

UCLA

Electronic Green Journal

Title

Healthy Environment, Healthy Children, and Healthy Future: Essential Resources

Permalink

<https://escholarship.org/uc/item/6079g9qm>

Journal

Electronic Green Journal, 1(13)

Author

Johnson, William Ted

Publication Date

2000

DOI

10.5070/G311310397

Copyright Information

Copyright 2000 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at <https://escholarship.org/terms>

Peer reviewed

Healthy Environment, Healthy Children, and Healthy Future: Essential Resources

William Ted Johnson

Chandler Public Library, USA

.....
A great deal of research is being devoted to environmental factors that impact the health of children. This column introduces this topic with two purposes in mind. First, you are invited to suggest resources related to how environmental factors affect the health of children. Submit your suggestions via e-mail to the author at ted.johnson@ci.chandler.az.us. This information will be coupled with research conducted over the next few months to construct a bibliographic essay discussing the current state of research devoted to an examination of how environmental factors impact children's health. Second, this resource list serves to narrow the focus of the forthcoming bibliographic essay to the respiratory impact of air pollution, the developmental impact of pesticides, and the educational role of sustainable, organic agriculture in an urban setting. The bibliographic essay will be presented in the spring 2001 issue of the *Electronic Green Journal*.

Air Pollution, Respiratory Health, and Asthma

Respiratory health problems and related allergies have increased around the world in recent years. While various components of industrial air pollution have been implicated as being, at least, partially responsible, more research is needed to better understand the relationships between pollution, pollen, and people. Various solutions have been proposed, such as allergy-free gardening, but until more definitive information is forthcoming, such suggestions are premature. The interactions between airborne pollutants, meteorological systems, community ecology, and human sensitivity are quite complex. The human component alone is an area in need of much greater research, especially the response of children to environmental hazards.

A number of research centers have been established to focus on the difference between children and adults in how they respond to pollutants. The Environmental Protection Agency is also involved, releasing a major report to establish a strategy for research on environmental risks to children. The report has six objectives:

- Establish direction for a long-term, stable core research program in children's environmental health that leads to sustained risk reduction through more accurate, scientifically based risk assessments for children.

- Identify research to answer the key questions about children's environmental health risks and increase our understanding of when children

respond differently from adults to toxic agents and why.

- Identify research that will help to reduce children's risks.

- Provide a research agenda that identifies research priorities for the ORD (EPA Office of Research and Development) intramural and extramural research programs.

- Inform EPA scientists, risk assessors, and risk managers of the research related to children at EPA and other Federal agencies.

- Provide guiding principles for implementation.

The following research priorities seek to achieve these objectives:

Development of data to reduce uncertainties in risk assessment

- Mode-of-action research

- Epidemiology and clinical studies

- Exposure field studies

- Activity pattern and exposure factor studies

Development of risk assessment methods and models

- Methods and models for assessing dose-response relationships in children

- Methods and models for using exposure data in risk assessments for children

Experimental methods development

- Methods for hazard identification and studying mode of action

- Methods for measuring exposure and effects in children and to aid in extrapolations between animals and children

Risk management and risk communication

- Multimedia control technologies

- Reduction of exposure buildup of contaminants indoors

- Communication of risk

Cross-cutting research

- Variation in human susceptibility

Pesticides

Artificial chemicals designed to kill pests frequently impact organisms, including humans, which are not among the target species for the chemical

under consideration. In spite of every effort to prevent children from coming into contact with pesticides, exposure occurs via any number of routes such as inhalation, casual contact, and ingestion. Given enough time, a child's exposure to these substances could cause allergies, behavioral disorders, cancer, or birth defects.

Due to the cumulative effects of exposure to pesticides, medical treatment for these problems is often costly, complicated, and less than effective. Often, no clear treatment exists. A proactive strategy of using organic alternatives should be encouraged whenever possible. Substances that provide adequate pest control at a reasonable price will be the most successful. No doubt, political hurdles and personal biases must also be overcome to achieve a standard of utilization that will reduce our dependence upon artificial pesticides.

Educational Role of Sustainable, Organic Agriculture

In addition to better understanding how children become sick from substances in the environment, a few individuals are working on long-term, proactive, and practical solutions. They are teaching children and families how to produce healthy foods via sustainable, organic agriculture in an urban setting. In essence they are taking the country farm to city dwellers to create future farmers and a sense of appreciation for the land in America. The recent loss of personal contact with our food supply is simply unhealthy and this trend must be reversed.

These visionaries are uniting the precious resources of children and soil to create a unique synergy with a mutually beneficial impact—soil conservation, improved nutrition, and children who see themselves as active participants in making the world a better place to live. It is a race against time. Will enough of today's children get the hands-on experience needed with the land and grow up in time to lead an environmental movement that balances concern for the earth with a concern for its human inhabitants?

Selected References

1. Ableman, Michael. (1998). *On good land: The autobiography of an urban farm*. San Francisco, CA: Chronicle Books.
2. Aicher, Joseph. (1998). *Designing healthy cities: prescriptions, principles, and practice*. Malabar, FL: Krieger Publishing Co.
3. Akland, Gerry, & Brian A. Schumacher. (1999). *Pesticide exposure and health effects in young children: part I pesticide data*. Las Vegas, NV: National Exposure Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency.

4. American Academy of Pediatrics. Site on the World Wide Web: <<http://www.aap.org/>>
5. Anderson, H. R. (1998). Air pollution, pollens, and daily admissions for asthma in London 1987-92. *Thorax* 53(10), 842-848.
6. Arbuckle, T. E., & L. E. Sever. (1998). Pesticide exposures and fetal death: A review of the epidemiologic literature. *Critical Reviews in Toxicology* 28(3), 229-270.
7. Bates, D. V. (1995). The effects of air pollution on children. *Environmental Health Perspectives* 103 (Suppl. 6), 49-53.
8. Behrendt, H., et al. (1997). Air pollution and allergy: experimental studies on modulation of allergen release from pollen by air pollutants. *International Archives of Allergy & Applied Immunology* 113(1-3), 69-74.
9. Bessot, J. C., F. de Blay, & G. Pauli. (1994). From allergen sources to reduction of allergen exposure. *European Respiratory Journal* 7(2), 392-397.
10. Braun-Fahrlander C., et al. (1997). Respiratory health and long-term exposure to air pollutants in Swiss schoolchildren. SCARPOL Team. Swiss Study on Childhood Allergy and Respiratory Symptoms with Respect to Air Pollution, Climate and Pollen. *American Journal of Respiratory & Critical Care Medicine* 155(3), 1042-1049.
11. Chen, P. C. (1998). Adverse effect of air pollution on respiratory health of primary school children in Taiwan. *Environmental Health Perspectives* 106(6), 331-335.
12. Columbia Presbyterian Medical Center. Site on the World Wide Web: <<http://cpmcnet.columbia.edu/>>
13. Crimi P., et al. (1999). Differences in prevalence of allergic sensitization in urban and rural school children. *Annals of Allergy, Asthma, & Immunology* 83(3), 252-256.
14. Crinnion, W. J. (2000). Environmental medicine, part 4: pesticides - biologically persistent and ubiquitous toxins. *Alternative Medicine Review* 5(5), 432-447.
15. D'Amato, G. (1999). Outdoor air pollution in urban areas and allergic respiratory diseases. *Monaldi Archives for Chest Disease* 54(6), 470-474.
16. D'Amato G. (2000). Urban air pollution and plant-derived respiratory allergy. *Clinical & Experimental Allergy* 30(5), 628-636.
17. D'Amato, G., G. Liccardi, & M. Cazzola. (1994). Environment and development of respiratory allergy: I. Outdoors. *Monaldi Archives for Chest Disease* 49(5), 406-411.
18. Daniels, J. L., A. F. Olshan, & D. A. Savitz. (1997). Pesticides and childhood cancers. *Environmental Health Perspectives* 105(10), 1068-1077.
19. Davies, R. J., C. Rusznak, & J. L. Devalia. (1998). Why is allergy

- increasing--Environmental factors? *Clinical & Experimental Allergy* 28(Suppl. 6), 8-14.
20. Eskenazi, B., A. Bradman, & R. Castorina. (1999). Exposures of children to organophosphate pesticides and their potential adverse health effects. *Environmental Health Perspectives* 107(Suppl. 3), 409-419.
 21. Etzel, Ruth Ann, & Sophie J. Balk. (1999). *Handbook of pediatric environmental health*. Elk Grove Village, IL: American Academy of Pediatrics.
 22. Ford, R. M. (1983). Etiology of asthma: a continuing review (8071 cases seen from 1970-1980). *Annals of Allergy* 50(1), 47-50.
 23. George, R. B., & M. W. Owens. (1991). Bronchial asthma. *Disease-A-Month* 37(3), 137-196.
 24. Goldman, L. R. (1995). Case studies of environmental risks to children. *Future Child* 5(2), 27-33.
 25. Hoover, G. E., & T. A. Platts-Mills. (1995). What the pulmonologist needs to know about allergy. *Clinics in Chest Medicine* 16(4), 603-620.
 26. Hyde, H. A. (1973). Atmospheric pollen grains and spores in relation to allergy. *Clinical and Experimental Allergy* 3(2), 109-126.
 27. James, W. H. (1999). Male pesticide exposure and pregnancy outcome. *American Journal of Epidemiology* 149(3), 290-291.
 28. Jedrychowski W., & E. Flak. (1998). Effects of air quality on chronic respiratory symptoms adjusted for allergy among preadolescent children. *European Respiratory Journal* 11(6), 1312-1318.
 29. Johns Hopkins University Hospital. Site on the World Wide Web: <<http://www.hopkinsmedicine.org/>>
 30. Johnstone, D. E. (1977). The natural history of allergic disease in children. *Annals of Allergy* 38(6), 387-393.
 31. Lahiri, T., et al. (2000). Air pollution in Calcutta elicits adverse pulmonary reaction in children. *Indian Journal of Medical Research* 112, 21-26.
 32. Landrigan, P. J., et al. (1999). Pesticides and inner-city children: Exposures, risks, and prevention. *Environmental Health Perspectives* 107(Suppl. 3), 431-437.
 33. Landrigan, P. J. (1999b). Risk assessment for children and other sensitive populations. *Annals of the New York Academy of Sciences* 895, 1-9.
 34. Liccardi, G., M. D'Amato, & G. D'Amato. (1996). Oleaceae pollinosis: A review. *International Archives of Allergy & Applied Immunology* 111(3), 210-217.
 35. Moffett, Judith. (1995). *Homestead year: Back to the land in suburbia*. New York: Lyons & Burford.

36. Mount Sinai Medical Center. Site on the World Wide Web: <http://www.mountsinai.org/hso/hso_index_frame.jsp>
37. National Allergy Bureau. (2000). Pollen Spore Counts. Milwaukee, WI: American Academy of Allergy, Asthma, and Immunology. Retrieved November 20, 2000, from the World Wide Web: <<http://www.aaaai.org/nab/pollen.stm>>
38. National Center for Environmental Health. Site on the World Wide Web: <<http://www.cdc.gov/nceh/ncehome.htm>>
39. Nicolai T. (1999). Air pollution and respiratory disease in children: What is the clinically relevant impact? *Pediatric Pulmonology* 18(Suppl.), 9-13.
40. Nicolai T. (1999b). Environmental air pollution and lung disease in children. *Monaldi Archives for Chest Disease* 54(6), 475-478.
41. Nurminen, T. (1995). Maternal pesticide exposure and pregnancy outcome. *Journal of Occupational & Environmental Medicine* 37(8), 935-940.
42. Obtulowicz K. (1993). Air pollution and pollen allergy. *Folia Medica Cracoviensia* 34(1-4), 121-128.
43. Ogren, Thomas Leo. (2000). *Allergy-free gardening: The revolutionary guide to healthy landscaping*. Berkeley, CA: Ten Speed Press.
44. Papageorgiou, P. S. (1999). Particularities of pollen allergies in Greece. *Pediatric Pulmonology* 18(Suppl.), 168-171.
45. Pedersen, P. A., & E. Rung Weeke. (1984). Seasonal variation of asthma and allergic rhinitis. Consultation pattern in general practice related to pollen and spore counts and to five indicators of air pollution. *Allergy* 39(3), 165-170.
46. Raby, Sue Ellen. (1994). *The examination of the link between pesticides in food and learning disorders in children*. Unpublished master's thesis, Dominican College of San Rafael, California.
47. Raizenne M., R. Dales, & R. Burnett. (1998). Air pollution exposures and children's health. *Canadian Journal of Public Health* 89(Suppl. 1), S43-S48, S47-S53.
48. Southern California Environmental Health Sciences Center, Keck School of Medicine of the University of Southern California. Site on the World Wide Web: <<http://www.usc.edu/medicine/scehsc>>
49. Spann, M. F., J. M. Blondell, & K. L. Hunting. (2000). Acute hazards to young children from residential pesticide exposures. *American Journal of Public Health* 90(6), 971-973.
50. Spinaci, S., et al. (1985). The effects of air pollution on the respiratory health of children: A cross-sectional study. *Pediatric Pulmonology* 1(5), 262-266.
51. *Strategy for research on environmental risks to children*. (2000, October). Washington, DC: U.S. Environmental Protection Agency,

Office of Research and Development. Retrieved November 20, 2000, from the World Wide Web:

<<http://www.epa.gov/nceawww1/risk2kids.htm>>

52. *Trends in asthma morbidity and mortality*. New York, NY: American Lung Association, Epidemiology and Statistics Unit. Retrieved November 20, 2000, from the World Wide Web: <http://www.lungusa.org/data/asthma/asthma_700.pdf>
53. University of California Berkeley, Public Health Biology and Epistemology. Site on the World Wide Web: <<http://socrates.berkeley.edu/~sph/PHB/>>
54. University of Iowa Healthcare Resources. Site on the World Wide Web: <<http://www.uiowa.edu/homepage/health/index.html>>
55. University of Michigan Health System. Site on the World Wide Web: <<http://www.med.umich.edu/1welcome/index1.htm>>
56. Wargo, John. (1996). *Our children's toxic legacy: How science and law fail to protect us from pesticides* (2nd ed.). New Haven CT: Yale University Press.
57. Welch, Michael J. (2000). *American Academy of Pediatrics guide to your child's allergies and asthma: Breathing easy and bringing up healthy active children*. New York: Villard Books.
58. Wilcosky, Timothy, & Brian A. Schumacher. (1999). *Pesticide exposure and health effects in young children: Part II health data*. Las Vegas, NV: National Exposure Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency.
59. Zahm, S. H., & M. H. Ward. (1998). Pesticides and childhood cancer. *Environmental Health Perspectives* 106 (Suppl. 3), 893-908.

.....
William Ted Johnson <ted.johnson@ci.chandler.az.us>, Reference Librarian,
Chandler Public Library, Mail Stop 601, PO BOX 4008, Chandler, AZ 85244-
4008 USA. TEL: 1-480-782-2239. Fax: 1-480-782-2823.

.....