

COMPARATIVE STUDIES OF MULTI DRUG RESISTANT BACTERIA ISOLATED
FROM VARIOUS SOURCES OF WATER IN TWO (2) TERTIARY INSTITUTIONS
IN NORTH CENTRAL, NIGERIA

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ABSTRACT

Water is one of the components needed to stay alive and its importance cannot be overemphasized. Eight (8) Water samples were collected from four (2) tertiary institutions in Niger State. The sample were aseptically collected, transported and serially diluted in Microbiology Laboratory of Federal University of Technology Minna. Serially diluted samples were inoculated on various media via pour plate method. Bacterial isolates were identified by their Gram's reaction and other biochemical tests. The isolated bacteria were further subjected to antibiotic susceptibility test using the disc diffusion method with Muller Hinton agar. The result revealed that water from the tap in Ibrahim Badamasi Babangida University had the highest bacterial count (0.25×10^2) while water from the bore holes in Federal university of Technology had the least bacterial count (0.10×10^2). Various bacterial pathogens were isolated and identified. *Escherichia coli*, *Pseudomonas aeruginosa*, *Shigella dysenteriae* and *Salmonella typhi* had a frequency of occurrence (25%) in Federal University of Technology, Minna while only *Shigella dysenteriae* and *Salmonella typhi* had a frequency of occurrence (50%) in Ibrahim Badamasi Babangida University. The antibiotic susceptibility tests revealed that all bacterial isolates were multidrug resistant and as such are a great threat to the health of the general public especially tertiary students in North central, Nigeria. Hence, there is a need for adequate and continuous surveillance on water consumed, to ensure they are potable and curtail the spread and infections associated with Multidrug resistant bacteria.

Keywords: Tertiary institutions; Water; Multidrug resistant bacteria; Antibiotics