

Environmental and Human Health Problems Associated with Hospital Wastewater Management in Zimbabwe

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Abstract

Purpose of the Review

Wastewater is a term used to describe water that has undergone degradation in quality owing to anthropogenic activities or natural processes. Wastewater encompasses liquid waste originating from academic institutions, households, agricultural sector, industries, mines and hospitals. Hospital wastewater contains potentially hazardous substances including residues of pharmaceuticals, radioisotopes, detergents and pathogens, with detrimental impacts to the environment and human health. Nevertheless, studies related to hospital waste management are limited in Africa, particularly in Southern Africa. This research offers an overview of aspects surrounding hospital wastewater in Southern Africa, focusing on Zimbabwe. Already published and grey literature was reviewed to compile the paper.

Recent Findings

Number of patients, nature of medical services offered and hospital size influences generation of hospital wastewater. Partially and non-treated hospital wastewater is managed together with municipal wastewater. Management of hospital wastewater is impeded by shortage of resources, lack of co-ordination among responsible authorities and ineffective legal framework enforcement, among other challenges. Inappropriate hospital wastewater management results in environmental contamination, causing human ailments.

Summary

Attainment of sustainable hospital wastewater management requires clearly defined and enforced legislation, collaboration of accountable stakeholders, sufficient resources and enhanced awareness of involved stakeholders. Application of technologies that uphold recycling and reuse of wastewater is essential to reach Sustainable Development Goals, Zimbabwe Vision 2030 and

National Development Strategy 1 targets, particularly those dealing with environmental protection while upholding human health.

Keywords: Hospital Wastewater, Management Strategies, Environmental Risks, Health Risks, Zimbabwe