

Title: Etiology of diarrhea in children under 5 yrs in Mbagathi district hospital, Nairobi province

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Abstract: Diarrhea is a major public health problem with adverse effects on children's health. After acute respiratory illnesses, pediatric diarrhea is the most important cause of disability adjusted life years lost; it has the single greatest adverse effect on children's growth and development. Epidemiology of diarrheal illness in many areas remains poorly understood. Two hundred and forty six children who presented to Mbagathi district hospital in the months May-Aug 2007 were randomly selected and screened for bacterial agents causing diarrhea. Descriptive cross sectional survey design was used for this study. Main objective of study was to identify and characterize bacterial causes of diarrhea among children under 5 years. Identification was done through stool culture, biochemical tests, serotyping and multiplex PCR. Demographic data were collected using a standardized questionnaire. Physical examination and clinical symptoms in patients were assessed to determine association with diarrheal illness. Main risk factors associated with diarrhea in children less than 5 years are: area of residence and water sources. Data management was by MS-Access(2003) and data analysis was done using STATA (StataCorp. 2005. Stata Statistical Software: Release 9. College Station, TX: StataCorp LP version 8.0) software. Dependent variable was bacterial pathogen and independent variables were: area of residence and water sources of study households. Seventy six patients (93.83%) harbored E.coli, 3 (3.7%) had Salmonella and 2 (2.46%) were positive for Shigella. E.coli was found to be the most common bacterial pathogen associated with acute diarrhea among children below 5 years of age. E. coli being the most isolated bacteria Chi-square tests of associations with the different areas of residence gave the following p-values: Kibera $p=0.415$, South B $p=0.478$, Kawangware $p=0.209$. Diarrheal illnesses in the hospital during the study period ranked third among the most common diseases. Chi-square tests of association for well as water source gave p value of 0.74 and a cross tabulation of municipal water source and isolated bacteria pathogen did not prove any interaction. Prevalence of acute diarrhea among children less than 5 years of age was 20%. There is need to create awareness on maintenance of hygiene among mothers/caretakers of children less than 5 years to control occurrence of E.coli infections. It is important for MoH to conduct continuous surveillance and reporting of diarrheal pathogens to promote better prevention and therapeutic measures for diarrheal illnesses among children under 5 years.