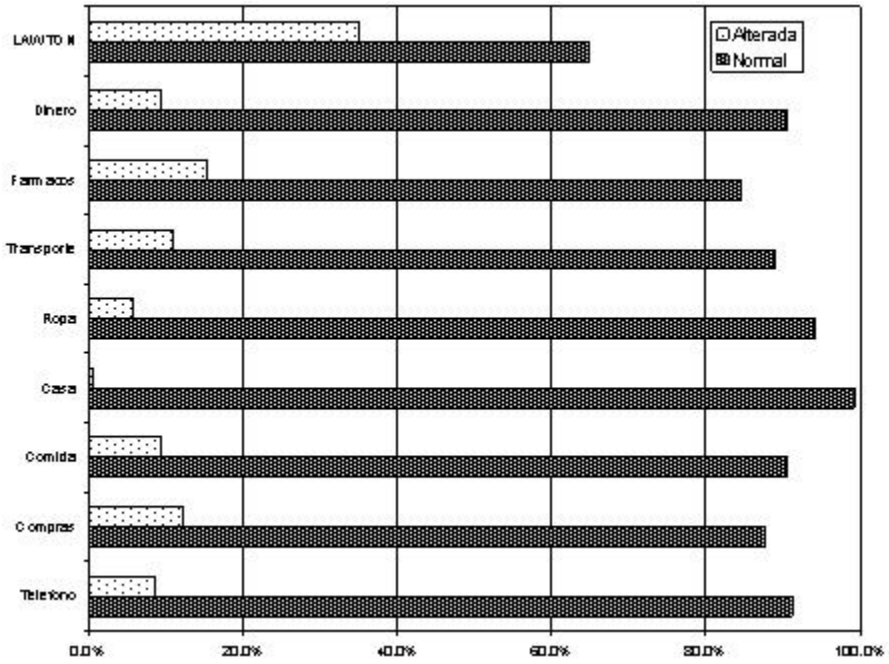

Figure 1. Percentage distribution of AIVD, according to Lawton and Brody Index (n=136)

84.4% of the sample reported knowing how to read (n=114), 9.6% had no formal education (n=13), 69.6% had completed basic education (complete or incomplete), 14.0% reported having completed secondary education (n=19), and 26.5% had higher education (n=36). 32.4% reported being widowed (n=44), while 51.5%

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were currently married, and only 1.5% reported living together (n=2). 11% reported being single (n=15) and 3.7% were separated from their partner (n=5).

Relational analysis showed that literacy is significantly associated with some type of impairment in IADL ($p<0.005$). Thus, 54% of adults who can read do not have impairment in IADL, while 9.6% of those who cannot read do have impairments (see Table 1).

Table 1. AIVD according to Literacy and Level of Education (n=135)

ALFABETIZACIÓN	Con Alteración		Sin Alteración		TOTAL	
	n	%	n	%	n	%
No sabe leer	13	9,6	8	5,9	21	15,6
Si sabe leer	40	29,6	74	54,8	114	84,4
Test Exacto de Fisher: *p=0,002*	53	39,3	82	60,7	135	100,0
INSTRUCCION	n	%	n	%	n	%
Sin educación	8	5,9	5	3,7	13	9,6
Básica incompleta	22	16,2	28	20,6	50	36,8
Básica completa	11	8,1	20	14,7	31	22,8
Media incompleta	6	4,4	14	10,3	20	14,7
Media completa	6	4,4	13	9,6	19	14,0
Superior	0	0	3	2,2	3	2,2
Asociación lineal por lineal=5,059; (1gl); *p=0,024*	53	39,0	83	61,0	136	100,0

Regarding the level of education, there is sufficient evidence to confirm a significant association with IADL ($p<0.05$). Thus, people with alterations in IADL have no formal studies or have basic studies, while those with at least incomplete secondary education or higher education are associated with unaltered IADL.

Regarding depression screening, there is sufficient evidence to state that IADLs depend significantly on the presence or absence of possible depressive traits

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(p<0.05). In this regard, 68.7% of the PM without alterations in their instrumental activities did not present traits of depression (n=57), while almost 51% who present alterations in IADLs were classified within the group with possible depressive symptoms (n=27) (see Table 2).

Table 2. IADL according to Depression and Community Participation (n=136)

DEPRESIÓN	Con Alteración		Sin Alteración		TOTAL	
	n	%	n	%	n	%
Ausencia	26	49,1	57	68,7	83	61,0
Sugiere depresión	27	50,9	26	31,3	53	39,0
Test Exacto de Fisher: *p=0,018*	53	39,3	83	60,7	136	100,0
PARTICIPA GRUPO COMUNITARIO	n	%	n	%	n	%
No participa	39	28,7	42	30,9	81	59,6
Ocasionalmente	3	2,2	6	4,4	35	25,7
Frecuentemente	11	8,1	35	25,7	46	33,8
χ^2de Pearson=7,274 (2 gl); *p=0,025*	53	39,0	83	61,0	136	100,0

Likewise, there is sufficient evidence to associate participation in community groups with IADL (p<0.01), where people who do not participate are mainly associated with alterations in IADL, the opposite of those who participate, who were identified without alterations in the study variable.

Regarding nutritional status according to Body Mass Index (BMI), this was significantly associated with IADL (p<0.05). Thus, people with normal nutritional status and malnutrition due to excess do not present alterations in IADL, while those with malnutrition due to deficiency are mainly associated with altered IADL (see Table 3).

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Table 3. IADL according to Nutritional Status (n=136)

ESTADO NUTRICIONAL	Con Alteración		Sin Alteración		TOTAL	
	n	%	n	%	n	%
Enflaquecido	15	11,0	9	6,6	**24**	**17,6**
Normal	13	9,6	33	24,3	**46**	**33,8**
Sobrepeso	13	9,6	27	19,9	**40**	**29,4**
Obesidad	12	8,8	14	10,3	**26**	**19,1**
TOTAL	**53**	**39,0**	**83**	**61,0**	**136**	**100,0**

χ^2de Pearson=7,474; (3gl); *p=0,028*

Discussion

By placing "functionality" as one of the main health indicators in PM, [14] this research focused on IADLs and related factors. The results showed that 35% of the total respondents had some difficulty in carrying out IADLs, and the activities that presented the greatest problems were: "drug use" (15%), "shopping" (12%) and "transportation" (11%), a situation that is similar to that reported by Ulrich [15] and Unsal, [16] where the activity with the greatest dependence was "shopping". The results found highlight the difficulty that PM have in "drug use", considering the high percentage of elderly people who consume a high number of drugs with or without medical indication, considered a criterion of fragility. [17] Likewise, Barros points out that 78% of PM in Chile say they take some medication daily, with a higher proportion among women, which negatively influences their health mainly due to the phenomenon of self-medication and lack of control. [18]

When evaluating the factors that are related to IADL, "schooling" was inversely associated with limitations in IADL. Closely linked to schooling, "illiteracy" was also inversely related to dependency for IADL. These results agree with a longitudinal study carried out over three years in China, [19] which, like

Ávila, [20] showed a strong association between sociodemographic aspects and dependency in ADL and IADL, adjusting for age and sex. Likewise, in the "National Study of Dependency in the PM" carried out in Chile in 2009, it was shown that regardless of the degree of severity of dependency, the prevalence is always higher the lower the schooling. [21] A 2009 study in seven cities in Latin America and the Caribbean attempted to explain differences between men and women from the perspective of exposure during the life cycle, showing that countries with a high level of income inequality, including Santiago de Chile, had the highest prevalence of functional limitations for women and men; however, from the perspective of schooling, there were no differences between the sexes. [22] The results of an eight-year cohort in the United States in 2009 stand out, suggesting that increasing the level of education and improving health behaviors from childhood may be more effective as a long-term strategy, considering disability from a life cycle perspective. [23] Thus, aspects related to inequities, such as educational level, strongly influenced by socioeconomic level, intervene in the appearance and development of functional alterations, as the need arises to provide nursing care considering these variables, within the framework of generating promotional and preventive programs from a life cycle perspective.

The presence of depressive symptoms was also associated with impairments in performing IADLs, results similar to those presented by Scuteri, who concluded that depression itself or in co-occurrence with hypertension is associated with greater functional disability in ADLs and IADLs. [24] Ávila's findings collect evidence from a longitudinal study between 2001 and 2003, demonstrating that

depressive symptoms favor the development of functional dependence in IADLs. [20] Kondo, in 2008, also indicated an association between severe depressive symptoms and a decrease in IADLs, [25] as did Tiikkainen in 2008. [26] Therefore, in primary health care, the systematic recognition of PM with depression becomes relevant, a condition that is often confused with alterations of organic origin. This detection must be carried out in every instance of approach by health personnel to this age group, since the underdiagnosis of depression is due in part to the fact that PM tend not to consult spontaneously for depressive symptoms, or these are wrongly attributed to changes inherent to aging. [12]

Participation in community groups was another variable associated with not presenting alterations in IADL. However, recent studies linked to IADL functionality did not demonstrate an association with social aspects, and in many cases this area was not considered within the variables studied, making it possible to think that this area of the human being, due to its particular characteristics, needs to be analyzed rather from a qualitative perspective. Nevertheless, the literature does demonstrate the importance that social networks have for the elderly, therefore they are considered fundamental, both for an adequate quality of life [16] and for successful aging. Thus, Zabala concludes that if the elderly maintain their self-reliance and an adequate social role, they will also present satisfactory physical and mental health. [27] Nebot, for his part, demonstrated the association of social support variables with mortality in the PM. [28] Care management, therefore, must aim to generate participation opportunities for PM, articulating multidisciplinary initiatives with different sectors, aimed at strengthening

community organizations, with spaces for this age group that allow them to play a leading role in decision-making.

It is important to highlight the relationship between depressive symptoms and low social participation, [25] observing how the different variables that showed significance in the present study can be related to each other, generating risk factors that reinforce each other, ultimately resulting in the dependence of the individual.

Nutritional status according to BMI was another variable that was associated with IADL, where people with normal nutritional status and malnutrition due to excess do not present alterations in IADL, while those PM with malnutrition due to deficit are mainly associated with altered IADL. Ulger highlights in his study that malnutrition due to deficit can negatively affect the well-being of PM, mainly due to a functional decrease, determining in his results an association between alteration of IADL with risk of malnutrition. [29] Likewise, Hsiang's results demonstrated that a low nutritional score was a predictor of functional deterioration. [30] Thus, in the Comprehensive Geriatric Assessment, the detection of malnutrition has to be considered by all those involved in the care of PM, being necessary to also include mental health and living situation for the prevention of malnutrition and its complications. [29]

Consequently, all the evidence indicates that AIAVD depends on biopsychosocial factors of PM (nutritional status, level of education, literacy and participation in community groups, possible depression), thus reinforcing the idea of approaching these people in a multidisciplinary manner with a holistic and integrative approach.

References

1. Economic Commission for Latin America. Population, ageing and development. Thirtieth session of ECLAC 2004. Available at http://ccp.ucr.ac.cr/bvp/pdf/vejez/dge-2235-ses30-16.pdf [Accessed 11.1.2011 .

2. Forttes Valdivia, Paula; Massad Torres, Cristian. Older people in Chile: situation, progress and challenges. Chile: National Service for Older Adults, 2009 (1st ed .).

3. Millán Calenti, José; Tubío, Javier; Pita Fernández, Salvador; González Abraldes Isabel; Lorenzo, Trinidad; Fernández Arruty, Teresa; et al. Prevalence of functional disability in activities of daily living (ADL), instrumental activities of daily living (IADL) and associated factors, as predictors of morbidity and mortality. Gerontology and Geriatrics 2010; 50: 306-310.

4. Firpo Del Duca, Giovani; Cozzensa da Silva, Marcelo; Curi Hallal, Pedro. Functional incapacity for basic and instrumental activities of daily life in children. Public Health 2009; 43(5): 796-805.

5. Gómez Montes, José; Curcio Borrero, Carmen. Functional capacity in the elderly. Comprehensive assessment of the health of the elderly. Manizales, Colombia, 2002; Pp.: 138-148.

6. Dorantes Mendoza, Guadalupe; Ávila Funes, José; Mejía Arango, Silvia; Gutiérrez Robledo, Luis. Factors associated with functional dependence in older

adults: a secondary analysis of the national study on health and aging in Mexico, 2001. Rev Panam Salud Pública 2007; 22(1): 1-11.

7. Suchy, Yana; Williams, Paula; Kraybill, Matthew; Franchow, Emilie; Butner, Jonathan. Instrumental Activities of Daily Living Among Community-Dwelling Older Adults: Personality Associations With Self-Report, Performance, and Awareness of Functional Difficulties. The Journals of Gerontology 2010; 65B:542-550.

8. Suárez García, Francisco; Perez Martin, Alejandro; Garcia Garcia, Francisco. Risk factors for mortality at 4 years in older people. Toledo Study. Spanish Journal of Geriatrics and Gerontology 2008; 43: 76-84.

9. Mauk K; Introduction to Gerontological Nursing. Geriatric Nursing: Care Skills. Madrid: Mc Graw-Hill-Interamericana, 2008 (1st ed); 5-22.

10. National Service for the Elderly (2006). National Policy for the Elderly. Government of Chile. Available at www.senama.cl [Accessed on 20.01.2011 .

11. Lara Jaque, Roxana. Sociodemographic and health factors associated with the degree of functionality of elderly people attending the CESFAM Los Volcanes in the municipality of Chillán. Thesis for the degree of Master in Public Health, Universidad del Bío Bío. Chile, 2008.

12. Hoyl, Trinidad; Valenzuela, Eduardo; Marín, Pedro. Depression in the elderly: preliminary evaluation of the effectiveness, as a screening instrument, of the 5-item version of the Geriatric Depression Scale. Rev Médica de Chile 2000; 128: 1199-1204.

13. Sanhueza Parra, Marcela; Castro Salas, Manuel; Merino Escobar, José. Functional Older Adults: a new concept in Health. Science and Nursing 2005; 11: 17-21.

14. Ulrich Wilms, Hans; Riedel Heller, Steffi; Angermeyer, Matthias. Limitations in activities of daily living and instrumental activities of daily living capacity in a representative sample: disentangling dementia- and mobility-related effects. Comprehensive Psychiatry 2007; 48: 95-101.

15. Aleattin Ünsal, Didem; Metintas, Selma; Koc, Filiz; Arslantas, Ali. Life quality and daily life activities of elderly people in rural areas, Eskisehir (Turkey). Gerontology and Geriatrics 2009; 48: 127-131.

16. Martinez Querol, Cesar; Perez Martinez, Victor; Carballo Perez, Mariola; Larrondo Viera, Juan. Polypharmacy in the elderly. Cuban Journal of General Comprehensive Medicine 2005. Available at http://scielo.sld.cu/scielo.php?pid=S0864-21252005000100012&script=sci_arttext [Accessed on 26. 01.2011 .

17. Herrera, Maria; Barros, Carmen; Fernandez, Beatriz. Results of the first national survey on quality of life in old age, Chile 2007. Pontifical Catholic University of Chile. Available at: http://www.uc.cl/sociologia/download/encuesta_04_junio.pdf [Accessed on 31.01.2011 .

18. Beydoun, May; Popkinhe, Barry. Impact of socio-economic factors on functional status decline among community-dwelling older adults in China. Social Science & Medicine. 2005; 60: 2045-2057.

19. Ávila Funes, José; Melano Carranza Efrén; Payette, Hélène; Amieva, Hélène. Depressive symptoms as a risk factor for dependency in older adults. Public Health Mexico 2007; 49: 367-375.

20. González, Francisco; Lavanderos, Felipe; Albala, Cecilia; Sánchez Hugo; Fuentes, Alejandra; Lera, Lydia et al. National Study of Dependency in Older People. National Service for Older Adults. Institute of Nutrition and Food Technology. Chile. 2009. Available at http://www.senama.cl/archivos/estudiodependencia.pdf [Accessed on 15. 01.2011 .

21. Zunzunegui, María; Alvarado, Eugenia; Béland, François; Vissandjee, Bilkis. Explaining health differences between men and women in later life: A cross-city comparison in Latin America and the Caribbean. Social Science & Medicine 2009; 68: 235-242.