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Training Community Health Promoters to Implement Diabetes Self-Management Support Programs for Urban Minority Adults

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Abstract

Objective—To develop, implement, and evaluate a peer-led diabetes self-management support program in English and Spanish for a diverse, urban, low-income population. The program goals and objectives were to improve diabetes self-management behaviors, especially becoming more physically active, healthier eating, medication adherence, problem solving, and goal setting.

Methods—After a new training program for peers led by a certified diabetes educator (CDE) was implemented with 5 individuals, this pilot evaluation study was conducted in 2 community settings in the East and South Bronx. Seventeen adults with diabetes participated in the new peer-led 5-session program. Survey data were collected pre- and postintervention on diabetes self-care activities, quality of well-being, and number of steps using a pedometer.

Results—This pilot study established the acceptance and feasibility of both the peer training program and the community-based, peer-led program for underserved, minority adults with diabetes. Significant improvements were found in several physical activity and nutrition activities, with a modest improvement in well-being. Feedback from both peer facilitators and participants indicated that a longer program, but with the same educational materials, was desirable.

Conclusions—To reduce health disparities in urban communities, it is essential to continue program evaluation of the critical elements of peer-led programs for multiethnic adults with diabetes to promote self-management support in a cost-effective and culturally appropriate manner.

Practice Implications—A diabetes self-management support program can be successfully implemented in the community by peers, within a model including remote supervision by a CDE.

Effective diabetes self-management is a key component in preventing acute and chronic diabetes complications.^{1,2} Little is known about optimal interventions to support diabetes self-management for individuals in urban areas, although some evidence is emerging.³ The New York City Department of Health and Mental Hygiene reports a high prevalence of health disparities among blacks and Hispanics of lower socioeconomic status living with diabetes in impoverished neighborhoods in New York City. In comparison to prevalence rates for non-Hispanics whites (6%), non-Hispanic blacks (12%), and Hispanics (13%) have the highest prevalence rates of diabetes in New York City.⁴

In response to these disparities in health status, several mixed-methods studies were conducted in the Bronx, New York, to gain more knowledge about perceptions of Hispanics and non-Hispanics regarding diabetes self-management issues, including quality of life. The first study was qualitative, using a focus group design. In 7 focus groups, with a total of 37 participants, Hispanic men and women discussed issues about diabetes self-management, family, social support, and other psychosocial factors. Themes about the burden of diabetes self-management, perceived health care discrimination, depression, and sexual health concerns emerged. Hispanics in these groups perceived that they were discriminated against in the health care system, citing language barriers and physicians' misunderstanding of their ethnic/cultural background.⁵ A second quantitative study was a telephone survey (N = 208) conducted with diabetic adults (48% Hispanic) in the Bronx to evaluate in a larger sample some of these themes that emerged from the focus groups, such as depression, health care discrimination, social support, and quality of life.⁶

A pilot intervention study was planned based on the knowledge gleaned from this previous research. A training curriculum was developed for peers who were called community health promoters (CHPs), that is, people with diabetes (or diabetes in their immediate family) who are trained to facilitate "diabetes discussion circles" for self-management support for people in the community. The term *community health promoter* is used to distinguish this peer role from that of a diabetes educator; the diabetes educator role usually encompasses the teaching of diabetes-specific skills and knowledge by an expert. Community health promoters or *promotores de la salud* (acknowledging the many titles for the role)⁷⁻⁹ can expand the reach of diabetes educators in the community, as they can be influential resources for motivating people to learn from a peer's personal experiences through group discussions of diabetes-related topics.¹⁰ The goal of the intervention was to include themes that had emerged in recent focus group and survey research in the target population. This study included communication skills for the CHP training to assist them to empower participants to speak effectively with their health care providers and to address issues about perceived discrimination in health care. Resources for accessing diabetes self-management education classes in the community were provided to all participants.

Self-Management Topics

Self-management skills, such as problem solving and goal setting, were incorporated into the training of CHPs so that they could be implemented for participants in the discussion circles. Problem solving is characterized as a technique used by people to identify and overcome barriers to achieving a stated goal, such as being physically active, eating a healthy diet, or medication adherence.^{11,12} The CHPs first learned and subsequently presented a model of problem solving used in the Diabetes Prevention Program,¹³ which illustrates problems as a behavior chain, with brainstorming of possible solutions and choosing a solution to put into effect as an action plan. People were asked to evaluate their success or lack of success and to work on problem-solving their most challenging issues with diabetes self-management.

Goal setting has been shown in previous self-management studies to help individuals develop a sense of self-efficacy.^{14,15} The primary goal was to assist people with diabetes during the discussion circles to create specific, realistic goals that they felt confident to achieve through problem solving. Goal setting—using a worksheet¹⁶—and problem solving were introduced to participants early in the intervention, so that they could evaluate their progress toward each personal goal. Practice with goal-setting skills usually followed the topics of the discussion circles.

Sexual health information, including impotence in men and decreased sexual desire and discomfort in women, was developed for this curriculum, as these themes had emerged in previous studies in the target population. Moreover, myths and realities on diabetes, diet, and medications, as well as the importance of identifying social supports, were discussed. The concept of storytelling was introduced to the CHPs to promote exchange of ideas in the discussion circles while sharing self-management information through their own personal experiences.¹⁷

Because of the limited opportunities for diabetes self-management education and support for Hispanic and non-Hispanic individuals in the Bronx, a community-based, self-management support program, distinct from education programs, was developed to improve self-care activities and health outcomes in this population. The newly developed program was called “Los Caminos: Developing Culturally Sensitive Paths to Diabetes Self-Management.” This evaluation research was approved by the Albert Einstein College of Medicine institutional review board, and all participants in the pilot study gave informed consent to participate.

Methods

Training for Community Health Promoters

Six adults were recruited from Bronx diabetes education programs, word of mouth, and community postings to train as CHPs. Eligibility criteria included a preference for bilingual Spanish, an adult having diabetes or living with a family member who has diabetes, good interpersonal skills, and availability for training and for implementing the pilot study. Four individuals had diabetes, and 2 had diabetes in their immediate family, reflecting the characteristics of community “peer” health workers, as they either have diabetes or live with someone who has diabetes. The training program was developed by the principal investigator, who is a behavioral nurse scientist and a certified diabetes educator (CDE), with her bilingual Spanish-speaking research associate, who has training in psychology. The CHPs were trained to conduct diabetes self-management discussion circles designed to support self-management for people living with type 2 diabetes.

The CHPs attended a 10-hour diabetes patient education class, 2 hours per week for 5 consecutive weeks; it is an American Diabetes Association recognized program. These structured interactive workshops focus on type 2 diabetes and heart disease and are delivered by 2 CDEs—a nurse practitioner (S.M.) and a registered dietitian (S.M.), with input from a CDE endocrinologist (J.Z.). The CHPs were observers in the patient education classes, so that they could be sensitized to the interaction between the expert instructors and their patients/learners while learning specific content. In addition, the CHPs had the opportunity to have an informal lunch with the nurse and dietitian after each class to share additional concerns or questions and to receive constructive feedback about their own food choices at lunch.

Training was 5 full days within 5 consecutive weeks. See Table 1 for a typical schedule for each of the 5 training days. The afternoon hours were spent on introducing and refining, with input from the CHP trainees from the community, the self-management materials to be used in the discussion circles and also in building basic skills for group process. Themes discussed in the review sessions included diabetes self-management, healthy eating and physical activity, how emotions and other illnesses can affect diabetes control, talking back to negative thoughts, goal setting and problem solving, and effective ways to communicate with the doctor. Of the 6 CHPs who began the training, 5 (4 women and 1 man, 2 Spanish-speaking Hispanics and 3 non-Hispanic blacks) completed the program of training, attending all sessions. (One Latina withdrew from the training after 1 session due to schedule conflicts.) Each CHP was given a \$100 honorarium for completing the 5-day training

program, and later each was paid \$200 for leading the series of 5 discussion circles for the pilot study.

The Discussion Circles

The CHPs were paired to facilitate the pilot community discussion circles, an English-language group and Spanish-language group. The sessions were named *discussion circles* to highlight the integration of self-management support with discussion of information and skills through storytelling and exercises facilitated by CHPs. This name was intended to help participants understand the difference between discussion circles and diabetes education classes. See Table 2 for topics by session. The bilingual research associate was present at each discussion circle to promote adherence and guidance to the protocol, correct any major content errors of the CHPs in the discussion circles, and provide logistical support; her role did not include direct facilitation of the groups. Two community settings were used for these sessions. The English-language discussion circle was at a WIC (Women, Infants, and Children) site in the east part of the Bronx. The Spanish-language group was at a community information and referral center for seniors in the South Bronx. Patient education materials in English and Spanish were obtained at no cost from various resources, including the New York City Department of Health and Mental Hygiene, the American Diabetes Association, and the National Diabetes Education Program.^{9,16,18,19} The pilot study comprised 5 weekly diabetes self-management discussion circle groups, with each group session at least 2 hours in length. Family members were invited to attend, but no one did.

Pilot Study Participants

Recruitment for study participants was done through community newspapers and flyers posted in the communities close to the sites, especially in libraries, bodegas, community centers, health care centers, and churches. The CHPs assisted with recruitment when feasible. Potential study participants were prescreened by telephone to participate in the sessions with the following eligibility criteria assessed: 18 years of age or older, diagnosis of diabetes for 1 year or more, and not currently participating in any other diabetes research project. Hispanic and black men and women were recruited to participate. Each person was allowed to bring 1 friend or family member to the group if he or she wished. Participants self-selected to either the English or the Spanish language group. They were reimbursed for transportation as needed; healthy snacks and beverages were provided at each session.

Data Collection

The research associate facilitated the informed consent process and then the collection of survey data at the beginning of the first session. The validated surveys included the Summary of Diabetes Self-Care Activities (SDSCA) measure,²⁰ which includes items on diet, exercising, smoking, checking feet, and medication adherence over the past 7 days; the World Health Organization (WHO) 5-item Well-Being Scale,²¹ used to briefly assess quality of life during the past 2 weeks; and 3 risk perception questions to assess participants' perceived risk of getting diabetes complications in the future,^{22,23} as well as demographic characteristics data. Self-report of physical activity (number of steps per day) using a step meter was done at the end of week 1. Approximately 3 weeks after the intervention ended, participants were asked to complete the same surveys, and comparisons were made to baseline data to evaluate changes from pre- to postintervention. This 3-week window was planned in between the last session and the data collection to decrease reporting bias by the participants (ie, giving socially desirable responses) when completing the surveys and reporting the number of steps.

Each participant was given a step meter with instructions on use at the first discussion circle. The long-term goal for each participant, if medically appropriate after talking to his or her

doctor, was to walk 10 000 steps each day based on previous studies' evidence.^{24,25} The number of steps each participant walked per day was self-reported during the first week, fifth week of program (before the last session), and eighth week. Data were cleaned, coded, and entered into an ACCESS file for analyses.

Statistical Analysis

A power analysis was performed a priori to determine the number of individuals needed for the pilot study. It was based first on the number of steps reported using a step meter.²³ The following assumptions provided the statistical framework of the power analysis: (1) the baseline average number of steps walked is 5500 per day, (2) a clinically important increase is 20% (ie, to 6600), and (3) a typical person will not decrease his or her steps by more than 2500 (to 3000) and will not increase by more than 4500 (to 10 000). Based on these assumptions and estimating the SD of changes to be 1750 (or one fourth the range of changes), then for $\alpha = .05$ for a 2-tailed test, $N = 22$ participants were required to yield 80% power.

For the healthy eating portion of the SDSCA, if the average number of days per week of healthy eating is assumed to be 3.2 at baseline,²⁶ a clinically important increase to detect is the addition of 2 days, and the standard deviation of changes is 3, then $N = 20$ participants are required for 80% power. Descriptive statistics, including means and standard deviations for continuous variables and relative frequencies for categorical variables, were used to describe the sample. Student *t* tests for paired data were used to assess changes in the measures from preintervention (week 1) to postintervention (at week 5 for number of steps only and week 8 for all measures). SAS Version 9.1.2 was used for the analyses.

Results

Participation in Discussion Circles

Of the 21 participants from the community who called and were prescreened and met eligibility criteria, 17 in total participated. For the English-speaking discussion circles, of the 14 people who were enrolled and initially screened, a total of 11 attended the first discussion circle session and gave written informed consent. In the Spanish-speaking discussion circles, a total of 8 participants were prescreened, and 6 participants attended the first discussion circle. However, after actively participating in the first Spanish discussion circle, 1 participant relocated out of state. Although this participant was no longer present during the following sessions, she asked for and was sent the educational materials from each of the subsequent discussion sessions. She completed the posttest, and her data were included in the analyses. For both discussion circle groups, participants who missed sessions were mailed the materials used in the discussion, and they were contacted by telephone and encouraged to attend the next session. See Table 3 for session participation by language group.

Participant Characteristics

Table 4 shows the characteristics of the 17 individuals who participated in the 5-week programs. The mean age was 66.8 years. Of the 12 women and 5 men who participated in the discussion circles, 5 were born in New York and 2 reported being born in another state in the United States; 3 were born in Puerto Rico. Seven others were born outside the United States, with 4 from the Caribbean and 3 from South America.

Results from the SDSCA survey showed a significant increase in individual SDSCA items for healthy eating and physical activity. These included an increase from preintervention to postintervention for self-report of the number of days each week of eating the recommended

portions of fruits and vegetables. Preintervention mean was 3.4 days versus postintervention mean of 4.5 days ($P = .05$), with a mean change of 1.1 days ($SD = 1.9$). Additional significant SDSCA findings were on the reports of exercise from pre- to postintervention. Individuals reported an increase in physical activity of 1.5 ($SD = 3.0$) more days per week (from 3.1 to 4.6 days) of *exercise for at least 30 minutes per day* ($P = .04$). Moreover, there was a significant increase in the self-report of participating in a specific exercise session ($P = .04$), which means that people increased their physical activity by 1.2 ($SD = 2.3$) additional days per week (from a mean of 3.4 to 4.6 days) of *doing a specific exercise session*. There were no significant differences from pre to postintervention in smoking behaviors—only 1 in 17 reported being a current smoker—or in medication adherence.

In the 5-item WHO Well-Being Scale, participants were asked to rate their well-being during the past 2 weeks. There were no significant differences with items on feeling cheerful; feeling calm and relaxed, fresh and rested; or doing things that interest them. There was, however, a significant and positive increase in people reporting being *more active and vigorous* ($P = .03$). No significant differences were found between the total Well-Being scores from pre- to postintervention. At post-intervention, the total mean score was 15.1 out of possible 25 points on the scale, with higher score meaning greater sense of well-being over the previous 2 weeks.

Participants also responded to 3 items being pilot-tested to assess their perceptions of risk of developing diabetes complications in relation to their diabetes self-care behaviors. Because of small numbers when comparing English and Spanish speakers, these results are semi-quantitative and preliminary; thus, tests of significance are not reported. The first item asks about their perceived risk or chance of developing diabetes complications in the next year if they do not change their self-care behaviors. From preintervention to postintervention, there was a trend toward an increase in perceived risk in the English-language group ($n = 11$) but not in the Spanish group ($n = 6$). The second item asked if they had recently made changes in their self-care behaviors that they think will lower their chances of getting diabetes complications. From pre- to postintervention, there was basically no change in the responses, with just a slight trend toward making fewer changes in self-care behaviors in the Spanish-speaking group. The third item asked if they were planning on making lifestyle changes in the near future that they think will lower their chances of getting diabetes complications. The English-speaking group reported an increase in plans to make changes from pre to postintervention; the Spanish speakers had a slight decrease in those who planned to make changes.

Because participants were learning to use their step meters and sometimes recorded very low numbers of steps (eg, only 300 a day), the number of steps recorded in a week was examined in several ways. Because the average number of steps was assumed to have error because of the learning process of wearing the meter correctly or to remember to put it on, the greatest number of steps recorded was assessed on 1 day in each timeframe. There was no significant increase in the greatest number of steps recorded by participants between weeks 1, 5, and 8. There was, however, a significant difference in the number of days that steps were recorded from week 5 to week 8. Individuals increased the number of reported days using the step meter by 1.6 ($SD = 2.6$) days, from 3.2 to 4.8 days on average per week ($P = .02$).

Program Evaluation

After the last discussion circle, participants were asked for feedback using a 6-item written questionnaire on program recommendations addressing most and least preferred components of the program and program suggestions. They reported that overall program information was useful, was culturally relevant, and enhanced previous knowledge about diabetes self-management. Participants reported that they valued the social support received through the

program. The majority agreed that program activities were useful in their lives. Everyone stated that they would recommend the program to a family member. The consensus was that the program was too brief and should include additional sessions or longer sessions. Participants seemed to enjoy socializing before and after each session, which took up part of the allotted 2 hours. The fact that the program had a Spanish-language title, “Los Caminos” (pathways), was not a reported barrier for participation, most likely because of the multiethnic nature of the Bronx population.

CHP Perspectives

The authors also met separately with all the CHPs for their evaluation of both their training and the subsequent discussion circles they led. Their consensus recommendation for CHP training was that they be full participants, not just observers, in the diabetes education classes. Although some of them do not themselves have diabetes, diabetes is in their immediate family. The CHPs reported that they shared similar cultural and family values as the participants in the discussion circles that they led, as they shared information with the groups about how to eat healthier without giving up their own cultural cooking. There was only opportunity in this pilot study to have 4 (2 pairs) of the 5 trained CHPs facilitate the 2 discussion circles (the English and Spanish groups). They expressed how moved they were by the experience, and they all responded that the materials, which they helped to develop, were appropriate and well received. As reported by the research associate, they often ran out of time to complete the planned material in the 2-hour sessions, suggesting that future sessions be somewhat longer or flexible.

Discussion

The Los Caminos program was developed and pilot tested through a community-based effort in the Bronx, New York, which has a tremendous burden of diabetes and its complications in its underserved populations. The program was implemented by newly trained community health promoters who had a great deal of input into program development during their training period of 5 days. The fact that the program's content and process were built from previous focus groups and survey research in the Bronx diabetes population added to the relevance for both CHPs and participants. The CHPs had support and feedback from the diabetes team and the bilingual research associate throughout the process. The research associate was well trained in diabetes self-management and was able to evaluate the CHPs' content and performance. The active involvement of the CHPs led to their strong commitment and the capacity to deliver the sessions adequately. Their evaluations of the program, as well as the participants' evaluations, were positive, and it was important that the CHPs were compensated for their efforts. Participants themselves were not given a money incentive but did receive self-care incentives such as pillboxes, step meters, and insulated lunch bags, along with all the program materials.

Results indicate several significant improvements in physical activity, including diabetes self-care items, the physical activity item of the Well-Being Scale, and number of days wearing the step meter. In addition, eating more fruits and vegetables was significantly improved. An interesting finding was that the 3 risk perception items showed improvements only in the English-language group and not in the Spanish-language group. This could be because the Spanish-language group did not change their risk perceptions or plan to change their health behaviors to decrease risk of complications. Alternately, the Spanish translation of the items or the constructs may not have been relevant or understandable to these participants. More thorough evaluation research on their understanding of the construct of risk^{22,23} is needed to further develop risk communications and successful interventions for the Spanish-speaking populations.

Several discussion circles provided people with the information on how to deal with negative thinking, while recognizing common patterns of self-defeating behaviors, and encouraged familiarity on how to respond to these thoughts with positive statements. Learning from others' experiences with the emphasis on storytelling about one's experience of living with diabetes,²⁷ along with practicing goal setting and problem-solving skills related to diabetes self-care, may have contributed to these positive changes. Although materials were developed and translated to be culturally sensitive, it was noted that the Spanish group discussion circle was challenging because participants had difficulties in reading comprehension. These difficulties were most probably due to low literacy levels and lack of the basic diabetes care knowledge. The discussion circles did emphasize verbal, small group interactions, and this should help to meet the needs of the low literacy participants.

There are several limitations to note for the pilot study. This study attempted to demonstrate that a community diabetes self-management support program would be accepted and have positive behavioral and psychosocial outcomes for the underserved populations in the Bronx. Given the small sample size because of the difficulty of recruiting during only a 3- to 4-month timeframe due to funding and site scheduling constraints, this study was underpowered to detect all changes as planned. This study was originally planned as a pilot study of Hispanics only; however, recruitment for both the CHPs and the participants in the pilot study was a challenge in the Hispanic community. Recruitment was then done widely, and both Hispanics and African Americans were proactively encouraged to participate as CHPs or participants in a multicultural program. Although 47% of the participants were Hispanic, a much greater number of Hispanics were expected to be interested in participation. This highlights the issues of how little this Bronx population is familiarized or comfortable with a diabetes self-management community support program. The limited nature of the pilot study made it impossible to compare differences in groups by language or gender or by CHPs facilitating the 2 groups. A major role of peer community health promoters is to be a bridge for cultural competence between patients and health care providers when they are encountering each other across a cultural divide,²⁸ and multicultural communications skills are key.

Practice Implications

Providers often need to put considerable effort into developing cultural competence in large multiethnic, multicultural urban areas such as the Bronx. Using peer community health promoters may help bridge this gap. Certified diabetes educators can provide leadership in these programs. The authors based the content and process of the Los Caminos program on their own and others' earlier focus group and survey findings^{5,6,29} about perceived discrimination, difficult provider communication, depression, and distrust in the health care system between patient and doctor. While addressing these issues, the peers provided positive and constructive exercises in support of diabetes self-management.

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References

1. Funnell MM, Brown TL, Childs BP, et al. National standards for diabetes self-management education. *Diabetes Care*. 2007; 30:1630–1637. [PubMed: 17526822]

2. Walker, EA. The Art and Science of Diabetes Self-Management Education.. In: Mensing, C., editor. Understanding the individual's health behavior and choices. American Association of Diabetes Educators; Chicago, IL: 2006. p. 2-5.
3. Fisher EB, Brownson CA, O'Toole ML, Anwuri VV. Ongoing follow up and support for chronic disease management in the Robert Wood Johnson Diabetes Initiative. *Diabetes Educ.* 2007; 33:202S–207S.
4. Kim, M.; Berger, D.; Matte, T. Diabetes in New York City: Public Health Burden and Disparities. Department of Health and Mental Hygiene; New York, NY: 2006.
5. Caban A, Walker EA, Sanchez S, Mera M. It feels like home when you eat rice and beans: perspectives of urban Latinos living with diabetes. *Diabetes Spectrum.* 2007; 21:120–127.
6. Caban A, Walker EA, Schechter CB. Depression, discrimination, and quality of life for urban Hispanics. *Diabetes.* 2006; (suppl):A421.
7. Davis KL, O'Toole ML, Brownson CA, Llanos P, Fisher EB. Teaching how, not what: the contributions of community health workers to diabetes self-management. *Diabetes Educ.* 2007; 33:208S–215S. [PubMed: 17620403]
8. Mauldon M, Melkus GD, Cagganella M. Tomando: a culturally appropriate diabetes education program for Spanish-speaking individuals with type 2 diabetes mellitus: evaluation of a pilot project. *Diabetes Educ.* 2006; 32:751–760. [PubMed: 16971708]
9. Dan C, James WW, Elizabeth AP. CoDE: community diabetes education for uninsured Mexican Americans. *Proc Baylor Univ Med Cent.* 2007; 20:111–117.
10. Kosh T, Kralik D. Chronic illness: reflections on a community-based action research program. *J Adv Nurs.* 2001; 36:23–31. [PubMed: 11555046]
11. Hill-Briggs F, Gemmel L. Problem solving in diabetes self management and control: a systematic review of the literature. *Diabetes Educ.* 2007; 33:1032–1050. [PubMed: 18057272]
12. Hill-Briggs F. Problem solving in diabetes self management: a model of chronic illness self-management behavior. *Ann Behav Med.* 2003; 25:182–193. [PubMed: 12763713]
13. Lifestyle Balance. 2008. <http://www.bsc.gwu.edu/dpp/lifestyle/apndxa.pdf>.
14. Strecher VJ, Seijts GH. Goal setting as a strategy for health behavior change. *Health Educ Behav.* 1995; 22:190–200.
15. Bandura, A. Social Foundations of Thought and Action: A Social Cognitive Theory. Prentice Hall; Englewood Cliffs, NJ: 1986.
16. New York City Department of Health and Mental Hygiene. NYC Public Health Detailing Program: Clinical Tools. New York City Department of Health and Mental Hygiene; New York: 2008. <http://www.nyc.gov/html/doh/html/csi/csi-diabeteskit.shtml.pdf>.
17. Feste, C. The Power to Be Well. Humedico; Minnetonka, MN: 2006.
18. National Institute of Health. National Diabetes Education program. 2007. <http://ndep.nih.gov/diabetes/diabetes.htm>.
19. American Diabetes Association. 2007. <http://www.diabetes.org/type-2-diabetes.jsp>.
20. Toobert DJ, Hampson SE, Glasgow RE. The summary of diabetes self-care activities measure: results from 7 studies and a revised scale. *Diabetes Care.* 2000; 23:943–950. [PubMed: 10895844]
21. Bonsignore M, Barkow K, Jessen F, Heun R. Validity of the five-item WHO well-being index (WHO-5) in an elderly population. *Eur Arch Psychiatry Clin Neurosci.* 2001; 251:II27–II31. [PubMed: 11824831]
22. Brewer NT, Weinstein ND, Cuite CL, Herrington JE. Risk perceptions and their relation to risk behavior. *Ann Behav Med.* 2004; 27:125–130. [PubMed: 15026296]
23. Walker EA, Caban A, Schechter CB, et al. Measuring comparative risk perceptions in an urban minority population: the risk perception survey for diabetes. *Diabetes Educ.* 2007; 33:103–110. [PubMed: 17272796]
24. Hultquist CN, Albright C, Thompson DL. Comparison of walking recommendations in previously active women. *Med Sci Sports Exerc.* 2005; 37:676–683. [PubMed: 15809569]
25. Bravata DM, Spangler CS, Sundaram V, et al. Using pedometers to increase physical activity and improve health: a systematic review. *JAMA.* 2007; 298:2296–2304. [PubMed: 18029834]

26. Lin EHB, Katon W, Rutter C, et al. Effects of enhanced depression treatment on diabetes self-care. *Ann Fam Med*. 2006; 4:46–53. [PubMed: 16449396]
27. Charon, R. *Narrative Medicine: Honoring the Stories of Illness*. Oxford University Press; New York, NY: 2006.
28. Fisher TL, Burnet DL, Huang EL, Chin MH. Cultural leverage: interventions using culture to narrow racial disparities in health care. *Med Care Res Rev*. 2007; 64(suppl 5):243S–282S. [PubMed: 17881628]
29. Kaplan SA, Calman NS, Golub M, Davis JH, Ruddock C, Billings J. Racial and ethnic disparities in health: a view from the South Bronx. *J Health Care Poor Underserved*. 2006; 17:116–127. [PubMed: 16520520]

Table 1**A Typical Training Day Schedule for Community Health Promoters (CHPs)**

(1 hour) 9:00-10:00 am	Orientation about CHP role and the program objectives and review of past week's topics with the diabetes nurse educator/researcher and research associate
(2 hours) 10:00 am to 12:00 noon	Attend diabetes self-management education classes for patients
(1 hour) 12:00-1:00 pm	Lunch and discussion with the certified diabetes educator instructors who taught the diabetes education classes
(3 hours) 1:00-4:00 pm	Interactive and collaborative review (discussion, feedback, and editing) of content and process from the patient classes and participant materials for Los Caminos study participants; role-playing the facilitation of discussion circles and basic group process skill building. CHPs assisted the diabetes nurse educator/researcher and research associate in the development of the program and selection of culturally appropriate materials.

Table 2**Sample of Discussions From the Self-Management Support Circles**

Discussion Circle 1	<p>Sharing the diagnosis story</p> <p><i>"How did you feel when you were first told you have diabetes?"</i></p> <p>The basics of diabetes</p> <p>What causes it and how to control diabetes</p> <p>Discussion about A1C, blood pressure, and cholesterol (ABCs)</p> <p>Discussion about how you can control these ABCs</p> <p>Diabetes myths</p> <p>Wish list: <i>"The wish list is a way for you to tell us what you want to get out of the Los Caminos Program."</i></p>
Discussion Circle 2	<p>Discussion about topics from their wish lists</p> <p>Discussion on healthy eating choices</p> <p><i>"One way to get an idea of a healthy balance in your food choices is to look at this plate where half the plate has vegetables and see how it compares to your usual meals."</i></p> <p>Heart healthy choices, suggestions, and alternatives</p> <p>Reading food labels (visuals)</p> <p><i>"After you become more aware of labels of foods you normally eat, you should speak to a dietitian to help you make decisions."</i></p> <p><i>"Has anyone had a visit with a dietitian?"</i></p> <p><i>"What was your experience?"</i></p> <p>Problem-solving exercises</p> <p>Participants follow the 5 steps of problem solving</p> <p><i>"What is your biggest problem with eating healthy meals?"</i></p> <p>Myths about diet discussion</p>
Discussion Circle 3	<p>Exercise and how it can help diabetes control</p> <p><i>"What exercise do you currently enjoy?"</i></p> <p><i>"Does anything motivate you to get some extra activity?"</i></p> <p>Diabetes medications myths discussion</p> <p>Goal-setting exercises to encourage people to identify a specific goal and to work with it during the week</p> <p>Talk back to negative thoughts</p> <p><i>"Remember that what you do (your behavior) is connected to what you think and how you feel."</i></p>
Discussion Circle 4	<p>Review of goal setting and talking back to negative thoughts</p> <p><i>"What gets in the way of working on your goals? What negative thoughts did you find yourself thinking during the past week?"</i></p> <p><i>"Do you know how to identify feelings of being down, overwhelmed, stressed, or anxious?" "How do you manage these feelings?" "Share a story about getting these feelings under control."</i></p> <p>Family and social support component: wheel of support exercise to encourage participants to identify support systems and share with others</p> <p>Issues about sexual health (men and women in separate groups)</p> <p>Discussion of common sexual health problems</p> <p><i>"How can you talk to your doctor about them?"</i></p>
Discussion Circle 5	<p>Communication (effective interactions with doctors, family, loved ones)</p> <p>Talking to your doctor</p> <p><i>"Why does it matter?" "What is your relationship with your doctor?" "What do you do when your doctor doesn't understand you?"</i></p>

Communication styles (encourage participants to read examples of communication styles)

“Who can see themselves in each of these styles?”

Wrap-up and next steps

Table 3

Discussion Circle Participation by Language and Session

	Discussion Circle 1	Discussion Circle 2	Discussion Circle 3	Discussion Circle 4	Discussion Circle 5
English group participants (n = 11)	11	9	10	9	10
Spanish group participants (n = 6)	6	5	5	5	4

Table 4**Demographics Characteristics (n = 17)**

Age, y, mean $\pm$ SD	66.8 $\pm$ 7.4
Gender, n (%)	
Men	5 (29.5)
Female	12 (70.5)
Ethnicity, n (%)	
Hispanic	8 (47.1)
Non-Hispanic	9 (52.9)
Race, n (%)	
Black or African American	9 (52.9)
White	5 (29.4)
More than 1 race	1 (5.9)
Other	2 (11.8)
Annual household income, n (%)	
<\$15 000	8 (47.0)
\$16 000 to \$30 000	2 (11.8)
\$31 000 to \$50 000	4 (23.5)
>\$51 000	2 (11.8)
Don't know	1 (5.9)
Marital status, n (%)	
Single	3 (17.6)
Married	5 (29.4)
Separated	2 (11.7)
Divorced	3 (17.5)
Widowed	4 (23.5)
Education, n (%)	
8th grade or less	3 (17.6)
9th to 11th grades	2 (11.7)
GED	1 (5.8)
High school graduate	4 (23.5)
Some college	4 (23.5)
Four years of college or more	3 (17.6)
Working status, n (%)	
Part-time work	1 (5.8)
Full-time work	1 (5.8)
Unemployed	2 (11.7)
Retired	11 (64.7)
On disability	2 (11.7)
Medication regimen, n (%)	
Oral diabetes pills	11 (64.7)
Insulin injections	1 (5.8)

Both pills and insulin	1 (5.8)
No pills or insulin	4 (23.5)
Years since diagnosis of diabetes (n = 7), ^a n (%)	
1 to 3 years ago	1 (14.2)
4 to 5 years ago	2 (28.5)
6 to 10 years ago	2 (28.7)
10 to 20 years ago	2 (28.7)
or	
Years since diagnosis (n = 10), mean ± SD	10.0 ± 5.6

^a Could answer either way.