



INSTITUTO
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AVALIAÇÃO DO IMPACTO DA POLUIÇÃO ATMOSFÉRICA no Estado do Rio de Janeiro sob a visão da saúde

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ABSTRACT

The World Health Organization - WHO published in 2014 the early loss of about 7 million lives worldwide by air pollution in 2012; 3,6 million due to the outdoor air pollution and 3,4 million due to indoor air pollution. This means that one in eight deaths worldwide are related to exposure to contaminated air, which becomes the major cause of death from cardiopulmonary complications related to the environment. In 2013 contaminated air and the pollutant particulate matter (PM) were considered environmental causes of cancer deaths. Brazil is a backward country in combating air pollution and not for lack of knowledge or local studies. The National Program for Control of Air Quality (PRONAR in Portuguese) established 25 years ago wasn't accomplished. The national monitoring occurs in only 1.7% of Brazilian municipalities, under the responsibility of state governments. The CONAMA Resolution No. 03/1990 establishes national standards for air quality, outdated, with no update even after, in 2006, the WHO recommend new standards adopted in most countries in the world, with prejudice to the transparency of information to society and to combat high levels of air pollution and its impacts on population health. The objective of this research is to conduct an assessment of the environmental data of air pollution - PM_{2,5}, impact on public health (DALYs, mortality and hospitalizations) and an valuation in public spending in the State of Rio de Janeiro (ERJ in Portuguese) from 2006 to 2012, due to the adoption of air quality standards recommended by WHO. Belong to the sample of the study 30 automatic stations located in 4 government regions and 15 municipalities. The results show that the annual average of PM_{2,5} of all stations of the ERJ for all years are above the annual standard of WHO, at high levels and relatively stable over the seven years, with the exception of one measure, in Nova Iguaçu in 2012. The Metropolitan Region of Rio de Janeiro (RMRJ in Portuguese) has the highest pollution levels by PM_{2,5} the other regions, and even above the state average, with a trend of increasing pollution discontinued in 2012. From the perspective of the cities in 2011 and 2012 all the 15 municipalities showed annual average of PM_{2,5} above the WHO standard, 6 of them being more polluted than the city of Rio de Janeiro: Duque de Caxias, Itaboraí, Nova Iguaçu, Macuco, Resende and Porto Real. The municipalities that showed with the highest level of pollutant concentration, above 3 times the WHO standard, are located in the RMRJ: Nova Iguaçu in 2011 and Duque de Caxias and Itaboraí in 2012. We account the DALY of 79,149 years, 36.194 deaths (4 people die per day in the ERJ) and 65,102 hospitalizations in public health network from heart disease and lung cancer in adults and respiratory diseases in the elderly and children younger

than 5 years attributable to pollution, whose valuation reaches a public spending of R\$ 82 million. In order of importance, the municipalities with the highest risk of death due to pollution are: Macuco, Duque de Caxias, Nova Iguaçu, Itaboraí, Barra Mansa and Rio de Janeiro. After all, how the air quality behaves, comparatively, to the air quality between the cities and the states of Rio de Janeiro and São Paulo? The city of Rio de Janeiro presented the best conditions of air quality during four years, from 2007 to 2010, and in 2011 São Paulo had better conditions. Over the States, with the exception of 2009, the air quality of the State of São Paulo is worse than that of Rio de Janeiro. There are reasons to assume that the results of the study may be underestimated: 1) The ERJ is the only state that includes private monitoring stations (related to environmental licensing) on your monitoring network - 48.7% of its stations (39/80) and just 87% of automatic stations, object of this study, belong to the private network; 2) probably better representation of fixed sources than mobile sources; 3) Comparing measures of automatic and semi-automatic stations, public and private of other sources we observed discrepant values, but that would need to be studied; and 4) private/automatic stations generally show annual averages above the WHO recommendation, however mostly below the national standard established by CONAMA Resolution No. 03/1990, while public/semiautomatic mostly above the national standard. The ERJ has made little progress in the implementation of automatic monitoring stations. Worth drawing attention to the fact that the communication of monitoring data on INEA, by daily bulletins (in real time) refer to measures of automatic stations, basically the reading of private stations. The ERJ is the second UF with greater population density, have the second largest GDP in Brazil whose industry is representative, diverse and complex (especially the petrochemical industry, iron and steel), have a significant vehicle fleet and intense traffic along State. For these reasons and magnitude of the results of this study point to the need of search for best practices for monitoring air quality and the clear publication of information society, as well as implement more stringent and urgent for pollution control measures.

Realização



Apoio



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