



Majority of World Population Breathe Bad Air, but Nutritional Habit may be Responsible for Increased Mortality in South Korea, Japan and Southeast Asia

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Abstract

In late September 2016, the World Health Organization (WHO) came out with a report that had the most comprehensive analysis to date on air quality worldwide. The report stated that 92 percent of the world population breathes unhealthy air. It also informed that about 3 million deaths annually were caused by air pollution in the form of cardiovascular, pulmonary, and other non-communicable diseases. Nearly sixty-seven percent of those deaths are in the Western Pacific and Southeast Asia, compared with 333,000 only in Europe and the Americas. The current work looks at the probability that this deduction may not be quite precise, and that tobacco use and smoking could be a stronger suspect of the Western Pacific region and Southeast Asia, only China validates the WHO's declaration.

Keywords: Cardiovascular disease; Pulmonary; Tobacco; Smoking; Particulate

Background and Literature Survey

In late September 2016, the World Health Organization (WHO) came out with a report which contained the most comprehensive analysis so far on air quality worldwide. The report stated that 92 percent of the world population breathe polluted air [1,2]. It was also stated that about 3 million air-pollution-related deaths a year resulted from cardiovascular, pulmonary, and other non-communicable diseases. Nearly sixty-seven percent of those deaths (related to air pollution) are in the Western Pacific and Southeast Asia, compared with 333,000 only in Europe and the Americas [1,2]. The Western Pacific includes China, South Korea and Japan.

There is at least one interactive map online which displays the distribution of air pollution in the world [3,4]. The World Air Quality Index maintains live pollution maps for detrimental particles [3]. PM2.5 particulate matter from internal combustion engines in cars and other transportation vehicles as well as the combustion of fossil fuels (for power plants and industrial processing, etc.) do pose a high risk to human health [5-8].

It is clear from [3] that as a country, the United States of America (USA), South Korea and Japan have generally clean air, and Malaysia and Singapore have clean to moderately clean air. Large parts of Indonesia have clean air, and so is the eastern border region of East Malaysia with Indonesia (which is mostly jungle). Vietnam, Thailand and the Philippines have generally clean to moderately clean air.

It seems that the mortality data owing to cardiovascular, pulmonary and other non-communicable diseases have been correlated to good-to-moderate air quality in South Korea, Japan and Southeast Asia. This would rise a 'not-so-fast' warning light in careful health researchers. Could there be another likely reason for the mortality rate attributed to the aforementioned diseases in these nations?

Data Examined

The Centers of Disease Control (CDC) have published the ill effects and different diseases associated with smoking and tobacco use. They also provide data of increase in mortality

owing to smoking tobacco, in the various disease categories. 'Cardiovascular, pulmonary, and other non-communicable diseases' are definitely included in the categories listed in [9].

There is a number of tobacco maps online. Reference [10] is an interactive map online which shows the mortality owing to smoking tobacco in men and in women for the various nations. Percentage-wise, the rate at which people dying a year from smoking tobacco is highest in Vietnam among the Southeast Asian nations [10]. Among the fatalities, women's deaths from smoking tobacco were in general lower than men's in all countries. The fatality in men is about 22% in Vietnam, 21% in South Korea and hovered around 19% for China, Japan, Thailand, Malaysia, Singapore, Indonesia and the Philippines. The United States of America (USA) also gave up a 19% mortality rate in men, and about 15% mortality rate in women. This mortality rate in women from smoking tobacco is one of the highest in the world, equaling that of women in Canada. Comparing the data

presented in [3] and in [10], the number of deaths reported by the WHO in South Korea, Japan and Southeast Asia seem to be correlated to the deaths owing to tobacco use and smoking.

If there is a correlation at all, it is weak between outdoor air pollution and mortality owing to cardiovascular, pulmonary, and other non-communicable diseases in South Korea, Japan and Southeast Asia because the air quality in these countries are good to moderate. This fact can clearly be seen from Table 1. The correlation is probably true for China since even the man on the street in the USA seem to know that the air quality in China is generally poor. Other areas shown in [10] with poor air quality include many parts of India. From Table 1, it is obvious that in only one of the nine nations examined, is it reasonable to deduce that the mortality rate is related to outside air pollution. In the other eight countries located in the Western Pacific region and Southeast Asia, the deduction made by WHO regarding fatalities and outside air pollution is questionable.

Table 1: Countries, Mortality and Deduction.

Country	Air Quality	Mortality from	Mortality from Outside Air Pollution	Deduction: Mortality Related to Outside Air Pollution
China	Poor	High	High	Correct
South Korea	Good to Moderate	High	High	Questionable
Japan	Good to Moderate	High	High	Questionable
Vietnam	Good to Moderate	High	High	Questionable
Malaysia	Good to Moderate	High	High	Questionable
Singapore	Good to Moderate	High	High	Questionable
Indonesia	Good to Moderate	High	High	Questionable
Thailand	Good to Moderate	High	High	Questionable
Philippines	Good to Moderate	High	High	Questionable

Discussion and Conclusion

The areas around the world without air pollution seem to be areas of low to no population, e.g. the tundra region of northern Russia. This is logical since air pollution is caused mainly by humans. Outside air pollution is no different, since indoor air pollution is by default caused by human beings. It follows then that these areas are not suitable for study in looking for confirmation that outside air pollution causes cardiovascular, pulmonary, and other non-communicable diseases. It is not the contention here that outside air pollution does not cause these diseases. This fact has been verified independently by various other well-respected studies [5-8].

It is however, the contention of the current work that when deducing from the data for South Korea, Japan and Southeast Asia, the WHO may have been a little too hasty in its declaration. One is reminded of the WHO's pronouncement in October 2015 that consumption of red meat may be carcinogenic [11-13]. The current author clarified the facts in that case with reference [14], as he is trying to clarify the data in the current work. In fact, air pollution in the Western Pacific and Southeast Asia does

not seem as likely as smoking tobacco to be the cause of the mortality figures calculated by the WHO. The current work has logically deliberated on the data to deduce that smoking tobacco is a better agent of blame for the countries under discussion.

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