136 - FUNCTIONAL CAPACITY EVALUATION IN ELDERLY: INTEGRATIVE REVIEW

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Aging has gained great importance in public health issues. This demographic phenomenon, which occurs with the increase of life expectancy, results in a higher proportion of older people in society, and this fact has made people astonished and evoked debates about old age and the aging process in all areas, which explains such evidence in current society (TAVARES, 2005).

The changes in the socio-demographic and epidemiological profiles of the Brazilian population require adaptation and improvements in health services. The decrease in birth rates and quality of life improvements result in a significant increase of elderly population. According to the 2010 census, there are 20,590,599 people who are 60 years in Brazil, which is equivalent to 10.8% of the population (IBGE, 2010).

Due to the increase of life expectancy, there was an increase of the risk factors associated with chronic diseases, which usually are not fatal, but tend to significantly undermine seniors' quality of life. Such diseases may be responsible for functional disability, that is, the process whereby a given condition affects the functionality of the older, and consequently, the performance of daily activities (FIEDLER; PERES, 2008).

The research of functional capacity is one of the major markers of elderly health and has been emerging as a key component for assessing the health of this population. Functional capacity - the ability to maintain the physical and mental skills for independent and autonomous living - is, according to the public health point of view, the most suitable to implement and operationalize the attention to elderly health care (LIMA-COSTA; LOYOLA FILHO; MATOS, 2007).

Given the importance of this topic, the following question was set as the guiding point for this study: what is the Brazilian nursing scientific production related to functional capacity evaluation in elderly? Therefore, it was set as goals to investigate nursing articles about functional capacity in elderly published between 2001 and 2011 and, from this collection, to identify their gaps and contributions to the extension of nursing knowledge, as well as to the improvement of care strategies for this age group.

METHODOLOGY

This paper consists of an integrative review. In order to operationalize this research, the following methodological steps were performed: defining inclusion and exclusion criteria; defining the information to be extracted from selected studies; categorizing studies, analyzing and interpreting data; results evaluation, included in the integrative review and presentation of knowledge review/synthesis (WITTEMORE; KNALF, 2005).

The search for articles published in indexed national journals was performed in the following databases: Database of Nursing (BDENF), Latin American and Caribbean Literature on Health Sciences (LILACS), Medical Literature Analysis and Retrieval System Online /Health Virtual Library (MEDLINE / VHL) and Scientific Electronic Library Online (SciELO).

Data collection took place from September to November 2012. The inclusion criteria for this study consisted of articles published in Portuguese, which had a full version available electronically, published from January 2001 to September 2011. The keywords used were functional ability, health of the elderly and nursing.

The instrument for data collection was prepared with the following items: journal name, year of publication, institutional affiliation, source of the article, the article title, objectives, study type, demographic and epidemiological characteristics of the studied population and research tools. A thorough and extensive reading was done in the eleven articles that formed the sample, followed by individual synthesis.

The results were presented in tables showing the eleven productions investigated and, later, they were analyzed and discussed.

RESULTS

From the reading of selected texts, it is presented, in Table 1, the results regarding the journal name, year, institutional affiliation and origin of the article.

Journal Name	Year	Institutional Affiliation	Type of study
Rev. Saúde Pública	2002	Universidade Federal de São Paulo	Original
Rev Panam Salud Publica	2005	Universidade de São Paulo	Original
Arq Ciênc Saúde	2008	Escola de Enfermagem de Ribeirão Preto	Original
Rev. Eletr. Enf. [Internet]	2009	Universidade Federal de Goiás	Original
Rev Gaúcha Enferm	2009	Universidade Federal do Rio Grande do Sul	Original
Acta Paulista de Enfermagem	2009	Universidade Estadual de Campinas	Original
Revista Baiana de saúde pública	2009	Universidade Estadual do Sudoeste da Bahia	Original
Revista Baiana de saúde pública	2010	Universidade Federal do Rio Grande do Norte	Original
Cogitare Enferm	2010	Universidade de São Paulo	Original
Rev Latino-Am. Enfermagem	2010	Universidade Federal do Rio Grande do Sul	Original
Revista Brasileira de ciências da saúde	2011	Universidade Federal da Paraíba	Original

Table 1 – Articles separated according to the journal, publishing year, institutional link and type of study. Teresina-PI, 2012.

Five out of the eleven selected articles were published in nursing scientific journals. Regarding the year of publication, it was seen an increase in publishing from 2008, and nine articles were published during this period.

It was observed that all of them came from public schools; five articles from the Southeast (Sao Paulo), three from the Northeast (Rio Grande do Norte and Bahia), two from the South (Rio Grande do Sul), and one from the Midwest (Goias). The articles were the result of scientific researches, being one a master dissertation and the others were produced by research groups.

As for the objectives, found as answers in the researches, it was found that the intention of the researchers was to assess the functional capacity of the elderly (4) and relate this functional capacity with sociodemographic and socioeconomic characteristics (4), health conditions (1), family and behavioral aspects (2).

Regarding the instruments used for data collection, the questionnaire was the most used one for data related to socioeconomic and demographic characteristics. The variables used were: sociodemographic and economic evaluation, consisting of gender, age, education, marital status and monthly income; information on nutrition, anthropometric measurement, clinical profile, functional capacity evaluation, cognitive assessment and information on falls, which enabled a range of knowledge about living and health conditions of the elderly.

Regarding the scales applied in the studies, it was observed that two studies used the Older Americans Resources and Services (OARS) instrument, developed in the United States and translated and adapted to Brazil, validated for the Brazilian culture as Brazilian Version of OMFAQ (BOMFAQ). The Katz scale was used in other two studies, which determines the independence degree for their daily activities (AIRES; PASKULIN; MORAIS, 2010; PERRACINI; RAMOS, 2002; FERNANDES et al., 2011; SANTOS et al.,2007).

Two articles used the Barthel index, which comprises ten items of mobility in daily activities. One article applied the Apgar family, together with the Barthel Index; in another study it was observed the concomitant use of both Barthel Index and Lawton scale. (TORRES et al., 2009; MINOSSO et al., 2010; TORRES et al., 2010; NAKATANI et al., 2009).

The association between the Lawton scale and Katz index was also mentioned in an article. Two other instruments were also used: the SABE questionnaire and the Functional Independence Measurement tool (FIM), which verifies the performance of the individual to perform a set of 18 tasks related to motor and cognitive social domains (AIRES; PAZ; PEROSA, 2009; DUARTE; LEBRAO; LIMA, 2005; CRUZ; DIOGO, 2009; KAWASAKI; CRUZ, 2004).

DISCUSSION

People started to do some investigations focused on the theme health of the elderly in Brazil from the second half of the twentieth century, with a considerable increase in the 90s. This increase is due to, especially, an aging population - a phenomenon considered to be universal and evidenced in the Brazilian reality.

Functional evaluation, advocated by the Elderly National Health Policy (PNSPI) - (Law No. 2.528/2006), can be understood as a systematic attempt to assess, objectively, the "levels" in which a person is working in a variety of areas using different skills. This is considered a professional challenge to be faced due to the heterogeneity of the aging process and the influences of various factors that may affect the families of the elderly (BRASIL, 2006; PERRACINI; RAMOS, 2002).

Scholars, engaged to answer "how" and "what proportion", opt for quantitative researches, because these questions work with statistics, intending to unravel the extent and magnitude of the issues. When correlating these with studies on functional capacity, recent theme, it is implied that researchers aim to survey the situational diagnosis of the functional capacity of the elderly, in order to subsidize an appropriate care plan.

The use of standard instruments for functional capacity evaluation has the advantage of providing studies less susceptible to bias, making them more accurate and reproducible, even when performed by teams with different training levels. Seven evaluation instruments were used in the reports analyzed, but the most used ones were the Barthel Index and the Katz index. The Barthel Index measures the degree of care required by an individual in personal care, mobility, locomotion and eliminations, and the Katz index has been used in different ways as the dependence/independence assessment, preventing uniformity and comparisons between researches (TORRES et al., 2010; FIEDLER; PERES, 2008).

Regarding limiting indicators of functional capacity, it was observed that researches address the variables: age, gender, marital status, education level. Among them, the most frequent ones are female, between 65 and 80 years old, living alone or being widowed, illiteracy or low educational level; these indicators are very important to evaluate the correlation between them and the functional capacity of the elderly (PERRACINI; RAMOS, 2002; TORRES et al., 2009; AIRES; PAZ; PEROSA, 2009; KAWASAKI; CRUZ, 2004).

The articles analyzed corroborate with the Publications of the World Health Organization, as well as other studies that show the same scenario, growth of the elderly population, especially the female gender, with low income, little or no study, single or widowed, with limited articulation in social life. These factors affect globally the functional capacity of the elderly, which further leads to a decreased quality of life (PERRACINI; RAMOS, 2002; PELEGRIN, 2008).

Out of the eleven articles included in this review, the percentage of women ranged from 38.6% to 70%, in a cohort study it was not observed the exact percentage of females, and in another study male gender prevailed with 61.4%. The female population is dominant in quantity, has a longer life expectancy, which is a good indicator, however, it is rooted in the development of chronic diseases, osteoporosis, fractures and depression, so that they cause a decrease in functional capacity (SANTOS et al., 2007).

It was observed in the studies the existence of an age group, ranging from 60 to 106, with an average of some who are between 65 and 80. It is interesting to highlight that studies show that increasing age leads to higher chances of developing difficulties in carrying out daily activities, generating a loss of functional capacity. The older elderlies had a higher prevalence of disability. In general, functional limitations are more common in older individuals and studies have shown that, among the elderly, the risk of disability increases considerably over the years (TORRES et al., 2010).

The educational level of the elderly is also strongly related to the preservation of functional capacity. It is seen that the illiterate or poorly educated elderly have greater functional loss than those with high-school or higher level. The education contributes to a better understanding of medical diagnostics and healthcare, contributing to people's quality of life (NAKATANI et al., 2009; AIRES; PAZ; PEROSA, 2009; DUARTE; LEBRAO; LIMA, 2005).

It was also observed in the studies that there is a predominance of elderly with low income, which explains the difficulty of procuring drugs, the demand for health services, and it also increases the difficulty of proper nutrition, contributing to the loss or decrease of functional capacity. This finding constitutes a worrying reality, since the senior has become the main element that provides economic apparatus to the nuclear family in the Brazilian familiar scenario (TORRES et al., 2009; AIRES; PAZ; PEROSA, 2009).

Chronic diseases are also considered limiters of functional capacity of the elderly and were highlighted in the studies;

the most mentioned ones were diseases of the cardiovascular system, hypertension, depression, bone problems, sleep problems, and osteoarthritis. The association between the existence of poorly controlled chronic disease and functional incapacity has been addressed in several articles, which show that the more the complications of these comorbidities, the more dependent the elderly begins to be (LIMA-COSTA; LOYOLA FILHO; MATOS, 2007; PERRACINI; RAMOS, 2002; TORRES et al., 2009).

The use of drugs is also considered an important indicator regarding the loss of functional capacity. It is observed a negative association between functional performance and misuse of drugs such as anticholinergics and benzodiazepines. Most seniors report such difficulty, arising from the existence of chronic diseases that require the use of continuous drug (FIEDLER; PERES, 2008).

It is noticed that functional capacity evaluation can be performed in different nursing care environments, from the community until long-term care institutions. The institutionalized elderly care presents itself as a facilitator and necessary tool for the implementation of therapeutic and evaluative actions, provided that generalizations about autonomy bioethical values are disregarded (SILVA; FIGUEIREDO, 2012).

CONCLUSION

Brazilian scientific articles related to functional capacity in elderly, although it has been highlighted by part of the multidisciplinary health team, reveal that nursing knowledge still needs to focus more on this topic.

The articles showed that functional capacity evaluation in elderly, through scales and questionnaires, enables professionals to identify the limiting factors of functional capacity. Thus, nursing activities aiming at detecting and comprehending these factors become essential, since they can create an individualized care plan, in the promotion, prevention and health rehabilitation field.

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FUNCTIONAL CAPACITY EVALUATION IN ELDERLY: INTEGRATIVE REVIEW

ABSTRACT
This research consists of an integrative literature review, aimed at investigating the scientific production related to elderly functional capacity. The BDENF, LILACS, and SciELO databases were consulted during the sample period, which was from January 2001 to September 2011. Most of the eleven scientific productions analyzed were quantitative researches, focusing on elderly multidimensionality. The small number of articles reveals a gap in knowledge production of nursing in this subject, and also the need for new research capable of pointing out new elderly care strategies and, consequently, quality of life improvement for this population group.
KEY WORDS: Functional Capacity. Elderly Health. Nursing.

ÉVALUATION DE LA CAPACITÉ FONCTIONNELLE DES SÉNIORS : RÉVISION INTÉGRATIVE

RÉSUMÉ
Cette recherche considère une révision intégrative de la littérature avec l'objectif d'enquêter la production scientifique brésilienne qui se réfère à l'évaluation de la capacité fonctionnelle du sénior. Les bases de données consultées ont été : BDENF, LILACS et SCIELO, entre janvier 2011 et septembre 2011. Des 11 productions scientifiques dressées, ce sont les recherches quantitatives qui ont prédominées avec la focalisation de la multidimensionalité du sénior.Le nombre réduit d'articles dressés ont mis en évidence une lacune dans la production de la connaissance du secteur dans cette thématique et, encore la nécessité de nouvelles recherches capables de montrer des stratégies de soin pour le sénior et l'amélioration conséquente dans la qualité de vie de ce groupe populationnel.
MOTS CLÈS: Capacité fonctionnelle ; Santé du Sénior ; service d'infirmerie

EVALUACIÓN DE LA CAPACIDAD FUNCIONAL DEL ANCIANO: REVISIÓN INTEGRATIVA

RESUMEN
Se trata de revisión integrativa de la literatura, cuyo objetivo fue el de investigar la producción científica brasileña referente a la evaluación de la capacidad funcional del anciano. Se consultaron las bases de datos BDENF, LILACS, y SciELO durante el periodo de enero de 2001 a septiembre de 2011. Fueron seleccionados once artículos con predominancia del estudio cuantitativo con enfoque en la multidimensionalidad del paciente. El pequeño número de artículos encontró evidencia de una brecha en el conocimiento de enfermería este tema, y la necesidad de nuevas estrategias de investigación capaces de señalar con el cuidado de ancianos y la mejora en la calidad de vida de los ancianos.
PALABRAS CLAVE: Capacidad Funcional. Salud del anciano. Enfermagem.

AVALIAÇÃO DA CAPACIDADE FUNCIONAL DE IDOSOS: REVISÃO INTEGRATIVA

RESUMO
Esta pesquisa contempla uma revisão integrativa da literatura, com objetivo de investigar a produção científica brasileira, referente à avaliação da capacidade funcional do idoso. As bases de dados consultadas foram BDENF, LILACS, e SCIELO, no período amostral de janeiro de 2001 a setembro de 2011. Das onze produções científicas levantadas, predominaram pesquisas quantitativas, com enfoque na multidimensionalidade do idoso. O reduzido número de artigos, levantados, evidencia uma lacuna na produção de conhecimento de Enfermagem nessa temática e, ainda, a necessidade de novas pesquisas capazes de apontar estratégias de cuidado ao idoso e a consequente melhoria na qualidade de vida deste grupo populacional.
PALAVRAS-CHAVE: Capacidade Funcional. Saúde do idoso. Enfermagem.