

Results: No significant difference in the mean score was observed between the present study and the normative data. There was a significant effect of tinnitus & cause of hearing loss on denial of hearing loss subscale and significant association between duration of hearing loss and negative coping strategies subscale. No significant effect of age, gender and degree of hearing loss was noticed on any subscales.

Conclusion: These results suggest that the identification of such factors during routine audiological evaluation can assist the clinician in planning appropriate intervention strategies.

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Translation and Cross-cultural Adaptation of Hearing Handicap Inventory for the Elderly - Screening (HHIE-S) in the Bilingual Singapore Population - A Pilot Study

Presenting Author: **Eu Chin Ho**
Eu Chin Ho, Deborah Lim, Seth Yeak
Tan Tock Seng Hospital

Learning Objectives: Commonly used hearing questionnaires can be translated and cross-culturally adapted into non English languages using a validated translation process.

Introduction: This study aims to to preliminarily assess the validity and reliability of a Mandarin translation of the HHIE-S questionnaire and measure its feasibility.

Method: We adopted a translation process adapted from the MAPI Institute for cross-cultural studies, involving 3 independent forward translations by clinicians, 1 back-translation by a non-clinician and final consensus by a review panel.

15 bilingual patients at Tan Tock Seng Hospital completed the Mandarin HHIE-S after their audiometric assessment. At an interval of about 30 minutes later, patients completed the English HHIE-S. They were given the same Mandarin HHIE-S and instructed to complete one week later.

Results: Mean age of all participants is 70.4 (Standard Deviation 4.42) and mean pure tone audiometry (PTA_{0.5,1,2,4kHz}) of the better ear was 34.58 dB (Standard Deviation 14.34). Self-rated English and Mandarin language proficiencies were comparable.

Validity of Mandarin HHIE-S

1. Mandarin and English total scores are significantly correlated, showing a strong positive relationship (Pearson Coefficient 0.885, $p < 0.001$).
2. Analysis of HHIE-S categories of non-significant hearing-loss and Significant hearing-loss with corresponding categories on Gold Standard criterion of PTA_{0.5,1,2,3kHz} showed poor agreement (Kappa coefficient = 0.0367, < 0.2). User feedback was sought regarding problematic questions.

Reliability

1. Internal consistency of the 10 items in the Mandarin HHIE-S is good with a Cronbach's alpha of 0.8499 (> 0.8).
2. Test-retest reproducibility of the first and second Mandarin HHIE-S at one-week interval is strong. Among 80% of patients, difference between the 2 mandarin scores is less than 5.

User acceptance scores were positive in terms of readability, comprehensibility and relevance.

Conclusion: The Mandarin HHIE-S demonstrated high reliability though low validity. A larger scale validation study incorporating user feedback from this pilot study should be carried out in the future.

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Utility of WHODAS 2.0 (Quality of Life Assessment) in detecting Changes in Quality of Life in Hearing Impairment

Presenting Author: **Eu Chin Ho**
Eu Chin Ho

Tan Tock Seng Hospital

Learning Objectives: WHODAS 2.0 may not be sensitive enough in detecting quality of life change in hearing-related disability.

Introduction: The objective of this study is to evaluate the relationship of pure tone audiogram (PTA) score, screening questionnaire and quality of life assessment via World Health Organisation Disability Assessment Schedule 2.0 (WHODAS 2.0) in our Singaporean population.

Methods: A retrospective review of 56 participants who were recruited for hearing screening held in a Singaporean Tertiary General Hospital from 29–30th May 2013 was done. Information recorded include general demographics, self-perception of hearing level, Hearing Handicap Inventory for Elderly Screening (HHIE-S) for participants > 60 years old, Hearing Handicap Inventory for Adults (HHIA) for participants PTA (0.5, 1, 2, 4 kHz) done by an experienced audiologist. WHODAS 2.0 was measured as a total global score (maximum: 100) as well as specific domain scores for 6 domains: Cognition, Mobility, Self-Care, Getting along, Life activities and Participation.

Results: The mean total WHODAS score was 42.3 (Range: 32–96, SD: 14.5). Mean specific domain scores include: Cognition at 8.9 (Range: 6–19, SD: 3.6), Mobility at 6.6 (Range: 5–17, SD: 3.02), Self-Care at 4.4 (Range: 5–12, SD: 1.53), Getting along at 6.1 (Range: 5–17, SD: 2.49), Life activities at 5.14 (Range: 4–14, SD: 2.54).

There was no significant correlation found between total WHODAS score and PTA score of better ear ($p = 0.322$) and between domain specific WHODAS score and PTA score, except for the Getting Along domain ($r = 0.26$, $p = 0.031$). There was also no significant correlation found between HHIA or HHIE and any WHODAS score (all $p > 0.05$).

Conclusion: WHODAS 2.0 may not be sensitive enough in detecting quality of life change in hearing-related disability in our Singapore population.

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**B-Cell Lymphoma of the Temporal bone:
A rare presentation**

Presenting Author: **Eu Chin Ho**

Eu Chin Ho, Shirish Johari
Tan Tock Seng Hospital

Learning Objectives: To highlight the need to be vigilant for unusual diagnoses that may mimic common otological conditions.

Introduction: To report a case of temporal bone B cell lymphoma.

Methods: Review of inpatient case notes of patient with atypical presentation of lymphoma.

Results: Temporal bone involvement by malignancies, primary or secondary, is rare. Diagnosis is frequently delayed as the symptoms mimic more common otological conditions like otitis external or media. Involvement of cranial nerves or cochleovestibular system may occur in advanced cases. More commonly, the bone involvement is due to direct extension of locally invasive squamous or adenocarcinomas of ear. Primary B cell bone lymphomas are also a rare entity and the presentation is usually with pain, swelling or fracture of involved bones. Mastoiditis due to destruction of underlying temporal bone by malignant lymphoma has only been reported in about 20 cases in the literature. We describe a case of primary B cell lymphoma presenting with radiological evidence of mastoiditis, skull base osteomyelitis and sigmoid sinus thrombosis. Patient was initially treated with broad-spectrum antimicrobials and it was not until development of facial palsy that a decision of mastoid exploration was made. Histopathological examination confirmed infiltration of temporal bone by malignant B cells. Staging studies including a diagnostic bone marrow biopsy diagnosed the patient with stage IV primary diffuse large B cell lymphoma of the bone. Treatment was initiated with multi-agent chemotherapy with good results.

Conclusion: Atypical presentation of otological signs and symptoms refractory to medical management requires a thorough evaluation and consideration of uncommon differentials. A high index of suspicion towards temporal bone malignancies may be helpful in timely diagnosis.

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**Treatment and Outcome of Otitis Media
With Effusion in Cleft Palate Patients**

Presenting Author: **Yingmin Hoe**

Yingmin Hoe
KK Women's and Children's Hospital

Learning Objectives: This study aims to investigate the impact of OME in children with cleft palate.

Objective: Otitis media with effusion (OME) is common in children with cleft palate due to Eustachian tube dysfunction. This study aims to investigate the impact of OME in children with cleft palate.

Study Design: Retrospective case series.

Methods: The case records of patients with cleft palate were analyzed for: type of cleft, age at which repair of cleft palate was performed, age of presentation to the otolaryngologist, age at which Myringotomy and Tympanostomy (M&T) was done, total number of M&Ts performed and associated congenital syndromes.

Results: M&Ts- Out of 600 cleft palate and lip patients, 204 required M&T. 26.5% required ≥ 3 M&T and 12.3% required ≥ 4 M&T. 86.8% of the patients presented early.

Syndromic patients- 15.7% were syndromic with Pierre Robin being the most common syndrome. They did not require more surgery ($p=0.713$) nor presented to an Otolaryngologist earlier ($p=0.281$) than their non-syndromic counterparts.

Type of cleft- 22.1% had unilateral cleft lip and palate, 32.8% had bilateral cleft lip and palate, 40.7% had posterior cleft palate and 4.4% had submucous cleft palate. Patients with bilateral cleft lip and palate required more M&Ts than those with posterior and submucous clefts ($p=0.16$).

Conclusion: OME in cleft palate patients should be actively identified and addressed early, before the development of significant disability. A proportion of patients will have recurrent OME and caregivers should be aware of the need for multiple procedures and long term follow up. Opportunities for combined surgery should be pursued.

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**Measurement of the Correlation of
Implant Stability Quotient with Abutment
Length for a Bone Anchored Hearing
Implant System**

Presenting Author: **Morten Høgsbro**

Morten Høgsbro
Aalborg University Hospital, Aarhus University
Hospital

Learning Objectives: Basic physical principles for the correlation between abutment length and Implant Stability Quotient (ISQ) How these principles translates to a