To intervene or not to intervene: Australian Indigenous children with OM-induced language delay
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Otitis media (OM) is a common medical condition in young children and is particularly prevalent within the Australian Indigenous population (Morris, 1998). Research in this field suggests that conductive hearing loss (CHL) caused by OM may have an affect on language development in young children (Friel Patti & Finitzo, 1990; Roberts, Rosenfeld & Zeisal, 2004). This remains controversial, with some longitudinal studies indicating that there is no impact of fluctuating hearing loss on long-term language development as a result of OM (Feldman et al., 1999; Paradise et al., 2001). However, these studies focused primarily on children from middle-class socioeconomic groups, despite OM occurrence...
being more common and severe in low socioeconomic populations such as Australian Indigenous children (Morris, 1998).

OM and its various forms typically occur more frequently and severely within the Australian Indigenous population than in the general Australian population (Burrow & Thomson, 2006; Morris et al., 2005). Higher prevalence rates (up to 67% of infants) have been attributed to social, medical and environmental factors, such as overcrowded housing and poor living conditions, limited effects of antibiotics, and atypical presentation of OM within the Indigenous Australian population (Williams, 2003).

For non-Indigenous Australian children, OM has an acute onset, whereas in an Australian Indigenous child population, chronic supplicative otitis media (CSOM) has a slow onset, and is often asymptomatic until discharge from the middle ear is evident (Morris, 1998). Non-Indigenous children tend to have occasional episodes of OM with effusion (OME) from which they usually spontaneously recover within one month, whereas Australian Indigenous infants tend to have persistent OME, acute OM or CSOM that rarely resolves (Boswell & Neihuys, 1996).

CSOM is the most severe type of OM, causing significantly greater CHL in children due to damage to the tympanic membrane (Neihuys, Boswell & McConnell, 1994), resulting in a loss of up to 60 dB during the acute phase, and ongoing hearing loss due to scarring of the tympanic membrane. This is in contrast to the fluctuating 25 dB hearing loss experienced by the non-Indigenous Australian population with OM (Dugdale, Canty, Lewis & Lovell, 1978; Neihuys, Boswell, & McConnell, 1994).

There is, therefore, quite possibly a higher risk for Australian Indigenous children who have OM-induced CHL to experience delay in language and listening skills (Lewis, 1976). The impact of CHL on development is thought to be extensive, affecting speech, language, and auditory processing skills due to the increased severity, duration and frequency of OM and induced CHL (Close et al., 1996). For example, due to the fluctuating nature of the hearing loss, the Australian Indigenous children may not be provided with consistent examples of language in which to model their output. These children are further disadvantaged in language development due to the compounding effects of low socioeconomic status, reduced exposure to kindergarten, poor classroom acoustics, and being educated in a bilingual classroom (Close et al., 1996).

For non-Indigenous Australian children, when hearing levels are restored, language skills often recover (Paradise et al., 2001). In more severe cases like those in Australian Indigenous children, some authors suggest that the early onset of auditory deprivation results in auditory processing deficits, and may lead to persistent language learning and social difficulties (Neihuys, 1992). Often the Australian Indigenous children who are experiencing language and auditory deficits are labelled as inattentive, distracted or socially inappropriate (Close et al., 1996; Morris, 1998). However controversy surrounds the theoretical position of a causal relationship between CHL and auditory processing disorders (DeBonis & Moncrieff, 2008).

In summary, due to increased severity and frequency of OM and subsequent CHL, Australian Indigenous populations may be at higher risk of developmental delays in language than children in the wider Australian population. The greater severity and duration of OM and associated CHL experienced, the earlier onset, the extreme socioeconomic limitations, and reduced access to early education, exacerbate the possible effects of CHL on language development. There is also suggestion that auditory deprivation occurs due to the severity of hearing losses associated with OM within the Australian Indigenous population, and may lead to auditory processing deficits. However, this remains controversial. In conclusion, while some authors suggest that OM has little to no impact on language development within a middle-class socioeconomic group, this may not be the case within the Australian Indigenous population due to a greater severity of the disease. Further work is urgently needed within this area.

References


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