Air pollution affects antibiotics too, says new study

[Malathy Iyer](http://timesofindia.indiatimes.com/toireporter/author-Malathy-Iyer-4872.cms)| TNN | Mar 3, 2017, 03.32 PM IST

MUMBAI: It is well known that [air pollution](http://timesofindia.indiatimes.com/topic/air-pollution) affects people's health and makes them more prone to a range of diseases right from heart attack to cancer, but a new research paper from the [United Kingdom](http://timesofindia.indiatimes.com/topic/United-Kingdom) claims air pollution reduces the efficacy of antibiotics.

Black carbon, a major component of air pollution, is produced due to the burning of fossil fuels such as diesel and biomass. The study published in the latest edition of the medical journal [Environmental Microbiology](http://timesofindia.indiatimes.com/topic/Environmental-Microbiology) looked into how air pollution -- mainly black carbon -- affects the bacteria living in our bodies, specifically in the nose, throat and lungs.``The research shows that this pollutant changes the way in which bacteria grow and form communities, which could affect how they survive on the lining of our respiratory tracts and how well they are able to hide from, and combat, our immune systems,'' said a press release sent by the [University of Leicester](http://timesofindia.indiatimes.com/topic/University-of-Leicester).

The research focused on Staphylococcus aureus and Streptococcus pneumoniae, both bacteria that are major causes of respiratory diseases and exhibit high levels of resistance to antibiotics. The research team found that black carbon alters the antibiotic tolerance of Staphylococcus aureus communities and importantly increases the resistance of communities of Streptococcus pneumoniae to penicillin, the front-line treatment of bacterial pneumonia. ``It was 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,'' the release added.

The paper's lead author Dr Julie Morrisseysaid: "This work increases our understanding of how air pollution affects human health. It shows that the bacteria which cause respiratory infections are affected by air pollution, possibly increasing the risk of infection and the effectiveness of antibiotic treatment of these illnesses.''

**Stay updated on the go with Times of India**[**News**](https://play.google.com/store/apps/details?id=com.toi.reader.activities)**App. Click**[**here**](http://get.timesofindia.com/)**to download it for your device.**