Children’s Environmental Health International Initiatives

This is an international mailing list provided by WHO and UNEP dedicated to promoting healthy environments for children

July/August 2023

Declaration of the Seventh Ministerial conference on Environment and Health

The Seventh Ministerial Conference on Environment and Health was held in Budapest, Hungary held from 5–7 July 2023. The goal of this meeting was to define the future environment and health priorities and commitments for the WHO European Region, with a focus on addressing the health dimensions of the triple environmental crisis of climate change, biodiversity loss and environmental pollution. During the meeting, the attending nations release a declaration emphasizing their concern for the effects of health associated with environmental risk factors. They address numerous additional concerns including climate change, the impact of COVID, increasing threats to mental health and well-being and worries about the ongoing energy crisis. The member countries acknowledge the challenges associated with creating equitable and sustainable development while promoting healthy and resilient communities but have committed to working together for a healthier future.

WHO (19/07/2023)

New! Basic training on environment, climate change and health – Online course for practitioners and actors influencing policy change

Environmental risks to health are responsible for about one quarter of the global disease burden. Decision makers need to be aware of the most important environmental exposures, exposure-disease links and available options and solutions for creating a healthier environment. Environmental health is integral part of disease prevention. This course provides an introduction to environmental health, covering key facts, figures and available interventions on the most important environmental risks including climate change, air pollution, water, sanitation and hygiene, chemicals and others. It is hosted on the openWHO platform. The course includes a wide range of topics from air pollution, climate change, water, chemicals, noise, and radiation in addition to information about specific settings.

WHO

Reports

Air quality groups call on COP28 President Dr Al Jaber to put air pollution ‘firmly on the agenda’

Air quality organizations are urging Dr. Al Jaber to prioritize addressing air pollution. A letter from groups including the Clean Air Fund, Asthma + Lung UK, and the Global Climate and Health Alliance is set to be delivered to the UAE embassy in London 100 days before COP28. The letter commends the first COP Health day but emphasizes the need for stronger action to improve air quality. It references a 2020 report by The Global Alliance on Health and Pollution, suggesting interventions like replacing coal with renewable energy, transitioning to electric vehicles, controlling diesel emissions, and

Journal Articles

The Burden of Respiratory Disease from Formaldehyde, Damp and Mould in English Housing

In England, there is current regulatory and public attention on the health implications of residential exposure to formaldehyde, damp and mould. The authors assessed the burden of key respiratory diseases from residential formaldehyde, damp and/or mould for the English population aged 0–14 and 15–49. They obtained data on the percentage of dwellings affected by damp and/or...
mould from the English Housing Survey and estimated the distribution of residential formaldehyde concentrations. Exposures were combined with national health data to estimate disease incidence, and Disability Adjusted Life Years (DALYs) lost associated with residential formaldehyde or damp and/or mould exposure in England. Exposure to formaldehyde was associated with approximately 4000 new cases of childhood asthma (~800 DALYs lost) in 2019. Exposure to damp and/or mould was associated with approximately 5000 new cases of asthma (~2200 DALYs) and approximately 8500 lower respiratory infections (~600 DALYs) among children and adults in 2019. Our assessment highlights the public health importance of good indoor air quality and good quality housing.

Environments

Air Pollution

Effects of pre-natal and post-natal exposures to air pollution on onset and recurrence of childhood otitis media

The authors sought to identify the key air pollutant(s) and critical window(s) associated with the onset and recurrent attacks of otitis media (OM) in kindergarten children. A retrospective cohort study involving 8689 preschoolers aged 3–6 years was performed in Changsha, China. Data on air pollutants were collected from ambient air quality monitoring stations. The relationship between air pollution and OM in kindergarten children was studied using multiple logistic regression models. The authors found that early-life exposure to air pollution, particularly PM_{2.5} during the middle of gestation and PM_{10} during the early post-natal period, was associated with childhood OM.

Journal of Hazardous Materials

Association of air pollution exposure during pregnancy and early childhood with children's cognitive performance and behavior at age six

The authors aimed to clarify the association between prenatal and postnatal air pollutant exposure and children's cognitive performance and behavior at age six. The study was conducted on a birth cohort study in Japan. Children's intelligence quotient (IQ) and indicators of Child Behavior behavioral problems were assessed. Exposure to outdoor fine particulate matter (PM_{2.5}) during pregnancy and early childhood was estimated. The associations of exposure to air pollution during pregnancy and preventing crop burning and forest fires. The letter also highlights that carbon capture technologies don't address toxic pollutants, responding to Al Jaber's statement on phasing out fossil fuel emissions for clean air and climate benefits.

Airqualitynews.com (241/08/2023)

Climate change and noncommunicable diseases in small island developing states - SIDS
Ministerial Conference on NCDs and Mental Health

Small island developing states (SIDS) have made minimal contributions to global emissions of greenhouse gases but are among the countries hardest hit by climate change and natural disasters. Most SIDS are already experiencing severe health effects from climate change, with an increasing incidence of infectious diseases such as malaria, dengue fever, diarrhoea and Zika virus disease. There is increasing strong evidence for a relation between increased morbidity and mortality from noncommunicable diseases (NCDs) and extreme weather events, and also increasingly unhealthy diets and food and water insecurity. Climate change also poses serious risks to mental health. SIDS are disproportionately represented among the countries with the highest estimated risk of dying prematurely from any of the four main NCDs, cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases. Action is needed to advocate for change among SIDS and improve data and knowledge in these communities.

WHO (06/2023)

Scientific Reports

Spotlight on Health and Climate Change

Tackling climate change through the lens of human health - Since 1993, The Lancet has worked to reveal climate change to be the biggest global health threat of the 21st century, and also a tremendous opportunity to tackle the social and environmental determinants of health. Since 2016, the Lancet Countdown, an international, multidisciplinary collaboration, has monitored the evolving health profile of climate change, and provided an independent assessment of the delivery of commitments made by governments worldwide under the Paris Agreement.

The Lancet

In the Media

Spike in dengue cases due to global warming, warns WHO
after childbirth with cognitive performance and behavior were analyzed using logistic regression models. The results suggest associations between prenatal and postnatal exposure to outdoor air pollution and behavioral problems, and between indoor air pollution after childbirth and cognitive performance at age six. However, the effects of exposure to outdoor PM$_{2.5}$ during pregnancy on cognitive performance were not observed.

Environmental Research

The impact of antenatal and postnatal indoor air pollution or tobacco smoke exposure on lung function at 3 years in an African birth cohort

Indoor air pollution (IAP) and tobacco smoke exposure (ETS) are global health concerns contributing to the burden of childhood respiratory disease. The authors assessed the impact of antenatal and postnatal IAP and ETS exposure on lung function in a South African birth cohort. Antenatally enrolled mother–child pairs were followed from birth. Lung function measurements were performed at 6 weeks and 3 years. Quantitative antenatal and postnatal IAP and ETS exposures were measured. The authors found that antenatal and postnatal IAP and ETS exposures were associated with impairment in lung function at 3 years. Strengthened efforts to reduce IAP and ETS exposure are needed. 

Respirology

Chemicals/Pesticides

Exposures to perfluoralkyl substances and asthma phenotypes in childhood: an investigation of the COPSAC2010 cohort

Exposure to perfluoralkyl substances may affect offspring immune development and increase risk of childhood asthma, but the underlying mechanisms and asthma phenotype affected by such exposure is unknown. The authors studied the Danish COPSAC2010 cohort of pregnant women and their children. Plasma PFOS and PFOA concentrations were semi-quantified. They examined associations between pregnancy and childhood PFOS and PFOA exposure and childhood infections, asthma, allergic sensitization, atopic dermatitis, and lung function measures, and studied potential mechanisms by integrating data on systemic low-grade inflammation, functional immune responses, and epigenetics. They found that prenatal exposure to PFOS and PFOA, but not childhood exposure, specifically increased the risk of low prevalent

Global warming marked by higher average temperatures, precipitation and longer periods of drought, could prompt a record number of dengue infections worldwide, the World Health Organization (WHO) warned. "About half of the world's population is at risk of dengue, and dengue affects approximately 129 countries," said Dr Raman Velayudhan, WHO’s Head of the Global Programme on control of Neglected Tropical Diseases. "We estimate that about 100 to 400 million cases are reported every year. This is basically an estimate and the American region alone has reported about 2.8 million cases and 101,280 deaths."

UN NEWS (21/07/2023)

Indoor Air Pollution Is Killing Women, This Engineer Is Using Plastic Waste to Put an End to It

As a child, Peter Njeri would walk long distances through Soweto slum in Nairobi, Kenya’s capital city, to fetch firewood for his mother to cook food. Njeri’s mother would start a fire. But their kitchen would quickly fill with thick smoke. It wasn’t until years later that Njeri would learn about the link between the burning of firewood and respiratory illnesses. An entrepreneurial boy, Njeri was committed to making a positive change for the people of Soweto. Many years later, he patented a technology that turns plastic waste into clean energy and co-founded Mega Gas Alternative Energy — a clean-tech startup on a mission to provide access to clean and affordable cooking energy for low-income families. Today, the company is serving over 10,050 families in Kenya. It’s not just the health issue that Mega Gas Alternative Energy is aiming to solve, it also tackles another of Nairobi’s issues: plastic waste.

Global Citizen (10/08/2023)

'Vere in serious trouble': Why a hotter world will be bad for our health

When the temperature hit 40C in Britain last summer, the empty streets appeared "dystopian" to Dr Laurence Wainwright, a sustainability and psychiatry academic at Oxford University. During the past month or so the extreme heat crisis has only appeared to grow. There's no doubt about it, Wainwright says: "We're in serious trouble." When the human body is exposed to excessive heat, it attempts to maintain its internal temperature by sweating – which cools you down as beads of perspiration evaporate – and by diverting additional blood flow to the skin, which allows for extra heat loss by convection. "The challenge with
non-atopic asthma, whereas there was no effect on atopic asthma, lung function, or atopic dermatitis.

*eBioMedicine*

**Prenatal exposure to per- and polyfluoroalkyl substances and infant sleep disturbance: A prospective cohort study**

The authors investigated the associations of prenatal PFAS exposure with infant sleep disturbances during the first year of life. They recruited pregnant women from the Shanghai Birth Cohort and followed their children from birth to 12 months old. Ten PFAS were quantified in blood serum collected in the first trimester. In infants aged 6 months, PFAS were associated with a more than 2-fold risk of parent-reported sleep problems as severe. Perfluorodecanoic acid was associated with an increased risk of often or almost always snoring in one-year-old infants. PFAS mixtures were positively associated with nighttime awakenings both among infants aged 6 months and 12 months. Prenatal exposure to PFAS were associated with longer sleep latency, increased nighttime awakenings, longer nocturnal wakefulness hours, snoring, and earlier sleep-onset time in infants aged 6–12 months.

*Environment International*

**Heavy Metals/Trace Elements**

**Urinary concentrations of heavy metals in pregnant women living near a petrochemical area according to the industrial activity**

Prenatal exposure to heavy metals, even at very low concentrations, may be especially harmful to pregnant women and their children. Here the authors explore the concentrations of heavy metals in urine samples of pregnant women, and evaluated the potential effect of different industrial activities in Tarragona (Spain). Urinary levels of four heavy metals (nickel (Ni), cadmium (Cd), mercury (Hg), and lead (Pb)) from 368 pregnant women were analyzed. Home addresses and all the industries potentially releasing heavy metals were geo-referenced. Among the analyzed heavy metals, Cd showed an increasing trend in urinary concentrations in women living near chemical, energy, mineral, and metal processing industries. This study highlights the need to develop measures to minimize Cd exposure, especially by sensitive populations.

*Environmental Research*

**That is that sweating causes you to lose water, which can lead to dehydration,” says Gregory Wellenius, professor at the Boston University School of Public Health. And as for the upper blood flow to the skin: “There’s less blood flow going to other areas of the body, other organs – and so your heart has to work a bit harder, and your kidneys have to work a bit harder.**

The Guardian (11/08/2023)

**Jakarta: Living with asthma in the world’s most polluted city**

Multiple doctors have advised Farah Nurifirmans to leave her hometown Jakarta for her health's sake. The 22-year-old asthmatic often wears a mask and carries an inhaler, but the air quality in the city is not helping. The Indonesian capital, which has long wrestled with air pollution, was ranked the most polluted city on global charts nearly every day last week. The capital city and its surrounding region are home to about 30 million people. Government research shows that vehicle emissions account for 44% of air pollution. But activists believe factories and coal-fired power plants are the primary contributors to Jakarta's toxic smog.

BBC News (15/08/2023)

**New Delhi records wettest July day in decades as deadly floods hit northern India**

India’s monsoon season, April to September, is turning out to be the worst in years, with the wettest July day since 1982 recorded this year. This translates to deadly flooding and landslides, particularly in the Northern Indian areas of Punjab, Haryana, Himachal Pradesh, Delhi, Rajasthan and Uttarakhand. There have been multiple fatalities and the government of Himachal Pradesh has asked people to stay home to avoid danger and minimize the burden on rescuers. With heavy rain, road closures and additional risks many schools are closed. This comes on the heels of catastrophic flooding which happened just this previous month in the northeast of the country. The climate crisis is blamed for increasingly severe heat followed by the lethal rainfall that is derailing many parts of this country.

CNN (10/07/2023)

**Air pollution responsible for 1 in 5 deaths among U-5 Cambodian kids: UNICEF**

The United Nations Children’s Fund (UNICEF) issued a statement on Saturday, saying air pollution is responsible for nearly one in every five deaths among children under five in Cambodia.
Evaluation of heavy metals and polycyclic aromatic hydrocarbons pollution in residential, agricultural and commercial soils in Ngong, Kenya

The contamination of eight heavy metals and ten polycyclic aromatic hydrocarbons was assessed in soils from three dominant land-use types in Ngong, Kenya. A correlation test revealed a positive relationship between heavy metals and polycyclic aromatic hydrocarbons. The agricultural area exhibited the highest metal pollution levels. The pollution index indicated ecological risk from arsenic and mercury. Children faced a higher risk of exposure to both carcinogenic and non-carcinogenic hazards. Commercial soils showed significant polycyclic aromatic hydrocarbon contamination while residential soils had elevated levels of acenaphthene. The polycyclic aromatic hydrocarbons profile suggested contamination from petroleum and pyrolytic sources. Polycyclic aromatic hydrocarbons cancer risk assessment indicated a potential threat to individuals through inhalation.

*International Journal of Environmental Science and Technology*

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Climate Change

**Extreme Temperature Exposure and Risks of Preterm Birth Subtypes Based on a Nationwide Survey in China**

The authors aimed to investigate the associations of extreme climate events with the risks of preterm birth (PTB) and its subtypes, discerning possible modifiers. Data on all singleton deliveries were obtained from the China Labor and Delivery Survey. The authors found that exposure to cold spells was associated with an increased risk of PTB, especially late, spontaneous PTB and preterm premature rupture of the fetal membranes (PPROM). The associations appeared to be more pronounced in the north and west regions and in pregnancies with female fetuses.

*Environmental Health Perspectives*

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Conferences/Meetings

**35th Annual International Society for Environmental Epidemiology (ISEE) Conference in Kaohsiung, Taiwan**

September 17-21, 2023

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The Cambodian Ministry of Health and UNICEF jointly released the kingdom's first Children's Environmental Health (CEH) assessment, which highlighted the major environmental health risks that children face, including exposure to air pollution, water and food contamination, toxic metals, pesticides, and hazardous waste. Director of the Cambodian Ministry of Health's Preventive Medicine Department Kol Hero said “This assessment will be a valuable resource for all stakeholders that are committed to building a healthier, cleaner, and more sustainable environment for our children and future generations”.

Borneo Bulletin (26/08/2023)

**Exposure to these chemicals during pregnancy can impact your baby - study**

Phthalates – a type of endocrine-disrupting chemicals (EDCs) – are everywhere. They are commonly found in hundreds of products we encounter in our homes and elsewhere every day. A new study by researchers from the Braun School of Public Health and Community Medicine of the Hebrew University of Jerusalem (HU)-Hadassah and HU’s psychology department has shed light on the potential consequences of prenatal exposure to phthalates on the emotional and behavioral development of young children. The study found that maternal exposure to DEHP (Di-2-ethylhexyl Phthalate) metabolites during the first trimester was correlated with emotional/behavioral developmental outcomes in toddlers. Boys exposed to higher levels of DEHP showed lower developmental scores in personal social abilities and higher rates of internalizing problems, including emotionally reactive scores, anxious or depressed scores, and somatic complaints scores, as well as externalizing problems.

The Jerusalem Post (21/08/2023)

**Worrying about climate change is damaging the mental health of young people**

Worrying about climate change may be ruining the mental health of young people, a recent study reveals. Researchers in the United Kingdom and Australia uncovered that “climate distress” is leading to a surge in negative emotions among young adults between 16 and 24 in the U.K. However, the study finds this distress might also inspire young people to undertake positive environmental actions. In this research, experts polled young British adults regarding their experiences with “climate distress.” Participants
answered questions about their overall mental health, distress due to climate change, the impact of climate change on their lives, and their involvement in environmental and climate-related actions.

StudyFinds (23/08/2023)