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Attention to elderly: perceptions and practices of the Community Health Agents in a capital of the south of Brazil

Atenção ao idoso: percepções e práticas dos Agentes Comunitários de Saúde em uma capital do sul do Brasil

Keywords

Community Health Workers
Health of the Elderly
Speech, Language and Hearing Sciences
Public Health
Aging

Descritores

Agentes Comunitários de Saúde
Saúde do Idoso
Fonoaudiologia
Saúde Pública
Envelhecimento

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Received: April 20, 2018

Accepted: July 17, 2018

ABSTRACT

Purpose: To verify the perceptions and practices of Community Health Agents (CHAs) related to speech and language pathology issues, aiming at completeness of attention to the elderly. **Methods:** The present work is a transversal and descriptive study, in which questionnaires made to the CHAs in the city of Florianópolis were employed. The approach consisted in analysing recommendations given by the CHAs during house attendances for Elderly Health Promotion. Guidance on aspects such as hearing impairment, dysphagia and speech disorders were embraced. The results were analysed with STATA 11.0 program. **Results:** 187 CHAs participated in this study. 88.24% claimed that never received adequate training from a speech therapist. The great majority (84.41%) give guidance to elderly people on hearing impairment, followed by dysphagia (57.84%) and speech disorders (56.99%). Concerning the training provided by Capital Idoso Program, only 46.77% declared to receive. Furthermore, it was found an association linking the Northern Sanitary District's CHAs to a better perception over hearing impairment and a growing number of reports related to general guidance over the analysed aspects. **Conclusion:** It becomes necessary to provide adequate orientation for CHAs, as well as training by qualified speech therapists. This tutoring represents a matter of great importance in order to achieve a more effective work along with the community.

RESUMO

Objetivo: Verificar as percepções e práticas dos Agentes Comunitários de Saúde (ACS) relacionadas às questões fonoaudiológicas, visando integralidade da atenção ao idoso. **Método:** Trata-se de um estudo transversal, descritivo e com realização de inquérito com ACS do município de Florianópolis. Foram abordadas questões referentes às orientações realizadas pelos ACS durante as visitas domiciliares voltadas à promoção da saúde do idoso, que envolviam aspectos fonoaudiológicos (audição, disfagia e voz). Os resultados foram analisados através do programa STATA 11.0. **Resultados:** Participaram desta pesquisa 187 ACS. Dos participantes, 88,24% afirmaram nunca ter recebido capacitação de um profissional da fonoaudiologia. A grande maioria (84,41%) orienta os idosos quanto a questões auditivas, seguidas da disfagia (57,84%) e voz (56,99%). Quanto à capacitação do Programa Capital Idoso, apenas 46,77% referiram ter recebido. Foi encontrada associação entre os ACS do Distrito Sanitário (DS) Norte e maiores relatos quanto a orientações gerais sobre aspectos fonoaudiológicos e maior percepção relacionada a questões auditivas. **Conclusão:** É necessário investir constantemente na formação dos ACS, bem como na capacitação deles por um fonoaudiólogo. A formação destes é de suma importância para o desenvolvimento de um trabalho cada vez mais resolutivo junto à comunidade.

Study conducted at Centros de Saúde, Prefeitura Municipal de Florianópolis (SC), by academics of the Programa de Pós-graduação em Saúde Coletiva, Departamento de Fonoaudiologia, Universidade Federal de Santa Catarina – UFSC - Florianópolis (SC), Brasil.

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Financial support: nothing to declare.

Conflict of interests: nothing to declare.



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INTRODUCTION

Population aging is a global reality that has been heterogeneously occurring in several countries⁽¹⁾. For the World Health Organization (WHO), the flag for the beginning of the third age in developing countries like Brazil is 60 years old⁽²⁾. The Brazilian Institute of Geography and Statistics (IBGE) highlighted a substantial increase in elderly significance at the Brazilian population, growing from 8.6% in 2000 to 11% in 2010, corresponding to an increase of approximately 7 million elderly people⁽³⁾.

Bearing this picture in mind, some authors consider this growth one of the great challenges of contemporary public health^(1,4), once population aging involves a substantial increase on health⁽⁵⁾ systems and services demand, due to the great impact at population morbimortality because of the increased prevalence of Chronic Non-Communicable Diseases (CNCDs) in the elderly⁽⁶⁾. Interaction with these diseases may compromise the quality of life at third age, for representing a significant indicator of inability and autonomy loss.

In 2006, were instituted the National Health Policy for the Elderly (PNSPI) and the Health Covenant, viewing at qualifying the care at the completeness of attention to the elderly⁽⁷⁾. This is so, because the increased prevalence of CNCDs can be accredited to the population lifestyle changes that reflect on life and health quality at aging. Besides, health behavior and actions have become essential for a healthy aging, as a way of keeping the elderly active and integrated to the society⁽⁵⁾.

It is worth highlighting the importance of actions focused on health promotion and prevention at primary attention, in special at the processes of the family health teamwork. In this regard, the Community Health Agent (CHA) represents an important communication link between the Family Health Strategy (ESF) and the community, on producing care completeness and assistance organization⁽⁸⁾.

Among the several duties of the CHAs, it stands out the follow up of the community health situation, besides guidance and forwarding to the health care on identifying risk and/or vulnerability⁽⁹⁾. For this, it is essential the knowledge on the main elderly health grievance, once aging involve the biological, social and psychological features that may represent risk factors for the isolation, depression and cognitive deficit, compromising life functionality and quality⁽¹⁰⁾.

From this perspective, it is worth highlighting that one of the main risk factors for the cognitive deficit is hearing loss at aging⁽¹¹⁾. Other speech language aspects that may influence the elderly life quality, for many times leading to isolation and depression, are swallowing disorder or dysphagia and vocal modification, characterized by standard changes and voice quality due to vocal weakness.

Thus, the objective of this study was to verify the perceptions and practices of the CHAs targeted to the elderly attention regarding speech language issues.

METHODS

The present work is a transversal and descriptive study with Community Health Agents (CHA) from the Health Centers (HC) of the Sanitary Districts (SD): Central, Northern, Eastern and

Southern of Florianópolis municipality, in 2015. Florianópolis is the capital city of Santa Catarina State and has a population of 421,203 inhabitants.

The knowledge regarding the guidelines reported by the CHAs allows understanding these professionals' perception, and this way, making it possible to identify the risks on searching the completeness at the CHA's practices. The HC coordinators were contacted to obtain information regarding the territory division, quantity of CHAs, population and health markers.

It was prepared a questionnaire related to the characteristics of the territory range of the Health Centers searched, related to the meetings, team and regarding the received training by professionals or programs like *Capital Idoso* Program. This is an important attention strategy to the elderly health created by Florianópolis Municipal Department of Health, as a way to guarantee assistance and follow up on elderly people health, aiming at life quality and preservation of elderly functional capability. The sociodemographic features of the interviewed agents were also surveyed as well as issues regarding the perception and guidelines performed by them during the house attendances aimed at elderly health promotion. These involved speech language aspects regarding the hearing (hearing impairment, understanding the speech and television, performance of hearing tests and use of hearing aids); dysphagia (difficulty swallowing and choking episodes); and vocal aspects (difficulty on production and vocal weakness).

The data collection was performed through a questionnaire applied by researchers at the Health Centers (HC), according to the schedule established by them. Most of the times this diligence happened during team meetings and it happened in more than one meeting. The CHAs who accepted attending the survey were invited to get together at the HC itself with the researchers and these supplied the guidelines regarding how to individually fill out the questionnaire and followed up all the process to clarify eventual questions. The agents who accepted to join the survey signed an informed consent form.

The data were collected and stored at *software* Microsoft Excel®. It was performed descriptive statistical analysis regarding the characterization of the HC, CHA and the population; related to the perception of hearing, dysphagia and vocal aspects. With the purpose of verifying the general knowledge of the CHAs regarding these aspects, were created variables that represented the set of all the answers related to the three speech language areas verified in this study: hearing (hearing impairment, understanding the speech and television, hearing tests performance and use of hearing aids); dysphagia (difficulty swallowing and choking episodes); and voice (difficulty on production and vocal weakness). Besides, it was also created a single variable joining the guidelines regarding the voice, hearing and dysphagia (speech-language guidelines) on the attempt to verify how the speech-language issues are known by these professionals who are essential at primary attention, aiming at completeness of attention to the elderly.

The chi-square hypothesis test was used. The analyses were conducted with the help of STATA 11.0 program and the significance level adopted was 5%.

This study was approved by the Research Ethics Committee on Human Beings (CEPSH) of the University of the State of Santa Catarina (UDESC), second opinion 1.018.426.

RESULTS

187 CHAs participated in this survey study, the majority belonging to the districts North and East (33.69% and 25.67%). Most of the CHAs were female (98.05%) and the average age was 46 (dp=9.84) years, with minimum and maximum age of 27 and 83 years old, respectively (Tables 1 and 2).

Regarding education, most of the CHAs reported to have finished high school (76.92%), followed by higher education (18.68%) and elementary school (4.40%). In relation to the time acting at the Family Health Strategy (ESF), the average acting time of the CHA was 12.03 (dp=3.57) years, varying between less than 1 year and 17 years (Table 2).

Related to the team meeting frequency, most of them (82.70%) stated that they occurred once a week followed by reports of every fortnight or once a month (17.13%). The CHAs were also questioned on the frequency they performed elderly people house attendance, which represents risk markers at the HC surveyed. The majority (63.54%) reported monthly frequency of house attendance.

When questioned about training by a speech language professional the majority (87.98%) claimed never to have

received, however 62.78% reported to have knowledge on the speech language therapist work, 97.78% stated they believe to be important the participation of this professional at Primary Attention (PA) and 50.59% believe there is some relationship between CNCD and speech language alterations. Regarding the *Capital Idoso* Program training, 46.77% of the agents reported to have received, among them, 35.66% were from Northern SD.

When questioned about the guidelines performed during house attendance, regarding hearing issues, most of the CHAs (76.63%) claimed to question about hearing impairment. In relation to dysphagia, 55.43% reported that they question about swallowing difficulty and 45.14% about choking episodes. Regarding vocal issues, 57.30% question about difficulty on speech production and 35.09% about vocal weakness sensation (Figure 1).

This way, the analysis on the reports regarding guidelines performed during house attendance allowed to create a profile of CHA's perception related to the speech language aspects. It was observed that the great majority (84.41%) guides on hearing issues, followed by dysphagia (57.84%) and voice (56.99%). Thus, it can be suggested that the greatest perception of the CHAs is in relation to hearing aspects.

Associations were observed between being a community health agent from the Northern SD and to have more reports regarding the guidelines about speech language issues in general (hearing, voice, dysphagia) (p=0.041), besides a greater perception related to hearing issues (p=0.018), when these aspects were

Table 1. Distribution of Sanitary Districts (SD), according to number of Health Centers (HC), Community Health Agent (CHA) and territory population. Florianópolis, 2015

Sanitary Districts	Number of HC	CHA		%	Population of the territory
		Total	Participants		
Center	5	50	35	18.72	103,940
North	11	83	63	33.69	100,950
South	11	57	41	21.93	83,250
East	9	67	48	25.67	82,729
Total	37	257	187	100	370,869*

*Approximate data for the year 2015

Table 2. Profile of the Community Health Agents (CHA) of the center, north, south and east. Florianópolis, 2015

Sociodemographic Characteristics	Number	Percentage (%)
Sex		
Female	174	98.05
Male	13	6.95
Age*		
Up to 46 years	93	49.73
46 and over	94	50.27
Schooling		
Elementary School	8	4.40
High School	140	76.92
Higher Education	34	18.68
Time of operation**		
Up to 12 years	85	48.02
12 and over	92	51.98

*Stratification based on average (46.00 years); **Stratification based on the mean (12.03 years)

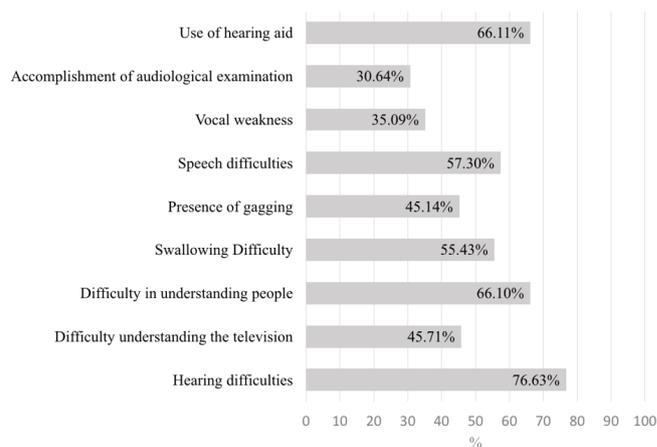


Figure 1. Distribution of Community Health Agent (CHA) reports regarding the orientation of Community Health Agent involving speech-language pathology. Florianópolis, 2015

evaluated separately. No associations were observed between guidelines regarding speech language and socio demographic aspects, such as sex ($p=0.182$), age ($p=0.478$), working time ($p=0.585$) and education ($p=0.163$).

DISCUSSION

This study aims to verify CHA's perceptions and practices targeted to the attention to the elderly health in terms of speech language aspects (hearing, swallowing and voice) that may suffer impact on aging. It was observed that the reports on guidelines turned to hearing aspects were more prevalent, followed by swallowing aspects and, finally by voice. It is worth to highlight that one of this study limitations remains on the fact that all the speech language aspects surveyed (guidelines and perceptions) were reported by the CHAs themselves.

With worldwide population aging and, especially in developing countries, such as Brazil, issues regarding attention to the elderly health have been outstanding. This way, it is worth highlighting the importance of actions at primary attention to health related to tracing vulnerability/risk situations of this population. It is known that the increase of coexistence with chronic diseases represents an indicator of risk to the life quality of this population⁽¹²⁾, once complications resulting from coexistence with these diseases can generate an increase of cases of hospital stays, autonomy loss and functional capability loss⁽¹³⁾.

From the speech language point of view, the natural aging process may affect hearing aspects, by decreasing hearing acuity, called presbycusis, generating communication and social living effect. It can also affect swallowing aspects, due to salivation decrease and even by living with dental prostheses that may make it difficult the chewing process and bolus preparation. In addition, it may affect the vocal aspects, due to the vocal weakness, called presbyphonia, which can also jeopardize the communicative process.

Speech language arises as a new Science and the knowledge related to its coverage is restrict, both among health professionals and among the population in general. Bearing in mind the increase in aging studies as a way to find out risk indicators it is worth to highlight the importance of the social construct for elderly people, which involves social participation, social support, social isolation and loneliness⁽¹⁴⁾. In this context, the speech language aspects analyzed in this study are essential, once hearing loss, food and communication difficulties can take to isolation and social participation restrictions, representing a significant risk factor for loneliness and depression.

The planning of Family Health Strategy involved the need of reorientation of care actions, viewing at enabling to identify the risk/vulnerability situations on family follow up connected to the territory. In this context, CHAs stand out as an important chain, especially when dealing with house attendances. The primary function of the FHS is to encourage actions targeted at healthy aging. This way, it is worth highlighting the importance on analyzing risk and weakening situations of the elderly population⁽¹⁵⁾.

The obtained results emphasize the prevalence of female sex among the CHAs (93.05%). This data supports other performed surveys most of them also formed by professionals of the

female sex⁽¹⁶⁻¹⁸⁾. Researchers relate this fact to the progressive feminization of the work among health services and the role that women have been playing towards society, such as family care, this way generating more credibility to CHAs of the female sex within the community⁽¹⁹⁾.

In Brazil, the agents' education is still very heterogeneous. There are professionals with the minimum required education up to higher education professionals⁽²⁰⁾. In Brazil, Law n° 11,350 from October 5, 2006, establishes that, to act as a CHA, one must have concluded, at the very least, elementary school⁽²¹⁾. In this study, most of the CHAs reported to have concluded high school, followed by higher education. These data meet the results obtained in other surveys, in which great deal of the population had also concluded the high school and, subsequently the higher education^(16,22). This fact reveals to be positive, showing that the CHAs have been searching higher qualification than the one required for the position.

In relation to training by a speech language professional, the results highlighted that it has not occurred with the majority of the CHAs, however, it can be suggested that there is knowledge regarding the work of this professional. Speech language, at elderly attention, seeks to promote the autonomy and improve the life quality of this population, performing actions of health prevention and promotion within many diverse areas to it concerned, such as hearing, voice, language, dysphagia and orofacial motricity.

Studies highlight that the CHAs have got perceptions of many speech language health risk situations of the elderly people⁽¹⁷⁾, however, the risk perception seemed to be limited only to the identification of the speech language problem itself. It is necessary that besides the identification, these professionals be trained to perform applicable guidelines to the community cases promoting solutions.

The most performed guidelines by the CHAs are connected to hearing. This can have occurred by the fact that the presbycusis, defined as hearing impairment related to aging, is considered a significant public health problem due to its high prevalence, being the third most common involvement in elderly people besides being more perceptible by this population^(23,24). Moreover, researches emphasize that CNCD (Chronic Non-Communicable Diseases) are closely related to the appearance or grievance of hearing disability, such as: hypertension, diabetes, depression and cognitive impairment⁽²⁵⁻²⁷⁾. However, the guidance on audiological exams was quite a bit carried out. Other highlight is that the audiometry is the gold standard exam used for the evaluation of hearing loss, and as such is of utmost importance to be performed at third age for the hearing monitoring.

The CNCDs have close relation with speech language grievance, reaching the population at the most diverse life cycles, mainly among the elderly population. It is the speech language therapist's role to develop educational actions⁽²⁸⁾, and these, can be developed together with the CHAs, who are great ally to the professional speech language therapist.

The results highlight that guidelines regarding the presence of stroking and swallowing difficulty were also performed by almost half the CHAs. It is necessary that the CHAs give special attention to these guidelines once they can be the first signs of

a severe problem. It should be taken into consideration that with aging, many physiological alterations occur in the elderly swallowing process⁽²⁹⁾, and they can lead to dysphagia incidence, which if not shortly and properly treated, can lead to death.

Another important aspect to be observed is the guideline related to vocal weakness, poorly prevailing in this study. With aging, vocal changes are observed among the elderly population, called presbyphonia. Vocal conditions deserve attention once voice changes can negatively affect the relationship with individuals and the social adjustment of the elderly⁽³⁰⁾.

Regarding the *Capital Idoso* Program, only 46.77% of the CHAs reported having received some kind of training in this segment. This data demonstrate that it is necessary to constantly invest on the agents' training so that all the professionals in this area acquire the knowledge. Their training is of great importance for the development of a decisive work together with the elderly person and their family, once the elderly presents specific need to be attended and, many times, their freedom may be compromised.

The CHAs' training by a professional speech language therapist is also necessary. Studies show that training programs with speech language therapists targeted to CHAs are extremely beneficial. It is important to increase the knowledge of these professionals regarding the aging process and the pathologies related to speech language therapy. The increase of the agent's information range is essential once he/she has been developing a key role at the Public Health System (SUS). The correct guidelines and interventions will cause more effective actions of promotion and prevention to be performed, as well as early diagnosis and intervention. To reach the FHS purposes there should be investment mainly in Permanent Training (PT)⁽²⁸⁾.

It was identified an association between the CHAs of the Northern SD and more reports regarding general guidelines about speech language aspects and more perception related to hearing issues. This association can be attributed to the higher percentage of CHAs' reports from the Northern SD about Capital Idoso Program training, when compared to other SDs. This fact reinforces the high importance of constant updating and training for this professional, who can, this way, promote better practices at his work.

The four SDs survey respondents have got a total of 257 CHAs, however only 187 answered to the questionnaire. It is worth mentioning that one of the great difficulties claimed by the management during the contact for the study performance was in relation to the great number of work leave of these professionals. Besides, issues regarding CHAs repositioning at the hosting inside the HC, many times due to the areas being uncovered by several ESF professionals, represent a change in their attributions and jeopardize the pre-established actions. Another limitation found in this study is the self-reported information, that is, the findings about the CHAs actions may be over or under estimated.

CONCLUSION

It is reinforced the need of constant investments on training and qualification of the CHAs at the most different knowledge areas, on searching to guarantee the care completeness pursuant

to demographic and epidemiologic changes. Their qualification is of utmost importance for the development of a work increasingly decisive together with the community.

REFERENCES

1. Veras R. Envelhecimento populacional contemporâneo: demandas, desafios e inovações. *Rev Saude Publica*. 2009;43(3):548-54. <http://dx.doi.org/10.1590/S0034-89102009000300020>. PMID:19377752.
2. Baldoni AO, Pereira LRL. O impacto do envelhecimento populacional brasileiro para o sistema de saúde sob a óptica da farmacoepidemiologia: uma revisão narrativa. *Rev Cienc Farm Basica Apl*. 2011;32(3):313-21.
3. IBGE: Instituto Brasileiro de Geografia e Estatística. Censo demográfico 2010. Rio de Janeiro: Instituto Brasileiro de Geografia e Estatística; 2010.
4. Cruz DT, Caetano VC, Leite ICG. Envelhecimento populacional e bases legais da atenção à saúde do idoso. *Cad Saude Colet*. 2010;18(4):500-8.
5. Rodrigues MAP, Facchini LA, Piccini RX, Tomasi E, Thumé E, Silveira DS, et al. Uso de serviços básicos de saúde por idosos portadores de condições crônicas, Brasil. *Rev. Saúde Pública*. 2009;43(4):604-12. <http://dx.doi.org/10.1590/S0034-891020090005000037>.
6. Silva JVF, Silva EC, Rodrigues APRA, Miyazawa AP. A relação entre o envelhecimento populacional e as doenças crônicas não transmissíveis: sério desafio de saúde pública. *Cad. Grad*. 2015;2(3):91-100.
7. Brasil. Ministério da Saúde. Pacto pela Saúde 2006. Brasília: Ministério da Saúde; 2006.
8. Peres CRFB, Caldas AL Jr, Silva RF, Marin MJS. O Agente Comunitário de Saúde frente ao processo de trabalho em equipe: facilidades e dificuldades. *Rev. Esc. Enferm*. 2011;45(4):905-11. <http://dx.doi.org/10.1590/S0080-62342011000400016>.
9. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. O trabalho do agente comunitário de saúde. Brasília: Ministério da Saúde; 2009. 84 p.
10. Bezerra AFB, Santo ACGE, Batista M Fo. Concepções e práticas do agente comunitário na atenção à saúde do idoso. *Rev Saude Publica*. 2005;39(5):809-15. <http://dx.doi.org/10.1590/S0034-89102005000500017>.
11. Lin FR, Yaffe K, Xia J, Xue QL, Harris TB, Purchase-Helzner E, et al. Hearing loss and cognitive decline in older adults. *JAMA Intern Med*. 2013;173(4):293-9. <http://dx.doi.org/10.1001/jamainternmed.2013.1868>. PMID:23337978.
12. Campolina AG, Dini PS, Ciconelli RM. Impacto da doença crônica na qualidade de vida de idosos da comunidade em São Paulo (SP, Brasil). *Cien Saude Colet*. 2011;16(6):2919-25. <http://dx.doi.org/10.1590/S1413-81232011000600029>. PMID:21709988.
13. Neves RT, Laham CF, Aranha VC, Santiago A, Solimar F, Souza MC. Envelhecimento e doenças cardiovasculares: depressão e qualidade de vida em idosos atendidos em domicílio. *Psicol Hosp*. 2013;11(2):72-98.
14. Domingues MARC, Ordonez TN, Lima-Silva TB, Nagai PA, Barros TC, Torres MJ. Revisão sistemática de instrumentos de avaliação de rede de suporte social para idosos. *Rev Kairós*. 2014;15(6):333-54.
15. Motta LB, Aguiar AC, Caldas CP. Estratégia Saúde da Família e a atenção ao idoso: experiências em três municípios brasileiros. *Cad Saude Publica*. 2011;27(4):779-86. <http://dx.doi.org/10.1590/S0102-311X2011000400017>. PMID:21603761.
16. Santos KT, Saliba NA, Moimaz SAS, Arcieri RM, Carvalho ML. Agente comunitário de saúde: perfil adequado a realidade do Programa Saúde da Família? *Ciênc. Saúde Coletiva*. 2011;16(1, Supl 1):1023-8. <http://dx.doi.org/10.1590/S1413-81232011000700035>.
17. Santos JN, Rodrigues ALV, Silva AFG, Matos EF, Jerônimo NS, Teixeira LC. Percepção de agentes comunitários de saúde sobre os riscos à saúde fonoaudiológica. *Rev Soc Bras Fonoaudiol*. 2012;17(3):333-9. <http://dx.doi.org/10.1590/S1516-80342012000300016>.
18. Marzari CK, Junges JR, Selli L. Agentes comunitários de saúde: perfil e formação. *Ciênc. Saúde Coletiva*. 2011;16(1, Supl 1):873-80. <http://dx.doi.org/10.1590/S1413-81232011000700019>.

19. Baptistini RA, Figueiredo TAM. Agente comunitário de saúde: desafios do trabalho na zona rural. *Ambiente Soc.* 2014;17(2):53-70. <http://dx.doi.org/10.1590/S1414-753X2014000200005>.
20. Peres CRFB, Antonio LCJ, Silva RF, Maria JSM. Ser agente comunitário de saúde: motivação e significado. *Rev. Min. Enferm.* 2010;14(4):559-65.
21. Brasil. Lei nº 11.350, de 5 de outubro de 2006. Regulamenta o § 5º do art. 198 da Constituição, dispõe sobre o aproveitamento de pessoal amparado pelo parágrafo único do art. 2º da Emenda Constitucional nº 51, de 14 de fevereiro de 2006, e dá outras providências. *Diário Oficial da União*; Brasília; 6 outubro 2006.
22. Waidman MAP, Costa B, Paiano M. Percepções e atuação do Agente Comunitário de Saúde em saúde mental. *Rev. Esc. Enferm.* 2012;46(5):1170-7. <http://dx.doi.org/10.1590/S0080-62342012000500019>.
23. Yueh B, Shapiro N, MacLean CH, Shekelle PG. Screening and management of adult hearing loss in primary care: scientific review. *JAMA.* 2003;289(15):1976-85. <http://dx.doi.org/10.1001/jama.289.15.1976>. PMID:12697801.
24. Teixeira AR, Freitas CLR, Millão LF, Gonçalves AK, Becker B Jr, Vieira AF, et al. Relação entre deficiência auditiva, idade, gênero e qualidade de vida de idosos. *Arq Int Otorrinolaringol.* 2008;12(1):62-70.
25. Cruz MS, Lima MC, Santos JL, Duarte YA, Lebrão ML, Ramos-Cerqueira AT. Deficiência auditiva referida por idosos no Município de São Paulo, Brasil: prevalência e fatores associados (Estudo SABE, 2006). *Cad Saude Publica.* 2012;28(8):1479-92. <http://dx.doi.org/10.1590/S0102-311X2012000800007>. PMID:22892968.
26. Uchida Y, Sugiura S, Ando F, Nakashima T, Shimokata H. Diabetes reduces auditory sensitivity in middle-aged listeners more than in elderly listeners: a population-based study of age-related hearing loss. *Med Sci Monit.* 2010;16(7):63-8. PMID:20581786.
27. Rolim LP, Rabelo CM, Lobo IF, Moreira RR, Samelli AG. Interação entre diabetes mellitus e hipertensão arterial sobre a audição de idosos. *CoDAS.* 2015;27(5):428-32. <http://dx.doi.org/10.1590/2317-1782/20152014101>. PMID:26648212.
28. Arakawa AM, Sitta EI, Maia AF Jr, Carleto NG, Santo CE, Bastos RS, et al. Avaliação de um programa de capacitação em fonoaudiologia para agentes comunitários de saúde na Amazônia brasileira. *Distúrb Comun.* 2013;25(2):203-10.
29. Reis RM, Costa FM, Carneiro JA, Vieira MA. O papel do fonoaudiólogo frente a alterações fonoaudiológicas de audição, equilíbrio, voz e deglutição: uma revisão de literatura. *Rev CEFAC.* 2015;17(1):270-6. <http://dx.doi.org/10.1590/1982-021620158414>.
30. Soyama CK, Espassatempo CL, Gregio FN, Camargo Z. Qualidade vocal na terceira idade: parâmetros acústicos de longo termo de vozes masculinas e femininas. *Rev CEFAC.* 2005;7(2):267-79.

Author contributions

KMP, DH and PH, authors of the manuscript, declare that the described work has not been previously published and that it is not being considered to be published somewhere else. KMP has contributed with the conception and design of the project, data analysis and interpretation, writing and review of the final article; DH has contributed with data interpretation, writing and review of the article; PH has contributed with the standardization and reviewing of the final article.