**Abstract**

Indiscriminate discharge of industrial effluents into the aquatic system leads to deterioration of the environment. These effluents cause adverse effects on ichthyofauna and other aquatic organisms. To understand the mechanism of these toxic substances the qualitative and quantitative changes in the metabolism must be studied at the level of organism. Several studies on the toxicity of industrial effluents and their constituents on fishes have been attempted. However, there is little information on the effect of cement factory effluent on the pharmacological parameters of any fresh water food fish.

The present investigation was aimed at understanding the effect of 5% concentration of cement factory effluent on the nervous regulation of freshwater food fish *Channapunctata*, which is abundantly available in local freshwater environments.

Fishes exposed to 5% untreated effluent for 30 days depleted the acetylcholinesterase content of the brain (-73.24%, P>0.05) muscle (71.73% ; P<0.05), heart ( -67.90% ; P<0.05) gill ( -55.65% ; P <0.05) and liver ( -41.85%; P<0.05).