



Eye on Farmworker Health

Current Developments in Research and Policy

Agricultural exposure increases the risk of wheezing

Title: Job Activities and Respiratory Symptoms Among Farmworkers in North Carolina

Authors: MC Mirabelli, JA Hoppin, AB Chatterjee, S Isom, H Chen, JG Grzywacz, TD Howard, SA Quandt, QM Vallejos, TA Arcury

Source: Archives of Environmental and Occupational Health, August 2011

Respiratory health is a vital component of the ability to perform physically demanding work. The authors analyzed respiratory symptom prevalence among Latino farmworkers engaged in crop production, and investigated work activities as risk factors for respiratory symptoms. Migrant and seasonal farmworkers experience particular occupational exposures, mainly the inhalation of aerosolized pesticides, organic and inorganic dusts, pollens, gases, fumes and air particulates.

During June to September 2008, 122 farmworkers completed up to three questionnaires. Items from the European Community Respiratory Health Survey Questionnaire were used to identify respiratory and allergic symptoms. The authors estimated associations between work activities and wheezing symptoms using alternating logistic regression, controlling for smoking and age.

In the first questionnaire, 16% of the farmworkers reported wheezing in the previous 12 months, especially in the older age group, as well as among current and former smokers, and those with more than 8 years experience in agricultural work. 8 % had wheezing in the previous month, and 24% reported ever experiencing wheezing or whistling in the chest. Prevalence of nearly all respiratory symptoms decreased across the agricultural season. This decrease may be due to change in work-related and non-work related behaviors, such as a change of occupational activities or the use of protective equipment. Though not statistically significant, individuals who reported performing tobacco related work had greater odds of wheezing.

The authors were not able to draw conclusions about the prevalence of diagnosed respiratory disease and instead provided estimates of the prevalence of symptoms. Despite the limitations, the study suggests that even in healthy populations, agricultural exposure increases the risk of wheezing. Language barriers and mobility further restrict the engagement of farmworkers in host communities, and limit similar research that could be a source of knowledge about the relationship between farm work and respiratory health.

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Latina farmworker HPV vaccine acceptability

Title: *Formative Research on HPV Vaccine Acceptability Among Latina Farm Workers*

Authors: *JS Luque, H Castañeda, DM Tyson, N Vargas, CD Meade*

Source: *Health Promotion Practice, August 2011*

The purpose of this study was to identify the barriers and benefits to human papillomavirus (HPV) vaccination in a low-income, Latina farmworker population in central Florida. The authors accomplished this by exploring HPV vaccine acceptability among Latina farmworkers and gathering qualitative data from health care workers.

70% of cervical cancer cases are linked to infection with high-risk (HPV) Human Papillomavirus genotypes. Risk factors include infections with oncogenic HPV subtypes, multiple sexual partners, early sexual onset, and smoking. Further risk factors for Latinas include family history, hygiene practices and reproductive decisions.

HPV acceptability studies have included few Latina participants, or women from rural areas with low-income and low-education background. A study among Latinas in New Jersey found that 50% of the mothers were concerned about the adverse effect of the vaccination on their daughters, but HPV positive mothers had more awareness and were more in favor of their daughters being vaccinated.

This study used formative research to identify barriers and benefits to HPV vaccination in a sample of 40 low-income Latina farmworkers, and to inform social marketing efforts. The vaccine was marketed as an anti-cancer vaccine, with emphasis made on the fact that everyone was at equal risk, minimizing sexual transmissibility. HPV vaccine acceptability was explored and complemented by qualitative data from 17 healthcare workers working with the Latina farmworker population.

Data was analyzed by two independent reviewers using thematic analysis. Perceived barriers were found to include misperceptions about the purpose of vaccination, structural barriers, lack of access to healthcare, and language and cultural barriers. Primary motivators for requesting vaccination were information, prevention and a positive health outcome. Few participants knew that the vaccination was free for girls under the age of 18, through the Federal Vaccines for Children program (VFC). Access to vaccination was found to be a major concern due to issues of transportation, time off work, and the opportunity for vaccination referral.

The study found that Latina farmworkers hold many misperceptions about the HPV vaccine and the potential links between HPV infection and cervical cancer. The primary perceived barrier by participants and health care providers was the lack of preventative screening behaviors and the priority of work over personal health care maintenance. Farm work conditions act as physical and psychosocial stressors and time for personal health maintenance is restricted. In addition, the authors suggest that healthcare providers - primarily doctors - and other interpersonal contacts such as friends and family members are the most trusted



WHO ARE WE?

Eye on Farmworker Health: Current Developments in Research and Policy 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 publication by [Farmworker Justice](http://farmworkerjustice.org), 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 recommendations for using the 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 do not necessarily reflect the official views of the Bureau of Primary Health Care or the Health Resources and Services Administration.

STAY IN TOUCH

For more information, please contact Renato Rocha at rrocha@farmworkerjustice.org

conduits for information and recommendations about the vaccine for Latina farmworkers.

The relationship between wages and pesticide safety violations

Title: *Wages, Wage Violations, and Pesticide Safety Experienced by Migrant Farmworkers in North Carolina*

Authors: *E Robinson, HT Nguyen, S Isom, SA Quandt, JG Grzywacz, H Chen, TA Arcury*

Source: *New Solutions, 2011*

Migrant farmworkers suffer various problems and have few safety regulations to protect them. Aside from occupational health hazards, farmworkers may receive wages below the minimum wage. In this article, the authors use survey data to address three aims: 1) describe the wages and the presence of minimum wage violations among farmworkers; 2) determine whether minimum wage violations are associated with personal characteristics of farmworkers; and 3) determine whether minimum wage violations are related to violations of pesticide safety regulations. Data collected are from a cross-sectional survey of 300 eastern North Carolina farmworkers conducted in June through August 2009. The authors concluded that the farmworkers, especially workers without H-2A temporary foreign farmworker visas, experience prevalent wage and pesticide safety violations.

Pesticide exposure is a major occupational health risk for migrant farmworkers. The major regulation to protect farmworkers from pesticide exposure is the U.S. Environmental Protection Agency's Worker Protection Standard (WPS). The WPS requires that those employed in agriculture receive pesticide safety training and follow a set of safety procedures, including notifying farmworkers where pesticides have been applied, observing the re-entry rules after pesticides have been applied, and providing appropriate protective equipment to farmworkers.

In addition to pesticide exposure, farmworkers are also vulnerable to wage violations. Minimum wage regulations for farmworkers are protected by either state or federal regulations. Foreign farmworkers with H-2A visas must be paid the highest of 1) the Adverse Effect Wage Rate (AEWR) for the state in which they work; 2) the prevailing rate for the given crop, task, or area; or 3) the federal or applicable state minimum wage. Domestic farmworkers must be paid the higher of the applicable state or federal minimum wage.

In an effort to analyze the relationship between wage violations, pesticide violations and personal characteristics, the authors analyzed survey data collected from migrant farmworkers in North Carolina. One-third of the participants did not have an H-2A visa. Participants were largely male (95%), more than half had less than seven years of education (53.7%), and two-thirds of the workers were under 39 years of age. While 3.6% of the participants with H-2A visas reported wages that fell below minimum wage, 45.3% of the participants without H-2A visas reported the same wage violations. In addition, the authors found no statistically significant association between worker personal characteristics and wage violations. The results also showed that farmworkers without H-2A visas were *less* likely to be provided with pesticide safety equipment (1.4% vs. 18.2%), to be told

when pesticides were applied (34.9% vs. 59.8%), and to be told when the “no reentry” time period had ended (33.0% vs. 61.3%).

The authors concluded that because employers of farmworkers with H-2A visas are under far greater scrutiny than other farmworker employers, there is a relationship between pesticide safety violations and wage violations for employers of farmworkers without H-2A visas. The authors recommend that inspectors investigate wage violations when pesticide safety violations are found.

For more information on the H-2A guestworker program, see our new fact sheet at <http://www.farmworkerjustice.org/resources-publications/occupational-health-safety#mhc>

Involvement of promotoras in the development of cervical cancer curriculum

Title: Salud es Vida: Development of a Cervical Cancer Education Curriculum for Promotora Outreach With Latina Farmworkers in Rural Southern Georgia

Authors: JS Luque, M Mason, C Reyes-Garcia, A Hinojosa, CD Meade

Source: American Journal of Public Health, December 2011

Hispanic women have the highest incidence rate of cervical cancer (11.5/1000000) among all ethnic groups in the U.S. Peer-led education can benefit low-income farmworkers in the prevention of cervical cancer, especially in new immigrant receiving areas with few Hispanic speaking health workers. A study team collaborated with an Hispanic-serving nonprofit agency in southern Georgia to develop a health worker curriculum to educate farmworker women on cervical cancer, the human papillomavirus (HPV) and the HPV vaccine.

In this project, bilingual experts worked in a multidisciplinary team to design two learning modules, guided by previous curricula and research with Hispanic farmworker women in Florida. The new curriculum was then tested with seven volunteer community outreach workers (“*promotoras de salud*”) in two 6-hour training sessions, where the *promotoras* evaluated the curriculum for factors such as readability, attractiveness and cultural appropriateness. The curriculum comprised of two modules: module one covered female anatomy, cancer, and cervical cancer, and module two covered cervical cancer screening, HPV, HPV vaccine, and community health resources. The curriculum included accompanying slide presentations, vocabulary cards, problem cards for discussion, and a resource list to facilitate access to cervical cancer screening.

Curriculum content and delivery was evaluated by a 20-item pre-test-post-test instrument and qualitatively through a post-training focus group, post-training reports from the educator or trainer, written session evaluations, and telephone exit interviews. The results showed significant increase in cervical cancer knowledge after training. The *promotoras* discussed cultural, financial, time and transport barriers to cervical cancer screening for Hispanic women. Other barriers included feelings of embarrassment, fear of procedure, and inability to get permission from a husband to visit a clinic.

The study shows a positive outcome in involving community partners and *promotoras* when designing curricula. The authors concluded that the

development of a cervical cancer curriculum can be highly informed by the involvement of community partners and *promotoras*.

Depressive symptoms and sleepiness put farmworkers at risk of occupational accident

Title: Depressive Symptoms and Sleepiness Among Latino Farmworkers in Eastern North Carolina

Authors: JG Grzywacz, AB Chatterjee, SA Quandt, JW Talton, H Chen, M Weir, TA Arcury

Source: Journal of Agromedicine, October 2011

Sleepiness and depression increase the risk for work-related injury, disability and poor occupational safety behavior, especially in manufacturing and agricultural occupations. Relatively little is known about the experiences of these risk factors in the immigrant Latino farmworker population.

The analysis uses prospective panel data from a sample of 120 Latino farmworkers in eastern North Carolina that were collected at monthly intervals during the 2008 agricultural season to (1) describe depressive symptoms and daytime sleepiness among immigrant Latino farmworkers across the agricultural season; (2) delineate associations of depressive symptoms with sleepiness across time; and (3) determine whether depressive symptoms precede sleepiness, or if sleepiness precedes depressive symptoms. Daytime sleepiness was assessed by the ESS (Epworth Sleepiness Scale), and depressive symptoms were assessed by the Centre for Epidemiologic Studies-Depression scale. Descriptive statistics were used to analyze depression and sleepiness variables for certain characteristics of interest.

The study found that 45% of the sample reported significant depressive symptoms, and 20% of the sample reported high levels of daytime sleepiness during the agricultural season. Elevated depressive symptoms and daytime sleepiness were most common in June and lowest in August. Differences of sleepiness and depressive symptoms by personal characteristics were few. Elevated depressive symptoms were more common in those living in barracks, suggesting that migrant workers may be more at risk than seasonal farmworkers. Elevated daytime sleepiness was higher in women and farmworkers without an H-2A visa.

Elevated sleepiness can be the result of inadequate time for rest, or of the irregularity of shifts required in accommodating seasonal changes or particular crop needs. The study found no correlation between daytime sleepiness and depressive symptoms, a finding which is inconsistent with previous research. This suggests that the two correlate over time, when early symptoms are not addressed adequately. Elevated symptoms at the beginning of the agricultural season is related to post-migratory stress, characterized by significant changes in housing, eating habits, work routines, climate and social connections. The authors conclude that a substantial proportion of Latino farmworkers experience levels of depressive symptoms or sleepiness that places them at risk for an occupational accident or unintentional injury.

Child Labor and Agriculture: Department of Labor Proposes New Regulations

According to the National Institute for Occupational Safety and Health (“NIOSH”), in 2001 there were an estimated 460,739 youths employed on farms; over 84,570 of whom were hired workers. Of a total 22,648 agricultural-related injuries that occurred in youths under the age of 20, the highest percentage, 46 percent, of all injuries occurred to youths between the ages of 10 and 15. For farmworkers ages 15 to 17, the risk of fatal injury is four times the risk for young workers in other workplaces, according to the United States Department of Labor (DOL) Bureau of Labor Statistics.

The US DOL recently proposed new child labor regulations that are based largely on a comprehensive evaluation conducted by NIOSH in a 2002 [report](#). The NIOSH report provided recommendations concerning both non-agricultural and agricultural Hazardous Orders (HOs). The revisions attempt to eliminate some of the current disparities that exist between the agricultural and non-agricultural HOs. Historically, the agricultural HOs have provided limited protections for farmworker youths with respect to a number of particularly dangerous activities. The proposed regulations – the first revisions since 1970 – include prohibiting young workers from working:

- As pesticide handlers
- In occupations involving the production and curing of tobacco
- At elevations greater than 6 feet
- In occupations involving the operation of many forms of farm machinery

The agricultural HOs describe work activities that are particularly hazardous to young workers under age 16 who are hired to work in the agriculture sector. The proposed hazardous orders will not apply to youth who are working for their parents on their own family farm, or to children engaged in non-paid activities as part of their membership in a club such as 4-H. They would only apply where an employer/employee relationship exists.

The DOL accepted public comments on the proposed regulations until December 1, and is expected to issue the final regulations sometime in 2012.

RESOURCES FOR MIGRANT HEALTH CENTERS

As a vulnerable workforce in a dangerous occupation, farmworkers could benefit from clinicians playing a greater role in the diagnosis, reporting and ultimately, prevention of such injuries. Often, just having basic knowledge about relevant laws and policies aimed at protecting workers rights and health and safety can go a long way in preventing job-related illness and injuries.

Farmworker Justice and the Migrant Clinicians Network have developed summaries of several important federal laws and regulations related to pesticides and field sanitation for farmworkers. Guides to the EPA’s Worker Protection Standard, OSHA’s Field Sanitation Standard, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the Food Quality Protection Act (FQPA) are available online on the Farmworker Justice web site.

These [guides](#) provide a broad overview of the laws' provisions and their relevance to MSFWs and migrant-serving clinicians. Other resources available include a table showing where to find more [information for each state](#) about pesticide poisoning reporting requirements, legal resources for farmworkers and enforcement agencies for pesticide and field sanitation laws.

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