DOI: 10.1590/S0080-623420130000600014

ORIGINAL ARTICLE

# Profile of the elderly who naps

PERFIL DOS IDOSOS QUE COCHILAM

PERFIL DE LOS ADULTOS MAYORES QUE DORMITAN

**Ariene Angelini dos Santos[1], Simone Camargo de Oliveira[2], Denise Cuoghi de Carvalho Veríssimo Freitas[3], Maria Filomena Ceolim[4], Sofia Cristina Iost Pavarini[5], Maria Cecília Pires da Rocha[6]**

**ABSTRACT**

This study aimed to characterize the elderly who naps according to sociodemographic characteristics and frailty. A descriptive, cross-sectional study part of the multicenter project Frailty in the Elderly Brazilians. We evaluated 1,866 elderly people using a sociodemographic questionnaire. The frailty was assessed using the phenotype proposed by Fried. The data were analyzed with descriptive statistics. The results showed that the profile of the elderly who naps consists predominantly of women, married, retired, pre-frail, with an average age of 73 years, four years of study, with monthly family income of 3.9 minimum salary, with 4,4 children who were living with them only. The elderly reported napping on average 5.9 days per week, lasting 53.5 minutes per nap. Knowing the profile of the elderly who naps contributes to health professionals in the development of actions in relation to sleep problems of the frail/pre-frail elderly, preventing, minimizing or solving these problems.

**DESCRIPTORS**

Aged
Sleep
Geriatric nursing

**RESUMO**

Esse estudo objetivou caracterizar os idosos que cochilam segundo as características sociodemográficas e de fragilidade. Estudo descritivo, transversal, recorte do projeto multicêntrico *Fragilidade em Idosos Brasileiros*. Foram avaliados 1.866 idosos utilizando-se questionário sociodemográfico. A fragilidade foi avaliada usando o fenótipo proposto por Fried. Os dados foram tratados com estatística descritiva. Os resultados apontaram que o perfil do idoso que cochila foi constituído predominantemente por mulheres, casadas, aposentadas, pré-frágeis, com média de idade de 73 anos, quatro anos de estudo, renda familiar mensal de 3,9 salários mínimos, com 4,4 filhos e que residiam apenas com eles. Os idosos relataram cochilar em média 5,9 dias por semana, com duração de 53,5 minutos por cochilo. Conhecer o perfil do idoso que cochila contribui para os profissionais de saúde desenvolverem ações em relação aos problemas de sono dos idosos frágeis/pré-frágeis, prevenindo, minimizando ou resolvendo esses problemas.

**DESCRITORES**

Idoso
Sono
Enfermagem geriátrica

**RESUMEN**

El objetivo de este estudio fue caracterizar a adultos mayores que dormitan según las características socio-demográficas y de fragilidad. Estudio descriptivo, transversal, un recorte del proyecto multicéntrico *Fragilidad en los adultos mayores brasileños*. Fueron evaluados 1866 adultos mayores mediante el cuestionario socio-demográfico. La fragilidad se evaluó mediante el fenotipo propuesto por Fried. Los datos fueron procesados mediante estadística descriptiva. Los resultados mostraron que el perfil del anciano que dormita fue constituido principalmente por mujeres, casadas, jubiladas, pre-frágiles, siendo el promedio de edad de 73 años, cuatro años de educación, con ingreso familiar mensual de 3,9 sueldos mínimos, con 4,4 hijos, y que vivían sólo con sus hijos. Los adultos mayores reportaron dormitar en promedio 5,9 días por semana, con duración de 53,5 minutos por siesta. Conocer el perfil de los adultos mayores que dormitan contribuye para que los profesionales de la salud desarrollen acciones relacionadas con los problemas de sueño de los adultos mayores frágiles/pre-frágiles, previniendo, minimizando o resolviendo estos problemas.

**DESCRIPTORES**

Anciano
Sueño
Enfermería geriátrica

[1] Nurse. PhD Student, School of Nursing, State University of Campinas, SP, Brazil. arieneangelini@yahoo.com.br [2] Nurse. PhD Student, School of Nursing, State University of Campinas, SP, Brazil. sicamargoo@yahoo.com.br [3] Physiotherapist. PhD in Health Science, School of Nursing, State University of Campinas, SP, Brazil. denisecuoghi@ig.com.br [4] Nurse. Associate Professor, School of Nursing, State University of Campinas, SP, Brazil. fceolim@fcm.unicamp [5] Nurse. Associate Professor, Departament of Gerontology, Federal University of Sao Carlos, SP, Brasil. sofia@ufscar.br. [6] Nurse. PhD Student, School of Nursing, State University of Campinas, SP, Brazil. piresdarocha@yahoo.com.br



Received: 06/24/2013
Approved: 08/16/2013

## INTRODUCTION

The increase of the elderly population has resulted in greater numbers of long-term problems, either for individual or for society. Among them, we highlight the changes in the pattern of habitual sleep[1]. The mortality due to common causes in the elderly, such as cardiovascular disease, stroke and cancer, for example, is about twice higher in people with sleep disorders than those with good sleep quality[2].

Changes in sleep patterns associated with aging may correspond to sleep disorders or impairment of its quality. Among them, we emphasize: quantitative reduction of deep sleep stages; reduction of the threshold for waking up due to noise associated with the quantitative increase in the superficial sleep; higher latency to sleep onset, increased daytime naps; reduction of the total nocturnal sleep duration; high number of transitions from one stage to another and to wakefulness; higher frequency of respiratory disturbances during sleep[3].

Researches suggests that the main factors related to daytime napping in the elderly are nocturnal sleep disturbances, changes in the sleep-wake cycle related to age, comorbidities and mental illness[4]. Studies have suggested that the usual nap can be beneficial, depending on the time of day and duration of the nap[5].

Researches suggests that the main factors related to daytime napping in the elderly are nocturnal sleep disturbances, changes in the sleep-wake cycle related to age, comorbidities and mental illness.

When assessing healthy elderly without complaints related to nocturnal sleep, authors found that 90 minutes naps between 13h30 and 15h00, established in the study protocol, although it resulted in lower efficiency of nocturnal sleep, it also positively influenced psychomotor performance after the period of the nap[6].

In a cohort study conducted in the United States, the results were opposite to the referred study above. In order to assess the independent association of mortality causes with duration of daytime napping, researchers followed-up residents of a small community located in Southern California for a period of 19 years. The results showed that in men, mortality was associated with nap lasting more than 30 minutes per day, and these results were significant after adjusting for multiple covariates such as greater age[7]. The literature shows that the greatest frequency of occurrence and timing of daytime naps are associated with higher incidence of cardiovascular disease and type 2 diabetes[8-9].

There is also evidence that sleep disorders are independently associated with frailty in the elderly. Proving this hypothesis, a research conducted in the U.S.A, with 3,133 men with age equal or higher than 67 years, showed that complaints of poor sleep quality, excessive daytime sleepiness, short sleep spans, prolonged sleep latency and sleep fragmentation were more prevalent in the frail elderly. The authors concluded that sleep complaints such as poor self-reported quality, efficiency and prolonged latency are independently associated with greater evidence of frailty[10].

Given the above, knowing the profile of the elderly who naps is essential to support health services in planning care on the quality of their sleep. Researches, which characterize the profile of the elderly who naps, are scarce in our context, therefore, there is a gap in the Brazilian literature. Thus, this study aimed to characterize the elderly who naps, according to sociodemographic and frailty characteristics.

## METHOD

This is a descriptive, transversal study using a quantitative approach. It was developed from data belonging to the electronic database of the Multicenter Study on Frailty in the Elderly Brazilians (FIBRA), conducted by researchers from four universities in the country (UFMG, USP-RP, UNICAMP, UERJ) and conducted in order to study the health and well-being conditions of men and women aged 65 years old and older living in the community.

This study used data regarding UNICAMP, which covers the following cities: Belem (PA), Pocos de Caldas (MG), Parnaiba (PI), Campinas (SP), Ivoti (RS), Ermelino Matarazzo (district of SP) and Campina Grande (PB) (n=3,478). The recruitment of the elderly occurred at home in urban census sectors randomly selected.

Inclusion criteria for the elderly were: age equal or higher than 65 years, be able to understand instructions, agree to participate and be a permanent resident in the household and in the census sector. Exclusion criteria were: a) elderly with severe cognitive impairment, suggestive of dementia, evidenced by problems with memory, attention, spatial and temporal orientation, and communication, or observed by recruiters; b) elderly who were using a wheelchair or in temporary or permanently bedridden c) carriers of serious sequelae of stroke, with localized loss of strength and/or aphasia; d) carriers of Parkinson's disease in severe or unstable stage, with severe impairment of motor skills, speech or affectivity; e) carriers of severe deficits in hearing or vision, which would greatly hinder communication and; f) elderly in terminal stage.

The study sample was composed by all elderly from the Database of the FIBRA Project UNICAMP, except those who

did not have data on the nap (occurrence, weekly frequency and duration). Thus, the final sample consisted of 1,866 elderly, 53.6% of the overall sample.

Data collection occurred in a single session and began after reading and signing the Consent Form. The elderly participants were subjected to measures of frailty and sociodemographics characteristics.

The following variables were used to their sociodemographic characteristics: gender, age, marital status, education, family income in minimum salary, family structure, current work and retirement.

For the assessment of frailty, we adopted the definition proposed by Linda Fried[11]. There are five elements of the operational definition of the syndrome or frailty phenotype: 1) unintentional weight loss equal or higher than 4.5 kg; 2) weakness assessed by self-reports; 3) low grip strength measured with a portable hydraulic dynamometer in dominant hand; 4) low energy expenditure measured in kilocalories assessed from self-reported exercise and housework; 5) low gait velocity indicated by the average time taken to cover the distance of 4.6 m. For the last three criteria, frailty is scored for individuals that obtained results located between the lowest 20% of the sample. The presence of three or more of the five characteristics of the phenotype mean frailty, one or two means pre-frailty and no characteristic indicates a non-frail elderly.

All ethical principles ruling research with human subjects were observed. The use of data belonging to UNICAMP FIBER Project was authorized by the study coordinator. This investigation was approved by the Ethical Research Committee as an addendum to the study FIBRA (protocol 208/2007) in 27/09/2011.

Data were coded and entered into an electronic spreadsheet and analyzed with SPSS software, version 17.0. Data were analyzed with descriptive statistics and presented in tables, with absolute numbers and percentages for categorical variables, means, standard deviations and medians for numerical variables.

## RESULTS

The sample for this study consisted of 1,866 elderly. Table 1 shows the distribution of the elderly according to sociodemographic characteristics and levels of frailty.

Table 2 shows the measures of position and dispersion of numerical variables.

**Table 1** – Distribution of elderly who naps according to sociodemographic and frailty levels – UNICAMP, Campinas, 2008-2009.

| Variable (n) * | N | % |
|---|---|---|
| **Gender (1,866)** | | |
| Male | 680 | 36.4 |
| Female | 1186 | 63.6 |
| **Age group (1,866)** | | |
| 65 to 69 years | 634 | 34.0 |
| 70 to 74 years | 555 | 29.7 |
| 75 to 79 years | 390 | 20.9 |
| 80 years or more | 287 | 15.4 |
| **Marital status (1,862)** | | |
| Married or living with partner | 925 | 49.7 |
| Single | 153 | 8.2 |
| Separated | 107 | 5.7 |
| Widow | 677 | 36.4 |
| **Education (1,864)** | | |
| 0 | 353 | 18.9 |
| 1 to 4 years | 932 | 50.0 |
| 5 to 8 years | 335 | 18.0 |
| 9 years or more | 244 | 13.1 |
| **Family income† (1,566)** | | |
| 0 to 1.0 minimum salary | 173 | 11.1 |
| 1.1 a 3.0 minimum salary | 750 | 47.9 |
| 3.1 a 5.0 minimum salary | 353 | 22.5 |
| 5.1 a 10.0 minimum salary | 185 | 11.8 |
| >10.0 minimum salary | 105 | 6.7 |
| **Family structure (1,862)** | | |
| Alone | 226 | 12.2 |
| Only with partner | 359 | 19.3 |
| Ancestry | 517 | 27.7 |
| Partner + ancestry | 484 | 26.0 |
| Other family members and externs | 97 | 5.2 |
| Other structure mixed | 179 | 9.6 |
| **Work (1,855)** | | |
| Yes | 265 | 14.3 |
| No | 1590 | 85.7 |
| **Retired (1,854)** | | |
| Yes | 1426 | 76.9 |
| No | 428 | 23.1 |
| **Frailty (1,838)** | | |
| Not frail | 708 | 38.5 |
| Pre-frail | 952 | 51.8 |
| Frail | 178 | 9.7 |

* The different sample numbers for each variable refers to the absence of responses in the study protocol. † The minimum salary in 2008 was R$ 415.00, and in 2009 was R$ 465.00.
Nota: n=1,866

**Table 2** – Descriptive analysis of numerical variables age, number of children, frequency of naps, duration of naps, family income and years of education – UNICAMP, Campinas, 2008-2009.

| Variable | N | Mean | Standard-deviation | Minimum | Q1 | Median | Q3 | Maximum |
|---|---|---|---|---|---|---|---|---|
| Age | 1,866 | 73.0 | 5.9 | 65.0 | 68.0 | 72.0 | 77.0 | 101.0 |
| Nap days* | 1,811 | 5.9 | 1.9 | 1.0 | 5.0 | 7.0 | 7.0 | 7.0 |
| Nap hours† | 1,797 | 53.5 | 42.7 | 1.0 | 30.0 | 40.0 | 60.0 | 360.00 |
| Income‡ | 1,566 | 4.0 | 4.9 | 0.0 | 1.9 | 2.4 | 4.3 | 72.3 |
| Education years | 1,864 | 4.3 | 3.9 | 0.0 | 1.0 | 4.0 | 5.0 | 22.0 |

* The frequency of naps was in days per week.
† The length of naps was expressed in minutes per nap.
‡ Family income was expressed in minimum salary.
Note: n=1.866.

## DISCUSSION

The results show that there was a female predominance (63.6%), which is corroborated by both the national[12-16] and international[17] literature. The high number of female participation in studies with elderly reflects the greater longevity of women with higher chances of survival. This phenomenon is known as feminization of old age.

This fact might be understood given their lower exposure to certain occupational risk factors, given that in the past, men's activities were focused on the labor market and women were supposed to care for the home. In addition, women use health services more often when compared to men[12-16]. Note that they also have lower prevalence of smoking and alcohol consumption[14-16] and are less exposed to mortality from external causes (violence and car accidents, for example) when compared to young men[16].

In relation to gender, some studies have found higher rates of napping among elderly men compared with elderly women[8,18]. However, there is controversy in the literature about it[19].

In the present study, there was a prevalence of the age group 65 to 69 years (34.0%). The average age of the elderly was 73.0 years (SD=5.9), varying between 65 and 101 years. These data are consistent with both international[17] and national studies[20-21]. The prevalence of participants in the age group of young elderly in research demonstrates the characteristic of recent aging of the Brazilian context, unlike developed countries, where there is a prevalence of older elderly, ie, 80 years and over[22].

Regarding marital status, the majority of the elderly in this study were married or living with a partner (49.7%), followed by widowed (36.4%). Researchers claim that having a companion to perform daily activities is important for the health of the elderly, contributing to self-esteem and autonomy[16]. Male individuals seem to have more benefits in relation to marriage than females. This is because men are more likely to stay married, whereas women are more likely to become widows due to greater longevity. This difference in relation to marital status reflects widespread cultural aspects between generations. When they become widowed, men tend to remarry, while widows women usually remain without a partner, assuming mourning for the rest of their lives, exclusively dedicated to their children and their home[14].

Regarding education, most elderly presented one to four years of study (50.0%) and the average education was 4.3 years (SD=3.9), ranging between zero and 27 years of study. These results were also confirmed by the census conducted with Brazilian elderly: 50.2% with less than four years of education, 32.3% with four to eight years and 17.4% with nine or more years of education[23].

Low education can be explained by the time these elderly were born and raised. There was no appreciation for formal education and socioeconomic conditions were precarious, reflecting problems in accessing education, especially in rural areas, as these were located in closer villages[20]. Children's education was privilege of a minority: the boys were responsible for the cultivation of the land, while the girls helped their mothers with household activities[14,20-21].

Authors state that low education may be associated with negative health-related outcomes of the elderly, such as mental health problems, frailty and chronic conditions[16]. Elderly with low education may have a precarious state of health resulting from bad lifestyles, greater social exclusion, lower level of information and poor socioeconomic conditions for free access to health services as early as possible. In contrast, access to literacy can foster greater participation of the elderly in health promotion programs[16].

Education may be seen as a categorical variable to health conditions, since the higher the education, the healthier the lifestyle will be and the greater demand for services of disease prevention and health promotion will be[24]. The chances for a better health status report from elderly is higher among those with more years of education[12].

In this study, most of the elderly (85.7%) did not work at the time of the research and they were retired (76.9%). The average monthly family income was 4.0 times the minimum salary (SD=4.9), with prevalence of the range from 1.1 to 3.0 minimum salary per month (47.9%).

In Brazil, the income for the elderly is until a minimum salary 43.2% or from one to two minimum salary to 29.0%[23]. The income strongly impact the health of the population and the elderly may also be victims, due to money expenditures with

medication in this stage of life. In addition, due to recent change in family structure, many elderly significantly contribute to the family budget. Retirement becomes a fixed guaranteed to meet the basic needs of households of the elderly[14,20], they often assume financial responsibility and become providers of their unemployed children and grandchildren. Insufficient income situation causes great social vulnerability, exposing the elderly to the risk of aggravation of existing diseases and the emergence of new conditions of illness, so insufficient income do not meet the needs of the elderly and their families[14].

Elderly with higher-income are more independent in self-care and make proper use of medications, while elderly with a lower income are more susceptible to diseases and therefore require more health care. However, in a contradictory way, the poor have less use of health services[12].

Regarding the family structure, most of the elderly reside only with their children (27.7%), followed by those living with their spouse and children (26.0%). The co-residence may be considered a strategy of families to benefit both the older and younger generations, as it can mean better living conditions. Factors influencing the composition of the households of the elderly depend on: the need of family members, gender, age, marital status, health status, number of elderly children and the degree of dependence[25].

In relation to frailty, 51.8% of the elderly showed to be pre-frail, 38.5% non-frail and 9.7% frail, considering the phenotype proposed by Linda Fried. These data corroborate the results of other studies found in the literature. The prevalence of frailty syndrome in research around the world with the use of this phenotype, were found in percentages ranging from 5 to 20%[26-27]. The increasing number of publications concerning the frailty syndrome in recent years refers to the growing interest in the matter, since frailty can be considered a public health problem, although it may be prevented or even reversed when treated early[27].

Regarding naps, 61.7% of the elderly reported napping during the day, on average 5.9 days per week (SD=1.9), with an average duration of 53.5 minutes (SD=42.7) per nap. These data are similar to other research[19,28] that indicated variation of 22-61% for prevalence rates in the usual nap. This is depending on the location of the study, the definition of nap that was used and the characteristics of the studied population[4-5].

Napping among elderly people can be considered a routine habit, especially in places where the climate is warm, such as China, Latin America and the Mediterranean region[29]. The time spent for daytime naps can both positively and negatively impact the health of the elderly. Authors claim that long naps would be detrimental, resulting in sleep inertia and interfering in the duration and quality of nocturnal sleep. Yet, short naps would be beneficial to increase wakefulness[5].

## CONCLUSION

Most elderly showed to be pre-frail and reported napping during the day, on average 5.9 days per week, lasting 53.5 minutes per nap. The profile of the elderly who naps constituted predominantly by women, with an average age of 73 years, four years of education, married, and retired with a monthly family income of 3.9 minimum salaries. As it is a multidisciplinary study, the profile presented here, in many aspects, brought us closer to the reality of the elderly who naps and are, in fact, an important cohort for future research in the area of aging.

The results emphasize the need to establish programs in accordance with specific characteristics for the elderly in frailty states or pre-fail who frequently naps.

The health professional must learn about the reality that surrounds him, being aware, and acting in a competent, scientific and technical manner, which requires critical reflection in relation to sleep problems that the elderly population present. Knowing the profile of the elderly who naps can contribute to more appropriate gerontological nursing care, because the professional will have subsidies to implement the best course of care according to their needs.

Even though national and international literature embodies the fact that the elderly is susceptible to the occurrence of sleep-related problems, there is a lack of attention on the part of public health in relation to this issue.

Thus, considering that the structure of public health policies should be grounded in the diagnosis of specific problems, it is expected that the results of this study may support programs of health promotion, health prevention and care for the elderly in a frailty condition and with disturbances related to sleep.

## REFERENCES


1. Oliveira BHD, Yassuda MS, Cupertino APFB, Liberalesso A. Relações entre padrão do sono, saúde percebida e variáveis socioeconômicas em uma amostra de idosos residentes na comunidade: Estudo PENSA. Ciênc Saúde Coletiva. 2012;15(3):851-60.
2. Alessi CA, Martin JL, Webber AP, Cynthia Kim E, Harker JO, Josephson KR. Randomized, controlled trial of a nonpharmacological intervention to improve abnormal sleep/wake patterns in nursing home residents. J Am Geriatr Soc. 2005;53(5):803-10.
3. Costa SV, Ceolim MF, Neri AL. Sleep problems and social support: Frailty in a Brazilian Elderly Multicenter Study. Rev Latino Am Enferm. 2011;19(4):920-7.
4. Ficca G, Axelsson J, Mollicone DJ, Muto V, Vitiello MV. Naps, cognition and performance. Sleep Med Rev. 2010;14(4):249-58.
5. Martin JL, Ancoli-Israel S. Napping in older adults. Sleep Med Clin. 2006;1(2):177-86.

6. Monk TH, Buysse DJ, Carrier J, Billy BD, Rose LR. Effects of afternoon "siesta" naps on sleep, alertness, performance, and circadian rhythms in the elderly. Sleep. 2001;24(6):680-7.

7. Jung KI, Song CH, Ancoli-Israel S, Barrett-Connor E. Gender differences in nighttime sleep and daytime napping as predictors of mortality in older adults: the Rancho Bernardo Study. Sleep Med. 2013;14(1):12-9.

8. Lam KBH, Jiang CQ, Thomas GN, Arora T, Zhang WS, Taheri S. Napping is associated with increased risk of type 2 diabetes: the Guangzhou Biobank Cohort Study. Sleep. 2010;33(3):402-7.

9. Tanabe N, Iso H, Seki N, Suzuki H, Yatsuya H, Toyoshima H, et al. Daytime napping and mortality, with a special reference to cardiovascular disease: the JACC study. Int J Epidemiol. 2010;39(1):233-43.

10. Ensrud KE, Blackwell TL, Redline S, Ancoli-Israel S, Paudel ML, Cawthon PM, et al. Sleep disturbances and frailty status in older community-dwelling men. J Am Geriatr Soc. 2009;57(11):2085-93.

11. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, et al. Frailty in older adults: evidence for a phenotype. J Gerontol Biol Sci Med Sci. 2001;56(3):M146-56.

12. Louvison MCP, Lebrão ML, Duarte YAO, Santos JL, Malik AM, Almeida ES, et al. Desigualdades no uso e acesso aos serviços de saúde entre idosos do município de São Paulo. Rev Saúde Pública. 2008;42(4):733-40.

13. Silva HO, Carvalho MJAD, Lima FEL, Rodrigues LV. Perfil epidemiológico de idosos frequentadores de grupos de convivência no município de Iguatu, Ceará. Rev Bras Geriatr Gerontol. 2011;14(1):123-33.

14. Clares JWB, Freitas MC, Almeida PC, Galiza FT, Queiroz TA. Perfil de idosos cadastrados numa unidade básica de saúde da família de Fortaleza-CE. Rev RENE. 2011;12(n. esp):988-94.

15. Andrade WJ, Araújo A, Campos KFC. Estudo descritivo sobre a fragilidade de idosos assistidos em uma unidade de saúde da família. Rev Enferm Cent Oeste Min. 2011;1(4):470-81.

16. Del Duca GF, Silva SG, Thumé E, Santos IS, Hallal PC. Indicadores da institucionalização de idosos: estudo de casos e controles. Rev Saúde Pública. 2012;46(1):147-53.

17. Fernandez-Martinez B, Prieto-Flores ME, Forjaz MJ, Fernández-Mayoralas G, Rojo-Pérez F, Martínez-Martín P. Self-perceived health status in older adults: regional and sociodemographic inequalities in Spain. Rev Saúde Pública. 2012;46(2):310-9.

18. Picarsic JL, Glynn NW, Taylor CA, Katula JA, Goldman SE, Studenski SA, et al. Self-reported napping and duration and quality of sleep in the lifestyle interventions and independence for elders pilot study. J Am Geriatr Soc. 2008;56(9):1674-80.

19. Foley DJ, Vitiello MV, Bliwise DL, Ancoli-Israel S, Monjan AA, Walsh JK. Frequent napping is associated with excessive daytime sleepiness, depression, pain, and nocturia in older adults: findings from the National Sleep Foundation "2003 Sleep in American Poll. Am J Geriatr Psychiatry. 2007;15(4):344-50.

20. Alvarenga MRM, Oliveira MAC, Domingues MAR, Amendola F, Faccenda O. Rede de suporte social do idoso atendido por equipes de saúde da família. Ciênc Saúde Coletiva. 2011;16(5):2603-11.

21. Fhon JRS, Diniz MA, Leonardo KC, Kusumota L, Haas VJ, Rodrigues RAP. Síndrome de fragilidade relacionada à incapacidade funcional no idoso. Acta Paul Enferm. 2012;25(4):589-94.

22. Sousa AI, Silver LD. Perfil sociodemográfico e estado de saúde autorreferido entre idosas de uma localidade de baixa renda. Esc Anna Nery Rev Enferm. 2008;12(4):706-16.

23. Instituto Brasileiro de Geografia e Estatística (IBGE). Síntese de indicadores sociais. Uma análise das condições de vida da população brasileira 2010. Rio de Janeiro; 2010. (Informação Demográfica e Socioeconômica, 27).

24. Noronha KVMS, Andrade MV. Desigualdades sociais em saúde e na utilização dos serviços de saúde entre idosos na América Latina. Rev Panam Salud Pública. 2005;17(5/6):410-8.

25. Luchesi BM, Pavarini SCI, Viana AS. Cognitive alterations of the elderly in home settings and the attitudes of children towards aging. Rev Esc Enferm USP. 2012;46(2):335-41.

26. Santos-Eggimann B, Cuénoud P, Spagnoli J, Junod J. Prevalence of frailty in middle-aged and older community-dwelling Europeans living in 10 countries. J Gerontol A Biol Sci Med Sci. 2009;64A(6):675-81.

27. Tribess S, Oliveira RJ. Síndrome da fragilidade biológica em idosos: revisão sistemática. Rev Salud Pública. 2011;13(5):853-64.

28. Cohen-Mansfield J, Perach R. Sleep duration, nap habits and mortality in older persons. Sleep. 2012;35(7):1003-9.

29. Xu Q, Song Y, Hollenbeck A, Blair A, Schatzkin A, Chen H. Day napping and short night sleeping are associated with higher risk of diabetes in older adults. Diabetes Care. 2010;33(1):78-83.



**Acknowledgements**

We acknowledge the financial support of the Coordination of Improvement of Higher Education Personnel (CAPES) and FIBRA study coordinator, PhD, Professor Anita Liberalesso Neri.



**Correspondence addressed to**: Ariene Angelini dos Santos
Rua Luiz Turri, 47 – Jardim Planalto
CEP 37800-000 – Guaxupé, MG, Brazil