EVALUATION OF LOCAL DRINKING WATER SOURCES TO DETERMINE THEIR POSSIBLE CONTAMINATION WITH PARASITE IN LAFIA LOCAL GOVERNMENT AREA NASARAWA STATE, NIGERIA

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ABSTRACT

Water is an essential resource for life and it is used by every human, every day. Globally, water-borne parasitic infections have recently become an area of concern due to the contamination of different sources of drinking water. Therefore, this study evaluated the parasitic contamination of local Sources of drinking water in Lafia Local Government Area of Nasarawa State, Nigeria. A total of 60 samples were collected from different selected sources (wells, streams, ponds and boreholes) within the months of April and May 2016. The water samples were brought directly to the laboratory, using the calcium carbonate ($CaCO_3$) floatation method, the samples were examined microscopically for the presence of parasites. A total of 36 individuals of parasites were recorded which spread across *Giardia lamblia*, *Entamoeba histolytica*, *Trichuris trichiura* and hookworms. The most prevalent parasite encountered was *Giardia lamblia* while hookworm was the least parasite found. However, the prevalence rate across species of parasites in water showed no significant difference (χ^2 = 3.3333, df = 3, P = 0.343). There was no significant difference in the prevalence rate of parasites across the three selected sites in Lafia (χ^2 = 4.1667, df = 2, P = 0.1245). The highest rate of parasitic contamination was recorded in well sources (56.6%), stream sources recorded 27.8% parasites, and pond sources recorded 16.7% parasites while the borehole sources had no parasitic contamination. Therefore, there was a significant difference in the in the number of parasites across water sources (χ^2 =25.378, df = 3, P < 0.0001). The study indicated high rate of parasitic contamination of local drinking water sources in Lafia. Therefore, the tendency of water borne parasitic infection will be high. Keeping the surroundings of the water sources clean and treatment of water before drinking so as to prevent the outbreak of water bone diseases is very crucial.

Keywords: Drinking water, Sources, Contamination, Parasites and Lafia.