






Factors associated with communication independence in older adults in the community

Fatores associados à independência de comunicação entre idosos da comunidade

Factores asociados a la independencia de comunicación em adultos mayores de la comunidade

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ABSTRACT

Objective: to describe mean independence overall and by communication domains in older adults in the community, and to ascertain the socio-demographic and health variables associated with higher mean communication independence in elderly. **Method:** this analytical, cross-sectional study was conducted with 808 older adults in the community. Descriptive, bivariate and multiple linear regression analyses were performed ($p < 0.05$). **Results:** minimum need for assistance in communication was assessed (6.43 ± 0.77); by domains, the highest communication independence score was obtained in basic needs (6.88 ± 0.51) and the lowest in reading, writing and numerical concepts (5.96 ± 1.63). Higher mean communication independence scores were associated with the 60–80 age group ($p < 0.001$); level of schooling ($p < 0.001$); income greater than one minimum wage ($p < 0.001$); and absence of cognitive decline ($p < 0.001$) and of indications of depressive symptoms ($p = 0.014$). **Conclusion:** Schooling, lower age, higher income and the absence of cognitive decline and indications of depressive symptoms contributed to greater communication independence.

Descriptors: Aged; Health of the Elderly; Geriatric Nursing; Communication.

RESUMO

Objetivo: descrever a média total de independência geral e por domínios de comunicação dos idosos da comunidade e verificar as variáveis sociodemográficas e de saúde associadas à maior média de independência de comunicação entre os idosos. **Métodos:** estudo transversal e analítico, desenvolvido entre 808 idosos da comunidade. Procederam-se às análises: descritiva, bivariada e regressão linear múltipla ($p < 0,05$). **Resultados:** verificou-se necessidade mínima de auxílio na comunicação ($6,43 \pm 0,77$); quanto aos domínios obteve maior escore de independência de comunicação nas necessidades básicas ($6,88 \pm 0,51$) e menor na leitura, escrita e conceitos numéricos ($5,96 \pm 1,63$). A maior média de independência de comunicação associou-se à faixa etária 60–80 ($p < 0,001$); ter escolaridade ($p < 0,001$); renda maior que um salário mínimo ($p < 0,001$); à ausência do declínio cognitivo ($p < 0,001$) e do indicativo de sintomas depressivos ($p = 0,014$). **Conclusão:** a escolaridade, menor idade, maior renda e a ausência do declínio cognitivo e do indicativo de sintomas depressivos contribuíram para maior independência de comunicação.

Descritores: Idoso; Saúde do idoso; Enfermagem Geriátrica; Comunicação.

RESUMEN

Objetivo: describir la independencia media global y por dominios de comunicación en adultos mayores de la comunidad, y conocer las variables sociodemográficas y de salud asociadas con una mayor independencia media de comunicación en adultos mayores. **Método:** este estudio analítico y transversal se realizó con 808 adultos mayores de la comunidad. Se realizaron análisis descriptivos, bivariados y de regresión lineal múltiple ($p < 0,05$). **Resultados:** se evaluó la necesidad mínima de asistencia en la comunicación ($6,43 \pm 0,77$); por dominios, la puntuación más alta de independencia comunicativa se obtuvo en necesidades básicas ($6,88 \pm 0,51$) y la más baja en lectura, escritura y conceptos numéricos ($5,96 \pm 1,63$). Las puntuaciones medias más altas de independencia de la comunicación se asociaron con el grupo de edad de 60 a 80 años ($p < 0,001$); nivel de escolaridad ($p < 0,001$); ingresos superiores a un salario mínimo ($p < 0,001$); y ausencia de deterioro cognitivo ($p < 0,001$) y de indicaciones de síntomas depresivos ($p = 0,014$). **Conclusión:** La escolaridad, la menor edad, los ingresos más altos y la ausencia de deterioro cognitivo e indicaciones de síntomas depresivos contribuyeron a una mayor independencia comunicativa.

Descriptorios: Anciano; Salud del Anciano; Enfermería Geriátrica; Comunicación.

INTRODUCTION

Population aging poses new challenges for health professionals^{1,2}, including communication functionality³. Functional communication consists in the ability to convey and understand a message independently and efficiently⁴. Approximately one fifth of the Brazilian population over 65 years old shows communication impairment, which can result in loss of independence and feelings of loneliness⁵.

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Responsible editor: Sonia Acioli de Oliveira.

Communication plays a central role in individuals' relationships with their environment, constituting a decisive factor for the independence, autonomy and well-being of the elderly⁶. In the Nursing field, communication is an essential strategy in the care for the elderly population, as it provides these individuals with security and trust in health professionals, thus enabling them to express their needs and promoting positive interaction between the person being cared for and nurses⁷. Therefore, it is necessary to seek knowledge on this topic in order to guide the use of communication in different care-provision situations⁷.

The conditions resulting in communication problems differ in type and severity as well as in their relation to other comorbidities⁸. A study conducted on non-institutionalized elderly people living in the United States found that those with communication difficulties were older and had a negative self-perception of their health, a larger number of morbidities, greater functional limitations, higher levels of visual impairment, smaller social networks, less participation in social activities and higher loneliness scores as compared to those without communication difficulties⁹.

The statements concerning the impact of communication problems are complex, as several conditions are associated with physical and cognitive limitations, which can affect the elderly's autonomy and independence⁹. Thus, research with an emphasis on this topic helps health professionals in the development of early interventions by directing care provision, such as in health promotion, disease prevention and control of risk factors⁹, contributing to the maintenance of independence and communication capacity and consequently to cost reduction in health services¹⁰.

In the domestic and international scientific literature, studies were identified which evaluated the profile of functional communication in healthy non-institutionalized elderly individuals¹¹; the association between social communication and independence for Instrumental Activities of Daily Living among elderly people in the community³; in the elderly with mild cognitive impairment⁶; and in those under outpatient follow-up¹². Other investigations evaluated the factors associated with the negative aspects of communication skills^{3,8,9,13}. However, gaps in understanding the factors associated with the positive aspects of communication independence among the community elderly are highlighted.

By considering that communication dependence is an important indicator of the elderly's cognitive capacity¹⁴, that its early identification is essential to prevent functional disabilities in this age group³ and that there is a scarcity of investigations on this topic, the objectives of this study were to describe the total mean for overall independence and the means by communication domains of the community elderly, as well as to evaluate the sociodemographic and health variables associated with the highest mean for communication independence among the elderly.

METHOD

This is a cross-sectional, observational, analytical, household-survey type of study with a quantitative approach. It was conducted in the urban area of a municipality in Minas Gerais.

Multiple-stage cluster sampling was used to select the population from the urban area. The sample size calculation considered a coefficient of determination $R^2 = 0.02$ in a multiple linear regression model with eight predictors and a level of significance or type-I error of $\alpha = 0.05$ and type-II error of $\beta = 0.2$, thus resulting in an a-priori statistical power of 80%. By using the PASS (Power Analysis and Sample Size) application, version 13, and introducing the values described above, a minimum sample size of $n = 744$ was obtained. Considering a 15% sample loss (refusal to participate), the final number of interview attempts was 930.

The inclusion criteria were: being 60 years old or older and living in the municipality's urban area. The elderly with cognitive decline, as assessed by the Mini-Mental State Examination (MMSE)¹⁵, without an informant to answer the Functional Activities Questionnaire (PFEFFER)¹⁶ and with a final score greater than or equal to six points on PFEFFER; those who had severe sequelae from stroke with localized loss of strength and aphasia; those with Parkinson's disease in a severe or unstable stage and severe impairment of motor skills, speech or affectivity were excluded, as these conditions would make evaluations impossible

Eight hundred and twenty-three elderly people were interviewed, of whom 15 showed cognitive decline. Thus, 808 elderly individuals composed the study sample.

Data were collected at the elderly's home from May (2017) to June (2018) by direct interviews. Sociodemographic data and self-reported morbidities were obtained using a structured form. In order to check for the presence of depressive-symptom indications, the Abbreviated Geriatric Depression Scale was used¹⁷. Cognitive decline was measured by MMSE, considering the cutoff points: ≤ 13 for illiterate, ≤ 18 for medium education (from 1 to 11 years) and ≤ 26 for high education (over 11 years)¹⁵.

Communication independence was assessed by using the Functional Assessment of Communication Skills (ASHA-FACS)¹⁸, applied to the caregiver/family member. It consists of four domains: Social Communication, which is related to social situations that require interaction with the speaker; Communication of Basic Needs, that is, reaction to situations of need and emergency; Reading, Writing and Number Concepts, which consists of the elderly's ability to take notes, identify food labels and/or fill out small forms; and Daily Planning, which involves the notion of an agenda to be fulfilled and commitments, and use of the telephone and a calendar¹⁸. ASHA-FACS is graded as a seven-point scale which assesses the performance of communication over the independence "continuum", in terms of the levels of assistance and/or readiness required for communication¹⁸. In this gradation, seven means that the individual has an adequate performance for the item, without need for any assistance; six - needs minimal assistance for proper performance; five - minimal to moderate assistance; four - moderate assistance; three - moderate to maximum assistance; two - maximum assistance; and one - is not capable of a certain behavior, even with maximum assistance for that. At the end, the weighted mean is calculated, reaching the mean communication independence value¹⁸.

The sociodemographic variables studied were: sex (female; male), age group, in years (60-70; 70-80; 80 or older), education, in years of schooling (none; 1-5; 5 years or more), housing arrangement (alone; accompanied) and individual monthly income, in minimum wages (without income; ≤ 1; > 1). Health-related variables: number of self-reported morbidities (0-5; 5 or more); indication of depressive symptoms (yes; no) and cognitive decline (yes; no) and communication independence score.

To conduct the interviews, ten interviewers were selected, who were trained and qualified to approach ethical research issues. An electronic database was developed using Excel®, with double entry. After checking the inconsistencies between the two databases, the database was imported into the software "Statistical Package for the Social Sciences" (SPSS®), version 22.0, for analysis.

The data were submitted to absolute- and relative-frequency analysis of categorical variables, and means and standard deviations were calculated for quantitative variables. To check the sociodemographic and health factors associated with the highest mean of communication independence, a preliminary bivariate analysis was performed using Student's t test. The variables of interest that met the established criterion (p≤0.10) were introduced in the multiple linear regression model. The outcome was the communication independence score and the predictor variables: sex; age group; schooling; housing arrangement; number of self-reported morbidities; indication of depressive symptoms and cognitive ability. For the bivariate and multiple linear regression analyses, the following variables were dichotomized: age group (60-80 years; 80 years or older); schooling (with; without) and monthly individual income, in minimum wages (> 1; ≤ 1). A 95% confidence interval and a significance level of p < 0.05 were considered.

The project was approved by the Committee for Ethics in Research involving human subjects, report No. 2.053.520. Following the elderly participants' consent and signature of the Informed Consent Form, the interview was conducted.

RESULTS

Most of the elderly participants were females (66.7%), were 70-80 years old (42.1%), lived with a companion (81.6%), had 1-5 years of schooling (50.4%), an individual monthly income of up to one minimum wage (51.0%), five or more self-reported morbidities (67.5%), showed no cognitive decline (98.5%) and no indications of depressive symptoms (76.5%).

Table 1 shows the domains of the Functional Assessment of Communication Skills among elderly community members.

TABLE 1: Distribution of means and standard deviations for the domains of the Functional Assessment of Communication Skills among elderly people in Uberaba, Minas Gerais, Brazil, 2018.

Domains	Mean	Standard Deviation
Social Communication	6.79	0.52
Communication of Basic Needs	6.88	0.51
Reading, Writing and Number Concepts	5.96	1.63
Daily Planning	6.07	1.29
Communication Independence (total mean)	6.43	0.77

Regarding communication independence, the total mean achieved by the elderly participants was 6.43 (± 0.77) points, considering that they showed minimal need for assistance in this function. In the analysis of each domain, there was a higher mean for independence in Communication of Basic Needs (6.88 ± 0.51) and a lower mean in Reading, Writing and Number Concepts (5.96 ± 1.63).

Table 2 shows the distribution of sociodemographic and health variables, according to the communication independence score of elderly community members.

TABLE 2: Comparative analysis of the communication independence score, according to the sociodemographic and health variables of the elderly community members, Uberaba, Minas Gerais, Brazil, 2018.

Variables	Mean	Standard Deviation	<i>p</i> *
Sex			
Male	6.54	0.63	0.002
Female	6.37	0.82	
Education			
With schooling	6.58	0.66	<0.001
No schooling	5.68	0.80	
Age range			
60 80	6.48	0.75	<0.001
80 or older	6.22	0.79	
Housing arrangement			
Lives with a companion	6.43	0.77	0.880
Lives alone	6.42	0.77	
Individual monthly income (in minimum wages)			
> 1	6.60	0.60	<0.001
≤ 1	6.29	0.85	
Number of self-reported morbidities			
0 5	6.48	0.77	0.192
5 or more	6.40	0.77	
Cognitive ability			
No cognitive decline	6.44	0.75	<0.001
With cognitive decline	5.23	0.86	
Indication of depressive symptoms			
No	6.48	0.75	<0.001
Yes	6.25	0.79	

Note: **p* ≤ 0.10.

In the bivariate analysis, the variables that met the established criterion (*p* ≤ 0.10) and were included in the final multiple linear regression model were sex (*p* = 0.002); schooling (*p* < 0.001); age group (*p* < 0.001); individual monthly income (*p* < 0.001); cognitive ability (*p* < 0.001); and indication of depressive symptoms (*p* < 0.001).

Table 3 shows the association between communication independence and sociodemographic and health characteristics of the elderly community members.

TABLE 3: Final multiple linear regression model of communication independence among elderly community members, Uberaba, Minas Gerais, Brazil, 2018.

Variables	β	<i>p</i> *
Sex		
Female	1	
Male	0.047	0.131
Education		
No schooling	1	
With schooling	0.396	<0.001
Age group (in years)		
80 or older	1	
60 80	0.108	<0.001
Individual monthly income (in minimum wages)		
≤ 1	1	
> 1	0.107	0.001
Cognitive ability		
With cognitive decline	1	
No cognitive decline	0.164	<0.001
Indication of depressive symptoms		
Yes	1	
No	0.076	0.014

Note: **p* < 0.05; 1-reference category.

The highest mean for communication independence was associated with the presence of schooling ($p < 0.001$); age group 60–80 years ($p < 0.001$); individual monthly income > 1 minimum wage ($p < 0.001$); the absence of cognitive decline ($p < 0.001$) and indication of depressive symptoms ($p = 0.014$).

DISCUSSION

The sociodemographic and health characteristics of the elderly participants in the study are in agreement with those in domestic and international studies carried out among elderly people in the community, which found a predominance of elderly women^{3,6,9,13}, aged 70–80 years^{6,9}, living with a partner⁹, with 1–5 years of schooling^{3,13} and an individual monthly income of up to one minimum wage^{3,13}, with polymorbidities¹⁹, without cognitive decline²⁰ and absence of indications for depressive symptoms^{21–23}.

Communication problems affect people of all ages; however, the prevalence and complexity of these conditions increase with age³. The total mean for communication independence in the present study was higher than that found in investigations conducted on community (6.18 points)¹¹ and hospitalized (5.27 points)²⁴ elderly. Communication limitations associated with the human aging process affect the elderly's daily activities, such as access to health care and maintenance of social roles⁸. Thus, when using communication resources, nursing professionals are able to recognize the elderly person's individual needs early and widely and thus include him/her when planning, executing and evaluating the care to be provided¹⁰.

The highest mean in the domain for Communication of Basic Needs differs from that in the study among elderly community members, in which the Social Communication domain was the one with the highest mean (6.64 points)¹¹. The fact that they performed better in the domain for communication of basic needs can express the role that oral language plays in communicative activities, especially when it comes to individuals with poor schooling¹¹, which is a characteristic of the elderly participants in the present study.

Corroborating the present study, the lowest mean in the domain for Reading, Writing and Number Concepts was found in the investigation on the community elderly¹¹. The communication skills measured in this domain consist of the elderly's ability to write down a message, identify food labels and/or fill out small forms¹⁸, activities that depend on content usually learned at school. The mean schooling of the Brazilian population aged 60 or over is low, with a mean of 4.1 years of schooling throughout their lives, and the illiteracy data for this population is expressive, as it is present in 5.1 million people²⁵. Given this fact, it is essential that nursing professionals consider this factor, which can interfere with the understanding of information and adherence to necessary care for health maintenance.

Concerning the association between the presence of schooling and the higher mean for communication independence, an investigation conducted on elderly people registered in a Family Health Unit in Rio de Janeiro (RJ) found that 79.6% reported only elementary education¹³. A high prevalence of difficulty in reading and writing skills was also identified, with a higher percentage (52.8%) related to the difficulty in organized reading¹³, which may justify the obstacles identified for the elderly's communication independence. However, in that investigation, there was no analysis of the association between schooling and communication skills.

Nevertheless, the inverse relationship, that is, the association between the presence of schooling and a higher mean of communication independence, can be explained by the elderly's greater capacity to understand health-related information, manage their basic needs, design a daily plan and integrate and interact in the social sphere. It is important to note that investigations on the association between schooling and a higher mean of communication independence among the elderly were not identified in the scientific literature.

With regard to the result for the age-group variable, an international investigation on elderly community members aged 65 and over found that, when comparing mean ages among elderly people with (74.15±6.23) and without (77.53±6.84) communication problems, the younger ones showed less communication difficulty ($p < 0.001$) and a larger social relations network ($p = 0.002$)⁹.

Changes in communication skills are the result of the normal human aging process, which can occur concurrently with the presence of chronic diseases. Therefore, such losses and changes are commonly identified in older people⁸, while those in the younger age group have higher means of communication independence and corroborate the results found in the present study.

Communication independence can also be an important indicator of the elderly's cognitive capacity, reflecting preserved or altered aspects¹⁴. This relationship between communication difficulties and cognitive decline in the elderly

population has been mentioned in the scientific literature^{6,14}; however, no studies have been identified that verified the association between communication independence and cognitive decline in this population group.

Cognitive decline can cause significant impairment of memory, learning, language, orientation, executive functions, speed of information processing, autonomy and functional and communication independence, generating losses in the quality of life and health of this population^{26,27}. Elderly people with cognitive decline show alterations that interfere with communication, such as difficulties in referring to family members by name, requesting information about people or events and understanding conversations in noisy environments and what they watch on television or hear on the radio⁶.

A study conducted among elderly people enrolled in the program of the Open University for Older Adults, a program by the Federal University of Pernambuco, showed a significant relationship between independence for instrumental activities of daily living and the four domains of social communication, namely: referring to family members by their names ($p=0.003$); requesting information about people or events ($p=0.035$); understanding conversations in a noisy environment ($p=0.044$) and what one watches on television or hears on the radio ($p=0.012$)⁶.

Thus, communicative disability is considered an important cause of loss or restriction to social participation, compromising the ability to execute the decisions taken and directly affecting an individual's independence^{5,6,28}.

The elderly's isolation, which is often related to the decline in the quality of their communication, can generate a psychosocial impact on older people. Therefore, it is noteworthy that good communication maintenance is an important determinant for active aging, since it allows the elderly's inclusion and social interaction, preventing isolation and the onset of depressive symptoms^{3,13}. It is also noteworthy that studies reporting an association between communication independence and the presence of indications of depressive symptoms were not found in the domestic and international literature.

In addition, communication does not only include aspects such as the exchange of information, but it is also considered an important tool for stabilizing and maintaining social life, besides being an important factor in obtaining health care⁸. In this context, the assessment of communication skills becomes essential for the elderly to maintain or improve functions related to socialization, well-being and functional autonomy maintenance, and thereby optimize their quality of life¹³.

Since communication independence is an essential tool in health care, it is necessary to evaluate it during the gerontological nursing consultation in order to guide the care provision plan. In addition, primary-care nurses are the professionals who have more contact with the community elderly, thus the identification of sociodemographic and health factors associated with this population's communication independence helps in the planning and implementation of nursing actions directed to these conditions in search of well-being and quality of life improvement.

On the other hand, there are limitations regarding the cross-sectional design, which does not allow establishing a causal relationship between the factors investigated and the exclusion of elderly people with cognitive impairment, which may have favored a healthier sample. However, the possibility of selection bias was minimized, since all eligible elderly people were interviewed.

CONCLUSION

The elderly showed minimal need for communication assistance, with greater independence in the basic-needs domain and worse in reading, writing and number concepts. The presence of schooling, as well as younger age, higher income and the absence of cognitive decline and indications of depressive symptoms were associated with a higher mean for communication independence.

The results show the need for an expanded understanding of the factors associated with the community elderly's communication independence, especially those with older age and low schooling and income, as their occurrence is influenced by multifactorial aspects that vary according to the context in which individuals live. In addition, cognitive decline and indication of depressive symptoms are aspects that must be considered in the development of nursing strategies aimed at this population segment, since they are factors that can be addressed by these health care professionals.

REFERÊNCIAS

1. World Health Organization. Global health observatory data repository. Retrieved. 2015. [cited 2020 May 25] Available from: <http://apps.who.int/gho/data/view.main.700?lang=en>

2. Barris MJ, Fernandes AA. Active ageing promotion at local level: Analyzing municipal programs. *Rev. Port. Saúde Pública* [Internet]. 2014; [cited 2020 May 25]; 32(2):188-96. DOI: <https://doi.org/10.1016/j.rpsp.2014.09.002>
3. Coutinho ATQ, Vilela MBR, Lima MLLT, Silva VL. Social communication and functional independence of the elderly in a community assisted by the family health strategy. *Rev. CEFAC* [Internet]. 2018 [cited 2020 May 25]; 20(3):363-73. DOI: <http://dx.doi.org/10.1590/1982-0216201820313417>
4. American Speech-Language-Hearing Association (ASHA). Advisory report, functional communication measures project. Rockville (MD). 1990 [cited 2020 may 25]; DOI: https://doi.org/10.1007/978-3-319-56782-2_854-4
5. Moraes EM, Pereira AMVB, Azevedo RS, Moraes FL. Avaliação multidimensional do idoso. Secretaria de estado da saúde do Paraná. Curitiba: SESA [Internet]. 2018 [cited 2020 May 25]; 113. Available from: https://www.saude.pr.gov.br/sites/default/arquivos_restritos/files/documento/2020-04/avaliacaomultidoidoso_2018_atualiz.pdf
6. Sobral AIGP, Araujo CMT, Sobral MFF. Mild cognitive impairment in the elderly Relationship between communication and functional capacity. *Dement. Neuropsychol.* [Internet]. 2018 [cited 2020 May 25]; 12(2):165-72. DOI: <http://dx.doi.org/10.1590/1980-57642018dn12-020009>
7. Silva JPG, Costa KNFM, Silva GRF, Oliveira SHS, Almeida PC, Fernandes MG. Nursing consultation for the elderly: instruments of communication and nursing roles according to Peplau. *Esc. Anna Nery Rev. Enferm.* [Internet]. 2015 [cited 2020 May 25]; 19(1):154-61. DOI: https://www.scielo.br/scielo.php?pid=S1414-81452015000100154&script=sci_arttext&tlng=en
8. Yorkston KM, Bourgeois MS, Baylor CR. Communication and Aging. *Phys. Med. Rehabil. Clin. N. Am* [Internet]. 2010 [cited 2020 May 25]; 21(2):309-19. DOI: <http://dx.doi.org/10.1016/j.pmr.2009.12.011>
9. Palmer AD, Newsom JT, Rook KS. How does difficulty communicating affect the social relationships of older adults? An exploration using data from a national survey. *Journal of communication disorders* [Internet]. 2016 [cited 2020 May 25]; 62:131-46. DOI: <http://dx.doi.org/10.1016/j.jcomdis.2016.06.002>
10. Schimidt TCG, Duarte YAO, Silva MJP. Mediate evaluation of replicating a Training Program in Nonverbal Communication in Gerontology. *Rev. enferm. USP* [internet]. 2015 [cited 2020 May 25]; 49(2):309-16. DOI: <https://doi.org/10.1590/S0080-62342015000200017>
11. Garcia FHA, Mansur LL. Functional communication assessment: the healthy elderly. *Acta Fisiatria* [Internet]. 2006 [cited 2020 May 25]; 13 (2):87-9. Available from: <http://www.revistas.usp.br/actafisiatria/article/view/102591>
12. Santos, DT. Funcionalidade global, da deglutição e da comunicação de idosos com comprometimento cognitivo avançado [Master thesis]. Programa de Ciências da Reabilitação da Faculdade de Medicina, Universidade de São Paulo. 2018. [cited 2020 May 25]; DOI: <https://doi.org/10.11606/D.5.2019.tde-07022019-092504>
13. Santiago LM, Graça CML, Rodrigues COM et al. Characterization of the elderly health in a Speech and Language Therapy perspective. *Rev. CEFAC* [Internet]. 2016 [cited 2020 May 25]; 18(5):1088-96. DOI: <http://dx.doi.org/10.1590/1982-021620161855016>
14. Johnson MA, Lin F. Communication difficulty and relevant interventions in mild cognitive impairment: implications for neuroplasticity. *Top Geriatr. Rehabil.* [Internet]. 2014 [cited 2020 May 25]; 30(1) 18-34. DOI: <http://dx.doi.org/10.1097/TGR.0000000000000001>
15. Bertolluci, PHF; Brucki, SMD; Campacci, SR. et al. The Mini-Mental State Examination in an outpatient population: influence of literacy. *Arquivos de Neuro-psiquiatria São Paulo* [Internet]. 1994 [cited 2020 May 25]; 52(1):1-7. DOI: <http://dx.doi.org/10.1590/S0004-282X1994000100001>
16. Ministério da Saúde (Br). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Envelhecimento e saúde da pessoa idosa. Brasília-DF. [Internet]. 2007: 192. [cited 2020 May 25]. Available from: <http://bvsm.s.saude.gov.br/bvs/publicacoes/abcd19.pdf>
17. Almeida, OP; Almeida, SA. Reliability of the Brazilian version of the Geriatric Depression Scale (GDS) short form. *Arquivos de Neuropsiquiatria São Paulo* [Internet]. 1999 [cited 2020 May 25]; 57(2-B):421-6. DOI: <http://dx.doi.org/10.1590/S0004-282X1999000300013>
18. Carvalho IAM, Mansur LL. Validation of ASHA FACS—Functional Assessment of Communication Skills for Alzheimer Disease Population. *Alzheimer Dis. Assoc. Disord.* [Internet]. 2008 [cited 2020 May 25]; 22(4):375-81. DOI: <https://www.ncbi.nlm.nih.gov/pubmed/19068501>
19. Oliveira YCA, Celino SDM, Costa GMC. Communication as an essential tool for deaf people's health care. *Physis Revista de Saúde Coletiva* [Internet]. 2015 [cited 2020 May 25]; 25(1):307-20. DOI: <http://dx.doi.org/10.1590/S0103-73312015000100017>
20. Cruz DT, Cruz FM, Ribeiro AL, Veiga CL, Leite ICG. Association between cognitive ability and the occurrence of falls in elderly. *Cad. saúde coletiva* [Internet]. 2015 [cited 2020 May 25]; 23(4):386-93. DOI: <http://dx.doi.org/10.1590/1414-462X201500040139>
21. Sengupta P, Benjamin AI. Prevalence of depression and associated risk factors among the elderly in urban and rural field practice areas of a tertiary care institution in Ludhiana. *Indian. J. Public Health* [Internet]. 2015 [cited 2020 May 25]; 59(1):3-8. DOI: <https://doi.org/10.4103/0019-557X.152845>
22. Aragão EIS, Campos MR, Portugal FB, Gonçalves DA, Mari JJ, Fortes SLCL. Social Support patterns in Primary Health Care: differences between having physical diseases or mental disorders. *Ciênc. saúde coletiva* [Internet]. 2018 [cited 2020 May 25]; 23(7):2339-50. DOI: <http://dx.doi.org/10.1590/1413-81232018237.21012016>
23. Mendes-Chiloff CL, Lima MCP, Torres AR, Santos JLF, Duarte YO, Lebrão ML et al. Depressive symptoms among the elderly in São Paulo city, Brazil: prevalence and associated factors (SABE Study). *Rev. Bras. Epidemiol* [Internet]. 2018 [cited 2020 May 25]; 21(2):e180014. DOI: <http://dx.doi.org/10.1590/1980-549720180014.supl.2>



24. Pereira EEB, Souza ABF, Carneiro SR, Sarges ESNF. Global functionality of hospitalized elderly. *Rev. Bras. Geriatr. Geront* [Internet]. 2014 [cited 2020 May 25]; 17(1):165-76. Available from: <http://www.redalyc.org/articulo.oa?id=403838834016>
25. Instituto Brasileiro de Geografia e Estatística (IBGE). Mudança demográfica no Brasil no início do século XXI. Subsídios para as projeções das populações, 2016. [cited 2020 May 25]. Available from: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv93322.pdf>
26. Stoyanova II. Ghrelin: a link between ageing, metabolism and neurodegenerative disorders. *Neurobiol. Dis.* [Internet]. 2014 [cited 2020 May 25]; 20(72):72-83. DOI: <http://dx.doi.org/10.1016/j.nbd.2014.08.026>
27. Xavier AJ, D'orsi E, Oliveira CM, Orrell M, Demakakos P, Biddulph JP et al. English Longitudinal Study of Aging: Can Internet/E-mail Use Reduce Cognitive Decline? *J. Gerontol. A. Biol. Sci. Med. Sci* [Internet]. 2014 [cited 2020 May 25]; 69(9): 1117-21. DOI: <http://dx.doi.org/10.1093/gerona/flu105>
28. Keller-Cohen D, Fiori K, Toler A, Bybee D. Social relations, language and cognition in the "oldest old". *Age Society* [Internet]. 2006 [cited 2020 May 25]; 26(4):585-605. DOI: <https://doi.org/10.1017/S0144686X06004910>