

AIIMS to provide belt for kids to track pollution impact

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To understand the extent and impact of exposure to pollution on asthmatic children, the All India Institute of Medical Sciences (AIIMS) has initiated a multi-centre study wherein it will provide belts with monitors to a handful of youngsters to wear through the day. The study is funded by the Department of Biotechnology (DBT) under the Ministry of Science and Technology and the Medical Research Centre in the United Kingdom.

As a part of the study, the medical institute will give a wearable sensor in the form of a belt to the children, which will continuously measure the level of air pollution while they are in school, home or travelling in a bus. The project that started six months ago has so far identified 10-15 students.

"The machine will identify the degree of exposure and its effect on the health of children who have continuous asthma. It will give us actual data on how much an individual is exposed to air pollution. A button-like device will also be put on the chest of a child, which will give us an idea of the overall health status," said Dr Randeep Guleria, Director of AIIMS and the principal investigator of the study.

The sensor will be concealed, and as per the researchers, no one will be able to see the data being recorded by the machine.

Researchers have planned to give it to a child for a week, and repeat the same at least two-three times a year. The machine will have an in-built mechanism that will help monitor data, and real-time pollution information will be constantly recorded to help doctors identify a trend.

The research is being conducted in collaboration with IIT-Delhi, University of Edinburgh and Imperial College of London, and Sri Ramachandra University in Chennai.

"We are identifying schools of asthmatic children coming to our clinic for treatment. Once the school is identified, we will approach the authorities and inform them about the study. After receiving consent from parents and the school, a sensor will

be given to the child. The child will wear the sensor throughout the day for at least a week. This is an ongoing project and will be completed in two years," said Dr Karan Madaan, associate professor, department of pulmonology, AIIMS.

Experts said the study will also establish a link between indoor and outdoor pollution. "The study will help us identify how the health of a child is affected with the changing levels of pollution," added Dr Madaan.

"Children are more susceptible to air pollution as they breathe twice as rapidly as adults. This means that they inhale twice the level of pollutants as compared to adults. The lungs of the children are underdeveloped," said Dr S P Byotra, senior consultant, internal medical, Sir Ganga Ram Hospital.

Environmentalists have given a thumbs-up to the study. "Generating such information will be extremely valuable. The data will re-confirm how air pollution aggravates the condition of those with a history of respiratory ailments," said Anumita Roy Chowdhury, executive director, research and advocacy, Centre for Science and Environment (CSE).