AIR QUALITY AND RESPIRATORY PROBLEMS IN THE METROPOLITAN REGION OF SALVADOR, BAHIA: AN EXPLORATORY ANALYSIS

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Abstract

The concern with air quality and its impacts on human health has been a topic of growing discussion and of strong interest worldwide. Over the years, science has been investigating correlations or indicators that demonstrate the relationship between poor air quality and human health problems. The identification of patterns of behavior and the appearance of diseases, such as respiratory diseases, is one of the main research and policy development focus. Air quality is a very relevant topic, since it is related to the third leading cause of death in the world, demanding public and private sectors to invest on policies and mechanisms aiming to avoid or mitigate the effects of air pollution on human health, mainly for those who are more exposed to it, like children and elderly people. There are still open issues to be addressed, such as how environmental, climate, air quality and other aspects influence health, as well as how to deploy air quality and climate models able to capture regional and global trends while effectively supporting prospective decision making. Previous studies in other Brazilian regions have demonstrated the impact of air pollutants in urban areas using computational modeling frameworks, showing how suitable and important they are to assess air quality in different time and space scales. This study aims to replicate and extend these previous studies to other tropical regions of Brazil: the metropolitan region of Salvador, a large urban area with more than 4 million inhabitants, and a countryside city, both in Bahia, northeast Brazil. We will propose correlation and grouping methods to better understand the dynamics between meteorology, air pollution and hospitalizations due to respiratory diseases. Such methods will establish the basis for further applications on air pollution forecasting, human health assessment, and pattern identification.

Keywords:

# Introduction

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