

2nd Annual Congress on**ENVIRONMENTAL POLLUTION AND HEALTH HAZARDS**
October 22-23, 2018 Osaka, Japan**Effects of inorganic contaminants on the quality of river water in the Eastern Cape Province, South Africa****Sesethu Vumazonke, Nosiphiwe Ngqwala and Sandile M Khamanga**
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For many years' rivers have been serving as a source of drinking water in South Africa, especially in the rural areas where there is no piped water supply. However, the quality of river water has been gradually decreasing for the past years due to pollution by inorganic contaminants. Their presence in aquatic environments affects the quality of water, aquatic biodiversity and poses toxicological effects on human health upon long-term exposure. This study monitors the quality of river water by measuring the physico-chemical parameters of the Buffalo, Tyhume, Kowie and Swartkops rivers located in the Eastern Cape Province using the standard methods. Data were collected in four different sites of each river during autumn and winter seasons. The turbidity ranged from 0-311 NTU, temperature (9.4-25.0 °C), pH (6.0-10.5), electric conductivity (0.03-400 mS). The turbidity of the river was within the target range on the first site of the rivers while in other sites it was above the target range. The pH was within the target range in all the rivers except for one site of Kowie River. Only iron was within South African water quality guidelines, while others were higher than the target range including nitrite (most samples were negative and few were positive), nitrate (>50 mg/L), ammonium (5470-295703 mg/L), phosphate (38-12105 mg/L), sulfate (4527-69593 mg/L), chlorine (110581-474581 mg/L) and chemical oxygen demand (70080-52425 mg/L). This study demonstrated raw river water to be unfit for domestic use because it may affect the health of the exposed individuals.

Biography

Sesethu Vumazonke, presently pursuing Masters of Pharmacy in Faculty of Pharmacy Rhodes University. Her research interests includes in the removal of pharmaceuticals from wastewater, pharmaceutical chemistry, water and sanitation

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