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Turkey : Asthma

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Introduction

The country of Turkey is located in the Middle-East, and it is surrounded by two significant bodies of water; the Black Sea and the Mediterranean Sea. Turkey has a population of about 79.5 million people (Turkey country profile, 2017), and approximately 72.5% of their population is made of Turks while the second most abundant group at 12.7% are the Kurds (Findley, 2016). Their official language is Turkish with Kurdish as their second most spoken language. The dominant religion that is practiced in Turkey is Islam. As of April 2017, the electorate of Turkey voted to change their government to a presidential system (Turkey country, 2017). A few struggles of that have affected Turkey internally are the relationships between the Turks and the Kurds. Turkey and the Kurd's started fighting in 2015; this was after a ceasefire ended and it took hundreds of lives (Turkey v Syria's Kurds v Islamic State, 2016).

Basic Information

One major public health-related problem that is and has been happening in Turkey is some asthma cases. Asthma is a chronic disease in which a person's airways can become tightened, or they may swell which causes difficulty breathing. This condition can be identified by symptoms like shortness of breath, coughing, and wheezing. There currently is no cure for asthma, but constant monitoring and a proper treatment plan can lessen the symptoms (Asthma, AAAAI, n.d.).

Epidemiology

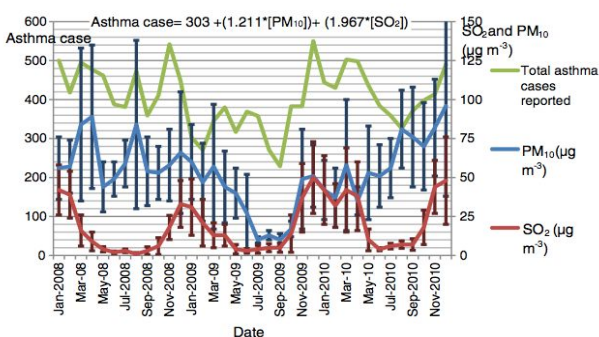
Asthma is a health issue that can and has affected many different people, but it is more prevalent in specific groups of people. Sometimes, people whose family member have had or have asthma are more likely to develop it than someone who does not have a family history of it (Asthma, AAAAI, n.d.). Girls are more likely than boys to be affected by air pollutants (Kara, 2012, 6463) of which can cause children to develop asthma. Children living in areas with higher ozone concentrations are also more likely to have lung impairment issues (Kara, 2012, 6455), this would include asthma.

Overview

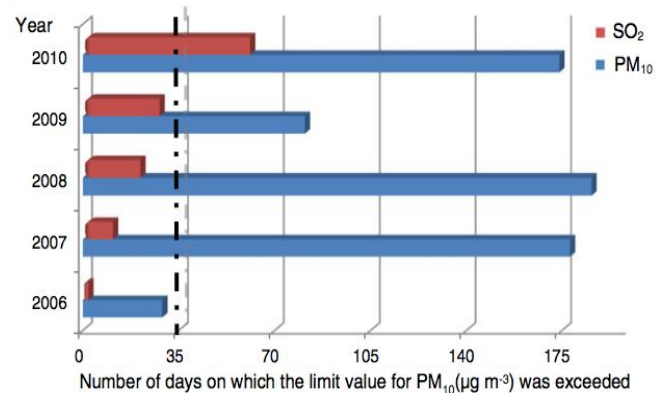
When thinking of lung-related health issues, it is essential to look at air pollution and to see the amount and type of air pollution that can be directly related to the number of asthma cases. The most significant air pollution issue looked at is PM_{10} , or particulate matter, which measures the number of particles in the air and SO_2 which can be a toxic gas when it is abundant and is formed when sulfur is burned off in coal. In Eskişehir city, an intermediately sized urban city, fossil fuel consumption is one of their most significant contributors to air pollution.

Adding to that, about 50% of residents use coal in the winter to heat their homes (Altuğ, 2013, 6456). The use of coal in homes not only

causes more PM's to be released into the environment, but they can also stay suspended in the air inside of people's homes. To see how air pollution has been viewed, the figure to the left (Kara, *Ambient air quality and asthma cases in Niğde, Turkey* (2012), Figure 4.) shows how many days they have gone with SO_2 and



PM₁₀ at levels higher than 50 µgm⁻³ for a twenty-four hour period. In 2008, Turkey went almost half a year having PM₁₀ levels that are considered too high. In the figure on the right (Kara, *Ambient air quality and asthma cases in Niğde, Turkey* (2012), Figure 5.), the bar graph shows the comparison of asthma cases and SO₂ and PM₁₀ levels. A clear trend can be seen between the three measured data. As SO₂ and PM₁₀ levels decrease, the number of asthma cases drops as well.



Discussion

The general idea that these two research articles are suggesting is that if people decreased the number of fossil fuels they use, it could reduce the amount of air pollution and overall minimize the number of asthma cases occurring. I believe that if the government in Turkey were to find a better way for people to heat their homes instead of using coal, that could decrease the number of cases in children. Geothermal heating from the ground can be one option to look. They could also come up with better ventilation in homes that use coal for heating. Both of these options can help to decrease the amount of PM's and SO₂, in homes individually, and that would overall help reduce the number of asthma cases.

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