

**ENHANCING PROTECTIVE CONTROL MEASURES FOR REDUCTION  
OF DIARRHOEAL DISEASE IN ATHI-RIVER, KENYA**

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## ABSTRACT

Diarrhoea is an infectious disease in humans, caused by bacteria, viruses or parasitic enteric agents. Yearly over 3 million children die as a result of diarrhoea diseases while most episodes occur in children under the age of five. Many more die from the combined effects of diarrhoea and malnutrition. Contaminated water and food play a major role as a source of diarrhoeal pathogens. It is estimated that up to 70% of cases of diarrhoea are caused by contaminated food whereas more than 20% are caused by contaminated water. In Kenya, diarrhoea disease is the 4<sup>th</sup> most commonly occurring disease being particularly common in the major towns and slums. Athi-River is a small town situated about 30Kms from Nairobi, Kenya but has 11 upcoming slums due to the many industries within the town and its environs. The main objective of this study was to determine the incidence of diarrhoea in Athi-River town and to compare how this changes when control measures are instituted. Most of the stakeholders were sensitized about the objectives of the study before a cross-sectional survey commenced. The methods used included a retrospective medical records review for the period 2003-2006 to determine the diarrhoea disease trends. Measures were taken to enhance diarrhoeal protective control measures through health education. For effective communication during health education, skits and charts were used. Water and vegetable washings were sampled and tested using the multi-tube technique to identify contamination points. Contamination was quantified by use of McCrady probability chart while targeted interventions were reported to relevant stakeholders for corrective action. One hundred and fifty nine water samples were tested for total coli form count and *Escherichia coli* and results indicate a 66 % and 38 % contamination respectively. From June to December 2006 interventions for diarrhoeal disease prevention were enhanced and there was approximately 15.8% decrease in the incidence of diarrhoeal diseases in Athi-River health facility in Athi-River

town. Well or borehole water had 68.8 % water contamination while water stored in open or dirty water containers had 62 % contamination. Contamination associated to absence of clean toilets or absence of proper waste disposal system for stool was 77.5 %. The small “Slota” sewer system which was prone to frequent blockage is now being replaced with a larger one. 159 households were sensitized on diarrhoeal infection control. 500 patients and mothers were sensitized on prevention of diarrhoeal diseases through formal presentations and skits. Four major water suppliers are already chlorinating their water as a result of the health education conducted. The Athi River population has gained skills on the importance of practicing good hygiene and how to control and prevent diarrhoea. This study concludes that enhancing protective control measures reduces diarrhoea diseases and leads to improved health of the community.