Spatial distribution of diseases related to the 2016 flood in the Kaduwela and Kolonnawa Divisional Secretariat Divisions

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Climate change has intensified the occurrence of extreme weather events all over the world. Frequent and intensified floods are one of the main resulting scenarios that can be seen in many parts of tropical countries. Sri Lanka has also been prone to high-intensity floods during the past few years. Due to the destructive energy of floods, the health implications arising from them vary from physical injuries to long-term psychological effects. Floods can spread disease pathogens, vectors, and airborne allergens, greatly increasing the vulnerability of a country to epidemics. The main objective of this study is to examine the relationship between the spatial distributions of diseases and floods. The Medical Officer of Health areas of Kaduwela and Kolonnawa Divisional Secretariat Divisions (DSD) were selected for the study and primary and secondary data were collected. Weekly records of diseases for Public Health Inspector (PHI) areas were collected and primary data were collected through a questionnaire survey. Overlay analysis, measures of central tendency, and measures of dispersion along with regression were used as methods of data analysis. Maps and charts were used as visualization techniques. According to the data recorded, dengue cases show an increase during the South West Monsoon period in general and the number of cases is comparatively high after floods in both the Kaduwela and Kolonnawa DSDs. The highest number of recorded cases is from the Kolonnawa PHI area, which is 44 cases per week. In the Kaduwela DSD, the highest number of recorded cases is from Hokandara, which is 30 cases with an overall average of 20 cases per PHI area. In conclusion, it is clear that there is a relationship between diseases and floods, especially in relation to dengue, leptospirosis, and skin inflammations (although there are no secondary records for skin inflammations).

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