4TH FRENCH-BRAZILIAN SYMPOSIUM ON HEARING AND BALANCE

Practical tools from research
to prevention and diagnosis

June 22 and 23, 2023

Faculdade de Medicina UFMG
190, Professor Alfredo Balena Avenue,
Belo Horizonte Minas Gerais

Local

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CONTENTS

INTRODUCTION

Awareness is growing worldwide that hearing and balance deficits involve prominent and potentially costly health issues, with alarming figures for the next few decades, as acknowledged by the World Health Organization. New data from research laboratories teach us that more situations are at risk than formerly believed.
This 4th French Brazilian Symposium on Hearing and Balance examined the challenges raised by prevention and diagnosis in three different frameworks: balance deficits in children, adults and elderly people; excessive exposure to amplified music in young adults; and atypical hearing impairments represented by auditory neuropathies throughout the lifetime.
The early diagnosis of these disorders rests upon up-to-date theoretical knowledge of the pathophysiology, for guiding the proper use of precise techniques. How these can be implemented with minimal equipment was the one common theme of all sessions of the 4th French Brazilian Symposium on Hearing and Balance.
Prevention, as well as intervention, completed, in the near future, by specific therapies will also require thorough diagnostic procedures, much more extensive than a few decades ago yet sustainable, hence the need for consensual development of simple, user-friendly procedures were addressed in this congress.
The scientific program included lectures, round tables, workshops and poster sessions. The symposium also offered an opportunity for undergraduate, graduate students and professionals to present their research studies. After evaluation by a scientific committee, awards were granted to the best presentations.
This book of abstracts presents a summary of the discussions that took place during the event, as well as summaries of the papers presented in poster sessions.
We hope in this way to circulate more braodly what was discussed in these days of events.

Professor Paul AVAN **and** **Professor Sirley CARVALHO**

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PROGRAM

Thursday, JUNE 22

8:00 – 9:00 am	CHECK-IN
9:00- 9:30am	Welcome address
9:30 – 10:00 am	OPENING CONFERENCE Pr PAUL AVAN - UCA University Clermont-Auvergne /IDA (Institut de l'Audition-Paris)– FRANCE Theme: Old ears, new explorations
Session 1 - VESTIBULAR EXPLORATION	
10:00 – 11:00 am	Coordinator – **Pr Denise UTSCH GONÇALVES (ORL - UFMG - BRAZIL)** **Dr Anna Paula** Ávila**- HC-UFMG** **Dr Alaina BASSETT (**Audiologist **-** Keck School of Medicine of University Southern California - USA**): Vestibular migraine**
11:00– 11:45 am	VISIT TO STANDS – COFFEE BREAK
11:45 – 12:45am	CONFERENCE Dr Sylvette WIENER-VACHER (PH ORL - Robert Debré University Hospital – FRANCE): Comprehensive testing of infants: HOW I DO IT?
12:45 – 1:45 pm	LUNCH
1:45 – 2:15 pm	WORKSHOP SPONSOR Coordinator: Dr Lucian MENDONÇA (UFMG- BRAZIL)
Session 2 :AMPLIFIED MUSIC : MORE QUALITY = LESS RISK	
2:15 – 3:30 pm	Coordinator: Christian HUGONNET Christian HUGONNET: The issue of compression, with sound samples **Dr Thamara DOS SANTOS (Audiologist -** University Clermont Auvergne and "Association Semaine du Son"- FRANCE**): compressed vs non compressed music, different effects on auditory function?** **Dr Fabrice GIRAUDET** (Researcher, Audiologist - University Clermont Auvergne – FRANCE): Neonatal Otoneurological Disorders

3:30 – 4:00 pm	VISIT TO STANDS - COFFEE BREAK
Session 2 - part 2:AMPLIFIED MUSIC : MORE QUALITY = LESS RISK	
4:00 – 5:20	Coordinator - **Dr Patricia COTTA MANCINI (Audiologist UFMG - BRAZIL)** **Pr Marco Antonio VECCI (**Engineer UFMG – BRAZIL**) or Brasilian DJ or sound engineer – Loud sound in Brazil, local regulations and attitudes** **3M (**Tecnologias – Brazil**) : Ears Protections** **Christian HUGONNET (**Sound Engineer and President of "Association Semaine du Son" – FRANCE**): Future organisation of 'Semaine du Son de l'UNESCO' in Brazil**
Session 3 - COCHLEAR IMPLANT AND MUSIC	
5:20 – 18:00	Coordinator: Ludimila Labanca Valéria Goffi-Gomez Dr Celso Becker
18:00	MUSIC CONCERT

Friday, JUNE - 23

Session 3 – AUDITORY NEUROPATHY: CURRENT CHALLENGES	
9:00 – 10:30 am	Coordinator: Professor Naïma DEGGOUJ Professor Naïma DEGGOUJ (current issues) Dr Thierry MORLET (Researcher, Audiologist - duPont Hospital Wilmington - USA): Postsynaptic neuropathies: du pratique Prof Naïma DEGGOUJ (ORL - Catholic University of Louvain – BELGIUM): atypical auditory disorders with normal pure-tone audiograms: du pratique Dr Marianna DENARO (ORL UFMG – BRAZIL): Cochlear implantation in auditory neuropathies
10:30 – 11:10 am	**VISIT TO STANDS - COFFEE BREAK**
11:10 – 12:00 am	**VISIT TO POSTERS**
12:00 – 01:20 pm	**LUNCH**

01:20 – 02:10 pm	**VISIT TO POSTERS**
02:10 – 02:40 pm	**WORKSHOP SPONSOR** Coordinator: Dr Izabel
Session 4 AUDITORY NEUROPATHY: What next?	
02:40 – 4:00 am	Coordinator: Doctor Thierry MORLET More systematic exploration with better definitions; construction of cohorts; improvement of exploration tools; longitudinal follow-up of patients (norms for ABRs, for central auditory processing skills); … Should we organize a specific task force, within an already existing Society? Debate/Argument/Controversies: Prof Pedro DE LEMOS MENEZES (Audiologist – UNICISAL – BRAZIL): Objective central exploration of auditory neuropathies (15 min.) Participants: previous lecturers and: Dr Luciana MACEDO DE RESENDE (Audiologist UFMG and Member of the board of the Brazilian Academy of Audiology (ABA) São Paulo – BRAZIL) Dr Joël LAVINSKY (ORL – UFRGS – BRAZIL)
4:00 – 4:40 am	VISIT DES STANDS et pause-café
Session 4 MUSIC AND TINNITUS: ASSESSMENT AND INTERVENTION	
4:40:10 – 5:40 am	Coordinator: Luciana MACEDO Isabella SILVA - (UNB – BRAZIL) Renata MAMEDE– (USP – BRAZIL) Ronaldo Kenedy PAULA MOREIRA (ORL - UFMG) Maurício – Intervenção – Música - UFMG
5:40 – 6:00	Award winning posters presented at 4th FBSH

AWARD WINNING POSTERS

P-25
AUTOMATIC ABR BY CLICK AND CHIRP STIMULI AND OTOACOUSTIC EMISSIONS IN NEWBORN

Ana Luiza de Freitas Rezende, Luciana Macedo de Resende and Sirley Alves da Silva Carvalho

Federal University of Minas Gerais

Introduction: There is a lack of data regarding click and chirp stimuli in AABR when considering the corrected gestational age of this population and the presence of Risk Indicators for Hearing Loss (RIHL). OBJECTIVE: To compare the OAE responses to the "pass/fail"; result of the AABR by click and chirp stimuli in newborns according to the corrected gestational age and the RIHLpresented. METHODS: This research was supported by Capes/Cofecub and approved by the Research Ethics Committee of the Federal University of Minas Gerais (COEP UFMG), registered under protocol number 934.475. The newborns were submitted to TEOAE and AABR by click and chirp stimulation at 40dBnHL intensity, using the Echodia Elios equipment, and the findings were analyzed in relation to the "pass/fail" result. Thirty newborns were evaluated, 23 (76.7%) with some RIHL and 7 (23.3%) without RIHL. Half of the sample 15 (50%) had corrected gestational age up to 37 weeks and 15 (50%) were older than 37 weeks. RESULT: Newborns who remained in the NICU for more than five days and had NHS by means of the click AABR had an 83% chance of failure. Ages older than 37 weeks of corrected gestational age had a higher number of "pass/fail"; OAE results. Newborns who failed had higher mean corrected gestational age than those who passed the AABR click, chirp and OAE. The newborns evaluated had a higher number of "pass" results when performing the AABR chirp compared to the AABR click. This same pattern was found when comparing click and chirp AABR and the variables RIHL and NICU stay for more than five days. Conclusion: The chirp AABR reduces the number of false positives when compared to click AABR and OAE.

P-22
THE ROLE OF VEMP AS A MARKER IN THE PROGRESSION OF HTLV-1-ASSOCIATED MYELOPATHY: LONGITUDINAL STUDY

Juliana Augusta Nunes da Cruz, Denise Utsch Gonçalves, Júlia Fonseca de Morais Caporali, Nathália de Castro Botini Rausse, Tatiana Rocha Silva, Ana Lúcia Borges Starling and Ludimila Labanca.

Federal University of Minas Gerais (UFMG)

Introduction: Human T-cell lymphotropic virus type 1 (HTLV-1)-associated myelopathy (HAM) consists of chronic inflammation in the spinal cord leads to progressive postural and gait impairments. The diagnosis of HAM is usually delayed and it is believed that the vestibular evoked myogenic potential triggered by galvanic stimulation (G-VEMP) can be an auxiliary tool in the early diagnosis of HAM, since G-VEMP evaluates the spinal cord function. Objective: To evaluate the role of G-VEMP as a marker of progression to HAM in individuals followed for 10 years. Metodology: This longitudinal study was conducted between 2012 and 2022 and it was approved by the Research Ethics Committee (number: 2898825). All participants provided voluntary written consent. HTLV-1-infected participants were submitted to a clinical and neurological examination followed by G-VEMP in 2012/2013(T1), 2017/2018(T2), and 2022(T3). Galvanic stimuli were applied bilaterally to the mastoid processes and G-VEMP was recorded from the gastrocnemius muscle. The parameters investigated were the latency and amplitude of the short-latency (SL) and medium-latency (ML) responses and the progression of individuals from asymptomatic carrier to possible-HAM and HAM. This study included participants from a cohort of former donors infected with HTLV-1 and were excluded the participants who did not perform the three evaluations. Data were compared using the Friedman and chi-square tests. It was considered significant $p<0.05$. Results: Twenty-one individuals were included, with a mean age of 61 yaers at T1 and 13 (62%) women. There was an increase in the latency of the SL and ML response over the 10-year follow-up ($p<0.001$). The SL and ML wave amplitude decreased ($p<0,001$). The percentage of altered VEMP at T1 was 33%, T2 was 43% and T3 was 52%. All individuals with altered VEMP at T1 developed possible-HAM or HAM during follow-up. The diagnostic accuracy of G-VEMP was 90,48%, sensitivity 78%, and specificity 100%. Conclusion: G-VEMP showed as a marker of progression to HAM and it is a promising tool for improving the early diagnosis of HAM and might be used for the following-up of patients in future therapeutic approaches. This finding, demonstrated in a longitudinal study, is unprecedented.

ABSTRACTS SYMPOSIUM

P-02
USE OF SPEECH MAPPING TO ASSESS SPEECH PERCEPTION AND COUNSELING IN USERS OF HEARING AIDS

Fabio Heleno Lopes and Luciana Macedo de Resende.

Federal University of Minas Gerais (UFMG)

Objective: To demonstrate the importance of conducting speech mapping to obtain better speech perception by users of Individual Hearing Aid. Methodology: Twenty-four hearing aid users were evaluated, 13 male and 11 females, aged between 48 and 95 years, who had been using hearing aids for at least one year, without previous speech mapping. The participants were submitted to an anamnesis, answered a validation questionnaire (IOI-HA) and gave a satisfaction score on a visual analog scale from 0 to 10 to evaluate the satisfaction with the use of hearing aids. The participants underwent speech perception tests in silence in noise before conducting speech mapping. After three months of conducting the speech mapping, the patients returned and answered the validation questionnaire and the visual analog scale again, and underwent the speech perception test in silence and in noise. The results were compared. Results: Three months after the speech mapping, it was observed that there was an improvement in the speech perception threshold in silence and noise as well as in the signal/noise ratio, improvement in evaluation of the visual analog scale, as well as the IOI-HA score, in addition to the increase in daily use of hearing aids. Conclusion: These findings may suggest the use of speech mapping to regulate hearing aids may improve speech perception in silence and noise, in addition to increasing user satisfaction with the use of hearing aids.

P-03
EVALUATION OF HEARING AND COGNITION IN ADULTS WITH PARKINSON'S DISEASE

Paula Gabriela Zeferino Meireles, Ludimila Labanca, Anna Paula Batista de Avila Pires, Jordana Carvalhais Barroso, Maria Luiza Diniz, Renata Cristina Cordeiro Diniz Oliveira, Stéfane Laura Brandão and Denise Utsch Gonçalves.

Federal University of Minas Gerais (UFMG)

Introduction: Parkinson's disease (PD) is a common neurodegenerative disease affecting over 1% of individuals aging 65 and above. The current study aims to investigate the audiological and cognitive profile of individuals with Parkinson's disease and to describe the relationship between hearing loss and cognitive decline in those patients. Methodology: This study was approved by Ethics Committee (CAAE number 28850619.9.0000.5149). Included criteria was participants over 18 years old with Parkinson's Disease (PD) and exclusion criteria were participants with diagnoses of dementia and any alteration in the middle ear or deformities in the external auditory canal. Participants underwent clinical interviews, immittanciometry, tonal and vocal audiometry, and Mini Mental State Examination (MMSE). The type and degree of hearing loss were classified based on Silman and Silverman, 1997, and BIAP 1996. Fisher's exact test was used to examine the association between frequency of hearing loss and cognitive decline. Results: From the 30 participants included, 57% (17) were men and 43% (13) women. The median age of the participants was 70 years old, minimum 45 years old and maximum of 87. With regard to schooling, the median was five years, minimum zero and maximum 18 years were found.The MMSE median score was 23, with a minimum of 10 and a maximum of 30. Among the participantes there were: 14 individuals (47%) had cognitive impairment and 16 (53%) had not; 15 (50%) individuals with normal hearing; 12 (40%) with mild sensorineural hearing impairment and 3 (10%) with moderate grade I sensorineural hearing loss. The results were not statistically significant for the relationship between audiometry and MMSE (p=0.642). Conclusion: This study showed that hearing loss and cognitive impairment are frequently non-motor manifestations in PD. These symptoms can impact the quality of life and reduce life expectancy. In addition, low education and low socioeconomic status may corroborate the development of both hearing loss and cognitive decline in PD, but it demands further studies.

P-04
LONGITUDINAL FOLLOW-UP OF PATIENTS UNDERGOING VESTIBULAR REHABILITATION

Diego André Resende Assis, Adriane da Silva Assis and Patrícia Cotta Mancini

Federal University of Minas Gerais (UFMG)

Introduction: Vestibular rehabilitation (VR) is characterized as a non-invasive treatment for chronic dizziness that uses exercises customized to the individual in order to help restore postural control and reduce dizziness complaints. Little is discussed in the literature regarding the long-term benefits obtained from performing VR exercises to improve body balance. OBJECTIVES: To describe the profile of patients with history of dizziness treated at the VR Ambulatory according to sociodemographic and care aspects, and to verify the improvement in body balance after a period of VR discharge. Methodology: Cross-sectional observational study, approved by the Research Ethics Committee under number 0551.0.203.000-11. The sample consisted of 26 participants. An anamnesis form was structured to gather information related to sociodemographic data, diagnosis, previous treatment and possible complaints that the individual still had. This was filled out based on information obtained by telephone contact and access to the medical records of these patients. Data were statistically analyzed using a significance level of 5%. Results: There was a prevalence of female individuals, aged over 55 years and the main complaint was dizziness. Twenty-five (96.2%) participants reported improvement in symptoms after treatment, with a reduction in the average score in the Brazilian version of the Dizziness Handicap Inventory. There were respondents who remained asymptomatic since the end of rehabilitation. Those who reported still feeling dizzy described that the symptom was less intense than in the period prior to the intervention. The return of symptoms was not associated with being discharged from treatment, with performing the list of exercises at home or with the longer time elapsed after discharge. ConclusionS: VR was effective in reducing the symptoms of dizziness, vertigo or imbalance. Successive exposure to exercises after treatment helps maintain postural control. However, adherence to performing these exercises after speech therapy discharge is still low.

P-05
VESTIBULAR MIGRAINE

Camila Taynay Bittencourt Oliveira

OTOMED

Introduction: Despite the term vestibular migraine was proposed in the 90´s, the criteria for diagnosis were established only in 2012 and being defined as a chronic condition caused by several factors and potentially disabling. It affects about 18% of women and 6% of men and is characterized by unilateral headache, throbbing, associated with phonophobia, photophobia, nausea and vomiting. it manifests otoneurological symptoms such as dizziness, hypoacusis and ear fullness. Some studies show a correlation between vertigo and migraines. Objectives: The aim is to present otoneurological findings on a patient with suspected vestibular migraine. Methods: Case study conducted with a 38-year-old female biological patient that was attended at an otorhinolaryngology clinic and sent to otoneurological evaluation, presenting a long-lasting episode of spontaneous vertigo, discomfort and intolerance to visual and sound stimuli during the crisis. Episodes are constantly followed by headache (strong intensity, throbbing and one-sided) with migraine characteristics. Adding to this symptomatology it manifested positional vertigo lasting seconds right after the action of lying down and lifting, improving without maneuvering. She has had a history of migraine for 6 years without aditional symptoms. Results: The otoneurological evaluation presented alteration of the eye vestibule reflex in the cHIT with positive saccade to the right, negative gravitational Dix-Hallpike and Roll Test and ocularmotor tests without alterations. Tone audiometry with normal auditory thresholds, otoacoustic emissions and present distortion product and normal brainstem auditory evoked potential (BAEP). Conclusion: It is undeniable/indisputable that vestibular migraine is still an underestimated/underdiagnosed and challenging pathology. Although there are diagnostical criteria, many patients are diagnosed tardily which increases the morbidity of the disease. Since It has varied symptoms, a multidisciplinary evaluation with a medical and speech therapy team is essential for an accurate diagnosis and an early and effective treatment.

P-06
RELATIONSHIP BETWEEN CENTRAL AUDITORY PROCESSING AND PHONEME DISCRIMINATION

Natália Alves da Silva, Helena Santana Silva, Isabella Alencar e Silva, Karen Cristine Alves Pereira, Bianca Alves de Castro and Isabella Monteiro de Castro Silva

University of Brasília (UnB)

Introduction: Central Auditory Processing Disorder (CAPD) is a disorder that can affect auditory skills and sound interpretation. For children's phonological acquisition, it is important that the central auditory system is intact, as auditory alterations may be related to deficits in the decoding and organization of information, and consequently, may impact phonological development. Objective: To identify whether Central Auditory Processing disorders are related to phonemic discrimination alterations. Methodology: A literature review was carried out through searches in databases related to central auditory processing disorder and phoneme discrimination. Cross-references were made with the descriptors "Phoneme Discrimination" AND "Central Auditory Processing Disorder" in the BVS Salud, Lilacs, PubMed, and Scielo databases. 140 results were obtained and 21 articles were selected, published from 1976 to 2018. From the full reading of the articles included in the first phase, 12 articles were included and 9 articles were excluded for not addressing the theme. The selected articles are related to phonemic discrimination and auditory skills. Results: Scientific studies have related those problems in Central Auditory Processing have an impact on phonemic acquisition. Deficits in auditory perception impact sound discrimination, which is crucial for phonological awareness. Furthermore, auditory discrimination is a relevant factor in the typical language acquisition process, although its integrity does not define typical phonological processing. It was observed in the selected articles that children with phonological disorders have difficulties in auditory skills related to auditory analysis, auditory synthesis, temporal ordering and memory. Conclusion: Therefore, through research results, it was concluded that changes in central auditory processing characterized by the inability to decode and organize auditory stimuli are associated with speech problems, which are accompanied by reductions in the ability to phonemic discrimination.

P-07
VIBRATION-INDUCED NYSTAGMUS: A LITERATURE REVIEW

Graciane Cristine Carregal Gomes, Guilherme Dias Rocha, Aline Rejane Rosa de Castro, Maria Luiza Diniz, Fernanda Abalen Martins Dias and Renata Jacques Batista.

Audiviva | Federal University of Minas Gerais (UFMG)

Introduction: Vibration in the cervical region stimulates the labyrinths and is capable of causing movement illusions and postural changes. The literature shows that vibratory stimulation can help the diagnosis of vestibular alterations. Aim: To perform a literature review on the use and applicability of the Vibratory Induction Nystagmus (NIV) test in otoneurological practice.The guiding question was "How is the use and applicability of the VIN test in otoneurological practice?" Methods:Literature review using Pubmed, MedLine, and Lilacs databases with the English keywords "Nystagmus AND vibratory", "Skull vibratory test AND dizziness", and "Nystagmus imposed by bone". The selection criteria was: studies published between 2013 and 2023 in Spanish, English, and Portuguese, which detailed the site of application of the vibrator, the stimulation frequency and time, the type of elicited nystagmus, the comparison with other vestibular tests, and the behavior of vibratory nystagmus in different otoneurological pathologies. Were excluded literature review articles, expert opinion articles, abstracts in conference proceedings, and articles not related to the purpose of the study. Results: Were found 14 studies that respond to the objective of the study. All used the vibrator on the mastoid, as it produced more robust responses, and nine (64.0%) also suggested applying it on the vertex when the research involved the hypothesis of Ménière's Disease (MD) or Lateral Semicircular Canal Dehiscence (LSCD). Nine studies (640%) used 1000 Hz stimulation, and the stimulation time ranged from five to 40 seconds between stimulations. The studies indicate that the generated nystagmus is reproducible, not fatiguing, and predominantly horizontal. Except in cases of MD and LSCD in wich nystagmus beats toward the healthy side. The researched literature also showed that NIV better agreed with the caloric test than with the Head Impulse Test. Conclusions: Based on the consulted literature, we are able to conclude that NIV can be incorporated into clinical practice as a low-cost, quick-to-apply method with no harmful effects that offer complementary answers for otoneurological evaluation.

P-08
MUSIC UNDERGRADUATES: EVALUATION OF HEARING COMPLAINTS AND EXPOSURE TO HIGH SOUND PRESSURE LEVELS

Cristiane Bueno Sales, Amanda Rozzeto Santos, Lucas Souza de Carvalho, Aline Rejane Rosa de Castro, Maria Luiza Diniz, Tanit Ganz Sanchez and Renata Jacques Batista.

Audiviva | Federal University of Minas Gerais (UFMG)

Introduction: Exposure to high-pressure sound levels can cause hearing damage and tinnitus. The professional practice of Music involves musical exposure for hours, often with high sound intensity and inadequate acoustic environment. It increases the risk for the onset of hearing loss, which can compromise a musician's work activity and communication. Aim: To evaluate hearing complaints and the risk of exposure to high sound pressure levels in music undergraduates. Methods: This is a cross-sectional study approved under protocol 16719119.8.0000.5096. We worked with a convenience sample, including Music undergraduate students who have signed the consent form. We excluded the individuals with hearing loss. Participants answered the adapted version of the questionnaire "Tinnitus and Hypersensitivity: Risk assessment for noise exposure in leisure activities" which investigates some aspects related to the auditory self-perception and the exposure of individuals to high sound pressure levels. Statistical analysis using central tendency and dispersion tests, Fisher's exact test, Pearson's chi-square test, and the Mann-Whitney test. A significance level ≤0.05 was considered. Results: The study included 24 music students, predominantly male (62.5%), with a mean age of 27 years. The average amount of hours exposed to music practice was 24 hours a week (SD=20.7h/week). The main instrument played was the guitar (29.2%). A total of 58.3% of the individuals complained of tinnitus, from whom 85.7% also complained of hypersensitivity to sounds. The presence of tinnitus correlated with difficulty hearing conversations in noise (p=0.035). The results corroborate the literature since exposure to noise can cause tinnitus, which results from damage to the auditory cells. This injury can be transient or permanent. When permanent, the reception and processing of speech signals by the central structures may be compromised, as well as their differentiation from noise signals, making it difficult to understand speech in noise. Conclusion: Music students may have a complaint of tinnitus, auditory hypersensitivity, and difficulty understanding speech in noise due to prolonged exposure to noise.

P-09
GALVANIC VESTIBULAR STIMULATION IN THE REHABILITATION OF POSTURAL INSTABILITY IN PARKINSON'S DISEASE: A CASE REPORT

Stéfane Laura Brandão, Ludimila Labanca, Anna Paula Batista de Ávila Pires, Jordana Carvalhais Barroso, Maria Luiza Diniz, Paula Gabriela Zeferino Meireles, Renata Cristina Cordeiro Diniz Oliveira and Denise Utsch Gonçalves.

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Introduction: One of the symptoms of Parkinson's Disease (PD) is postural instability, which may not respond to treatment with Levodopa. Galvanic Vestibular Stimulation (GVS) is a non-invasive method to stimulate the vestibular system, helping in the balance rehabilitation process. This study aims to compare the balance of a patient with PD before and after GVS. Methodology: This study was approved by the Research Ethics Committee (number 28850619.9.3001.5138) and the participant has signed the Informed Consent Form. The patient is a 66-year-old woman already diagnosed with PD 11 years ago. She was weekly submitted to GVS for eight sessions (intensity varying from 1.0 to 3.5 mA, progressively) and after each stimulation she was submitted to vestibular rehabilitation with Cawthorne and Cooksey exercises. Posturography and the Berg Balance Scale were used to assess balance before starting the rehabilitation and after the eighth session. Results: The pre and post treatment results were, respectively: stability limit: 17185.4 mm2 and 27948.3 mm2; closed-eye balance score on unstable surface: 49.54% and 88.22%; balance score on unstable surface looking at an optokinetic tunnel: 56.05% and 95.59%; somatosensory balance index: 96.57% and 105.13%; visual balance index: 89.7% and 105.39%; vestibular balance index: 57.74% and 96.2%; general balance index: 69.34% and 94.59%. In the Berg Balance Scale the results were 40 and 46 respectively. Conclusion: GVS showed to be useful in improving balance in PD. After the rehabilitation, the stability limit area widened indicating an increase in the support base and a decrease in the risk of falling. In both closed-eye on unstable surface and unstable surface optokinetic tunnel conditions, which best assess the influence of the vestibular system on postural instability, the results showed a greater stability of the patient. In all systems (somatosensory, visual and vestibular) there were improvements, especially in the vestibular one, indicating the effectiveness of galvanic stimulation in the vestibular system. It is also possible to infer that these improvements should benefit daily living activities, considering the increase in the Berg Balance Scale scores.

P-10
STUDY OF ADULTS' SELF-PERCEPTION OF HEARING AND ACADEMIC/PROFESSIONAL PERFORMANCE

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Introduction: Daily activities require adequately functioning auditory, linguistic, and cognitive apparatus. Impairments in these aspects generate complaints regarding hearing and academic and professional performance. Objective: To characterize the perception of adults regarding hearing, academic, and professional complaints through the Central Auditory Processing Skill Self-Perception Scale (CAPSSPS) – expanded version. Method: The research was approved by the Research Ethics Committee under evaluation report no. 5.137.573. Altogether, 50,561 e-mails were sent to employees and students at a university, with a link to CAPSSPS-expanded and an informed consent form – of which 702 returned the scale filled out. After applying the exclusion criteria (being 18 to 59 years old and Brazilian), the questionnaires of 692 individuals were selected. The statistical analyses used medians and absolute and relative frequencies. The total, hearing, and academic scale scores were compared with the sociodemographic characteristics using the Mann-Whitney test; with educational attainment, using the Kruskal-Wallis test; and with age, using the Spearman correlation. The analyses were performed in IBM SPSS software, version 15, and the significance level was set at 5%. Results: The median age was 28 years, and most of the sample were women (67.6%) and had not finished higher education (42.2%). Frequent complaints included academic difficulties related to concentration, planning, and memory; difficulties hearing and understanding speech in noise; memorizing sound information; paying attention to the relevant sound; and perceiving temporal characteristics of sound. Women scored higher on the hearing scale ($p = 0.022$) and total scale ($p = 0.047$); those who had attended a public high school scored higher on the academic scale ($p = 0.002$) and total scale; and those who had not studied a foreign language scored higher in the three domains ($p = 0.000$). Scale scores were not associated with either age or educational attainment. Conclusion: Academic difficulties related to concentration and speech comprehension in noise were the most frequent complaints among young adults. The sociodemographic characteristics influenced the sample's self-perception of hearing and academic performance.

P-11
SELF-PERCEPTION ABOUT AUDITORY AND ACADEMIC ABILITIES OF UNIVERSITY STUDENTS AND GRADUATES

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Introduction: There is an evident relationship between auditory skills and the learning process, since in order to learn it is necessary to discriminate, recognize, retain and give meanings and definitions to sounds. It is known that there are studies in the literature that address the influence of Auditory Processing on learning difficulties in children and show positive correlations between the two aspects. However, there are still gaps on the subject with the adult target audience. Objective: To describe and analyze the auditory and academic profile of university students and graduates with hearing and learning complaints. Methods: This is a descriptive, comparative cross-sectional study, which was approved by the Research Ethics Committee nº 5,137,573. The study was carried out using a non-probabilistic sample, composed of individuals from the researched university, who answered the Auditory Processing Skills Self-Perception Scale - EAPAC with adaptations. The EAPAC with adaptations has questions about complaints related to auditory skills and to the academic environment. A descriptive analysis of the data was carried out, through the frequency distribution of the categorical variables and, for the analysis of association, the Pearson Chi-square test was used and a significance level of 5% was considered. Results: 646 individuals aged between 17 and 67 years participated in the survey. The participants were mostly Brazilian, had incomplete higher education, had concomitant hearing and academic complaints and had graduated from public high school. The most prevalent complaints were: academic difficulty related to concentration, planning and memory; memorizing tasks that were only heard; and hearing and understanding speech in noise. There was a statistically significant association between difficulty hearing and understanding in noisy environments and having academic difficulties related to memory; complaint of memorizing tasks and combined listening only with presenting academic difficulties related to concentration, memory and planning; academic difficulties related to concentration with difficulty listening and understanding in noisy environments and difficulty memorizing tasks and combined hearing alone. Conclusion: It was possible to observe that there is an association between auditory and academic complaints in adults, marked by the relationship between cognitive aspects and auditory aspects.

P-12
EFFICACY OF INTRATYMPANIC TREATMENT IN MENIERE'S DISEASE

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Introduction: Meniere's disease (MD), or Endolymphatic Hydrops, is a chronic condition that affects the inner ear and has as characteristic symptoms hearing loss, vertigo and tinnitus. Among the treatment possibilities, there are: surgery, pressure pulse therapy and pharmacological interventions. This last can be done through intratympanic (IT) injection, with the use of antimicrobials and steroids, mainly. OBJECTIVE: Investigate the efficacy of the different types of IT injection, on patients with MD, and possible occurrence of adverse events. Methodology: An integrative review was developed collecting data from the search platforms PubMed, Cochrane Library and Biblioteca Virtual em Saúde (BVS), using the following descriptors: Meniere Disease, intratympanic, treatment. The search was delimited through filters for systematic reviews published between 2018 and 2023. The AMSTAR 2 scale was applied, which classified the studies in: critically low, low, moderate and high quality. Results: The conclusions of the systematic reviews varied significantly. Among the antibiotics, the IT gentamicin, despite showing good results to vertigo control, presents the risk of causing progressive hearing loss. Since both gentamicin and methylprednisolone have no significant difference in efficacy, the second one may be the best alternative for MD intervention. Furthermore, in comparative studies evaluating the efficacy of treatment with intratympanic aminoglycosides (ITG) and intratympanic corticosteroids (ITC), it was concluded that both treatments are effective in managing the disease. However, another review has shown that IT steroid associated with high-dose betahistine appears to be the best type of pharmacology intervention. On the other hand, certain reviews showed that it wasn't possible to conclude the true effect of IT corticosteroids and gentamicin treatment, because the evidence is low- or very low-certainty. Although serious adverse events were not reported, it is not clear the risk associated with IT treatment. Conclusion: Despite some small and uncertain studies have found people felt that their vertigo had improved, there is the need for more comparative studies of better quality. Therefore, it is not possible to measure the efficacy of the intratympanic treatment in MD, mainly because there is no standard in the evaluation of outcomes, methods and time points.

P-13
IMPACT OF HEARING SYMPTOMS AFTER COVID-19

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Introduction: Disorder in the auditory system, such as central auditory processing disorder, deafness, tinnitus, and vertigo, are among the various long-term sequelae associated with coronavirus infection. Objective: To survey auditory symptoms after COVID-19 and discuss their impacts on the daily lives of participants. Methodology: The study was observational, descriptive, and quantitative. The research was approved by the Research Ethics Committee of the institution (University of Brasília) under evaluation report no. 5,053,028. Data were collected through an online anamnesis questionnaire, and participants were subjected to different protocols corresponding to the symptoms presented. Inclusion criteria were adults under 60 years of age, participants with occupational exposure to noise or otological changes prior to COVID-19 were excluded, unless the reported hearing loss was aggravated by COVID-19. The SPSS 20.0 software and Pearson's chi-square test were used for data analysis. Results: The sample included 22 participants diagnosed with COVID-19, with 17 females (77.3%) and 5 males (22.7%), with average age of 34 years old and an average symptom duration of 12.22 days. The most common symptom among the participants was central auditory processing disorder, followed by hearing loss and vertigo. The tinnitus symptom was present in the sample but did not have a significant impact on the participants' daily lives. Conclusion: Despite the small study sample, the results indicate the presence of auditory symptoms after COVID-19, with a significant impact on central auditory processing, hearing and balance.

P-14
UNIVERSITY EXTENSION ACTIONS ON NOISE IN SCHOOLS IN THE CITY OF BELO HORIZONTE: EXPERIENCE REPORT

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Introduction: Noise pollution has become a major public health issue. Children and adolescents are widely exposed to the adverse effects of noise, therefore the Campaign the International Noise Awareness Day (INAD) takes place annually on a moving date, in April, chose as a theme in 2022 at raising awareness about Noise in childhood in order to draw attention to the impacts of the presence of noise in the lives of students, which can compromise hearing health, development, learning and social interaction. GOALS: The objective is to present the campaign focused on raising awareness among schoolchildren about noise and its effects through educational actions to promote health. Methodology: Approved by the Ethics, the campaign, developed by volunteers in the Speech Therapy course, from the Federal University of Minas Gerais, carried out an action in preschools and elementary schools in the city of Belo Horizonte in April 2022, carrying out the distribution of booklets to children and their caregivers, theater dynamics. Results: The actions were moderated by two Speech Therapist professors and by undergraduate students. A playful and explanatory booklet was prepared for children and their families, explaining the harmful effects of noise and the impact on health. In addition to this desensitization, a theatrical scene was performed at the school, with the aim of representing the presence and risks of noise in everyday life and within the school environment. The actions were carried out in two days and were based on the assumptions of problematizing pedagogy. Thus, the undergraduates were able to address the students' doubts about the theme, providing a playful way for children and their caregivers to reflect on hearing about health care and exposure to noise in leisure, school and environmental activities. Each action reached around 200 children and adults. There was positive feedback from the school, evidenced by the comments and invitations for future actions by INAD, which indicates the importance of bringing information on the subject to the public. Conclusion: Thus, educational-preventive strategies developed in a structured and creative way can be good tools to promote hearing health among schoolchildren, raising awareness about harmful habits. Reaching, in addition to the school environment, family members and the community.

P-15
AMUSIA AND ITS ELECTROPHYSIOLOGICAL CORRELATES IN NEUROFIBROMATOSIS TYPE 1: AN IN-DEPTH ANALYSIS

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Introduction: Neurofibromatosis type 1 (NF1) is a rare genetic disease which often results in different cognitive problems. In one of our previous studies, we found that 70% of people with NF1 had a deficit in music perception, described in the literature as amusia. It was also observed that the worse this deficit was, the greater the latency for the occurrence of a long latency auditory evoked potential, known as Mismatch Negativity (MMN), which is an objective marker of auditory sensory accuracy and assesses the pre-attentive cognitive operations of hearing. Objective: The objective of this study is to investigate in a larger sample if there really is a correlation between the occurrence and latency of MMN and the degree of musical perception in people with NF1. Methods: This study is in progress and was approved by the ethics committee #4062315.7.0000.5149. The funding was by the Associação Mineira de Apoio às Pessoas com Neurofibromatoses (AMANF). 34 patients with NF1, aged between 14 and 35 years, were invited and agreed to participate. They were submitted to the assessment of musical perception through the Montreal Battery Evaluation of Amusia (MBEA) – short version. The integrity of the cortical primary auditory processing areas was assessed using the MMN. The MMN is the additional negative peak after N1, occurring here near 150 ms during a rare stimulus trace (B-RARE) and its absence during a frequent stimulus trace (B-FREQ). The MMN is more evident in the trace corresponding to the subtraction (SUB) of the standard stimulus from the deviant stimulus. Results: Although we did not find a statistically significant correlation between the absence of MMN and the degree of musical perception impairment among the evaluated subjects, there was a trend toward higher MMN latency values for lower MBEA scores ($p = 0.039$). Conclusions: The present study corroborates our previous findings about a possible correlation between MMN latency and music processing in people with NF1. Our next steps will be to evaluate possible correlations between this auditory evoked potential and other cognitive functions in NF1.

P-16
MUSICAL TRAINING FOR THE TEMPORAL AUDITORY PROCESSING, VOICE AND SPEECH COORDINATION IN NEUROFIBROMATOSIS TYPE 1

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Introduction: Neurofibromatosis type 1 is a rare autosomal dominant genetic disease that results in multisystem manifestations, including auditory processing, voice and speech alterations. It has been demonstrated in individuals without NF1 that the auditory perception may be related with motor learning skills and the musical training might have positive effects on the auditory processing skills and voice. OBJECTIVE: Considering the literature findings, the purpose of this study is to verify and analyze the possible effects of the musical training in the temporal auditory processing, speech coordination and voice in individuals with NF1. Methodology: This study is in progress and was approved by the ethics committee #4062315.7.0000.5149. The funding was by the Associação Mineira de Apoio às Pessoas com Neurofibromatoses (AMANF). Four teenagers diagnosed with NF1, monitored in the Outpatient Neurofibromatosis Reference Center (CRNF), were submitted to behavioral temporal auditory processing evaluation (Gaps in Noise - GIN and Speech Pattern Sequence – PPS), oral diadochokinesis test and voice analyses. The oral diadochokinesis and voice evaluations were performed blindly by trained evaluators. Twenty musical training sessions were planned with musicalization and singing lessons, focusing on rhythm and melody training. At the end of the intervention, all volunteers will be submitted to the same tests. Results: At the time of this abstract submission, the intervention is in its final phase (16th session). In the pre-intervention evaluation, the four volunteers presented alterations in the temporal auditory processing, according to Musiek Criteria, voice and speech speed and rhythm in the oral diadochokinesis test. Post intervention data will already be available on the day of the event. Conclusion: Data from the assessment prior to the musical intervention corroborate the literature findings regarding the auditory processing and voice alterations. Our findings also showed alterations in speech speed and rhythm in all volunteers. By the end of the musical training phase and reapplication of the tests described above, it will be possible to analyze the effect of the intervention in the evaluated aspects.

P-17
BALANCE ASSESSMENT THROUGH POSTUROGRAPHY AND VESTIBULAR EVOKED MYOGENIC POTENTIAL IN HTLV-1 INFECTION

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Introduction: HTLV-1-associated myelopathy/tropical spastic paraparesis (HAM/TSP) is a slow and progressive disease that affects the entire neuroaxis. Dizziness is a common complaint in HAM/TSP and can occur due to vestibulospinal tract dysfunction. Even in the asymptomatic stage of the infection, patients complain of dizziness. The posturographic measures evaluate body balance under changing in vision and proprioceptive tasks. The vestibulospinal tract itself can be evaluated by the vestibular evoked myogenic potential using galvanic stimulation (G-VEMP). Objective: To evaluate postural performance in HTLV-1 infection by means of posturography and Vestibular Evoked Myogenic Potential (VEMP). Methods: Postural assessment was performed in 30 uninfected individuals, 30 asymptomatic carriers and 30 HAM/TSP. VEMP was generated by binaural galvanic stimulation of 2mA/400ms and was recorded from the gastrocnemius muscles. Posturography was performed under five test conditions: eyes open, fixed platform; eyes closed, fixed platform; eyes open facing an optokinetic tunnel image, fixed platform; eyes open, foam surface; eyes closed, foam surface. Results were analyzed for vestibular, visual and somatosensory function. Results: The groups were similar in terms of sex and age. Regarding VEMP, the evoked potential was delayed in HTLV-1 groups compared to controls ($p<0.001$). HTLV-1-asymptomatic group was different from the HAM group in the posturography tests with eyes open, but similar in the more complex tests (eyes closed and unstable surface). The HAM/TSP group presented the worst somatosensory ratio in relation to the other groups ($p=0.01$) and the posturographic parameters worsened dramatically in the conditions with eyes closed. Conclusion: Posturography and VEMP identified subclinical alterations related to equilibrium control in HAM, as expected, and in HTLV-1- asymptomatic carriers. Postural imbalance associated with HTLV-1 infection is not only caused by motor impairment, but also by somatosensory dysfunction, and seems to occur early in the spectrum of the HTLV-1 disease. HAM/TSP patients rely on vision to keep balance. Therefore, careful approach since the asymptomatic phase to emphasize adequate refraction, to stimulate physical exercises and to concern about falls prevention is essential.

P-18
HEARING ASSESSMENT AND P300 IN PATIENTS WITH MILD COGNITIVE DECLINE: CASE REPORTS

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Introduction: The long latency auditory evoked potential (P300) is a stimulus generated in the cerebral cortex in response to auditory stimuli related to cognitive processing. Hearing loss can cause cognitive overload to process sound information, which can lead to a decrease in cognitive capacity. Recent studies have shown that the treatment of hearing loss to preserve auditory function and consequently improves cognitive performance. Objective: This study aims to present the results of evolution of audiometry and P300 of two patients with mild cognitive impairment evaluated in 2012/2013 and 2023. Methodology: This study was approved by the Ethics Committee (number 0437.0.203.000- 10). The participants gave voluntary written consent. The patients come from the reference center in geriatrics and they have a diagnosis of mild cognitive impairment through neuropsychological tests performed in 2012. Patients underwent audiometry and P300 in 2012/2013 and in 2023. Results: Case 1: JDC, 73 years old in 2013, male, incomplete elementary school. In 2013 he presented moderate sensorioneural hearing loss I, the P300 latency and amplitude were 354.46ms and 5.52 µv, respectively. The patient did not receive hearing aids. In 2023, JDC presented moderate sensorineural hearing loss II, the P300 latency and amplitude were 415.01 and 3.5 µv, repectively. Case 2: LAA, 66 years old in 2012, female, incomplete elementary school. In 2012 she presented moderate sensorioneural hearing loss I, the P300 latency and amplitude were 337.2ms and 4.04 µv, respectively. In 2013, LAA started using hearing aids. In 2023, LAA presented moderate sensorineural hearing loss I, the P300 latency and amplitude were 308.6 and 4.01 µv, respectively. Conclusion: Possibly the use of hearing aids by the LAA stimulated the preservation of the auditory pathway, since the response remained within normal limits. This fact possibly contributed to cognitive preservation. On the other hand, JDC showed an increase in P300 latency and a decrease in amplitude. This fact may indicate progression of cognitive impairment. Longitudinal studies in patients with mild cognitive impairment may clarify the real effect of hearing aids in controlling the evaluation of the disease.

P-19
POSTURAL INSTABILITY AND COGNITION IN PARKINSON'S DISEASE: EFFECTS OF VESTIBULAR STIMULATION TREATMENT

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Introduction: Postural Instability (PI) is associated with Parkinson's disease. It increases the risk of falling and the predisposition to depression and anxiety. The Postural Instability does not improve with dopaminergic drug therapy. This is associated with involvement of the vestibular system requires other types of treatments. Objective: To evaluate the applicability of Galvanic Vestibular Stimulation (GVS) in postural balance, cognition, mood and quality of life of individuals with Parkinson's disease. Methods: This is a pilot study with a convenience sample, approved under number 28850619.9.3001.5138. Were included individuals with diagnosis of Parkinson's disease, time >10 seconds on the Time up and go (TUG) test and score ≤49 on the Berg Balance Scale (BBS). Were excluded individuals with other neurological or vestibular alterations and those who had their medication changed in the last 30 days. The patients were evaluated before and after GVS. We evaluated the balance through BBS, TUG and posturography; cognition through the P300 test and quality of life and mood through the Geriatric Depression Scale and the Parkinson's Disease Questionnaire 39 (PDQ-39). The tasks realized in the postugraphy was: yes opened on stable surface (YOSS), yes opened on instable surface (YOIS), yes closed on stable surface (YCSS), yes closed on instable surface (YCIS), tunnel on stable surface (TSS) and tunnel on instable surface (TIS). Results: Three patients were evaluated. Due to postural instability, all showed improvement in the BBS score (Pre: 41/48/40 Pos: 47/53/46, respectively), reduction on the TUG (Pre: 17/11/16 Pos: 12/8/13, respectively) and increase in confidence ellipse in all tasks realized on posturography (YOSS Pre: 3504/707/2316 Pos: 2536/423/2440; YOIS Pre: 5260/1869/3959 Pos: 4941/1852/933; YCSS Pre: 5658/255/2945 Pos: 2857/152/100;, YCIS Pre: 3562/2089/5850 Pos: 2342/816/989; TSS Pre: 3227/782/6043 Pos:3083/318/291; TIS Pre: 3493/3534/7553 Pos: 4440/2448/1232; respectively). Concerning cognition, all participants showed reduction in P300's latency (Pre: 376,7/379,2/351,5 Pos: 328,8/336,3/321,2, respectively). The PDQ-39 score reduced, suggesting better quality of life with the treatment (Pre: 61/45/62; Pos: 21/38/40). It was not possible to observe difference in mood before and after EVG. Conclusion: EVG has been shown to be a promising treatment for improving balance, cognition and, consequently, quality of life.

P-20
ANALYSIS OF THE AUDIOLOGICAL PROFILE OF ELDERLY PEOPLE WITH MILD COGNITIVE IMPAIRMENT

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Introduction: The mild cognitive impairment (MCI) is characterized by the decline of the ability to perform complex tasks. Literature has shown that hearing declines can aggravate conditions with cognitive impairment, therefore it is important to draw an auditive profile of patients with MCI, in order to know what is necessary to reach an assertive clinical intervention. Objective: This study aims to present the hearing profile of elderly people with mild cognitive impairment. Methodology: This study was approved by the Ethics Committee (number 0437.0.203.000-10). The participants gave voluntary written consent. This is a descriptive study. The sample was composed by elderly people aged 60 years or older, assisted at a reference center in MCI diagnosis. Patients performed audiometry and P300. Results: Twenty-five elderly people were included, with an average age of 78 years (standard deviation: 7). The sample average schooling was 6 years (standard deviation: 4 years). Regarding hearing, 17 (68%) reported hearing complaints, 3 (12%) use hearing aids. The audiometry results indicated 82% of sensorineural hearing loss on the right ear and 91% of sensorineural hearing loss on the left ear. Most participants had mild bilateral hearing loss (58%). The P300 average was 359,77ms, minimum 214,86ms and maximum of 507,93ms. The average amplitude of P300 was 9,16µV, minimum of 1,01µV and maximum 34,98µV. Conclusion: Associated with aging, presbycusis is a hearing impairment related to degenerative changes expected by age and the prevalence of hearing loss among the results of this report was high. It was also noticed that the sample number of hearing aids users was small, which should be highlighted, since the use of hearing aids is a cognitive preservation protective means and hearing impairment can worsen cognition due to lack of sound stimulation to the central nervous system. Therefore, these results may indicate low adherence to the use of hearing aids, which reflects directly on MCI progression.

P-21

EVALUATION OF SPEECH PERCEPTION AND BENEFITS OF USING HEARING AIDS IN THE ELDERLY

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Introduction: Studies show improvement in auditory skills after hearing aid fitting. Its use brings several benefits, including improved quality of life. It is important to measure the effect of the use of HA on the speech recognition index and on the user's self-perception of its benefits. Objective: Verify the effect of HA fitting on speech recognition and on the self-perception of its benefit in the elderly. Methods: Experimental, longitudinal study with 35 elderly users of bilateral HA, carried out in two stages: at the time of fitting the devices and six months later. Ethics Committee approval n° 4.574.667. Procedures: audiometry, IPRF, application of HHIE-s and IOI-HA questionnaires and recording of the average time of daily use of the HA. Analysis: descriptive characterization of the sample, IPRF, HHIE-s, IOI-HA and time of use of the device; comparison between the results of the IPRF and the HHIE-s in the two stages using the Wilcoxon test; correlation between the results of the questionnaires, IPRF and time of use of the HA by the Spearman test; and association between time of HA use (> or < 8 hours) with IPRF, HHIE-s and IOI-HA by the Mann-Whitney test. The significance level adopted was 5%. Results: Sample composed of 35 participants (14 men and 21 women), with a minimum age of 60 years, a maximum of 89 years and the average of 75.37 years. All participants had bilateral sensorineural hearing loss, ranging from mild to moderately-severe. Comparing the two moments, the average percentage of the IPRF had an improvement in the monosyllabic and disyllabic lists and there was a moderate correlation of this improvement with the average time of daily use of the HA; the HHIE-s questionnaire score showed a significant reduction; IOI-HA presented a mean score of 29 points; the average time of daily use of HA was, for the most part (57.1%), less than eight hours a day. Conclusion: In the population studied, the use of HA contributed to the improvement in speech recognition, reduction in the perception of the effects of HL and self-perception of the benefit of using the devices.

P-23
USE OF MOBILE APPLICATION IN THE TREATMENT OF MOTION SICKNESS

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Motion sickness occurs when visual information conflicts with the information received from the vestibular and proprioceptive systems in the body. The most common symptoms are nausea, vomiting, sweating, and dizziness, which occur during passive movement. Treatment can be performed through Vestibular Rehabilitation (VR), which involves performing eye, head, and body exercises to promote better balance control. The use of mobile technologies in healthcare has driven the development of applications. Thus, an application was developed to be used in VR for individuals with motion sickness. To develop and evaluate the benefits of using a mobile application for balance rehabilitation in individuals with motion sickness. Visual stimuli of the Graphics Interchange Format (GIF) type were used to stimulate eye movements of tracking, saccadic, and optokinetic. The application was evaluated in a quasi-experimental study approved by the ethics committee (number 17853713.0.0000.5149) in a sample of 20 patients with motion sickness complaints. Participants were divided into two groups, with 11 patients in the experimental group (EG) and nine in the control group (CG). The control group underwent conventional VR, while the experimental group used the application associated with conventional VR. Participants were evaluated at the first, fourth, and eighth weeks of intervention using the Brazilian Dizziness Handicap Inventory (DHI), Visual Analog Scale (VAS), and Motion Sickness Assessment Questionnaire (MSAQ). The T-Test was used to analyze the results, with a significance level of 5%. The mean age of the EG was 28.0 years and the CG was 29.1 years. The pre- and post-treatment comparison within groups showed a statistically significant difference in all DHI items in both the EG and the CG. Regarding MSAQ, a statistical difference was observed only in the EG. With respect to VAS, only the EG showed an improvement in self-perception of dizziness. In the comparison between groups, there was a statistically significant difference only for VAS. The use of the application in VR was easy to handle and effective in reducing motion sickness symptoms, besides being a low-cost technology for clinical practice.

P-24
NEWBORN HEARING SCREENING: COMPARISON BETWEEN TWO AUTOMATIC AUDITORY BRAINSTEM RESPONSES PROTOCOLS

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Introduction: Research is needed to ensure a decrease in false positive and false negative AABR in specific populations of NHS services. OBJECTIVE: To compare the click and chirp responses of AABR using different protocols to the diagnostic ABR results. METHODS: This research was supported by Capes/Cofecub and approved by the Research Ethics Committee of the Federal University of Minas Gerais (COEP UFMG), registered under protocol number 934.475. For data collection, we performed: Anamnesis, OAE, Diagnostic ABR and AABR by click and chirp stimulation with two distinct protocols. The electrophysiological tests were carried out with Elios equipment from Echodia. Protocol 1 considered wave V latency at 40 dBnHL, between 7.5 and 8.5 ms for all newborns, and protocol 2 considered wave V latency at 40 dBnHL, between 8.15 and 9.15 ms for newborns up to 34 weeks of corrected gestational age and greater than 7.5 ms for newborns up to 39 weeks of corrected gestational age. Results: Of the 56 newborns evaluated, 10 (17.86%) had corrected gestational age between 29 and 34 weeks, seven (12.5%) corrected gestational age between 34 and 37 weeks, and 39 (69.64%) with corrected gestational age greater than 37 weeks. The majority of sample 40 (71.4%) had some Risk Indicator for Hearing Loss (RIHL). The newborns with RIHL had a higher number of “failures” in the click ABR when compared to the newborns without RIHL in protocol 1, which did not occur when protocol 2 was used. There was a reduction in the failure rate in this study when comparing the two protocols, considering the gold standard determined by the D-ABR. There was a negative and moderate correlation between corrected gestational age and wave V latency, i.e., the higher the gestational age of the newborn, the lower the wave V latency. Conclusion: Protocol 2 was more efficient regardless of the stimulus used (click or chirp) when compared to Protocol 1, highlighting the importance of considering corrected gestational age in AABR.

P-26
THE DEMOCRATIZATION OF LIBRAS TEACHING FOR STUDENTS IN THE AREA OF HEALTH: EXPERIENCE REPORT

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Introduction: The use of Sign Language is essential for the inclusion of deaf individuals in society, promoting cognitive development, the construction of deaf identity, and effective communication for people with hearing loss. Delayed diagnosis of hearing loss, difficulty in intervention, and resistance to contact with the language cause global damage to the development of these individuals, highlighting the need to propagate Sign Language soon after the diagnosis of hearing loss and in different community contexts, including health services. OBJECTIVES: To report the experience gained in conducting a Libras teaching workshop and to describe how it enabled education about the deaf community and promoted practices that sought to favor the inclusion of these individuals. Methodology: This is a descriptive study of the experience report type. The workshop classes were held for students in health-related courses at a university and were related to the care of deaf individuals. The classes were coordinated by a Libras interpreter and supported by tutors for revision of the studied subjects. Two meetings had the participation of a fluent deaf individual in Libras to simulate care for the deaf patient. Results: 27 undergraduate students were selected. 17 weekly meetings were held for four months, with an average duration of two hours each. Contact with the fluent deaf individual in Libras provided greater contact with the language, as it was the only means of communication between those involved. Due to the possibility of insertion within the deaf community, educational videos on the subject were produced at the end of the workshop and disseminated on the university's social media. The results obtained five months after the dissemination showed that these were viewed 18,310 times and reached approximately 24,033 people, a significant result for the dissemination of information related to deafness and Libras. Conclusion: It was observed that many barriers still need to be overcome regarding assistance to the deaf community. However, activities like these can facilitate the democratization of knowledge and promote awareness of the need for greater insertion of Libras in the community to enhance the development of deaf individuals.

P-27
ANALYSIS OF THE AUDIOLOGICAL AND PSYCHOACOUSTIC PATTERN OF TINNITUS SUFFERERS WITHOUT HEARING LOSS

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Introduction: The annoyance caused by tinnitus can compromise the individual's quality of life. In addition, 8 to 10% of affected individuals have normal conventional audiometry (250 to 8000 Hz), which indicates that tinnitus is not always directly related to middle ear alterations. Purpose: To describe the impact of tinnitus in the lives of young adults and delineate their audiological and psychoacoustic profile compared to the audiological profile of patients without tinnitus complaints. Methods: This study is a subproject of the project "Proposal of treatment for tonal tinnitus through harmonic masking" (CAAE: 09159219.6.0000.5149) that was approved by the UFMG's Research Ethics Committee under opinion no. 3.305.722. Observational cross-sectional descriptive analytical study, with non-probability sampling. The group consisted of 35 subjects, aged between 18 and 45 years, with hearing thresholds within the normal range of 250 to 8000Hz and tympanometric curve type A, of which 15 had the symptom of tinnitus. Conventional tonal and high-frequency audiometry, immittance testing and acuphenometry of the patients with the tinnitus symptom were carried out. It was also applied the Tinnitus Handicap Inventory and the visual analog scale for tinnitus measurement. For data collection, an Inventis Piano Plus audiometer and Sennheiser HDA 300 over-ear headphones were used, with thresholds expressed in dBSPL. Results: In the high frequencies, the tinnitus group had higher mean thresholds than the control group for most frequencies in both ears. In the acuphenometry, 86.4% of the volunteers associated their tinnitus with the high frequencies. On the visual analogue scale 86.7% described their tinnitus as moderate and, on the THI scale, 40% scored a degree of mild tinnitus. There was no statistical difference in the variables analyzed, except for the frequency of 2 KHz, in the conventional audiometry, with a lower mean among the tinnitus simptom group. Conclusion: The study showed a progressive increase in auditory thresholds proportional to the advance to high frequencies, being more evident in the group with tinnitus. However, there was no statistically significant difference in the categorical variables and only one significant difference in the continuous variables.

P-28
VESTIBULAR MIGRAINE, ITS SIGNS, SYMPTOMS, AND THERAPEUTIC APPROACHES: A LITERATURE REVIEW

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Introduction: Vestibular migraine (VM) is one of the most common otoneurological diagnoses, being the main cause of episodic vertigo in adults and children. Its clinical features were outlined in the 2012 International Headache Association and Bárány Society consensus on its diagnosis and treatment. Objective: To review the literature of the last 10 years on the signs, symptoms and treatment of VM. Methodology: This integrative literature review aimed to answer the question "What are the audio-vestibular signs and symptoms associated with vestibular migraine described in the literature and what are the most indicated treatment options in most cases?". For this, Pubmed, Scielo and Lilacs databases were consulted with the following descriptors: "Vestibular Migraine" AND "Dizziness" OR "Migraine" AND "Dizziness". Articles on the subject published between 2012 and 2022 were considered as inclusion criteria. The gray literature found on the subject was excluded. Results: The diagnosis of VM is defined by clinical criteria based on the natural history of migraine, vestibular symptoms, temporal association of vertigo with migraine symptoms and exclusion of other causes. The main symptoms include headache, vertigo, nausea, vomiting, photophobia, phonophobia, osmophobia and motion sickness. In the otoneurological evaluation, balance impairment, persistent positional nystagmus and altered saccadic pursuit may be present. During the acute phase, most patients experience spontaneous and/or positional nystagmus with central or peripheral involvement. Regarding auditory symptoms, mild to moderate temporary hearing loss is less common. Some patients report a feeling of ear fullness and tinnitus. Triggers for VM attacks can include sleep, stress, hormonal fluctuations, poor eating habits and sensory hyperstimulation. Drug treatment has been the most recommended by otoneurologists for frequent and intense VM crises. In addition, a behavioral approach focused on changing habits and identifying triggers has also been shown to be effective in preventing and mitigating VM symptoms. Complementary to medical treatment, Vestibular Rehabilitation Therapy performed by a speech therapist has been constantly indicated and beneficial to patients. Conclusion: It is essential that speech therapists are aware of the clinical presentations of VM and the therapeutic possibilities, so that their approach is assertive, prioritizing the optimization of treatment time and its effectiveness.

P-29
COCHLEAR IMPLANT OUTCOMES: NOT ALWAYS AS EXPECTED

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Introduction: Cochlear implantation can provide significant improvements in speech perception and language development for deaf children. Successful outcomes in pediatric cochlear implant (CI) recipients rely on several factors, including duration of deafness, CI integrity, age at CI surgery, and the level of support following implantation. There is, however, evidence of children who fit the parameters to achieve a successful post-CI outcome, but don't benefit from the device. The vast variability in CI users' performance has been a challenge in rehabilitation. OBJECTIVE: To describe two cases of children who underwent CI and assess their communicative abilities after cochlear implantation. Methodology: Approved by the Research Ethics Committee, No. 3.340.222, this study consisted of two pediatric CI users diagnosed with bilateral profound sensorineural hearing loss, identified as C1 and C2. Both children received the same device brand. Information was gathered from the CI database of a public hospital. During CI surgery, Neural Response Telemetry (NRT) was measured. The participants' speech and hearing abilities were assessed using the Meaningful Use of Speech Scales for Young Children (MUSS) and the Infant-Toddler Meaningful Auditory Integration Scale (IT-MAIS) before and six months subsequent to implantation. Results: Both children underwent bilateral CI at an early age (1 and 2.5 years of age). During surgery, C1's right ear NRT responses were present, while the left ear responses were absent in two electrodes. C2's right ear NRT responses were present, and the left ear responses were absent in four electrodes. Six months following implantation, C1 and C2 obtained the same percentage on the MUSS and IT-MAIS scales compared to scores before surgery and both did not change auditory nor language categories even after implant activation and regular use. Both children are enrolled in speech therapy sessions once a week and have good family support throughout their rehabilitation process. Conclusion: The participants followed ideal parameters in order to achieve satisfactory language and hearing outcomes after implantation. Nonetheless, they have shown lower than expected communicative performance. Further and more objective approaches are needed to clarify these children's outcomes, as a means to devise more efficient strategies for CI rehabilitation.

P-30
A TELEASSISTANCE PROPOSAL TO HEARING AIDS USERS

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Introduction: At the end of 2019, a new virus appeared (SARS-COV-2), and a pandemic situation was established. Due to COVID19 pandemic, Hearing Health Care Service was severely impacted, with cancellation of presential appointments and hearing assessments. Hearing aids users lacked appropriate follow-up. One alternative found was to implement a teleassistance protocol. Objective: Describe a teleassistance proposal for hearing aids users during the pandemic period in which social distancing was mandatory and report the challenges and relevant aspects. Methods: Cross-sectional descriptive pilot study. A telephone call protocol/script was prepared, containing 14 questions about the condition of the hearing aid, satisfaction with the device and use habits, device fonctioning related complaints presented during the pandemic and whether or not it could be resolved by telephone, whether the participant had SARS-COV-2 and, if so, whether they had any complaints related to hearing. The application of the protocol was carried out through telephone contact with the patients from the Hearing Health Service agenda, which was suspended due to the pandemic. Data were presented using descriptive statistics. Results: 215 patients were randomly selected from the suspended agenda. It was possible to reach through phone call, 90 patients. From the patients that answered the call, 66.7% were able to talk through the phone, 84.2% reported consistent use, without interruptions, of the devices during the pandemic; 91% were very satisfied with the hearing aid. Through phone call, it was possible to solve 57.8% of patient's complaints. 6 participants presented some symptom related to COVID19, 5 tested positive to the infection and one patient reported tinnitus after having the infection. There was no association between who answered the call and the possibility do solve patients' complaint (some calls, 33%, were answered by a family member). Conclusion: Though this pilot study showed it is possible to implement a teleassistance protocol, some questions remain to be analyzed to better perform this type of appointment.

P-31
RELATIONSHIP OF TINNITUS WITH AUDITORY SELF-PERCEPTION AND EXPOSURE TO EXCESSIVE NOISE IN COLLEGE STUDENTS

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Introduction: Noise-induced hearing loss (NIHL) is characterized by irreversible damage to hair cells due to exposure to intense sound stimuli. Young people are known to be a risk group for developing NIHL due to inadequate auditory behaviors. NIHL can cause auditory symptoms such as tinnitus, auditory hypersensitivity, and poor speech perception. Aim: To investigate the relationship of tinnitus complaint with auditory self-perception and excessive noise exposure in college students. Methods: This is a cross-sectional, quantitative study approved under ethical protocol 16719119.8.0000.5096. A questionnaire was applied face-to-face to students at a private university. It consisted of 22 questions, the first ten investigating auditory complaints and noise exposure, and the other 12 questions related to tinnitus. Only students with tinnitus complaints in the last 12 months answered this last section of the questionnaire. The inclusion criterion was being a student enrolled in the institution. Students with a history of occupational exposure to noise, diagnosis of hearing loss, and those who answered the questionnaire incompletely were excluded from the sample. Statistical analysis was performed using SPPS software version 16.0. Measures of central tendency and dispersion were used, as well as Fisher's exact test, Pearson's chi-square test, and the Mann-Whitney test. A significance level of 5% was considered. Results: The study included 150 students (mean age = 25.34 years), 120 women and 30 men. In the sample, 76.7% reported frequenting noisy leisure places, and 92.6% informed regularly using headphones. 41.4% of the participants complained of tinnitus, of which 67.8% reported bilateral tinnitus and 32.2% reported noticing tinnitus after exposure to high sound pressure levels. The presence of tinnitus was associated with worse auditory self-perception (p=0.024), difficulty to understand conversations in noise (p=0.036), disturbance to sounds (p=0.005), and use of earphones at high volume (p=0.024). Conclusion: The prevalence of speech understanding difficulty in noisy ambients and exposure to excessive noise were relevant among college students and was directly related to the prevalence of tinnitus in this population. As tinnitus is a sign of cochlear injury, this population presents more risk for the installation of NIHL and its consequences.

P-32
COMPARISON BETWEEN AUDITORY STEADY-STATE RESPONSE, CLICK-EVOKED AUDITORY BRAINSTEM RESPONSE, AND BEHAVIORAL ASSESSMENT IN CHILDREN

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Introduction: Hearing is important to children's adequate development of oral language, thus requiring precise and timely audiological diagnosis in early childhood. Hence, it is essential to study in-depth electrophysiological hearing examinations and ensure their reliability to predict psychoacoustic thresholds. Objective: The objective of this study was to compare auditory steady-state response (ASSR) and behavioral examinations. Methods:This study was approved by the Ethics Committee, n° 5.517.841. This is a cross-sectional descriptive observational study. The sample comprised 16 children aged 3 months to 5 years and 1 month, totaling 31 ears. The procedures used in the research were medical history survey, otoscopy, tympanometry, ASSR, and behavioral examinations. The descriptive data analysis was based on absolute and relative frequencies of categorical variables and measures of central tendency and variability of continuous variables. Auditory examination results were correlated using the Spearman test. The Band-Altman test was performed to evaluate the agreement between the two tests. The significance level was set at 5%; significant correlations were those with a moderate or strong correlation and $p < 0.05$. Results: The sample comprised 11 (68.75%) boys and five (31.25%) girls, with a mean age of 2.5 years and a standard deviation of 1.3. Of the 31 ears assessed in the research – i.e., in 15 of the 16 diagnosed children –, five ears had mild, three had moderate, and 11 had severe/profound sensorineural hearing loss, whereas the other 12 were normal hearing ears. ASSR was moderately correlated with behavioral assessment at 2000 and 4000 Hz. The analysis of the difference between ASSR and behavioral assessment showed a variation of about -6 to 2 dB, depending on the frequency, with standard deviations ranging from 19 to 26 dB. According to the Bland-Altman test, ASSR and behavioral assessment showed good agreement at 1000 and 2000 Hz. Conclusion: The data analysis on electrophysiological examinations in the research population led to the conclusion that ASSR is moderately correlated with behavioral assessments. The examinations proved to be effective for audiological diagnosis, further contributing to cross-checking.

P-33

Results OF NEONATAL HEARING SCREENING OF NEWBORNS OF WOMEN WITH COVID-19 DURING PREGNANCY

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Hearing is composed of a broad and complex system that includes sensory structures and connections at the central level, whose development begins in the 15th week of gestational age. Neonatal Hearing Screening is composed of Transient Auditory Otoacoustic Emissions, a quick, painless exam, without contraindications, aiming to detect, early, possible hearing alterations in the newborn (NB), preventing alterations in development and flight, which occur, exponentially, in the first years of life. It is known that some viral bacteria can result in hearing loss, either congenital or acquired. Although there are still few studies on SARS-CoV-2, research shows the possibility of intrauterine transmission via hematogenous route, reaching the fetus. Little is known about the consequences of maternal infection by the virus in relation to the neonate, and studies on the newborn's hearing are necessary, as they are already done in adults. Objective: to describe the NHS results of newborns whose mothers were infected with SARS-CoV-2 during pregnancy, correlating the test findings with the gestational age of maternal infection. Methodology: Quantitative, observational, analytical, retrospective cross-sectional study, carried out at the Sofia Feldman Hospital, approved by the Ethics Committee (n°. 63380422.50000.5132). Data were collected using secondary data from the institution's NHS Program database. A descriptive analysis was performed using the mean, standard deviation, absolute and relative frequency. Comparison between variables was Fisher's exact test and point-biserial dynamics, with a significance level of 5%. Results: 138 babies were included, of which 18 failed the first test, 5 in both ears, 7 in the right and 6 in the left. Note that most failures in the first test were NBs whose maternal infection occurred in the first trimester of pregnancy, in addition to the majority being male. All babies who performed the retest passed. There was no statistical significance. Conclusion: There is evidence of an increase in the number of failures in the first test of babies whose mothers were infected with SARS-COV-2, but without influence on the final diagnosis, suggesting a temporary change in hearing. Note the need for longitudinal studies to monitor the auditory development of these newborns.

P-34
SPEECH-IN-NOISE-TEST PERFORMANCE VERSUS SELF-PERCEPTION IN ADULT LIFE WITH NORMAL HEARING

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Introduction: Speech perception complaints occur in 4 to 7% of normal-hearing adults. Some studies suggest that acquired processing disorder or cochlear synaptopathy can explain the complaint. An essential step to understanding this clinical population is to know how the increased age impacts listening performance and self-perception in adverse situations since this depends on the complex interaction between auditory and cognitive processes for effective speech perception. Objective: To characterize and compare the performance between the speech-in-noise test and the self-perception speech intelligibility in noise as a function of age group in the adult population. Methodology: Ethics Committee n°4.795.590. Eighty adults between 18 to 59 years participated in this study, divided into groups of 20 subjects (10 women): G1 (18-29 years); G2 (30-39 years); G3 (40-49 years); G4 (50-59 years). The inclusion criteria were: a) the absence of neurological or psychiatric problems, history of otological or head and neck surgery, or their history; b) spontaneous complaint of hypoacusis;c) noise exposure history; d) ten years of schooling at least. The exclusion criteria were hearing loss on the assessment day and altered results in the Mini-Mental State Examination. The research assessments were the Portuguese Sentence List (PSL) test and the intelligibility in noise (INN) domain of the Amsterdam Inventory for Auditory Disability and Handicap. For statistical analysis, an ANOVA was performed ($p \leq 0.05$). Results: In the PSL, there were a difference between G1x G2, G3, G4 and G2 x G3, G4 ($X^2 = 36.7$; $p = 0.000$*). For INN, there were significant differences between G1xG4 ($X^2 = 9.3$; $p = 0.025$*). Conclusions: Throughout adult life, the participants with normal hearing showed a decline in listening performance in noise, and there was an increase in self-reported difficulty in intelligibility in noise. Financing: CAPES.

P-35
PROFESSIONAL HAIRDRESSERS: HEARING AND WORK ENVIRONMENT

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Introduction: Hairdressers use hair dryers, considered noisy in their operation. The acoustic characteristics in this work environment are not clear, nor are the problems that this job has brought to the auditory health of these professionals. It is only known that the most used appliance in their work environment is considered as a noise-generating appliance, therefore, harmful to the hearing of these professionals through CONAMA Resolution No. 20 (1994). The study of hearing and job characteristics of hairdressers is necessary. OBJETIVES: to describe auditory and non-auditory complaints and the findings of audiological screening in hairdressers, seeking to relate noise measures in beauty salons in addition to the work characteristics of these participating workers. Methodology: cross-sectional study carried out with volunteer hairdressers who answered the questionnaire with personal and work data, auditory and non-auditory complaints and underwent the DPOAE exam as an audiological screening. The collected data were statistically analyzed. Results: 67 hairdressers participated in the study, with an average workload of 8.3 hours a day and none of them use hearing protectors. Of these, 35 professionals (74.5%) had at least one auditory complaint, with tinnitus and fatigue being the most frequent auditory and non-auditory complaints, respectively. Many professionals had more than one auditory complaint simultaneously. In DPOAE exams, 22 ears failed. The average value found in the Leq was 79.41 dB. Conclusion: it was concluded that there is a considerable number of auditory and non-auditory complaints compatible with hair dryer noise. It is necessary to raise the awareness of professionals who work in environments with potentially harmful noise to their hearing.

P-36
COMPARISON OF CONVENTIONAL AND AUTOMATED AUDIOMETRY Results

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Introduction: The active participation of patients and aspects involving autonomy throughout the diagnostic process has been increasingly discussed within the health field. In audiology specifically, technological advances have also been sought to provide an active role for the patient. Thus, automated audiometry consists of performing audiometric examinations operated by the patient in daily clinical practice. OBJECTIVE: To compare conventional and automated audiometry hearing thresholds, as well as to verify the duration of both exams. METHODS: This is an observational cross-sectional study, approved by the Research Ethics Committee of the Federal University of Minas Gerais - UFMG, under evaluation report no. 2,693,169, in which 28 participants, aged between 18 and 30 years old, were submitted to conventional and automated audiometry tests. The tests were performed in a soundproof room, with a calibrated audiometer, AUDIOSMART ® Echodia audiometer Type 3 IEC 60645-1, using DD65 headphones. For statistical analysis, means were compared by the paired t-test. The significance level of 5% was adopted and the confidence intervals were 95%. Results: The participants' average age was 22 years old, and all of them had normal hearing. Through the analysis, statistical differences ($p>0.5$) between conventional and automated audiometry thresholds means were found in the frequencies of 1kHz and 2kHz on the right ear and 0.25 KHz, 4KHz, and 8kHz on the left ear. The average time to perform conventional audiometry was 09 minutes and 56 seconds, while automated audiometry was performed, on average, in 08 minutes and 41 seconds. Conclusion: It was observed that automated audiometry provides faster results with similar thresholds to conventional audiometry in most frequencies. Therefore, it may be a valid technique for public attendance. In this sense, new technologies are relevant, however, they do not dispense the audiologist's role in clinical practice.

P-37
EVALUATION OF AUDITORY PROCESSING IN UNIVERSITY STUDENTS

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Introduction: To analyze, classify, organize and interpret sound information, central auditory processing is necessary. Therefore, auditory skills influence academic performance, understood as a result of performance in a given activity or assessment. OBJECTIVE: To evaluate the auditory processing of university students with low academic performance and compare with high performance students. Methodology: 39 university students from nursing, physiotherapy, pharmacy, occupational therapy and speech therapy participated in the study, divided into an experimental group (EG) formed by 19 students with low performance and a control group (CG) formed by 20 high-performance students. The Scale of Auditory Behaviors (SAB) was applied, and the following tests were performed: pure tone audiometry, Test of Sustained Auditory Attention Ability (THAAS), Random Gap Detection Test (RGDT) and Frequency Pattern Test (TPF). Results: All participants had hearing thresholds within normal limits. On the Scale of Auditory Behaviors (SAB), the EG obtained an average score of 37.47, and the control group CG obtained an average score of 44.35. In the Random Gap Detection Test (RGDT) GE obtained an average at the gap detection threshold of 15.42ms and the GC obtained an average at the gap detection threshold of 9.7ms. In the Frequency Pattern Test (TPF) the EG presented an average of 56.32% and the CG of 68.25%. In the Sustained Auditory Attention Ability Test (SAAT), the EG obtained a mean score of 5.16 in total errors, in the decrease of vigilance 0.68, inattention 4.32 and impulsivity 1.05. The CG obtained a mean score of 3.15 for total errors, 0.45 for the decrease in vigilance, 2.05 for inattention and 0.95 for impulsivity. Conclusion: The group of students with the best academic performance showed better results in the RGDT, THAAS and SAB instrument.

P-38
AUDITORY EFFORT IN OSTEO-ANCHORED PROSTHESIS USERS

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Introduction: Bone-anchored hearing aids consist of systems that stimulate the inner ear using sound transmission via bone. This system consists of a titanium implant and an audio processor, with or without abutment, transcutaneous or percutaneous, capable of decoding sounds and transmitting them directly to the cochlea. Auditory attention can be characterized by its selectivity and intensity, it is extremely important for processing selected information and for learning new tasks. Studies with the elderly compared the performance of 2 groups, 1 with hearing loss and the other with normal hearing, and showed that the elderly with hearing loss had a greater number of errors in the sustained auditory attention test, suggesting a correlation between hearing loss and a decline in performance of sustained auditory attention ability, which can also be described as auditory effort. OBJECTIVES: To verify the auditory effort with two cases using Bone-Anchored Hearing Prostheses, in the Sustained Auditory Attention Ability Test with and without the prosthesis. Methodology: the case study included two participants with hearing loss and users of osteoanchored prostheses submitted to THAAS, with and without the prosthesis. Results: The 1st participant who performed the sustained auditory attention test started the test with the prosthesis and obtained a total of 3 errors, in the second test and without the prosthesis he obtained 13 errors. The 2nd participant started the test without the prosthesis and with a total of 64 errors, in the second performance of the test and with the prosthesis he obtained 4 errors. Conclusion: The Bone-Anchored Hearing Aid provided better performance in the sustained auditory attention test, which proved to be a promising tool to assess auditory effort.

FRENCH BRAZILIAN SYMPOSIUM ON HEARING - 2023

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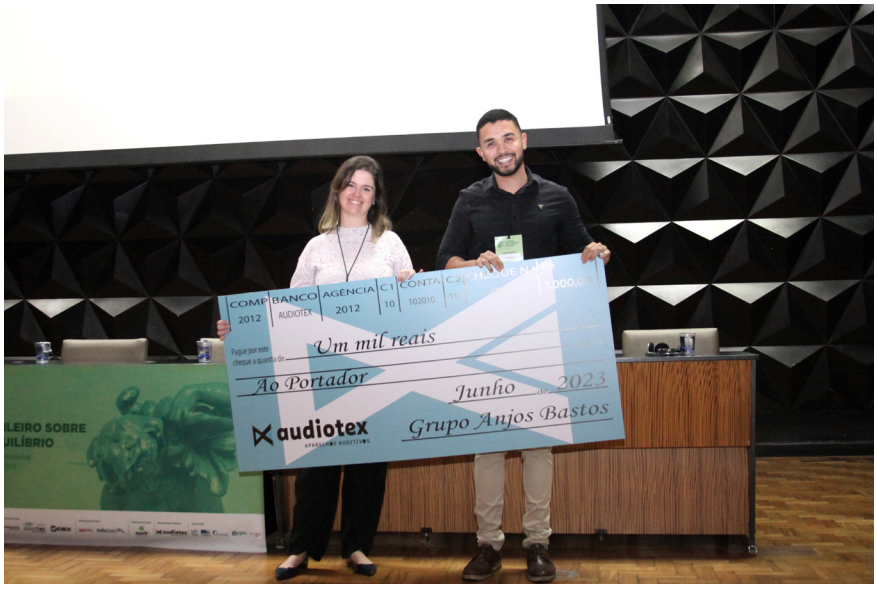

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Thank you!
Obrigado!
Merci beaucoup!