



(IN)DEPENDENCE OF ELDERLY PEOPLE AT THEIR HOME IN PERFORMING BASIC ACTIVITIES OF DAILY LIVING*

(IN)DEPENDÊNCIA NA REALIZAÇÃO DE ATIVIDADES BÁSICAS DE VIDA DIÁRIA EM PESSOAS IDOSAS DOMICILIADAS

(IN) DEPENDENCIA EN LA REALIZACIÓN DE ACTIVIDADES BÁSICAS DE VIDA DIARIA EN ANCIANO DOMICILIADOS

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We aimed to outline the (in)dependence in performing basic activities of daily living of elderly people at home; apply educational geronto-technology to minimize specific functional loss; identify functional changes of these people, after using educational geronto-technology. This is a descriptive quantitative research, carried out in Rio Grande-RS, Brazil, with 109 elderly in three stages, from February 2011 to April 2012, using structured interview and the Katz Index. Data were grouped for statistical/descriptive treatment. First stage: female (69.7%), aged 60-69 years (43.0%), married (42.2%). Second stage: applying educational geronto-technology. Third stage: profile similarity of elderly people regarding the first stage. In performing basic activities of daily living, 21% of the elderly presented some dependence in the two data collections, highlighting the (urinary) continence function. Nurses need to understand the functional assessment of the elderly as a guiding tool for the planning and implementation of care.

Descriptors: Aged; Geriatric Assessment; Nursing.

Objetivou-se delinear a (in)dependência na realização de atividades básicas de vida diária de pessoas idosas domiciliadas; aplicar gerontotecnologias educativas direcionadas à minimização de perdas funcionais específicas; identificar alterações da funcionalidade dessas pessoas, após utilização das gerontotecnologias educativas. Pesquisa descritiva/quantitativa, em Rio Grande/Rio Grande do Sul, Brasil, com 109 idosos, em três etapas, de fevereiro de 2011 a abril de 2012, utilizando-se entrevista estruturada/Índice de Katz. Os dados foram agrupados para tratamento estatístico/descriptivo. Primeira etapa: sexo feminino (69,7%), idade entre 60-69 anos (43,1%), casados (42,2%). Segunda etapa: aplicação de gerontotecnologias. Terceira etapa: semelhança no perfil das pessoas idosas em relação a primeira etapa. Na realização das atividades básicas de vida diária, 21% dos idosos apresentaram alguma dependência nas duas coletas, com destaque para a função continência (urinária). Os enfermeiros precisam perceber a avaliação funcional da pessoa idosa como ferramenta direcionadora ao planejamento/implementação dos cuidados.

Descritores: Idoso; Avaliação Geriátrica; Enfermagem.

El objetivo fue esbozar la (in) dependencia en la realización de actividades básicas de vida diaria de ancianos; aplicar gerontotecnologias educacionales dirigida a la minimización de la pérdida funcional específico; identificar cambios en la funcionalidad de estas personas, después del uso de gerontotecnologias educativas. Estudio descriptivo/cuantitativo, llevado a cabo en el Rio Grande do Sul, Brasil, con 109 ancianos, en tres pasos, febrero 2011 a abril de 2012, utilizando entrevista estructurada/Índice de Katz. Los datos se agruparon para tratamiento estadístico/descriptivo. Primer etapa: femenino (69,7%), con edades entre 60-69 años (43,0%), casados (42,2%). Segundo: aplicar gerontotecnologias. Tercer: similitud en el perfil de los ancianos en relación con la primera etapa. En las actividades básicas de vida diaria, 21% mostraron cierta dependencia en las dos colecciones, destacando el papel de la continencia (urinaria). Las enfermeras han de realizar la valoración funcional de los ancianos como guía para la planificación/implementación de la atención.

Descriptorios: Anciano; Evaluación Geriátrica; Enfermería.

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INTRODUCTION

In the context of nursing care for the elderly living at home and registered in Family Health Strategy (FHS) units, nursing assessments/consultations and home visits are conducted, which need to include issues related to functional changes. Nurses must use appropriate instruments to take care of these people, in order to assess more properly the changes that may arise from the aging process.

Population studies show that about 40% of people aged 65 years and older require some help to perform intermediate tasks such as shopping, taking care of finances, preparing meals or cleaning the house. About 10% require assistance to perform basic tasks such as bathing, dressing, toileting, feeding, and even sitting and rising from chairs and beds⁽¹⁾. As age advances, increase the possibilities of functional limitations.

Functionality is verified when it comes to health care for the elderly, bearing in mind the health maintenance and disease prevention, in order to guarantee the autonomy and independence. As humans get older, many daily activities of easy performance can become more difficult, until the individual understands that now depends on another person to perform such tasks. A harder perception for those elderly who live alone and in their homes⁽²⁾.

There are some instruments to assess the functionality of elderly people, with special reference to the Katz Index, which is one of the most used instruments, presenting practical application, besides assuring reliability and validation⁽³⁾.

In functional assessment, the parameters are the Activities of Daily Living (ADLs), which are the Basic Activities of Daily Living (BADLs): feeding, bowel and bladder management, functional mobility, toilet hygiene, dressing, and bathing and showering. And the

Instrumental Activities of Daily Living (IADLs): use of telephone, shopping, meal preparation, housework, doing laundry, transportation use, taking medications as prescribed, financial management, and taking a walk. The Advanced Activities of Daily Living (AADLs): driving a car, extreme sports, practicing yoga, cycling, running, painting, singing, dancing, playing a musical instrument, travelling, participating in political activities, among others. These activities have a hierarchical relationship to the limitations arising during the aging process, first losing the advanced activities, then the instrumental and finally the basic⁽²⁾. In this research we will emphasize the BADLs.

The functional capacity evaluation of elderly people enables nurses, and other members of the multidisciplinary team, to have a more accurate view of the severity of disease and the impact of comorbidities. The independence in performing ADLs is of utmost importance in the life of elderly people, because it involves emotional, physical and social issues.

In order to promote active aging and maintain the elderly independence as long as possible, it is necessary to identify the functionality of the elderly. Something that can be achieved by applying the Katz Index, whose results will guide the development of actions that may contribute to the health promotion through the application of educational geronto-technology – a combination of products, instruments and actions that can be increasingly developed and specialized to assist professionals motivated to provide better health care for the elderly⁽⁴⁾.

Nursing and health care are indispensable to improve the health status of people, whether when the intervention is directed to the maintenance or achievement of a healthy lifestyle, or when in situations

of illness is addressed to the achievement of wellbeing or the promotion of independence.

This study aimed to collect data on the functionality of elderly people living at home and registered in a FHS unit, so that nurses are able to design, plan and act more properly to meet the needs presented by the elderly. Actions of health education were carried out between data collections, with the purpose of health promotion.

Nursing is an important discipline in providing exceptional care, with repercussions on the level of gains that people and the health care system can get with its contribution. Nurses must demonstrate more and more their contribution to the achievement of the patient care and human care, as a basis for their practical assessment⁽⁵⁾. The implementation of functional assessment of elderly people, especially those at home and under the responsibility of a FHS team, may direct this intention, hence the development of this study.

This is relevant because, with the increasing elderly population and the demands of these people in the health services, particularly in the FHS units, it is essential that health workers, especially nurses, seek to act in the prevention of disabilities among elderly people. For this, they must have the ability to assess functional impairment, weaving efforts focused on strategies to maximize the ability of elderly people to remain independent and autonomous.

The questions of this research were: How is the functionality of elderly people presented in a certain area covered by the FHS? What educational geronto-technology can be used to minimize possible impairments in ADLs? Were there any changes in functionality of the elderly investigated after using educational geronto-technology?

This study aimed to delineate the (in)dependence in performing basic activities of daily living in elderly at home; implement educational geronto-technology aimed at minimizing specific functional loss; identify changes in functionality of these people, after using educational geronto-technology.

METHOD

This is a descriptive quantitative research carried out in a FHS basic unit in Rio Grande, Rio Grande do Sul, Brazil. In this basic unit, which was next to an urban area and more distant from a rural zone, the total population of elderly people registered was of 521 individuals. We used nonprobability sampling, for convenience, because due to the difficulties of access to the rural area, we selected for the study only the elderly living in the urban zone, which corresponded to 109 elderly people living in their homes, or 22% of the total.

The inclusion criteria for the elderly people were: being registered in the FHS basic unit, live at their homes, and present cognitive conditions to respond to the data collection instrument in any of the collections.

This study was conducted in three stages. In the first, the data collection was carried out from February to May 2011, at the homes of 109 elderly, using interview to apply an instrument composed of variables of socio-demographic identification and the Katz Index of Independence in Activities of Daily Living, used to assess the independence of elderly people in the performance of six basic functions: bathing, dressing, toilet hygiene, functional mobility, continence, and feeding⁽⁶⁾.

The second stage happened from June to November 2011, when we returned to the home of the elderly, having in hands the instruments of the first collection. At that time, we used enlightening guidance

on disability of the elderly as educational technology. A folder was distributed and discussed (considered geronto-technology¹), elaborated on an A4 sheet, front and back, with pictures and explanations consistent with the subjects' level of education, bringing the definition, causes and treatment/prevention of urinary incontinence, followed by the description of the Kegel Exercise, thus representing a nursing intervention in a very simple language to teach the elderly in a way they understand. We counted on the collaboration of the FHS nurse in designing this folder. We gave emphasis to urinary incontinence due to the results obtained in the first data collection.

In the third stage, the second data collection took place, from December 2011 to April 2012, reapplying the same instrument to the same elderly people at their homes, in order to verify if there were any functional changes among them after the nursing intervention. At this stage, there were 24 losses, for 10 elderly died, 13 moved away and one refused to participate. 109 individuals were included in the first collection, and there were 85 individuals in the second.

Data collection and nursing interventions were performed by trained members from the Studies Research Group on Geriatrics and Gerontology (GEP-GERON), which went to the site of research in pairs, guided by the address indications provided by community health agents of the selected area.

Data were grouped and organized for descriptive statistical treatment, using the Excel program, where statistical calculations were performed. The research project was submitted to the Health Research Ethics Committee (CEPAS), Universidade Federal do Rio Grande (FURG), and approved under protocol No. 141/2010.

RESULTS

In the first collection we verified the prevalence of females (69.7%), aged from 60 to 69 years (43.1%), married (42.2%), and with 1-4 years of incomplete education (68.8%). In the second collection, there was similarity in the profile of the elderly, considering the 24 losses.

¹ Geronto-technology is an instrument that serves as educational technology to contribute to the health care for the elderly, taking into consideration their aging process and health/disease process, facilitating their care, their co-responsibility and their co-participation ⁽⁴⁾.

Table 1 - Characteristics of the elderly investigated. Rio Grande-RS, Brazil, 2010.

Characteristics	First data collection		Second data collection	
	n=109	%	n=85	%
Gender				
Female	76	69.7	59	69.4
Male	33	30.3	26	30.6
Age (years)				
60-69	47	43.1	39	45.9
70-79	38	34.9	27	31.8
80 and older	24	22.0	19	22.3
Marital status				
Married	46	42.2	37	43.5
Widowed	44	40.4	34	40.0
Divorced	5	4.6	3	3.5
Single	14	12.8	11	13.0
Level of education				
1-4 complete years	31	28.4	22	25.9
1-4 incomplete years	75	68.8	63	74.1
1-8 complete years	3	2.8	0	0.0

We found that 21.1% of the elderly surveyed in the first collection, and 21.2% in the second, presented

some dependence in performing basic activities of daily living.

Table 2 - (In)dependence for basic activities of daily living among elderly people. Rio Grande-RS, Brazil, 2010.

	First data collection n=109 (%)	Second data collection n=85 (%)
Independent	78.9	78.8
Dependent	21.1	21.2

Among the BADLs, there was a greater dependence in the (urinary) continence function, corresponding to 19.8% in the first collection and 19.4%

in the second. For all the other BADLs (bathing, dressing, toilet hygiene, functional mobility, and feeding) more than 90% of the subjects were independent.

Table 3 - (In)dependence for different basic activities of daily living among elderly people. Rio Grande-RS, Brazil, 2010.

BADLs	First data collection n=109		Second data collection n=85	
	Independent (%)	Dependent (%)	Independent (%)	Dependent (%)
Bathing	93.0	7.0	95.4	4.6
Dressing	94.1	5.9	98.2	1.8
Toilet hygiene	97.6	2.4	96.3	3.7
Functional mobility	97.6	2.4	97.2	2.8
Feeding	96.5	3.5	96.3	3.7
Continence	81.2	19.8	81.6	19.4

The dependence regarding the continence activity was related to urinary incontinence and was prevalent among women, corresponding to 19.8% in the first collection and 19.4% in the second, and to 0% among men in both samples.

DISCUSSION

As found in other studies, there was a predominance of females among the elderly population⁽⁷⁾. It is estimated that women live approximately seven years longer than men⁽⁸⁾. This feminization of aging becomes a challenge for the Health System, requiring more strategies for the health of elderly woman.

Among the elderly investigated, prevailed those with between 1 and 4 years of education, which may be due to the fact that, in the past, there was a difficult access to education. The lower the educational level, the greater the possibility of functional disability in the elderly⁽⁹⁾. For the activities of health education, it is necessary to take into account the educational level, as it can influence the way of understanding, interpreting and applying written or spoken information on health.

There was a predominance of elderly people characterized as young elderly, comprising the age group from 60 to 69 years, similar to that found in a study conducted in a rural community of Rio Grande do

In the nursing intervention conducted at the homes of the elderly, between the two data collections, there was receptivity of people and their families, with a dynamic health education process.

Sul⁽¹⁰⁾. Among the elderly at home and in the age group at the initial aging process, it becomes relevant that health professionals/nurses offer more attention to promote actions that help to maintain the functionality of these people, since the tendency is that they become older and often more dependent⁽¹¹⁾.

Taking into consideration the specificities of the aging process, it is also necessary that nurses have a broad overview of Gerontology and Geriatrics, so they can develop actions to encourage the maintenance of the functional capacity of the young elderly⁽¹²⁾.

The percentage of elderly people who had some dependence level (21.1% in the first collection and 21.2% in the second) was similar to that found in a study of elderly people residents in the urban area of Pelotas-RS, Brazil, where 26.8% presented some dependence level to perform BADLs⁽¹³⁾, and lower than the one conducted in Sobral, Ceará, Brazil, related to the functional capacity of 200 elderly inserted in the Primary Care of the municipality urban area, which found that 61% had some sort of dependence to perform BADLs⁽¹⁵⁾.

This study also found that older people had a higher prevalence of disabilities⁽¹⁴⁾.

As found in other studies, among the BADLs, the dependence regarding the continence activity was the most prevalent and was related to urinary incontinence^(13,15-16). With the aging process, the genitourinary system undergoes changes. In the bladder, for instance, the aging process causes disharmony between the smooth and skeletal muscles, which can cause urinary incontinence⁽¹⁷⁾.

A research conducted with 36 elderly people treated at primary health units of Campina Grande, Paraíba, Brazil, presented 34% of functional disability, with predominance of urinary incontinence in 12% of the investigated. This study emphasizes the needs of professionals in the assistances in the fields of Gerontology and Geriatrics, in services aimed at health promotion and disease prevention⁽¹⁵⁾.

In this current investigation, the total and partial urinary incontinence was more prevalent in elderly women than in men. The pelvic floor weakness due to age and multiparity are the main factors that favor such a situation. This condition can affect the social life and the hygiene demands of the elderly⁽¹⁶⁾.

A bibliographic research on incontinence among elderly women highlighted that urinary incontinence is a multi-determined phenomenon, prevalent, which causes physical, psychological and social problems, causing significant injury to the quality of life, as well as a negative perception of health status. The results of this study sparked reflections on nursing care, which can facilitate the problem identification and implementation of actions to minimize it in different scenarios of health care practices. Among the interventions, it was highlighted the health education involving elderly

women for the prevention and adoption of simple countermeasures to treat urinary incontinence⁽¹⁸⁾.

The inclusion of an educational geronto-technology as part of health education was perceived as an instrument to promote the learning of skills, educating the elderly on issues related to self-care dependency. In this case, the self-care was directed mainly to urinary incontinence.

Nurses need to be creative in the use of resources for carrying out the health education process⁽⁴⁾. Educational geronto-technology arises as a pedagogical resource to enable the dialogical integration among nurses, elderly and family, allowing the construction of knowledge to prevent and minimize disabilities easily available with low cost, able to empower elderly people and families for care.

The use of technologies that contribute to health education opens up new possibilities in the teaching and learning process through interactions mediated by the speaker (nurse), the reader (elderly and relatives) and the object of discourse (written educational material)⁽¹⁹⁾. When the elderly becomes dependent for self-care, their families should also receive guidance as a way to ensure the quality of their care at home⁽⁴⁾.

CONCLUSION

The research objectives were achieved. The methodology used was shown appropriate. As a positive point of the study, we highlight the involvement of some members of the studies research group to identify the profile of the elderly in a FHS unit, characterizing the functionality of the group studied, contributing to the planning and implementation of actions by health and nursing professionals from that service.

Even that educational interventions have been developed, addressed mainly to urinary incontinence, when returning to the homes of elderly for delivery and discussion of a specific educational geronto-technology (folder) focused on nursing care directed to this type of dependency, and also focusing on Kegel Exercise, there was no significant difference between the percentage of elderly dependency after the second data collection. This situation represents a limitation for the research. Losses due to deaths of elderly and changes of address were considered a difficulty in the research development.

We highlight the research contributions to Nursing. In teaching, by sensitizing future nurses about the importance of knowing the demographic and epidemiological profile to develop specific actions targeted to the elderly. In care, by encouraging nurses, especially those working in primary health units, to make people aware of the importance of functional assessment of the elderly, as an instrument capable of properly direct the planning and implementation of specific actions, and thus be able to contribute reducing future costs in health with these elderly people. And in research, by awakening to the development of research focused on evaluating the functionality of elderly people, as the first step to establish nursing care appropriate to their needs.

REFERENCES

1. Duarte YAO, Andrade CL, Lebrão ML. O Índice de Katz na avaliação da funcionalidade dos idosos. *Rev Esc Enferm USP*. 2007; 41(2):317-25.

2. Calenti JCM, Tubío J, Fernández SP, Abraldes IG, Trinidad L, Arruty, TF 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. *Arch of Gerontol Geriatr*. 2010; 50(3):306-10.

3. Lino VTS, Pereira SEM, Camacho LAB, Ribeiro Filho ST, Buksman S. Adaptação transcultural da Escala de Independência em Atividades da Vida Diária (Escala de Katz). *Cad Saúde Pública*. 2008; 24(1):103-12.

4. Barros EJJ, Santos SSC, Gomes GC, Erdmann AL. Gerontotecnologia educativa voltada ao idoso estomizado à luz da complexidade. *Rev Gaúcha Enferm*. 2012; 33(2):95-101.

5. Doran DM. *Nursing Outcomes. The state of the science*. 2 ed. Jones & Bartlett Publishers; 2010.

6. Smanioto FN, Haddad MCFL. Índice de katz aplicado a idosos institucionalizados. *Rev Rene*. 2011; 12(1):18-23.

7. Tiikkainen P, Leskinen E, Heikkinen RL. Predictors of perceived togetherness in very men and women: a 5-follow-up study. *Arch Gerontol Geriatr*. 2008; 46(3):387-99.

8. Instituto Brasileiro de Geografia e Estatística. *Projeção da população do Brasil por sexo e idade para o período 1980-2050: revisão 2008* [Internet]. Rio de Janeiro (RJ): IBGE - Depis. [citado 2012 mar 16]. Disponível em: <http://www.ibge.gov.br/home>.

9. Almeida MHM, Litvoc J, Perez MP. Dificuldades para atividades básicas e instrumentais de vida diária, referidas por usuários de um Centro de Saúde Escola do Município de São Paulo. *Rev Bras Geriatr Gerontol*. 2012; 15(2):187-200.

10. Rigo II, Paskulin LMG, Moraes EP. Capacidade funcional de idosos de uma comunidade rural do Rio Grande do Sul. *Rev Gaúcha Enferm*. 2010; 31(2):254-61.

11. Goodman C, Davies S, Dinan S, Tai SS, Iliffe S. Activity promotion for community-dwelling older people: a survey of the contribution of primary care nurses. *Br J Community Nurs*. 2011; 16(1):12-7.

12. Oliveira JCA, Tavares DMS. Atenção ao idoso na estratégia de saúde da família: atuação do enfermeiro. *Rev Esc Enferm USP*. 2010; 44(3):774-81.
13. Del Luca GF, Silva MC, Hallal PC. Incapacidade funcional para atividades básicas e instrumentais da vida diária em idosos. *Rev Saúde Pública*. 2009; 43(5):796-805.
14. Linhares JC, Oliveira EN, Eloia SC, Freitas CASL, Shinkai H, Lira TQ. Condições sociais e de saúde de idosos acompanhados pela atenção primária de Sobral, Ceará. *Rev Rene*. 2011; 12(n. esp.):922-9.
15. França ISX, Medeiros FAL, Sousa FS, Baptista RS, Coura AS, Souto RQ. Condições referidas de saúde e grau de incapacidade funcional em idosos. *Rev Rene*. 2011; 12(2):333-41.
16. Nunes DP, Nakatani AYK, Silveira EA, Bachion MM, Souza MR. Capacidade funcional, condições socioeconômicas e de saúde de idosos atendidos por equipes de Saúde da Família de Goiânia (GO, Brasil). *Ciênc Saúde Coletiva*. 2010; 15(6):2887-98.
17. Carvalho FJW. Envelhecimento do aparelho urinário. In: Freitas EV, Py L. *Tratado de Geriatria e Gerontologia*. 3ª ed. Rio de Janeiro: Guanabara Koogan; 2011. p. 719-23.
18. Loureiro LSN, Medeiros ACT, Fernandes MGM, Nóbrega MML. Incontinência urinária em mulheres idosas: determinantes, consequências e diagnósticos de enfermagem. *Rev Rene*. 2011; 12(2):417-23.
19. Freitas AAS; Cabral IE. O cuidado à pessoa traqueostomizada: análise de um folheto educativo. *Esc. Anna Nery*. 2008; 12(1): 84-9.

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