



## Changes in function/cognition and depression in institutionalized elderly who have suffered falls\*

*Alterações na funcionalidade/cognição e depressão em idosos institucionalizados que sofreram quedas*

*Alteraciones en la funcionalidad/cognición y depresión en ancianos institucionalizados que sufrieron caídas*

Rafaela Vivian Valcarenghi<sup>1</sup>, Silvana Sidney Costa Santos<sup>2</sup>, Edison Luiz Devos Barlem<sup>3</sup>, Marlene Teda Pelzer<sup>2</sup>, Giovana Calcagno Gomes<sup>2</sup>, Celmira Lange<sup>4</sup>

### ABSTRACT

**Objective:** To analyze the influence of changes in function/cognition and the presence of depression in institutionalized elderly who have suffered falls, in order to prevent these accidents. **Methods:** Quantitative exploratory and descriptive research, conducted with 30 elderly individuals in Rio Grande do Sul (Brazil), using five data collection instruments. The analysis was conducted using SPSS 13.0. **Results:** We found that: the majority were women; had low levels of education; the risk of falls increased with age; older people with less time in an institution had fallen more. We identified the influence of medication use on falls. In relation to functional capacity, the elderly who had fallen, had independence for activities of daily living; of 20 elderly with scores suggestive of cognitive impairment, ten suffered falls. There was no significant influence between depression and falls in our investigation. **Conclusion:** Results show the importance of determining the influence of functional / cognitive changes and the presence of depression, and in episodes of falls in institutionalized elderly.

**Keywords:** Geriatric assessment, Accidental falls/prevention & control, Homes for the aged, Geriatric nursing

### RESUMO

**Objetivo:** Analisar a influência de alterações na funcionalidade/cognição e presença de depressão em idosos institucionalizados que tenham sofrido quedas, visando à prevenção desse acidente. **Métodos:** Pesquisa quantitativa, exploratória e descritiva, realizada com 30 idosos, no Rio Grande do Sul (Brasil), sendo usados cinco instrumentos de coleta de dados. A análise deu-se pelo Programa SPSS 13.0. **Resultados:** Verificou-se que: a maioria era mulher; baixa escolaridade; o risco de quedas aumentou com a idade; idosos com menor tempo de institucionalização caíram mais. Identificou-se a influência do uso de medicamentos e quedas. Em relação à capacidade funcional, os idosos que caíram, apresentaram independência para as atividades de vida diária; dos 20 idosos com escore sugestivo para *deficit* cognitivo, dez sofreram quedas. Não houve influência significativa entre depressão e quedas nos investigados. **Conclusão:** Verificou-se a importância de determinar-se a influência de alterações funcionais/cognitivas e a presença de depressão, em episódios de quedas nos idosos institucionalizados.

**Descritores:** Avaliação geriátrica, Acidentes por quedas/prevenção & controle, Instituição de longa permanência para idosos, Enfermagem geriátrica

### RESUMEN

**Objetivo:** Analizar la influencia de alteraciones en la funcionalidad/cognición y presencia de depresión en ancianos institucionalizados que hayan sufrido caídas, visando la prevención de ese accidente. **Métodos:** Investigación cuantitativa, exploratoria y descriptiva, realizada con 30 ancianos, en Rio Grande do Sul (Brasil), siendo usados cinco instrumentos de recolección de datos. El análisis se Dio por el Programa SPSS 13.0. **Resultados:** Se verificó que: la mayoría era mujer; de baja escolaridad; el riesgo de caídas aumentó con la edad; ancianos con menor tiempo de institucionalización se cayeron más. Se identificó la influencia del uso de medicamentos y caídas. En relacion a la capacidad funcional, los ancianos que se cayeron, presentaron independencia para las actividades de vida diaria; de los 20 ancianos con score sugestivo para *deficit* cognitivo, diez sufrieron caídas. No hubo influencia significativa entre depresión y caídas en los investigados. **Conclusión:** Se verificó la importancia de determinarse la influencia de alteraciones funcionales/cognitivas y la presencia de depresión, en episodios de caídas em los ancianos institucionalizados.

**Descritores:** Evaluación geriátrica, Accidentes por caídas/prevenición & control, Hogares para Ancianos, Enfermería geriátrica

\* Article taken from the Master's Dissertation in Nursing, entitled: "Functionality, cognition and depression in institutionalized elderly individuals that suffered falls in the city of Rio Grande/RS", 2009, Universidade Federal do Rio Grande - FURG - Rio Grande (RS), Brazil.

<sup>1</sup> Master in Nursing from the Universidade Federal do Rio Grande - FURG - Rio Grande (RS), Brazil. PhD student in Nursing, Universidade Federal de Santa Catarina - UFSC - Santa Catarina (SC), Brazil.

<sup>2</sup> PhD in Nursing, Professor of the Nursing College, Universidade Federal do Rio Grande - FURG - Rio Grande (RS), Brazil.

<sup>3</sup> Master in Nursing. 1 PhD student in Nursing, Universidade Federal do Rio Grande - FURG - Rio Grande (RS), Brazil.

<sup>4</sup> PhD in Nursing, Professor of the Nursing College, Universidade Federal de Pelotas - UFPel - Pelotas (RS), Brazil.

## INTRODUCTION

Considering the statistical ratios that determine the number of elderly Brazilians is increasing, it is possible to foresee a considerable growth in the demand for Homes for the Elderly, and many times, the institutionalization of such individuals can cause a reduction of their autonomy<sup>(1)</sup>.

Elderly healthcare has to be redirected, so as to identify to the presence of functional incapacity and the main care needs<sup>(2)</sup> verified through the performance of activities of daily living the assessment of the elderly individual's functional capacity allows nurses and other members of the multidisciplinary team to have a more accurate vision regarding the seriousness of the disease and the impact of comorbidities. Independence performing activities of daily living is of extreme importance in people's lives, for it involves questions of emotional, physical and social nature<sup>(3)</sup>.

Aiming at promoting an active ageing process and keeping elderly people independent for as long as possible, it is necessary that healthcare workers have technologies available to help provide correct diagnoses, choosing the appropriate interventions, for the ageing process has peculiar characteristics from person to person<sup>(4)</sup>.

Another important dimension to be investigated by health professionals, especially by nurses, is the cognitive assessment of elderly people. This is due to the fact dementia represents a significant public health problem, for its prolonged evolution, complexity of the manifestations and consequences to elderly people and their families<sup>(5)</sup>.

Memory problems can be frequently related to the age. Maintaining a good memory is essential in the ageing process, due to its association with autonomy and independence<sup>(6)</sup>. Complaints regarding memory loss cannot be assessed in an isolated way. Mood disorders, anxiety, social isolation and other factors can be part of elderly people's lives, compromising health and favoring the cognitive decline<sup>(7)</sup>.

In Geriatrics, depression and dementia comprise two of the most recurrent diseases, which are frequently associated, and mistaken by one another, making the diagnosis difficult<sup>(8)</sup>.

Depression in elderly people is frequently associated to incapacity and a consequent functional decline, increasing the risk of hospitalization and the use of health services, reducing quality of life, and increasing mortality due to comorbidities<sup>(9)</sup>, which become reasons for institutionalization.

Another concern nurses should have regarding elderly people's health is related to falls, because the increased number of elderly Brazilians has brought up discussions regarding incapacitating events in this age bracket, among

which falls are a core concern for being very common and feared among the majority of elderly people, and due to the consequences it can cause, such as health complications, injuries, institutionalization, and even death<sup>(10-11)</sup>, representing a large problem for elderly people/families.

Fall causes among elderly individuals can be multiple and associated. The responsible factors have been classified as intrinsic, related to the individual, and resulting from physiological alterations brought by the ageing process, such as limitations in the organs related to the five senses, reflexes and locomotion alterations, lack of physical activity, illnesses, and effects resulting from medication use. They can also be extrinsic, which are factors that depend on social and environmental occurrences that create challenges to elderly people, such as inadequate lighting, slippery surfaces, high steps, absence of railings in corridors and bathrooms, inadequate footwear<sup>(12)</sup>.

Ageing as a natural process that is increasing among the population of contemporary societies, can bring functional, and cognitive limitations, besides other chronic conditions, such as depression. These conditions can generate countless damages, and among them is the possibility of accidents, such as falls, which have to be prevented by families, and professionals/nurses who provide direct care to this population.

Therefore, the study objective was:

- To analyze the influence of alterations in the functionality/cognition and the presence of depression in institutionalized elderly individuals that have suffered falls, aiming at preventing this type of accident.

## METHODS

The present is a quantitative research, with an exploratory and descriptive approach, carried out in Rio Grande Do Sul (Brazil), with 30 institutionalized elderly subjects, who met the following inclusion criteria: to be in condition to interact with the researcher; to be available to answer the data collection instruments; to agree with participating in the study, signing or leaving their fingerprint mark in the Informed Consent Term.

This research was a subproject of the study: "Cognitive state and falls: correlation study among elderly residents at a Home for the Elderly in Rio Grande/RS". Data were collected from March to July 2009, by members of the Group of Study and Research in Gerontology and Geriatrics, Nursing/Health and Education, through individual interviews and assessments of the elderly individuals, by means of measure instruments. Data collection occurred with the approval of the Committee of Ethics in Research of the Health Area of the Universidade Federal do Rio Grande Do Sul, Legal

Opinion number 31/2008.

During the data collection, observation instruments were used at the chosen institution, as well as instruments that were used individually with each elderly resident. The following instruments were used: Characterization of the institutionalized elderly individuals, comprised of personal information (age, sex, marital status, among others) and a social profile (education, income), such instrument helped getting to know the profile of the elderly individuals more deeply; Index of independence performing Activities of Daily Living<sup>(11)</sup>, which evaluates the independence elderly people demonstrate when performing six functions: to bathe themselves, to get dressed, to go to the bathroom, transfers, continence and feeding; Mini Mental State Exam<sup>(11)</sup>, which evaluates the cognitive function, and is comprised of questions related to time and space orientation, recalling, attention, calculation, and the evolution memory related to words and languages; Abbreviated Geriatric Depression Scale<sup>(11)</sup>, a shorter version with 15 questions with objective, positive or negative answers, regarding how the elderly individual has been in the past week. It verifies whether the elderly person is depressed; Fall Risk Questionnaire, comprised of questions related to previous falls, medication use, *sense* deficits, mental state and walking<sup>(13)</sup>.

Data were entered through *Excel*, and an inventory was elaborated. Later on, the statistics *software* SPSS (*Statistical Package for Social Sciences*), version 13.0. was used.

## RESULTS

### Characterization of the institutionalized elderly individuals

Thirty elderly subjects participated in the research, for they met the inclusion criteria, 20 of which (66.7%) were women. With regard to the subjects' professions, there were several, and the most mentioned one was housewife (23.3%). As to birth place, the urban area prevailed: 20 elderly people, representing 66.7%; one of the subjects did not know where he had been born.

Out of the 30 participants, 13 had suffered falls in the past year. Two of them did not need the fall risk test to be applied for they presented adverse conditions, such as cognitive alterations. Among the 13 subjects that had fallen, the educational level was similar, with five having studied one to four years. With regard to the age of the elderly individuals who had suffered falls, they were concentrated between 70 and 79 years old (nine individuals). Women presented a higher fall rate, 11 individuals. Elderly women fall more than elderly men.

As to the time of residence at the home for the elderly, it was possible to observe that eight individuals

had fallen in the first six months of institutionalization, and such number decreased the more time the resident was living at the institution. The newly-admitted individuals suffered more falls, perhaps because they were not adapted to their new residence yet.

The main reason for the institutionalization, as stated by the elderly individuals, was the fact their families considered them a burden, representing 53.3% of the total of institutionalized individuals. With regard to living children they could count on, half of the subjects did not have children alive<sup>(15)</sup>. As to medication use, 12 subjects used diuretics; ten used antihypertensives, and 16 used other medications.

### Influence of functional capacity alterations in falls of institutionalized individuals

KATS Index of Independence in Activities of Daily Living<sup>(11)</sup> was used to verify the functional state. In this scale, activities such as bathing, getting dressed, personal hygiene, transferring from one place to another (from the bed to a chair and vice versa), continence, and feeding, are used to verify the elderly subjects' independence, whether they need assistance or are dependent when performing such tasks; that is, the functional assessment will determine the independence/dependence degree presented by the elderly individual.

In relation to the degree of dependence presented by the 30 institutionalized subjects, it was possible to identify that the majority did not need assistance with activities of daily living. Among those, 22 (73.3%) did not receive assistance while bathing; 23 (76.7%) did not receive assistance getting dressed; 25 (83.3%) did not receive assistance with personal hygiene; 24 (80.0%) could move from one place to another with no help, 26 (86.7%) could feed themselves; and as to continence, 27 (90.0%) presented complete sphincter control.

It was also possible to observe that the individuals who presented the highest fall rate during bath, were the ones who did not need assistance with activities of daily living. From the 20 subjects who did not need assistance while bathing, 11 had suffered falls (55%).

From the 22 institutionalized subjects that got dressed without assistance, 13 had suffered falls in the past year. From the 23 elderly subjects who did not receive assistance with personal hygiene, 13 had suffered falls. From the 22 elderly people who were independent lying down, getting up, and sitting down, 13 had had falls in the previous year.

With regard to feeding, from the 24 institutionalized elderly subjects who could feed themselves without help, 13 had suffered falls in the previous year. And finally, from the 25 that presented complete sphincter control, 12 had suffered falls in the previous year.

### **Cognition influence over institutionalized elderly individuals' falls**

It was possible to observe that from the 25 individuals who took the Mini Mental State Exam, 20 presented scores of 23 or less, indicating *cognitive deficit*; among this group, ten residents reported they had suffered falls. The test was not applied to five elderly individuals due to adverse conditions, such as those with transitory or permanent cognitive problems, and who were unable to keep interaction with the researcher, one of the inclusion criteria to participate in the research.

Also, from the 25 individuals assessed through Yesavage Geriatric Depression Scale<sup>(11)</sup> - a short version with 15 questions, 22 presented a depression indicating index (equal or higher than five points). From this group, 11 had suffered falls. Therefore, depression did not have significant influence over the occurrence of falls, according to this research.

## **DISCUSSION**

### **Characterization of the institutionalized elderly individuals**

As to the prevalent participation of elderly women who had been housewives, it is worth highlighting that, in other decades, an early start at work used to be stimulated, and learning/studying had little value, especially among women, who worked in their houses, looking after their families<sup>(14)</sup>. As to birth place, the urban area prevailed:

A study carried out in Porto Alegre - RS, evidenced that most traumas in this age bracket occurred due to falls: from 121 elderly individuals researched, 75 had suffered falls<sup>(15)</sup>.

With regard to the low education level presented by the institutionalized subjects, that is not a surprising fact among the elderly population, because some decades ago, there were few possibilities to study/learn, and access to education was difficult over all to women<sup>(14)</sup>.

As to the fact that the elderly individuals who had suffered falls were also the most longevous, it was verified that the risk of falls significantly increases with the advanced age, mainly due to the loss of muscular strength and other physical characteristics<sup>(16)</sup>. It is possible to observe a relevant decline of elderly individuals' physical and functional capacity that needs to be observed by nurses.

The fact more elderly women are victims of falls can be due to their physical fragility, when compared to men; a higher prevalence of illnesses and a riskier behavior regarding falls<sup>(16)</sup>. They can also be related to women's higher life expectancy. In Brazil, the absolute number of women has been higher when compared to men<sup>(17)</sup>.

It was possible to verify that the elderly individuals

that have just been admitted at the homes for the elderly fall more. Perhaps the incident happens due to the fact the subjects are not yet used to the new housing arrangements. Nurses have an important role admitting the elderly individuals to the homes for the elderly. In this context, professionals must introduce them to the routine, show them the institution, to take them around to see the facilities, introduce them to the other residents and the staff, that is, the elderly individual needs to be welcomed so that he/she can quickly adapt to the home for the elderly.

Considering that elderly people look for homes for the elderly because of their families, it was possible to verify that, many times, when families choose institutionalization, it is due to the work overload the caregiver carries, and the lack of support to elderly individuals in healthcare service units. It is necessary, however, that family members are partners providing care after the institutionalization<sup>(18)</sup>.

Other reasons that might lead to the institutionalization are personal initiative, which often comes from external pressure, such as solitude, fear of the urban violence, being excluded from family, and lacking the possibility of support (health and care support), offered at the homes for the elderly<sup>(19)</sup>.

In relation to medication use, continuous use medication was found to influence on the fall rate. The literature has investigated the relation between medication use and the occurrence of falls. Although it is not possible to tell the cause of such relation, it is known that the use of medication increases the risk of falls, especially, to more fragile elderly individuals<sup>(20)</sup>.

It is necessary to follow up on the effect of medication and their relation to elderly people's falls, involving doctors and, nurses, putting the most effective therapy in place, thus ensuring that the disease is compensated, paying special attention to falls, functional or cognitive incapacity, and depression, aiming at recovering autonomy through strategies that promote it.

It is known that the older the person, the more unstable their posture and walking, which increases the risk of falls and requires balance and walking assessments<sup>(11)</sup>. A study performed with elderly residents of a home for the elderly in Porto Alegre - RS demonstrated an association between the nursing diagnosis of impaired physical mobility and advanced age<sup>(21)</sup>; such association could be connected to the risk of falls.

Considering the current trend, based on the increased demand for homes for the elderly by elderly individuals/families, it is essential that health workers are ready/updated to look after institutionalized individuals, since knowing their basic necessities is not enough: professionals need to look for knowledge through different means.

### **Influence of functional capacity alterations on institutionalized individuals' falls**

With regard to institutionalized elderly individuals with alterations to their functional capacity and the tendency to falling, it was observed, through the application of the data collection instruments, that the majority were independent when performing activities of daily living; however, during some of these daily activities, falls might occur when they do not have help to perform routine activities, showing the importance of supervision by health professionals, including nurses.

It is known that, for a better and faster care, professionals and especially caregivers often perform the activities for the elderly individuals, instead of allowing them to bathe alone, assisting if necessary; they prefer to do it themselves. Similarly, they feed them directly in the mouth, instead of giving the elderly person more time to perform it him/herself. This happens with all activities of the daily living. Elderly people become more and more dependent on professionals, and need help to perform activities that they could often perform by themselves<sup>(18)</sup>.

Nurses who work or want to work at a home for the elderly need to know the ageing process, so that they can determine the actions that cover not only the manifested needs of elderly individuals, but also those not manifested, maintaining their autonomy and independence. They need to train the nursing team so as to qualify them to perform elderly care actions with more sensitivity, confidence and responsibility. Moreover, nurses are the healthcare professionals who perform the most complex care<sup>(22)</sup>.

A study carried out at a home for the elderly in Porto Alegre - RS identified that the activities of daily living "to get dressed" presented a higher level of dependence among men<sup>(21)</sup> than women. Also, in relation to personal hygiene, in the above-mentioned study, a higher rate of dependence was found among elderly men<sup>(21)</sup> than elderly women.

During the process of ageing, some transformations occur, such as physical limitations, mental and psychosocial alterations that influence the elderly person's relationship with their family, which often leads them to choose institutionalization<sup>(13)</sup>.

Homes for the elderly require actions that aim at basic care and integral attention towards elderly individuals, collaborating with the creation of mechanisms to face limitations caused by pathological/normal ageing, contributing to the increase of biopsychosocial well-being<sup>(23)</sup>.

### **Cognition influence over institutionalized elderly individuals' falls**

Through the present study, it was possible to identify that there was no significant association between

alterations to the functional capacity and falls, however, among elderly individuals, dementia is one of the most damaging diseases, causing gradual functional decline and loss of autonomy. The incidence and prevalence of dementia increase with advanced age<sup>(11)</sup>. The presence of cognitive dysfunctions increase the risk of falls<sup>(24)</sup>, therefore, it is essential that nurses and healthcare professionals *investigate* cognitive deficits so as to create strategies/actions to prevent falls.

### **Depression influence over institutionalized elderly individuals' falls**

Although the present study did not find an association between depression and falls, it is known that depression is a disease with great incidence among elderly people. It is often difficult to provide an early, for health professionals can associate its main symptoms, such as slow movement, sleeplessness, isolation and others to the ageing process, leading to diagnosis adjournment, thus aggravating the depression case<sup>(14)</sup>.

In this context, nurses and the healthcare team, who work with the elderly individuals need to have knowledge on the process of ageing, and the most common diseases among this group, so that they can be aware and able to identify them, and to determine actions in the most appropriate way.

## **CONCLUSIONS**

The objective of the study was reached, because it was possible to characterize the institutionalized elderly individuals regarding the influence of alterations determined by falls, so as to analyze the existing influence between functionality and cognition alterations, presence of depression, and the occurrence of falls in the previous year, thus preventing this type of accident.

As a limitation of the present research, the reduced number of elderly individuals who participated in the study can be mentioned, because other residents did not meet the inclusion criteria.

With regard to institutionalized elderly individuals with functional and cognitive alterations, those with depression, and the tendency to have more falls, the majority of the subjects were independent when performing Activities of Daily Living; however, during some of these activities, falls might occur when they are not helped with such routine activities.

In relation to cognitive function, from the 20 elderly individuals who had scores in the Mini Mental State Exam indicating *cognitive deficit*, it was possible to observe that 10 of them had had falls in the past, which does not represent a significant association between cognitive function alterations and falls.

The present study also identified that there was no

relevant association between depression and falls, because only 11 out of the 22 elderly people who had depression indicating scores in the Geriatric Depression Scale had fallen in the previous year.

The present study is expected to generate awareness among professionals/nurses who work at homes for the elderly; indicating how much functionality, cognition

and depression can influence on institutionalized elderly individuals' falls, and to generate new researches that intend to investigate questions related to elderly individuals' falls, emphasizing their prevention among this group of people, thus contributing to the development of nursing care actions focused on institutionalized elderly individuals.

## REFERENCES

1. Tomasini, SL, Alves S. Envelhecimento bem sucedido e o ambiente das instituições de longa permanência. *Rev Bras de Ciên do Envelh Hum*. 2007;4(1):88-102.
2. Tavares DM, Pereira GA, Iwamoto HH, Miranzzi SS, Rodrigues LR, Machado AR. Incapacidade funcional entre idosos residentes em um município do interior de Minas Gerais. *Texto & Contexto Enferm*. 2007;16(1):32-9.
3. Diogo MJ. O papel da enfermeira na reabilitação do idoso. *Rev Latinoam Enferm*. 2000;8(1):75-81.
4. Fonseca FB, Rizzotto ML. Construção de instrumento para avaliação sócio-funcional em idosos. *Texto & Contexto Enferm*. 2008;17(2):365-73.
5. Pelzer MT. Assistência cuidativa humanística de enfermagem para familiares cuidadores de idosos com doença de Alzheimer a partir de um grupo de ajuda mútua [tese]. Florianópolis: Universidade Federal de Santa Catarina; 2005.
6. Yassuda MS. Memória e envelhecimento saudável. In: Py L, Freitas EV, Gorzoni ML. *Tratado de geriatria e gerontologia*. 2a ed. Rio de Janeiro: Guanabara Koogan; 2006. p. 1245-51.
7. Guerreiro TC, Veras R, Motta LB, Veronesi AS, Schmidt S. Queixa de memória e disfunção objetiva de memória em idosos que ingressam na Oficina da Memória na UnATI/ UERJ. *Rev Bras Geriatr Gerontol*. 2006;9(1): 7-20.
8. Cunha UG. Depressão e demência: diagnóstico diferencial. In: Hargreaves LH, organizador. *Geriatria*. Brasília: Prodasen; 2006. p. 386-92.
9. Toledo MA, Santos Neto LS. Depressão no idoso. In: Hargreaves LH, organizador. *Geriatria*. Brasília: Prodasen; 2006. p.545-52.
10. Perracini MR, Ramos LR. Fatores associados a quedas em uma coorte de idosos residentes na comunidade. *Rev Saúde Pública*. 2002;36(6):709-16.
11. Brasil. Ministério da Saúde. *Caderno de atenção básica: envelhecimento e saúde da pessoa idosa*. Brasília; 2006. (Série A. Normas e Manuais Técnicos, 19)
12. Fabrício SC, Rodrigues RA, Costa Junior ML. Causas e consequências de quedas de idosos atendidos em hospital público. *Rev Saúde Pública*. 2004; 38(1): 93-9.
13. Schiaveto FV. Avaliação do risco de quedas em idosos na comunidade. [dissertação]. Ribeirão Preto: Universidade de São Paulo, Escola de Enfermagem; 2008.
14. Pacheco RO, Santos SS. Avaliação global de idosos em unidades de PSF. *Textos Envelhecimento*. 2004; 7(2):45-61.
15. Biazin DT, Rodrigues RA. Perfil dos idosos que sofreram trauma em Londrina - Paraná. *Rev Esc Enferm USP*. 2009;43(3):602-8.
16. Santos MM, Sandoval RA. Análise do risco de quedas em idosos não institucionalizados. *Lecturas: Educacion Fisica y Deportes. Revista Digital Internet*. 2009 [citado 2011 Set 10];14(136). Disponível em: <http://www.efdeportes.com/efd136/analise-do-risco-de-quedas-em-idosos.htm>
17. Martins JJ, Schneider DG, Coelho FL, Nascimento ER, Albuquerque GL, Erdmann AL, et al. Avaliação da qualidade de vida de idosos que recebem cuidados domiciliares. *Acta Paul Enferm*. 2009;22(3):265-71.
18. Silva BT. Percepção das pessoas idosas sobre institucionalização e possibilidade de serem cuidadas pelos enfermeiros nas ILPIs no ano de 2026 [dissertação]. Rio Grande: Universidade Federal do Rio Grande; 2009.
19. Bessa ME, Silva MJ. Motivações para o ingresso dos idosos em instituições de longa permanência e processos adaptativos: um estudo de caso. *Texto e Contexto Enferm*. 2008;17(2):258-65.
20. Gonçalves LG, Vieira ST, Siqueira FV, Hallal PC. Prevalência de quedas em idosos asilados do município de Rio Grande, RS. *Rev Saúde Pública*. 2008; 42(5):938-45.
21. Oliveira DN, Gorreis TF, Creutzberg M, Santos BR. Diagnósticos de enfermagem em idosos de instituição de longa permanência. *Rev Ciência & Saúde*. 2008;1(2):57-63.
22. Santos SS, Silva BT, Barlem EL, Lopes RS. O papel do enfermeiro na instituição de longa permanência para idosos. *Rev Enferm UFPE [Internet]*. 2008 [citado 2011 Set 10]; 2(3):262-8. Disponível em: <http://ftpacademico.fatern.edu.br/ftp/enfermagem/gysellacarvalho/Saude%20do%20idoso/enfermeiro%20nas%20ILPIs.pdf>
23. Araújo LF, Coutinho MP, Santos MF. O idoso nas instituições gerontológicas: um estudo na perspectiva das representações sociais. *Psicol Soc*. 2006; 18(2):89-98.
24. Lange C. Acidentes domésticos em idosos com diagnósticos de demência atendidos em um ambulatório de Ribeirão Preto, SP [tese]. Ribeirão Preto: Universidade de São Paulo, Escola de Enfermagem; 2005.