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Children’s Environmental Health International Initiatives

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

August 2012

CHILDREN’S ENVIRONMENTAL HEALTH WEBSITES

The World Health Organization (WHO), United Nations Environment Programme (UNEP) and United Nations Children’s Fund (UNICEF) are key international organizations with a concern for children’s environmental health. The links below are to a relevant website from each organization.

**WHO: Children's Environmental Health**

- Each year around three million children under the age of five die due to environment-related diseases.
- Acute respiratory infections annually kill an estimated 1.6 million children under the age of five. As much as 60 percent of acute respiratory infections worldwide are related to environmental conditions.
- Diarrhoeal diseases claim the lives of nearly 1.5 million children every year. Eighty to 90 percent of these diarrhoea cases are related to environmental conditions, in particular, contaminated

CHILDREN’S ENVIRONMENTAL HEALTH NEWS

**Press Releases**

**UNICEF launches Innovate for Children website to accelerate progress**

With a view to merging inspiration with technical expertise, UNICEF announced the launch of its Innovate for Children website. The site draws attention to health and education challenges faced by children in developing countries – and the potential for innovative product design and inventive use of technology to find solutions. UNICEF (23/8/12)

**New Initiative to Reduce Time-to-Market for Carbon Market Projects in Southern Africa**

The United Nations Environment Programme unveiled a new standardized baseline for the region’s electric power grid - a major step forward in efforts to boost access to climate-friendly investment in Africa that will reduce, by an estimated six months, the time it takes for carbon market projects to reach the market. UNEP (17/8/12)

**WHO welcomes landmark decision from Australia’s High Court on tobacco plain packaging act**

The World Health Organization (WHO)
Nearly 1 million children under the age of five died of malaria in 2008. Up to 90 percent of malaria cases are attributed to environmental factors. (Text is taken from the website).

UNEP: Children’s Environmental Health

Environmental quality is one of the key factors in determining whether a child survives the first years of life, and strongly influences the child’s subsequent physical and mental development. They are at greater risk from environmental hazards because of their physical size, immature organs, metabolic rate, behaviour, natural curiosity, and lack of knowledge.

Approximately a quarter of the total burden of disease worldwide, and nearly 35% in regions such as sub-Saharan Africa, can be attributed to negative environmental factors, such as polluted air, dirty water, poor sanitation, and insect-transmitted diseases such as malaria. The health of the most vulnerable in society, those living in desperate poverty, the elderly and our children is particularly affected. WHO estimates that each year, at least three million children under the age of five die due to environment-related diseases. Prevention is the only sustainable solution: a healthy future for our children depends in large part on our efforts to safeguard the environment. (Text is taken from the website).

UNICEF: Innovate for Children

The site draws attention to health and education challenges faced by children in developing countries – and the potential for innovative product design and inventive use of technology to find solutions. The website welcomes comments and ideas, and invites online submissions on projects designed to accelerate reduction of child mortality. UNICEF’s methodology in innovation work emphasises the importance of strongly welcomes the landmark decision from Australia’s High Court to dismiss a legal challenge from the tobacco industry, and calls on the rest of the world to follow Australia’s tough stance on tobacco marketing. WHO (15/8/12)

New European Union Directive on E-waste Comes into Force

The European Union (EU) has adopted new rules on electrical and electronic waste (e-waste), which aim to allow EU member states to combat the illegal export of waste more effectively. UNEP (15/8/12)

UN Launches Sustainable Development Network to Help Find Solutions to Global Problems

Research centres, universities and technical institutions will form part of a new network to address the world’s most pressing environmental, social and economic problems. UNEP (10/8/12)

In the Media

Denmark defies EU with planned ban on phthalate chemicals

The Danish Environment Minister has decided to ban four industrial chemicals linked to disrupting the human endocrine system, pushing Denmark ahead of the European Union which has already started a process of phasing out phthalates. Euractiv (27/8/12)

Father figures

Evidence is accumulating that a father’s age has an alarming effect on his children’s genetics. Economist (25/8/12)

Do Antibiotics Make Us Fat?

Farmers have long used antibiotics to
understanding the needs of users and the geographic, social and economic barriers that limit access to life-saving supplies and services. Taken from: UNICEF News Note

Special Update
Health and Environment Strategic Alliance
The Health and Environment Strategic Alliance (HESA) is a country-driven initiative that will help coordinate action by the health and environment sectors and engage in country-level development planning processes, to effectively utilize health and environment inter-linkages in the protection and promotion of public health and ecosystem integrity. Link to the website for more information

JOURNAL ARTICLES

Air Pollution
Respiratory Health Effects of Airborne Particulate Matter: The Role of Particle Size, Composition, and Oxidative Potential—The RAPTES Project
Specific characteristics of particulate matter (PM) responsible for associations with respiratory health observed in epidemiological studies are not well established. High correlations among, and differential measurement errors of, individual components contribute to this uncertainty. The authors investigated which characteristics of PM have the most consistent associations with acute changes in respiratory function in healthy volunteers. Their conclusions were that changes in PNC, NO₂, and NOₓ were associated with evidence of acute airway inflammation (i.e., FENO) and impaired lung function. PM mass concentration and PM₁₀ oxidative potential were not predictive of the observed acute responses. Environmental Health Perspectives

Smoking during pregnancy tied to kids' asthma
Children whose mothers smoked during pregnancy may have an increased risk of asthma - even if they were not exposed to secondhand smoke after birth, a large study of European children suggests. Reuters (22/8/12)

Widely used pesticide seems to harm boys' brains more than girls'
A widely used pesticide – banned in homes but still commonly used on farms – appears to harm boys' developing brains more than girls', according to a new study of children in New York City. In boys, exposure to chlorpyrifos in the womb was associated with lower scores on short-term memory tests compared with girls exposed to similar amounts. Environmental Health News (20/8/12)

Pregnant mothers who smoke are 65 per cent more likely to have children with asthma
Children whose mothers smoked while pregnant are 65 per cent more likely to develop asthma, according to new research. London Daily Mail (17/8/12)

Mothers’ chemotherapy safe for unborn children, study finds
Chemotherapy during pregnancy does not lead to increased health complications for newborn infants, a new study has found. Edinburgh Scotsman (16/8/12)

Father's occupation can affect health of newborn
It has long been known that the behavior and environment of the mother during
Non-occupational exposure to paint fumes during pregnancy and risk of congenital anomalies: a cohort study

Occupational exposure to organic solvents during the 1st trimester of pregnancy has been associated with congenital anomalies. Organic solvents are also used in the home environments in paint products. The authors studied associations between residential exposure to paint fumes during the 1st trimester of pregnancy and predefined subgroups of congenital anomalies, using data from the Danish National Birth Cohort (DNBC). In total 1404 women (7 %) had been exposed to paint fumes during the 1st trimester of pregnancy and 1086 children were diagnosed with congenital anomalies; 73 children with congenital anomalies had been exposed to paint fumes in utero. Exposure to paint fumes seemed positively associated with congenital anomalies of the nervous system (OR 2.19, 95 % confidence interval (CI) 0.76 to 6.32), ear, face and neck (OR 2.15, 95 % CI 0.84 to 5.55) and the renal system (OR 2.16, 95 % CI 1.02 to 4.58) after adjustment for maternal age, smoking, alcohol consumption and occupational solvent exposure. The authors conclude that in the general population, exposure to paint fumes during the 1st trimester of pregnancy may increase the risk of some types of congenital anomalies, but the findings need to be confirmed.

Environmental Health

Chemicals

Pre- and Postnatal Arsenic Exposure and Body Size to 2 Years of Age: A Cohort Study in Rural Bangladesh

Exposure to arsenic via drinking water has been associated with adverse pregnancy outcomes and infant morbidity and mortality. Little is known, however, about the effects of arsenic on child growth. The authors assessed potential effects of early-life pregnancy can affect a newborn’s health. But new research suggests that a father’s behavior is important, too. Scientists have found that different parental occupations may bring increased risk of birth defects.
Charlotte Observer (15/8/12)

Toxic Taps: Lead is still the problem

Millions of Americans may be drinking water that is contaminated with dangerous doses of lead. The Environmental Protection Agency (EPA) knows it; state governments know it; local utilities know it. The only people who usually don’t know it are those who are actually drinking the toxic water.
Investigative Reporting Workshop (12/8/12)

Bad air costing us: Ozone a big problem, especially for those with asthma

In the Charlotte metropolitan area, the biggest air quality problem is ozone — not the beneficial layer surrounding the earth’s atmosphere, but the harmful kind that stays near the surface. The substance can cause or worsen breathing difficulties in people with conditions like asthma.
Salisbury Post (12/8/12)

Study finds slowing drop in youth tobacco use

The once-rapid decline in tobacco use among young people has slowed as cash-strapped states slash funding for anti-smoking campaigns, a federal study showed.
Reuters (10/8/12)

Vast majority of Americans have BPA in their bodies

Maine’s Board of Environmental Protection is considering a phase-out of the chemical BPA in infant formula, and foods for babies and toddlers.
Bangor Daily News (9/8/12)
arsenic exposure on weight and length of children from birth to 2 years of age by following 2,372 infants born in a population-based intervention trial in rural Bangladesh. They concluded that postnatal arsenic exposure was associated with lower body weight and length among girls, but not boys. *Environmental Health Perspectives*

**Maternal Exposure to Polycyclic Aromatic Hydrocarbons and 5′-CpG Methylation of Interferon-γ in Cord White Blood Cells**

Maternal factors are implicated in the onset of childhood asthma. Differentiation of naïve CD4+ T lymphocytes into pro-allergic T-helper 2 cells induces interleukin (IL)4 expression and inhibits interferon (IFN)γ expression accompanied by concordant methylation changes in the promoters of these genes. However, it has yet to be established whether maternal exposure to polycyclic aromatic hydrocarbons (PAHs) can alter these gene promoters epigenetically during fetal development. The authors found that *in vitro* exposure of the cell models to low, nontoxic doses (0.1 and 1 nM) of BaP elicited increased promoter hypermethylation and reduced expression of IFNγ, but not IL4. IFNγ promoter methylation in cord white blood cells was associated with maternal PAH exposure in the cohort study subsample. The authors concluded that maternal exposure to PAHs was associated with hypermethylation of IFNγ in cord blood DNA from cohort children. These findings support a potential role of epigenetics in fetal reprogramming by PAH-induced environmental diseases. *Environmental Health Perspectives*

**Prenatal Bisphenol A Exposure and Child Behavior in an Inner-City Cohort**

Experimental laboratory evidence suggests that bisphenol A (BPA), an endocrine disruptor, is a neurodevelopmental toxicant. *Environmental Health Perspectives*

**Herbicide Used in Argentina Could Cause Birth Defects**

The herbicide used on genetically modified soy – Argentina's main crop – could cause brain, intestinal and heart defects in fetuses, according to the results of a scientific investigation. Latin American Herald Tribune (8/8/12)

**Lead found in Asian candies**

Children may want to think twice about snacking on popular plum and ginger candies exported from Asia and sold in the Bay Area. A new study found they could contain dangerously high amounts of lead. San Francisco Chronicle (7/8/12)

**Study links mold to childhood asthma**

While mold is considered an asthma trigger and risk factor for exacerbating asthma, new research links three mold species to childhood development of asthma, according to a study by University of Cincinnati researchers. Milwaukee Journal Sentinel (7/8/12)

**Long-Term Outcomes after Phthalate Exposure: Food Intake, Weight Gain, Fat Storage, and Fertility in Mice**

Research with mice reports that exposure to the phthalate DEHP causes adverse effects both to the pregnant mother and offspring exposed in the womb. Impacts include significant weight gain, changes in hormone levels and at the highest exposure level, 100% spontaneous abortion. *Environmental Health Perspectives* (3/8/12)

**Hong Kong Smog Worst in 2 Years as Storm Traps Pollutants**

Hong Kong roadside air pollution reached the worst levels in more than two years as a typhoon that passed through Taiwan brought hot weather and trapped pollutants, prompting a government health
However, there have been limited and inconclusive results with respect to sex-specific BPA effects on child behavior. The authors examined the association between prenatal BPA exposure and child behavior, adjusting for postnatal BPA exposure and hypothesizing sex-specific effects. Their results suggest that prenatal exposure to BPA may affect child behavior, and differently among boys and girls. Environmental Health Perspectives

Global Change
An Alternative Framework for Analyzing Financial Protection in Health
A greater focus on the role of health systems in health, development, and economic growth has led health policy research and analysis, domestic and global, to scrutinize health financing, insurance, and financial protection. Two World Health Reports (2000 and 2010) have called for evaluating health system performance in terms of health financing, and the World Health Organization's (WHO) 64th World Health Assembly reiterated the need for sustainable health financing and universal coverage worldwide. In this article the author proposes a multidimensional financial protection profile that offers a holistic view of health spending, one that goes beyond the level of spending to cover aspects directly related to health care, such as health care access and insurance utilization, and examines broader impacts on current and longer-term household consumption. This multidimensional approach aims to help policy makers understand the larger context of household health spending and make health and social policy adjustments to mitigate damaging effects. PLoS Medicine

Reproductive Health
Effects of Di(2-ethylhexyl) Phthalate

Health expert warns of water pollution in Canty
A baby could die if nitrate levels in the water in some areas of Canterbury are not more tightly controlled, a health official says. Christchurch Press (2/8/12)

UA testing breast milk for cancer-causing solvent
University of Arizona scientists are calling for a larger study after they became the first in the world to measure a potentially cancer-causing solvent in breast milk. They studied 20 samples of breast milk from 20 women and found seven contained low levels of trichloroethylene. Tuscon KOLD TV (1/8/12)

UPCOMING EVENTS

Third session of the International Conference on Chemicals Management
Technical Briefing on Endocrine Disrupting Chemicals – Sunday 16 September (10 am)

10th Annual Conference on Children's Health & the Environment
September 21, 2012. Baltimore, MD, United States of America

2013 Pacific Basin Consortium Conference
September 2013. Honolulu, Hawaii, United States of America
Di(2-ethylhexyl) phthalate (DEHP) and its metabolites are known to affect lipid metabolism and adipogenesis, mainly by activation of peroxisome proliferator-activated receptors (PPARs). Exposure to DEHP has been linked with testicular impairment and male subfertility. However, the effects of DEHP on female reproductive health and metabolism have not been studied in detail. The authors examined the effects of dietary DEHP exposure on metabolism and fertility in female (F0) mice. They concluded that fertility was impaired in mice exposed to high doses of DEHP, and body weight and visceral fat deposits were increased in mice exposed to environmentally relevant doses. Although F1 (offspring of F0) mice were exposed to DEHP only in utero and during lactation, they observed metabolic changes in the offspring of diet-exposed females. *Environmental Health Perspectives*

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**To be launched soon**

The Global Chemicals Outlook will be launched in September 2012. (UNEP)

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**Links to past issues and how to subscribe**

**Have news for us?**

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