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The motor function, muscle strength and health related quality of life of children aged 5-10 years, perinatally infected with HIV, in an urban setting in South Africa

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2021

https://hdl.handle.net/10539/33559

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Abstract

Background: It has been well documented that developmental delays are common in infants and toddlers infected with Human Immunodeficiency virus (HIV). Gross motor development is the domain most affected in infants and toddlers. There are few studies that show the impact of HIV on motor function in older children, who are now starting to enter the schooling world.

Aim: The aim of this study was to determine the motor function, muscle strength and health related quality of life of children aged 5-10 years who have been perinatally infected with HIV and are on antiretroviral therapy.

Methods: Children attending the HIV clinic at Tambo Memorial hospital were recruited for this study. Ethical clearance to conduct the study was obtained and informed consent and assent were obtained prior to assessment. The participants were assessed once off at the HIV Clinic, on the day that they attended for their doctors follow up appointments. They were assessed using the Movement Assessment Battery for Children – 2, Standing broad jump test, Peds-QL^{TM} and a sociodemographic questionnaire. Results were documented and frequencies, means and correlations were determined.

Results: Thirty participants took part in the study and data was analysed from the respective assessments. The mean age of the participants was seven years old, with 56.7% of the participants being boys. Mothers were mostly the primary caregivers at 76% and the overall highest level of education among them is very low with only 26.67% of caregivers having completed matric. The majority of primary caregivers (56%) were unemployed and those who were employed, were employed in minimum wage earning jobs. The primary source of income for most of the primary caregivers was the government stipend, most commonly in the form of the child support grant.

The M-ABC showed that 60% of the children assessed were either at risk of developmental delay or were already delayed. The domain of manual dexterity was the most affected. The SBJT showed that the participants had a weaker muscle strength overall compared to HIV uninfected children in other national and international studies. The Peds-QL^{TM} demonstrated that emotional functioning had the lowest overall scores, and attributed to 59% of the variance in HRQOL. Of note the Peds-

QL™ demonstrated that the overall HRQoL score, of the participants was high, with a maximum total score of 97.82% and the lowest total score being 60.89%.

Conclusion: The results of the study clearly indicate that children between the ages of 5-10 who have been perinatally infected with HIV, and are on ART, are at a significant risk of acquiring or already demonstrating developmental delay in their motor function. Muscle strength is also an area of concern in these children. The results also speak to the lower emotional health related quality of life of children living with HIV and the importance of not overlooking this population, despite the lack of obvious disability. There is a definite need for more research in this population, and the design and implementation of programs to assess and treat their developmental needs throughout childhood.