

## TYMPANOMETRIC NORMATIVE DATA FOR MALAY PRESCHOOLERS

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Tympanometric normative data are influenced by non-pathological factors such as age, gender and ethnicity. Middle ear referral criteria by American Speech & Hearing Society (ASHA, 1997) are based on Caucasian children population. These referral criteria may be not suitable for use with the Malay children population. Therefore, this current study aims to obtain the tympanometric normative data among Malay preschoolers. The data was then compared between genders. Data from the current study were also compared with the data from Xiolu et al. (2006) and Margolis and Heller (1987) studies. The tympanometric parameters measured were Peak compensated static acoustic admittance (Peak Ytm), volume ear canal (Vea) and tympanometric width (TW). There were 91 subjects consisting of 45 males and 46 females, aged between 4 to 6 years old with total of 163 ears participating in this study. Subjects underwent otoscopic examination, tympanometric screening, ipsilateral acoustic reflex at 1000 Hz and hearing screening to ensure they have normal hearing and middle ear function. Two-way Mixed ANOVA test showed no significant difference for mean Peak Ytm [ $F(1,67) = 0.260, p > 0.05$ , effect size = 0.00, power observed = 79%], and mean TW [ $F(1,69) = 0.019, p > 0.05$ , effect size = 0.000, power observed = 5.2%] between male and female. Overall, mean Peak Ytm is  $0.55 \pm 0.28$  mmhos, mean Vea is  $0.90 \pm 0.40$  cm<sup>3</sup>, and mean TW is  $104.68 \pm 32.08$  daPa. The 90th percentile for Peak Ytm is between 0.27 to 1.18 mmhos, Vea between 0.45 to 1.65 cm<sup>3</sup> and TW between 59.60 to 149.80 daPa. There is no significant difference for mean Peak Ytm between current study and Xioli li et al (2005) and Margolis and Heller (1987) with results of independent *t*-test are [ $t(699) = 0.996; p > 0.05$ ] and [ $t(253) = 1.56; p > 0.05$ ] each. However, there is a significant difference in mean Vea [ $t(699) = -4.886; p < 0.05$ ], and mean TW [ $t(699) = -2.33, p < 0.05$ ] between current study and Xioli li et al (2006) study. As a conclusion, current study suggested use of gender-specific tympanometric normative data is not recommended among Malay preschoolers. However, Malay preschoolers may require their own Vea and TW normative values.

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