





Collaborative for Air Pollution and Health Effects Research-India

Air Health Bulletin

BACKGROUND

CAPHER-India is a collaboration between two Premier Institutes in the field of science and technology – All India Institute of Medical Sciences, Delhi and Indian Institute of Technology, Delhi. It is a dedicated network focused on air pollution and health effects research in India. Air Health Bulletin is official publication of CAPHER India which aims to disseminate the work, activities, science news on air pollution and health.

CAPHER-INDIA ACTIVITIES

National Consultation on "Air Pollution and Health in India - Actions for moving forward on Science, Policy, Programme and Community engagement", New Delhi

A National Consultation was held on 17th November, 2023 at All India Institute of Medical Sciences, New Delhi with around 50 participants.

The goals of the consultation were to understand policy and programme needs with respect to science of air pollution and health effects in India, to conduct a stock take on barriers in translating science into action - from programme implementer's perspective, to identify targeted opportunities for collaborative actions for community engagement and to create a networking platform for experts across research, policy, and programme domains. Recommendations:

- Air pollution was labeled as the new villain for health policy as the minimal individual risk in contrast to the significant population risk will be challenging to address
- There is need for comprehensive collaboration with scientific innovations, community involvement, and regional approaches to address air quality challenges and improve public health outcomes.
- Interventions needs to focus on both on household and ambient air pollution



CAPHER-INDIA ACTIVITIES

Early career training on Air Pollution and Health, Kathmandu, Nepal

The Health Effects Institute (HEI), the International Centre for Integrated Mountain Development (ICIMOD), and the Collaborative for Air Pollution and Health Effects Research—India (CAPHER-India) conducted a training program for early-career researchers on Air Pollution and Health in Kathmandu, Nepal, from August 12-14, 2024. The event brought together 21 early-career researchers from Bangladesh, India, Nepal, Pakistan, and Sri Lanka, along with a group of international and regional experts. The training covered modules on air pollution monitoring, exposure assessment, epidemiology, health impact assessment, as well as grant writing, scientific writing, and science communication. This was the first regional workshop we organized, and we look forward to hosting more such capacity-building initiatives in the future. Regional network for early career researchers in line with CAPHER-India has been discussed in the meeting. Training materials can be accessed here:



https://www.healtheffects.org/meeting/early-career-training-air-pollution-and-health





Continuous Medical Education on "Research Perspective on Air Pollution", Arunachal Pradesh

The Department of Community Medicine, TRIHMS, Arunachal Pradesh in collaboration with All India Institute of Medical Sciences, New Delhi and National Academy of Medical Sciences conducted CME on the topic "Research Perspective on Air Pollution" on 9th August, 2024. Dr. Harshal Ramesh Salve represented CAPHER India in the CME. He presented talks on the following topics: "Health inequality and its vulnerability to climate change" and Health effects of air pollution: Experience sharing". The panel discussion was conducted on the topic "Strategizing to Counter Eventual III Health Effects of Climate Change in Arunachal Pradesh. Dr. Harshal Ramesh Salve was an eminent speaker along with Dr. Faruqueuddin Ahmed, Dr. Lobsang Jampa, Dr. Anoop Dev, Dr. Tamar Paley, Dr. Tulika Goswami Mahanta. Recommendation includes strenghning of research capaciti in North-Eastern States.



CAPHER-INDIA ACTIVITIES

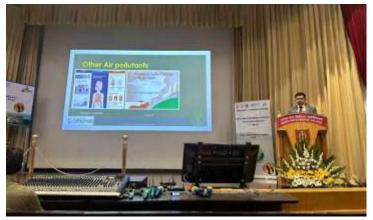
Scientific session "Armed Forces Conference on Climate Change and Environmental Susceptibility: The Public Health Perspective", Pune

Dr. Harshal Ramesh Salve delivered a talk on the topic "Health Impact of Air Pollution- Evidences and Cues for Action" on 9 August 2024.

Environment is an important determinant of community health with mortality rate being 235 globally. Various health impacts of air pollution were discussed. Intersectoral coordination, community engagement, capacity building and working with national programmes is way forward. CAPHER India is a collaboration between AIIMS, New Delhi and IIT, Delhi.

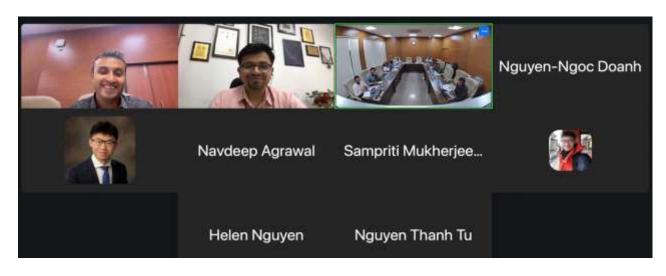
Panel Discussion: The theme of the panel discussion was "Public Health Measures to Address the Impact of Climate Change on Population Health: Are we doing enough?". The session was moderated by Retd. Col MP Cariappa and panellists of the sessions were Lt Gen AK Jindal, Retd Dr K Madan Gopal, Col Amitav Banerjee, Dr Harshal Salve and Dr. Ravindra Khaiwal. Dr. Harshal Ramesh Salve discussed how does climate change exacerbate air pollution and what specific health risks are associated with increased exposure to pollutants.





Scientific session "Smart Transportation for Reducing Emissions and Congestion in Indian Cities (STREC)", NOIDA, Uttar Pradesh

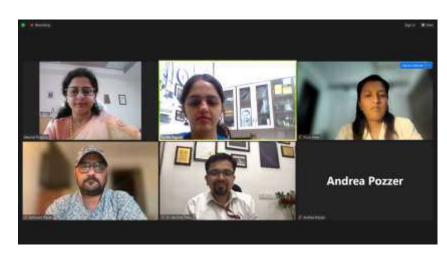
IIT Kanpur in collaboration with University of Illinois at Urbana Champaign (USA) organised one day workshop on the theme of Smart Transportation for Reducing Emissions and Congestion in Indian Cities (STREC). CAPHER India was represented by Dr. Harshal Ramesh Salve who delivered a talk on the topic "Health Impact of Air Pollution- Evidences and Cues for Action". Air pollution is responsible for 1 in every 8th death in India, 2nd most common cause of DALY in India, 99% of India's population exposed to more than recommended (10 µg/m³). Impact of climate change is on all the organ system. The various measures that needs to be adopted for mitigation are community engagement, collaboration, generating local scientific evidence, capacity building , advocacy and communication. At the level of national programme level includes situation analysis, identifying risk reduction strategies, health system strengthening, monitoring and surveillance. Several activities have been conducted under CAPHER India like Multistake holder round table conferences, capacity building initiatives for early career researchers like webinars etc.



CAPHR-INDIA WEBINAR SERIES

Webinar 4 "Impact of Heat on health amidst higher Air Pollution exposure – Current evidences and cues for action"

The 4th webinar was cunducted on the topic "Impact of Heat on health amidst higher Air Pollution exposure – Current evidences and cues for action". The speakers for the webinarwere Dr. Andrea Pozzer, Germany; Dr. Abhiyant Tiwari, NRDC; Dr. Purvi Patel, NCDC. The webinar aimed to understand the linkages between heat, air pollution and health outcomes. Climate change can pose a threat on universal health coverage. The need of the hour Is to promote multi-sectoral coordination among Health care workers,



scientists, environmentalist, researchers and policy makers. the policies of air quality and climate change should be developed together

Webinar 5 "Impact of Air Pollution on Early Childhood Development – Current evidences and cues for action"

The 5th webinar was cunducted on the topic "Impact of Air Pollution on Early Childhood Development – Current evidences and cues for action". The speakers for the webinar were Dr.Beate Ritz, UCLA; Dr. Sheffali Gulati, AIIMS; Dr. Harshal Ramesh Salve, AIIMS. The webinar aimed to understand the linkage between air pollution and early childhood development at national and international level. The reproductive outcomes of air pollution exposure pose a grave problem affecting greater parts of the world. Both indoor and outdoor air pollution has an impact on this vulnerable group. Inspite of many evidences on this topic the policy makers are yet to take concrete actions and bring about major changes. The government needs to make arrangements as per the burden of disease and country specific air pollutants guidelines. There exists various scientific literatures but the early careers researcher still can focus their research on constituents of air pollution and its effect on neurodevelopmental disorders, biomarkers of neurological outcomes and other areas which are less explored.





SCIENTIFIC ABSTRACTS

Ambient and household air pollution exposure as determinants of acute respiratory infection among rural households of Jodhpur, Rajasthan - A case-control study.

DOI Number: AHB/2023-24/01

Authors: Dr. Ranjitha R, Dr. Neeti Rustagi, Dr. Thamizhanban A, Dr. Pankaja Ravi Raghav

Affiliation: AIIMS, Jodhpur

Jodhpur, a city under the National Clean Air Programme, struggles with poor air quality. As part of the arid Thar Desert, Jodhpur's determinants of acute respiratory infections (ARI) may differ from other regions.

Aim: to investigate the exposure to ambient and indoor air pollution and determine its association with ARI in rural households of Jodhpur, Rajasthan.

Objectives: To determine the burden of ARI among these patients, identify risk factors for ARI, assess exposure to ambient and indoor air pollution in rural Jodhpur households, to determine the association between ARI and air pollution exposure.

Methodology: The case-control study will be conducted in rural households of Jodhpur, Rajasthan. A pre-tested, semi-structured, interviewer-administered questionnaire will be used to gather socio-demographic details, air pollution exposure (both indoor and outdoor), and respiratory morbidity history. Cases and controls will be selected according to a case definition, and air quality monitors will be placed indoors and outdoors of their houses with participants' consent to measure pollution exposure accurately. Data analysis will follow.

Outcomes: include identifying risk factors/predictors of ARI in rural households, measuring ambient and indoor air pollution exposure levels in the study population, and establishing the association between air pollution exposure and ARI. Awarded by the National Institute for Health and Care Research (NIHR), United Kingdom, Royal Society of Tropical Medicine and Hygiene (RSTMH), London Early Career Grants Programme

Health and Economic Benefits of reducing PM2.5 pollution in an Indian megacity

DOI Number: AHB/2023-24/02 **Authors:** Lavanyaa V. P. Srikanth R

Affiliation: National Institute of Advance Studies, Indian Institute of Science Campus, Bangalore

Fine Particulate Matter (PM2.5) poses a significant public health hazard in India. While there are numerous studies on PM2.5 exposure assessment in India, there are only a handful of studies on health risk estimation.

Aim: This study addresses this critical gap by estimating the short-term effects on respiratory health in Bengaluru with the high spatial resolution PM2.5 model.

Method: A cross-sectional study was conducted in 1400 households in the city of Bengaluru. Time-weighted PM2.5 exposure for the survey respondents was derived from the PM2.5 model for 2019 based on residential and work/education locations. This study also used the Tobit model to estimate the economic benefits of reducing PM2.5 pollution

Results: Nearly 25% of the respondents had respiratory illnesses (RI). The study utilized a logit model to develop risk estimates for RI due to PM2.5 pollution. The logit model results revealed that higher levels of PM2.5 significantly increase the probability of respiratory illness, particularly among lower-income individuals. The OR of 1.38 (95% CI: 1.16-1.64) is observed for the probability of RI corresponding to an increment of 10 μ g/m3 in PM2.5 concentration. The Tobit model results show that a 10 μ g/m³ reduction in PM2.5 is associated with an estimated cost avoidance of Rs. 369 in public hospitals and Rs. 498.4 in private hospitals at an individual level.

The key findings of this study highlight the disproportionate economic burden on lower-income individuals for PM2.5-attributed respiratory illnesses.

SCIENTIFIC ABSTRACTS

Exploring association of Respiratory conditions and Health risk perception of biomass fuel with intent-to-use and willingness to pay for clean fuel in rural Jodhpur

DOI Number: AHB3/2023-24/03

Authors: Dr. Rahul Solanki, Dr. Neeti Rustagi, Dr. Prasanna Thirunavukkarasu' Dr. Suman Saurabh

Affiliation: AIIMS, Jodhpur

Around 2.4 billion people worldwide use open fires or inefficient stoves fuelled by kerosene, biomass (wood, animal dung, and crop waste), and coal, which generates harmful household air pollution.

Aim: The current study explores association of Respiratory conditions and Health risk perception of biomass fuel with intent-to-use and willingness to pay for clean fuel in rural area of Jodhpur.

Methodology: The study will be conducted in rural blocks of Jodhpur.

Outcomes: findings of this study will help in understanding how the health risk perception influence households decision-making regarding the use of cleaner fuel and the barriers stopping them from shifting from biomass to cleaner fuel.

Gender-based meta-analyses of death due to respiratory diseases

DOI Number: AHB3/2023-24/04

Authors: Shobhna Shankar, Ranu Gadi

Affiliation: Amrita Institute of Medical Science, Kocchi

Numerous governmental and private agencies/groups are relentlessly working towards reduction of air pollution by implementing various policies at local as well as global level, which ultimately aim at improving environmental and public health.

Methods: Daily PM2.5 levels were curated for the functional monitoring sites out of total (40) CPCB sites in Delhi, for the duration 2015-2019. The death records due to lower and upper respiratory diseases and other respiratory ailments in females and males were analysed for Delhi and the world (as per data availability). Because of the presiding influence of COVID-19, the later years were not included in the study.

Results: In Delhi, the number of deaths due to lower respiratory diseases was found to have an increasing trend over time in both females (ranging from 583 to 910) and males (ranging from 1070 to 1733) in Delhi. The upper respiratory diseases showed overall decrease in death in both females (ranging between 633 and 44) and males (ranging between 1152 and 97). Globally, the number of deaths due to lower and upper respiratory diseases showed decreasing pattern in females (ranging between 1208347 and 1192961; 5240 and 4566, respectively) and males (ranging between 1325536 and 1301520; 6752 and 5770, respectively). The other respiratory ailments in Delhi and the world showed slight increasing trend accompanied with periodic decrease for both females (ranging between 3102 and 2416; 24608733 and 25840071, respectively) and males (ranging between 5207 and 3823; 29522043 and 30651223, respectively). The levels of PM2.5 in Delhi were also studied in order to check the correlations, but little information was drawn regarding the temporal pattern of decrease over 2015 to 2019 (ranging from 135.12 and 104.45 ug/m3) due to improved policies. This may infer for chronic or accumulated impact of the inhaled PM2.5 over time.

SCIENCE NEWS

Kochi intervention for tobacco smoke free homes (KIFT)- Project

The project, "Effectiveness of Tobacco Smoke-Free Home Intervention in Partnership with Women's Self-Help Groups in the Slums of Kochi Corporation, Kerala: A Cluster Randomized Trial," aims to reduce indoor tobacco smoking and second-hand smoke (SHS) exposure, particularly among women and children. This study, a collaborative effort between Amrita Hospital Kochi, Kochi Corporation, and the National Health Mission (NHM), was funded by the Harvard T.H. Chan School of Public Health. Primary objective of the study was to determine the effectiveness of an intervention led by women's self-help groups to reduce indoor tobacco smoking by measuring urinary cotinine levels and PM 2.5 as an indicator of tobacco smoke in the home environment. A socio-ecological model was used to deliver the multipronged intervention at the individual, interpersonal and community level. The intervention, launched by Mayor, involves training self-help group members and ASHAs to conduct household surveys, sensitization, air quality monitoring using indoor air quality monitors, and lung function testing with COPD6 monitors, along with sample collection for urine cotinine analysis. Baseline data collection included demographics, smoking behaviour, indoor air quality and other health and environment related information of smokers and their families. The intervention featured health education using flipcharts, training on the health impacts of smoking and SHS exposure, the formation of children's groups called "Kuttikootam," and the distribution of educational materials. The intervention also incorporated the 3 A's model for smoking cessation—Ask, Advise, and Act. Monthly home visits by the ASHA-SHG team reinforce the message of not smoking indoors. Customized messages based on baseline survey findings were delivered, and two post-intervention surveys were conducted 6 months and 12 months after the intervention to assess the sustainability of effectiveness. Implemented in 30 clusters with 4,596 families starting in 2021, the study faced challenges due to the COVID-19 pandemic and floods but was successfully completed.

Authors: Dr Aswathy S, Dr Navami S, Dr Sreelakshmi Mohandas, Dr Vishnu B Menon, Dr Jaideep C Menon

Knowledge and practices related to Ambient Air Pollution in an urban population in the Capital City of India

Ambient Air Pollution (AAP) is major and challenging risk factor of ill health to address in low and middle income country like India. Community perception of air pollution, as well as health risk perception is crucial for formulating public health action driven policies. This study aimed to assess knowledge and practices regarding ambient air quality, its health impacts and mitigation measures in an urban community of National Capital of India, Delhi. A community based cross-sectional study using a semi-structured questionnaire was conducted among the population residing in resettlement colonies of South-East District of Delhi. Knowledge and practices related to Ambient Air Pollution were reported using descriptive analysis. Among the 300 participants enrolled in the study. Mean age (SD) of the participants in the study was 36.7 years (13.2) and both genders were equally represented. Of the study participants, 90% went to formal schooling. Vehicular emission was the commonest (88.3%) reported source of AAP followed by firecracker use and industrial emissions. Only 40% of the participants were aware of the health hazards of AAP. Breathing difficulty was the common reported health effect. Elderly and under five children were identified as vulnerable section of the population. Only 18.3% of the population were aware about the Air Quality Index and of which only four percent able to classify an air quality as per color coding. More than two-third of the participants had felt the need for reduction of AAP in their locality. However, only one-tenth of the participants practiced measures to reduce AAP, such as wearing masks in outdoors, closing windows/ doors and changing early morning exercise schedule. he study reported good knowledge regarding sources and impacts of APP but poorer practices of mitigation and protective measures in an urban population.

Authors: Nagappan Madhappan, Harshal Ramesh Salve, Anand Krishnan, and Kiran Goswami

SCIENCE NEWS

Air quality and health co-benefits of climate change mitigation and adaptation actions by 2030: an interdisciplinary modeling study in Ahmedabad, India

Ahmedabad is a city in India where air pollution levels exceed national health-based standards—through an interdisciplinary modeling approach. The changes in fine particulate matter (PM2.5) air pollution and all-cause mortality in 2030 from increasing renewable energy use (mitigation) and expanding Ahmedabad's cool roofs heat resilience program (adaptation) were quantified. Local demographic and health data was applied to compare a 2030 mitigation and adaptation (M&A) scenario to a 2030 business-as-usual (BAU) scenario (without climate change response actions), each relative to 2018 pollution levels. The 2030 BAU scenario results in an increase of PM2.5 air pollution of 4.13 µg m⁻³ from 2018 compared to a 0.11 µg m⁻³ decline from 2018 under the 2030 M&A scenario. Reduced PM2.5 air pollution under 2030 M&A results in 1216–1414 fewer premature all-cause deaths annually compared to 2030 BAU. Achievement of National Clean Air Programme, National Ambient Air Quality Standards, or World Health Organization annual PM2.5 Air Quality Guideline targets in 2030 results in up to 6510, 9047, or 17 369 fewer annual deaths, respectively, relative to 2030 BAU. This comprehensive modeling method is adaptable to estimate local air quality and health co-benefits in other settings by integrating climate, energy, cooling, land cover, air pollution, and health data. The city-level climate change response policies can achieve substantial air quality and health co-benefits. Such work can inform public discourse on the near-term health benefits of mitigation and adaptation.

Limaye VS, Magal A, Joshi J, Maji S, Dutta P, Rajput P, Pingle S, Madan P, Mukerjee P, Bano S, Beig G. Air quality and health co-benefits of climate change mitigation and adaptation actions by 2030: an interdisciplinary modeling study in Ahmedabad, India. Environmental Research: Health. 2023 Mar 1;1(2):021003.

Mitigation pathways towards national ambient air quality standards in India

Exposure to ambient particulate matter is a leading risk factor for environmental public health in India. While Indian authorities implemented several measures to reduce emissions from the power, industry and transportation sectors over the last years, such strategies appear to be insufficient to reduce the ambient fine particulate matter (PM2.5) concentration below the Indian National Ambient Air Quality Standard (NAAQS) of 40 µg/m3 across the country. Various pathways towards achieving the NAAQS in India in the context of the dynamics of social and economic development needs to be explored. The exposure to ambient air pollution in the current legislations and alternative policy scenarios based on simulations with the GAINS integrated assessment model was estimated. The analysis reveals that in many of the Indian States emission sources that are outside of their immediate jurisdictions make the dominating contributions to (population-weighted) ambient pollution levels of PM2.5. Consequently, most of the States cannot achieve significant improvements in their air quality and population exposure on their own without emission reductions in the surrounding regions, and any cost-effective strategy requires regionally coordinated approaches. Advanced technical emission control measures could provide NAAQS-compliant air quality for 60% of the Indian population. However, if combined with national sustainable development strategies, an additional 25% population will be provided with clean air, which appears to be a significant co-benefit on air quality (totaling 85%).

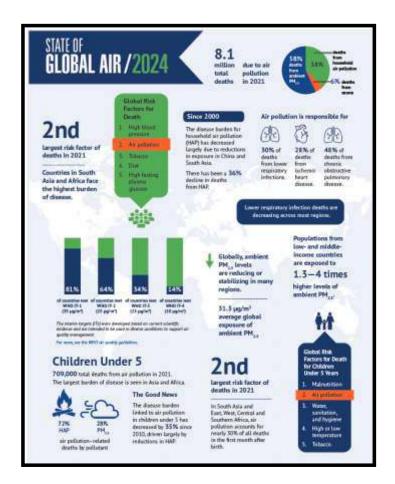
Purohit P, Amann M, Kiesewetter G, Rafaj P, Chaturvedi V, Dholakia HH, Koti PN, Klimont Z, Borken-Kleefeld J, Gomez-Sanabria A, Schöpp W. Mitigation pathways towards national ambient air quality standards in India. Environment international. 2019 Dec 1;133:105147.

SCIENCE NEWS

State of Global Air Report 2024

The State of Global Air 2024 reports provides a comprehensive analysis of data for air quality and health impacts for countries around the world. The analysis finds that:

- Air pollution accounted for 8.1 million deaths globally in 2021, becoming the second leading risk factor for death, including for children under five years. Of the total deaths, non-communicable diseases including heart disease, stroke, diabetes, lung cancer, and chronic obstructive pulmonary disease (COPD) account for nearly 90% of the disease burden from air pollution.
- In 2021, more than 700,000 deaths in children under
 years were linked to air pollution; this represents
 15% of all global deaths in children under five.



Available at :

https://www.stateofglobalair.org/resources/report/state-global-air-report-2024

High ambient air pollution erodes the benefits of using clean cooking fuel in preventing low birth weight in India

A large fraction of the population in rural India continues to use biomass fuel for cooking and heating. In-utero exposure to the resulting household air pollution (HAP), is known to increase the risk of low birth weight (LBW). Mitigating HAP, by shifting to clean cooking fuel (CCF), is expected to minimize the risk associated with LBW. However, India also has high levels of ambient air pollution (AAP). Whether exposure to AAP modifies the effect of reducing HAP by switching to CCF on LBW is not known. The knowledge gap was addressed by analyzing the National Family Health Survey (2019–21) data of the most recent full-term, singleton, live births from rural households born after 2017 (n = 56 000). In-utero exposure to AAP was calculated from satellite-derived ambient fine particulate matter (PM2.5) concentration at the level of the primary sampling unit for the pregnancy duration of the mothers. The moderation by ambient PM2.5 level on the odds of LBW among CCF users was examined by logistic regression analysis with interaction. The adjusted odds ratio (aOR) of LBW was 7% lower among users of CCF. At the lowest Decile (20–37 μ g m–3) of ambient PM2.5 exposure, the aOR of LBW among CCF users was 0.83 (95% CI:0.81–0.85). At every 10th percentile increase in ambient PM2.5 exposure (in the range 21–144 μ g m–3), aOR increased gradually, reaching the value of 1 at PM2.5 level of 93 μ g m–3. The benefit of using CCF during pregnancy may be downgraded by moderate to high ambient PM2.5 exposure.

Available at: Parchure R, Chaudhary E, Darak S, Ghosh S, Kumar A, Dey S. High ambient air pollution erodes the benefits of using clean cooking fuel in preventing low birth weight in India. Environmental Research Letters. 2024 Jan 9;19(1):014075.

SCIENTIFIC DATABASES

Database of South Asia – Air Pollution and Health (DoSAAH)

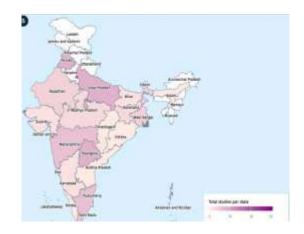
The Health Effects Institute has developed the Database of South Asia – Air Pollution and Health (DoSAAH), an interactive and comprehensive bibliographic resource on air pollution and its health impacts in South Asia. The database includes peer-reviewed studies and select gray literature from Afghanistan, Bangladesh, India, Nepal, Pakistan, and Sri Lanka, sourced from PubMed, Web of Science, and Google Scholar. It offers free public access with customizable filters by criteria such as publication date, country, study type, and health outcome. Designed to support researchers, policymakers, and public health professionals, DoSAAH serves as a valuable tool for accessing targeted evidence on air quality and health across the region. For inquiries or to submit additional articles, please contact Dr. Abinaya Sekar at asekar@healtheffects.org. We also welcome



collaborative opportunities to disseminate and utilize this database for wider applications. Explore the database here: https://www.healtheffects.org/global/database-south-asia-air-pollution-and-its-health-effects-dosaah

Database of India – Air Pollution and Health

CAPHER India Secretariat has developed Database of India – Air Pollution and Health, an interactive and comprehensive bibliographic resource on air pollution and its health impacts in India. The database includes peer-reviewed studies and select gray literature sourced from PubMed, Web of Science, and Google Scholar. It offers free public access with customizable filters by criteria such as publication date, country, study type, and health outcome. It has been designed for early career researchers, scientists, medical professionals and environmentalists. Explore the database here: https://capherindia.org/spatial-bibliography



CENTRE OF EXCELLENCE

Centre for Excellence for Air Pollution and Health under National Program for Climate Change and Human Health

AIIMS, New Delhi has been declared as The Centre for Excellence for Air Pollution and Health. This centre has been developed in collaboration with National Centre For Disease Control (NCDC), Delhi is under administrative control of the Director General of Health Services, Ministry of Health and Family Welfare, Govt. of India. The focus areas of this collaboration is as follows:-

- To update subject specific national health adaptation plan (HAP) on air pollution and human health.
- To develop Standard Operating Procedures (SOPs) related to implementation of action plan and subject related advisory
 /guidelines on air pollution
- To support States/ Districts for developing health action plan on air pollutionto address the concern in the State
- To develop training module for State Programme Officials including Medical Officers on air pollution health concerns
- To build capacity for State Programme Officials including Medical Officers on air pollution health concerns
- To support States in setting up of a functional surveillance system on air pollution related illnesses
- To develop IEC on air pollution related illnesses
- Monitoring and Evaluation of programme activities through field visits to States
- To develop reports, newsletters, articles, publication on air pollution and health related matters

Centre is located at Centre for Community Medicine, AIIMS, New Delhi. Dr Harshal Ramesh Salve is the principal investigator.

MEDIA COVERAGE

प्रदूषण नियंत्रण व जन स्वास्थ्य के लिए सरकार का सहयोग करेंगे डॉक्टर-इंजीनियर

टाएम्स): वस्यु प्रदूषण के चलते दुनिया में करोब 60 लाख लीम तो वहीं, भारत में करीब 24 त्वस्त्र लीग प्रतिवर्ष अपनी जान गंदा देते हैं। पानी देश में ऑयसन 6.5 हजार खेगों की मीत प्रदूषण से होने वाली बोमारियों के चलते हो जाती है। इस

संबंध में एक प्रधानी और स्थापक राष्ट्रीय से निपटने के लिए नीति की जरूरत एम्स दिल्ली और असमें में महसूस की आईआईटी दिल्ली के जा गाँ। हैं जिसे गंभर फोलेबॉर्सट्य विशेषज्ञ बनाएंगे फॉर एपर पॉल्प्सन गाइडलाइस ग्रंड रेस्थ इफेस्ट्रा रिसर्च (सॉएप्रेएपर्डअस) इंडिया ने शनिवार की एमा

इस मैठक में अखिल भारतीय आयुर्विज्ञान संस्थान (गम्स दिल्लो) के स्वास्थ्य विशेषतीं और भारतीय प्रोचींगिकी संस्थान (आईआईटी हिल्ली) के प्रीचीनिकी विशेषमें के साथ देश के प्रमुख शोधकर्शाओं और नीति निर्माताओं ने भाग लिया। इस दौरान एम्स के कम्युनिटी मंडिसिन विभाग के औ. थीं, शर्वल माल्वे ने बताया कि देश में प्रदूषण व स्वास्थ्य पर दुखभाव जातने वाले तत्वीं को

दिल्ली के दर्ग, रामलिंग स्थामी बोर्ड रूम में एक बेंडक का

आयोजन किया।

नीति के साथ राष्ट्रीय स्तर पर समन्वय का अभाग है। इस कारण जलवायु परिवर्तन में लेकर पर्यासला संतरण उठेर

> प्रभावी योजना ऑस्तल में नार्वे आ पा रही है। ऐसे में सीएपीएचई आर- इंडिया ने विस्तृत गाइडलाइन बनाने का फैसला किय है जिससे निर्मित्र प्रकृषण की रोक मान की जा सकेगी। बल्कि लोगों के स्वास्थ्य के साथ पर्याचरण कर संरक्षण भी किया जा सकेगा। साध ती केंद्र गरकार को राष्ट्रीय स्तर पर एक नीति बनाने में मदद फिल सके गी।

प्रदेशन निर्वेषण के सामत

हाँ साम्बे ने कहा कि प्रदूषण नियंत्रण के बाबत एक मॉडल पर काम किया जा सा है जिसके तहत छतीसगढ़ के खदान केची के आसपास और प्रमणी के इंटीर में जगह जन्म प्राक्ष्यंट एका क्वालियों महीन लगाई गई है जो महीन धूनकथीं (पीएम 2.5 व पीएम 10) के साथ सल्फर ओक्साइड, नाइट्रोजन ओक्साइड, ओजोन, कार्यन मोनो ऑक्साइड समेत अन्य रीमों के जना का माधन भी करते हैं। इस प्रशीन पर निगरानी रखने की विष्मेदारी स्थानीय आशा कार्यकर्ता और सामदायिक सेवा विभाग को सींधी गई है। ये खेश बाब पुगवता साराब होते ही एक्सन में आ बाते हैं और प्रदूषण में इजाफा करने वाले कारकों पर रोक लगाने में जुट करने हैं।

इस अवस्य पर प्रध्य निरंत्रक हो एम औरियास के मान आईआईटी निदेशक और इंबल्यर चंडी की हाँ. जगदीम कीर, आईआईटी, कानपुर के प्रोपेक्सर एसएन त्रिपाटी, राज्य रकारूय गंमाधन केंद्र की पनिता कुमार, स्थाना भाषु उत्प्रेरक अजरा खान महित हाँ, सार्गनिक प्रभुख रूप

...And patients start lining up at hospitals with breathing woes

New Bellië People mourpeo aching hospitals in the ruy aching hospitals in the rity with complaints of respirato-ry discerniors, attributable perfeips to the worsesting oir quality in Delhi with the on-

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Phase II of plantation drive launched

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heroschilla and naturna, corti-ar conditions and diabetes in the extra condition the next few months due to the usual high winter pollution level. "They e extitutes, senting due to the months due to the minuter polluriant invol. They have to start using radialies and nebuliares. The flu vaccine is a most across of any groups. The value is about 3 do take the pure to the pu

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हिन्द्स्तान

TIMES VIEW: The ming varieties of patients of neapers toy illnesses underlines that the city is fighting a testing battle apenut hosic air. Will minor approaching, the sile unition approaching, the sile unition will notify get vecrose, in 2011, studies who engine in 2011, studies whose digital the average lifespan host to poliution was enginely to years. The city. Two years stored that the proposed to years. To this airport but 20 years. To this proposed to years. To this proposed to years to this proposed on the studies with these should get how resistant mode and that waitable units freed, she file story existing the complete of the proposed to the control of the control

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Feeling anxious? Toxic air could be to blame

New Delhi: Long-term expo sure to air pollution could le ad to higher risk of depres sion and anxiety besides respiratory disorders. People who breathe in polluted air experience changes within the brain that control the emotions and as a result their chances of developing anxie ty and depression are much higher than those who breat-he in cleaner air, said doctors on the eve of World Mental Health Day.
"Fresh and clean air is a

prerequisite for healthy living and thinking. An optimal amount of oxygen is essential for rational thinking," explained Dr Ashish Rumar Mittal, senior consultant psychiatrist, Columbia Asia Hospital. Columbia Asia Hospital.

"When the air gets polluted, our survival instinct starts acting and blurs our higher or der logical cognitive proces and simultaneously disturbs our emotional state, severely impacting our mental health This impact is visibly noticed in the form of a lower threshold of irritation and tolerance to frustration." Dr Nand Kumar, professor

of psychiatry, AIIMS, agreed that mental health was an important dimension of air pollution, "Its effects range from behavioural variations to de pression, schizophrenia, bi polar disorder and other neu rodegenerative disorders," he said. "The mechanism is not clear, but it is likely to trigger inflammation in the region of the brain that regulates the emotions, focusing on the hippocampus, amygdala and prefrontal cortex.

HAVING A BAD-AIR DAY?

A study from researchers at Harvard, published in March 2023, adds to the evidence connecting exposure to air pollution (small particu-late matter (PM2.5), nitrogen oxide and nitrogen dioxide) to increased risk of dementia



➤ Some researchers have associated air pollution with higher levels of stress, psychological distress, increased



risk of dementia and Alzheimer's and depression

A study published in Envi ronmental Health Perspectives found an association between short-term exposure to elevated levels of air pollution and increased II emergency room psychiatric visits among children



Exposure to air pollution exacerbate existing ntal health conditions in all age groups."

A major concern with air pollution, Kumar added, was its potential impact on child-ren and adolescents who are vulnerable as their brain is

still developing. Research suggests that air pollution can lead to anxiety, depression and memory issu es. As Dr Vipul Rastogi, senior consultant Neuropsychiatrist, Medanta Hospital, pointed out, "A cleur, blue sky makes a person feel calmer and penceful while a bazy and polluted

sky causes frustration and an-

xieties about our health." Rastogi said going out and exercising on heavily polluted days has to be limited, but one should ensure activity indoors, say through yoga, dance and anything that gets one moving, "Exercise helps us stay positive in an environment of doom and gloom," he said.

The review of existing li-terature on the subject claims that exposure to air pollution increases chances of depres-sion by 1%, noted Harshal Ramesh Salve, additional pro-fessor, community medicine, AIIMS. Like any other body part, air pollution, particularly particulate matter, can hit the brain, causing depres-sion, he said, adding that neurodevelopment related disea-ses are also associated with exposure to air pollution.

धूल और जाम के खात्मे दिल्लीवालों को धूपखिलने, र्से प्रदूषण में कमी संभव

नहें दिखनी, इस्तुस संवद्याध्यात । स्वा दिखनी ही हामांत्र मार्थे मात्र पूर्वण पर दिखने हुए जिस्से उन्हर में उद्योवकी पर दिखने हुए जिस्से उन्हर में उद्योवकी दिखने, हामार्थ्य प्रदूष्ण प्रदूष्ण जिस्से हुए हामार्थ्य प्रदूष्ण प्रदूष्ण प्रदूष्ण प्रदूष्ण प्रदूष्ण प्रदूष्ण हुए हामार्थ्य प्रदूष्ण प्रदूष्ण प्रदूष्ण प्रदूष्ण प्रदूष्ण हुए हामार्थ्य प्रदूष्ण प्रदूष



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केंद्रीय प्रदृषण नियंत्रण बोर्ड ने खुद वादम कि मौजुदा साल और बीते दो वर्षों में भी यही बी सब्बाई





अनीय-प्रत्यानीय नहीं नोबीतना से ब्राम करने की आवश्यकता

हवा 'बेहद खराब', अगले छह दिन तक राहत के आसार नहीं

275 gar तान जिल्ली को कोबाबन जो है। हातन जीए बजा, पुंचा और कोबाबिक को लियों के उनके पुरूष में पहुंचा कार्य अपूर्वा, रिपारी का पार प्रीका अभिक्र को रिपारी के उठ प्रकृत १-४ स. से बेरा कारण केंग्री है। रिपारी केंग्री के स्वरूप स्

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A social media account for CAPHER-India was made on X. The Xhandle can be followed for updates on CAPHER activities.

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- Express your specific area of interest
- Share brief summary of work done so far





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