



FJ EYEOPENER

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Welcome to Farmworker Justice's electronic newsletter, the EyeOpener, covering recent developments in policy and research relevant to migrant farmworkers in the US. Please feel free to send comments, questions, or suggestions for future issues to the address provided at the end of the newsletter.

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1. More Evidence of the Potential Negative Effects of Pesticide Exposure on Children's Neurodevelopment

Sánchez Lizardi P, O'Rourke MK, Morris RJ. The Effects of Organophosphate Pesticide Exposure on Hispanic Children's Cognitive and Behavioral Functioning. *Journal of Pediatric Psychology*, Advance Access, June 14, 2007.

The organophosphate insecticides (OP) are designed to cause fatal damage to insects' nervous systems by inhibiting the activity of a crucial enzyme. This same mode of action can damage other species including humans, resulting in impaired neurological functioning. This is well documented in the case of acute pesticide poisoning, where the exposure is great enough to cause the appearance of symptoms or signs within hours. Establishing a link between low-level, chronic exposure and adverse health effects is difficult because of the gap in time between exposure and the onset of symptoms. This is particularly worrisome in the case of children, whose exposure is likely to go unnoticed during crucial development periods.

Studies investigating the impact of OP exposure on children's health and development are few in number. To address this issue, a study was conducted with Hispanic children living in an agricultural area that is regularly treated with OPs. Forty-eight children in Arizona were selected to complete a battery of standard tests of cognitive and behavioral process. They also provided urine samples on the same day so that their performance could be compared with the level of pesticide metabolites in their bodies at the time of testing. Their parents and teachers were also interviewed. The results showed that all the children had detectable levels of metabolites in their urine samples on the day of testing. Higher levels of metabolites were associated with poorer performance on tests, particularly on the Wisconsin Card Sort, which tests ability to learn from experience in a changing environment.

This study suggests that OP exposures have adverse effects on the neurodevelopment of children. It is especially troubling here where 100% of the study children had OP metabolites in their bodies. Families living in agricultural areas need to be especially vigilant to prevent pesticide exposure to their children and growers need to make greater efforts to prevent exposure to community residents.

2. Farmworker children with access to migrant health and school services have better health status, although still poorer than the general US population

Kilanowski J, Ryan-Wenger NA. Health status in an invisible population: Carnival and migrant worker children. *Western Journal of Nursing Research* 29(1):100 - 120, 2007.

Consistent access to quality health care is an important predictor of health status of both adults and children. However, consistency is difficult to achieve for households that depend on income from work that requires frequent relocation. In order to assess the extent to which a migratory lifestyle affects children's health status, researchers in Ohio conducted a descriptive exploratory study with children living in two types of itinerant households: migrant agricultural workers, and carnival workers who follow the state and county fairs. Both farmworkers and carnival workers tend to be the working poor, who lack health insurance, and are subject to a variety of barriers to care known to lead to health disparities. The study compared the two groups to each other, and both groups with the general US population using various national survey databases.

Study participants included 52 migrant farmworker children and 45 carnival children aged 4 months to 12 years. Migrant parents tended to rate their children's health status as lower and were more likely to report delaying health care due to cost than the carnival parents. However, migrant children were more likely to be up-to-date with vaccines and well-child exams than were children in the general US population. The dental health status of both groups of itinerant children was poorer than the general population, although migrant children were more likely than carnival children to have a regular dentist whom they had seen in the previous year.

Itinerant children as a whole were at significantly increased risk for overweight and obesity compared with the general population; for this indicator, migrant children above the age of two were at higher risk than the carnival children.

The authors speculated that the migrant children fared better than carnival children on measures of preventive medical and dental health due to the availability of migrant health services in the area. This health center in this study also encouraged the utilization of other available social and charitable services. In addition, many of the migrant children were enrolled in pre-school programs such as Head Start so that both parents could work in the fields. The carnival children, by comparison, had no such programs and were less likely to be enrolled in pre-school programs, leading to poorer health indicators. Interestingly, health indicators for both groups worsened once they entered the school system.

The results of this study demonstrate the importance of the migrant health and other services in promoting and maintaining the health of migrant children. Providers should not underestimate the importance of their role in and capacity for encouraging migrant parents to utilize all available resources to care for their children's health. Overweight and obesity remain major health problems facing the migrant community.

3. California farmworkers have lower cancer survival rates than the general Hispanic population

Dodge JL, Mills PK, Riordan DG. Cancer Survival in California Hispanic Farmworkers, 1988-2001. *The Journal of Rural Health* 23(1):33 - 41.

Increased incidence rates for certain cancers, specifically of the cervix, stomach, and uterus, and leukemia have been observed in California farmworkers. This elevated risk may be attributable to occupational or environmental health hazards to which farmworkers are exposed on a daily basis. While it is difficult to directly link specific exposures or hazards to disease development in individuals, a better understanding of cancer incidence and outcomes in the population is needed in order to develop improved diagnostic, treatment and prevention strategies. Data from the California Cancer Registry was used to compare the 5-year survival rates of Hispanic farmworkers with the larger Hispanic population in California. Farmworkers were identified by linking names from the registry with the roster of United Farm Workers union members during the relevant time period.

The most frequently diagnosed cancers in farmworker men were prostate, lung, colorectal, and stomach, while for farmworker women, they were breast, cervical, uterine, and colorectal. Both farmworker men and women were less likely to be diagnosed early for all types of cancer, including the screenable cancers such as cervix, colorectal, and prostate, than the general Hispanic population. Farmworker men (but not women) experienced lower 5-year survival rates on all cancers except non-Hodgkins lymphoma (NHL). However, the difference in survival rates was accounted for when the data were adjusted for age and cancer stage at the time of

diagnosis. The farmworkers in the study were generally older at the time of diagnosis than the comparison group, and were diagnosed at a later (i.e., more advanced) stage of cancer, both of which are factors that reduce the likelihood of long-term survival.

The results of this study reinforce the importance of screening and early detection for improving cancer survival. Farmworkers and their families need to be made aware of this, especially for cancers such as colorectal that may be prevented with timely screening.

4. Educate Your Patient Community About the Potential Threat of an Avian Flu Pandemic

Health officials worldwide are engaged in planning, surveillance and education efforts concerning the potential for an avian flu pandemic. Avian or bird flu is a respiratory disease spread by a virus. The current strain, H5N1, which has killed millions of birds around the globe is particularly lethal. In the past five years, 331 people have been infected with avian flu, of which 202 (61%) have died. Almost all of the human victims of avian flu, both adults and children, have had direct contact with infected birds. To date, bird flu is not readily transmissible from person to person. However, if the virus mutates to become easily passed between humans, a global human pandemic is likely to ensue.

Although efforts are underway to develop a vaccine and medication, it is likely that neither will be available in adequate doses when and if a human pandemic emerges. Consequently, planning is underway by private employers as well as federal, state and local governments to address the multi-faceted problems that are likely to occur in the event of a pandemic. Migrant and community health centers (MHCs) should become acquainted with the emergency preparedness planning in their communities. Educating patients about the risks of a pandemic and what they can do to protect themselves and their families should be an integral part of an emergency preparedness plan. To assist MHCs, Migrant Clinicians Network (MCN), Migrant Health Promotion (MHP) and Farmworker Justice (FJ) have developed a variety of training and technical assistance materials. For example, on FJ's website, MHCs will find an avian flu fact sheet and a patient education brochure, in English and Spanish, that are available for download and distribution at (<http://www.farmworkerjustice.org/resources1.htm>).

The *FJ EyeOpener* is an electronic newsletter covering important recent developments in research and regulation on issues affecting the health and safety of migrant farmworkers. It is a joint project of Farmworker Justice and Migrant Clinicians Network, supported by the Health Resources and Services Administration's Bureau of Primary Health Care. Each issue includes summaries of recent articles and reports, as well as advice on using this information to help health professionals, outreach workers, *promotores de salud*, and advocates strengthen their efforts on behalf of farmworkers and their families.

The contents of this publication are solely the responsibility of Farmworker Justice and Migrant Clinicians Network and do not necessarily reflect the official views of the Bureau of Primary Health Care or the Health Resources and Services Administration.

Please send comments, questions or suggestions for topics you would like to see covered to prao@farmworkerjustice.org, or contact Shelley Davis or Pamela Rao, co-authors, at 202-293-5420.

Farmworker Justice
1126 16th St., NW, Suite 270
Washington, DC 20036
202-293-5420 phone
202-293-5427 fax
www.farmworkerjustice.org

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