EVASION OF PATIENTS IN HEARING HEALTH SERVICES: RESEARCH ON THE REASON AND OUTCOMES AFTER ADAPTATION OF HEARING AIDS

Evasão dos pacientes nos acompanhamentos nos serviços de saúde auditiva: identificação sobre o motivo e resultados pós-adaptação de aparelho de amplificação sonora individual

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ABSTRACT

Purpose: to identify the reason for absence of the patients from the Unified Health System who use hearing aids at the audiology follow up and analyze the the device adaptation in this population. **Method:** 27 absent patients were interviewed with opened questions about their absence and the implementation of the International Outcome Inventory for Hearing Aids, a self-assessment questionnaire for post adaptation evaluation. Comparison of absent patients' post adaptation was performed from a random selection of 30 questionnaires from patients who attended the audiologic follow-up at the Institution (control group) who were registered in a database. Descriptive and inferential statistics (Mann-Whitney test – significance level of 5%) were applied for data analysis. **Results:** the majority of absent patients (25.92%) say they didn't remember the return date for follow up. The questionnaire's comparative results between the absent and non-absent groups showed statistically significant differences in almost every area of self-assessment questionnaire, except on benefit items, participation restriction and quality of life. **Conclusion:** among the reasons for not attending the service, we can highlight: forgetting the appointment, health problems and work reasons. It was observed that patients who did not attend the audiologic follow-up showed statistically significant post-adaptation results inferior when compared to the patients who attended the follow-up.

KEYWORDS: Hearing Loss; Hearing Aids; Unified Health System; Patient Dropouts; Questionnaires

INTRODUCTION

Epidemiological studies[1, 2] indicate that 4.8% to 6.8% of the Brazilian population has disabling hearing loss (higher than 40 dB) and need hearing aids (HA) or cochlear implant.

The National Policy on Hearing Health Care guarantees assistance to the person with hearing loss, so there can be the best possible use for their residual hearing. Therefore, the hearing health services enabled by the Ministry of Health should provide an intervention process that contemplates the audiological diagnosis, selection and fitting of hearing aids and audiological features suited to acoustic needs of the individual, the audiological follow up (hearing loss and amplification) and speech therapy for the development of auditory skills and language user.

Under the scientific assumption[3] and clinical practice of health professionals, the attention given in the adaptation phase of the hearing aid may be insufficient to improve the quality of life of these

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Funding: CNPq

Conflict of interest: non-existent

individuals. Thus, it is important to continue the treatment with periodic audiological follow ups of the patients who made the fitting of hearing aids in the services, to facilitate the process of (re) habilitation and thus optimizing the use of the adapted electronic device[4].

The audiological follow up of the patients of hearing health services of the Unified Health System (Sistema Único de Saúde – SUS) involves a broad work, from the monitoring of hearing loss, to the improvement of the adjustment of hearing aids to maximize their utilization and research on the benefit that the device brought to the quality of life of patients.

Whereas the hearing health services require considerable investment in professionals, structure and equipment, analysis of the quality of service from the result obtained with patients is important for optimum enhancements of public funds dispensed as well as to better understand the process by which patients undergo[5].

It is found that from 30% to 47%[6,7] of patients seen in hearing health services in the SUS do not follow up the audiological consultations in the hearing health services in which it was held the hearing aid fitting, making it necessary research on the reason for the avoidance by these patients, and the post-hearing aid fitting results as a way to evaluate the results of intervention[8,9].

In 2006, the National Council for Scientific and Technological Development (CNPq) approved the granting of financial assistance for the development of the multicenter project "Indicators and proposal of quality evaluation of the audiology services from the Unified Health System" (case number 409613/2006 –1), which counted with the participation of hearing health services in the South, Southeast, Northeast and Center-west of the country. One of the preliminary results of this study referred to the avoidance of patients in clinical post-hearing aid fitting follow-up, both in care for three to nine months, on all services participating in the research.

From the problems exposed, it becomes necessary to investigate the causes of evasion of patients after the hearing aid fitting in order to reverse this situation or even scientifically support possible changes in the Policy of Hearing Health Care in relation to audiological follow up. This is of fundamental importance as it deals with the optimization of financial resources from the public health expended in this area.

Based in this context, this study aims to: (1) Identify the reason for non-attendance of hearing aid patients from SUS in audiological follow up, (2) Analyze the post-hearing aid fitting result of missing patients when compared with patients who were present at the follow-up.

METHOD

Randomized trial study, which included the participation of 57 patients, selected as follows:

- Experimental group – represented by 27 patients randomly selected from the list of patients who did not show up in any follow-up care of the multicenter study.
- Control group – 30 randomly selected patients who attended the proposed follow ups (three and nine months) in multicenter, registered in a database.

All patients in this study were adults, with ages ranging from 18 years to 64 years and 11 months old, from both genders. They presented either sensorineural unilateral or bilateral hearing loss and had no previous experience with hearing aids. Patients with associated impairment to the hearing disorder were excluded from this study.

For a randomization of the sample, it was used lottery system in excel[10] using the registration number of the individual in the multicenter survey.

Instruments

For this study, two instruments were applied. They are:

1. Interview script – Composed by the following open questions: Why didn't you attend the scheduled follow up? Are you making use of hearing aids? If not, why aren't you using the device? – Applied only in the experimental group.
2. International Questionnaire of Personal Sound Amplification Device (IOI-HA)[11,12] validated for the Portuguese language. This questionnaire consists of seven items, each being directed to one aspect: daily use, benefit, activity limitation, satisfaction, participation restrictions, impact on others and quality of life. Each item has five response options ranging from the worst score to the best score. Items are scored from one (worst score) to five (best score), so a higher score indicates better performance. At the end, the sum of the scores obtained on each question corresponds to the total score of the questionnaire. The patient is instructed to choose only one answer, one that best characterizes the result of adaptation of their device. The higher the total score, the better the result after fitting the patient.

This questionnaire was applied to both groups in this study, however, in the control group this

instrument was applied in the audiological follow up, made three and nine months after the hearing aid fitting. The results were entered into a specific database.

In addition to the data collection instruments for this study, it was also raised the socio-demographic information of the patients in both groups. Such information was obtained through the specific database of the multicenter project.

Procedures

Experimental Group – Contact was made with the missing patients via letter and/or telephone to inform them about the study. After signing the Term of Free and Informed Consent Form (ICF), the researcher applied the IOI-HA and the open questionnaire via telephone.

To apply the questionnaire the questions to be answered were read. In the IOI-HA questionnaire, questions arose as the patient's specific question was reworded so that there was better understanding. As each question has five answer choices, the researcher sought to present them in a didactic way, making him imagine a ruler numbered from one to five, each number representing a response on an increasing scale, seeking to obtain the answer that best identify the reality from such patient.

Control Group –The IOI-HA questionnaire was applied in audiological follow up, in interview format, by a phonoaudiologist. The results of the instrument were registered in the database of the multicenter survey.

Respeitando os aspectos éticos o presente estudo foi aprovado pelo Comitê de Ética em Pesquisa do Hospital de Reabilitação de Anomalias Craniofaciais da Universidade de São Paulo (processo nº. 009/2007) e ao final das entrevistas os pacientes foram convidados a marcar um novo atendimento nos serviços de saúde auditiva participantes da pesquisa para dar andamento ao processo de intervenção audiológica já iniciado.

Respecting ethical aspects, the present study was approved by the Ethics Committee of the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo (process number 009/2007) and at the end of the interviews, patients were asked to mark a new follow up at any hearing health services which were participants in the research to continue the started audiological intervention process.

Statistical Analysis

Data on demographic and audiological characteristics of the groups, as well as information obtained in the open questionnaire and IOI-HA were tabulated and applied to descriptive statistics and later inferential statistics to compare the pattern of answers and information from the groups (except open questionnaire which was applied only in the group of absent patients). Both analyzes were performed by the STATA statistical program.

To compare the demographic and audiological characteristics between groups we used the statistical Fisher test. To compare the areas of IOI-HA questionnaire (use, benefit, limited residual activity, satisfaction, residual participation restrictions, impact on others and quality of life) of the study and the control group we used the statistical test of Mann-Whitney and comparison of data on the total score of the questionnaire, we used the Student t test, both with significance level of 5%.

RESULTS

As informações obtidas por meio do questionário aberto podem ser visualizadas na Tabela 1. A maioria dos pacientes entrevistados justificou a ausência no dia do retorno por ter esquecido o compromisso (25.92%). Information obtained through the open questionnaire can be viewed in Table 1. Most patients interviewed justified their absence on the day of return for having forgotten the commitment (25.92%).

The demographic and audiological data from the patients in the study group and the control group are presented in Tables 2 and 3.

The results of the descriptive analysis of the IOI-HA questionnaire as well as the comparison between the results of the instrument in both groups is shown in Table 4. As results, only in the benefit domain, restriction of participation and quality of life had no statistically significant difference between groups.

Table 1 – Distribution of patients according to reasons for absence and use of hearing aids (n = 27)

	Research Group	
	N	%
Why didn't the patient attend?		
Does not remember the reason	2	7.41
Health problems	2	7.41
Did not remember to go to the follow up	7	25.92
Was not notified	2	7.41
Work	2	7.41
Others *	12	44.44
Is the patient making use of the device(s)?		
Yes	22	81,48
No	5	18,52
If not, why?		
Problems in device	2	7,41
Tinnitus/headache	2	7,41
Shame	1	3,70

* Others – reasons related to travel, moving out of city temporarily and lack of time to attend the follow up.

Table 2 – Distribution of patients according to socio-demographic characteristics

	Research Group		Control Group		TOTAL		P
	N	%	N	%	N	%	
Patients	27	47.37	30	52.63	57	100.00	
Gender							
Female	17	62.96	16	53.33	33	57.89	0.593
Male	10	37.04	14	46.67	24	42.11	
Ethnicity							
White	17	85.00	21	80.77	38	66.67	
Black	2	10.00	3	11.54	5	8.77	1.000
Others	1	5.00	2	7.69	3	24.65	
Socio-economic assessment							
A2 (RMF R$ 4648,00)	0	0.00	1	3.33	1	5.20	
B1 (RMF R$ 2804,00)	0	0.00	1	3.33	1	5.20	
B2 (RMF R$ 1669,00)	3	13.04	5	16.67	8	14.10	0.923
C (RMF R$ 927,00)	17	73.91	18	60.00	35	61.40	
D (RMF R$ 424,00)	3	13.04	5	16.67	8	14.10	
Level of schooling							
Illiterate	4	16.00	6	23.08	10	19.61	
Completed Elementary	8	32.00	12	46.15	20	39.21	
Completed Middle School	5	20.00	3	11.54	8	15.68	0.747
Completed high school	7	28.00	4	15.38	11	21.58	
University Graduation	1	4.00	1	3.85	2	3.92	

Legend: RMF – Renda Média Familiar (Average Household Income)

Table 3 – Distribution of patients according to the auditory characteristics

Patients	Experimental Group		Controle Group		TOTAL		P
	N	%	N	%	N	%	
	27	47.37	30	52.63	57	100.00	
Localization of hearing loss							
Unilateral	7	25.93	2	2.67	9	15.80	0.070
Bilateral	20	74.07	28	93.33	48	84.20	
Fitting of hearing aids							
Unilateral	11	40.74	5	16.67	16	28.10	0.075
Bilateral	16	59.26	25	83.33	41	71.90	
Type of HA							
Retroauricular	21	77.78	24	80.00	45	78.90	0.340
Intra-auricular	1	3.70	0	0.00	1	1.75	
Intracanal	3	11.11	1	3.33	4	7.01	
Microchannel	2	7.41	5	16.67	7	12.34	
Technological category - HA							
A	4	14.81	7	23.33	11	19.31	0.400
B	15	55.56	11	36.67	26	45.61	
C	8	29.63	12	40.00	20	35.08	
Classification of hearing loss (better ear)							
Normal	9	33.33	3	10.00	12	21.05	0.161
Mild	4	14.81	7	23.33	11	19.30	
Moderate	11	40.74	12	40.00	23	40.35	
Severe	3	11.11	7	23.33	10	17.54	
Profound	0	0.00	1	3.33	1	1.76	
Attends phonoaudiological therapy							
Yes	2	7.41	4	14.29	6	10.91	0.427
No	25	92.59	24	85.71	49	89.09	

Table 4 – Descriptive and inferential analysis of the questionnaire IOI-HA

	Research Group		Control Group		P
	Average	SD	Average	SD	
Use	4.11	0.95	4.43	1.22	0.019*
Benefit	3.80	1.20	4.37	0.62	0.114
Limitation of activity	3.76	0.81	4.37	0.68	0.007*
Satisfaction	3.44	1.30	4.59	0.97	0.000*
Restriction of participation	4.42	1.02	4.55	0.57	0.702
Impact on the others	3.42	1.33	4.70	0.72	0.000*
Quality of Life	4.42	0.80	4.44	0.75	0.943
Total score	27.59	4.27	31.85	2.93	0.000*

* Statistically significant

DISCUSSION

When considering the evasion of patients in the audiological follow up is also important to analyze the reason for this lack of adherence to treatment after the hearing aid fitting, and the results after fitting of this population. This information is extremely important for the enhancement of the actions proposed in the Policy of Hearing Health Care, thus optimizing dispensed public funds[5].

Thus, the present study was aimed to investigate such issues, important for the improvement of the National Hearing Health Care in the country. Anecdotal reports of professionals point out that many times the patients attended by hearing health services believe that only the fitting of hearing aids will help them minimize the difficulties experienced as a result of hearing loss.

Among the reasons related to the absence of these patients in audiologic follow up, most of them state to have forgotten it (Table 1). According to the logistics of the multicenter study of which this work was inserted, returns for audiologic follow up were already marked on the same day of the hearing aid fitting, i.e., the patient has left the health service with the date of the next hearing follow up. This line of working may have contributed to the forgetting of the return date of the follow up by the patient, as at the time of fitting of hearing aids there are handed out a lot of information about the use, care and cleaning of the device, which may not favor the retention other important information.

It is important to consider that 81.48% of interviewed absent patients respondents (Table 1) are making use of their devices dispensed by SUS, thus indicating the use of hearing aids in the daily life of these patients. However the responses obtained in the IOI-HA items by the patients of the study group fell short when compared with the control group, reflecting a statistically significant difference in the total score of the questionnaire in both groups (Table 4). Considering the questionnaire domains IOI-HA verifies that the items “use”, “activity limitation”, “satisfaction” and “impact on others” was significantly lower for absent patients, when compared to scores obtained by participants who attended the audiological follow up.

This performance difference was not influenced by demographical and/or audiological characteristics from both groups, as there was a similar representation of these variables in each group (Table 2 and 3). In this perspective, the underperformance of absent patients in the IOI-HA questionnaire can be associated with the difficulty of adapting to hearing aids by the patient, unfamiliarity of the use of the device and its real benefit, misinformation about the functioning of hearing aids, among others, aspects that should be addressed during audiologic follow-up sessions[4]. In this context, the data obtained by this study are noteworthy, as the goal of the Policy of Hearing Health Care are often not being met in full, that is, from the time that the patient is not benefiting from the HA satisfactorily.

Thus, it emphasizes the importance of audiologic follow up from the patients with hearing aids, because this time the patient has the opportunity to share their opinions and complaints about the hearing aid so that the professional can assist them in the audiologic intervention[4]. Therefore, it is necessary for hearing health service professionals enhance, at the time of hearing aid fitting, the importance of periodic follow-ups to optimize the settings of the devices and explain to patients that the fitting of hearing aids is only one step in a process intervention with the aim of improving the quality of life of the patient.

The difficulty of the patient treated by SUS in expressing his right as a citizen makes him not to contact the hearing health service seeking to solve his problem and ends up not making use of the HA[8, 13-16]. In this perspective it is important that the hearing health service works with different ways to contact the patient for follow up, such as the use of the internet for the screening of the hearing aid users[17].

The question of evasion of patients from the hearing health services after hearing aid fitting highlights again the importance of the network of reference and counter-reference of hearing health. A primary hearing health is an important point, because this level of care professionals can act in orientation on the need for audiological follow up, which may assist to the patient’s adherence to all steps of audiological intervention[18]. We also stress the need to develop strategies to rescue the absent patients of hearing health services.

It is worth noting the difficulties found in dealing with the absent patients in the present study. Downgrading of the patients’ contacts and the lack of cooperation of individuals to respond the instrument were limiting points for this research. In turn, some patients interviewed by telephone had difficulty in communicating with their device, due to the fact of not knowing how to hold the phone near the microphone of the hearing aid, which may be a reflection of non-adherence to the attendance of audiologic.

Yet it is noteworthy that, although there are many publications in the field of Audiology, few are specifically related to the particularities of the proceedings for audiological intervention in the SUS. Thus, it becomes necessary to conduct more studies on this

proposal in order to further understand the dynamics of the service of the hearing impaired within these services.

CONCLUSION

From the analyzed data it can be concluded:

Among the reasons for non-attendance at the service, it can be pointed out: forgetfulness of care, health problems and work reasons;

Patients who did not attend the audiologist's follow up present post-hearing aid fitting results (statistically significantly) below the results of patients who came to the follow ups in most areas assessed by IOI-HA questionnaire, except benefit, restriction of participation and quality of life.

ACKNOWLEDGEMENTS

To the National Council of Scientific and Technological Development (CNPq), for granting the scientific initiation scholarship (process number110014/2009-0) and financial assistance for making the development of the multicenter project "Indicators and proposal of evaluating of the quality of audiology services of the Unified health" (process number409613/2006-1) possible.

RESUMO

Objetivo: identificar o motivo da ausência no acompanhamento audiológico dos usuários de aparelhos de amplificação sonora individual do Sistema Único de Saúde e analisar o resultado da adaptação do dispositivo nesta população. **Método:** entrevista com 27 pacientes faltosos, realizando questões abertas sobre o motivo da ausência no atendimento e aplicação do Questionário Internacional de Aparelho de Amplificação Sonora Individual, para avaliação dos resultados pós-adaptação. A comparação dos resultados pós-adaptação dos pacientes faltosos foi realizada a partir da seleção aleatória de 30 questionários, de pacientes que compareceram no acompanhamento audiológico da Instituição, cadastrados em um banco de dados. Para análise dos resultados foi aplicada estatística descritiva e inferencial. **Resultados:** a maioria dos faltosos (25,92%) refere não ter lembrado da data do retorno. Os resultados comparativos do questionário entre os grupos de faltosos e não faltosos evidenciam diferenças estatisticamente significantes em quase todos os domínios do questionário de auto-avaliação, exceto nos itens benefício, restrição da participação e qualidade de vida. **Conclusão:** dentre os motivos do não comparecimento ao serviço, destacam-se: esquecimento do atendimento, problemas de saúde e motivos de trabalho. Foi observado que os pacientes que não compareceram ao acompanhamento audiológico apresentam resultados pós-adaptação de aparelho de amplificação sonora individual aquém aos resultados dos pacientes que compareceram ao acompanhamento, de forma estatisticamente significante.

DESCRITORES: Perda Auditiva; Auxiliares de Audição; Sistema Único de Saúde; Pacientes Desistentes do Tratamento; Questionários

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Received on: Februay 13, 2012
Accepted on: May 30, 2012

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