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Preliminary investigation into the exercise endurance of HIV infected school going children aged seven to ten years

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ABSTRACT

HIV is a global epidemic with the majority of people infected living in Sub-Saharan Africa. The era of Highly-Active Antiretroviral Therapy has resulted in HIV infected children living longer lives and more commonly reaching school going age. These children are expected to participate at the same level as their peers despite the numerous effects that HIV and HAART have on the body. The aim of this cross sectional comparative study was to compare the exercise endurance of a group of HIV infected children to that of their uninfected peers.

Sixty children aged between seven and ten years were enrolled in the study; 30 HIV infected children and 30 children not infected with HIV. Children were assessed using the six minute walk test (6MWT) according to American Thoracic Society guidelines.

The two groups were well matched in terms of socio-economic status, gender and age. Statistically significant differences were found when comparing anthropometric measurements of height and weight with HIV infected participants being shorter and weighing less than their non-infected peers. The distance walked in the 6MWT was significantly reduced in the HIV infected participants with these children walking 57.86 metres less than the non-infected participants. It was also found that HIV infected children had significantly lower heart rates at all stages of testing. Correlations were found between the distance walked in the 6MWT and average and maximum heart rates.

This study confirms that the exercise endurance of a group of HIV infected children is significantly reduced when compared to their age matched non-infected peers. It indicates the need for further investigation into the exercise endurance in HIV-infected children in a larger more representative sample of the population. Further investigation into the possible benefits of the prescription of exercise programmes in children needs to be done.