

Dichotic listening, and phonological awareness in Australian Aboriginal children from the Northern Territory

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Objective: Recent literature has highlighted a link between binaural processing skills and hearing loss as a result of otitis media. Indigenous Australian children tend to experience otitis media earlier in life and for longer periods than their non-Indigenous counterparts. The current aims to discuss the association between hearing thresholds, binaural processing skills, and phonological awareness in children with pervasive otitis media (OM) from remote Indigenous communities of Australia.

Methods: One hundred and one children between the ages of 4.8 to 7.9 years (mean 6.1 years) from three separate remote Northern Territory communities. Evaluations included otoscopy, air conduction PTA, and tympanometry, Dichotic Digits difference test (DDdT) and the Foundations of Early Literacy Assessment (FELA).

Results: The results showed more than 50% of the children had middle ear dysfunctions (type B and type C on tympanometry results) in at least one ear on the day. Partial correlation showed a significant correlation, between dichotic scores and FELA with age as covariate ($r=0.45$, $p < 0.001$). The overall regression model was found to be significant in predicting total FELA scores [$F(7, 77) = 7.56$, $p < .0005$]. Age and gender as well as dichotic listening scores explain 40.7% of the variance.

Conclusions: The results reinforce the importance of managing the ear health of Indigenous children, and clarify the impact this has on listening and pre-reading outcomes. These findings highlight the significance of evaluating children's ability to listen well and the association to phonological processing. The findings have the potential to inform decisions regarding optimal listening conditions in schools in remote NT communities.