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QUANTITATIVE ESTIMATION OF HEALTHCARE WASTES GENERATED BY BRAZILIAN HOSPITALS: A LITERATURE REVIEW

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Abstract

Poor management of health care waste (HCW) is still recurrent in developing countries, as HCW control thought legislation is recent in many of these countries. One challenging factor that contributes to this is the lack of representative quantification of HCW generation. This kind of indicator is important, principally for hospitals as significant HCW generator, in order to obtain a better waste management. In this context, the aim of this study is proposing a quantitative estimation of HCW generated by Brazilian hospitals, through a literature review. This review compiled published studies that reported rates of HCW generated by Brazilian hospitals. This data was analyzed according to Brazilian location, time period, and hospital specialty. Statistical evaluations were performed using Kruskal-Wallis and Mann-Whitney tests with a significance level of 5% ($\alpha = 0.05$). A total of 49 studies were found within the inclusion criteria, reporting 145 different waste generations by Brazilian hospitals. The mean of generation estimated was 2.97 (2.57 - 3.42) $kg.bed^{-1}.day^{-1}$; 0.99 (0.82 - 1.18) $kg.bed^{-1}.day^{-1}$; 0.14 (0.09 - 0.21) $kg.bed^{-1}.day^{-1}$ for, respectively, total HCW, infectious waste and sharp waste. In the data analysis, it was found significant increase in the number of infectious wastes generated between 2000-2009 and 2010-2019. Generation rate between Brazilian regions showed that Central-West and North values showed a marginal difference. While, HCW generation rates per hospital specialization did not show any significant differences. These new rates, although still within some margins previously reported, shows that the HCW generation in Brazilian hospitals is higher than estimated previously data.

Key words: Brazil, healthcare waste, hospital, quantitative estimation, waste generation

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