PREVALENCE OF SELF-REPORTED HEARING LOSS AND ASSOCIATED RISK FACTORS AMONG THE ELDERLY IN MANAUS: A POPULATION-BASED STUDY

Prevalência de deficiência auditiva referida e fatores associados em uma população de idosos da cidade de Manaus: um estudo de base populacional

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ABSTRACT

Purpose: to estimate the incidence of self-reported hearing loss and identify associated risk factors among the elderly in Manaus. **Methods:** we carried out a population-based cross-sectional study of 646 subjects aged 60 years and over conducted in 2013. The sample was obtained in two stages using the cluster sampling method, with two-stage selection and weighted self. Data were analyzed by $\chi 2$ test and Poisson regression. **Results:** hearing loss prevalence was 25.7%. The factors that remained significantly associated after multivariate model were: living alone (PR = 1.34), IADL dependency (PR = 1.61), labyrinthitis (PR = 1.33), Parkinson's disease (PR = 2.02), the difficulty of understanding (PR = 1.69), visual impairment (PR = 1.94) and communication difficulties (PR = 1.34). Impacts on communication indicated that hearing loss was 68% higher among individuals with difficulty in speech than those who reported no such difficulty, reinforcing the limitation that hearing loss can bring to communication. **Conclusion:** the hearing loss prevalence among the elderly points to the need to know the magnitude of this deficit to public health, and contribute to the development of strategies for identifying these losses, allowing for minimizing these effects in this group.

KEYWORDS: Hearing Loss; Prevalence; Aged; Health of the Elderly; Estimation Techniques; Questionnaires

INTRODUCTION

In Brazil, the aging of the population follows the international tendency; however, there are significant differences in relation to the elderly population in regions of the country, with the North and Northeast showing the lowest proportions [1]. It is known that the elderly are affected a more diseases, consume more health services, and have hospitalization rates and occupancy hospital bed much higher than any other age group. This situation points to the need for health policies that take account effectively the demands on the population. In this context, hearing health policy, in effect since 2004, has as its guiding purpose to structure a service network regionalized and hierarchical, establishing a line of integrated care in addressing the major causes of hearing loss, and determine guidelines for accreditation of health care services basic, medium and high complexity in the person's care with hearing deficiency [2].

The elaboration of health care policies directed at this population requires studies that consider the socio-cultural diversity, economic, ethnic, subsidized in their own multifactorial and complex nature of biological aging, implying different variables focusing on the etiology of diseases associated with aging. Some studies have pointed to the differences arising

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from regional differences, which evoke problems and hypotheses that need more investigation [3,4].

Populational studies with elderly require further consistent data about communication disorders and their impact on the health of this population [3-5]. Considering that hearing loss the third most chronic illness reported by people aged 60 or more, the specifics of this problem require more research and analysis [6,7]. Epidemiological studies have shown risk factors for hearing loss in the elderly, Aging effects on the cochlea, the environment, genetic predisposition, health status and comorbidities, which could explain the wide variations at the beginning and degree of hearing loss in this age group [8].

The measure of population-based survey make possible to know the magnitude of this deficit on public health, and contribute to the construction of hearing loss identification strategies in the elderly population since primary health care allow for minimizing these effects on the overall health. Thus, this research aimed to estimate the prevalence of hearing loss and associated factors in elderly residents in the city of Manaus, Amazonas.

METHODS

The Ethics Committee of the Sergio Arouca National School of Public Health (number 156/2011) approved the project. The authors received financial support from Fundação de Amparo à Pesquisa do Estado do Amazonas (Edital Universal/FAPEAM, number 062.03095/2012).

We used a cross-sectional population-based study. The participants were sampled for the study between February to June 2013.

The population of Manaus (03º08 'S and 60º01 W) is estimated at 1,861,838 inhabitants, of whom 111,669 aged 60 or more, and 56.6% (63,234) were females[9]. The study adopted a 95% confidence interval and tolerable sampling error (margin of error) of 5.0%. Corrections were performed for finite population and design effect, adopting *deff* equal to 2.0. An additional 20% was added to compensate for possible non-responses and losses. The calculations showed the need to examine and interview at least 646 individuals, taking as reference the expected proportion of 30% of elderly patients with self-reported hearing loss.

To assist on sample composition were used census sectors from the urban area of the city of Manaus - AM, extracted from IBGE's website [10]. The sampling method used was probabilistic in two stages with probability proportional to size. This process was chosen for controlling the sample size among census sectors as well as maintains it self-weighted.

At the first stage, the sample of 646 interviews was divided by the proportionality factor of seven interviews by census tract (which was minimal interviews stipulated for each sector), totaling 92 sectors. After the target population (111,669) was divided by 92 (total sectors), which generated a range of systematization of 1,210 elderly; that is, for each 1210 elderly was selected a sector, until be selected all sectors sample. To maintain proportionality in geographical areas of the city of Manaus, the population was accumulated taking into account the zones and then the districts. In the second stage, in each census sector, the elderly were selected by means of systematization process, taking into account the quotas of gender and age in order to have a representative sample of target population. The survey was conducted in the urban area of the city of Manaus, which is divided into six administrative zones [10]. The sample distribution by geographic zones with a total of subjects studied (n=646) had the following quantitative distribution of respondents:

Zones (n = 646)	n_i	%
North	130	20.1
South	155	24.0
East	124	19.2
West	102	15.8
Central-South	73	11.3
Central-West	62	9.6

The study excluded elderly residents in long-term care facilities or hospitalized. The subjects who were unable to answer the instruments because they have hearing loss language disorders and/or psychiatric disorders were recorded for estimation of prevalence. In such cases, the caregiver responded to sociodemographic and health issues.

Participation in the study was formalized through the signing of the consent form.

The elderly were interviewed by trained researchers and standardized by means of a questionnaire designed specifically for the study, comprising a total of 54 questions plus protocols used to measure cognition, hearing, and functional capacity. The average length of each interview was twenty minutes.

The following items made up the instrument: sociodemographic characteristics; the Mini-Mental State Examination (MMSE). It is an 11-question measure that tests five areas of cognitive function: orientation, immediate memory, attention/concentration, delayed recall, language. Any score greater

than or equal to 27 points (out of 30) indicates a normal cognition. Below this, scores can indicate severe (≤9 points), moderate (10–18 points) or mild (19–24 points) cognitive impairment. The MMSE takes only 5-10 minutes to administer and is therefore practical to use repeatedly and routinely [11]; the functional capacity evaluation, that is, the individual's ability to perform self-care and live independently, which is determined in performing basic Activities of Daily Living (ADL) [12], and Instrumental Activities of Daily Living (IADL) [13]; and the perception of hearing loss evaluation protocol (The Hearing Handicap Inventory for Elderly-Screening (HHIE-S) [14], which was applied only in subjects who reported hearing loss. This is a ten-item questionnaire asking about the effects of hearing impairment on emotional and social adjustments. The range of total points is from 0-40, and interpretation is as follows: 0-8 denotes no self-perceived handicap, 10-22 denotes mild to moderate handicap, 24-40 denotes significant handicap.

For the results analysis were calculated absolute and relative frequencies for categorical data. In the analysis of quantitative data was calculated the median and quartiles (Qi), at 5% significance level.

For data analysis was used The Statistical Software R (3.0.1). It was tested the association between the variables and the hearing loss of reference using the chi-square test. Prevalence ratios (PR), respective 95% confidence interval (95%CI), multivariate analysis were conducted by Poisson regression with robust error variance. It were selected for integrate the regression model all variables associated with the dependent variable, for a significance level of 5% ($p < 0.05$). It was used the stepwise procedure (include or remove one independent variable at each step, based (by default) on the probability of F (p-value), to prepare the multiple model, and the variable in the final model if $p < 0.05$.

RESULTS

Of the 646 subjects interviewed 56.2% are female (n=363) and 43.8% males (n=283). Hearing loss was more prevalent on older age group over 70 years (32.5%), with statistical significance (p=0.01). Living alone and historical noise exposure also showed a significant association with upshot of self-reported hearing loss, p=0.01 and p=0.05, respectively; however, no was established such association by sex, race, marital status and income (**Table 1**).

In a total sample, 92 elderly did not respond to MMSE. 69 did not respond to the complete instrument for presenting significant speech difficulties (n=17), disabling hearing loss (n=18), and by being bedridden (n=34).

The prevalence of self-reported hearing loss was 25.7 % (n=166). The causes attributed to hearing loss were older age (48.2%; n=80), disease (22.9%; n=38), work accidents (5.4%; n=9), other causes (20.5%; n=34). **Table 2** shows a higher prevalence of dependence on IADL (PR=2.05; CI=1.54 - 2.74) and perception of hearing loss (PR=2.15; CI=1.8 - 2.6) among the elderly who reported hearing impairment. There was a significant association between hearing loss and self- perceived health (p=0.012), IADL (p=0.001), alcohol (p=0.053), tinnitus (p=0.001), hypertension (p=0.001), diabetes (p=0.02) and Parkinson's disease (p=0.03). Communication difficulties that presented significant association with hearing loss were: comprehension difficulties, speech, communication and phone usage.

Table 3 and **Table 4** show the prevalence of hearing loss was higher in the elderly over 80 years (PR=1.68; CI=1.24 - 2.27), and with noise exposure history (PR=1.38; CI=1 - 1.7). Variations in self-reported morbidities were more prevalent among individuals with hearing impairment: tinnitus (PR=3.42; CI=2.72 - 4.3), hypertension (PR=1.62; CI=1.22 – 2.17), cardiovascular disease (OR=1.68; CI=1.28 - 2.21), osteoporosis (PR=1.52; CI=1.17 - 1.99), labyrinthitis (PR=1.56; CI=1.17 - 2.08), diabetes (PR=1.38; CI=1.05 - 1.82).

The **Table 5** shows results of multivariate analysis. The Poisson regression revealed hearing loss associated with the following variables: live alone, IADL, visual impairment, musculoskeletal disease, labyrinthitis, Parkinson's disease, difficulties in understanding and communication.

Table 1 – Distribution of elderly participants in the survey according to data/sociodemographic factors and perception of self-reported hearing loss. Manaus/AM, 2013

Variables	Total		Total Hearing Loss		p-value
	N	%	N	%	
Age					
60 to 69	372	57.6	77	20.7	**0.001***
> 70	274	42.4	89	32.5	
Sex					0.19
Female	263	56.2	101	60.8	
Male	283	43.8	65	39.2	
Color/race					0.767
White	172	26.6	49	29.5	
Black	68	10.5	17	10.2	
Mulatto	384	59.4	93	56	
Asiatic	11	1.7	4	2.4	
indigenous	11	1.7	3	1.8	
Literate					0.083
Yes	493	76.3	118	71.1	
No	153	26.7	48	28.9	
Living alone					**0.053***
Yes	57	8.9	64	38.6	
No	589	911	102	61.4	
Marital status					0.28
Married	278	43.0	65	39.2	
Others	368	57.0	101	60.8	
Income perception					0.456
Sufficient	106	37.5	62	37.3	
Insufficient	177	62.5	104	62.7	
Exposure to Noise					**0.014***
Yes	213	33.0	71	44.1	
No	407	63.0	90	55.9	

* Value statistically significant at the 5% level by Yates' chi-square test

Table 2 – Estimated prevalence ratio (PR) of self reported hearing loss according to cognitive impairment - MMSE, perception of hearing loss - HHIE-S, functional capacity - ADL (Katz) and IADL (Lawton-Brody)

Variables (n=646)	Hearing loss				Total	PR	CI 95%
	Yes		No				
	f_i	%	f_i	%			
MMSE						0.99	0.70 – 1.41
Cognitive deficit	31	24.4	96	75.6	127		
Normal	105	24.6	322	75.4	427		
HHIE-S						2.15*	1.80 – 2.60
With perception	82	88.2	11	11.8	93		
Without perception	84	41.0	121	59.0	205		
IADL						2.05*	1.54 – 2.74
Dependent	113	34.3	216	65.7	329		
Independent	53	16.7	264	83.3	317		
ADL						1.18	0.76 – 1.85
Dependent	15	30.0	35	70.0	50		
Independent	151	25.3	445	74.7	596		

f_i = simple absolute frequency; * Value statistically significant at the 5% level by Yates' chi-square test
PR = prevalence ratio; CI 95% = confidence interval at the 95% level

Table 3 – Estimated prevalence ratio (PR) of self-reported hearing loss according to sociodemographic characteristics

Variables (n=646)	Hearing loss				Total	PR	CI 95%
	Yes		No				
	f_i	%	f_i	%			
Sex						0.82	0.63 – 1.08
Male	65	23.0	218	77.0	283		
Female	101	27.8	262	72.2	363		
Age_1 (years)						1.57*	1.21 – 2.04
≥ 70	89	32.5	185	67.5	274		
< 70	77	20.7	295	79.3	372		
Age_2 (years)						1.68*	1.24 – 2.27
≥ 80	34	39.5	52	60.5	86		
< 80	132	23.6	428	76.4	560		
Marital status						0.85	0.65-1.12
Married	65	23.4	213	76.6	278		
Others	101	27.4	267	72.6	368		
Income perception						1.12	0.86-1.47
Sufficient	62	23.9	197	76.1	259		
Insufficient	104	26.9	283	73.1	387		
Color/race						1.15	0.87-1.53
White	49	28,5	123	71,5	172		
Others	117	24.7	357	75.3	474		
Protected						1.08	0.75-1.56
Yes	140	26.0	398	74.0	538		
No	26	24.1	82	75.9	108		
Literate (years)						1.46*	1.10-1.93
< 5	109	29.8	257	70.2	366		
≥ 5	57	20.4	223	79.6	280		

f_i = simple absolute frequency; * Value statistically significant at the 5% level by Yates' chi-square test
PR = prevalence ratio; CI 95% = confidence interval at the 95% level

Table 4 – Estimated prevalence ratio (PR) of self-reported hearing loss according to health and morbidity data

Variables (n=646)	Hearing loss				Total	PR	CI 95%
	Yes		No				
	f_i	%	f_i	%			
Health status						1.42*	1.09-1.84
Excellent/Very Good/Good	91	30.5	207	69.5	298		
Regular/Bad	75	21.6	273	78.4	348		
Hypertension						1.62*	1.22-2.17
Yes	114	30.7	257	69.3	371		
No	52	18.9	223	81.1	275		
Cardiovascular diseases						1.68*	1.28-2.21
Yes	47	38.2	76	61.8	123		
No	119	22.8	404	77.2	523		
Arthritis						1.41*	1.07-1.86
Yes	50	33.1	101	66.9	151		
No	116	23.4	379	76.6	495		
Osteoporosis						1.52*	1.17-1.99
Yes	57	34.5	108	65.5	165		
No	109	22.7	372	77.3	481		
Rheumatism						1.49*	1.14-1.95
Yes	100	30.7	226	69.3	326		
No	66	20.6	254	79.4	320		
Parkinson's disease						2.16*	1.24-3.77
Yes	6	54.5	5	45.5	11		
No	160	25.2	475	74.8	635		
Malaria						0.85	0.60-1.21
Yes	29	22.5	100	77.5	129		
No	137	26.5	380	73.5	517		
Diabetes						1.38*	1.05-1.82
Yes	54	32.3	113	67.7	167		
No	112	23.4	367	76.6	479		
Labyrinthitis						1.56*	1.17-2.08
Yes	41	36.6	71	63.4	112		
No	125	23.4	409	85.2	534		

fi = simple absolute frequency; * Value statistically significant at the 5% level by Yates' chi-square test
PR = prevalence ratio; CI 95% = confidence interval at the 95% level

Table 5 – Prevalence and prevalence ratio (PR) crude and adjusted of self-reported hearing loss

Variables (n=646)	N	%	PR crude	*PR adjusted (CI 95%)	p-value
Living alone					
No	102	23.3	1.32	1.34 (1.03-1.74)	0.0268
Yes	64	30.8		1.00	
IADL					
Dependent	113	34.3	2.05	1.61 (1.19-2.16)	0.0017
Independent	53	16.7		1.00	
Labyrinthitis			1.6		0.0316
Yes	41	36.6		1.33 (1.03-1.74)	
No	125	23.4		1.00	
Musculoskeletal disease			1.53		0.0546
Yes	100	30.7		1.29 (0.99-1.68)	
No	66	20.6		1.00	
Parkinson's disease			2.18		0.0157
Yes	6	54.5		2.02 (1.14-3.57)	
No	160	25.2		1.00	
Comprehension impairment					0.0003
Yes	46	52.3	2.46	1.69 (1.27-2.25)	
No	120	21.5		1.00	
Communication impairment					0.0485
Yes	45	46.9	2.15	1.34 (1.00-1.80)	
No	119	21.8		1.00	
Visual impairment					0.0000
Yes	332	51.4	2.36	1.94 (1.44-2.62)	
No	314	48.6		1.00	

* Poisson regression

DISCUSSION

In the current study 25.7% of elderly reported hearing loss. Is worth mentioning that the methodology used in the studies can influence this estimate. The prevalence rates obtained in population-based health surveys range from 25.9% to 30.4% [15-19]. The assessment of hearing loss through self reference is susceptible to the elderly perception for the presence of this deficit, which involves issues such as life experience, culture, education, the context in which it is inserted, in addition to the specific characteristics of presbycusis. On the other hand, the validity of this type of hearing assessment has been widely investigated, and the findings reveal good performance and high sensitivity in identifying hearing loss [20-23]. Ferrite, Santana and Marshall [24] checked the validity of three generic questions to assess self-reported hearing loss. The same proved to be sensitive in obtaining answers, with enough accuracy to recommend its use in epidemiological studies in adults when the pure tone audiometry is not feasible.

One study that compared the auditory complaint with the objective measurement of auditory thresholds found that the elderly who did not report complaints, 46% had hearing loss in different degrees [25]. Other situations may influence the reference on hearing loss by the elderly, such as acceptance, adaptation to this new condition, clearance situations that may represent obstacles to its communication and the presence of certain morbidities that preclude recognition of this deficit.

It was noted the age strongly associated with hearing loss - 32.5% of the elderly over the 70 years reported hearing difficulty. The increase in prevalence rates in relation to age increase is described in most studies, both national and international. In the American population, from 70 years, 30% of subjects related hearing loss and over 80 years this prevalence rates reaches 50% [26]. A longitudinal study in Japan identified an increase in the prevalence rates of hearing loss from 17.7% to 25.7% with 10 years of increment at the age [27]. The Blue Mountains population-based cohort study, in Sydney, the prevalence rates of self-reported hearing loss in the elderly was 39.4% [23]. In Beaver

Dam cohort, hearing loss doubled from 24.6% to 50% among the age groups 60-64 years and over 70 years [28].

In Brazil, studies of Gondim et al. [18] and Beria et al. [19], both population-based approach highlighted the disabling hearing loss were more observed in individuals over 50 years, being more prevalent from 70 years.

On the attribution of cause of hearing loss, 48.2% reported advanced age. Other population-based studies [3,22,29] have identified this as the most frequent cause. Gondin et al. [18] identified in their sample 40.74% as probable etiology presbycusis.

Schneider, Marcolin and Dalacorte [30] observed that the presence of hearing loss increased the need for family support non-spouse, friend or community services (PR=1.49; CI= 1.02 - 2.18). The results of this study demonstrate that older people living accompanied present 34% more prevalence of hearing loss when compared to older people living alone, reinforcing this higher dependence (PR=1.34; CI = 1.03 - 1.74). Hearing loss impacts on the quality of life of individuals and their families, inasmuch as it interferes with the linguistic performance, functional capacity and emotional, and social well-being. Thus, the auditory deprivation is not just a sensory deficit, because it brings consequences that create instability in relationships, isolation, segregation, psychological changes, as well as alert and defense issues. Situations, which when accentuated, can be transformed into social breakdown factor [17].

Regarding morbidity distribution in this study there was a higher prevalence rate of hypertension (57%), followed by rheumatism (50.5%). The self-reported health as poor was 42% higher among individuals with hearing loss (PR=1.42; CI = 1.09 - 1.84). Between self-reported morbidity, hypertension, diabetes, cardiovascular disease, musculoskeletal disorders, labyrinthitis and Parkinson's disease showed statistically significant association with hearing loss and remained after multivariate analysis, only the last three. The association between hearing loss and some morbidity has been demonstrated in many studies. Carmo et al. [31] pointed as aggravating factors of hearing loss, cardiovascular and metabolic diseases, smoking and noise exposure. Also identified symptoms such as tinnitus, dizziness and auricular fullness related to hearing loss in the elderly. According Baraldi, Almeida and Borges [32] hypertension cannot be a causative factor of hearing loss, but when presented for long periods associated with age, can act as an adder factor in hearing system deterioration. Cruz et al. [16] found a higher prevalence rate of hearing loss among older people with osteoarticular diseases and dizziness and / or vertigo. Genetic investigations identified various genes associated with hearing loss in aging, including those related to antioxidant defense and atherosclerosis [8]. Cruickshank et al. [33] observed that the severity of hearing loss was associated with age, male gender, low education, presence of chronic diseases and sleep problems.

In the present study, hearing loss was 68% higher among individuals with speech difficulties, revealing the impact of this deficit in communication. A study that evaluated hearing loss among older Australians found 71% of individuals with limited communication [34]. Tanaka, Araujo and Assencio-Ferreira [35] on investigating the consequences of hearing loss in the elderly communication observed that auditory deficits did not compromise significantly; being neurological problems more responsible for communication disorders in that group.

The IADL dependency was observed in 34.3% of the elderly in this study, being more prevalent among those who had hearing loss (PR=2.05; CI= 1.54 - 2.74). A longitudinal study in Japan found worsening of hearing associated with dependence in activities of daily living and mortality [27]. The authors also observed that the hearing preserved reduced by 4.3% (over 65 years) and 6.3% (over 75 years) the impact on adverse outcomes for health and for individuals with hearing loss were much more inclinable for outcomes death and addiction. Cruz et al. [16] also observed a positive association between hearing loss and dependence in IADL. In study by Dalton et al. [36], the severity of hearing loss was associated with worse quality of life, communication difficulties, activities of daily living, dementia and cognitive impairment.

Morettin et al. [37] observed that the self-perception of hearing, although it is good for most seniors, there are significant differences regarding gender and age, 61% of men reported hearing as good, and among women 70.5%. The reference to hearing as bad was higher in the older age group of 80 years (15%), and for the age group between 60 and 65 years (3.5%). The results showed that the negative self-perception of hearing and health, living together, dizziness/vertigo and memory, were associated with hearing loss. In this study it was observed a negative perception of the hearing was related to age. The bad hearing was 42% more prevalent among the elderly over 70 years compared to age below 69 years (PR=1.42; CI = 1.1 - 1.85). The prevalence of cognitive impairment in this study was 22.9% (CI = 19.5 - 26.7) with strong association with age (p=0.00). It was not observed, however, significant association with hearing loss (PR=0.99; CI = 0.7 - 1.4). Cruickshanks et al. [33] identified association between cognitive condition and severe hearing loss.

A longitudinal study followed a cohort of elderly without initial cognitive impairment, assessed by the MMSE. After 5 years of follow-up it was found that cognitive decline in subjects with hearing loss was 41% higher than in subjects with normal hearing. It was observed also the cognitive decline rates and the risk of incident cognitive impairment were linearly related to the severity of hearing loss at study entry [38].

Although the prevalence of hearing loss and the functional limitations resulting therefrom are high in elderly, study shows that people who could benefit from a hearing aid, 89.3% do not possess [39]. In this study, only 1.7% of elderly made use of hearing aid. Researches has demonstrated the existence of a positive correlation between the reduction of participation restriction in activities of daily living and the benefit obtained from the communication by elderly hearing aid users [6]. Thakur, Banerjee and Nikumb [40] identified 63.1% (257/407) of self-reported hearing loss in older adults, and only 1.47% (6/257) making use of hearing aid.

CONCLUSION

The results showed that the epidemiological profile of elderly people living in Manaus is similar to other regions in the country. This fact can be understood by their own urban character in town, which does not discard the need for investigations on Amazonian populations living in other regions, such as riparian, for example.

The prevalence of self-reported hearing loss in this study was 25.7%. All subjects who reported such difficulty received orientation and guidance, with priority for the Unified Health System to meet the diagnostic department in otolaryngology. The multivariate analysis showed a correlation with hearing loss, live alone, IADL, musculoskeletal disease, labyrinthitis, Parkinson's disease, difficulties for understanding and for communication.

Recognizing the limitations of the study, its contribution was mainly in the following aspects: the first related to the context in which it occurs in a region where such studies are still scarce, and those being developed, demonstrate the peculiarities that marks the Amazon and its population; the second relating to the methodology used, pointing out that the health surveys constitute an important method for collecting epidemiological data populations, able to base more effective health promotion, as they deem regional specificities; and finally, concerning the phonoaudiological field in Public Health, which by being expanding, it is an area with few publications that address conceptual models based on population epidemiological proposals, leaving this professional appropriating itself of such tools in order to expand its analysis beyond the clinic, addressing the communication disorders in the social, demographic, economic and health.

Finally, we emphasize that this study did not intend to exhaust all the possibilities that the theme adds, but inserting on discussion agenda studies of this nature the elderly population, the audiologist field in Public Health and the North region.

RESUMO

Objetivo: estimar a prevalência de deficiência auditiva referida e fatores associados em idosos da cidade de Manaus. **Métodos:** realizou-se um estudo seccional de base populacional em 646 sujeitos com 60 anos ou mais entrevistados durante 2013. A amostra foi obtida com o delineamento transversal, com amostragem por conglomerados, dois estágios de seleção e auto ponderada. Os dados foram analisados pelo teste Qui-quadrado e Regressão de Poisson. **Resultados:** prevalência de perda auditiva referida de 25,7%. Os fatores que se mantiveram significantemente associados após modelo multivariado foram: viver sozinho (RP= 1,34), dependência em Atividades Instrumentais de Vida Diária (RP=1,61), labirintite (RP=1,33), Mal de Parkinson (RP=2,02), dificuldade de compreensão (RP=1,69), deficiência visual (RP=1,94) e dificuldade de comunicação (RP=1,34). Os impactos na comunicação apontaram que a perda auditiva foi 68% maior entre em os indivíduos com dificuldade de fala em comparação aos que não referiram tal dificuldade, reforçando a limitação que a perda auditiva pode trazer à comunicação. **Conclusão:** a prevalência de perda auditiva entre idosos aponta para a necessidade de se conhecer a magnitude desse déficit para a saúde pública, e contribuir para a construção de estratégias de identificação dessas perdas, possibilitando a minimização desses efeitos neste grupo.

DESCRITORES: Perda Auditiva; Prevalência; Idoso; Saúde do Idoso; Técnicas de Estimativa; Questionários

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