

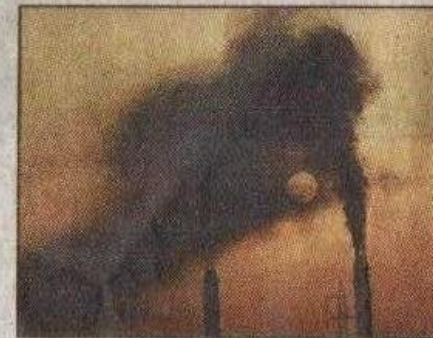
Air pollution in MP exceeds WHO standards: IIT-I study

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Indore: The air you breathe, anywhere in Madhya Pradesh, may be worse than you imagined.

A recent study conducted by Indian Institute of Technology (IIT), Indore, has revealed alarming levels of air pollution in MP, with annual PM2.5 levels exceeding World Health Organization (WHO) standards by 8-9 times and causing heightened risk for respiratory diseases, heart problems, and neurological disorders.

The comprehensive study, which analysed air pollution trends in India over the past four decades from 1980 to 2023, highlights



Annual PM2.5 levels in MP exceed WHO standards by 8-9 times, an IIT-Indore study found

significant increases in PM2.5 concentrations—fine particulate matter that can penetrate the lungs and enter the bloodstream, wreaking havoc.

Between 1980 and 2020, Madhya Pradesh saw a 140% increase in PM2.5 levels, from 10-15 $\mu\text{g}/\text{m}^3$ to 30-35 $\mu\text{g}/\text{m}^3$. **P3**

Women particularly susceptible to respiratory diseases due to indoor pollution, finds study

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Although these levels are lower than those in Delhi/NCR and Uttar Pradesh — where increases of 200% and 180% were recorded, respectively — the growing trend is concerning, particularly for vulnerable populations, showed the study conducted by Professor Manish Kumar Goyal and his team from the civil engineering department at IIT-Indore.

IIT-Indore director Professor Suhas Joshi said, “While Madhya Pradesh has

lower pollution levels compared to Delhi and Uttar Pradesh, the rising trend of PM2.5 concentrations and its severe health impact, especially on women, cannot be overlooked. The findings highlight the urgent need for better air quality management to prevent future health crises, particularly among vulnerable populations.”

The study found that women are particularly susceptible to respiratory diseases due to indoor pollution from solid fuel cooking and a higher incidence of respira-

tory infections. However, both men and women face increased risks of chronic respiratory conditions, cardiovascular diseases, and neurological disorders as a result of poor air quality.

The research indicates that PM2.5 originates from both natural sources, such as dust storms and sea sprays, and human activities including fuel combustion, biomass burning, and industrial emissions. Madhya Pradesh records average annual PM2.5 levels between 40-45 $\mu\text{g}/\text{m}^3$, with peak pollution

days soaring to 200-250 $\mu\text{g}/\text{m}^3$. The state's annual PM2.5 levels were, however, lower than Delhi/NCR (65-70 $\mu\text{g}/\text{m}^3$) and Uttar Pradesh (60-65 $\mu\text{g}/\text{m}^3$), the study showed.

According to India's National Ambient Air Quality Standards (NAAQS), the permissible annual PM2.5 limit is set at 40 $\mu\text{g}/\text{m}^3$, with a 24-hour limit of 60 $\mu\text{g}/\text{m}^3$. However, during periods of extreme pollution, the study shows that MP's PM2.5 concentrations can rise to 4-5 times above the daily limit.

Professor Goyal said,

“Madhya Pradesh slightly exceeds the annual limit, and during peak pollution days, PM2.5 concentrations rise 4-5 times above the 24-hour limit. On a global scale, WHO has much stricter guidelines, recommending an annual PM2.5 level of just 5 $\mu\text{g}/\text{m}^3$ and a 24-hour limit of 15 $\mu\text{g}/\text{m}^3$. Madhya Pradesh's pollution levels exceed WHO's standards by 8-9 times annually and by 20 times on extreme days, indicating serious air quality concerns despite being lower than Delhi and Uttar Pradesh.” TNN