

Sustaining impact of rotavirus vaccine on diarrheal hospitalizations among Togolese children younger than 5 year of age, 2010-2018

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Background

The monovalent rotavirus vaccine (Rotarix[®]) was introduced in Togolese immunization schedule since June 2014. We evaluated the impact of rotavirus vaccine on diarrheal and rotavirus-associated hospitalizations in 4-year vaccine implementation.

Methods

Sentinel surveillance for diarrheal hospitalizations among children <5 years of age was conducted in two sites in Lome (CHU Sylvanus Olympio and Be hospital). ELISA was used for diagnosis. Genotyping was performed in Accra (Ghana) and Pretoria (South Africa). Additionally, review of hospitalization registers was performed at five hospitals to assess trends in diarrheal hospitalizations. For the vaccine impact assessment, pre-rotavirus vaccine introduction (2010-2014) and post-rotavirus vaccine introduction (2015-2018) periods were compared.

Results

During the pre-vaccine period, sentinel surveillance showed that 925 children <5 years of age were enrolled with diarrhea. Rotavirus was associated to 54% (range: 51-59%) childhood diarrheal hospitalizations, declining to and 37% (range: 22-45%) in the post- rotavirus vaccine period. The mean reduction of rotavirus-associated diarrheal hospitalizations was 31% (range: 17- 59%) in during the 4-year post-vaccine period ($p < 0.01$). Reductions were more marked among 0-11 month infants. The registers review showed that, compared with pre-vaccine rotavirus seasons, declines in hospitalizations due to all-cause diarrhea during post-vaccine rotavirus seasons ranged from 48 to 57% among <1 year age-group. Among 1-4 year olds no reduction was noted in the first year. The most common genotype combination was G12P[8] in the pre-vaccine period (24%) and first year post-vaccine implementation (29%). G1P[8] was the most common genotype strain in the third and fourth post-vaccine years.

Conclusions

We report sustaining and marked reduction in diarrheal hospitalizations post- Rotarix[®] implementation in Togo.

Acknowledgments to: surveillance participants, GAVI Alliance, CDC, WHO/AFRO, Togo's Ministry of Health and EPI.

Keywords: Impact, rotavirus vaccine, diarrhea, Togo, sub-Saharan Africa