

Highlight

Early life exposures have long-term effects on adult's health

Reproductive system defects or cardiovascular diseases might find their origins in very early life exposures, and even before conception.

Why did you choose early-life exposure as your main subject?

Germaine Buck Louis: Peri-conceptual exposures are of interest to me as a reproductive epidemiologist in trying to determine whether maternal, paternal or parental exposures during this interval adversely affect pregnancy outcomes and adult health.



Dr Germaine Buck Louis
National Institute of Child Health and Human Development, USA

George Davey-Smith: Exposures acting during the pre-natal period and during infancy and childhood are increasingly being identified as potential causes of chronic disease in late adulthood. Many studies show that environmental exposure can generate increased risk of metabolic and cardiovascular disorders in later life.



Dr George Davey-Smith
Department of Social Medicine
University of Bristol, UK

What is the latest update you want to share?

Germaine Buck Louis: Some scientific evidence support a relation between peri-conceptual and early in utero exposures on the reproductive system of men and women. In particular, the so-called testicular dysgenesis hypothesis

and a less well studied ovarian dysgenesis hypothesis.

George Davey-Smith: There are some early-life origins of cardiovascular diseases, such as those relating exposures during the intrauterine period or during the early post-natal period with blood pressure, insulin resistance and cardiovascular disease in later life.

What would be your take-home message?

Germaine Buck Louis: I think that parental exposures need to be considered when assessing early life exposures given that pregnancy is a couple-dependent process. Also, we need more longitudinal prospective capture of parental exposures and covariates to answer many lingering questions.

George Davey-Smith: To me, similar exposures acting at different stages of development have different long-term consequences. Predictive adaptive responses may underlie some of the associations between early-life exposures and later-life health outcomes.



Conference in numbers

1399 scientists, researchers, students and medical practitioners are attending this joint ISEE/ISEA conference. According to the organisers such affluence is one for the books!

The participants, coming from the five continents, represent **62** countries.

Viewpoint



Dr Michèle Froment-Védrine,
Afsset Managing Director

Welcome to the Paris 2006 International Conference on Environmental Epidemiology and Exposure!

Holding this conference in Europe two years after the 4th WHO-Euro ministerial conference on environment and health, two years after the European Commission launched its action plan and two years after the first "French National Environment and Health Action Plan" was launched by the Prime Minister is a strong message.

This is a great opportunity for all involved in environment and health to share their knowledge, particularly at a time where the quality of our environment has become a major concern to the public worldwide. Presentations will contribute to a better understanding of the complexity and multi-causality issues in the area of environmental health. Topics for which preventive actions are required, either motivated by scientific evidence or by the implementation of the precautionary principle will be highlighted. Ways for efficient prioritisation of policy actions and collaboration between national research programmes will certainly emerge from the debates.

Yesterday - opening ceremony

It's time for us to come together

Yesterday, during the opening ceremony, 9 scientists, representatives of ministries and political leaders united their speech for one goal : human health and a healthy environment. This is what all studies on environmental quality aim for.



In front of a well filled auditorium they insisted on the interaction between science and policy. All speakers strongly encouraged knowledge sharing between exposure analysts and epidemiologists.

In such a challenging time, facing air pollution or climate change can sound very scary and bad. But in fact people are looking at scientists for changes. It's time for the researchers to come together and push political leaders to prevent disasters.



Breakthrough

Rémy Slama,
Epidemiologist, affiliated to Inserm (France)
and GSF-National Research Center for Environment
and Health (Germany).



Sunday, 2pm, SAA5-0, Air Pollution and Pregnancy Outcomes

Possible effects of atmospheric pollutants on head circumference assessed in utero

The potential health effects of exposure of pregnant women on the intrauterine growth of their offspring have been investigated in a study showing an association between exposure to NO₂ and head circumference. The association could be observed not only at birth, but also during pregnancy, using ultrasound measurements of head circumference.

The study is based on the Eden mother-child cohort, conducted in 2 French cities, in which pregnant women were followed.

Several American and Asian studies

have already indicated a possible decrease in birth weight with maternal exposure to atmospheric pollutants; a study in Poland has indicated that air pollutant levels could also be associated with decreased head circumference at birth. The current study suggests that a similar association may exist with head circumference assessed by ultrasound imaging during pregnancy.

Whether such a decrease in head circumference at birth or in utero has long-term exposure consequences remains to be investigated.

Today's question

How will attending this conference help your research moving forward?



Mark Nieuwenhuijsen, member of the ISEE/ISEA conference scientific advisory board, UK: *It is always interesting to see how our work compares to other ongoing work, how it adds to the big puzzle and where we should increase our effort. Certainly I always come back from a conference with new ideas and I don't expect it to be any different this year.*

Ou Chunquan, ISEE member, China: *I am concerned about the lack of research on health effects in China, where air pollution has been a worsening public health problem in the last decade. This conference will help me seek collaboration and expertise from scientists in the relevant fields from other countries and regions.*

Richard Clapp, ISEE member, USA: *I expect to hear about the health effects of dioxins which have been noted in the Seveso, Italy population after the*

chemical plant explosion thirty years ago. Also, I expect to learn about new findings regarding arsenic and testicular cancer in a California study.

Matti Jantunen, ISEE/ISEA Conference co-Chair, Finland: *Having read through all the abstracts in the process of organising the current conference, I am confident that the Paris 2006 conference participants are updated by the most recent research findings and ideas well before they appear in open literature.*

Denis Zmirou-Navier ISEE/ISEA Conference co-Chair, France: *This is among the most important world scientific events in the field where cutting edge research projects are exposed and discussed. The many sessions and "off the sessions" discussions where innovative projects are designed and where new collaborations are tied, are preparing breakthrough advances in our understanding of environmental hazards and risks.*

Memo

8.30-10.00: Plenary "Early Age Exposure to Environmental Hasard". Germaine Buck Louis & George Davey-Smith. Gaston Berger Auditorium

10.00-12.30: SM2-PD: Environmental Equity Poster-Discussion. Room C/D

2.00-3.30: SAA1-O: Cancer and the Environment Oral Session. Room A/B

5.30-7.00: ISEA Business Meeting. Room Louis Armand East

What's on today

By Anne-Catherine Viso, Afsset, France

Cancer and the environment

Cancer and exposure to carcinogens is one of the key topics of the conference. Effects of early exposures are a major field of research. The number of cancers due to environmental risk factors is a matter of controversy depending in particular on the definition of environment (lifestyle including smoking, diet and alcohol, exposure to environmental and occupational stressors). When environmental factors are strictly limited to chemicals, physical agents and some viral and bacterial infections, attributable incidence of environmental cancers may vary from 4 to 8%, with similar figures for occupational cancers. Today's sessions address all aspects of environmental and occupational cancers. Results of population studies from different countries, including childhood leukaemia in France will also be presented.

Cancer is also addressed in many other sessions (air pollution, chemicals in consumer products, pesticides, occupational health, children...).

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