

WIDEBAND TYMPANOMETRY IN MALAY PRESCHOOL WITH NORMAL HEARING

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ABSTRACT

Introduction: Conventional tympanometry is widely used in clinical audiology as a standard tool to measure the acoustic admittance of the middle ear system in order to know the middle ear function. It uses a single frequency probe tone, typically 226Hz. Conventional tympanometry may not be sensitive in detecting middle ear disorder therefore wideband tympanometry (WBT) was introduced to overcome the limitation of single probe tympanometry. In Malaysia the norms is not fully established therefore the aim of this study was to establish the normative data for Malay preschool children aged 4 to 6 years with normal hearing.

Methods: Seventeen children (34 ears) who passed hearing screening and obtained type A tympanograms (226Hz), were assessed using WBT (226 Hz to 8000 Hz) to obtain the middle ear absorbance values.

Results: The mean absorbance value highest at 4000 Hz (0.8 ± 0.17) and the lowest value was 0.11 ± 0.04 obtained at 250 Hz. There is no significant difference ($p > 0.05$) in absorbance value between ear except at 3150 Hz and 4000 Hz. Malay school-aged population have higher absorbance value compared to normal Caucasian and Chinese population at low and middle frequency however at high frequency, Malay school-aged population have low absorbance value compare to Caucasian and Chinese population.

Conclusion: The data collected from this study serves as preliminary contribution to the baseline normative data for comparing between normal and abnormal middle ear conditions in the Malay preschool population. Further study should include preschool children of various ethnicity.

Keywords: Middle ear, absorbance, conventional tympanometry, wideband tympanometry.

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