ABSTRACT

Infections caused by ESBL producing organisms have been described as an emerging public health problem in many parts of the world. Traditionally, ESBL producing organisms have been associated with hospital acquired infections. Recent studies have shown an increase in these infections within the community. Faecal carriage is a significant reservoir of ESBL producing bacteria in the community and colonization of the intestinal tract has been shown to precede infection. Faecal carriage of ESBL producing organisms in children from the community, in Africa has been poorly studied.

Stool samples were collected from 300 children from Kwadedangendlale, KwaZulu-Natal, South Africa, during the period July 2011 to May 2012. Samples were inoculated onto MacConkey agar. All Gram negative bacteria cultured underwent identification and antimicrobial susceptibility testing on the Vitek 2. Isolates reported as ESBL positive, underwent confirmatory testing by the CLSI recommended combined disk diffusion method. All duplicates were removed.

We report faecal carriage of ESBL producing enterobacteriaceae in 4.7% (14/ 300) of children from the community in KwaZulu-Natal, South Africa. ESBL producing *K. pneumoniae* (3.7%) was the predominant isolate, with ESBL producing *E coli* being detected in 1% of children.

This is the largest study to report on faecal carriage of ESBL producing enterobacteriaceae in children from the community in Africa. There is an urgent need to perform regular surveillance of ESBL producing bacteria in the community. This information is needed in order to direct the appropriate use of antimicrobials for empirical treatment of community acquired infections.

KEY WORDS:

Extended spectrum beta lactamase (ESBL), faecal carriage, children, enterobacteriaceae, community