Community Heart Health Actions for Latinos at Risk (CHARLAR) Program

Problem

Lifestyle factors, including exercise, diet, smoking, and stress, are known to affect health and risk for cardiovascular disease. About 78 million American adults—1 in every 3—have hypertension (defined as a blood pressure greater than or equal to 140/90 mmHg or taking antihypertensive medication).[1,2] Lifestyle interventions may contribute to improved hypertension and cardiovascular disease (CVD) outcomes and are an important resource for linking patients in clinical care environments with community resources using public health strategies.

Project

CHARLAR is a lifestyle program that focuses on modifying risk for CVD and diabetes. It was developed by the Colorado Prevention Center (CPC) in conjunction with community partners, including Vuela for Health, and the University of Colorado Denver School of Medicine. The program has served more than 2,500 participants from 2009 to 2019.

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Overview

The CHARLAR program is implemented by the Colorado Prevention Center (CPC) in conjunction with Vuela for Health. CPC develops and implements evidence-based health promotion programs, and Vuela for Health provides community health workers (CHWs) called *promotoras*. They are trained, bilingual Spanish-speaking CHWs recruited from within the Hispanic/Latino community to implement day-to-day program activities. CHARLAR focuses on individuals with indicators for metabolic syndrome (a condition combining high blood pressure, high waist circumference, high triglycerides, low HDL cholesterol, and high glucose), or whose medical provider has identified them as having a higher risk of hypertension or diabetes.

Participants enroll in the program at a health screening event at a community-based location, where promotoras administer a pre-intervention survey and nursing student volunteers and CPC staff collect biometric data. Biometric measures include blood pressure (BP), cholesterol, glucose, and body mass index (BMI). Upon completion of biometric measurements, providers review screening results with each individual and invite them to enroll in program sessions. Between 15 and 25 participants typically attend sessions, conducted at churches or other locations within the communities being served. The program utilizes a lifestyle curriculum composed of eleven 2-hour sessions focused on lifestyle behaviors, heart health, and risk factors for CVD and diabetes. Interactive methods are used to engage participants throughout the program. At the conclusion of all the sessions, a final screening is done to reassess biometric data and provide individual feedback and counseling to each participant.

Key Characteristics of CHARLAR

- Administration of a baseline risk assessment
- Use of promotoras
- Eleven-week lifestyle program
- Use of community-based settings and institutions

Intended Participants

CHARLAR's population of focus within the Denver area is persons who live in urban areas, those who speak Spanish, have lower income, and are non–U.S.-born. Recruitment is conducted by the promotoras, who develop relationships with local community leaders and attend or host community health events. Participation in the program is open to individuals aged 18 years and older and not limited to individuals with hypertension only. Based on reported data, more than 45% of participants are unemployed, and 43.5% report having no health insurance. The mean age among participants is 55.4 years.

Baseline Participant Demographics

Characteristics	No. Participants (%)
Gender	
Male	657 (24.7)
Female	2,000 (75.3)
Total	**2,657**
Ethnicity	
Hispanic or Latino	2,507 (96.7)
Non-Hispanic	86 (3.3)
Total	**2,593**
Insurance Status	
Insured	1,437 (56.5)
Uninsured	1,105 (43.5)
Total	**2,542**

Goals and Expected Outcomes

The primary goal of CHARLAR is to reduce the risk of CVD and diabetes among the populations served by both CPC and Vuela for Health. Expected short-term outcomes include decreases in BP, cholesterol, weight, BMI, and CVD risk scores, and behavioral changes in physical activity and diet. In the longer term, the program seeks to sustain control of hypertension, hyperlipidemia, hyperglycemia, and obesity among those at greatest risk within the community. The program expects to achieve these outcomes by promoting access to primary care and by changing health and behavior norms in the community.

Progress Toward Implementation

The promotoras were critical to the implementation of the CHARLAR program, and the importance of having peer educators was recognized by CHARLAR leadership during program development. Therefore, the selection of the culturally sensitive and interactive Pasos Adelante (Steps Forward) curriculum, which uses community health workers to help Mexican Americans take steps to prevent heart disease and diabetes through education, diet, and physical activity, was used as the basis for the CHARLAR intervention. In addition to the curriculum, the personal attention that participants received from promotoras and their rapport with participants were also vital to program success. Receiving an individualized risk assessment at the start of the intervention and individual follow-up texts and calls from promotoras during the intervention maintained and promoted participant interest. Together, these key characteristics worked to make the program relevant and meaningful to participants.

Reach and Impact

Overall, the CHARLAR program demonstrated effectiveness in helping participants lower their blood pressure. Systolic and diastolic blood pressure decreased by 3.9% and 3.2%, respectively, from baseline to follow-up.

Change in Mean Blood Pressure (BP) Levels from Baseline to 12-Week Screening

Changes in Mean BP Levels	Baseline Mean (SD), mmHg	12-Week Screening Mean (SD), mmHg	% Change from Baseline
Systolic BP	136.9 (16.6)	131.6 (16.3)	**–3.9**
Diastolic BP	83.8 (10.7)	81.1 (10.6)	**–3.2**

In addition to blood pressure, significant decreases were observed in participants' LDL cholesterol, weight, BMI, and Framingham risk scores from baseline to follow-up. Obesity decreased by 8.8% and BMI improved by 1.3%. In addition, significant changes in dietary behaviors were observed.

Blood pressure control rates increased from 66.2% at baseline to 71.5% at the 12-week follow-up, a difference of 5.3 percentage points.

This document does not constitute an endorsement of any organization or program by CDC or the federal government, and none should be inferred.

[1] Wall HK, Ritchey MD, Gillespie C, Omura JD, Jamal A, George MG. Vital signs: recent prevalence of key cardiovascular disease risk factors for Million Hearts 2022 — United States, 2011–2016. *MMWR*. 2018;67:983–991.

[2] Fryar CD, Ostchega Y, Hales CM, Zhang G, Kruszon-Moran D. Hypertension Prevalence and Control Among Adults: United States, 2015–2016. National Center for Health Statistics Data Brief, no 289. Hyattsville, MD: National Center for Health Statistics; 2017.