

## **Bacterial Etiology and Antimicrobials Susceptibility of Diarrhea among Displaced Communities during 2006-2008**

Wafa I Elhag, MSc\* Humodi A Saeed, PhD\*\* El Fadhil E Omer, FRC Path\*

**Objective:** The aim of the study was to isolate and identify the common bacteria causing acute diarrhea among displaced persons and assess antimicrobial sensitivity of bacterial isolates.

**Setting:** Mandella (South Khartoum) and Wad Elbashir (West Omdurman) Displaced Camps, Health Centers.

**Design:** Descriptive Cross Sectional Study.

**Method:** Four hundred and twenty patients, age group ranging from 3 months to 55 years suffering from diarrhea and attending the health centers were included in the study. Stool specimens or rectal swabs were collected and investigated for enteropathogenic bacteria. Personal characteristic data were collected using direct interviewing questionnaire. The study was conducted from April 2006 to September 2007. Ethical clearance was obtained from Sudan Ministry of health, Research Ethical Committee.

**Result:** Bacterial pathogens were detected in 110 (26.2%) of the patients. Children under 5 years were mostly affected, 178 (42.4%), followed by children over 5 years (5-14 years), 142 (33.8%), and then adults (more than 14) 100 (23.8%). Different pathogens were isolated, however *Shigella spp* were frequently isolated (41.8%). Most isolates were sensitive to Cefuroxime, followed by Ciprofloxacin and Gentamicin.

Most patients depend on donkey cart as water source 222 (52.9%), 120 (28.6%) patients getting their water directly from water pump and 70 (16.7%) patients are using storage tanks as a water supply. Two hundred and thirty (54.8%) patients are consuming untreated drinking water. At the same time 76.1% of patients under study have no disposal latrines.

**Conclusion:** Most cases of bacterial diarrhea in displaced camps are caused by *Shigella spp*, especially among adults, and children over 5 years; in children under 5 years the main culprit was *Campylobacter jejuni*. High degree of resistance to antimicrobials was observed against several antimicrobials: Amoxicillin, Erythromycin, and Co-Trimoxazole, but low resistance to Cefuroxime.

Most patients consume water from donkey cart, drink untreated water, had no latrines, and live in a poor environmental condition; all of them are risk factors for acquiring diarrhea.