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# Faecal carriage of ESBL-producing enterobacteria among toddlers in Ghana

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**S**hedding extended spectrum B-lactamase (ESBL) in stool into the environment leads to spread of difficult-to-treat infections caused by these organisms. ESBL prevalence in stool samples is said to be higher in Africa than elsewhere. In Ghana, the prevalence of ESBL faecal-carriage is not known. This study determined the prevalence, phenotypic drug-resistance patterns and ESBL genotypes among enterobacteria isolated from faecal specimens of non-hospitalized children aged between 0–5 years (mean age = 2.3 years) living in Ghana. The study also determined socio-demographic characteristics of the study subjects. After obtaining ethical clearance and informed consent of the of the parents, 407 non-duplicate faecal specimens were collected from children under 5 years and cultured on MacConkey agar for enterobacteria and identified by API 20E/20NE. The culture yielded 399 non-duplicate isolates of enterobacteria with 301 (75.4%) confirmed as ESBL phenotypes by the double disc synergy test. The most prevalent ESBL genotype found was *Bla*CTX-M with prevalence of 86.8% followed by *Bla*TEM (74.0%) and *Bla*SHV (19.1%). Previous exposure to antibiotics and poor hand hygiene practices were found to be associated with ESBL colonization. Faecal carriage of

ESBL-producing enterobacteria was very high among children in Ghana, posing serious therapeutic challenges in the near future.

## Biography

Patrick Kwame Feglo is a Clinical Microbiologist and lectures in the same subject in the School of Medical Sciences at the Kwame Nkrumah University of Science and Technology, Kumasi in Ghana. His research focuses on genetic basis of antimicrobial resistance, alternative medicine and quality of human health. The topic he is currently working on is titled, "Molecular epidemiology of expanded spectrum  $\beta$ -lactamase (ESBL) producing *Enterobacteriaceae* at the Komfo-Anokye Teaching Hospital, Kumasi. ESBLs are enzymes that degrade antibiotics so make antibiotics ineffective when used to treat patients suffering from infections. He is particularly interested in the role of microbial enzymes in the degradation of antibiotics. He has been selected by the University of Michigan African Presidential Scholars Program to do this study. His future plans and long term goals include developing molecular database for antibiotic resistant enteric pathogens and to set up enteric disease molecular surveillance systems in Ghana.

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