

How to Reduce Risks of Bad Air Quality

今回は、大気汚染に関するニュースです。世界中で、大気汚染が原因で年間700万人もの人が亡くなっているという衝撃的な事実が報告されています。「大気汚染」は英語で「air pollution」と言いますが、その原因となる「汚染物質」は英語で“pollutant”と言います。pollutantは、空気、土壌、水を汚染する物質のことで、石炭を燃やした際に発生する煙や、工場から排出されるガス、自動車の排気ガスなどが挙げられます。具体的にどのようなpollutantが私たちの健康に影響を及ぼすのか、そして私たちが健康を維持するためにどのような対策を取ることができるのか、記事を読んで講師と話してみましよう。



1. Article

Read the following article aloud.

Air quality differs from place to place and day to day. But about 99 percent of the world's population breathes air at some point that does not meet pollution guidelines set by the World Health Organization (WHO).

Different forms of air pollution kill about 7 million people each year, the U.N. health agency estimates. But health experts say there are some actions individuals can take to protect themselves, even in the world's most polluted cities.

The first step is to start with the understanding that air is not only polluted when it looks smoky or **smoggy**, said Tanushree Ganguly. She is an air quality expert with the Energy Policy Institute of Chicago's India program.

“Blue skies can't guarantee you clean air,” Ganguly told The Associated Press.

Pollutants and their sources

Air [pollutants](#) often come from people burning things. Examples include fuels as well as clearing operations involving crops or trees. Pollutants can also be released from wildfires.

Among the most dangerous particles we can breathe in are called particulate matter. The smallest of these are known as PM 2.5. This is because they are less than 2.5 [microns](#) in diameter. These particles can travel deep inside human lungs and are mostly created by burning fuels. Larger particles, known as PM 10, are linked to agriculture, roadways, mining or wind-blown dust.

Other dangerous pollutants include gases like nitrogen dioxide or sulfur dioxide, which are also produced from burning fuels. This information comes from Anumita Roychowdhury, an air pollution expert at the Center for Science and Environment in New Delhi.

Health effects

The American-based Health Effects Institute says air pollution is the second-largest risk factor for early death worldwide, behind high blood pressure.

Short-term exposure can cause [asthma](#) attacks and increase the risk of heart attacks and stroke, especially in older people and those with existing medical problems. Long-term [exposure](#) can cause serious heart and lung problems that can lead to death.

A recent study by the U.N. children's agency UNICEF found that more than 500 million children in East Asia and Pacific countries breathe unhealthy air. The pollution is linked to the deaths of 100 children under age 5 every day. June Kunugi, UNICEF's Regional Director for East Asia, said the polluted air limits growth, harms lungs and affects thinking abilities.

"Every breath matters, but for too many children every breath can bring harm," she said.

How to tell if air is safe?

Over 6,000 cities in 117 countries now record and follow air quality levels. Many mobile apps include air quality information as well. But it can be difficult to know how bad the air is by looking at these numbers.

To help people better understand air quality levels, many countries have established an air quality index, or AQI. Larger numbers on this index mean worse air.

Different countries have different air quality standards. For example, India's daily PM 2.5 limit is more than 1.5 times higher than in Thailand and 4 times higher than WHO standards.

How can you protect yourself?

For individuals, experts say the goal should be to limit exposure when air quality is bad, by staying indoors or wearing a mask. This is not always possible, though. Danny Djarum is with the World Resources Institute. He told the AP there are many people who live or work outside and "can't really afford" to stay indoors.

People also need to watch indoor air pollution that can be caused by common household activities like cooking or burning incense.

What are the benefits — and limitations — of air purifiers?

While air **purifiers** can help reduce indoor air pollution, experts say they do have limitations. The devices work by pulling air from a room and then pushing it through a filter that traps pollutants. The filtered air is then sent back into the room.

Air purifiers work best when used in small spaces and when people are nearby. This is because they can only clean a certain amount of air, said Rajasekhar Balasubramanian of the National University of Singapore. He added, “If we have a tiny air purifier in a large room, it won’t be effective.”

I’m John Russell.

And I’m Caty Weaver.

Aniruddha Ghosal reported on this story for the Associated Press. John Russell adapted it for VOA Learning English.

Source: **How to Reduce Risks of Bad Air Quality**

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2. Key phrases and vocabulary

First repeat after your tutor and then read aloud by yourself.

1. smoggy (adj.) dirty (used to describe air)

The tops of the buildings were covered by the smoggy air.

2. pollutant (n.) a chemical or material that makes the air, soil, or water dirty

The burning of coal produces pollutants that can cause serious harm.

3. micron (n.) one millionth of a meter

A human hair is about 70 microns thick.

4. asthma (n.) a lung illness, often caused by dust or dirty air

Wearing a mask can help stop asthma attacks.

5. exposure (n.) coming in contact with something harmful

Exposure to too much ultraviolet light can cause skin cancer.

3. Questions

Read the questions aloud and answer them.

1. What pollutants can be harmful to you? Where do they come from?
2. What things can you do to protect yourself from polluted air?
3. What does Rajasekhar Balasubramanian say about using air purifiers?
4. How common is air pollution in your area?
5. What do you think needs to be done to keep the air clean?