

A pilot study of Paediatric Dolutegravir (pDTG) automation using Technology to improve adherence among Children Living with HIV in Akwa-Ibom State

O. Adeyemi¹, C. Aruku¹, F. Lannap¹, A. Ajonye¹, P. Adekoya¹, A. Olutola¹, D. Magaji²

¹Center for Clinical Care and Clinical Research, Uyo, Nigeria, ²United States Agency for International Development, Abuja, Nigeria

Background

Weight based antiretroviral therapy (ART) administration is the gold standard for optimizing treatment in children living with HIV (CLHIV).

It ensures that children are not under or over dosed while administering ARVs.

In community-based differentiated service delivery models, checking children's weight before placing them on ARVs can be challenging as functional weighing scales are not readily available.

This study measured consistency of estimated weight-based ART optimization through digital automation using the mobile technology in comparison to the actual weight obtained through a weighing scale.

Methods

The Center for Clinical Care and Clinical Research (CCCRN) implementing USAID-funded Integrated Child Health and Social Service Award (ICHSSA) devised an innovative digital automation called "pDTG Optimizer" hosted on the CHILD Monitor app that operates both off and online.

The pDTG Optimizer uses date of birth of CLHIV to auto calculate estimated weight and display appropriate ARV regimen based on weight.

The app is downloaded and installed on Community Case Workers(CCWs) phone and use to monitor children's adherence on ARVs.

Before roll out, CCWs were trained on its use, conducted a pilot study in 7 high volume facilities selected from different context to compare actual weight and estimated weight ARV dosing for a total of 95 CLHIV (0 – 7 years) who were expected to pick up drugs within three months of the study period. Analysis was conducted by Excel and SPSS.

Results

A total of 87 CLHIV participated in the study of 93 Children who were expected for ARV pick up.

Mean age was 3.5 years (1 – 7 years), mean for actual weight for participants – 14.8kg (7.2-49Kg) standard deviation- 5.18, mean for estimated weight – 20.9kg (7.2 – 49kg) standard deviation - 7.38.

Generally, compared to the standard dose we recorded a 72.4% concordance for the estimated dose.

Highest concordance was recorded in the under 2 years (78.9%) while the least were seen in the 5-7 years (50%).

Conclusion

Data from Child Monitor is scalable compared to standard pDTG doses from conventional weighing scales, this point to the fact that programs can explore leveraging on the technology for ART adherence tracking in resource limited setting.

