ANTIBIOTIC RESISTANCE PATTERNS OF ENTERIC PATHOGENS IN URBAN (MBAGATHI) AND RURAL (SIAYA) DISTRICT HOSIPTALS.

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ABSTRACT

Most microbes have become resistant to antibiotic drug therapy, aggravating this public health problem; with bacterial diseases becoming harder to eliminate. When new antibiotics are introduced in the market, gradual resistance emerges depending on how it has been dispensed. This study was done to determine and compare the resistance patterns of three enteric pathogens (*Salmonella, Shigella* and *E. coli*) from isolates of selected rural and urban populations. Faecal samples were obtained from children under the age of 5 years at Mbagathi (urban) and Siaya (rural) District Hospitals in Kenya. Isolation and identification of samples was done on the basis of characteristics on differential media (Xylose Lysine Deoxycholate and MacConkey), and by use of the standard biochemical methods. The strains of bacteria obtained were indiscriminately subjected to antibiotic susceptibility testing using the single disc diffusion method. The zones of inhibition were measured in millimeters and recorded as the lowest concentration of drug preventing growth, and depending on the zone sizes they were classified as susceptible (S), intermediate (I) or resistant (R) to generate the data for comparison. These were compared against control strains. Upon isolation of the resistant strains, plasmid DNA analysis was carried out, and a comparison was made of the two populations; rural and urban. The findings from this study showed that out of 279 samples selected, 26.52% were *E.coli*, 11.08% *Shigella* and 1.08% *Salmonella*. Ampicillin faced most resistance; over 90% of the organisms were resistant to it. Amoxicillin-clavulanic acid, gentamycin, kanamycin and nalidixic acid were fairly effective in clearing pathogens in both populations. Cefepime, cefetazidime, chloramphenicol, ofloxacin and ciprofloxacin were highly efficacious. This variation in resistance patterns could be due to exposure to antibiotics in the urban population. Proper diagnosis of infections and cautious consumption of antibiotics may reduce and eliminate this menace of antibiotic drug resistance.