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"QUALITY AND QUANTITY SURVEY OF HOSPITAL WASTEWATERS IN HORMOZGAN PROVINCE "

Sh. Sarafraz, M. R. Khani, K. Yaghmaeian

Abstract:

Hospital wastewaters are one of the most contaminating wastewaters and need to be paid more attention due to containing infectious agents. In this study, which had been conducted in a period of one year, 7 public hospitals were selected out of 12 public hospitals in Hormozgan Province of Iran. For studying quality of wastewater in hospitals, both influent and effluent wastewaters of treatment plant, if any, were sampled once in each season and totally 30 mixed samples were obtained. In order to determine the quality of hospital wastewaters in all samples, parameters such as pH, BOD5, COD, TSS and temperature were measured. Results of investigation on annual water consumption indicated that average water consumption in hospitals of the province was 194m³/d., considering water-to-wastewater conversion ratio of 0.8 and green yard ratio of 0.3. Wastewater production rate had been estimated to be 47m³/d and 0.362 m³/d.bed. Results indicated that in 7 hospitals of Hormozgan province, mean values of BOD5 ,COD ,TSS in raw wastewater were 242.25 mg/L, 628.1 mg/L and 231.25 mg/L, respectively, pH=7.42 and temperature=30.17 °C. In Khalij-e-Fars hospital which had wastewater treatment plant, values of these parameters in effluent were 12.53 mg/L and 51.7 mg/L, 19.68 mg/L, respectively, with pH=7.39 and temperature=26.1 °C. Comparison between values of influent and effluent wastewaters indicated that in understudy cases, contamination rate was higher than determined limits, as compared to environmental standards of the country and it was necessary to establish appropriate treatment plants in these units.

Keywords:

Hospital wastewaters , quantity and quality parameters

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