

90 - AUDIOLOGICAL PROFILE IN CHILDREN AGED FROM SEVEN TO TEN YEARS OLD IN THE VISCONDE DE MAUÁ SCHOOL ASSISTED BY SESI-DR/AMAPÁ HEALTH CENTER IN 2009.

RODRIGO LIMA COIMBRA¹
SHEILA CRISTINA CUNHA MAUÉS¹
FÁBIO RANGEL FREITAS DA SILVA¹
RUY JORNADA KREBS²
RICARDO FIGUEIREDO PINTO³

¹ Universidade Castelo Branco – UCB - RJ- Brasil

² Universidade do Estado de Santa Catarina – UDESC - SC -Brasil

³ Universidade do Estado do Pará – UEPA - PA-Brasil

E-mail: rodrigolimacoimbra@hotmail.com

INTRODUCTION

The infant auditive loss is a problem of Public Health of serious proportions because of its high prevalence. Several factors should be considered in this context, which in a competitive way act at interfering in the quality of the patients' life. It should be considered the economical status that demands of the definitions of problem and from all the process that involves the search of the individual's rehabilitation.

The picture of Infant Auditive Loss is defined as a bilateral auditive loss, which is characterized by superior auditive thresholds to 30 Decibels (dB), considering the frequencies of 500, 1000, 2000 3000 and 4000 Hz. (OLIVEIRA et al., 2002).

Invariably the auditive loss can be classified according to intensity by a light, moderate, severe, deep auditive deficiency, that because of its intensity, these are identified as first or second degrees and, finally, the total auditive deficiency, which is also named as Cofose (OLIVEIRA et al., 2002).

On the other hand, those auditive restrictions are also characterized in function of the moment of acquisition of the language and the individual's capacity of reading.

Finally, the Infant auditive loss can also be classified because of the lesion level, defining the Deafness of Transmission, the Deafness of Perception or Neurosensorial and the Mixed Infant Deafness. This classification supported by Oliveira et al (2002), defines the Deafness of Transmission as insufficient intensity, however without association with the auditive distortion; the Deafness of Perception, also denominated as Neurosensorial which is caused by the cochlear or retro-cochlear lesions and it is associated to a distortion of the auditive sensation and the Mixed Infant Deafness, it is identified when transport and perception components coexist.

Short time ago, it was spoken about the primary and secondary preventive aspects, however according to the technological advances, that it provides the development of equipments and sophisticated techniques, now it has been possible to identify and to diagnose the auditive deficiency in a necessary and precocious way (MOMENSOHN-SANTOS & RUSSO, 2007).

The evidences for the high prevalence of the several typologies of auditive deficiency has been motivated the tracking of the risk of deafness in the infant population. The present study has in mind the observation of the magnitude of that problem in a sample base in the routine service in children assisted in the Medical Center of Sesi-Dr-Amapá, to identify the distribution of the cases by sex and age and, finally to observe the possible correlation with the use of headphones.

Considering the importance of the public health and the impact that the several levels of auditive deficiency determine in the infant population and, especially, the low life quality that occurs consequently, it has the difficulty of the limitation and restriction of the diagnosis and treatment, mainly in certain population groups of less economical status.

This way, accurate and addressed procedures to specific risk groups become decisive and oportune in the identification and treatment of the cases. Therefore, to determine the dimension of the problem will allow the development of policies and programs of more appropriate interventions.

MATERIAL AND METHODS

Characterization of the study

The study was accomplished in the Fonoaudiological Clinic of the Sesi School in city district of Macapá in the State of Amapá.

The audiometric profiles of 369 children from 7 (seven) to 10 (ten) years old were observed, these children had been assisted in the period of August 12 to September 15, 2009, with and without pre-existent auditive complaints, whose data were provided by the Institutional Medical Service.

The typology of the study was defined as exploratory, observational and descriptive type, according to the data from the Fonoaudiology Clinic of the Sesi School. (MARCONI & LAKATOS, 2008)

All the information, data and elements were carefully and detailed examined, correlating them in order they could match to the study's objectives. The observations for the identification of the possible cases were accomplished by the records from the Routine Otoscopic Questionnaire and in the records of punctual observations after the accomplished examinations into acoustical cabin with headphones (TDH35), audiometric (AVS 500) and the graphic of examination score (Audiogram).

Procedures

During the period in that the children were submitted to the auditive examination in the Fonoaudiology Clinic of the SESI-DR-AP, a sensitization campaign was accomplished involving the parents or tutors in specific meetings at SESI school, with the purpose of explaining the procedures that would be accomplished during the examination and the signature of a Term of Consent.

Ethical considerations

All of the information and the patients' personal data were kept in secret at all, and it had a codified identification element, which preserved the subject's privacy in the research.

It is also important to consider that there was not, in this collection phase, treatment and analysis of the data, a direct contact with the involved subjects, therefore, which were limited to the observation and interpretation of data, it was requested to the Committee of Ethics in Research of SEAMA College, the Certificate of Exemption, according to what is established in the Resolution 196 - CONEP.

Statistical analysis

To evaluate the association between the exhibition to the risk factor and the occurrence of auditive loss was applied the test of the Qui-square following by Odds Ratio test as it is recommended by Kirkwood (1988). For the rejection of the null hypothesis was previously determined the level $\alpha = 0.05$. The whole statistical processing was supported by the software

RESULTS AND DISCUSSION

The consolidated data in the Table 1, show that 23.3% of the assessed children present any level of auditory loss. Among the ones who present audiometric levels subnormal to the Qui-square test had the p-value < 0.0001*, which is highly significant, this indicates that there was a tendency for "Conductive Auditive Loss" (22.8%), The estimates of the interval of trust (IC95%) showed that the prevalence may vary between 18% and 27%.

Table 1: Distribution of the diagnosis of auditory acuity, (n=369).

Diagnosis	Occurrence	Percentage
Normal Hearing	283	76.7
Neurosensorial hearing loss	2	0.5
Conductive hearing loss	84	22.8
Total	369	100.0

Source: Protocol of research.

p-value < 0.0001* Qui-square test, GI=2

The figure 1 expresses the distribution of the auditory loss cases according to sex of the students. It reveals that 45.3% of the cases were identified in boys and that 54.7% in girls.

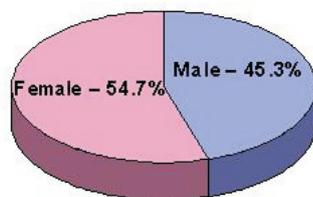


Figure 1: Distribution of the cases of auditory loss by sex, considering the total of cases (n=86).

Because the distribution of auditory loss presented difference of 9,4% between boys and girls, this study assessed the probability to have a more favorable tendency for the girls to get auditory loss. That hypothesis was evaluated by the Qui-square test and the p-value = 0.4504 that it is not significant, indicating that the hypothesis should be rejected, therefore it was concluded that the auditory loss does not depend of the sex, therefore, it may affect boys and girls equally.

When the degree of auditory loss is assessed, it was evidenced that the most frequent one was the type "Light Auditive Loss" which it is revealed with 22% of occurrence, and could reach any value between 17% and 26% being considered the minimum and maximum limits of IC 95%. The Qui-square test (p-value < 0.001*) it statistically significant, and showed a conclusion that exists a tendency for light auditory loss, according to the consolidated values in the Table 2.

When that impact is analyzed in the assisted population, considering all of the assessed students (n=369) it is evidenced that 22% present light auditory loss, 1.1% moderate and 0.3% with deep loss.

Table 2: Distribution of the level of auditory loss.

Level of auditory loss	Occurrence	Among (n=86) with auditory loss (%)	In the population (%)
Light	81	94.2	22.0
Moderate	4	4.7	1.1
Severe	0	0.0	0.0
Deep	1	1.2	0.3

Source: Protocol of research

p-value < 0.0001*, Qui-square, GL = 3

The distribution of auditory loss considering the ear side evidenced that 86% of the lesions are bilateral. The result showed statistical significance (p-value < 0.0001*) for the occurrence of lesions in both sides according to the figure 2.

Figure 2: Distribution of auditory loss according to the ear side (n=86)

The occurrence of the use of portable Discman among all of the assessed children reached 75.3% this is a tendency in the population of study, once the Qui-square test presented the p-value < 0.0001, which is highly significant.

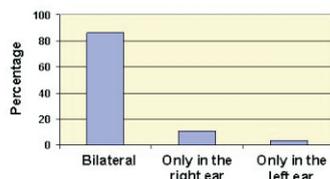


Table 3: Frequent use of portable Discman (MP3, MP4, MP5, MP6, MP7, IPODS, etc..) among all the assessed children (n=369).

Frequent use	Occurrence	Percentage
Use	278	75.3
Do not use	91	24.7
Total	369	100.0

Source: Protocol of research.

p-value < 0.0001*, Qui-square test of Yates, GL = 1

The occurrence of the use of portable Discman among only the children who presented auditory loss reached 97.7%,

once the Qui-square test presented the p-value <0.0001, which is highly significant.

Table 4: Frequent use of portable Discman (MP3, MP4, MP5, MP6, MP7, IPODS, etc..) among only children who presented auditive loss (n=86).

Frequent use	Occurrence	Percentage
Use	84	97.7
Do not use	2	2.3
Total	86	100.0

Source: Protocol of research

p-value < 0.0001*, Qui-square test of Yates, GL = 1

Table 5: Assessment of risk of the Discman use in relation to the auditive loss in children

Frequently use the portable Discman	Auditive loss	Normal hearing	Total
Yes	84 (30.2%)	194 (69.8%)	278
No	2 (2.2%)	89 (97.8%)	91
Total	86 (23.3%)	283 (76.7%)	369

Source: Protocol of research

p-value < 0.0001*, Qui-square test of Yates, GL = 1

The assessment of the loss risk in relation to the use of portable Discman was induced by the observation that among children who use this type of device the prevalence of auditive loss (30.2%) presents higher proportions when compared to the ones who do not use this type of device (2.2%). In order to assess if the auditive loss is associated to the use of these devices, the Qui-square test was applied which had the p-value < 0.0001* which is highly significant, therefore, this study concluded in an accurate form that the use of these devices is associated to the auditive loss in children.

To assess the force of the association between the use of portable Discman and the auditive loss was applied the Odds Ratio according to what Ayres indicates et al. (2007), this statistical test resulted in an Odds Ratio = 19.2, with IC 95 varying between 4.6 and 80. This result shows that the risk of auditive loss rises 19 times in children who are exposed to the frequent use of this type of device and that for each group of 4 (four) children exposed to risk factor (Discman) will occur 1 (one) new case of auditive loss.

CONCLUSION

It is concluded in the present study that in fact the Infant Auditive Loss is an extreme concern in the Fonoaudiology field, it tends in a view that the frequency of detected cases in the tracking accomplished in the students of the Escola Mauá of the SESI-DR-AP in 2009 was very significant, in addition the study verified a strong association of the cases with the use of headphones. Such evidences suggest that the tracking procedures of the Auditive Deficiencies must be implemented as routine, mainly in the children schools. Evidently that today, these technological resources are available that allow to detect in an accurate form those pathologies; however it is imperative that such resources can be available in an effective way in every social classes.

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RODRIGO LIMACOIMBRA

Endereço: Rua: Professor Tostes, 3073,

Aptº 102, Bloco D.

Bairro: Buritizal - Macapá-Amapá.

CEP: 68.900-000

E-mail: rodrigolimacoimbra@hotmail.com

AUDIOLOGICAL PROFILE IN CHILDREN AGED FROM SEVEN TO TEN YEARS OLD IN THE VISCONDE DE MAUÁ SCHOOL ASSISTED BY SESI-DR/AMAPÁ HEALTH CENTER IN 2009.**ABSTRACT**

The present study promotes a casuistry analysis of the auditive loss evidenced in a group of students in the age group from seven to ten years of age of the Escola Barão of Mauá - SESI-DR-AP, which was accomplished in 2009 starting from a tracking process promoted by the Medical Service of the Clinic of institutional Fonoaudiology. The study had as starting point a sensitization process together with the parents or tutors of the students and in order to take their consent. The data were extracted, consolidated and analyzed, aiming to quantify and to characterize the auditive loss, besides evaluating the correlation between the lesion and the continuous use of headphones. 369 children were observed, it was evidenced a high occurrence of cases (86/369) and the effective association between the use of headphones and the casuistry in 97,7% of the cases. It was identified, therefore, that the problem has significant dimensions and it suggests the need of the implementation of advanced models of tracking to minimize this severe impact over in the population, especially in children.

KEY-WORDS: Infant Auditive loss. Amazon. Brazil

PROFIL AUDIOLOGIQUE DES ENFANTS ENTRE SEPT À DIX ANS DE L'ÉCOLE VICOMTE DE MAUÁ REÇU PAR L'UNITÉ DE SANTÉ – SESI-DR/AMAPÁ EN 2009**RÉSUMÉ**

Cette étude préconise un relevé sur la perte auditive des élèves âgés de sept à dix ans de l'école Baron de Maua – SESI- DR – AP elle été réalisée en 2009 à partir d'un processus suivi et promu par le Service Médical de la Clinique d'Orthophonie institutionnelle. La recherche a eu comme point de départ la prise de conscience des parents, des responsables et des étudiants. Les données ont été extraites, consolidées et analysées, afin de quantifier et de caractériser la perte auditive et en outre d'évaluer la corrélation entre la lésion et l'utilisation continue d'écouteurs.. Il fût observe que 369 enfants attestaient ce schéma ce qui démontre une incidence élevée de cas (86/369) et l'effective association de l'utilisation d'écouteurs avec un taux de 97,7% des cas. On identifie, par conséquent, que le problème est présent dans des dimensions importantes, et on suggère la nécessité de la mise en oeuvre de modèles avancés et suivis, d'examen préalables afin de minimiser l'impact du dommage de cette maladie dans la population, spécialement chez les enfants.

MOTS-CLÉS: Perte auditive infantile, Amazone, Brésil

PERFIL AUDIOLÓGICO EN NIÑOS DE 7 A 10 AÑOS DE LA ESCUELA VISCONDE DE MAUÁ ATENDIDAS EN LA UNIDAD DE SALUD DE SESI-DR/AMAPÁ EN EL 2009**RESUMEN**

El presente estudio promueve un levantamiento del número de caso de la pérdida auditiva evidenciada en un grupo de alumnos de 7 a 10 años de la escuela Barão de Mauá SESI-DR-AP, realizado en el 2009 a partir de un proceso de rastreamiento promovido por el Servicio Médico de la Clínica de Fonoaudiología institucional. El trabajo lleva como punto de partida un proceso de sensibilización junto con los padres o responsables de los alumnos y con el consentimiento de los mismos. Los datos fueron extraídos, consolidados y analizados con el objetivo de cuantificar y caracterizar la pérdida auditiva, además de evaluar la correlación entre la lesión y el uso continuo de audifonos. Fueron observados 369 niños se evidenció una elevada manifestación de casos (86/369) y la efectiva asociación entre el uso de audifonos con el número de 97,7% de los casos. Por lo tanto, se identifica que el problema se presenta en dimensiones significativas y se sugiere la necesidad de la implementación de modelos avanzados de rastreamiento para minimizar el impacto de ese problema grave en la población, en especial en los niños.

PALABRAS LLAVE: Pérdida Auditiva Infantil, Amazonia, Brasil

PERFIL AUDIOLÓGICO EM CRIANÇAS NA FAIXA ETÁRIA DE SETE A DEZ ANOS DA ESCOLA VISCONDE DE MAUÁ ATENDIDAS NA UNIDADE DE SAÚDE DO SESI-DR/AMAPÁ EM 2009.**RESUMO**

O presente estudo promove um levantamento da casuística de perda auditiva evidenciada num grupo de alunos na faixa etária de sete a dez anos de idade da Escola Barão de Mauá – SESI-DR-AP, realizado em 2009 a partir de um processo de rastreamento promovido pelo Serviço Médico da Clínica de Fonoaudiologia institucional. O trabalho teve como ponto de partida um processo de sensibilização junto aos pais ou responsáveis dos alunos e a tomada de consentimento dos mesmos. Os dados foram extraídos, consolidados e analisados, objetivando quantificar e caracterizar a perda auditiva, além de avaliar a correlação entre a lesão e o uso continuado de fones de ouvido. Foram observadas 369 crianças, evidenciando-se uma elevada ocorrência de casos (86/369) e a efetiva associação entre o uso de fones de ouvido com a casuística em 97,7% dos casos. Identifica-se, portanto, que o problema se apresenta em dimensões significativas e sugere a necessidade da implementação de modelos avançados de rastreamento para minimizar o impacto desse agravo na população, em especial em crianças.

PALAVRAS-CHAVE: Perda auditiva infantil. Amazônia. Brasil

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