

8th Global Summit on

MICROBIOLOGY AND INFECTIOUS DISEASES

February 22-23, 2018 | Paris, France

Antibiotic resistance of isolated bacteria and physicochemical qualities of water samples from Okorokoro community, Ilasa-Ekiti, Ekiti State, Nigeria

Odeyemi Adebawale Toba
Ekiti State University, Nigeria

Water supply systems and drinking water inaccessibility in developing countries is a global concern that calls for immediate action. Microbiological and physicochemical properties of water samples obtained from borehole, stream and well water at Okorokoro settlement, Ilasa Ekiti, were determined. Total viable and coliform counts were determined by using pour plate techniques. Antibiotic susceptibility was determined using disc diffusion method. The physicochemical and mineral content were analyzed using standard method and atomic absorption spectrophotometry respectively. The total bacterial counts ranged as follow (5.9×10^4 to 8.2×10^5) CFU/ml; which exceeded the WHO standard for drinking water. The organisms isolated belong to 15 genera, among which *Pseudomonas* spp. and *Staphylococcus* spp. showed equal a highest frequency by having 15.3% each, while *Salmonella* spp., *Klebsiella* spp., *Acinetobacter* spp. show the lowest frequency with 1% each. It also revealed that all the bacteria isolated from the samples have different variable susceptibility to the antibiotics tested for; although with high resistance. The physicochemical properties of the water accord with the WHO standard with pH range of 6.2-7.1, chloride (21.3 - 24.45 mg L⁻¹), turbidity (0.001-0.1), conductivity (1.3×10^{-2} - 2.2×10^{-2}) μ S/cm, total hardness (26.0-46.0 mgL⁻¹), total dissolved solid (14.00-17.0 mgL⁻¹) and total soluble solid (24.45-27.72 mgL⁻¹). The levels of heavy metals such as lead, copper, chromium, and zinc exceeded the stipulated WHO limits. This shows that the water is not portable and ingestion by the residents may pose a significant threat to human health.

adebowaleodeyemi@gmail.com