

Protecting the Health of Women and Children from Environmental Toxins

The effects of environmental toxins on women's and children's health should be carefully monitored and evaluated by scientific experts, government agencies, medical professionals, and public officials when creating local, state and federal safety standards or policies for safe exposure levels of all substances. Due to the specific physiological differences in the ways that women, particularly pregnant women and their developing fetuses, women of childbearing age, and children metabolize and are effected by various environmental conditions and substances, it is critical that their effects be measured and standards be established based on evidence-based, safe thresholds for these vulnerable populations.

Industries whose products influence environmental health, including agriculture, cosmetics, plastics, dry cleaning, food service, health care, manufacturers of motor vehicles, chemicals and textiles, must consider the safety of all populations when establishing safe business practices and creating products for distribution.

AWHONN supports the continuation of existing safeguards and programs that promote a healthy environment for women's and children's health, including measures contained in the Food Quality and Protection Act (FQPA) of 1996, a strong and well-funded office of the National Institute of Environmental Health Services, continued enhancements to the Centers for Disease Control's (CDC) ability to measure and control human exposure to environmental chemicals, and strong authority within the Environmental Protection Agency (EPA) to carry out tracking and reporting requirements related to factors that influence environmental health. In addition, the following recommendations are important elements in any comprehensive plan to ensure the safety of women and children from present and future environmental health threats:

- Using biomonitoring data and other research, establish safe levels for environmental toxins that have been shown or suggested to adversely influence women's health including phthalates, dioxins and polychlorinated biphenyls (PCBs) that are likely endocrine disruptors, and methyl mercury.
- Using biomonitoring data and other research, establish safe levels for environmental toxins that have been demonstrated or suggested to adversely influence children's health, including lead poisoning, pesticide exposure, methyl mercury, and air pollution.
- Improve data collection and tracking mechanisms to eliminate the data gaps about women's and children's susceptibility to environmental agents.
- Increase research activities, both publicly and privately funded, in the field of environmental health.
- Take appropriate regulatory or legislative action to protect the health of women and children based on new data as it emerges.
- Increase public education programs and access to information regarding environmental health risks.
- Expand activities to include international cooperation and agreements to ensure a global approach to providing a safe health environment for women and children.
- Improve reporting requirements and capabilities for sectors and facilities that are required to measure and report health hazard information on their chemicals and products.

- Increase inter-agency and inter-governmental (local, state, federal) collaboration to conduct research, share information, and establish policies to ensure a healthy environment for women and children.
- Improve preventive interventions to protect women and children from dangerous levels of exposure before any damaging exposure to dangerous influences occurs.

Background

From conception through adolescence, the rapid rates of growth for infants and children render them particularly susceptible to environmental insults. Pound for pound, children eat more food, drink more water and breathe more air than adults, increasing their potential exposure to environmental hazards. Children's vital systems are not fully developed and may be more susceptible to permanent damage from exposures to toxicants. Children, who spend a great deal of time out of doors, by sheer virtue of their proximity to the ground and their increased likelihood for hand-to-mouth behavior, have higher degrees of exposure to soil and water bound chemicals than do adults. Safe levels for consumption or presence of any chemicals, particularly toxins, are proportionately much less than those of adults. For example, the National Academy of Science set a benchmark concentration of mercury in women's hair at 12 parts per billion, which corresponds to 58 parts per billion for babies – a striking disparity that emphasizes the magnitude of the proportional differences between appropriate levels in children and adults for just a single substance.

The current state of the science reveals correlations between environmental influences, including lifestyle choices, and women's health, including reproductive health, cancer, injury, respiratory problems, autoimmune diseases, and other health problems. More information is needed to further establish distinct causal relationships between women's exposure to certain substances found in the environment and accompanying health conditions, but there is ample information to establish priority areas for research, such as phthalates and methyl mercury.

Since the landmark 1993 National Academy of Sciences report, *Pesticides in the Diets of Infants and Children*, introduced real concerns about the threats of environmental toxins on children's health, the issue has received increased attention and has naturally expanded to include consideration of the effects of such substances on developing fetuses, babies, pregnant women, women of childbearing age and women in general.

The FQPA of 1996 was breakthrough legislation that directed EPA to protect children's health first when evaluating pesticide exposures. Until that time, most safeguards relied on the likely susceptibility of an average subject that was actually based on the average male. Taking a developing fetus's, infant's, child's, or pregnant woman's more vulnerable and distinct physiology into consideration was an important first step in evaluating the differences in various populations' susceptibility to environmental influences.

In 2001, the Centers for Disease Control (CDC) issued the first *National Report on Human Exposure to Environmental Chemicals*, designed to provide an ongoing assessment of the exposure of the U.S. population to environmental chemicals using biomonitoring, the assessment of human exposure to chemicals by measuring the chemicals or breakdown products in human specimens, such as blood or urine. The report, which measured exposure levels 27 environmental chemicals in the U.S. population, provided a reference for range, or normal values against which physicians and health researchers can measure future trends.

Continued commitment from government agencies, industry leaders, policy makers, scientists and researchers, and health care leaders in the public and private sectors can minimize the dangers posed by existing or potential risks to the environmental health environments of developing fetuses, children, pregnant women, women of childbearing age, and indeed all women.

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References

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