

## A Case Study of Antibiotic Resistance Patterns of E.Coli Isolated from Drinking Water Samples Noida, Delhi, India.

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Escherichia coli is an emerging pathogen of the greatest concern as it is the leading cause of various severe infections of stomach, urinary tract, ear, wound etc. in humans. Increasing rates of antimicrobial resistance among E. coli is another furthestmost fret worldwide. This problem is more traumatic when water bodies are getting contaminated with faecal pollution and inappropriate use of antibiotics that led to emergence of multi-drug resistant strains of this normal microbiota of human intestine. The current study dealt with the isolation of around thirteen Escherichia coli strains from seventy drinking water samples collected from different prominent locations of Noida region (Delhi). These strains were evaluated for their resistance and susceptibility patterns against eight commonly prescribed clinically-significant antibiotics viz, Amikacin, Ofloxacin, Gatifloxacin, Cefoperazone/Sulbactam, Gentamycin, Piperacillin/Tazobactam, Cotrimoxazole and Doxycycline HCL by disc diffusion assay (Himedia Octodisc) method. E. coli strains were shown to have variable susceptibilities during the study. Co-trimoxazole was found to be most inert antibiotic as it was not well effective against any of E.coli isolates. Around 92% isolates were shown to be sensitive against Ofloxacin making this antibiotic more promising. More evident finding of the study was that none of antibiotic used in the study was 100% effective. Multiple antimicrobial resistances (MAR) index for all the isolates were calculated on the basis of resistance patterns. It has been observed that only 38% strains showed the MAR Index less than 0.2 while rest of isolates were having MAR index between 0.2 to 0.5 showing the multi-drug resistance.

### Biography:

Dushyant Singh has completed his Masters degree in microbiology and pursuing his PhD in food microbiology. He is working as a Scientist in well esteemed organization in the field of quality evaluation of food microbiology. He has also serving as resource person for various national as well as international training programme organized by government of India (FSSAI, MoFPI & various state food laboratories). He has published more than 20 research papers in reputed journals.