Pasos Saludables lifestyle intervention program results published

By Alyssa Chapman

WCAHS investigators Marc Schenker, Diane Mitchell, and Teresa Andrews successfully published their results on “A Pilot Randomized Intervention Study to Reduce Obesity in an Immigrant Farmworker Population” in the October 2015 Journal of Occupational and Environmental Medicine. The “Pasos Saludables” lifestyle intervention program was launched in April 2010 to reduce rates of obesity and diabetes among immigrant Latino farmworkers. Currently, approximately 76 percent of Latina women and 82 percent of Latino men in the United States are obese or overweight, and the risk for developing Type 2 diabetes is greater for Hispanic/Latino groups than for non-Hispanic whites.

The 10-week randomized controlled Pasos Saludables study enrolled 254 Latino farmworkers employed by Reiter Affiliated Companies, one of the world’s largest berry growers, in Watsonville and Oxnard, California. Pasos Saludables was founded on the clear correlation between obesity and development of Type 2 diabetes, to which researchers have deduced that appropriate weight maintenance or when overweight, weight loss, is an effective prevention.

Participants in the study were expected to attend all 10 weekly educational sessions (90 minutes each) held at the worksite in Oxnard or a community park room near Watsonville in the town of Salinas. Childcare was available. Each session was taught in Spanish by promotoras, trusted community members.

Robotics, ag technologies aid crop management

By Mariah Quintanilla

The advancement of robotics and increases in data collection capabilities in agriculture have resulted in more efficient harvesting methods and cost-effective labor in recent years. Nathan Dorn, CEO and founder of Food Origins, shared the impacts of the growing field of robotics on specialty agriculture at the December 2015 WCAHS monthly seminar series.

Dorn has worked extensively with Reiter Affiliated Companies, one of the world’s largest berry growers, with major farms in Salinas and Oxnard, CA. He shared the recent trends of growing venture investment in robotics, data collection, and ag technologies for crop management. The increases in capital are attributed to investors and entrepreneurs responding to pressures on food producers. These pressures originate from water shortages, a limited and aging workforce, legislative changes, and an increasing demand for food.

Agriculture was a major feature at the RoboUniverse Expo and Conference, the world’s premier robotics meeting, held in San Diego, California, this past December 2015, where Dorn hosted several panels. “RoboUniverse provided a fantastic forum for connecting the investors and roboticists with solutions and the innovation-ready farmers willing to share....”

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trained to provide basic health care and information to their community but who do not have a formal, professional medical degree. The promotoras talked about understanding diabetes, cholesterol, and blood pressure, including how they are measured and what is considered healthy. Each session started with a review of the previous session and ended with 15-20 minutes of exercise and a healthy snack. Positive group dynamics and efforts made to move toward a healthier lifestyle were supported. The Pasos Saludables program was framed using the key messages of a social media campaign called “Cinco Pasos para Vivir Mejor” by the Mexican government to encourage citizens to drink water, eat fruits and vegetables, measure food intake and waist size, get active and spread the message of an active lifestyle to the community. The content for the sessions was adapted from the “Your Heart, Your Life” program, created specially for Latino communities living in the United States by the National Heart, Lung and Blood Institute.

Seventy percent of participants who completed the study within the intervention group (1:2 control-intervention ratio) experienced a reduction in body weight, body mass index (BMI), and waist circumference. Moreover, participants were found to have increased their water, fruit and vegetable intake, as well as dose-dependent (increases seen in proportion to number of intervention sessions attended) rates of physical activity.

Many previous public health efforts have failed to effectively influence agricultural laborers due to barriers such as language, seasonal work periods, migration, documentation status, and poverty. The success of this study suggests that with improvements in accessibility and substance, tailored programs like Pasos Saludables can be enacted in agricultural communities across the United States to promote healthy lifestyles and help reduce the burden of obesity and diabetes in farmworker populations.

This pilot study led to an enlarged investigation currently underway, partnering with Reiter Affiliated Companies. It is aimed at developing a workplace based model to translate widely across agricultural sites where there are numerous Latino populations.

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their challenges.” The conference featured major agricultural players, such as Naturipe, Driscoll’s, E&J Gallo, Grimmway Farms, Scott Brothers Dairy, and Andrew & Williamson Fresh Produce, Inc. It also highlighted solutionists like Terravion, Google, Agerpoint, Agrobot, Diafuku, and Brain Corporation.

There are currently many robotics programs in agriculture. From the autonomous tractor to Wall-Ye, robots in ag are as specific as the fruits they reap. Wall-Ye – resembling Pixar’s fictional robot Wall-E – is a two-armed robot designed to prune, de-sucker and pick grapes with the help of six cameras placed strategically about its compact frame. Harvest Automation has another autonomous vehicle capable of moving potted plants unattended. Both tools provide a boost to productivity because they operate without injury or breaks.

When it comes to picking delicate fruit like strawberries or oranges other solutions prevail. CROO, a Florida company, and Agrobot, a Spanish company, have sought to mechanize the difficult task of strawberry picking. Both machines utilize sensors to assess shape and color characteristics of fruit and determine ripeness. Ripe berries are then plucked by multiple arms and delivered to graders and packers on the machines.

Imaging is a critical component to efficient fruit harvesting. Vision Robotics is developing an automated harvester using stereoscopic cameras to record the size and location of each orange on a tree. With the captured images, the harvester then forms a 3D image of the entire orange tree and begins to pick with its eight multi-jointed arms. This type of machinery may prevent common injuries that occur as workers strain to pick hard-to-reach fruit.

Dorn explained how automation can provide a safer work environment. Robots can easily lift heavy loads that would otherwise be strenuous on workers, allowing aging workers to do jobs that they may not otherwise be able to do. For example, Dorn described a machine used to assist setting up the metal supports for raspberry tents. The job previously took a large crew of primarily young, strong workers to carry steel into the field throughout the day. Injuries would commonly occur when individual metal supports snapped up. A specialized tractor was developed to prevent injuries and reduce the workload, limiting the amount of workplace risk for employees.

A perceived downside to robotics is that the movement could threaten the jobs of many farm workers. However, Dorn stressed that technology driven jobs created by robotics will improve the value, skills and capabilities of the agricultural workforce, which is becoming increasingly scarce. This is a plus for many multi-generation farming families who are enticing their educated children back to the farm with technology.

A recent Los Angeles Times article (25 Feb 2016) highlighted a push in the California city of Salinas, “the salad bowl of the world”, to educate children of farmers and farm workers in computer science. For example, CoderDojo is a free computer-coding club for 8- to 17-year-olds to learn how to develop websites, web apps, games and more that is supported by a collaboration between the Steinbeck Innovation Foundation and Hartnell College. Local Salinas farmers have donated millions of dollars to start a computer science program at Hartnell College and Cal State Monterey Bay. Salinas is also now home to the Western Growers Center for Innovation and Technology to support ag-tech start-ups.

The concentrated effort by community, farmers, venture capital and innovators gives every indication that it won’t be long before coding abilities become an essential skill of the 21st century agricultural workforce.
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because of the lack of data. Without data, we don’t know what’s going on in the community, and we need to know what’s going on in order to inform policy development.

What work are you doing for WCAHS?
I’m working with the data from the Pasos Saludables pilot study (lifestyle intervention program to reduce rates of obesity and diabetes among immigrant Latino farmworkers – see front page article). What I’m looking at with the Pasos data is how stress levels and participants’ coping skills help us understand for whom the intervention is effective.

I’m also really interested in why, year after year, parents of Latino children report experiencing the lowest levels of family centered care. They’re telling us that they don’t feel like their voice is being heard in their children’s care. One potential factor in these situations is interpretation services. If there’s not a direct link to your provider, whether through ethnicity or language, then there’s another person in the room [interpreting], and that could affect communication and how well you feel you’re heard. On the other hand, high-quality interpretation services could help improve family-provider communication.