

## Microbial load and Antibiotic Susceptibility Profile of isolates from Drinking water in Peshawar Pakistan

### **Abstract: Background:**

Health of individual and community are greatly influenced by quality of water supplied in both developing and under developed countries and have profound effect on human health.

### **Objective:**

Current study aims to determine and highlights microbial load and their antibiotic susceptibility profile of wells and boreholes drinking water from distinct area of Peshawar Pakistan.

### **Methodology:**

A total of 07 drinking water samples from various area of Peshawar city screened for microbial load from November to January 2018. All samples were collected from wells and boreholes stored in sterile blue cap bottles. and transported for analysis within 2 hours. Spread plate technique were used for culture of samples and for susceptibility pattern Kirby-Bauer disc diffusion method were used using CLSI standards.

### **Results:**

Percentage of isolates were Bacillus spp (12.50%), Staphylococcus aureus (6.25%), Escherichia coli (25%), Proteus sp (12.50), Enterobacter sp (12.50%), Klebsiella sp (18.6%) and Pseudomonas sp (12.50%) among 16 different isolated bacteria species respectively. Majority of the isolates were sensitive to ofloxacin, ciprofloxacin, augmentin and norfloxacin while high level of resistant expressed to Ampicillin, amoxicillin, tetracycline and cotrimoxazole.

### **Conclusion:**

The isolated pathogenic microorganism indicate sufficient microbial load in drinking water and alarming for public health regulatory bodies. Presence of Multi drug resistance isolates i.e Pseudomonas sp, Klebsiella sp, E.coli, and Proteus sp. is great concern with risk of dissemination of gene with resistant status thus minimizing the choice of therapy of presently available therapeutic agents.

### **Key words:**

Drinking Water, Peshawar, Susceptibility profile, Disk diffusion Method