Audiology Update

January 2023

Welcome to the latest copy of the Audiology Update. The aim of this publication is to bring together a range of recently published research and guidance that will help you make evidence-based decisions.

Accessing Articles

The following abstracts are taken from a selection of recently published articles.
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New NICE Guidance

Mepolizumab for treating severe chronic rhinosinusitis with nasal polyps (terminated appraisal)
Technology appraisal [TA847]
Published: 29 November 2022
Overview | Mepolizumab for treating severe chronic rhinosinusitis with nasal polyps (terminated appraisal) | Guidance | NICE

Contents

A selection of papers from Medline and Cinhal (Jul 2022-Jan 2023)

1. Investigating ethnic inequalities in hearing aid use in England and Wales: a cross-sectional study

Item Type: Journal Article

Authors: Taylor, Harry;Dawes, Piers;Kapadia, Dharmi;Shryane, Nick and Norman, Paul

Publication Date: 2023

Journal: International Journal of Audiology 62(1), pp. 1-11

Abstract: To establish whether ethnic inequalities exist in levels of self-reported hearing difficulty and hearing aid use among middle-aged adults. Cross-sectional data from the UK Biobank resource. 164,460 participants aged 40–69 who answered hearing questions at an assessment centre in England or Wales. After taking into account objectively assessed hearing performance and a corresponding correction for bias in non-native English speakers, as well as a range of correlates including demographic, socioeconomic, and health factors, there were lower levels of hearing aid use for people from Black African (OR 0.36, 95% CI 0.17–0.77), Black Caribbean (OR 0.38, 95% CI 0.22–0.65) and Indian (OR 0.60, 95% CI 0.41–0.86) ethnic groups, compared to the White British or Irish group. Men from most ethnic minority groups and women from Black African, Black Caribbean and Indian groups were less likely to report hearing difficulty than their White British or Irish counterparts. For equivalent levels of hearing loss, the use of hearing aids is lower among ethnic minority groups. Inequalities are partly due to lower levels of self-reported hearing difficulty among minority groups. However, even when self-reported hearing difficulty is considered, hearing aid use remains lower among many ethnic minority groups.

Access or request full text: https://libkey.io/10.1080/14992027.2021.2009131

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=161131463&custid=ns023446

2. Forty years on: a new national study of hearing in England and implications for global hearing health policy

Item Type: Journal Article

Authors: Tsimpida, Dialechti;Panagioti, Maria and Kontopantelis, Evangelos

Publication Date: 2023

Journal: International Journal of Audiology 62(1), pp. 62-70

Abstract: We aimed to update the prevalence estimates of hearing loss in older adults in England using a nationally representative sample of adults aged 50 years old and older. A comparative cross-sectional study design was implemented. Hearing loss was defined as ≥35 dB HL at 3.0 kHz, as measured via Hearcheck in the better-hearing ear. We compared the estimates based on the English census in 2015 to estimates from psychoacoustic hearing data available for 8,263 participants in the English Longitudinal Study of Ageing (ELSA) Wave 7 (2014–2015). Marked regional variability in hearing loss prevalence was revealed among participants with similar age profiles. The regional differences in hearing outcomes reached up to 13.53% in those belonging to the 71–80 years old group; the prevalence of hearing loss was 49.22% in the North East of England (95%CI 48.0–50.4), versus 35.69% in the South East (95%CI 34.8–36.50). A socio-spatial approach in planning sustainable models of hearing care based on the actual populations' needs and not on age demographics might offer a viable opportunity for healthier lives. Regular assessment of the extent and causality of the population's different audiological needs within the country is strongly supported.

Access or request full text: https://libkey.io/10.1080/14992027.2021.2022791

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=161131468&custid=ns023446

3. Dementia and sensory impairment

Item Type: Journal Article

Authors: Aldridge, Zena and Newsome, Sue

Publication Date: Jun ,2022

Journal: Journal of Community Nursing 36(3), pp. 56-61

Abstract: The UK has a higher than global average older population. In 2017, approximately 18% of the UK population were aged 65 years or over and this figure is projected to grow to almost 21% by 2027. The risk of sensory impairment increases with age and many older people are living with varying degrees of hearing impairment, visual impairment, or both. Similarly, the risk of developing dementia increases significantly with age. Hearing and visual impairment are common among older people with dementia, and have been linked to reduced functioning, poor quality of life, and increased carer burden. It has therefore been suggested that improving hearing and/ or vision in a person with dementia can have a positive impact on their health and wellbeing. This paper considers the scale of the issue and how the symptoms and issues associated with sensory impairment and/or dementia can be misinterpreted through the lens of two case studies.

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=157406266&custid=ns023446

4. A Modified Pediatric Ranked Order Speech Perception Score to Assess Speech Recognition Development in Children With Cochlear Implants

Item Type: Journal Article

Authors: Arjmandi, Meisam K.;Herrmann, Barbara S.;Caswell-Midwinter, Benjamin;Doney, Elizabeth M. and Arenberg, Julie G.

Publication Date: 2022

Journal: American Journal of Audiology , pp. 613-632

Abstract: Purpose: Characterizing and comparing speech recognition development in children with cochlear implants (CIs) is challenging because of variations in test type. This retrospective cohort study modified the Pediatric Ranked Order Speech Perception (PROSPER) scoring system to (a) longitudinally analyze the speech perception of children with CIs and (b) examine the role of age at CI activation, listening mode (i.e., unilateral or bilateral implantation), and interimplant interval. Method: Postimplantation speech recognition scores from 31 children with prelingual, severe-to-profound hearing loss who received CIs were analyzed (12 with unilateral CI UniCI], 13 with sequential bilateral CIs SEQ BiCIs], and six with simultaneous BiCIs). Data were extracted from the Massachusetts Eye and Ear Audiology database. A version of the PROSPER score was modified to integrate the varying test types by mapping raw scores from different tests into a single score. The PROSPER scores were used to construct speech recognition growth curves of the implanted ears, which were characterized by the slope of the growth phase, the time from activation to the plateau onset, and the score at the plateau. Results: While speech recognition improved considerably for children following implantation, the growth rates and scores at the plateau were highly variable. In first implanted ears, later implantation was associated with poorer scores at the plateau (β = -0.15, p = .01), but not growth rate. The first implanted ears of children with BiCIs had better scores at the plateau than those with UniCI (β = 0.59, p = .02). Shorter interimplant intervals in children with SEQ BiCIs promoted faster speech recognition growth of the first implanted ears. Conclusion: The modified PROSPER score could be used clinically to track speech recognition development in children with CIs, to assess influencing factors, and to assist in developing and evaluating patient-specific intervention strategies.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00212

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158892708&custid=ns023446

5. BEYOND THE AUDIOGRAM: Whole-Brain Hearing and Listening

Item Type: Journal Article

Authors: BECK, DOUGLAS L.

Publication Date: Nov ,2022

Journal: ASHA Leader 27(6), pp. 44-50

Abstract: The article calls for audiologists to administer word/speech recognition, speech-in-noise (SIN) testing, listening and communication assessments and cognitive screening to provide an accurate diagnosis and achieve maximal outcome for patients. Topics discussed are hearing clarity versus volume of speech, unrecognized and untreated difficulty hearing speech in noise, association between hearing loss and receptive communication difficulties, and recommended tests for adults with SIN problems.

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159877167&custid=ns023446

6. Social capital and adolescents who are deaf: Associations with wellbeing, school connectedness, and pragmatics

Item Type: Journal Article

Authors: Byatt, Timothy J.;Dally, Kerry and Duncan, Jill

Publication Date: 2022

Journal: Deafness & Education International 24(4), pp. 356-374

Abstract: This paper explores the associations between different types of social capital and other measures including wellbeing, school connectedness, and pragmatic language. Seventeen adolescents who were deaf or hard of hearing (DHH) from Australia and the United Kingdom completed an online survey and their results were analysed to answer research questions relating to: social capital formation in adolescents who are DHH; associations between social capital, wellbeing, pragmatics, and school connectedness; and the role of identity in social capital formation. Statistical analyses were completed to determine: bivariate correlations between variables; significant differences between the types of social capital measured; and significant differences in social capital according to identity group. Results indicate that overall, adolescents had higher Offline social capital compared to Online social capital, and higher Family social capital in comparison to Peer and Institutional social capital. Additionally, all social capital except Online social capital had strong associations with wellbeing and school connectedness measures. Students who identified as deaf had statistically significant lower levels of social capital than those who identified as hard of hearing or hearing impaired, and bicultural; however, this result may be due to the composition of this small sample. This study indicates that social capital is associated with higher levels of wellbeing and school connectedness and demonstrates that school experiences play an important role in the formation of social capital for students who are DHH.

Access or request full text: https://libkey.io/10.1080/14643154.2022.2120998

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160403220&custid=ns023446

7. 'As safe as houses; the risk of childhood lead exposure from housing in England and implications for public health'

Item Type: Journal Article

Authors: Crabbe, Helen;Verlander, Neville Q.;Iqbal, Neelam;Close, Rebecca;White, Geraldine;Leonardi, Giovanni S. and Busby, Araceli

Publication Date: 2022

Journal: BMC Public Health 22(1), pp. 1-15

Abstract: Background and Aim: Exposure to lead can harm a child's health, including damage to the nervous system, delayed growth, hearing loss, and many other adverse health effects, as well as implications for social, economic, educational and social well-being. Lead exposure in children is still a concern and cases require public health management to find the exposure source and interrupt the exposure pathway. Housing characteristics can indicate the presence of lead-contaminated paint and leaded water supply pipes. We aimed to explore the relationship between housing characteristics and elevated blood lead concentration (BLC) in children in England.Methods: We used a retrospective cohort design and included all cases of lead exposure in

children reported to the UK Health Security Agency between 2014 and 2020 via surveillance. A case was a child aged under 16 years, resident in England, BLC of ≥ 0.48 µmol/L (10 µg/dL) and referred for public health management. We collected case demographic details and housing characteristics (age and type). We explored associations between elevated BLC and risk factors, using generalised linear mixed effects models and compared cases' housing type to that expected nationally.Results: Two hundred and sixty-six out of 290 cases met the case definition. There was no difference in BLCs between genders, age groups, deprivation, and housing type. After adjusting for reporting source, housing age and type, cases residing in housing built pre-1976 had a BLC of 0.32 (95%CI 0.02, 0.63) µmols/L (6.63 (95%CI 0.42, 13.0) µg/dL) higher than cases living in housing built after this time. Cases were 1.68 times more likely to be living in terraced housing (housing adjoined to one another) than other children and less likely to live in apartments and detached properties.Conclusion: This study suggests an association between housing characteristics and BLC in children. Housing age and type may act as a proxy for lead exposure risk through exposure to leaded paint, lead water pipes, and lead contaminated dust from indoor and outdoor sources. Public health action should consider targeting families more at risk in older housing by raising awareness of the potential presence of lead pipes and paint. Interventions should include working with wider stakeholders including other housing and environmental professionals, the private sector, as well as parents and carers.

Access or request full text: https://libkey.io/10.1186/s12889-022-14350-y

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160112397&custid=ns023446

8. Patterns of Hearing Loss in Irradiated Survivors of Head and Neck Rhabdomyosarcoma

Item Type: Journal Article

Authors: Diepstraten, Franciscus A.;Wiersma, Jan;Schoot, Reineke A.;Knops, Rutger R. G.;Zuur, Charlotte L.;Meijer, Annelot J. M.;Dávila Fajardo, Raquel;Pieters, Bradley R.;Balgobind, Brian V.;Westerveld, Henrike;Freling, Nicole;van Tinteren, Harm;Smeele, Ludwig E.;Bel, Arjan;van den Heuvel-Eibrink, Marry M.;Stokroos, Robert J.;Merks, Johannes H. M.;Hoetink, Alexander E. and Hol, Marinka L. F.

Publication Date: 2022

Journal: Cancers 14(23), pp. 5749

Abstract: Simple Summary: Hearing loss (HL) can be a side effect of paediatric cancer treatment and can be caused by chemotherapy but also local therapies such as radiotherapy and/or surgery of the head and neck region. In this study, the frequency and patterns of HL were assessed in survivors of head and neck rhabdomyosarcoma (HNRMS). Our secondary aim was to look into the dose–effect relationship between radiotherapy dose on the cochlea and the presence of HL. Forty-nine survivors of HNRMS were included in this study, forty-two of them underwent audiological evaluation. HL was found in up to 19% of the survivors. Four survivors had low frequencies HL with normal hearing or milder HL in the higher frequencies. In our series, HL (≥Muenster 2b) was significantly associated with the maximum cochlear irradiation dose (p = 0.047). More research is needed on HL patterns in HNRMS survivors and on the radiotherapy dose–effect relationship. Purpose: The frequency and patterns of HL in a HNRMS survivor cohort were investigated. A dose–effect relationship between the dose to the cochlea and HL was explored. Methods: Dutch survivors treated for HNRMS between 1993 and 2017 with no relapse and at least two years after the end of treatment were eligible for inclusion. The survivors were evaluated for HL with pure-tone audiometry. HL was graded according to the Muenster, Common Terminology Criteria for Adverse Events (CTCAE) v4.03 and International Society for Paediatric Oncology (SIOP) classification. We defined deleterious HL as Muenster ≥ 2b, CTCAE ≥ 2, and SIOP ≥ 2. Mixed-effects logistic regression was used to search for the dose–effect relationship between the irradiation

dose to the cochlea and the occurrence of HL. Results: Forty-two HNRMS survivors underwent pure-tone audiometry. The Muenster, CTCAE and SIOP classification showed that 19.0% (n = 8), 14.2% (n = 6) and 11.9% (n = 5) of survivors suffered from HL, respectively. A low-frequency HL pattern with normal hearing or milder hearing loss in the higher frequencies was seen in four survivors. The maximum cochlear irradiation dose was significantly associated with HL (≥Muenster 2b) (p = 0.047). In our series, HL (≥Muenster 2b) was especially observed when the maximum dose to the cochlea exceeded 19 Gy. Conclusion: HL occurred in up to 19% of survivors of HNRMS. More research is needed on HL patterns in HNRMS survivors and on radiotherapy dose–effect relationships.

Access or request full text: https://libkey.io/10.3390/cancers14235749

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160714318&custid=ns023446

9. Did Changes to Adult Hearing Aid Pathways Due to COVID-19 Affect Patient Outcomes? A Service Evaluation

Item Type: Journal Article

Authors: Duckworth, Zoe;Beckman, Adam and Heinricha, Antje

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 876-891

Abstract: Objective: The objective of this study was to determine whether changes to adult hearing aid provision during COVID-19 affected patient outcomes or service efficiency. Design: A service evaluation compared three cohorts: patients who had hearing aid provision prior to the COVID-19 pandemic (the conventional pathway); patients who had hearing aid provision during the initial national lockdown (remote fittings); and patients who had hearing aid provision during the gradual reopening phase (a blended service with both face-to-face and remote service provision). Outcomes measured the effectiveness and efficiency of the service, using the Glasgow Hearing Aid Benefit/Difference Profiles (GHABP/DP) and number of follow-up appointments required. Results were assessed using descriptive statistics and error bars, separately for new and existing users. Sample: This study included 240 hearing aid users. Results: Remote fittings adversely impacted the effectiveness of provision for new hearing aid users with a reduction in all GHABP domains. While new users' benefit was equally as good for blended and conventional service provision, blended provision was less efficient and required more follow-up visits. For existing hearing aid users, no differences were seen in GHADP outcomes of different pathways and remote fittings increased service efficiency. Conclusions: Remote hearing aid fittings are less effective for new users than hearing aids fitted using standard face-to-face service provision or service provision using a blended model of remote and face-to-face care. Current pathways using a blended model of care are less efficient but equally effective for new hearing aid users compared with provision prior to COVID-19 and result in equivalent patient outcomes in terms of benefit.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00195

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259797&custid=ns023446

10. Contralateral Suppression of Transient-evoked Otoacoustic Emissions in Leisure Noise Exposed Individuals

Item Type: Journal Article

Authors: Elangovan, Thilagaswarna;Selvarajan, Heramba;McPherson, Bradley and Selvarajan, Heramba Ganapathy

Publication Date: Jul ,2022

Journal: Noise & Health 24(114), pp. 145-150

Abstract: Background: Leisure noise may have a significant impact on hearing thresholds and young adults are often exposed to loud music during leisure activities. This behavior puts them at risk of developing noise-induced hearing loss (NIHL). A frequent initial indication of NIHL is reduced hearing acuity at 4 kHz. The objective of the current study was to assess the role of the medial olivocochlear reflex (MOCR) in leisure noise-exposed individuals with and without a 4-kHz notch.Materials and Methods: Audiological evaluation, including pure-tone and immittance audiometry, was performed for 156 college-going, young adults between May 2019 to December 2019. All participants had averaged pure-tone audiometric thresholds within normal limits, bilaterally. Annual individual exposure to personal listening devices (PLDs) was calculated using the Noise Exposure Questionnaire. The participants were then categorized into exposed (with and without audiometric 4 kHz notch) and nonexposed groups. Transient-evoked otoacoustic emission amplitude and its contralateral suppression were measured using linear and nonlinear click stimuli to study the effect of leisure noise exposure on MOCR.Results: A significantly reduced overall contralateral suppression effect in participants exposed to PLD usage (P = 0.01) in both linear and nonlinear modes. On the contrary, significantly increased suppression was observed in linear mode for the 4 kHz frequency band in the PLD-exposed group without an audiometric notch (P = 0.009), possibly suggesting an early biomarker of NIHL.Conclusion: Measuring contralateral suppression of otoacoustic emissions may be an effective tool to detect early NIHL in leisure noise-exposed individuals.

Access or request full text: https://libkey.io/10.4103/nah.nah_17_21

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159269866&custid=ns023446

11. Immediate Effects of (Simulated) Age-Related Hearing Loss on Cognitive Processing and Performance for the Backward-Digit-Span Task

Item Type: Journal Article

Authors: Füllgrabe, Christian and Öztürk, Ozan Cem

Publication Date: 2022

Journal: Frontiers in Aging Neuroscience 14, pp. 1-9

Abstract: The recall of auditorily presented sequences of digits in reverse order (also known as the Backward Digit Span, BDS) is considered to reflect a person's information storage and processing abilities which have been linked to speech-in-noise intelligibility. However, especially in aging research and audiology, persons who are administered the BDS task are often affected by hearing loss (HL). If uncorrected, HL can have immediate assessment-format-related effects on cognitive-test performance and can result, in the long term, in neuroplastic changes impacting cognitive functioning. In the present study, an impairment-simulation approach, mimicking mild-to-moderate age-related HLs typical for persons aged 65, 75, and 85 years, was used in 19 young normal-hearing participants to evaluate the impact of HL on cognitive performance and the

cognitive processes probed by the BDS task. Participants completed the BDS task in several listening conditions, as well as several commonly used visual tests of short-term and working memory. The results indicated that BDS performance was impaired by a simulated HL representing that of persons aged 75 years and above. In the normalhearing condition, BDS performance correlated positively with both performance on tests of short-term memory and performance on tests of working memory. In the listening condition simulating moderate HL (as experienced by the average 85-year-old person), BDS performance only correlated with performance on working-memory tests. In conclusion, simulated (and, by extrapolation, actual) age-related HL negatively affects cognitive-test performance and may change the composition of the cognitive processes associated with the completion of a cognitive task.

Access or request full text: https://libkey.io/10.3389/fnagi.2022.912746

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159887252&custid=ns023446

12. Designing a Hearing Health Care Smartphone App With Ecological Momentary Assessment: A Qualitative Study of Audiologists' Perspectives

Item Type: Journal Article

Authors: Galvin, Karyn L.;Timmer, Barbra H. B.;Tomlin, Dani and Cleaver, Zuzana

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 1247-1259

Abstract: Purpose: The purpose of this study was to explore the perspectives of audiologists to provide input into development of a smartphone application (app) to document the real-life listening difficulties and the listening environment of hearing aid candidates and users. Method: Two focus groups were conducted. Facilitators utilized a topic guide to generate participants' input and perspectives. The focus groups were audiorecorded and transcribed verbatim. The transcripts were then qualitatively analyzed using content analysis. Study Sample: The study samples were 10 audiologists (seven females) with 2-to 10-plus years of hearing aid fitting experience. Results: Three main categories were identified: (a) The mobile device app could provide meaningful information to help audiologists to counsel their clients, (b) the app could give clients an insight into their hearing difficulties, and (c) the app could help clients to self-manage their hearing condition. Conclusion: These findings suggest that audiologists may better understand their clients' real-life listening difficulties through the use of a mobile device app; however, further research is required to harness the benefits of such an app.

Access or request full text: https://libkey.io/10.1044/2022_AJA-22-00054

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160628918&custid=ns023446

13. Identifying Listeners Whose Speech Intelligibility Depends on a Quiet Extra Moment After a Sentence

Item Type: Journal Article

Authors: Gianakas, Steven P.;Fitzgerald, Matthew B. and Winn, Matthew B.

Publication Date: 2022

Journal: Journal of Speech, Language & Hearing Research 65(12), pp. 4852-4865

Abstract: Purpose: An extra moment after a sentence is spoken may be important for listeners with hearing loss to mentally repair misperceptions during listening. The current audiologic test battery cannot distinguish between a listener who repaired a misperception versus a listener who heard the speech accurately with no need for repair. This study aims to develop a behavioral method to identify individuals who are at risk for relying on a quiet moment after a sentence. Method: Forty-three individuals with hearing loss (32 cochlear implant users, 11 hearing aid users) heard sentences that were followed by either 2 s of silence or 2 s of babble noise. Both high- and low-context sentences were used in the task. Results: Some individuals showed notable benefit in accuracy scores (particularly for high-context sentences) when given an extra moment of silent time following the sentence. This benefit was highly variable across individuals and sometimes absent altogether. However, the group-level patterns of results were mainly explained by the use of context and successful perception of the words preceding sentence-final words. Conclusions: These results suggest that some but not all individuals improve their speech recognition score by relying on a quiet moment after a sentence, and that this fragility of speech recognition cannot be assessed using one isolated utterance at a time. Reliance on a quiet moment to repair perceptions would potentially impede the perception of an upcoming utterance, making continuous communication in real-world scenarios difficult especially for individuals with hearing loss. The methods used in this study—along with some simple modifications if necessary—could potentially identify patients with hearing loss who retroactively repair mistakes by using clinically feasible methods that can ultimately lead to better patient-centered hearing health care.

Access or request full text: https://libkey.io/10.1044/2022_JSLHR-21-00622

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160768027&custid=ns023446

14. Compassion Satisfaction, Occupational Stress, Burnout Syndrome, and Resilience Among Experienced Audiologists

Item Type: Journal Article

Authors: Giddens, Kate S. M.;Kelly-Campbell, Rebecca and Näswall, Katharina

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 1078-1087

Abstract: Objective: The aim of the research was to provide insight into compassion satisfaction (CS), resilience, burnout syndrome (BOS), and overall occupational stress levels of experienced audiologists. Design: This study was based on a four-part online questionnaire consisting of the Audiology Occupational Stress Questionnaire, the Professional Quality of Life Scale (Version 5), the Connor--Davidson Resilience Scale-10, and demographic questions. Study Sample: Fifty-nine audiologists with more than 5 years of experience completed the survey. Clinicians were from New Zealand, Australia, South Africa, the United States, Hong Kong, Israel, Singapore, and the United Kingdom. Results: The findings illustrate that no audiologists experienced high BOS or low CS scores. Positive correlations existed between resilience and CS and between BOS and overall occupational stress. Negative correlations were found between resilience and BOS, BOS and CS, CS and overall occupational stress, and resilience and overall occupational stress. Resilience ($p = .015$),CS($p < .001$), and overall occupational stress ($p < .001$) were identified as being significant predictors of BOS. The top five occupational stressors for

audiologists were reported as being staff shortages, administration duties, paperwork and patient reports, patient or family expectations to fix a client's hearing, and the amount time available with each patient. The differences in occupational stress experienced by private versus public audiologists were minimal, always being below 1 Likert point. Conclusions: Although audiologists do not report high levels of BOS, they report stress in their workplace. As stress was a significant predictor of BOS, audiologists could benefit from interventions aimed at reducing workplace stress.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00265

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160628904&custid=ns023446

15. Test Your Health at Home: Comparing Online Screening Tests of Hearing, Cognition, and Cardiovascular Health

Item Type: Journal Article

Authors: Goodwin, Maria V.;Hogervorst, Eef and Maidment, David W.

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 950-960

Abstract: Purpose: The purpose of this study was to investigate the extent to which validated online screening measures of cognitive impairment, psychosocial wellbeing, and cardiovascular health are associated with a validated hearing screener in a sample of adults based in the United Kingdom. Method: Sixty-one adults (43 female; Mage = 44.7 years) participated in a cross-sectional study delivered remotely. Participants completed the hearWHO smartphone application, a digits-in-noise hearing screener, and the Modified Telephone Interview for Cognitive Status (TICS-M), a screening tool for cognitive impairment. Psychosocial well-being (social isolation and loneliness) and cardiovascular health were assessed through self-report. Results: Separate independent analyses of variance, with age, gender, and education as covariates, demonstrated participants who failed the hearWHO screener had poorer scores on the TICS-M, engaged in less physical activity, and reported more sedentary behavior and greater social isolation. Multivariate regression analyses revealed that lower TICS-M scores, having obtained less education, identifying as female, and reporting greater sedentary behavior and social isolation were the strongest predictors of lower hearWHO scores. Conclusions: The results from this study suggest that poorer hearing, as measured by the hearWHO screener, is independently associated with having worse cognitive function, more time spent being sedentary, and greater social isolation. Thus, this study demonstrates the potential of online screening measures to identify additional health conditions that confer risk to chronic disease as hearing loss manifests. This could help to inform the development of tailored treatment and support to improve an individual's readiness to seek help for and manage both their general and hearing health.

Access or request full text: https://libkey.io/10.1044/2021_AJA-21-00199

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259803&custid=ns023446

16. Online Reviews of Hearing Aid Acquisition and Use: A Qualitative Thematic Analysis

Item Type: Journal Article

Authors: Heselton, Tayla;Bennett, Rebecca J.;Manchaiah, Vinaya and Swanepoel, De Wet

Publication Date: 2022

Journal: American Journal of Audiology 31(2), pp. 284-298

Abstract: Purpose: Online reviews have become increasingly common for consumers to share their experiences about products and to assist potential consumers with decision making. The current study was aimed to understand the hearing aid user experience from online consumer reviews using qualitative analysis. Method: The study used a qualitative thematic analysis to analyze open text responses from consumers leaving hearing aid reviews on the http://www. HearingTracker.com website. One thousand three hundred seventy-eight online consumer hearing aid reviews (open-text responses) were extracted and analyzed. Results: Three domains emerged within the data set, containing 11 themes and 136 subthemes. Domain one (Clinical Processes) contained two themes: Hearing Assessment and Hearing Aid Acquisition. Domain two (The Device) contained five themes: Function, Performance, Physical, Device Management, and Maintenance. Domain three (The Person) contained four themes: Satisfaction, Quality of Life, Personal Adjustment, and Knowledge. The themes gave an understanding that there were a contribution of factors that formed part of a consumers hearing aid user experience. Conclusions: Hearing aid users described a range of positive, negative, and neutral descriptions online about their hearing aid user experience and gave advice to fellow hearing aid users helping clinicians improve their hearing aid fitting skills in practice. These findings have implications to future product development as well as service delivery model in terms of developing strategies for fostering patient-centered audiological practice.

Access or request full text: https://libkey.io/10.1044/2021_AJA-21-00172

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=157255179&custid=ns023446

17. Predictors of Early Language Outcomes in Children with Connexin 26 Hearing Loss across Three Countries

Item Type: Journal Article

Authors: Holzinger, Daniel;Dall, Magdalena;Kiblböck, Sandra;Dirks, Evelien;Carew, Peter;Smith, Libby;Downie, Lilian;Shepherd, Daisy A. and Sung, Valerie

Publication Date: 2022

Journal: Children 9(7), pp. N.PAG

Abstract: GJB2-associated hearing loss (GJB2-HL) is the most common genetic cause of hearing loss in children. However, little is known about the clinical characteristics and early language outcomes in population-oriented samples including children with different degrees of hearing loss. Insight into these characteristics are relevant for the counselling of parents. Our sample consisted of 66 children at approximately 2 years of age (17–32 months) with bilateral hearing loss due to GJB2 from three population-based cohorts in Austria, Australia and the Netherlands. Predictors of early vocabulary, including demographic, audiological, genetic and intervention variables and the role of medical comorbidities and nonverbal cognition were examined. The vocabulary scores of children with GJB2-HL were approximately 0.7 standard deviations (SDs) below the norms of children with typical hearing. Age at access to family-centered early intervention and first-born position among siblings predicted language outcomes, whereas the degree of hearing loss and genetic subtype were not significantly

correlated with expressive vocabulary. In children with GJB2-HL, early access to family-centered early intervention significantly affected language outcomes at the age of two.

Access or request full text: https://libkey.io/10.3390/children9070990

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158212925&custid=ns023446

18. Exploring the lived experiences of British Sign Language (BSL) users who access NHS adult hearing aid clinics: an interpretative phenomenological analysis

Item Type: Journal Article

Authors: Hulme, Celia;Young, Alys and Munro, Kevin J.

Publication Date: 2022

Journal: International Journal of Audiology 61(9), pp. 744-751

Abstract: To explore the lived experiences of culturally Deaf British Sign Language (BSL) users who access adult hearing aid services. Semi-structured qualitative interviews were conducted in BSL by the Deaf researcher and analysed using an Interpretative Phenomenological Analysis (IPA) approach. Eight Deaf BSL expert informants who were experienced users of NHS adult hearing aid clinics. Participants expressed dissatisfaction about audiology staff's lack of Deaf awareness and did not feel valued as Deaf signers. Participants' motivations for hearing aid use primarily concerned audibility rather than speech. Mismatch of perspectives on 'hearing' between audiologists and Deaf patients are discussed in the context of culturally sensitive services. Inadequate or uncertain linguistic access during appointments is considered in light of patient agency. This is the first study to explore culturally Deaf signers' specific experiences of adult hearing aid services in the UK and their experiences of hearing aids. There are numerous reasons why Deaf signers wear hearing aids, but access to spoken language is not a priority. Limited Deaf awareness and cultural competence in adult hearing aid services can result in patient frustration and disempowerment. Suggestions for improvement in the Deaf signing patient experience are offered.

Access or request full text: https://libkey.io/10.1080/14992027.2021.1963857

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158879444&custid=ns023446

19. The Demo Makes the Difference: Supporting Hearing Aid Streaming: By walking patients through smartphone-hearing aid pairing and features, audiologists can help them reap maximum benefit from their devices

Item Type: Journal Article

Authors: HUMPHREY, BETH

Publication Date: Nov ,2022

Journal: ASHA Leader 27(6), pp. 8-10

Abstract: The article offers guidance from audiologists for helping patients with hearing loss connect their smartphone to hearing aids. Results of a research indicated the association between hearing loss and increased loneliness and social isolation that also affect overall cognitive and psychosocial health and have implications for hearing health. Several reminders from hearing and communication experts on setting up patients for successful phone-to-device streaming are outlined.

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159877158&custid=ns023446

20. Real-Ear-to-Coupler Difference: Physical and Perceptual Differences

Item Type: Journal Article

Authors: Jorgensen, Lindsey;Barrett, Rachel;Jedlicka, David;Messersmith, Jessica and Pratt, Sheila

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 1088-1097

Abstract: Purpose: The real-ear-to-coupler difference (RECD) is a recommended measure for accurate hearing aid fittings, especially for pediatric populations. However, for adults, many clinicians question whether it is necessary. Method: Hearing aids were fit on two groups of 85 older adults seen at a Veterans Administration audiology clinic. One group was fit using RECD measurements, whereas the second group was fit with population-based average RECD values. The two groups had similar pure-tone hearing thresholds. Results: Like previous studies, there was little difference between the measured RECD for the right and left ears among the participants. Although the majority of the measured RECDs were within 1 SD of the mean, approximately 20% of those measured were outside of the normal range. It also was found that all participants produced lower (improved) Hearing Handicap Inventory for Elderly-Screening (HHIE-S) scores from pre- to postfitting, thus suggesting a reduction in self-perceived hearing handicap. Conclusions: Despite having similar prefitting HHIE-S scores, those participants who had their hearing aids fit using measured RECD values had lower post-fitting scores than the group that was fit with average RECD values. Furthermore, there was a significant difference between the groups on several questions of the International Outcome Inventory--Hearing Aids, suggesting that there was higher satisfaction with the fittings based on the custom RECD rather than the fittings based on the average RECD. This study demonstrated that, in addition to performing verification using real-ear measurements, accurate conversion of dB HL to dB SPL using personalized RECD likely improved hearing aid satisfaction.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00264

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160628905&custid=ns023446

21. Neural Plasticity Induced by Hearing Aid Use

Item Type: Journal Article

Authors: Karawani, Hanin;Jenkins, Kimberly and Anderson, Samira

Publication Date: 2022

Journal: Frontiers in Aging Neuroscience 14, pp. 1-12

Abstract: Age-related hearing loss is one of the most prevalent health conditions in older adults. Although hearing aid technology has advanced dramatically, a large percentage of older adults do not use hearing aids. This untreated hearing loss may accelerate declines in cognitive and neural function and dramatically affect the quality of life. Our previous findings have shown that the use of hearing aids improves cortical and cognitive function and offsets subcortical physiological decline. The current study tested the time course of neural adaptation to hearing aids over the course of 6 months and aimed to determine whether early measures of cortical processing predict the capacity for neural plasticity. Seventeen (9 females) older adults (mean age = 75 years) with age-related hearing loss with no history of hearing aid use were fit with bilateral hearing aids and tested in six testing sessions. Neural changes were observed as early as 2 weeks following the initial fitting of hearing aids. Increases in N1 amplitudes were observed as early as 2 weeks following the hearing aid fitting, whereas changes in P2 amplitudes were not observed until 12 weeks of hearing aid use. The findings suggest that increased audibility through hearing aids may facilitate rapid increases in cortical detection, but a longer time period of exposure to amplified sound may be required to integrate features of the signal and form auditory object representations. The results also showed a relationship between neural responses in earlier sessions and the change predicted after 6 months of the use of hearing aids. This study demonstrates rapid cortical adaptation to increased auditory input. Knowledge of the time course of neural adaptation may aid audiologists in counseling their patients, especially those who are struggling to adjust to amplification. A future comparison of a control group with no use of hearing aids that undergoes the same testing sessions as the study's group will validate these findings.

Access or request full text: https://libkey.io/10.3389/fnagi.2022.884917

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=156978261&custid=ns023446

22. ENT Manifestations of Celiac Disease: A Scholarly Review

Item Type: Journal Article

Authors: Karunaratne, Dilhara and Karunaratne, Nisal

Publication Date: 2022

Journal: ENT: Ear, Nose & Throat Journal 101(9), pp. 600-605

Abstract: Objectives: Celiac disease is a common multisystemic autoimmune disorder. It is now increasingly recognized that it may present with extraintestinal manifestations which contribute to the difficulty in its diagnosis. The objective of this scholarly review was to examine the extraintestinal ENT manifestations of celiac disease and its pathophysiology and management, in order to highlight that some patients with celiac disease may present initially to the otolaryngologist. Improving awareness of celiac disease among otolaryngologists may aid in the correct diagnosis and correct management plan. Methods: A literature review was conducted using the PubMed database to identify original articles related to celiac disease and ENT manifestations between the years 2000 and 2020. The search was performed using the search string: ("coeliac disease" OR "celiac disease") AND ("ENT manifestations" OR "hearing loss" OR "epistaxis" OR "nasal septal perforation" OR "obstructive sleep apnoea" OR "vertigo" OR "tonsillitis" OR "sinusitis"). Only articles written in English were reviewed. Results: A total of 17 papers met the inclusion criteria. Extraintestinal ENT manifestations of celiac disease include sensorineural hearing loss, obstructive sleep apnea, nasal septal perforation, epistaxis, and vertigo with nystagmus. Sensorineural hearing loss, obstructive sleep apnea, nasal septal perforation, vertigo, and nystagmus are thought to result from immunologically mediated mechanisms, with intestinal

malabsorption resulting in epistaxis. Conclusions: Celiac disease can cause extraintestinal ENT manifestations and requires a high index of suspicion from the otolaryngologist to diagnose and suitably manage. A gluten-free diet may result in sufficient symptom resolution for most manifestations. Sensorineural hearing loss due to celiac disease appears to be progressive and permanent and may require frequent audiological monitoring.

Access or request full text: https://libkey.io/10.1177/0145561320972604

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159693449&custid=ns023446

23. The Views and Experience of Audiologists Working in Flemish Hearing Aid Centers Concerning Cognition Within Audiological Practice

Item Type: Journal Article

Authors: Kestens, Katrien;Degeest, Sofie and Kepplera, Hannah

Publication Date: 2022

Journal: American Journal of Audiology 31(2), pp. 338-347

Abstract: Purpose: This study aimed to get insight into the views and experience of audiologists, employed in Flemish hearing aid centers, concerning cognition within audiological practice. Method: An online 49-item questionnaire was developed and subdivided into five categories: (a) work setting, (b) practical experience regarding hearing aid fitting linked to cognition, (c) knowledge regarding the auditory--cognitive perspective of speech understanding, (d) willingness and guidelines to implement cognitive measures within audiological practice, and (e) demographics. Respondents were surveyed during January and February 2021. Results: One hundred twenty-nine audiologists working in Flemish hearing aid centers responded to the entire questionnaire and showed a mean work experience of 8.0 years. Results revealed that cognition was taken into account, especially within the anamnesis interview and general communication strategy, whereas only a minority took cognition into account when actually fitting hearing aids. Knowledge and experience did not determine whether or not respondents took cognition into account. A willingness to implement cognitive measures in a time-efficient manner in audiological practice was observed among respondents. Conclusion: Evidence-based guidelines regarding hearing aid fitting based on an individual's auditory--cognitive profile are needed to improve the quality of hearing rehabilitation.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00186

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=157255183&custid=ns023446

24. Comparison of Hearing Abnormalities in Non-Diabetic and Diabetic End-Stage Renal Disease Patients Undergoing Hemodialysis

Item Type: Journal Article

Authors: Kohansal, Behieh;Saeedi, Nasser;Moslemi, Azam;Poorsaadat, Leila and Beigi, Moeinoddin Hossein

Publication Date: 2022

Journal: Auditory & Vestibular Research (2423-480X) 31(4), pp. 275-281

Abstract: Background and Aim: Hearing loss is a highly prevalent symptom in patients with chronic kidney diseases (CKD). Comorbidities such as Diabetes Mellitus is known as the most common cause of CKD and a significant risk factor for sensorineural hearing loss (SNHL). The aim of this study was to compare SNHL among diabetic with non-diabetic hemodialysis patients. Methods: In this study, 33 diabetic patients on hemodialysis were selected from Hami center, Arak, Iran. Non-diabetic subjects were 31 hemodialysis patients without diabetes were matched for age, duration of CKD and hemodialysis. Data were obtained via questionnaire, patients' files, physical examination, otoscopy and tympanometry. Hearing was analyzed using pure-tone audiometry for both groups. Results: In the study, 66.2% of diabetic patients and 52.1% of non-diabetic subjects had SNHL. Results showed that diabetic patient has 1.3 times more likely to have hearing impairment. This difference was not statistically significant. Bilateral mild SNHL was the most prevalent in both groups. No significant difference was reported in SNHL prevalence, mean thresholds of hearing and ear laterality between the groups. Gender and age had a significant effect on hearing loss after adjusting covariables. No significant association was found between diabetes and hearing loss. Conclusion: SNHL was more common in hemodialysis patients with diabetes. Patients with diabetes had poorer hearing thresholds compared to non-diabetic group, with no significant difference between groups. The periodical assessment of hearing and extending audiological care in this high-risk population is recommended due to long-term irreversible symptoms of the disease.

Access or request full text: https://libkey.io/10.18502/avr.v31i4.10731

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159374292&custid=ns023446

25. Readability of Cochlear Implant Brochures: A Potential Factor in Parent Decision Making

Item Type: Journal Article

Authors: La Scala, Jennifer D.;Zraick, Richard I.;Rosa-Lugo, Linda and Cosby, Janel L.

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 1133-1142

Abstract: Purpose: The purpose of this study was to examine the ease of reading cochlear implant (CI) brochures provided to parents and caregivers who are making informed decisions about the management of their child's hearing loss. Method: CI brochures from three Food and Drug Administration--approved CI manufacturers were examined: Advanced Bionics, Cochlear Americas, and MED-EL. Reading grade levels and ease of reading were analyzed using a commercially available computer software program, applying six readability formulas commonly used to examine hearing-related patient education materials (PEMs). Results: The readability of the CI brochures exceeds the fifth- to sixth-grade reading-level guidelines. The CI brochures may be difficult for the average English-speaking adult to read with ease and requires at least a 10th-grade comparable reading level. Conclusions: Despite health literacy initiatives, audiology-focused PEMs continue to be created without full consideration of the burden for the reader. Authors of PEMs should consider the average reading level of the reader as a variable potentially influencing the decision-making process. Likewise, clinicians should consider the average reading level needed to understand PEMs when presenting information and resources to parents and caregivers for informed and shared decision making.

Access or request full text: https://libkey.io/10.1044/2022_AJA-22-00048

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160628908&custid=ns

023446

26. The Impact of Bullying on Deaf Children and Young People, e-learning modules by the National Deaf Children's society, 2022, available free of charge at https://www.ndcs.org.uk/our-services/services-for-professionals/training-courses/e-learning/the-impact-of-bullying-on-deaf-children-and-young-people

Item Type: Journal Article

Authors: Latka, Helen

Publication Date: Nov ,2022

Journal: Child Abuse Review 31(6), pp. 1-2

Abstract: The article presents the electronic learning (e-learning) module "The Impact of Bullying on Deaf Children and Young People" from the National Deaf Children's Society (NDCS) to help support people working with deaf children and young people to detect possible cases of bullying and offer the right support to the victims. Other topics include the different levels of deafness and the strategies to promote inclusion of said victims.

Access or request full text: https://libkey.io/10.1002/car.2784

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160177307&custid=ns023446

27. Outcomes of Gene Panel Testing for Sensorineural Hearing Loss in a Diverse Patient Cohort

Item Type: Journal Article

Authors: Liao, Elizabeth N.;Taketa, Emily;Mohamad, Noura I. and Chan, Dylan K.

Publication Date: 2022

Journal: JAMA Network Open 5(9), pp. e2233441

Abstract: Key Points: Question: What is the association between rates of genetic diagnosis and sociodemographic and clinical characteristics in children with sensorineural hearing loss, and how often are these diagnoses associated with changes in clinical management? Findings: In this cohort study of 426 children, those who were older, had more medical comorbidities, identified as being from an underrepresented minority group, had late-identified hearing loss (passed newborn hearing screen), and/or had unilateral hearing loss were less likely to receive a genetic diagnosis; all other sociodemographic and audiologic factors were not significantly associated with genetic diagnosis rates. Thirty-two of 109 children (29.4%) received genetic diagnoses that was associated with subsequent changes in clinical management. Meaning: These findings may help improve patient counseling and shared decision-making for patients and families who are deciding whether to obtain genetic testing. This retrospective study of children with sensorineural hearing loss examines whether genetic testing diagnoses are associated with sociodemographic characteristics and clinical management. Importance: A genetic diagnosis can help elucidate the prognosis of hearing loss, thus significantly affecting management. Previous studies on diagnostic yield of hearing loss genetic tests have been based on largely homogenous study populations. Objectives: To examine the diagnostic yield of genetic testing

in a diverse population of children, accounting for sociodemographic and patient characteristics, and assess whether these diagnoses are associated with subsequent changes in clinical management. Design, Setting, and Participants: This retrospective cohort study included 2075 patients seen at the Children's Communications Clinic, of whom 517 completed hearing loss gene panel testing between January 1, 2015, and November 1, 2021, at the University of California, San Francisco Benioff Children's Hospital system. From those 517 patients, 426 children with at least 2 audiograms were identified and analyzed. Data were gathered from November 2021 to January 2022 and analyzed from January to February 2022. Main Outcomes and Measures: The measures of interest were sociodemographic characteristics (age at testing, gender, race and ethnicity, primary language, and insurance type), hearing loss characteristics, and medical variables. The outcome was genetic testing results. Variables were compared with univariate and multivariable logistic regression. Results: Of the 2075 patients seen at the Children's Communications Clinic, 517 (median range] age, 8 0-31] years; 264 51.1%] male; 351 67.9%] from an underrepresented minority URM] group) underwent a hearing loss panel genetic test between January 1, 2015, and November 1, 2021. Among those 517 patients, 426 children (median range] age, 8 0-18] years; 221 51.9%] male; 304 71.4%] from an URM group) with 2 or more audiograms were included in a subsequent analysis. On multivariable logistic regression, age at testing (odds ratio OR], 0.87; 95% CI, 0.78-0.97), URM group status (OR, 0.29; 95% CI, 0.13-0.66), comorbidities (OR, 0.27; 95% CI, 0.14-0.53), late-identified hearing loss (passed newborn hearing screen; OR, 0.27; 95% CI, 0.08-0.86), and unilateral hearing loss (OR, 0.04; 95% CI, 0.005-0.33) were the only factors associated with genetic diagnosis. No association was found between genetic diagnosis yield and other sociodemographic variables or hearing loss characteristics. Patients in URM and non-URM groups had statistically similar clinical features. A total of 32 of 109 children (29.4%) who received a genetic diagnosis received diagnoses that significantly affected prognosis because of identification of syndromic or progressive sensorineural hearing loss or auditory neuropathy spectrum disorder relating to otoferlin. Conclusions and Relevance: This cohort study's findings suggest that genetic testing may be broadly useful in improving clinical management of children with hearing loss. More research is warranted to discover and characterize diagnostic genes for those who have been historically underrepresented in research and medicine.

Access or request full text: https://libkey.io/10.1001/jamanetworkopen.2022.33441

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159445919&custid=ns023446

28. Protocol and programme factors associated with referral and loss to follow-up from newborn hearing screening: a systematic review

Item Type: Journal Article

Authors: Mackey, Allison R.;Bussé, Andrea M. L.;Del Vecchio, Valeria;Mäki-Torkko, Elina and Uhlén, Inger M.

Publication Date: 2022

Journal: BMC Pediatrics 22(1), pp. 1-17

Abstract: Background: An effective newborn hearing screening programme has low referral rate and low loss to follow-up (LTFU) rate after referral from initial screening. This systematic review identified studies evaluating the effect of protocol and programme factors on these two outcomes, including the screening method used and the infant group.Methods: Five databases were searched (latest: April 2021). Included studies reported original data from newborn hearing screening and described the target outcomes against a protocol or programme level factor. Studies were excluded if results were only available for one risk condition, for each ear, or for < 100 infants, or if methodological bias was observed. Included studies were evaluated for quality across three domains: sample, screening and outcome, using modified criteria from the Ottawa-Newcastle and

QUADAS-2 scales. Findings from the included studies were synthesised in tables, figures and text.Results: Fifty-eight studies reported on referral rate, 8 on LTFU rate, and 35 on both. Only 15 studies defined LTFU. Substantial diversity in referral and LTFU rate was observed across studies. Twelve of fourteen studies that evaluated screening method showed lower referral rates with aABR compared to TEOAE for well babies (WB). Rescreening before hospital discharge and screening after 3 days of age reduced referral rates. Studies investigating LTFU reported lower rates for programmes that had audiologist involvement, did not require fees for step 2, were embedded in a larger regional or national programme, and scheduled follow-up in a location accessible to the families. In programmes with low overall LTFU, higher LTFU was observed for infants from the NICU compared to WB.Conclusion: Although poor reporting and exclusion of non-English articles may limit the generalisability from this review, key influential factors for referral and LTFU rates were identified. Including aABR in WB screening can effectively reduce referral rates, but it is not the only solution. The reported referral and LTFU rates vary largely across studies, implying the contribution of several parameters identified in this review and the context in which the programme is performed. Extra attention should be paid to infants with higher risk for hearing impairment to ensure their return to follow-up.

Access or request full text: https://libkey.io/10.1186/s12887-022-03218-0

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158381618&custid=ns023446

29. Application of machine learning approaches to analyse student success for contact learning and emergency remote teaching and learning during the COVID-19 era in speech--language pathology and audiology

Item Type: Journal Article

Authors: Madahana, Milka C.;Khoza-Shangase, Katijah;Moroe, Nomfundo;Nyandoro, Otis and Ekoru, John

Publication Date: 2022

Journal: South African Journal of Communication Disorders 69(2), pp. 1-13

Abstract: Background: The onset of the COVID-19 pandemic across the globe resulted in countries taking several measures to curb the spread of the disease. One of the measures taken was the locking down of countries, which entailed restriction of movement both locally and internationally. To ensure continuation of the academic year, emergency remote teaching and learning (ERTL) was launched by several institutions of higher learning in South Africa, where the norm was previously face-to-face or contact teaching and learning. The impact of this change is not known for the speech--language pathology and audiology (SLPA) students. This motivated this study. Objectives: This study aimed to evaluate the impact of the COVID-19 pandemic on SLPA undergraduate students during face-to-face teaching and learning, ERTL and transitioning towards hybrid teaching and learning. Method: Using course marks for SLPA undergraduate students, K means clustering and Random Forest classification were used to analyse students' performance and to detect patterns between students' performance and the attributes that impact student performance. Results: Analysis of the data set indicated that funding is one of the main attributes that contributed significantly to students' performance; thus, it became one of the priority features in 2020 and 2021 during COVID-19. Conclusion: The clusters of students obtained during the analysis and their attributes can be used in identification of students that are at risk of not completing their studies in the minimum required time and early interventions can be provided to the students.

Access or request full text: https://libkey.io/10.4102/sajcd.v69i2.912

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159484184&custid=ns023446

30. The Absence of Permanent Sensorineural Hearing Loss in a Cohort of Children with SARS-CoV-2 Infection and the Importance of Performing the Audiological "Work-Up"

Item Type: Journal Article

Authors: Malesci, Rita;Rizzo, Davide;Del Vecchio, Valeria;Serra, Nicola;Tarallo, Giuseppe;D'Errico, Domenico;Coronella, Valentina;Bussu, Francesco;Vecchio, Andrea Lo;Auletta, Gennaro;Franzè, Annamaria and Fetoni, Anna Rita

Publication Date: 2022

Journal: Children 9(11), pp. 1681

Abstract: Background: Currently, the novel coronavirus (SARS-CoV-2) causes an acute respiratory illness named COVID-19 and is a controversial risk factor for hearing loss (HL). Herein, we aim to describe the associated symptoms and to evaluate hearing function in the COVID-19 pediatric population. Methods: A retrospective cross-sectional observational study was carried out on 37 children who contracted COVID-19 infection with no previous audio-vestibular disorders. Clinical data on the infections were collected, and an audiological assessment of all affected children was performed by using different diagnostic protocols according to their age. Results: Fever, upper respiratory and gastrointestinal manifestations were common presentations of infection. Audiological function was normal in 30 (81.08%) children, while 7 children showed an increased hearing threshold: 6 (16.21%) had transient conductive hearing loss (CHL) due to middle ear effusion and normalized at the follow-up and 1 had sensorineural hearing loss (SNHL). A single child was affected by bilateral SNHL (2.7%); however, he underwent a complete audiological work-up leading to a diagnosis of genetic HL due to a MYO6 gene mutation which is causative of progressive or late onset SNHL. Conclusions: HL needs to be considered among the manifestations of COVID-19 in children, nevertheless, we found cases of transient CHL. The onset of HL during or following COVID-19 infection does not eliminate the indication for maintaining audiological surveillance and audiological work-ups, including genetic diagnosis, to avoid the risk of mistaking other causes of HL.

Access or request full text: https://libkey.io/10.3390/children9111681

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160135530&custid=ns023446

31. Understanding Patient Expectations Before Implantation Using the Cochlear Implant Quality of Life-Expectations Instrument

Item Type: Journal Article

Authors: McRackan, Theodore R.;Hand, Brittany N.;Chidarala, Shreya and Dubno, Judy R.

Publication Date: 2022

Journal: JAMA Otolaryngology-Head & Neck Surgery 148(9), pp. 870-878

Abstract: Importance: Previous research suggests that clinicians view realistic patient expectations as the most

important nonaudiological factor in the decision to proceed with a cochlear implant (CI). However, clinicians have few data to determine whether patients' outcome expectations are realistic.Objective: To address this unmet clinical need through the development and psychometric analysis of a new patient-reported outcome measure, the CI Quality of Life (CIQOL) Expectations.Design, Setting, and Participants: This cross-sectional study was conducted at a tertiary CI center from February 26, 2020, to August 31, 2021. First, a team comprising 2 CI audiologists, a CI surgeon, a hearing scientist, and 2 psychometricians with experience in instrument development converted all items from the CIQOL-35 Profile instrument into statements reflecting expected outcomes. Then, cognitive interviews with 20 potential CI users assessed the clarity and comprehensiveness of the new instrument. Next, responses to the CIQOL-Expectations instrument for 131 potential adult CI candidates were psychometrically analyzed using confirmatory factor analysis and item response theory. Finally, degree to which patient expectations changed from before to after and their CI evaluation appointments was measured.Intervention: The CIQOL-Expectations instrument.Results: Of 178 participants, 85 (47.8%) were female, and there was 1 (0.6%) Asian, 26 (14.6%) Black or African American, 1 (0.6%) Latinx, and 150 (84.3%) White individuals. No major content or grammar changes were identified during the cognitive interviews. Overall, all CIQOL domains demonstrated adequate to strong psychometric properties. Several domains did not meet all a priori established indicators of model fit or ability to separate CI users based on response patterns, but all met most indicators. Potential CI users demonstrated the highest mean (SD) expectation scores for the environment (70.2 20.8]) and social (68.4 18.0]) domains. In addition, the entertainment (20 15.3%]) and environment (31 24.4%]) domains had the highest percentage of patients with expectation scores of 100. Yet, normative CIQOL-35 Profile data from experienced CI users suggested few patients obtain this high degree of functional benefit after implant.Conclusions and Relevance: The results of this cross-sectional study suggest that the CIQOL-Expectations instrument may provide an opportunity to assess potential CI users' expected outcomes using modification of an established CIQOL instrument and a patient-centered framework. The included items and domains reflect real-world functional abilities valued by CI users and may provide opportunities for an evidence-based shared decision-making approach to the CI evaluation process. With this instrument, clinicians can compare individual patients' pre-CI outcome expectations with established normative data and provide appropriate counseling.

Access or request full text: https://libkey.io/10.1001/jamaoto.2022.2292

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159024994&custid=ns023446

32. Effects of CoQ10 Replacement Therapy on the Audiological Characteristics of Pediatric Patients with COQ6 Variants

Item Type: Journal Article

Authors: Nam, Dong Woo;Park, Sang Soo;Lee, So Min;Suh, Myung-Whan;Park, Moo Kyun;Song, Jae-Jin;Choi, Byung Yoon;Lee, Jun Ho;Oh, Seung Ha;Moon, Kyung Chul;Ahn, Yo Han;Kang, Hee Gyung;Cheong, Hae Il;Kim, Ji Hyun and Lee, Sang-Yeon

Publication Date: 2022

Journal: BioMed Research International , pp. 1-12

Abstract: Primary coenzyme Q10 (CoQ10) deficiency refers to a group of mitochondrial cytopathies caused by genetic defects in CoQ10 biosynthesis. Primary coenzyme Q10 deficiency-6 (COQ10D6) is an autosomal recessive disorder attributable to biallelic COQ6 variants; the cardinal phenotypes are steroid-resistant nephrotic syndrome (SRNS), which inevitably progresses to kidney failure, and sensorineural hearing loss (SNHL). Here, we describe the phenotypes and genotypes of 12 children with COQ10D6 from 11 unrelated

Korean families and quantitatively explore the beneficial effects of CoQ10 replacement therapy on SNHL. A diagnosis of SRNS generally precedes SNHL documentation. COQ10D6 is associated with progressive SNHL. Four causative COQ6 variants were identified in either homozygotes or compound heterozygotes: c.189_191delGAA, c.484C>T, c.686A>C, and c.782C>T. The response rate (no further hearing loss or improvement) was 42.9%; CoQ10 replacement therapy may thus limit and even improve hearing loss. Notably, the audiological benefit appeared to be genotype-specific, suggesting a genotype–phenotype correlation. The results of cochlear implantation were generally favorable, and the effects were sustained over time. Our results thus propose the beneficial effects of CoQ10 replacement therapy on hearing loss. Our work with COQ10D6 patients is a good example of personalized, genetically tailored, audiological rehabilitation of patients with syndromic deafness.

Access or request full text: https://libkey.io/10.1155/2022/5250254

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159024659&custid=ns023446

33. A Systematic Review of Ethics Knowledge in Audiology Literature: A Follow-Up Study (2011-2020)

Item Type: Journal Article

Authors: Naudé, Alida;Bornman, Juan and Kanji, Amisha

Publication Date: 2022

Journal: American Journal of Audiology , pp. 835-844

Abstract: Purpose: This systematic review aimed to update and explore the extant literature (2011-2020) regarding ethics knowledge in audiology and to compare the findings to an earlier study (2001-2010). Method: This systematic review employed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Results: MEDLINE, CINAHL, ERIC, MasterFILE Premier, E-Journals, Africa-Wide information and Academic Search Premier electronic databases, and non--peerreviewed papers in Seminars in Hearing yielded a total of 63 papers. Following systematic screening using inclusion and exclusion criteria, a total of 12 full-text papers were included in this review. Pertinent data and findings from the review were tabulated and analyzed using a qualitative, deductive approach. Results showed that the 12 papers were published in nine peer-reviewed journals with a predominantly social scientific approach. This differs from the earlier review that reported only five papers with a predominantly philosophical approach. However, both the current and earlier studies focused on the rehabilitation/ management role of the audiologist. In the earlier study, the focus was on moral judgment (as one of the components of moral behavior), whereas this was the focus of only half of the papers identified in this study, with the remaining papers focusing on moral sensitivity and moral motivation. Conclusions: The focus of papers had evolved and continued to include more elements related to the multiple perspectives used to analyze and describe ethics research. The body of knowledge of ethics in audiology specifically expanded in the area of social scientific research, focusing on beneficence and nonmaleficence, including moral motivation and basing research on moral judgment with the emphasis on the rehabilitation/management and education/ research/administration role of audiologists.

Access or request full text: https://libkey.io/10.1044/2022_AJA-22-00043

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158892723&custid=ns023446

34. Analysis of Health Disparities in the Screening and Diagnosis of Hearing Loss: Early Hearing Detection and Intervention Hearing Screening Follow-Up Survey

Item Type: Journal Article

Authors: Nicholson, Nannette;Rhoades, Ellen A. and Glade, Rachel E.

Publication Date: 2022

Journal: American Journal of Audiology , pp. 764-788

Abstract: Purpose: The purpose of this study was to (a) provide introductory literature regarding cultural constructs, health disparities, and social determinants of health (SDoH); (b) summarize the literature regarding the Centers for Disease Control and Prevention (CDC) Early Hearing Detection and Intervention (EHDI) Hearing Screening Follow-Up Survey (HSFS) data; (c) explore the CDC EHDI HSFS data regarding the contribution of maternal demographics to loss-to-follow-up/ loss-to-documentation (LTF/D) between hearing screening and audiologic diagnosis for 2016, 2017, and 2018; and (d) examine these health disparities within the context of potential ethnoracial biases. Method: This is a comprehensive narrative literature review of cultural constructs, hearing health disparities, and SDoH as they relate to the CDC EHDI HSFS data. We explore the maternal demographic data reported on the CDC EHDI website and report disparities for maternal age, education, ethnicity, and race for 2016, 2017, and 2018. We focus on LTF/D for screening and diagnosis within the context of racial and cultural bias. Results: A literature review demonstrates the increase in quality of the CDC EHDI HSFS data over the past 2 decades. LTF/D rates for hearing screening and audiologic diagnostic testing have improved from higher than 60% to current rates of less than 30%. Comparisons of diagnostic completion rates reported on the CDC website for the EHDI HSFS 2016, 2017, and 2018 data show trends for maternal age, education, and race, but not for ethnicity. Trends were defined as changes more than 10% for variables averaged over a 3-year period (2016-2018). Conclusions: Although there have been significant improvements in LTF/D over the past 2 decades, there continue to be opportunities for further improvement. Beyond neonatal screening, delays continue to be reported in the diagnosis of young children with hearing loss. Notwithstanding the extraordinarily diverse families within the United States, the imperative is to minimize such delays so that all children with hearing loss can, at the very least, have auditory accessibility to spoken language by 3 months of age. Conscious awareness is essential before developing a potentially effective plan of action that might remediate the problem.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00014

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158892720&custid=ns023446

35. Factors Affecting the Use of Speech Testing in Adult Audiology

Item Type: Journal Article

Authors: Parmar, Bhavisha J.;Rajasingam, Saima L.;Bizley, Jennifer K. and Vickers, Deborah A.

Publication Date: 2022

Journal: American Journal of Audiology , pp. 528-540

Abstract: Objective: The aim of this study was to evaluate hearing health care professionals' (HHPs) speech testing practices in routine adult audiology services and better understand the facilitators and barriers to

speech testing provision. Design: A cross-sectional questionnaire study was conducted. Study Sample: A sample (N = 306) of HHPs from the public (64%) and private (36%) sectors in the United Kingdom completed the survey. Results: In the United Kingdom, speech testing practice varied significantly between health sectors. Speech testing was carried out during the audiology assessment by 73.4% of private sector HHPs and 20.4% of those from the public sector. During the hearing aid intervention stage, speech testing was carried out by 56.5% and 26.5% of HHPs from the private and public sectors, respectively. Recognized benefits of speech testing included (a) providing patients with relatable assessment information, (b) guiding hearing aid fitting, and (c) supporting a diagnostic test battery. A lack of clinical time was a key barrier to uptake. Conclusions: Use of speech testing varies in adult audiology. Results from this study found that the percentage of U.K. HHPs making use of speech tests was low compared to that of other countries. HHPs recognized different benefits of speech testing in audiology practice, but the barriers limiting uptake were often driven by factors derived from decision makers rather than clinical rationale. Privately funded HHPs used speech tests more frequently than those working in the public sector where time and resources are under greater pressure and governed by guidance that does not include a recommendation for speech testing. Therefore, the inclusion of speech testing in national clinical guidelines could increase the consistency of use and facilitate the comparison of practice trends across centers.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00233

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158892701&custid=ns023446

36. Alternative Designs for Testing Speech, Language, and Hearing Interventions: Cluster-Randomized Trials and Stepped-Wedge Designs

Item Type: Journal Article

Authors: Patterson, Charity G.;Leland, Natalie E.;Mormer, Elaine and Palmerd, Catherine V.

Publication Date: 2022

Journal: Journal of Speech, Language & Hearing Research 65(7), pp. 2677-2690

Abstract: Purpose: Individual-randomized trials are the gold standard for testing the efficacy and effectiveness of drugs, devices, and behavioral interventions. Health care delivery, educational, and programmatic interventions are often complex, involving multiple levels of change and measurement precluding individual randomization for testing. Cluster-randomized trials and cluster-randomized stepped-wedge trials are alternatives where the intervention is allocated at the group level, such as a clinic or a school, and the outcomes are measured at the person level. These designs are introduced along with the statistical implications of similarities among individuals within the same cluster. We also illustrate the parameters that have the most impact on the likelihood of detecting intervention effects, which must be considered when planning these trials. Conclusion: Cluster-randomized and stepped-wedge designs should be considered by researchers as experimental alternatives to individual-randomized trials when testing speech, language, and hearing care interventions in real-world settings.

Access or request full text: https://libkey.io/10.1044/2022_JSLHR-21-00522

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158106604&custid=ns023446

37. Pediatric Amplification: A Proposed Protocol for In-Person Hearing Aid Fittings and Virtual Follow-Ups

Item Type: Journal Article

Authors: Petrarca, Kirsten A. and Worthington, Megan

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 864-875

Abstract: Background: Children with hearing loss and their families face many financial and logistical barriers to accessing audiological care. At Rush University's Student Community Outreach Program of Excellence (SCOPE), a pediatric hearing loss outreach program is under development to address and overcome those barriers through in-person hearing aid fittings and virtual follow-up appointments. Objectives: The goal of this clinical focus article was to develop a proposed protocol for SCOPE's pediatric hearing loss outreach program that would detail the use of a bimodal model of service delivery for pediatric amplification services. This clinical focus article provides a general description of the proposed protocol. Method: The proposed protocol was developed as a guideline for future service delivery within SCOPE's pediatric hearing loss outreach program. Categories and details within the protocol were derived from previously published protocols and clinically relevant research. Results: The final protocol is composed of six sections, which detail the rationale and target population, necessary equipment, procedures for in-person hearing aid fittings, procedures for virtual follow-ups, outcome measures, and schedule of appointments. Discussion: On the national level, access to audiological care for pediatric patients and their families is restricted by both financial and logistical barriers. A telehealth model of service delivery has been shown to be effective in providing high-quality patient care while addressing these barriers. A clinical program using a bimodal model of service delivery will be implemented to address these barriers in Chicago, Illinois. Future investigation is required to monitor the efficacy of the program and develop program-specific materials.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00192

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259796&custid=ns023446

38. Observational Study to Preliminarily Characterize the Audiological Profile of Children With Down Syndrome

Item Type: Journal Article

Authors: Porter, Heather;Buss, Emily;Merchant, Gabrielle R. and Leibold, Lori J.

Publication Date: 2022

Journal: Journal of Speech, Language & Hearing Research 65(11), pp. 4498-4506

Abstract: Purpose: Down syndrome occurs in one of 700 births, and high rates of hearing loss are reported in this population. This puts children with Down syndrome at risk for communication, learning, and social development difficulties, compounding known language and cognitive vulnerabilities in this population. The purpose of this study was to comprehensively characterize audiological profiles in children with Down syndrome, including the use of extended high-frequency sensitivity and speech intelligibility index assessment. Method: Participants were 18 children with Down syndrome between 5 and 17 years of age. Audiological

profiles were characterized using behavioral audiometry, tympanometry, and wideband acoustic immittance (WAI). Audibility was characterized using the speech intelligibility index. Results: Of the participants successfully completing behavioral audiometry, hearing loss of a moderate or greater degree was observed in one or both ears for 46% of the participants at conventional audiometric test frequencies and 85% of the participants at frequencies above 8 kHz. Seven children met criteria for amplification based on the speech intelligibility index, but only two wore hearing aids. Abnormal middle ear function was found in approximately 50% of the participants for whom WAI or tympanometry were successfully measured. Conclusions: Consistent with prior research, high rates of hearing loss and middle ear dysfunction were observed. The high prevalence of hearing loss above 8 kHz suggests the importance of including extended high-frequency assessment in audiologic characterization of children with Down syndrome. Few children meeting audibility-based guidelines for amplification wore hearing aids, putting them at additional risk for speech/language and educational difficulties.

Access or request full text: https://libkey.io/10.1044/2022_JSLHR-22-00023

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160296028&custid=ns023446

39. Risk Factors for Sensorineural Hearing Loss and Auditory Maturation in Children Admitted to Neonatal Intensive Care Units: Who Recovered?

Item Type: Journal Article

Authors: Salvago, Pietro;Immordino, Angelo;Plescia, Fulvio;Mucia, Marianna;Albera, Andrea and Martines, Francesco

Publication Date: 2022

Journal: Children 9(9), pp. N.PAG

Abstract: Background: Newborns admitted to neonatal intensive care units (NICUs) are at higher risk of developing sensorineural hearing loss (SNHL), which may improve over time. The aim of this study was to describe the prevalence of the main risk factors for SNHL in a NICU cohort, focusing on children who underwent auditory maturation. Methods: An observational study of 378 children admitted to NICUs, who were followed for at least 18 months, with periodic audiologic assessments. Results: Out of 378 patients, 338 had normal hearing and 40 were hearing-impaired; we found a higher percentage of extremely preterm (EPT) and extremely low-birthweight (ELBW) infants in SNHL children ($p < 0.05$). Seventeen infants presented auditory improvement, with a mean maturation time of 6.17 months. A significant difference emerged between patients with stable SNHL and those who improved only in the case of hyperbilirubinemia ($p = 0.005$). The initial hearing threshold was a predictor of auditory improvement and moderately correlated to the time of auditory maturation ($p = 0.02$). Conclusions: Our study supports the trend toward recognizing worse prognoses and slower maturation processes among NICU children who suffer from severe to profound SNHL. Caution must be taken when deciding on earlier cochlear implantation.

Access or request full text: https://libkey.io/10.3390/children9091375

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159336186&custid=ns023446

40. Comparison of passive versus active transcutaneous bone anchored hearing devices in the pediatric population

Item Type: Journal Article

Authors: Shoman, Nael M.;Khan, Usman and Hong, Paul

Publication Date: 2022

Journal: Journal of Otolaryngology -- Head & Neck Surgery 51(1), pp. 1-8

Abstract: Objective: Transcutaneous bone anchored hearing devices (BAHDs) were introduced in an effort to avoid potential complications associated with the abutment of percutaneous BAHDs. Transcutaneous BAHDs can be active or passive. While studies have demonstrated good outcomes with both, a direct comparison of audiological and clinical outcomes of these devices in the pediatric population has not yet been studied. Study design: Retrospective, multicenter study. Setting: Two tertiary academic centers. Methods: Between 2015 and 2019, all patients who received an active transcutaneous BAHD (Bonebridge, BB) at one center, and patients that received a passive transcutaneous BAHD (Attract, AT) at another center, were included in this study. Exclusion criteria included age > 18 years, and mixed hearing loss or single-sided deafness. Study outcomes included patient demographics, indications, complications and preoperative and one-year postoperative audiometric data. Results: Eighteen BB and eight AT patients met the inclusion criteria. The age range was 5–16 years. There were no significant differences in complication outcomes. Both devices demonstrated similar mean improvements in hearing thresholds at frequencies of 250 Hz (38 dB Active vs. 38 dB Passive), 500 Hz (34 dB vs. 42 dB), 1000 Hz (34 dB vs. 40 dB) and 2000 Hz (31 dB vs. 22 dB). The BB was significantly more effective at frequencies of 4000 Hz (28 dB vs. 7 dB) and 8000 Hz (29 dB vs. 6 dB) ($p < 0.05$). Conclusion: This is the first study comparing audiological outcomes between an active and a passive transcutaneous BAHD in the pediatric population. While both devices improved audiometric outcomes in the low and mid frequencies, the active BAHD demonstrated significantly better outcomes in the higher frequencies.

Access or request full text: https://libkey.io/10.1186/s40463-022-00595-5

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=160179103&custid=ns023446

41. Adults With Hearing Loss Demonstrate Resilience During COVID-19 Pandemic: Applications for Postpandemic Services

Item Type: Journal Article

Authors: Teece, Katherine;Oeding, Kristi and Nelson, Peggy

Publication Date: 2022

Journal: American Journal of Audiology 31(2), pp. 392-402

Abstract: Background: The COVID-19 pandemic has produced unique challenges for persons with hearing loss. There is a unique concern that adults with hearing loss may be more susceptible to isolation than adults with normal hearing. Purpose: This study explored the impact of the COVID-19 pandemic on the well-being of older adults with and without hearing loss. Research Design: This was a longitudinal study with pre-COVID-19 and six mid-COVID-19 interviews, spanning from March 1, 2020, to October 31, 2020. Study Sample: The study enrolled 12 participants with hearing aids and 12 with cochlear implants aged 55--80 years that were compared to 18

age-matched adults with hearing within normal limits. Data Collection and Analysis: Surveys were completed to evaluate the impact of time alone and loneliness, social contact, depression, and the impact of masks on hearing. A mixed-effects statistical model was used to analyze each question. Results: Participants commonly reported stress and anxiety during monthly video calls. Adults with varying degrees of hearing loss reported decreased social interaction and increased stress during the pandemic, similar to the rates observed by participants with healthy hearing. Face coverings were commonly reported to affect the intelligibility of conversational speech. Participants with hearing loss found satisfactory methods for maintaining social connection during the pandemic that they hope will continue once restrictions ease fully. Conclusions: Participants from the hearing loss groups in this study were frustrated by challenges posed by facial masks and were resilient in their ability to cope with COVID-19 and found the use of technology to be helpful. Audiologists are encouraged to use these successful electronic means of connecting with their patients even after restrictions are fully lifted.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00234

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=157255188&custid=ns023446

42. Characterization of hearing-impairment in Generalized Arterial Calcification of Infancy (GACI)

Item Type: Journal Article

Authors: Theng, Elizabeth H.;Brewer, Carmen C.;Oheim, Ralf;Zalewski, Christopher K.;King, Kelly A.;Delsmann, Maximillian M.;Rolvien, Tim;Gafni, Rachel I.;Braddock, Demetrios T.;Jeffrey Kim, H. and Ferreira, Carlos R.

Publication Date: 2022

Journal: Orphanet Journal of Rare Diseases 17(1), pp. 1-10

Abstract: Background and Importance: Hearing loss (HL) has been sporadically described, but not well characterized, in Generalized Arterial Calcification of Infancy (GACI), a rare disease in which pathological calcification typically presents in infancy.Objectives: This study aims to describe the clinical audiologic and otologic features and potential etiology of hearing impairment in GACI and gain pathophysiological insight from a murine model of GACI.Design: Cross-sectional cohort study of individuals with GACI. Murine ossicle micromorphology of the ENPP1asj/asj mutant compared to wild-type.Setting: Clinical research hospital; basic science laboratory.Participants: Nineteen individuals with GACI who met clinical, biochemical, and genetic criteria for diagnosis.Main Outcomes and Measures: Clinical, biochemical, and radiologic features associated with hearing status.Results: Pure-tone thresholds could be established in 15 (n = 30 ears) of the 19 patients who underwent audiological assessments. The prevalence of HL was 50% (15/30) of ears, with conductive HL in 80% and sensorineural HL in 20%. In terms of patients with HL (n = 8), seven patients had bilateral HL and one patient had unilateral HL. Degree of HL was mild to moderate for 87% of the 15 ears with hearing loss. Of those patients with sufficient pure-tone and middle ear function data, 80% (8/10) had audiometric configurations suggestive of ossicular chain dysfunction (OCD). Recurrent episodes of otitis media (ROM) requiring pressure-equalizing tube placement were common. In patients who underwent cranial CT, 54.5% (6/11) had auricular calcification. Quantitative backscattered electron imaging (qBEI) of murine ossicles supports an OCD component of auditory dysfunction in GACI, suggesting loss of ossicular osteocytes without initiation of bone remodeling.Conclusions and Relevance: Hearing loss is common in GACI; it is most often conductive, and mild to moderate in severity. The etiology of HL is likely multifactorial, involving dysfunction of the ossicular chain and/or recurrent otitis media. Clinically, this study highlights the importance of early audiologic and otologic evaluation in persons with GACI. Novel findings of high rates of OCD and ROM may inform management, and in cases of unclear HL etiology, dedicated temporal bone imaging should be considered.

Access or request full text: https://libkey.io/10.1186/s13023-022-02410-w

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158079282&custid=ns023446

43. Hearing Health Care Digital Therapeutics: Patient Satisfaction Evidence

Item Type: Journal Article

Authors: Tye-Murray, Nancy;Spehar, Brent;Mauze, Elizabeth and Cardinal, Christopher

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 905-913

Abstract: Purpose: A digital therapeutic is a software-based intervention for a disease and/or disorder and often includes a daily, interactive curriculum and exercises; online support from a professional versed in the treatment base; and an online support community, typically active as a social chat group. Recently, the Consumer Technology Association published revised standards for digital therapeutics (DTx) that stipulate that a DTx must be evidence based and founded in scientific evidence showing effectiveness and must be supported by evidence showing improved patient satisfaction and adherence to an intervention. The purpose of this study was to investigate whether a DTx could help older adults better adjust to their hearing loss and acclimate to new hearing aids. Method: Thirty older adults with mild or moderate hearing loss who had never used hearing aids participated. All hearing aids were fitted remotely. Participants used a hearing health care DTx (Amptify) for 4 weeks, either immediately following receipt of the hearing aids or 4 weeks after the fitting. A control condition was watching closed caption television. Participants completed a satisfaction questionnaire that queried about their impressions of the DTx, which had items that included both a rating scale of 1-7 and open-ended questions. Results: Ninety-six percent of the participants reported positive benefits, and one-half reported that the DTx helped them to adjust to their new hearing aids. They assigned a score of 5.8 to one of the questionnaire items that is similar to a Net Promoter Score Benefits, which included an enhanced ability to engage in conversation and increased listening confidence. Conclusion: This investigation provides scientific evidence to support the use of a hearing health care DTx, paving the way for audiologists to be able to more easily and efficiently incorporate follow-up aural rehabilitation into their routine clinical services and to be able to provide services remotely.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00236

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259799&custid=ns023446

44. Remote Monitoring of Adult Cochlear Implant Recipients Using Digits-in-Noise Self-Testing

Item Type: Journal Article

Authors: van der Mescht, Lize;le Roux, Talita;Mahomed-Asmail, Faheema;De Sousa, Karina C. and Swanepoel, De Wet

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 923-935

Abstract: Purpose: The COVID-19 pandemic has accelerated the uptake and scope of telehealth. This study determined the accuracy and reliability of a smartphone digits-in-noise (DIN) test when conducted by adult cochlear implant (CI) recipients in a simulated home environment compared with a clinic setup. Perceptions of remote monitoring using speech-in-noise (SIN) testing were also explored. Method: Thirty-three adult CI recipients between 18 and 78 years of age (M = 46.7, SD = ±20.4) conducted the DIN test in a simulated home environment and a clinic setup. Test--retest reliability across the two environments and comparisons between test settings were evaluated. A survey explored the perceptions of adult CI recipients regarding remote monitoring and use of the DIN self-test. Results: Mean-aided speech reception thresholds (SRTs) in the clinic and simulated home environment test conditions and clinic and simulated home environment retest conditions did not differ significantly. Mean test--retest SRTs in the clinic and simulated home environment were significantly different ($p < .05$). High intraclass correlation coefficient and low standard error of measurement scores reflected good and excellent reliability between test--retest measures and between clinic and simulated home environment measures. Most participants were positive about the possibility of using the DIN test at home to self-assess speech perception, although some test adjustments such as including training items and a less adverse starting signal-to-noise ratio may be required. Conclusion: Adult CI recipients can use the smartphone DIN test to self-assess aided SIN performance in a home environment with accuracy and reliability relatively similar to clinic testing.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00248

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259801&custid=ns023446

45. A Systematic Review and Meta-Analysis Exploring Effects of Third-Wave Psychological Therapies on Hearing-Related Distress, Depression, Anxiety, and Quality of Life in People With Audiological Problems

Item Type: Journal Article

Authors: Wang, Belinda;Gould, Rebecca L.;Kumar, Pavithra;Pikett, Liam;Thompson, Benjamin;Costafreda Gonzalez, Sergi and Bamiou, Doris-Eva

Publication Date: 2022

Journal: American Journal of Audiology 31(2), pp. 487-512

Abstract: Purpose: There is growing evidence supporting the use of third-wave psychological therapies, such as mindfulness-based interventions (MBIs) and acceptance and commitment therapy (ACT), for people with long-term or chronic physical health conditions. We conducted a systematic review and meta-analysis to critically evaluate the effectiveness of third-wave interventions for improving hearing-related distress and psychological well-being in people with audiological problems. Method: We searched online bibliographic databases and assessed study quality. We conducted random-effects meta-analyses if at least two randomized controlled trials (RCTs) examined hearing-related distress, depression, anxiety, or quality of life in people with audiological problems. Findings of pre--post studies were summarized narratively. Results: We identified 15 studies: six RCTs and nine pre--post studies. The methodological quality of studies was mostly poor to moderate, and sample sizes were typically small (overall n = 750). Most studies focused on tinnitus (n = 12), MBIs (n = 8), and ACT (n = 6). Statistically significant improvements in hearing-related distress were found with ACT and MBIs versus controls and other treatments at post-intervention in people with tinnitus, while improvements in depression and anxiety were only found for ACT versus controls at postintervention. However, gains were either not

maintained or not examined at follow-up, and there was no evidence for improvements in quality of life. Conclusions: At present, there is insufficient evidence to recommend the use of third-wave interventions for improving hearing-related distress or psychological well-being in people with audiological problems. There is some evidence that ACT and MBIs may be useful in addressing hearing-related distress in people with tinnitus, but only in the short term. However, findings should be interpreted with caution given the small number of studies with generally small sample sizes and mostly poor-to-moderate methodological quality. More high-quality, adequately powered, double-blind RCTs, particularly in audiological problems other than tinnitus, are needed to draw firm conclusions and meaningful clinical recommendations.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00162

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=157255196&custid=ns023446

46. Hearing From You: Design Thinking in Audiological Research

Item Type: Journal Article

Authors: Young, Taegan;Pang, Jermy and Ferguson, Melanie

Publication Date: 2022

Journal: American Journal of Audiology 31, pp. 1003-1012

Abstract: Purpose: The purpose of this article is to describe the emerging use of design thinking methodologies in hearing health care research using a participatory action approach with a consumer and community involvement panel, audiologists, and adults with hearing loss. Method: Two connected hearing health care projects that adopted design thinking principles are presented here as case studies. Case 1 investigated the applicability and acceptability of smart voice assistant technology as post--hearing aid fitting support. Case 2 investigated the feasibility of providing support for new adult patients with hearing loss before they attend their hearing assessment appointment. Discussion: The design thinking process provided a flexible structure in which researchers were able to empathize with stakeholders, define their unmet needs, and ideate potential connected hearing health care solutions to develop and evaluate prototypes in clinical and home settings. Conclusion: Utilizing a needs-based, collaborative design thinking approach to conduct development in hearing health care research is a viable and novel option to produce innovative, relevant, and translational hearing health solutions that address stakeholder needs.

Access or request full text: https://libkey.io/10.1044/2022_AJA-21-00222

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=159259806&custid=ns023446

47. Effect of Physician Consultation on Satisfaction With Hearing Aid Use: A Randomized Clinical Trial

Item Type: Journal Article

Authors: Zhao, Kevin;Hambley, Marke;Venema, Theodore;Marynewich, Susan;McNeely, Brendan and Nunez, Desmond A.

Publication Date: 2022

Journal: JAMA Otolaryngology-Head & Neck Surgery 148(7), pp. 630-635

Abstract: Importance: Hearing loss is one of the most common chronic disabilities in older adults, yet reported rates of users' satisfaction with hearing aids are low. Some believe that physicians can provide patients who are pursuing a hearing aid fitting an impartial opinion that will improve hearing aid satisfaction.Objective: To determine whether a physician consultation increased or decreased patients' satisfaction with hearing aids compared with patients undergoing hearing aid fitting with a dispensing audiologist alone.Design, Setting, and Participants: This multicenter, parallel-group, standard regimen-controlled, randomized clinical trial was conducted in offices of audiologists, family physicians, and a hospital-based neurotologist in Vancouver, British Columbia, Canada, and recruited participants from July 2016 to December 2020 with a 3-month postintervention follow-up. The final data analysis was conducted on March 25, 2022. Adult first-time hearing aid users with averaged sensorineural hearing losses of more than 25 dB were prospectively allocated by random number generation to control and intervention groups. Participants were excluded from analysis if they did not attend follow-up or complete the study questionnaire.Interventions: Control participants were followed up solely by their dispensing audiologist. The intervention group attended a single structured visit with a physician in addition to their audiologist's determined follow-up.Main Outcomes and Measures: Primary outcome: hearing aid satisfaction 3 months postfitting as measured by the Satisfaction with Amplification in Daily Life (SADL) questionnaire. Secondary outcome: number of returned hearing aids. Prerecruitment null hypothesis: no intergroup difference in postfitting hearing aid satisfaction. Intergroup difference in mean SADL questionnaire scores analyzed by effect size and the Student t test and proportion of returned hearing aids by the Fischer exact test.Results: A total of 133 participants (mean SD] age, 70.9 8.5] years; 64 women 48.1%]) were recruited. Of these, 51 randomized to the control group (mean SD] age, 71.7 8.3] years; 28 women 54.9%]) and 42 to the physician intervention (mean SD] age, 69.9 7.6] years; 17 women 40.5%]) had results that were analyzed. There was no clinically meaningful intergroup difference in participants' SADL scores (control: mean SD] score, 5.33 0.72]; physician consultation: mean SD] score, 5.35 0.61]), the mean difference of 0.02 (95% CI, -0.25 to 0.29), or returned hearing aids (control, 1; physician consultation, 0).Conclusions and Relevance: The results of this randomized clinical trial suggest that a physician consultation that is focused on hearing change does not alter a patient's satisfaction with hearing aids 3 months postfitting.Trial Registration: ClinicalTrials.gov Identifier: NCT02842905.

Access or request full text: https://libkey.io/10.1001/jamaoto.2022.0927

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=158014907&custid=ns023446

48. Clinicians' and Managers' Views and Experiences of Audiology and Speech-Language Pathology Service Provision for Culturally and Linguistically Diverse Families of Young Children With Hearing Loss

Item Type: Journal Article

Authors: Zheng, Yen Ng;Waite, Monique;Ekberg, Katie and Hickson, Louise

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Abstract: Purpose: This study aimed to gather the views and experiences of clinicians and managers on early intervention audiology and speech-language pathology services for culturally and linguistically diverse (CALD)

families of children with hearing loss. Method: This qualitative descriptive study involved 27 semistructured interviews with audiologists, speech-language pathologists, and managers working with CALD families of young children with hearing loss. Purposeful sampling was used to recruit participants from three hearing centers working with these families. Interviews were analyzed using thematic analysis. Results: Analysis of the data resulted in five themes: (a) There were perceived added complexities for CALD families in accessing and being involved in services and receiving information; (b) there were perceived family-provider relationship complexities, cultural differences, and service delivery challenges in working with CALD families; (c) clinicians and managers used various strategies for service provision of CALD families; (d) involving interpreters benefited service provision but was challenging at times; and (e) looking to the future and recommendations for clinical practice. Conclusions: Current practices reflect some principles of family-centered care for CALD families of young children with hearing loss. Families and services may benefit from more support regarding family-provider partnerships, information materials and child assessments, working with interpreters, and center support for time and resources.