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Auditory handicap: Analysis of socio-demographic and clinical aspects

Restrição à participação auditiva: análise dos aspectos sociodemográficos e clínicos

Restricción en la participación auditiva: análisis dos aspectos sociodemográficos *y clínicos*

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Abstract

Objective: To analyze the restriction on auditory participation according to sociodemographic, clinical and assistance factors of adults and elderly people treated in an Audiology Clinic and in the Hearing Health Service of a teaching hospital. **Methods:** This is an observational analytic cross-sectional study with a probabilistic sample composed of 152 individuals. The questionnaires of the Brazilian Economic Classification Criteria (CCEB), User Characterization, Hearing Handicap Inventory for Adults (HHIA), and Hearing and Handicap Inventory for Elderly (HHIE) were applied in adults aged over 18 years and elderly people of both genders. To analyze the data, the following response variables were considered: restriction on auditory participation, adult and elderly, which was studied as follows: general score, social dimension and emotional dimension and the degree of restriction on auditory participation (absence, mild, moderate and significant). **Results:** Associations with statistical significance were observed between female gender and perception of the restriction on auditory participation, between socioeconomic class and degree of perception of the restriction on auditory participation and between degree of hearing loss and degree of restriction on auditory participation. **Conclusion:** The data found in the study reinforce the importance of the use of these instruments, being effective in the evaluation of self-perception of restriction on auditory participation and an additional source of information for the therapist, also assisting in the intervention.

Keywords: Speech, Language and Hearing Sciences; Hearing disorders; Audiometry; Adult; Aged; Questionnaires.

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RGC: data analysis and interpretation, drafting and final approval of the version to be published.
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Resumo

Objetivo: Analisar a restrição à participação auditiva, segundo fatores sociodemográficos, clínicos e assistenciais de adultos e idosos atendidos em um Ambulatório de Audiologia e no Serviço de Saúde Auditiva de um hospital de ensino. **Métodos:** Trata-se de estudo observacional analítico transversal com amostra probabilística composta por 152 indivíduos. Foi realizada a aplicação dos questionários Critério de Classificação Econômica Brasil (CCEB), Caracterização do Usuário, Hearing Handicap Inventory for Adults (HHIA) e Hearing Handicap Inventory for Elderly (HHIE) em adultos e idosos, respectivamente, de ambos os gêneros e com idade superior a 18 anos. Para análise dos dados, foram consideradas as seguintes variáveis resposta: restrição à participação auditiva, adulto e idoso, que foi estudada da seguinte forma: escore geral, dimensão social e dimensão emocional e o grau da restrição à participação auditiva (ausência, leve, moderado e significativo). **Resultados:** Foram observadas associações com significância estatística entre gênero feminino e percepção da restrição à participação auditiva, entre classe socioeconômica e grau de percepção da restrição à participação auditiva, e entre grau da perda auditiva e grau da restrição à participação auditiva. **Conclusão:** Os dados encontrados no estudo reforçam a importância do uso destes instrumentos, sendo eficazes na avaliação da autopercepção de restrição à participação auditiva e uma fonte de informação adicional para o terapeuta, auxiliando também na intervenção.

Palavras-chave: Fonoaudiologia; Transtornos da audição; Audiometria; Adulto; Idoso; Questionários.

Resumen

Objetivo: Analizar las restricciones de participación auditiva, de acuerdo con los factores socio-demográficos, clínicos y asistenciales en adultos y adultos mayores tratados en un Ambulatório de Audiología y en un Servicio de Salud de Auditiva de un hospital universitario. **Métodos:** estudio observacional analítico transversal, con muestra probabilística compuesta por 152 indivíduos. Se han aplicado los cuestionarios Critérios de Clasificación Economica Brasil (CCEB), Caracterización del Usuario, Hearing Handicap Inventory for Adults (HHIA) y Hearing Handicap Inventory for Elderly (HHIE) en adultos y adultos mayores, respectivamente, hombres y mujeres con edad superior a los 18 años. Para el análisis de los datos, fueron consideradas las siguientes variables repuesta: restricción en la participación auditiva, adultos y adultos mayores, que se estudiaron según: puntuación general, dimensión social y dimensión emocional y el grado de restricción de participación auditiva (ausencia, leve, moderado y significativo). **Resultados:** Se observó asociaciónes con significancia estadística entre el sexo femenino y la percepción de la restricción de participación; entre clase socioeconómicas y grado de percepción de restricción a la participación auditiva; entre el grado de pérdida auditiva y grado de restricción de participación auditiva. **Conclusión:** Los resultados de este estudio refuerzan la importancia de utilizar estos instrumentos, siendo eficaces en la evaluación de la auto percepción de restricción a la participación auditiva y una fuente adicional para el terapeuta, ayudando también en la intervención.

Palabras clave: Fonoaudiología; Trastornos de la audición; Audiometría; Adulto; Adultos Mayores; Cuestionarios.

Introduction

The census conducted in 2010 by the Brazilian Institute of Geography and Statistics[1] (IBGE) revealed an increase in the number of adults and elderly individuals with disabling hearing loss. Another relevant data is from the World Health Organization, which indicates that any disability is followed by impairment and restriction[2].

It is worth mentioning that impairment refers to "activity limitation", which is defined by the lack of ability to perceive sound, i.e., hearing loss, which consequently also brings social limitations to individuals of all ages. On the other hand, the "restriction on participation" refers to non-auditory aspects, which prevent the individual from performing routine tasks adequately in the social context, generating negative impacts on the quality of life. However, it is verified that the relationship between hearing loss and restriction on participation is not necessarily linear as individuals with similar hearing loss may present totally different perceptions of restriction on participation[3] according to, for example, the experienced social and functional context.

The self-perception of hearing by the individual with hearing loss is an individual issue and is highly associated with emotional, social, cognitive, behavioral and economic aspects and also to quality of life[7]. These aspects can generate difficulties, limiting the involvement of the individual in everyday situations. Researchers[4] developed and standardized questionnaires to evaluate the effects of restriction on auditory participation. The questionnaires used include the Hearing Handicap Inventory for Elderly - HHIE[4] and the Hearing Handicap Inventory for Adults - HHIA[6], both composed of 25 questions that assess social / situational and emotional aspects.

Studies aimed at the investigation of the perception of the restriction on auditory participation in elderly found results with statistically significant associations between the degree of hearing loss and the degree of restriction on auditory participation[8,9]. However, a study conducted with individuals aged 53.6 years in average revealed weak positive correlations between the questionnaire of restriction on auditory participation and the audiometric thresholds. Therefore, it was shown that the audiometric and demographic data of the individuals do not allow estimating the restriction on auditory participation in such a way as to have clinical utility to indicate or to plan some type of intervention[3].

The self-perception of the restriction on auditory participation is also closely related to the quality of life of the individual. According to the literature[10,11], the functional limitations can trigger psychosocial changes that, consequently, can interfere in the interaction and adaptation of the individual to the social environment. It should be noted that the restriction on auditory participation can be identified by the following manifestations: isolation, difficulty in family relationships, stress, sleep difficulty, anxiety, decreased self-esteem and depression.

Based on the considerations, this study aimed to analyze the restriction on auditory participation according to sociodemographic, clinical and assistance factors of adults and elderly people assisted in an Audiology Clinic and in the Hearing Health Care Service of a teaching hospital.

Method

This is an observational analytic cross-sectional study with a simple random probability sample, approved by the Research Ethics Committee of the Federal University of Minas Gerais (UFMG), under the opinion No. CAAE 25014913.0.0000.5149. It is worth mentioning that all participants signed the Free and Cleared Term of Consent.

The sample of the study was established by a sample calculation, where a flow of 7680 patients annually assisted in the outpatient clinics that compose the Audiology Sector of the São Geraldo Hospital, Medical School (Hospital das Clínicas) of the Federal University of Minas Gerais (HC-UFMG), being the Hearing Health Care Service and the Audiology Clinic. The sample calculation was determined by simple random sampling, using a confidence level of 99%. The sample was stratified by outpatient clinic, being 114 individuals from the Hearing Health Care Service and 38 from the Audiology Clinic.

The study was carried out in the Audiology Sector of the São Geraldo Hospital, with adult patients (18 to 59 years and 11 months) and elderly (60 years and older) assisted at the Audiology Clinic or at the Hearing Health Care Service of the HC/UFMG, being invited to participate of the research at the end of the care service.

The study included adults and elderly submitted to pure tone audiometry and tympanometry tests on the day of the interview and who signed the Free and Cleared Term of Consent. Individuals who did not have neurological and cognitive conditions to understand the questions of the interview were excluded from the study.

The data collection was performed as an individual interview, with duration of approximately 20 minutes. The instruments applied were the User Characterization Questionnaire, the Brazilian Economic Classification Criteria (CCEB)[12], the Auditory Handicap Questionnaire for Adults[6] and the Auditory Handicap Questionnaire for Elderly[4].

For the characterization of the users, the researchers elaborated a questionnaire containing questions about socioeconomic data, the professional that referred them, reason for the referral to the auditory examination, presence of other problems related to health, and also the results of pure tone audiometry and tympanometry tests were collected; the results of the tests followed the criteria proposed by the literature[13,14,15].

For the analysis of the socioeconomic conditions of the individuals, the Brazilian Economic Classification Criterion (CCEB)[12] was used, containing questions about the amount of household items such as color television, radio, monthly employed maid, washing machine, DVD/VCR, refrigerator, freezer; the level of education of the head of the family was also collected.

For adult participants, the Hearing Handicap Inventory for Adults – HHIA was applied and the elderly participants responded the Hearing Handicap Inventory for Elderly (HHIE).

Both questionnaires were adapted to Brazilian Portuguese[16], containing 25 questions[8] each, which quantify the social (12 questions) and emotional (13 questions) effects of the hearing impairment, with possible answers "yes" (4 points), "sometimes" (2 points) or "no" (0 points). After completing the questionnaire, the total and subtotal scores were calculated, the last related to the emotional and social aspects individually. According to the score, the questionnaire would indicate if the individual does not present perception (between 0 and 16 points), presents mild perception (18 to 30), moderate perception (32 to 42) or significant perception (above 42) of the restriction on auditory participation. It is worth considering that the questions of the social dimension present in the HHIA and HHIE questionnaires consist of questions about social interaction in face of various activities and how the individual acts in relation to certain everyday situations where hearing is required. The emotional dimension presents questions pertinent to mood swings or unpleasant situations that may occur due to the difficulty in listening. It should also be considered that the questionnaire is answered in the form of interview and the answers are filled by the therapist, so that the individual may not feel comfortable answering certain questions.

To analyze the data, the following response variables were considered: restriction on auditory participation in adults (Hearing Handicap Inventory for Adults – HHIA) and elderly (Hearing Handicap Inventory for Elderly – HHIE), which was studied as follows: general score, social dimension and emotional dimension and the degree of restriction on auditory participation (absence, mild, moderate and significant). The explanatory variables were: the life cycle of the user (adult or elderly), gender and socioeconomic conditions.

In the descriptive analysis, the mean, standard deviation, median and quartiles were calculated for the continuous variables. For the categorical variables, the frequency and proportion were calculated. In the association analysis, the Mann Whitney and Kruskal Wallis tests were used. The results with significance level of 5% were considered statistically significant associations. The analyses were carried out in STATA software (Stata Corporation, College Station, Texas) version 12.0.

Results

Table 1 shows the sample profile according to sociodemographic, clinical and assistance factors and the restriction on auditory participation. Altogether, 152 individuals have participated of the study, most of them female (54.3%), aged over 60 (59.2%) and with up to four years of schooling (50.3%).

Most of the sample belonged to the class C1/C2 (55.3%), were assisted at the Hearing Health Care Service (75.5%) and lived in the city of Belo Horizonte (63.6%). It is also observed that 78.1% of the participants presented hearing loss, most of them elderly people (58.9%). Concerning the perception of the restriction on auditory participation, 41.7% of the individuals presented no perception and 31.8% presented significant perception (Table 1).

Table 1. Sample classification according to sociodemographic, clinical, assistance data and restriction on hearing participation

Variables		n	%
Outpatient Clinic	Hearing Health Care	114	75.5
	Audiology	38	25.2
Age group (years)	18 to 59	62	40.8
	60 or more	90	59.2
Gender	Female	82	54.3
	Male	70	46.4
Education Level	Zero	19	12.6
	1 to 4	57	37.7
	5 to 8	30	19.9
	9 to 11	31	20.5
	12 or more	13	8.6
Class	A	1	0.7
	B1/B2	42	27.6
	C1/C2	84	55.3
	D	25	16.4
Residence	Belo Horizonte	96	63.6
	Metropolitan Area	41	27.2
	Other cities	15	9.9
Referral	Speech therapist	25	16.6
	ENT doctor	113	74.8
	Others	13	8.6
First Examination	Yes	17	11.3
	No	135	89.4
Hearing loss	Yes	118	78.1
	No	34	22.5
Handicap Perception	Absence	63	41.7
	Mild	21	13.9
	Moderate	20	13.2
	Significant	48	31.8

Concerning the reason for hearing tests, most patients reported difficulty in listening (81.5%), followed by tinnitus (34.4%). Regarding the presence of diseases, the most reported one was hypertension (45.0%), and 34.4% of the individuals had no complaints.

Regarding the social dimension, it was observed that individuals with hearing loss presented a high value of restriction on social auditory participation in relation to those who did not present hearing loss ($p < 0.001$). It is also emphasized that the restriction on social auditory participation presented a higher value as the degree of loss increased ($p < 0.001$) (Table 2).

Table 2. Analysis of the association between sociodemographic aspects, hearing loss and the restriction on auditory participation - social dimension

Characteristics		Distribution - Social Dimension								p Value
		n	Average	Standard Deviation	Minimum	1Q	Median	3Q	Maximum	
Gender	Female	82	17.17	14.04	0	4	13	30	40	0.184
	Male	70	13.83	12.37	0	4	12	24	46	
Age group (years)	18 to 59	62	15.06	14.13	0	0	11	28	40	0.392
	60 or more	90	16.02	12.87	0	4	12	26	46	
Class	A/B	43	15.05	12.58	0	4	12	24	44	0.966
	C	84	16.02	13.87	0	4	12	28	46	
	D	25	15.25	13.3	0	3	12	28	36	
Hearing loss	Yes	118	17.42	13.07	0	6	15	28	46	<0.001*
	No	34	9.4	12.6	0	0	5	12	40	
Loss degree	Normal	34	9.4	12.6	0	0	5	12	40	<0.001**
	Mild	35	12.23	11	0	4	10	20	40	
	Moderate	50	18	13.22	0	6	15	30	44	
	Severe/ Deep	33	22.06	13.3	0	8	26	34	46	

* Mann-Whitney test significant at 5%. ** Kruskal Wallis Test significant at 5%

Concerning the emotional dimension in relation to the restriction on auditory participation, it was observed that the women had higher values than the men (p=0.032) (Table 3). The presence of hearing loss and the degree of hearing loss in relation to the restriction on auditory participation delineated the same behavior seen in the social dimension. The same was also observed in the restriction on general auditory participation (Table 4).

Table 3. Analysis of the association between sociodemographic aspects, hearing loss and the restriction on auditory participation – emotional dimension

Characteristics		Distribution - Emotional Dimension								p Value
		n	Average	Standard Deviation	Minimum	1Q	Median	3Q	Maximum	
Gender	Female	82	19.9	16.6	0	4	19	36	52	0.032*
	Male	70	13.9	14.4	0	2	7	24	48	
Age group (years)	18 to 59	62	18.2	17.1	0	2	14	36	52	0.756
	60 or more	90	16.5	15.0	0	4	11	28	48	
Class	A/B	43	15.5	14.6	0	4	12	22	52	0.736
	C	84	18.2	16.3	0	4	15	36	48	
	D	25	16.4	16.5	0	2	7	32	46	
Hearing loss	Yes	118	19.0	15.8	0	4	16	32	52	0.001*
	No	34	10.9	14.6	0	0	3	20	44	
Loss degree	Normal	34	10.9	14.6	0	0	3	20	44	0.002**
	Mild	35	13.1	12.2	0	4	8	24	44	
	Moderate	50	21.2	17.1	0	6	18	38	52	
	Severe/ Deep	33	21.8	16.0	0	6	24	36	48	

* Mann-Whitney test significant at 5%. ** Kruskal Wallis Test significant at 5%

Table 4. Analysis of the association between sociodemographic aspects, hearing loss and the restriction on auditory participation (general)

Characteristics		Distribution-Restriction on auditory participation (general)								p Value
		n	Average	Standard Deviation	Minimum	1Q	Median	3Q	Maximum	
Gender	Female	82	37.5	29.8	0	10	34	66	92	0.0583
	Male	70	27.6	25.2	0	8	19	42	92	
Age group (years)	18 to 59	62	33.2	30.6	0	4	26	66	92	0.791
	60 or more	90	32.3	26.5	0	10	25	58	92	
Class	A/B	43	30.5	25.6	0	10	25	40	92	0.878
	C	84	34.2	29.4	0	8	28	62	86	
	D	25	31.1	28.7	0	7	15	61	70	
Hearing loss	Yes	118	36.3	27.7	0	10	30	62	92	<0.001*
	No	34	20.3	26.6	0	0	10	34	82	
Loss degree	Normal	34	20.9	26.6	0	0	10	34	82	<0.001**
	Mild	35	25.3	22.0	0	8	18	38	84	
	Moderate	50	39.2	29.3	0	12	33	68	92	
	Severe/ Deep	33	43.4	27.8	0	14	46	72	86	

* Mann-Whitney test significant at 5%. ** Kruskal Wallis Test significant at 5%

Table 5 shows the degree of perception of the restriction on auditory participation; a significant association was found in relation to the socioeconomic class, the presence of hearing loss and the degree of hearing loss. The moderate perception was more associated with the A/B and C classes, the significant perception was more associated with class C (p=0.036). It can be seen that individuals who have hearing loss tend to have an increase in perception (p=0.048). Individuals with a mild degree of hearing loss are more associated with moderate perception, and individuals with moderate, severe, or profound degree of hearing loss are more associated with significant perception (p=0.013).

Table 5. Association between perception of the restriction on hearing participation and characteristics of the individuals

Characteristics		Perception of the restriction on hearing participation								p Value
		Absence		Mild		Moderate		Significant		
Gender	Female	30	47.6	10	47.6	11	55.0	31	64.6	0.315
	Male	33	52.4	11	52.4	9	45.0	17	35.4	
Age group (years)	18 to 59	25	39.7	9	42.9	9	45.0	19	39.6	0.970
	60 or more	38	60.3	12	57.1	11	55.0	29	60.4	
Class	A/B	14	22.2	11	52.4	8	40.0	9	18.8	0.036*
	C	36	57.1	10	47.6	10	50.0	30	62.5	
	D	13	20.6	0	0.0	2	10.0	9	18.8	
Hearing loss	Yes	42	66.7	18	85.7	16	80.0	42	87.5	0.048*
	No	21	33.3	3	14.3	4	20.0	6	12.5	
Loss degree	Normal	21	33.3	3	14.3	4	20.0	6	12.5	0.013*
	Mild	16	25.4	6	28.6	8	40.0	5	10.4	
	Moderate	17	27.0	8	38.1	5	25.0	20	41.7	
	Severe/ Deep	9	14.3	4	19.0	3	15.0	17	35.4	

* Chi- Square test significant at 5%.

Discussion

The analysis of the data of the present study indicates that most individuals of the sample were assisted in the Hearing Health Care Service and also that approximately one third of the participants reside in metropolitan areas. The explanation for the great demand for assistance in the Hearing Health Care Service is that the outpatient clinic is a referral center, specialized in consultations and procedures performed only by a medium and high complexity service unit. Users from other metropolitan areas are scheduled by the Municipal Health Departments[17].

It was observed that in more than half of the sample, the level of education was low, being from zero to four years of study. However, these figures do not corroborate with the census of the Brazilian Institute of Geography and Statistics[1] (IBGE), carried out in 2009, as it shows that the population of Minas Gerais had 7.2 years of study in average. These values may have been found due to the greater number of individuals aged over 60 years present in this study.

The predominant family economic class was C1/C2, being the average salary of one and a half to two and a half minimum wages. It can be noticed that the result found in the study was according to the distribution of monthly family income found in the IBGE census for the State of Minas Gerais, in the period of 2011[1].

The present study shows that the sociodemographic aspects (gender and socioeconomic class) had a weak positive association, but with statistical significance to the restriction on auditory participation. Different result from a study[3] performed with 113 individuals aged between 21 and 64 years, which did not show statistical significance between the variables: age, level of education and socioeconomic level and the HHIA scores. It is believed that the results found are influenced by some factors, such as age and occupational status of the individual, because if in the environment/social environment where the individual is inserted there are not great communicative requirements, consequently the perception regarding the social dimension will not be noticed.

Another study[9], carried out with 29 elderly people from a privately funded hospital in the city of Curitiba, aimed to analyze the perception of a group of elderly people regarding their restriction on auditory participation before and after the use of hearing aids. To the end, the study verified that the perception of the restriction on auditory participation can widely vary from individual to individual, according to age, gender, socioeconomic level, acceptance of the hearing impairment and time interval between the first and second application of the instrument. Thus, it can be inferred that the sociodemographic aspects are not directly related to the perception of the restriction on auditory participation, since there are several individual, intrinsic and extrinsic factors that can influence such perception.

However, it is important to consider that both studies mentioned above[3,9] were not conducted with a probabilistic sample or were a population-based study. Thus, more robust research is still required in order to verify these associations and correlations in a more definitive way.

It is also worth noting that a study carried out at the Federal University of Paraíba[18] with 350 individuals, where the purpose was to understand the difference between the types of antecedents of the basic emotions between men and women, verified that, in fact, there is a difference between the way women and man deal with situations related to emotional issues. It is highlighted that women are easier to socialize; they show their emotions and express themselves more easily when compared to men.

The present study corroborates findings of the literature[3,18], demonstrating in the studied sample that the women present higher perception scores of the restriction on auditory participation when compared to the men. However, only the emotional dimension showed statistical significance. Thus, it can be inferred that women have greater emotional sensitivity leading also to a greater perception of the restriction on auditory participation, especially in the emotional dimension. So, it should be highlighted that women need greater support in the clinical practice as the emotional aspect is more relevant.

In the present study, it was observed that the presence of hearing loss and the degree of hearing loss obtained values with statistical significance in relation to the perception of the restriction on auditory participation in general and in its social and emotional dimensions. It is also observed that there was a statistically significant association in relation to the degree of hearing loss and the

degree of perception of the restriction on auditory participation, being that individuals with a mild degree of hearing loss were more associated with moderate perception and individuals with moderate or greater degree of hearing loss were more associated with the significant perception of the HHIA and HHIE instruments. Thus, it is observed in the present study that the degree of perception is directly related to the degree of hearing loss. This finding corroborates a study carried out at the Federal University of São Paulo[8] with 78 elderly individuals from the Geriatrics and Audiology outpatient clinics of the institution, which revealed an association with statistical significance between the degree of hearing loss and the degree of perception of the restriction on auditory participation of both outpatient clinics. In other words, it is noticed that as the degree of hearing loss increased, there was also an increase in the perception of restriction on auditory participation. The findings of the present study also corroborate the results of an international survey that evaluated the impact of hearing loss in 82 elderly people. In this study, there was an association with statistical significance between the increase of the degree of hearing loss and the higher perception of restriction on participation and worse perception of quality of life[19].

Note that the present study has similarities with the study conducted at the Dental School of Bauru[3], since both are outpatient clinics related to education and are inserted in the SUS network. However, the results found in the present study do not corroborate the findings of another study[20], performed at the Otorhinolaryngology Outpatient Clinic of the Single Health System (SUS) of the Santa Clara Hospital - Santa Casa Hospital Complex of the city of Porto Alegre. The study included 51 individuals, adults and elderly, where the main purpose was to verify the sensitivity and specificity of the HHIA-S and HHIE-S questionnaires in the detection of hearing loss, as there was no association with statistical significance between the degree of hearing loss and degree of restriction on auditory participation. This fact may have occurred because most individuals of the sample had normal hearing or mild hearing loss, which suggests an absence of perception of the restriction on auditory participation. However, this result disagrees with a study conducted in the city of São Paulo with 83 elderly people aged 65 to 85 years that showed agreement between a large part of auditory thresholds and perception of the restriction on participation in individuals with and without hearing loss[21].

It is worth mentioning a study carried out in an outpatient context similar to the present study, which demonstrated that even in individuals with unilateral hearing loss, aspects related to restriction on participation can be verified, compromising social and emotional aspects[22]. Thus, as in the present study, it can be inferred that patients who seek outpatient services for evaluation and diagnosis of auditory alterations may present restriction on auditory participation.

In general, the set of variables described here aggregates aspects included in other studies in an isolated way[3,7,9,22] or in smaller groupings[23-25]. Among the published studies, it is worth mentioning the study carried out with elderly of a Hearing Health Care and Speech Therapy Service in the interior of São Paulo[26], which considered gender and evaluation of pre and post-adaptation of the individual hearing aid and verified the effectiveness of acoustic stimulation and orientation specialized in the reduction of the restriction on auditory participation.

The present study contributes to the research in the area due to the realization with probabilistic sample with a broad age group, from 18 years of age, including adults and elderly, describing the self-perception of diverse age groups. As limitations, the design is one of them, as it is a cross-sectional study, it does not allow a discussion of causality or longitudinallity of the data found, being only a portrait of the represented population. Although it is a probabilistic sample study, it is a specific reality of these outpatient clinics and, therefore, it is not possible to extrapolate to the reality of other hospitals and clinics. It is suggested to carry out more robust studies on the subject, including population samples and longitudinal designs.

An association with statistical significance was found between the degree of hearing loss and the degree of restriction on auditory participation reported by the individuals. There was a positive association with the socioeconomic class and the degree of perception of the restriction, showing that the higher classes had greater perception of the restriction on auditory participation. It was also found that there was a positive association between female gender and perception of the restriction on auditory participation.

Conclusion

It was shown that the data found in the study reinforce the importance of the use of these self-evaluation tools, being effective to quantify the perception of the restriction on auditory participation, used in the clinical practice in order to identify specific treatment requirements and as a source of additional information for the therapist in the evaluation of the intervention results.

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