

Abstract

The present work concerned with the study of screening and characterization of *E. coli* from children exhibiting diarrheal infections and the susceptibility of various antibiotics against them. Stool sample were collected from pediatric departments of public hospitals aseptically using autoclaved swabs containing cary blair transporting medium. Six diarrheal stool samples spreaded on EMB agar media. All samples showed the presence of *E. coli* except one. For getting pure culture, they were streaked on nutrient agar media. Pathogenicity test were done using blood agar test, only two strains exhibited beta hemolysis. Effects of various parameter such as antibiotics and nano particles & plant extract were also studied. Seven antibiotics solution (Amoxicillin, ceftriaxone, chloramphenicol, ciprofloxacin, oxytetracycline, Doxycycline, Azomax) & one antibiotic disc (Meropenem) were applied to check the resistance of bacterial strains against them by well diffusion method & disk diffusion method respectively. Zone of inhibition of these antibiotics or antibiotic susceptibility for all these strains were different. Four silver Nano particles of *Cassia fistula*, *Euclyptus*, *Azadiracta indica*, *calotropis proceri* & four plant extracts (*Cassia fistula*, *Euclyptus*, *Azadiracta indica*, *calotropis proceri*) were applied to all these strains. Zone of inhibition of these nano particles & plant extracts for all these strains were different.