

Accidents Leading to Electrical Shocks in Brazilian Electric Power Distribution: An Analysis

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ABSTRACT:

Accidents caused by electricity are responsible for countless deaths and injury to people/animals and damage to buildings and facilities worldwide. Although sufficient knowledge is available on making electrical installations safe, many countries do not have organized data on accidents of electrical origin, making it challenging to implement effective public policies to reduce the risk. Therefore, this research aims to present a methodology for collecting data on electrical accidents, involving electric shock, through the Google LLC Alert monitor and analyzing it. The application of this approach in Brazil between 2013 and 2021 validates this methodology. The analysis shows that accidents leading to fatal shock between 2013 and 2021 increased by 44%, and more than 95% of the victims were men. In total 2,680 cases were analyzed, including detailed information about age, sex, the location of the accident, date, and main cause. Consequently, preventive guidelines for the principal types of accidents can be developed.

Keywords : Accidents; Power distribution; Electric shock; Power cables; Safety; Internet; Power cable insulation