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# International Archives of Otorhinolaryngology

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peratures for several thermoanatomic points, especially the lower temperature of the submental trine region ( $P < 0.05$ ). The GAOS presented worse general myofunctional orofacial condition (GAOS:  $175 \pm 16$  x GC:  $195 \pm 18$ ;  $P < 0.001$ ) and by OMES-E category, reduced mobility of the soft palate, greater degree of modified Mallampati ( $P < 0.05$ ). Statistically significant correlations were found between the variables BMI ( $\text{kg}/\text{m}^2$ ) and temperature of the left and right thermoanatomic points, left labial commissure and left lower lip, but not between the thermographic variables and the OMES-E scores. **Conclusions:** Correlations suggest that measurements of face temperatures are associated with BMI and OSA. OMES-E protocol detected that the main orofacial myofunctional alteration are related to soft palate in GAOS. More thermographic studies are needed to complement the diagnosis of OSA patients.

#### 9252. Users 'Expectations of Hearing Prostheses in Order to Replace the Appliance's Exchange

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**Introduction:** The expectation regarding the use of hearing aids is one of the factors that influence their adaptation, in old and new users. The use of evaluative tools is fundamental to complement these expectations. **Objective:** To verify the expectations of former users of hearing aids at the time of their replacement. **Methods:** Cross-sectional and descriptive study, carried out in an outpatient clinic specialized in the selection and adaptation of hearing aids. To verify the expectation of the individuals in relation to the use of the sound amplification apparatus, the Client Oriented Scale of Improvement (COSI) tool was used, which consists in the individual citing up to 5 situations in which he perceives the need for improvement of his hearing. **Results:** 39 individuals were included in this study, of which 31 (79.5%) were female and 8 (20.5%) were male. The individuals were aged between 30 and 96 years, with a mean of  $65.4 \pm 16.31$  years. The most frequent expectations of improvement in individuals were better listening in groups of people (82.1%), better understanding of radio and television (76.9%), better understanding speech in noisy environments (66.7%) improving communication with the family (61.5%), better understanding the telephone (28.2%), improving communication at work (23.1%) and improving sound localization (23.1%). **Conclusions:** It is possible to observe that most of the users interviewed had expectations of hearing improvement in relation to socialization.

**Keywords:** hearing; hearing aids; hearing loss.

#### 9255. Comparison of Cervical Vestibular Evoked Myogenic Potential between Children and Adults

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**Introduction:** Cervical Vestibular Evoked Myogenic Potential (cVEMP) evaluates the balance from muscular responses resulting from a strong sound stimulation that activates the saccular macula. The record of the triggered neural responses is made by surface electromyography and is mediated by a reflex arc of three neurons that involve the inner ear, the brainstem and the vestibular-spinal pathway. **Objectives:** To compare cVEMP latencies in adolescents and adults and to verify possible associations between latencies and age, ear and sex. **Methods:** A cross-sectional study of 55 children,

28 females and 27 males, and 55 adults, 29 females and 26 males, with normal hearing thresholds and no otoneurological complaints. All patients underwent peripheral auditory evaluation and cVEMP. **Results:** It was observed that the mean latency of P1 and N1 in the infant population was 14.75 ms and 23.49 ms, respectively. In adults, the mean P1 was 12.47 ms and N1 was 21.64 ms. No statistically significant differences were found in both groups in the comparison between latencies, genders and ears. However, in the comparison between the infant and the adult population, differences with statistical significance were evidenced, with an inverse correlation between latencies and age, as the age increases, the latencies of P1 and N1 decrease. **Conclusions:** The comparison between the groups showed a negative correlation between age and latency; that is, the longer the age, the lower the latency of the P1 and N1 waves in both ears.

**Keywords:** adults; children; vestibular evoked myogenic potentials; vestibular function tests.

#### 9256. Relationship between Susceptibility to Motion Sickness and Language Complaints in Children

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**Introduction:** Motion sickness is a movement intolerance due to a sensory conflict between the visual, proprioceptive and vestibular systems. In the infant population, the motion sickness is quite frequent, but its difficult diagnosis and the prevalence in this group are underestimating. Studies indicate that the prevalence of dizziness of vestibular origin in the adult population worldwide is 7.4%. No studies were found to describe the incidence of these dizziness in children. Pediatric vestibular alterations are of great importance in child development, and may have a series of repercussions, such as alterations in oral language, writing and reading. **Objectives:** To compare the susceptibility to motion sickness among children with language complaints (study group) and children without language complaints (control group). **Methods:** A cross-sectional and comparative study involving 76 school-age children of both genders. The study population was divided into two groups: Study Group, composed of 19 children with language complaints; and Control Group, consisting of 57 children with no language complaints. The Motion Sickness Questionnaire Short Form (MSSQ) was applied in an interview format, performed individually with each child. The instrument is composed of nine environments that trigger motion sickness. **Results:** There was no significant difference between the study group and the control group ( $p = 0.129$ ). There was a significant association between the children who presented a higher score in the MSSQ and had language complaints. **Conclusions:** It has been found that children with language complaints have a higher susceptibility to motion sickness.

**Keywords:** motion sickness, body balance, children.

#### 9259. Threat of Recognition of Noise Talk: Signal-To-Noise Ratio in Elderly Individuals with Mild Cognitive Impairment

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**Introduction:** Elderly people may present difficulties in understanding speech in noise, requiring greater speech signal intensity. **Objective:** To analyze the signal-to-noise ratio in noise recognition in a group of elderly people with mild cognitive impairment. **Methods:** A cross-sectional study, carried out

in an audiological clinic, elderly of both sexes, diagnosed with mild cognitive impairment. For evaluation, after the threshold tonal audiometry, the speech recognition test in the noise developed by Costa (1998) was used. The test was performed in the free field, with the noise available in the compact disc, at a fixed intensity of 65dB (A). **Results:** The sample consisted of 62 elderly individuals, the majority of females (87.09%), aged between 60 and 87 years (mean  $71.72 \pm 5.72$  years). After the sentence recognition tests were applied in the noise, it was verified that the signal-to-noise ratio in this sample varied between -11.86dB and + 4.5dB (mean of  $-3.61\text{dB} \pm 3.76\text{dB}$ ). **Conclusions:** The results showed that there was a great variation in the signal-to-noise ratio in the individuals evaluated. The mean values showed that there is a need for a low noise environment so that speech recognition can be done by individuals with mild cognitive impairment.

**Keywords:** hearing; elderly; mild cognitive impairment.

### 9260. Characterization of Hearing Skills in University

#### Students: Pilot Study

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**Introduction:** Central Auditory Processing Disorder is a change in the perceptual processing of auditory stimuli, and may or may not be associated with other neurobiological dysfunctions. The integrity of the diverse auditory abilities is fundamental in all the phases of life, so that the performance in the activities, academic and professional is not harmed. **Objective:** To characterize auditory skills in university students through the evaluation of central auditory processing. **Methods:** Cross-sectional study with 42 university students, between 20 and 40 years. All of them underwent the following procedures: audiological anamnesis, pure tone audiometry, immitanciometry and the evaluation of central auditory processing. Individuals with normal auditory thresholds and type A curve in tympanometry were considered fit. Subjects with middle ear alterations, neurological and metabolic pathologies were excluded. **Results:** In the audiological anamnesis, 57% of the students presented at least one complaint related to the central auditory processing disorder. There were predominant complaints of difficulty in speech comprehension in noise, attention and memory. Auditory auditory (4%), binaural integration (25%), binaural separation (95.8%), binaural interaction (50%), temporal ordering (41.6%), and temporal resolution (33%) among all evaluated students. The ability of binaural separation proved to be the most impaired. **Conclusions:** The results show that university students present alterations in auditory abilities in isolation or associated with other neurobiological dysfunctions. It is necessary to perform the speech-language work with this population, since these difficulties can compromise the academic performance of the students in the university.

**Keywords:** auditory processing disorder; hearing; adult; student.

### 9261. Study of Functional and Spatial Hearing in the Elderly without Hearing Loss

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**Introduction:** A common complaint in the elderly, even in those with normal hearing, is the difficulty of hearing in noise. Auditory and cognitive decline in the elder-

ly can contribute to these difficulties. **Objective:** Verify the functional hearing for the speech, spatial hearing and quality of listening and speech recognition in noise, in the elderly without hearing loss and its relations with age and schooling. **Methods:** Work approved: number 0193/2019. Thirty two elderly (mean age  $\pm$  SD:  $67.7 \pm 7$ ) of both sexes (27 women) with no symptoms of dementia (scores in the CASI-S greater than 24) and with different schooling (3 to 27 years: mean:  $12.4 \pm 5.4$ ) were evaluated. The Speech Spatial Quality Questionnaire SSQ12 and the Portuguese Sentence List test (PSL) were applied. Statistical analysis was performed using three independent linear regression models having the domains of hearing for speech, spatial hearing and hearing quality of SSQ12 as the outcome, and S/R ratio of the PSL test, age and schooling as predictors ( $\alpha = 0.05$ ). **Results:** Less years of schooling was associated to the greater difficulty of speech recognition in noise and that the greater the age, greater the difficulty in the domains of hearing for speech, spatial hearing and hearing quality. Higher thresholds at high frequencies were associated with poorer SSQ performance. **Conclusions:** In the Elderly without hearing loss a higher number of years of schooling has a positive effect on the recognition of speech in noise and higher the age the worse the hearing for speech, spatial hearing and hearing quality.

### 9262. Temporal Auditory Processing and Long-Latency Auditory Evoked Potentials in University Students: Pilot Study

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**Introduction:** Temporal processing is the ability to process acoustic stimuli over time. In university students, the prevalence of central auditory processing disorder is unknown, so it is necessary to evaluate possible changes in the auditory abilities of this population. **Objective:** To verify the temporal auditory processing of university students through the evaluation of central auditory processing and long-latency auditory evoked potentials. **Methods:** Cross-sectional study with 24 postgraduate students aged 20 to 43 years, with normal hearing and complaints of central auditory processing disorder. They were submitted to threshold tonal audiometry, immitanciometry, evaluation of central auditory processing and long-latency auditory evoked potentials. Individuals with normal audiometry and immitanciometry were considered fit. Subjects with middle ear, neurological and metabolic abnormalities were excluded. **Results:** In the evaluation of central auditory processing, 83.0% of university students presented alterations in temporal processing, with 46.0% had temporal order alterations and 37.5% presented temporal resolution alterations. In the electrophysiological evaluation of the long-latency auditory evoked potentials, 37.5% had P2 component with increased latency, 25.0% with N2 component with increased latency or absence of component and 20.8% with P300 absent. **Conclusions:** There was a high rate of alterations in temporal auditory processing of university students. The electrophysiological evaluation identified important alterations in central auditory nervous system functionality, corroborating the students' complaints and the behavioral evaluation of central auditory processing.

**Keywords:** hearing; temporal processing; electrophysiology; auditory evoked potentials.