

Results: In content validation, two questions were revised. In internal structure validation, the responses of 13 specialists were considered, and the final format of the FonoTCS included 88 items and 28 clinical cases. The internal consistency was 0.903.

Conclusion: The FonoTCS is a valid and reliable instrument for evaluating the clinical reasoning of students of speech-language pathology.

Keywords: clinical reasoning; clinical decision-making; students.

12117 Electrophysiological changes in idiopathic normal pressure hydrocephalus patients after tap test

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Introduction: Idiopathic normal pressure hydrocephalus (iNPH) is characterized by an enlargement of the cerebral ventricles with an increase in cerebrospinal fluid (CSF). The diagnosis is made through the TapTest (TT), which temporarily simulates the effects of shunting and predicts the treatment's prognosis. An improvement in gait and cognitive functions after the puncture, predicts a positive outcome; otherwise, negative. A positive result correlates to a greater likelihood of a reversal of the clinical condition after treatment.

Objectives: To evaluate the Cortical Auditory Evoked Potentials (CAEP) as an auxiliary tool in the diagnosis of iNPH.

Methods: Eighty patients with suspected iNPH were evaluated using tone-burst stimulus CAEP before and 2 hours after CSF puncture, and were divided into positive and negative TT results. The average age of 75 years, and 44 tested negative TT and 36 positive (49 were male).

Results: Patients who presented a positive result showed a reduction in latencies with a tendency towards statistical significance compared to the group with a negative result, which presented increased latencies for P2 in the left ear ($p = .088$) and P3 in the right ear ($p = .080$). Considering that some patients may present a delayed improvement, perhaps a longer time interval would be necessary to verify more significant changes.

Conclusion: The CAEP results suggest a faster neural conduction in positive TT patients after the lumbar puncture, such findings may contribute to the closure of the TT, even with a short reevaluation time. Further studies are necessary to confirm those findings.

Keywords: hydrocephalus, normal pressure; evoked potentials, auditory; cerebrospinal fluid shunts.

12139 Impacts on the peripheral and central auditory system in infants with vertical exposure to COVID-19.

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Introduction: COVID-19 is an infectious disease caused by the SARS-CoV-2 virus. Although respiratory transmission is the main route, concerns have arisen regarding possible vertical transmission. Viral infection of the fetus via the placenta can influence the formation of the auditory system.

Objective: To analyze the effects of vertical exposure to COVID-19 on the auditory system of newborns.

Methodology: Approved by the Research Ethics Committee, opinion no. 5.454.075. The study included a Study Group (SG) and a Control Group (CG). The SG comprised 23 infants up to one year old, whose mothers were infected with SARS-CoV-2, selected during neonatal hearing screening. The CG comprised 15 infants whose mothers became pregnant after the end of the pandemic, tested negative for COVID-19, and had no respiratory symptoms during

pregnancy. In both groups, Brainstem Auditory Evoked Potentials (BAEP), Tympanometry, Transient Evoked Otoacoustic Emissions (TEOAE), and Distortion Product Otoacoustic Emissions (DPOAE) were performed. This research was divided between cross-sectional and longitudinal studies.

Results: A statistically significant difference was observed in the latency of wave I and in the III-V and I-V interpeak intervals in the left ear, with the SG showing higher latency values. A tendency for absent responses at high frequencies in TEOAE and a decrease in amplitude at high frequencies over time in TEOAE and DPOAE was identified.

Conclusion: No evidence was found that vertical exposure to COVID-19 causes hearing loss, but a deterioration in the functioning of hair cells was noted.

Keywords: COVID-19; SARS-CoV-2; infants; hearing; SARS-CoV-2.

12144 Transcranial direct current stimulation and cortical auditory evoked potentials

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Introduction: Transcranial Direct Current Stimulation (tDCS) influences cortical excitability and neuronal firing, having neuromodulatory and neuroplastic properties. It can be applied in either an online or offline manner. Cortical auditory evoked potentials allow for the assessment of central auditory pathways.

Objective: To verify and compare the immediate effect of online and offline tDCS on cortical auditory evoked potentials.

Method: This cross-sectional and quantitative study was approved by the Ethics and Research Committee (CAAE 64696022.1.0000.5346). Eighteen women, aged 18 to 25, with normal hearing participated in the study. They were divided into two groups: G1, with eight participants, submitted to offline stimulation (only tDCS) and G2, with ten participants, submitted to online stimulation (tDCS concomitant with a temporal ordering auditory activity). Cortical potentials P1, N1, and P2 were obtained using verbal stimuli (/ba/x/di/). The participants were evaluated before and immediately after the intervention. Data were statistically analyzed with a significance level of 5% with the Wilcoxon test.

Results: There was no significant change in the latency and amplitude of cortical potentials in G1 pre and post-intervention, with a p -value > 0.05 . A significant change in the amplitude of P1 (p -value = 0.031) was observed in G2 when comparing pre and post-intervention values. No changes were observed in the N1 and P2 potentials ($p > 0.05$).

Conclusion: There were no changes in the latency and amplitude of cortical potentials with offline stimulation, while online stimulation showed changes in P1 amplitude.

Keywords: evoked potentials; neuronal plasticity; hearing.

12153 Evaluation and monitoring of hearing thresholds in children and adolescents exposed to chemotherapeutic

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Introduction: Platinum-based chemotherapy drugs are used for the treatment of cancer. However, a side effect is ototoxicity, which damages auditory cells and can result in hearing loss (HL), generally as sensorineural, bilateral, symmetrical and irreversible, mainly affecting high frequencies.

Objectives: Evaluate and monitor auditory thresholds in children and adolescents exposed to chemotherapy.

Methods: Longitudinal study, approved by the institution's Research Ethics Committee - 20230108. There was made up 14 children and adolescents (aged between 5-17 years), from a pediatric oncology service. For audiological assessment and monitoring, hearing limits were researched at the beginning of treatment and after chemotherapy sessions.

Results: The research sample consisted of 8 girls and 6 boys, the average age was 9.9 years. In the first evaluation, it was observed: 9 (64.3%) reached thresholds within normal range; 1 (7.1%) had moderate sensorineural HL in both ears; 2 (14.3%) with sensorineural HL from 3000Hz; and 2 (14.3%) with sensorineural HL from 6000Hz. In hearing monitoring, 3 (21.4%) had reduction of hearing thresholds. Regarding oncological diagnosis, the most prevalent was acute lymphoblastic leukemia (50%).

Conclusion: Changes in auditory thresholds were found in the initial assessment and in auditory monitoring, with 35.7% changes in the first audiological assessment, while in the second assessment there was an increase in HL diagnoses (14.3%) and 7.1% of the sample progressed from normal hearing thresholds to HL in high frequencies. It is highlighted that the sample subjects remain under monitoring.

Keywords: hearing; child; antineoplastics; ototoxicity.

12164 Does transcranial direct current stimulation produce immediate effects on subcortical regions?

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Introduction: Transcranial Direct Current Stimulation (tDCS) can induce changes in the auditory system. It can be applied in offline (tDCS only) and online (tDCS combined with auditory activity) modes. Brainstem Auditory Evoked Potentials (BAEP) can be used to assess the function of subcortical auditory regions.

Objective: To compare the latency values of waves I, III, and V before and immediately after online and offline tDCS application.

Methodology: Cross-sectional study, approved by the Research Ethics Committee (approval number 64696022.1.0000.5346). Eighteen individuals aged 18 to 25 years with normal hearing thresholds participated, being divided into two groups: Group 1 (G1): eight subjects underwent offline tDCS, and Group 2 (G2): ten subjects underwent online tDCS. Independent samples t-tests were used with a significance level of 5%.

Results: G1 showed no statistically significant values in the right ear (RE) and left ear (LE) for wave I (p-value: 0.226 and 0.990), wave III (p-value: 0.613 and 0.736), and wave V (p-value: 0.170 and 0.301). G2 also showed no differences for RE and LE in wave I (p-value: 0.110 and 0.797), wave III (p-value: 0.081 and 0.488), and wave V (p-value: 0.486 and 0.645).

Conclusion: Online and offline tDCS did not alter the latency values of waves I, III, and V, indicating that immediate application of the technique does not affect subcortical auditory regions.

Keywords: evoked potentials; auditory; brain stem; transcranial direct current stimulation; neuronal plasticity.

12181 Tinnitus disorder: a comparative study of different auditory training interventions

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Introduction: Tinnitus disorder disrupts the neural circuits of the auditory pathways and areas related to cognition and emotion. Musical Auditory Training (MAT) and Cognitive Auditory Training (CAT) can reorganize these circuits and reduce the perception of the symptom.

Objective: To verify and compare the effects of MAT and CAT on symptom perception in subjects with tinnitus disorder and to compare with a placebo group.

Method: Longitudinal, quantitative study approved by the Research Ethics Committee (64696022.1.0000.5346). Sixteen adult subjects with tinnitus disorder, of both genders, with normal basic audiological evaluation, participated and were divided into three groups: 13 subjects in the CAT group, 8 subjects in the MAT group, and 8 subjects in the placebo intervention group. The scores for Discomfort and Loudness of the Visual Analog Scale (VAS D and VAS L) and the Tinnitus Handicap Inventory (THI) were analyzed pre- and post-intervention. The Wilcoxon test was used, adopting a p-value of 5%.

Results: When comparing the results for the group that received CAT, there was a statistically significant difference for VAS D (p-value=0.002), VAS L (p-value=0.002), and THI (p-value=0.001). In the MAT group, there was a significant difference for VAS D (p-value=0.028) and THI (p-value=0.028). For the group that received the placebo intervention, a statistically significant difference was found for VAS D (p-value=0.027) and THI (p-value=0.012).

Conclusion: All three groups showed changes in symptom perception. However, CAT was more effective as it modified symptom perception in all evaluated aspects.

Keywords: tinnitus; auditory perception; cognitive training.

12188 Randomized clinical trial in tinnitus disorder: effects of musical auditory training

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Introduction: Tinnitus disorder causes disorganization of neural circuits of the auditory cortex and associated regions. Musical Auditory Training (MAT) can reorganize these circuits through auditory and cognitive activities, and can be an effective treatment for individuals with tinnitus disorder.

Objective: To verify the effect of MAT in individuals with tinnitus disorder and compare it with a placebo group.

Method: Randomized double-blind placebo-controlled clinical trial. The research ethics committee approved the study (64696022.1.0000.5346). Participated in the study 16 adult individuals of both sexes, with normal basic audiological evaluation and tinnitus disorder. The individuals were distributed into two groups: Control Group (CG): 8 individuals who received a placebo intervention, using films without sound and classical music and the Experimental Group (EG): 8 individuals, who received the intervention through the MAT. The effect of the intervention was evaluated using the latency of the N2 and P3 potentials with verbal stimuli /ba/ and /di/. For statistical analysis, the paired T Test was used, with a significance criterion of 5%.

Results: Regarding GC latency, there was no statistically significant difference for N2 (p=0.565) and for P300 (p=0.491). As for the EG, there was a statistically significant difference for the N2 latency (p=0.039), with values decreasing after intervention. There was no statistically significant difference for P300 latency (p=0.463).

Conclusion: MAT caused changes at a central level, demonstrating an improvement in neuroplasticity in individuals with tinnitus disorder.

Keywords: tinnitus; neuronal plasticity; controlled clinical trial.

12196 Educational actions for community health agents: knowledge about hearing health after training

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Introduction: Community Health Workers (CHW) have direct contact with the community and are notable as knowledge multipliers. Therefore, the best way to disseminate information on