Sociodemographic characteristics, functional status and morbidity among older adults with and without cognitive decline*

Características sociodemográficas, capacidade funcional e morbidades entre idosos com e sem declínio cognitivo

Características socio demográficas, capacidad funcional y morbilidad entre ancianos con y sin declino cognitivo

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ABSTRACT

Objective: To describe the sociodemographic, functional and clinical trials of elderly patients with and without cognitive decline in urban residents of Uberaba-MG. **Methods:** Survey study conducted with 2,898 elderly household. Were formed two groups: group 1, seniors that scored lower than 13 on the Mini-Mental State Examination and group 2 with 13 points or more in the review. Data were collected through a semi-structured instrument and were subjected to descriptive analysis and Chi-square test ($p < 0.05$). **Results:** In group 1, prevailed 80 years old or more, without occupation and education, with hypertension and with six or more functional disabilities. In group 2, most had 60 to 70 years, was active in the home, were between four and eight years of study and had high blood pressure and functional disability. The groups differed significantly in: age range, educational level, occupation, number of diseases and functional disability. **Conclusion:** This work contributed to studies that emphasize the various factors that may interfere with cognitive performance in elderly people.
Keyswords: Health of the elderly; Geriatric nursing; Cognition; Nursing care

RESUMO

Objetivo: Descrever as características sociodemográficas, funcionais e clínicas dos idosos com e sem declínio cognitivo residentes na zona urbana de Uberaba-MG. **Métodos:** Estudo tipo inquérito domiciliar realizado com 2.898 idosos. Foram constituídos dois grupos: grupo 1, idosos com pontuação menor que 13 no Miniexame do Estado Mental e grupo 2 com 13 pontos ou mais nesse exame. Os dados coletados, por meio de instrumento semiestruturado, foram submetidos à análise descritiva e ao teste Qui-quadrado ($p<0,05$). **Resultados:** No grupo 1, prevaleceu idosos com 80 anos ou mais; sem ocupação e escolaridade, com hipertensão arterial e seis ou mais incapacidades funcionais. No grupo 2, a maioria possuía 60 a 70 anos; exercia atividades no lar; quatro a oito anos de estudo, hipertensão arterial e uma incapacidade funcional. Os grupos diferiram significativamente quanto: à faixa etária, escolaridade, atividade profissional, número de doenças e incapacidade funcional. **Conclusão:** Este trabalho contribuiu com estudos que enfatizam os diversos fatores que podem interferir no desempenho cognitivo do idoso.
Descritores: Saúde do idoso; Enfermagem geriátrica; Cognição; Cuidados de enfermagem

RESUMEN

Objetivo: Describir las características socio demográficas, funcionales y clínicas de los ancianos con y sin declino cognitivo residentes en la zona urbana de Uberaba-MG. **Métodos:** Estudio tipo encuesta domiciliar realizado con 2.898 ancianos. Fueron constituidos dos grupos: grupo 1, ancianos con puntuación menor que 13 en el Mini-examen del Estado Mental y grupo 2 con 13 puntos o más en ese examen. Los datos recolectados, por medio de instrumento semiestructurado, fueron sometidos al análisis descriptivo y a la prueba Chi-cuadrado ($p<0,05$). **Resultados:** En el grupo 1, prevalecieron ancianos con 80 años o más; sin ocupación y escolaridad, con hipertensión arterial y con seis o más incapacidades funcionales. En el grupo 2, la mayoría poseía 60 a 70 años; ejercía actividades en el hogar; tenían entre cuatro a ocho años de estudio, poseían hipertensión arterial y una incapacidad funcional. Los grupos diferían significativamente en: intervalo de edad, escolaridad, actividad profesional, número de enfermedades e incapacidad funcional. **Conclusión:** Este trabajo contribuyó con los estudios que enfatizan los diversos factores que pueden interferir en el desempeño cognitivo del anciano.
Descriptores: Salud del anciano; Enfermería geriátrica; Cognición; Cuidados de enfermería

** Study resulting from a project supported by the Research Support Foundation of the State of Minas Gerais - FAPEMIG.*

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Received article **01/04/2009** and accepted **01/10/2010**

INTRODUCTION

The progressive ageing of the population has results in society and it may become a social problem. Thus, this phenomenon needs to be further studied in Brazil, in order to contribute to the improvement in the quality of life of the elderly population[1].

Human ageing can be approached in biological, social, psychological, intellectual, functional, cultural, and chronological contexts[2]. Regarding physical ageing, there can be a decrease in the physical and cognitive abilities, according to genetic factors, lifestyle and characteristics of the lives of the elderly[1].

For elderly to have good conditions of life, they should be able to maintain their autonomy and their independence. The autonomy is considered as the ability to make decisions, that is, to be in control of your life[3], and independence is seen as "the ability to perform activities of daily living without depending on other people"[4].

Autonomy and independence are variables that can change over time, however, the multidisciplinary health team should have the goal to restore them or to get as close as possible to the previous capacity of the elderly.

One of the ways to assess elderly health conditions is to use instruments that enable global assessment of these individuals by the health team, approaching their individual, family, and social conditions, the relationship with the functional and cognitive capacity, and their affectivity[5].

The National Health Policy of the Elderly People, has the promotion of active and health ageing among its guidelines, focusing on the need to maintain physical and mental capacity[6]. In this perspective, the adoption of instruments to assess the cognitive function, the functional capacity and that detect morbidities self-referred by elderly individuals during nursing care will contribute to plan care, based on individual specificities, as well as to detect early cognitive and functional deficits for prevention.

Cognitive decline can present itself during the ageing process, with variable onset and progression and it is related with the biological losses that are part of individuals' time and culture. Furthermore, social, economic, and educational levels and age interfere in the performance of the elderly[7]. Thus, it is important to pay attention to these factors to interpret the results[4].

Cognitive deficit in elderly is "mild generalized slowing and inaccuracies compared to normal young persons. These deficits are measured by objective psychological tests which mimic real daily living situations"[8], an example is the Mini Mental State Examination adapted and validated for the Brazilian culture[9].

The assessment of the functional capacity of elderly enables nursing professionals and the other member of the multidisciplinary team to have a broader view regarding the referred morbidities and the impact of the disease in people[10].

The elderly with multiple comorbidities and, especially those with chronic diseases, can have difficulties to perform their activities of daily living[11]. A study carried out in Sweden states that the prevalence of health problems increases considerably with age and, thus, there is an increase in social costs, medical care costs and long term care costs[12].

In countless cases, the cognitive deficit can be connected with the presence of functional inability to perform activities of daily living, especially in populations with low educational levels[13].

The use of instruments that assess cognitive function and functional capacity of the elderly help health care planning to develop therapeutic and rehabilitation actions that are individually applied, and also provide family support. In Brazil, this practice is still not part of the routine of health services, including the several levels of elderly care[14]. One of the hypotheses can be that the health services are still not aware of some of the gaps, such as, understanding the ageing process as a stage of life. Also, health professionals are not properly educated in this sense.

Nursing care regarding functional assessment should be focused on the elderly and in the support systems they can count on. Thus, nurses should care for the elderly in an individualized fashion, in the social and family context, taking into account their physical, psychological, social, and environmental limitations[15].

Nursing work in the multidisciplinary team in the educational process with elderly people and their families is essential and aims to establish their functional independence to prevent secondary complications, and to help elderly people cope with their new situation[16].

There is a progressive growth of the elderly population of Uberaba- Minas Gerais and we have seen that the use of instruments to assess cognitive function of elderly people, as well as their functional capacity and the prevailing morbidities by the health team are still poor in our services, however, they are necessary for individualized care. The purpose of the present study was to encourage discussions among health professionals on the theme and its use in the services; it also aims to subsidize health care to the elderly population.

OBJECTIVE

To describe the sociodemographic, functional and clinical characteristics of elderly with or without cognitive deficit, living in the urban region of Uberaba-MG.

METHODS

This survey was part of a greater, cross-sectional, observational household survey which assessed health conditions of elderly people living in the urban region of the city of Uberaba, Minas Gerais, with a 10.3% elderly population[17].

For this greater study, the population sample was calculated in 3,034 elderly, considering 95% confidence, 80% power test, 4% error margin for the interval estimates and an estimated ratio of TT = 0.5, for interest proportions. After calculating the number of elderly subjects for the sample in each stratum (district), we have considered at least ten elderly in those districts where the sample calculation was lower than five and, the systematic sample technique was used to select, within each district, the houses where elderly were interviewed. At the end of the data collection, considering the losses, 2,924 interviews were obtained.

The population sample of the present study was made from the elderly that met the inclusion criteria: to be 60 or over, to have complete cognitive assessment, to live in the urban region of the city, both genders, and to accept taking part in the survey. Twenty-four people that did not have complete cognitive assessment, one with age below 60 and one did not have all the information, totaling 2,898 elderly taking part in the survey. Two groups were formed, Group 1 was formed by those with cognitive assessment lower than 13 in the Mini Mental State Examination - MMSE and Group 2 those with cognitive assessment higher than or equal to 13 at the MMSE.

For data collection, we have first to identify elderly individuals in their houses, to that end; the technique of systematic sampling was used. The map of each district, provided by the Center for Zoonosis Control of the city of Uberaba, was the itinerary to select the houses. This center has this information updated. Through a draw, the first house to be visited was selected in the first block of the district. The remaining houses were considered clockwise in each block until we got the whole district. In the houses where there were no elderly people, the house immediately next to it was considered. A random draw was carried out when there was more than one elderly in the house. When the elderly in the house selected was not at home, another time was scheduled and if the elderly was not at home on the scheduled day, the house immediately next to it was considered. In condominiums (buildings or houses), the interviewer presented at the door and asked how many houses or apartments there were, prepared a script and continued with house selection. When the entire district was visited and the number of elderly individuals was not the one we wanted, we came back to the beginning of the district, visited the house next to the first selected and these procedures were repeated until we got the wanted amount.

Interviews were used for data collection, carried out by ten interviewers that were trained and followed-up systematically by researchers. Data collection occurred in the second semester of 2005 and first semester of 2006.

Data were collected using a structured instrument, based on the Older Americans Resources and Services (OARS) questionnaire, prepared by the Duke University and adjusted to the Brazilian reality[18], with the following items: cognitive assessment, sociodemographic and economic data, activities of daily living, health and use of health services.

Cognitive assessment was based on the Mini Mental State Examination (MMSE), reduced version validated by the researchers at the SABE Project[19]. For this validation we have used the data obtained in studies carried out in Chile by the World Health Organization on Age-Related Dementia[20]. However, the outcomes of the referred studied presented a strong educational bias when the complete version of the instrument was used. Thus, the new version was validated to be used by the SABE project, to eliminate or decrease the possible effects of education in the results of the MMSE. In this version, the cut-off point established was 12/13, with 93.8 sensitivity and 93.9 specificity. Cognitive impairment was indicated as a score equal to or lower than 12. The issues of the cognitive assessment were divided into temporal and spatial orientation, record, attention and calculation, recent memory, command performance, and copy drawing. Each right answer was considered a point and the maximum score was 19[19].

The MMSE is one of the most used screening instruments to assess cognitive impairment, it is easy to apply and it provides information on the cognitive dimensions such as orientation, memory, calculation and language[19].

Among the items of the previously described OARS questionnaire, we have selected the following variables to form the present study: gender, age group, marital status, individual income (in minimum wage), occupation, education (in years of study), self-referred morbidity and number of functional impairments. Functional capacity was assessed through the following activities of daily living: eating, bathing, dressing, combing hair, getting into and out of bed, getting to the toilet in time, control of bowel or bladder functions; climbing stairs; moving from a wheelchair to bed and vice-versa, walking on flat surfaces, walking close to home, and cutting toenails.

Functional impairment was considered when the

elderly referred they could not perform certain activities of daily living.

The electronic data base was built in the EPIINFO 3,2TM program; the data collected were typed twice for later verification of the information recorded.

Afterwards, they underwent descriptive analysis through the distribution of absolute and percentage simple frequencies. Associations between categorical variables were studied using Chi-square test, which was considered significant when $p<0.05$.

The research project has been approved by the Human Research Ethic Committee at Universidade Federal do Triângulo Mineiro, meeting the Resolution # 196/96, Protocol # 553. The elderly were reached at their homes and were presented the objectives of the study, the Written Consent and were offered the important information. The interview was only carried out after the written consent was given. We have ensured the confidentiality of the answers by identifying the interview with numbers.

RESULTS

Data referring to sociodemographic characterization of elderly are presented in table 1.

We can see in table 1 that most elderly were females

Table 1 - Sociodemographic characteristics of elderly people, Uberaba, Minas Gerais, 2nd semester 2005/1st semester 2006.

Variables	Group 1		Group 2		Total	
	n	%	n	%	n	%
Gender						
Male	36	32.70	1013	36.40	1049	36.20
Female	74	67.30	1775	63.60	1849	63.80
Age group						
60 ├ 70	20	18.18	1519	54.48	1539	53.10
70 ├ 80	30	27.27	939	33.68	969	33.40
80 or over	60	54.55	330	11.84	390	13.50
Marital Status						
Never got married/ lived with a partner	12	10.90	178	6.38	190	6.56
Married/ lives with partner	31	28.20	1337	47.96	1368	47.20
Separated/ divorced	4	3.60	278	9.97	282	9.73
Widow/er	63	57.30	989	35.47	1052	36.3
Ignored	-	-	6	0.22	6	0.21
Individual Income (in minimum wage)						
No income	12	10.91	371	13.31	383	13.22
< 1	1	0.91	62	2.22	63	2.17
1	81	73.64	1443	51.76	1524	52.59
1 ├ 3	10	9.09	620	22.24	630	21.74
3 ├ 5	2	1.82	163	5.85	165	5.69
> 5	4	3.64	129	4.63	133	4.59
Occupation						
Housewife	12	10.91	1374	49.28	1386	47.83
Maid	-	-	40	1.43	40	1.38
Handyman	-	-	70	2.51	70	2.42
Trader/ bank teller	-	-	41	1.47	41	1.41
Self-employed	-	-	78	2.80	78	2.69
Farmer	-	-	14	0.50	14	0.48
Business man	1	0.91	2	0.07	33	0.10
Other	7	6.36	296	10.62	303	10.46
None	89	80.91	863	30.95	952	32.85
Ignored	1	0.91	10	0.36	11	0.38
Education (years of study)						
0	56	50.91	608	21.81	664	22.91
1 ┤ 3	20	18.18	870	31.21	890	30.71
4 ┤ 8	19	17.27	1006	36.08	1025	35.37
9 to 12	3	2.73	183	6.56	186	6.42
>12	2	1.82	83	2.98	85	2.93
Ignored	10	9.09	38	1.36	48	1.66

in both groups. There were no significant differences among the genders regarding cognitive assessment ($x2 = 0.45$; $p = 0.50223363$).

Regarding the age group, it was seen that in group 1, most percentages were for the elderly 80 or over, and in group 2, those that were 60 to 70. Comparison between the groups showed that as the age group increased, there was a greater proportion of elderly with cognitive assessment lower than 13 points ($x2 = 171,00$; $p = 0.00000000$).

As for marital status, there was a difference among the groups, with a greater proportion of widowed elderly subjects in group 1. In group 2 they were married or lived with partners ($x2 = 30.52$; $p = 0.00000383$).

In both groups the greatest percentage for individual income was a minimum wage. However, when the groups were compared, there was a greater proportion of elderly people in group 1 with individual monthly income of one minimum wage, and in group 2 they received up to three minimum wages ($x2 = 22,00$; $p = 0.00040404$).

In group 1, most subjects did not perform any activities, and in group 2 the greatest percentage was of elderly people with activities in the house. There was a greater proportion of elderly people from group 1 without occupation, and in group 2 they perform their occupation at home ($x2 = 132.40$; $p = 0.00000000$).

As for education, most interviewees from group 1 were illiterate, in group 2 they had 4 to 8 years of study. It was verified between the groups that the lower the education, the lower the cognitive performance ($x2 = 96.61$, $p = 0.00000000$).

Table 2 – Morbidities referred by elderly people, Uberaba, Minas Gerais, 2nd semester of 2005/1st semester of 2006.

Health condition	Group 1		Group 2		Total
	n	%	n	%	n
Rheumatism	17	15.45	592	21.23	609
Arthritis / Osteoarthritis	24	21.82	766	27.47	790
Osteoporosis	12	10.91	504	18.08	516
Asthma or Bronchitis	14	12.73	279	10.01	293
Blood hypertension	58	52.73	1537	55.13	1595
Poor circulation (varicose veins)	36	32.73	1136	40.75	1172
Heart problems	43	39.09	835	29.95	878
Diabetes	13	11.82	400	14.35	413
Obesity	8	7.27	329	11.80	337
Stroke	22	20.00	77	2.76	99
Urinary Incontinence	27	24.55	234	8.39	261
Fecal Incontinence	19	17.27	82	2.94	101
Constipation	9	8.18	431	15.46	440
Trouble sleeping	37	33.64	1033	37.05	1070
Cataract	31	28.18	629	22.56	660
Glaucoma	9	8.18	154	5.52	163
Back Pains	42	38.18	1515	54.34	1557
Renal problems	14	12.73	334	11.98	348
Accid. Sequelae/Trauma	9	8.78	209	7.50	218
Vision problem	75	68.18	1894	67.93	1969

In the data from Table 2, the morbidities referred by elderly are presented. The three morbidities with the highest percentage that stood out in group 1 were vision problems followed by heart problems and blood hypertension. In group 2, the greatest occurrence was for vision problems, blood hypertension, and back pains.

In the data from table 3, the numbers of functional impairments between the two groups are presented.

In this study, functional impairment was considered when the elderly referred that they couldn't perform a certain activity of daily living, and needed the help of other people.

Table 3 demonstrates that most elderly from both group presented functional impairment. In group 1 there was a greater proportion of elderly with six or more functional impairments; and in Group 2 the greatest occurrence was one ($x2 = 753.43$; $p = 0.00000000$).

Table 3 – Functional impairments among elderly people, Uberaba, Minas Gerais, 2nd semester 2005/ 1st semester 2006.

Functional impairments	Group 1 (AC <13)		Group 2 (AC > 13)		Total	
	n	%	n	%	n	%
None	12	10.91	675	24.21	687	23.71
1	15	13.64	1555	55.77	1570	54.18
2	11	10.00	346	12.41	357	12.32
3	6	5.45	97	3.48	103	3.55
4	6	5.45	49	1.76	55	1.90
5	9	8.18	22	0.79	31	1.07
6 or over	51	46.36	44	1.58	95	3.28

DISCUSSION

The greater percentage of women corroborates the data found in Brazil and in the State of Minas Gerais[21]. In Brazil, the ratio between male and females for elderly 60 or over is 79.5 for 100, respectively. In Minas Gerais, for each 100 elderly women, there is a ratio of 81.2 men[21]. This is stronger in the urban regions, since in rural regions there is a greater ratio of men, 107 for 100 women; typically the migration of women to the urban region is higher and men are more present in rural activities[21].

As for age group, the outcomes of a study carried out in an outpatient clinic for elderly care were similar to that found in the present study. There was a greater cognitive dysfunction (77%) in people 80 or over, compared to those in the age group from 65 and 79[22]. Another study carried out with Mexicans, with average age of 73 years, also corroborates the outcome of the present study ($r = - 0.28$, $p = 0.001$)[23]. As for marital status, a study regarding the profile of elderly people in Brazil demonstrates that most elderly are married, with

a lower percentage among women, just as found in the present study[24]. Data related with greater ratio of widowed elderly from group 1 refers to planning of the nursing care, that is, it is essential to identify the potential caregiver in the family to establish a network of co-responsibility in the care process among elderly-caregiver-nursing.

The low income of the elderly in the present study corroborates with the data from Brazil, where 12.4% live with up to half minimum wage[21]. Observing the absolute number of Brazilian elderly in poverty, most of them live in the states of Bahia (334 thousand), Minas Gerais (265 thousand) and São Paulo (248 thousand)[21].

Regarding the performance of some kind of labor activity, the percentage we have found was above those found in the Brazilian elderly 65 or over. About 30.9% had an occupation and, among those 70 or over, this figure decreased to 18.4%[21]. Occupying one's time either with work or with leisure activities is essential to keep elderly socially inserted. In this perspective, this aspect should be identified by nurses in their work process, to favor health actions that reinforce interpersonal relations and that encourage memory preservation.

As for education, the percentage of illiterate elderly (22.9%) was lower than that found for Brazil (36.6%). The Southeast and South regions in Brazil (26.6%) have the lowest index among Brazilian regions[21]. Data of this study agree with the studies carried out in Brazil which showed that a smaller education level is connected with worse cognitive performance[25-26].

A study carried out with elderly people taking part at the *Universidade Aberta à Terceira Idade* (Open University to the Elderly) demonstrated that those with higher educational level had higher income, greater knowledge on health prevention and greater access to the health network with private health plans[27].

Data referring to functional impairment in the present study draw attention due to the high number of abilities that elderly with cognitive decline cannot perform, leading to a greater dependence and restricting their autonomy. In this sense, authors report that functional impairment can interfere in the personal and collective development[28].

In group 1, the higher number of functional impairment can be related with functional decline and with the type of morbidity which were heart and vision problems. These situations contribute to the dependence to perform activities of daily living. A study carried out in a hospital-school outpatient clinic demonstrated that 72.7% of the elderly who presented cataract and 81.1% of those with heart problems were dependent and presented impairments in three or more activities of daily living[29].

Blood hypertension was referred by a significant part of the interviewees, just as those related with back pain. In a study that pictures the health of elderly in Brazil, it was seen that among those with mild impairment, two morbidities stood out[30].

In the present study, the relationship between functional decline and self-care deficit was not seen. As self-care deficit connected with cognitive decline can hinder compliance and follow-up of the treatment of blood hypertension and, thus, it can contribute to the occurrence of heart problems, new studies should be carried out to identify if the greater occurrence of heart conditions among elderly in group 1 is connected with functional impairment.

In this sense, once these situations are identified in the health services, nurses can plan care, developing activities that aim to strengthen the functional capacity of the elderly such as: encouraging self-care, treatment and health problem follow-up, providing a safe physical environment, establishing partnerships with families, caregivers, and the community to put them back to the social and family life.

Gerontological nursing needs to be spread and introduced by the Nursing team, to meet the needs of elderly individuals in their specificities to add quality of life and to contribute to the social insertion of the elderly.

CONCLUSION

In the present study, it was seen that elderly were mostly females with income of one minimum wage. Among those from Group 1, the age group 80 or over, without occupation, education, with blood hypertension, vision and heart problems, presenting six or more functional impairments stood out. Among the elderly from Group 2, most were in the age group from 60 to 70 years old, married, performing activities at home, with 4 to 8 years of study, with blood hypertension, vision problems and back pains and with functional impairment.

The variables that presented significant difference among the groups according to functional impairment were: age group, education, professional activity, number of diseases and functional impairment.

This study contributed to the investigations that reinforce the several factors that can interfere in the cognitive performance of the elderly. The nursing team together with the multidisciplinary team should be prepared to apply instruments that assess the elderly in their cognitive impairment and to design and practice activities that enhance their development, aiming at quality of life.

REFERENCES

1. Argimon IIL, Stein LM. Habilidades cognitivas em indivíduos muito idosos: um estudo longitudinal. Rep Public Health. 2005; 21(1):64-72.
2. Paschoal SMP. Autonomia e independência. In: Papaléo Netto M, coordenador. Gerontologia: a velhice e o envelhecimento em visão globalizada. São Paulo: Atheneu; 1996. p. 313-23.
3. Diogo MJDE. A dinâmica dependência-autonomia em idosos submetidos à amputação de membros inferiores. Rev Latinoam Enferm. 1997;5(1):59-64.
4. Ventura MM, Bottino CM. Avaliação cognitiva em pacientes idosos. In: Papaléo Netto M, coordenador. Gerontologia: a velhice e o envelhecimento em visão globalizada. São Paulo: Atheneu; 1996. p. 174-89.
5. Santos SSC, Cavalheiro BC, Silva BT, Barlem ELD, Feliciani AM, Valcarenghi RV. Avaliação multidimensional do idoso por enfermeiros brasileiros: uma revisão integrativa. Cienc Cuid Saude. 2010;9(1):129-36.
6. Brasil. Ministério da Saúde. Portaria nº 2528 de 19 de outubro de 2006. Aprova a Política Nacional de Saúde da Pessoa Idosa. Brasília: Ministério da Saúde; 2006.
7. Souza PS, Falcão JTR, Leal CC, Marino JG. Avaliação do desempenho cognitivo em idosos. Rev Bras Geriatr Gerontol. 2007;10(1):29-38.
8. Gorman WF, Campbell CD. Mental acuity of the normal elderly. J Okla State Med Assoc. 1995;88(3):119-23.
9. Folstein MF, Folstein SE, McHugh PR."Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12(3):189-98.
10. Diogo MJDE. O papel da enfermeira na reabilitação dos idosos. Rev Latinoam Enferm. 2000;8(1):75-81.
11. Dorantes-Mendoza G, Ávila-Funes JA, Mejía-Arango S, Gutiérrez-Robledo LM. Factores asociados con la dependencia funcional en los adultos mayores: un análisis secundario del Estudio Nacional sobre Salud y Envejecimiento en México, 2001. Rev Panam Salud Publica = Pan Am J Public Health. 2007; 22(1):1-11.
12. Parker MG, Thorslund M. Health trends in the elderly population: getting better and getting worse. Gerontologist. 2007;47(2):150-8.
13. Castro KCM, Guerra RO. Impact of cognitive performance on the functional capacity of an elderly population in Natal, Brazil. Arq Neuropsiquiatr. 2008;66(4):809-13.
14. Reys BN, Bezerra AB, Vilela ALS, Keusen AL, Marinho V, Paula E, Laks J. Diagnóstico de demência, depressão e psicose em idosos por avaliação cognitiva breve. Rev Assoc Med Bras (1992). 2006;52(6):401-4.
15. Pedrazzi EC, Rodrigues RAP, Schiaveto FV. Morbidade referida e capacidade funcional de idosos. Ciênc Cuid Saúde. 2007;6(4):407-13.
16. Santos SSC. O ensino da Enfermagem Gerontogeriatrica e a complexidade. Rev Esc Enferm USP. 2006;40(2):228-35.
17. Ramos LR. Fatores determinantes do envelhecimento saudável em idosos residentes em centro urbano: Projeto Epidoso, São Paulo. Rep Public Health. 2003;19(3):793-8.
18. Ramos LR. Growing old in São Paulo, Brazil: assessment of health status and family support of the elderly of different socio-economic strata living in the community [tese]. London (England): London School of Hygiene and Tropical of Medicine; 1987.
19. Lebrão ML, Duarte YAO. SABE – Saúde: Bem-estar e Envelhecimento; o projeto Sabe no município de São Paulo, uma abordagem inicial. Brasília: Organização Pan-Americana da Saúde, 2003. 256 p.
20. Icaza MC, Albala C. Projeto SABE: Minimental State Examination (MMSE) del estudio de dementia en Chile: análisis estatístico. OPAS; 1999. p. 1-18.
21. Instituto Brasileiro de Geografia e Estatística. Coordenação de População e Indicadores Sociais. Síntese de indicadores sociais: uma análise das condições de vida da população brasileira: 2008. Rio de Janeiro: IBGE; 2008.
22. Cavalini LT, Chor D. Inquérito sobre hipertensão arterial e déficit cognitivo em idosos de um serviço de geriatria. Rev Bras Epidemiol. 2003;6(1):7-17.
23. Sheffield KM, Peek MK. Neighborhood context and cognitive decline in older Mexican Americans: results from the Hispanic Established Populations for Epidemiologic Studies of the Elderly. Am J Epidemiol. 2009;169(9):1092-101.
24. Camarano AA, Kanso S, Mello JL. Quão além dos 60 poderão viver os idosos brasileiros? In: Camarano AA, organizadora. Os novos idosos brasileiros: muito além dos 60? Rio de Janeiro: IPEA; 2004. p. 77-105.
25. Diniz BSO, Volpe FM, Tavares AR. Nível educacional e idade no desempenho no Miniexame do Estado Mental em idosos residentes na comunidade. Rev Psiquiatr Clín (São Paulo). 2007;34(1):13-7.
26. Bertolucci PHF, Brucki SMD, Campacci SR, Juliano Y. O mini-exame do estado mental em uma população geral: impacto da escolaridade. Arq Neuropsiquiatr. 1994;52(1):1-7.
27. Alexandre TS, Cordeiro RC. Factors associated to quality of life in active elderly. Rev Saúde Pública. 2009;43(4):613-21.
28. Tavares DMS, Pereira GA, Iwamoto HH, Miranzi SSC, Rodrigues LR, Machado ARM. Incapacidade funcional entre idosos residentes em um município do interior de Minas Gerais. Texto & Contexto Enferm. 2007;16(1):32-9.
29. Rodrigues RAP, Scudeller PG, Pedrazzi EC, Schiavetto FV, Lange C. Morbidade e sua interferência na capacidade funcional do idoso. Acta Paul Enferm. 2008; 21(4):643-8.
30. Alves LC, Leite IC, Machado CJ. Perfis de saúde dos idosos no Brasil: análise da Pesquisa Nacional por Amostra de Domicílios de 2003 utilizando o método grade of membership. Rep Public Health. 2008;24(3):535-46.