

Extended Spectrum β -Lactamase Producing Lactose Fermenting Bacteria Colonizing Children.

Dr. Maria M. Said

General Hospital Hippokratio of Thessaloniki, Greece

Abstract

Rectal carriage of extended spectrum β -lactamase-lactose fermenters (ESBL-LF) is the major risk factor for the development of subsequent endogenous infections. This study determined the patterns and factors associated with the rectal carriage of ESBL-LF among children with Human Immunodeficiency Virus (HIV), Diabetes Mellitus (DM), and Sickle Cell Disease (SCD) attending clinics at different health care facilities in the city of Mwanza, Tanzania. A cross-sectional study was conducted among children living with HIV (n = 236), DM (n = 42) and SCD (n = 126) between July and September 2021. Socio-demographic and clinical data were collected using a structured questionnaire. Rectal swabs/stool samples were collected and processed to detect the rectal carriage of ESBL-LF following laboratory standard operating procedures (SOPs). Descriptive statistical analysis was conducted using STATA 13.0. The overall prevalence of ESBL-LF carriage was 94/404 (23.3%). Significantly higher resistance was observed to ampicillin, trimethoprim-sulfamethoxazole, and tetracycline among Enterobacteriaceae isolated from HIV infected children than in non-HIV infected children ($p < 0.05$). The commonest ESBL allele 45/62 (72.6%) detected was blaCTX-M. Generally, a parent's low education level was found to be associated with ESBL-LF colonization among children living with HIV; (OR 4.60 [95%CI] [1.04–20], $p = 0.044$). A higher proportion of ESBL-LF from DM 10/10 (100%) carried ESBL genes than ESBL-LF from HIV 37/56 (66.1%) and SCD 15/28 (53.6%), $p = 0.02$. There is a need to collect more data regarding trimethoprim-sulfamethoxazole (SXT) prophylaxis and antibiotic resistance to guide the decision of providing SXT prophylaxis in HIV-infected children especially at this time, when testing and treatment is carried out.

 mariahsaidy@gmail.com

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Biography

Mariam C. Said is a major force behind the newly established Barenboim-Said Academy and the West-Eastern

Divan Orchestra that was co-founded in 1999 by her late husband Edward W. Said and Daniel Barenboim..