**Pollution reduces antibiotic effectiveness**

***.***PTI  |  March 04, 2017, 16:48 IST

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***Air pollution may increase the potential of bacteria to cause respiratory infections by reducing the effectiveness of antibiotics***

[Air pollution](http://health.economictimes.indiatimes.com/tag/air+pollution) may increase the potential of bacteria to cause respiratory infections by reducing the effectiveness of [antibiotics](http://health.economictimes.indiatimes.com/tag/antibiotics), scientists have found.  
  
The study by researchers at the [University of Leicester](http://health.economictimes.indiatimes.com/tag/university+of+leicester) has important implications for the treatment of infectious diseases, which abound in areas with high levels of air [pollution](http://health.economictimes.indiatimes.com/tag/pollution). A major component of air pollution is black carbon. The research showed that this pollutant changed the way in which bacteria grew and formed community. A January photo shows a statue in Warsaw wearing a mask put on by environmental activists. Smog across coal-addicted Poland has hit crisis levels es, which could affect how they survived on the lining of our respiratory tracts and how well they were able to hide from, and combat, our immune systems.  
  
“Our research could initiate an entirely new understanding of how air pollution affects human health. It will lead to enhancement of research to understand how air pollution leads to severe respiratory problems and perturbs the environmental cycles essential for life,“ said professor Julie Morrissey .  
  
The research focused on two human pathogens, Staphylococcus aureus and Streptococcus pneumoniae.  
  
The team found that black carbon altered the antibiotic tolerance of Staphylococcus aureus communities and increased the resistance of communities of Streptococcus pneumoniae to penicillin, the front line treatment of bacterial pneumonia. It was also found that black carbon caused Streptococcus pneumoniae to spread from the nose to the lower respiratory tract, which is a key step in development of disease.