SELF-DECLARED COMMUNICATION DISORDERS AND ASSOCIATED FACTORS IN THE ELDERLY

Distúrbios fonoaudiológicos autodeclarados e fatores associados em idosos

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ABSTRACT

Purpose: to identify self-reported speech-language disorders and associated factors in an elderly population. **Methods:** we conducted a cross-sectional study based on home visits made to each participant from a multistage random sample of 44 elderly aged 60 years or older. We used a structured self-report questionnaire containing questions related to sociodemographic characteristics, general health and use of health services, oral communication, orofacial movements and functions, hearing, and balance. The participants were also asked about the presence or absence of dizziness and tinnitus, use of dental prosthesis, poor dentition, diagnosis of systemic diseases, whether they were smokers, and whether they were included in a systematic medical follow-up. Data were recorded in a database and the statistical analysis was performed using Epi Info version 7.0. The frequency and distribution of variables in the sample selected were examined. **Results:** of 44 elderly aged 60-80 years (mean, 66.04 years; SD=4.8), 52.3% were male and 47,7% female; A 11.4% of the subjects reported abnormal speech, 9.1% reported voice changes, and 11.4% orofacial movements changes . In addition, 27.3% reported wearing a dental prosthesis, 18.2% poor dentition, 6.8% poor hearing and balance, 40.9% reported dizziness; 54.5% had a systemic disease, 18.2% reported being smokers, and 70.4% were receiving regular medical care. **Conclusion:** the most common speech-language complaints in the investigated population were related to orofacial movements, hearing, and balance. It was identified that systemic disease as the most prevalent factor associated to speech-language complaints .

KEYWORDS: Aged; Hearing loss; Quality of Life

INTRODUCTION

Approximately 21 million people are 60 years old or older, which accounts for approximately 11% of the total population. In a comparison between 2009 and 2011, the number of older adults increased 7.6%, i.e., 1.8 million people. Estimates are that in 2025 there will be around 30 million people in that age group all over the world[1].

Some changes are seen as normal with the increasing age and may be considered part of the ageing process[2-4]. Communication disorders stand out among those changes, because they may impair the quality of life of the elderly population[5].

Hearing loss tends to worsen with the ageing process, which may affect to some extent the quality of life, potentially causing older adults to feel isolated, dependent and frustrated[6].

In addition to hearing, recent studies have been suggesting that the difficulties shown by the elderly regarding speech comprehension may be related to cognitive functions, such as working memory,

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selective attention and information processing speed[7-9].

Currently, the main cause of death among the elderly is circulation disorders. The most common causes include systemic arterial hypertension[10]. However, similar to hypertension, diabetes mellitus is a chronic disease associated to high morbidity and mortality, social and psychological impact and impaired quality of life, even though the aspects of diabetes mellitus involved in worsening of the quality of life are not known yet[11].

Thus, knowing the communication demands across the different population strata (including age group, gender, baseline disorders, etc.) is critical to make human resources and financial efforts more effective, bringing positive results to public health[12]. On the other hand, health-related measures in the basic healthcare units usually focus on the spontaneous demand, based on the subjects' need to use healthcare services[13].

Once all the demands by the elderly population are known, the required changes and innovations to the healthcare paradigms that meet this group's specificities will be identified.

This study aims at identifying the communication disorders and self-declared associated factors in an elderly population.

METHODS

This study was approved by the Research Ethics Committee at Federal University of Rio Grande do Sul, under protocol number 4.06.04.07.891, in compliance with the guidelines established by Resolution 196/96 by the Brazilian Health Council (*Conselho Nacional de Saúde*).

This is a cross-sectional study based on home visits whose sample is comprised of older adults living in the Novo Hamburgo (RS, Brazil) area. The estimate percentage of elderly population in that area is 7.9%. Multistage random sampling was used. The study enrolled 44 subjects aged 60 years old or older living in the urban area and were users of Basic Healthcare Unit of Canudos (*Unidade Básica de Saúde* – UBS Canudos).

The inclusion criteria were being 60 years old or older; acceptance to participate in the research; and completion of an informed consent form. Subjects under 60 years old and those who refused to sign the informed consent form were removed from the study.

The data collection was carried out by using a previously structured script including questions regarding social and demographical data, overall health status and use of health services, as well as aspects regarding oral communication (comprehension, voice and speech), motor functions and orofacial functions, hearing and physical balance, according to the subjects' own perceptions. The answers were rated as normal (no changes) or not normal. The elderly were also asked about the presence or absence of vertigo, tinnitus, use of dental prosthesis (partial or total), as well as the existence of poor dentition (characterized by edentulism, cavities, periodontal disease and other conditions that affect dental health). The elderly were also asked whether they had been diagnosed with systemic diseases (hypertension and/or diabetes), as well as whether they used to smoke cigarettes or similar substances (smoking) and whether they were undergoing systematic healthcare (at least one visit to the UBS upon development of health-related complaints or as a routine follow-up regarding the existence of some condition).

The data was logged to a database and the statistical analysis was carried out using the EpiInfo version 7.0 software solution. The frequency of the variables and its distribution across the studied sample were assessed. Additionally, in order to estimate the confidence interval (Exact Fisher 95%), the software solution chosen was WinPepi version 11.41.

RESULTS

Forty-four older subjects aged 60-80 years old (average 66.0 years old; SD=4.8) were interviewed.

The characteristics and distribution of communication changes and associated factors are presented on Table 1.

Among the subjects in this study, 27.3% used dental prosthesis, 40.9% reported vertigo, 54.5% presented systemic diseases, 18.2% were smokers and 70.4% were being followed-up by a healthcare provider (Table 1).

Table 1 – Characteristics and Distribution of Communication Disorders and Self-Reported Associated Factors in the Studied Population

VARIABLE		N	%	CI95%
Gender	Male	23	52.3	36.0-67.0
	Female	21	47.7	32.0-63.0
Speech Changes	Yes	5	11.4	3.0-24.0
	No	39	88.6	75.0-96.0
Voice Changes	Yes	4	9.1	2.0-21.0
	No	40	90.9	78.0-97.0
Oral Motor Functions and Orofacial Functions	Yes	5	11.4	3.0-24.0
	No	19	43.2	28.0-58.0
	Uses dental prosthesis	12	27.3	14.0-42.0
	Poor dentition	8	18.2	8.0-32.0
	Poor hearing and physical balance	2	4.5	0.0-15.0
Hearing and Physical Balance	No	21	47.7	32.0-63.0
	Vertigo	18	40.9	26.0-56.0
	Tinnitus	1	2.3	0.0-12.0
	Deficient hearing	2	4.5	0.0-15.0
Systemic Diseases	Yes	24	54.5	38.0-69.0
	No	20	45.4	30.0-61.0
Smoking	Yes	8	18.2	8.0-32.0
	No	36	81.8	67.0-91.0
Healthcare Follow-Up	Yes	31	70.4	54.0-83.0
	No	13	29.5	16.0-45.0

DISCUSSION

The speech alterations found in this study may result from changes to the motor function and/or orofacial/hearing functions. The fluidity of the communication process undergoes major changes after hearing loss – even after a mild degree hearing loss[8].

Just like speech changes, the elderly may report vocal quality-related complaints, such as hoarseness, whispery voice, decreased volume and flexibility, trembling voice and decreased clarity[3], which may occur due to histological changes to the vocal tract structures[14] and to the decreased vibration abilities of vocal folds[15-17], thus requiring an increased effort to sustain their vibration[18].

One of the most frequently reported complaints was associated to the orofacial motor skills and functions, which may impact the overall health of the elderly. According to literature, changes to orofacial motor skills and functions are expected in the elderly population and may impair feeding due to lack of coordination in breathing-swallowing[19], swallowing and speech[20].

In this study, 27.3% of the subjects reported using dental prosthesis. According to the literature, users of dental prosthesis may report changes to cutting the food, leading to chewing and swallowing difficulties[21], which may pose risks for nutritional problems[22]. However, when properly adapted, the dental prosthesis minimizes chewing and swallowing problems, supporting the continued quality of life of the elderly population[20].

Even among the non-users of dental prosthesis, 18.2% of the elderly showed poor conservation of teeth. The poor conservation of teeth and/or edentulism are considered major public healthcare issues[23], which may affect to a greater or lesser extent the stomatognathic functions: chewing, swallowing and speech articulation. Especially in the latter case, it makes the production of given sounds more difficult[24], such as linguo-dental and dental-labial sounds.

Additionally, the teeth loss can cause nutritional, aesthetic and psychological damages, absent or low self-esteem and social integration[25]. These characteristics make them potential users of the prosthesis. Thus, public healthcare focused on oral health of the elderly are necessary in order to provide all of them with a humanized service towards improving oral health. However, providing healthcare to the elderly goes beyond clinical odontology, since other

knowledge areas have to be addressed as well. Public health policies trends focused on improving health, education, humanization of service, etc. require interdisciplinary efforts and execution[26,27].

The most prevalent damages to the elderly include hypertension, arthritis and hearing loss.[7] Among the elderly in that study, only 4.5% referred hearing problems – less than indications in the literature for that age group[8,28,29]. It is believed that the prevalence was potentially lower in this study due to little access by the studied subjects to hearing diagnostic tests and services or even by not considering the decreased hearing acuity is a "complaint", since the question asked was "Do you have hearing problems?", and most interviewees see the degeneration of senses as a natural occurrence of ageing – loss of visual acuity, hearing acuity or physical strength they used to have decades before[7,28,29].

Thus, even with mild to moderate hearing loss, this is mostly not seen by some subjects as a "complaint", except for those who are required to undergo specific tests. The elderly tend to face progressive hearing loss, which eventually may cause damages of some extent to the quality of life, potentially leading the older adults to isolation, dependency and frustration[6]. It is important to implement focused actions to decrease comorbidities associated to hearing loss[8,30].

Balance disorders and presence of vertigo were indicated by the studied elderly as complaints. As shown by literature, the pathways responsible for the physical balance also are impaired by the ageing process, creating major impact for the elderly, including falls[31].

Those problems may cause changes to that population's quality of life, which may affect the social autonomy, since they end up decreasing the number of activities of the daily living due to predisposition to falls and fractures[32]. Complaints related to lack of physical balance by elderly subjects must be strictly assessed. A follow up is to be carried out in order to prevent the development of symptoms and/or disorders resulting from the problems in balance and vertigo[33].

In this study, an increased occurrence (40.9%) of vertigo-related complaints is found. Those results match the literature, which lists vertigo as the most frequently reported complaint by the elderly. That complaint is of great relevance, because it is associated to the increased risk of falls, a major factor related to morbidity and mortality in this age group[34,35].

Systemic diseases are common to the elderly group. In the context of Brazilian population ageing, associated to the increased life span, the epidemiological transition is found, expressed by the decrease in transmitted diseases and increase in chronic non-transmitted diseases[36].

A considerable rate of the elderly (54.5%) is diagnosed with systemic diseases, such as hypertension and/or diabetes.

As per literature, elderly with systemic diseases, such as hypertension[37] and diabetes, may present losses in the hearing thresholds of the bilateral sensorineural type[38].

Undergoing periodical health assessment is an important measure to decrease that public health issue and ensure prevention, early diagnosis and proper, comprehensive counselling to and management of patients with diabetes mellitus[39].

Educational programs on diabetes are extremely important because they direct educational strategies to people with the disease, improve their willingness to learn and reinforce positive attitudes towards dealing with the disease[40].

Smoking was reported by 8 (18.18%) subjects out of the 44 who comprise the sample. Literature reveals evidence of increased risk of several damages to the health of smokers, including hypertension, edentulism, periodontitis, etc[25].

Data obtained from this study demonstrate that the number of elderly reporting complaints regarding communication disorders is relatively small – the opposite of what was initially expected.

Since this is a relatively small sample, it may be the basis of an initial exploratory population-based study, in order for those findings to be compared against other groups from other regions.

Additionally, the ageing and its implications on the communication skills of the elderly are relevant challenges nowadays.

Those findings reveal the need for new actions towards healthcare in order to meet one of the objectives of National Health Policy for the Elderly: continued quality of life.

Our suggestion is that other population-based, more comprehensive studies are carried out in order to establish with further details the main hearing and speech disorders in the elderly population. Additionally, those issues must be taken into account while planning and creating policies related to promotion and maintenance of health for the elderly.

CONCLUSION

The most frequently reported hearing and speech complaint by the interviewed population is linked to orofacial motor function, hearing and physical balance; among the associated factors, the highest rate was related to systemic diseases.

RESUMO

Objetivo: identificar os distúrbios fonoaudiológicos e fatores associados autodeclarados em uma população de idosos. **Métodos:** estudo transversal a partir de visitas domiciliares com uma amostra de 44 idosos com idade igual ou superior a 60 anos. A amostragem foi aleatória por múltiplos estágios. Utilizou-se um roteiro previamente estruturado com questões relacionadas a: aspectos sócio demográficos de saúde geral e uso de serviços de saúde; comunicação oral; motricidade e funções orofaciais; audição e equilíbrio segundo auto-percepção. Perguntou-se ainda sobre a existência ou não de tontura, zumbido uso de prótese dentária, dentição precária, diagnóstico de doenças sistêmicas, uso de cigarro ou assemelhados e manutenção de acompanhamento médico sistemático. Os dados foram registrados em banco de dados e as análises estatísticas realizadas por meio do programa EpiInfo versão 7.0. Foram verificadas as frequências das variáveis e sua distribuição na amostra estudada. **Resultados:** 44 idosos com idades entre 60-80 anos (média de 66,04 anos; DP=4,8). Destes, 52,3% eram do sexo masculino e 47,4% do sexo feminino. 11,4% dos sujeitos da amostra referiram alteração de fala; 09,1% alteração de voz; 11,4% alteração de motricidade orofacial sendo que 27,3% fazia uso de prótese dentária e 18,2% apresentava dentição precária; 6,8% citaram audição e equilíbrio ruins sendo que 40,9% relataram tontura; 54,5% mencionaram serem portadores de doença sistêmica; 18,2% declararam-se fumantes e 70,4% disseram manter acompanhamento médico periódico. **Conclusão:** as queixas fonoaudiológicas mais frequentes na população entrevistada estão relacionadas à motricidade orofacial, audição e equilíbrio, sendo que ter doença sistêmica está mais comumente associado às queixas fonoaudiológicas.

DESCRITORES: Idoso; Perda auditiva; Qualidade de Vida

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