

An evaluation of hospital admission respiratory disease attributed to sulfur dioxide ambient concentration in Ahvaz from 2011 through 2013

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Abstract There is no doubt that air pollutants have adverse impacts on human health. The main objective of this study was to evaluate hospital admission respiratory disease (HARD) attributed to sulfur dioxide levels in Ahvaz during three successive years. Data was taken from Iranian Environmental Protection Agency (EPA). The AirQ_{2,2,3} model is used to quantify the impact of SO₂ on inhabitants of Ahvaz and in terms of hospital admission respiratory diseases. This is a kind of statistical model which is based on

some epidemiological indices such as relative risk, baseline incidence, and attributable proportion. Sampling was already performed for 24 h in four stations during 2011–2013. Four stations are good representative for residential, high traffic, industry, and background sites which cover the whole area of the Ahvaz city. Regarding to gravimetric scale, raw data of sulfur dioxide was processed using Excel software. Encoding, filtering, and processing were conducted to prepare input file for the Air Q_{2,2,3} model. After running model,

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