

Magnitude and factors associated with dyslipidemia among children aged 2-14yrs on anti-retroviral therapy attending health facilities in Temeke District.

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Abstract:

Background:

Dyslipidemia is common among HIV-AIDS patients taking antiretroviral therapy especially protease inhibitors (PI). It has been associated with the risk of cardiovascular disease. This in turn increases the burden of chronic non-communicable diseases in young adults. Some studies have been conducted in adults, however there is paucity of data regarding the magnitude and associated factors in the pediatric group. This information is useful for proper screening and management. Study objective: The main objective of this study was to determine the magnitude and factors associated with dyslipidemia among children aged 2- 14 years of age living with HIV and already on HAART, attending three care and treatment centers in Temeke District.

Study design and Methods:

Cross-sectional hospital-based study was conducted among children aged 2-14years living with HIV/AIDS on HAART with an estimated sample size of 160 recruited from three care and treatment centers under PASADA umbrella in Temeke District, Dar es Salaam. Pre-designed questionnaires were used to collect demographic characteristics of child, caregiver, clinical and laboratory information as well as anthropometric measurements. Body Mass Index (BMI) and height interpretation was done using WHO charts for age and sex. Study participants were checked for lipid profile levels using INTEGRA 400 Analyzer machine. Comparison between two groups against each lipid biomarker was performed using Student's t-test. Comparison between more than two groups against lipid biomarkers was performed by using One- way ANOVA followed by multiple comparison Post -Hoc test (Scheffe) when appropriate. Spearman rank test was used to test the correlation between demographics/clinical with lipid biomarkers The backward multiple linear regression model was used to determine the factors associated with dyslipidemia. Data were analyzed using IBM Statistical Package for Social Sciences (SPSS) software version 20 (Chicago 11, USA). A two tailed P- value of <0.05 level was considered statistically significant Results: Prevalence of dyslipidemia was 59/160 (36.9%) among children living with HIV/AIDS on ARVs. The most common lipid abnormalities in this study were hyper triglycerides and High-Density lipoprotein, Total cholesterol and Low density Lipoprotein 37.5%, 28.15%, 7.5%, 6.5% respectively. Increasing age of the child and duration of ARV use were independently associated with dyslipidemia (p-value <0.01, 0.02 respectively, 95% CI 0.022 – 0.19, 0.005- 0.08)

Conclusion:

Prevalence of dyslipidemia was found to be high in children living HIV/AIDS in ARVs. Among the predominant forms of dyslipidemia found in this study was hyper triglycerides and low density Lipoprotein. Child age and ARV duration were independent predictors of dyslipidemia, in children on ARVs after six months. PI regimen showed a slightly increase in dyslipidemia, but it was not statistically significant $p > 0.05$. Frequent monitoring and regularly check of lipid profiles will aid at early diagnosis hence timely intervention so as to reduce card metabolic complication in near future. For those children who will be found to have elevated lipid profiles, existing protocol of care in respective facility should be used. Recommendations: It is recommended that children living with HIV on ARVs be monitored frequently for lipid profiles just as guidelines suggests at least every six months, Also these children need pediatrician /cardiologist review from time to time in order to identify any risk factors for cardiovascular diseases so as to take promptly intervention. It is recommended to switch the regimen that has less side effects for the rise Further studies should be conducted to determine the cardiac effects of prolonged exposure to

ARVs on children living with HIV/AIDS. Key words: prevalence, dyslipidemia, risk factors, HIV infected children, ARVs