

**WATER QUALITY AND PREVALENCE OF WATER BORNE DISEASES  
ALONG THE JAKARA RIVER, IN KANO STATE, NIGERIA**

**BY**

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## ABSTRACT

Waterborne diseases represent substantial global burden of disease and people at different age level are more susceptible to these diseases. The purpose of this study was to determine the relationship between microbiological quality of Jakara river water used for domestic purpose and irrigation, ascertain the prevalence of waterborne diseases among the residents along the river area. In this context, the research study was based on the following objectives: to assess the water quality parameters in terms of temperature, turbidity, E.coli, faecal coliform, pH, dissolved oxygen (DO), electricity conductivity/salinity of water at three sites along the Jakara river, to ascertain the prevalence of water borne diseases among residents living near or along the river and establish the relationship between water quality and prevalence of water borne diseases among residents along Jakara river. The researcher employed experimental design and descriptive survey correlation design. The experimental design intends to measure the physical, chemical and biological parameters of water, by using laboratory experimental techniques, and to correlate the result with national domestic water quality standard. The quantitative approach was used to get the in-depth information about the study. The water sample was collected in the sample site identified. For laboratory analysis water samples was initially stored in the dark at low temperature to retard growth of microbes after which they transported to Bayero University, Bio/Chemistry Department laboratory for analysis. A sample of 378 respondents was chosen from a population of 6872 people, using Sloven's (1960) sample determination formula. Frequencies and percentages were calculated for descriptive statistics while Pearson's Linear Correlation Coefficient was used to measure the relationship between variables. Findings showed that Water quality of the primary water source in the community was assessed using total coliform and faecal coliform bacteria as indicators. Coliform are the most common group of indicator organism used in water quality monitoring. There was a positive and significant relationship between water Borne Diseases and Water quality in Kano State, Nigeria, and this was indicated by the R and Sig values (R-value=.295 and Sig=.003), this was so because the sig-value was less than 0.05 which is the required level of significance in order to declare a significant relationship, and this implies that improvement in implementing practicable treatment facilities in order to reduce the health burden in the region, a number of behavioural and sanitation factors might be more important and could act to minimize the potential impacts to improve water borne diseases . While the poor supply of potable water to Nigerian communities has been identified as a primary factor in the prevalence of preventable diseases among citizens, it can also be seen that a lot of improvement has to be made with respect to personal hygiene and environmental sanitation by the citizens themselves. Although people know water can be contaminated and can have effects on their health, their knowledge on how some of their actions could contribute to the faecal contamination of drinking water at the point-of-use is limited. The researcher recommended that the government needs to mitigate unsafe drinking water and waterborne disease by working closely with inter-agencies, international organizations, and non-governmental organizations (NGO).