

**Characterization of diarrhoeagenic bacteria and protozoa isolated  
from stool of under-five children in Dar es salaam**

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Diarrhea is the passage of loose watery stool more than three times in twenty-four hours (WHO, 2007). It is caused by a variety of pathogens including bacteria, fungi, viruses and protozoa. The global deaths due to diarrhea have steadily declined from 4.6 million in the 1980s (Snyder and Merson, 1982) to 3.3 million in the 1990s (Bern et al., 1992), and presently is around 2.5 million (Kosek, Bern, and Guerrant, 2003). This study was carried out to determine bacteria and parasitic protozoa that commonly cause diarrhea diseases among the under-five in Dar es Salaam. The study was carried out at three district hospitals in Dar es Salaam city namely, Amana, Temeke and Mwananyamala hospitals between June 2009 and February 2010. This included children under the age of five years admitted due to acute or chronic diarrhea. A total of 360 stool samples were analyzed, of which 180 samples were from diarrhea cases and 180 samples from normal control cases. About 60% (108) of the patients were aged less than 3 years and 54.6% were males. Diarrhoeagenic bacteria were isolated and identified using conventional stool cultures then were characterized by mPCR. Parasitic protozoa were investigated by standard microscopy. Furthermore, parasitic protozoa were characterized by mPCR. Enteric pathogens were detected in 67.7% of the cases and in 20% of the controls. The pathogens most strongly associated with diarrhea disease were diarrhoeagenic *Escherichia coli* (21.6% of cases, 6% of controls), *Shigella* spp. (16.1% of cases, 5% of controls) and