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The extent of delay of language,motor and cognitive development in HIV positive infants

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ABSTRACT

In South Africa, a total number of 5.7 – 6.2 million individuals had acquired HIV infection by 2004 (Department of Health, 2004). It is estimated that 3.3 million females, 2.8 million males, and 104 963 babies had been infected with HIV in South Africa by 2004 (Department of Health, 2004). It has been found that HIV-positive children have significantly greater neurological dysfunction in eight domains (activity, language, cranial nerve, fine motor, gross motor, cerebellar, sensory and primitive reflexes) than their HIV negative counterparts (Belman et al, 1996). There has been very little research conducted in Africa regarding the extent of delay of language, motor, and cognitive development in HIV positive infants.

The main aim of this study is to determine the extent of delay in acquisition of language, cognitive and motor skills of HIV positive children

The Bayley Scales of Infant Development II (BSID II) were used to determine performance in each section of the child's age group. These results were transferred to the facet scoring section, which analyse in greater detail, with respect to cognitive, language and motor development. Baseline BSID II assessments of HIV infected children currently enrolled in a longitudinal study of neurodevelopmental delay were analysed to determine which facets of development are most delayed. The Mental and Psychomotor Developmental Indices (MDI and PDI) of the BSID II were used to determine the extent of mental and motor delays in this sample.

Mean cognitive development was 7.63 months delayed, which was statistically significant ($p<0.01$) and 97.5% of the sample were functioning below the expected cognitive age. Mean motor development was 9.65 months delayed ($p<0.01$), and 97.5% of the sample were functioning below expected motor age. Gross motor skills were more affected than fine motor skills, and 85% of the sample demonstrated gross motor delays on descriptive analysis. Language was descriptively analysed, revealing language delays in 82.5% of the sample.

Wits ETD

The infants in this study demonstrated significant mental and motor delays, as well as delays in language. It is postulated that motor delays may be attributed to decreased strength, as the most adversely affected skill in this sample was gross motor development. The cognitive delays noted may be due to disease progression and structural damage to the brain, as well as socio-economic factors. The language delays noted could be due to neurological impairment, cognitive delay or environmental deprivation.

Children with HIV have significant delays in mental and motor development, and language is delayed in most children with HIV. The results of this study are similar to findings in other parts of the world, which indicates a global trend in HIV and neurodevelopmental delay. The results of this study are important, particularly for those involved in motor and language rehabilitation, as an awareness of potential problems in these infants is needed in order to provide them with the best management and care possible.

Wits ETD