

Prevention Research Centers

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STORIES OF PREVENTION RESEARCH

ADDRESSING CHRONIC DISEASES IN THE AMERICAS

**Two Prevention Research Centers and
International Collaborators Search
Brazil and Latin America for Solutions**

National Center for Chronic Disease Prevention and Health Promotion
Division of Adult and Community Health





"If a day goes by and I don't come to the 'City Gym,' I think my weight goes up 10 kilos!" says Andreia Lima Da Silva, a condominium caretaker in Recife, Brazil. Ms. Lima overstates her potential 20-pound daily weight gain but not her enthusiasm for free exercise classes led by professional trainers at sites around the city. Evaluation of the program, Academia da Cidade (Portuguese for "City Gym"), is one component of a multinational effort that involves CDC's Prevention Research Centers in reversing the growing trend of physical inactivity among people in the industrialized world. Inactivity puts everyone at risk for diseases like diabetes, heart disease, some types of cancer, and other serious health conditions.

To reverse the trend in the Americas, a group of researchers, government health officials, doctors, and community groups are collaborating to find, test, document, and share the most effective strategies that encourage people to include enough physical activity [see side bar, opposite page] in their weekly schedules. The researchers are working to develop international networks of public health partners, lists of published interventions, and an established process to develop and disseminate the most-promising physical-activity programs. These programs benefit people like Ms. Lima and fellow Recife resident and Academia participant Jaciara Gomes Barbosa Dos Santos.

"Ah! My weight! It was above what's good for my height," Ms. Barbosa said, echoing a lament now heard in multiple countries and languages.

The Community Guide

The Guide to Community Preventive Services, or the "Community Guide," is a resource that records the level of confidence a task force of experts has that a particular intervention strategy effectively achieves its aim. A review team presents the evidence about a strategy to the task force, which may recommend that strategy be used or not used, or conclude there is not enough evidence to recommend it.

To date, the task force has examined interventions related to 18 topics, including diabetes, obesity, and physical activity. Communities, public health researchers, and other interested groups refer to the Community Guide for strategies that have been recommended or noted for further study, and review the details about the interventions and the communities in which the interventions were tested.

www.thecommunityguide.org

A Close Look at Brazil

Since 2005, investigators at the CDC's Prevention Research Center (PRC) in St. Louis, Missouri, have reached out to colleagues working in other countries, inviting them to help develop a Guide for Useful Intervention for Physical Activity in Brazil and Latin America, or Project GUIA, which means "guide" in Spanish and Portuguese. The research is funded by CDC's Division of Nutrition, Physical Activity, and Obesity (DNPAO).



Academia participants take part in a class held at Praca da Vitoria in Recife, Brazil.

"Brazil has been an ideal location to begin and maintain collaboration," said Michael Pratt, MD, MPH, Chief of the Physical Activity and Health Branch of DNPAO. In Brazil, the population over age 60 has doubled over the past few decades. Much of the country has become urbanized, and in some regions, more than 80 percent of the adults do not get enough regular physical activity to stay healthy. According to Dr. Pratt, the Brazil Ministry of Health restructured to improve monitoring of chronic disease and lifestyle trends within the country, but its many well-trained public health researchers wanted help evaluating the effectiveness of physical activity programs and disseminating the results. Because the country has an extensive public health network in place, the St. Louis researchers and other GUIA members can quickly identify and assist local experts conducting community research and invite them to join the network.

"When Project GUIA first came to Brazil, it was a good time to be starting such collaborations," said Luiz Ramos, MD, PhD, a GUIA partner and researcher from the preventive medicine department at the Federal University of Sao Paulo. "The project linked the GUIA network and Brazil's Ministry of Health, which was financing dozens of projects."

Dr. Ramos explained that the Ministry of Health was trying to publicize the Academia exercise program among residents of Recife, the country's 5th largest metropolitan

area. The GUIA team formed a partnership with the government and designed a telephone survey of randomly chosen city residents to study the effects of Academia. The researchers found that, compared with people who had never participated in the program, those who had were twice as likely to engage in moderate or high levels of leisure-time physical activity. Current Academia participants were 11 times more likely than nonparticipants to get this level of physical activity. Participants also were more likely than nonparticipants to walk in their leisure time. The GUIA researchers found Academia also had some subtle benefits.

“The Recife study showed that even if residents didn’t participate yet, seeing others take part in it and knowing it was going on was a good incentive for them to become involved,” Dr. Ramos said. He added that many women—middle aged and older—reported the Academia program was the only option they had for a free and convenient way to get regular exercise.

Ms. Lima and other Academia participants said the excitement built as they watched the construction of a new program site in their neighborhood. Ms. Lima, for example, said her work schedule often made it difficult to get enough exercise on her own. So as soon as the Academia site near her was completed, she had her choice of morning classes that fit into her routine.

“As soon as our site opened, I joined right away,” she said.

Academia trainers have noticed that women, in particular, take advantage of the program. Physical education teacher Magda Bonato Sehnem said about 90 percent of the participants in her classes are women aged 8 to 85; they meet in a public square in a low-income section of town, Polo Miguel De Cervantes.

“You see age differences with the time of day. In the morning, the average age of the participants is older—50 to 70. At night, the group is younger—from 20 to 45 years old.” Each class usually has 25 participants, she adds. At trainer Bruno Cesar Rodrigues Da Silva’s class in Jaqueira Park, 150 to 200 people—having an average age of 50—participate. Nilma Kelly Ribeiro De Oliveira also teaches Academia classes at Jaqueira Park, and her classes average 60 participants ranging 50 to 80 years old.

Because of the Academia’s success attracting participants in Recife, officials in Pernambuco, the Brazilian state in which Recife is located, are now trying to spread the program to all of the state’s municipalities. Academia also was adapted for Curitiba, Brazil, and for further study in Colombia. Researchers at a second PRC in the CDC’s network also are adapting the Academia concept to test in San Diego, California.

“This cross-national partnership gives Project GUIA a unique scope,” said Ross Brownson, PhD, the study’s principal investigator from the St. Louis PRC.



How Much Physical Activity Do People Need for Good Health?

Getting 150 minutes of weekly physical activity of moderate intensity is an international standard, said GUIA partner Luiz Ramos, MD, PhD, a physical activity researcher in the preventive medicine department at the Federal University of Sao Paulo, Brazil. For maintaining a healthy body weight, the CDC recommends working up to 150 minutes of moderate-intensity aerobic activity each week or 75 minutes of vigorous-intensity aerobic activity or an equivalent mix of the two each week.

Other guidelines are more specific. The World Health Organization (WHO) is developing recommendations for physical activity, and in the meantime, points to the guidelines adapted from the American College of Sports Medicine, American Heart Association, and a group of researchers.

World Health Organization. Global recommendations on physical activity for health. Geneva: WHO Press; 2010.

In addition to evaluating the Academia program, the GUIA team also searched the scientific literature for effective physical activity interventions, by using a process similar to that of the U.S. Guide to Community Preventive Services, or “Community Guide”. Dr. Brownson and colleagues identified more than 3,500 public health research projects in English, Spanish, and Portuguese. The team reviewed the studies to identify physical activity interventions and then determined how many of these studies were conducted with sufficient scientific rigor. Two studies concerned school-based physical activity programs, which led the GUIA team to recommend that such programs should be offered to schoolchildren in the Americas. Researchers continue to study effective ways to encourage physical activity among people of all ages.

The GUIA team purposefully sets aside time and resources to share research findings; to date, the GUIA project and related work in Latin America has produced 20 peer-reviewed scientific publications, including a supplement to the Journal of Physical Activity and Health (May 2010).



Many urban spaces in Brazil are designed to support physical activity.

“The partnership has been very productive,” said Eduardo Simoes, MD, MSc, MPH, Director of CDC’s Prevention Research Centers Program and one of the research collaborators. “Project GUIA’s contributions to the scientific literature and public health training have made it a valuable investment,” he said. “The partners identified new strategies to encourage physical activity—such as Academia’s class-on-the-street format—and demonstrated use of a new evaluation tool. Further, the Brazilian government could consult GUIA findings while shaping policies on physical activity and chronic illness reduction.”

As Project GUIA continues, the team is surveying staff of local primary-care doctors to determine how well clients are encouraged to get regular physical activity. Dr. Brownson and Dr. Ramos said the GUIA team may find that these professionals are using creative strategies that could be tested on a large scale. “Adapting interventions between study locations is a major goal of Project GUIA,” added Dr. Brownson.

Adapting Project GUIA in California

Researchers at the San Diego PRC will test the Academia program for effectiveness in the United States. And, like their GUIA colleagues did in Brazil, the San Diego team is establishing partnerships with Mexican researchers and government officials to conduct similar literature searches to identify studies in Spanish and English, design research projects to test promising interventions, and share the results.

Economic and population changes in Mexico are similar to those in Brazil, said San Diego PRC director John Elder, PhD, MPH. In a 2009 supplement to the journal, *Mexican Public Health*, researchers reported that nearly 70 percent of adults, more than 26 percent of school-age children, and 30 percent of adolescents were overweight or obese. The authors of the study concluded that the rise of overweight and obesity in Mexico in the past two decades is the most daunting public health challenge facing the Mexican population. And they called for changes that help promote healthy diets and adequate levels of regular physical activity.

Dr. Elder added that obesity rates are even higher among Mexican people who have emigrated to the United States, but the reason is unclear. The San Diego PRC staff work with communities that straddle the two countries, collaborate with health departments in the region, and partner with Mexico’s National Institute of Public Health to form a network of researchers who will bring a broad perspective to the project.

“This is an appropriate time to be focusing on the global scale,” Dr. Elder said. “Now we can develop a shared approach to addressing the causes of obesity and related chronic illnesses.” This approach may offer effective programs to people across the world, helping them to achieve the same benefits as Academia participants did in Recife.

“I control my weight,” Ms. Lima said. “My health has improved and I have made new friends.”

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FOR MORE INFORMATION, PLEASE CONTACT

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