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The Diabetes Educator 2007; 33; 172

DOI: 10.1177/0145721707304170

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The Impact of *Promotoras* on Social Support and Glycemic Control Among Members of a Farmworker Community on the US-Mexico Border

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Acknowledgments: The authors would like to acknowledge the work of the *promotoras* from Campesinos Sin Fronteras and Sunset Community Health Center for the dedication and commitment they have in creating and providing services to the farmworker community in Yuma County. This publication was partially supported by Cooperative Agreement U48-CCU915770 from the Centers for Disease Control and Prevention, Prevention Research Centers Program. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention. Support for this project was provided by a grant from the Robert Wood Johnson Foundation, Princeton, New Jersey.

DOI: 10.1177/0145721707304170

Purpose

The purpose of this study is to describe the effect of a *promotora*-driven intervention to build social support as a means to affect self-management behaviors and clinical outcomes in a farmworker community on the US-Mexico border.

Methods

Promotoras implemented a community-based intervention that included support groups, home/hospital visits, telephone support, and advocacy to people with diabetes. A 12-month pre/post study design was used to investigate the relationship between promotora contact, perceived support, and clinical outcomes. Clinical data were gathered from 70 participants during routine physician visits. A pre/post questionnaire was used to measure perceived support and self-management practices.

Results

Glycosylated hemoglobin (HbA1c) levels decreased 1% among high-risk participants. Improved HbA1c level was associated with promotora advocacy and participation in promotora-led support groups. Participants reported increased support from family and friends and more

comfort speaking about diabetes (*la enfermedad*) with family and friends.

Conclusions

These findings document improvement in both clinical and social health indicators for Mexican Americans in a farmworker community when a promotora model is used to provide and facilitate culturally relevant support for diabetes self-management practices.

The farmworker community, inclusive of those working in agriculture, those retired, and their families, is a marginalized population vulnerable to numerous health problems¹ including the growing threat of diabetes. The average farmworker is male and of Mexican American² origin, placing him at increased risk of diabetes compared to non-Hispanic whites.^{2,3} Among the few studies of farmworker health, diabetes prevalence is documented as high as 33%,^{4,5} and it is likely that prevalence would be higher among those retired. For those still working in the fields, conditions of poverty, social isolation, poor diet, and lack of health care all complicate the capacity to practice self-management behaviors, and these problems persist and perhaps worsen in retirement.

Emotional well-being is critical to diabetes control, yet stress associated with having diabetes adversely affects one's ability to adhere to self-management practices.^{6,7} Moreover, depression is related to increased diabetes complications.⁸ The migrant lifestyle may place farmworkers and their families at increased risk of stress and depression compared with others with diabetes. Stressors include unpredictable employment and housing, long hours and no days off, immigration status, separation from family and children, poverty, limited resources, discrimination, and exploitation by employers.⁹ A qualitative study of Hispanic migrant farmworkers found that diabetes has a physical and emotional impact that decreased their energy levels and capacity to participate in daily activities. Two thirds of the study participants described themselves as depressed, and fear of long-term complications was a major concern.¹⁰

There is ample evidence that social support is instrumental in diabetes self-management,¹¹ specifically among

Hispanics.¹² Among Mexican Americans, for whom very little research on diabetes and social support exists, there is evidence of a relationship between social support and self-reported adherence to self-management.¹³ Researchers have recommended improved social support systems to reduce stress among farmworkers.¹⁴ Although research on diabetes among farmworkers is limited, existing evidence indicates the need for interventions that focus on building emotional and social support. The community health worker, or *promotora* model, has the potential to facilitate culturally relevant tangible and social support with the farmworker community. The purpose of this study is to describe the effect of a promotora-driven intervention to build social support as a means to affect self-management behaviors and clinical outcomes in a farmworker community on the US-Mexico border.

Social Support

Social support is defined as "availability of people whom an individual trusts, on whom he can rely, and who make him feel cared for and valued as a person."¹⁵ Van Dam et al¹⁶ further defined 4 types of social support: emotional (warmth and nurturance), appraisal (helping a person understand a stressful situation), informational (giving advice and information), and tangible assistance or practical support (providing transportation to a doctor's appointment). Given the breadth of the obstacles facing farmworkers and their family members with diabetes, support must be both emotional (making a person feel important and needed) and tangible (assisting in the development of coping skills, providing information, and providing advocacy for difficulties that arise).

Developing a diabetes program focused on building ongoing social support for farmworkers is a complex proposition, for which the marginalization and migrant nature of the population, stress, and depression related to lifestyle changes and challenges inherent in the border environment work against diabetes management and control. However, there is strong evidence of the importance of continuous support over the life span. In a review of interventions on self-management behaviors, Fisher et al¹⁷ posited an ecological approach to diabetes self-management that integrates the social environment of family, friends, worksites, organizations, and cultures. From the ecological framework, Fisher et al identified 6 key resources and supports for self-management, 1 of which is follow-up and support.

Project Description

The Campesinos Diabetes Management Program (CDMP), created by Campesinos Sin Fronteras, a 501-C3 community-based organization committed to serving farmworkers, is 1 of 8 demonstration projects funded by the Robert Wood Johnson Foundation Diabetes Initiative to build community support for diabetes self-management. The rationale of CDMP is that community health workers, termed *promotoras* in the Mexican American community, can effectively build social support among people with diabetes (*la enfermedad*), leading to improved self-management behaviors and clinical outcomes.

Promotoras have been shown to be at least as effective as nurse case managers in diabetes control,¹⁸ and CDMP promotoras embody the characteristics that define the model as effective. The promotoras are from the farmworker community themselves and can thus improve the cultural competence of medical care.¹⁹ They provide all 4 types of social support for chronic disease self-management,²⁰ and their persistence is vital in ensuring that participants stay engaged in the diabetes program.²¹

The collaboration and commitment of the Sunset Community Health Center (SCHC) are essential to CDMP. SCHC hired a promotora to be dedicated in the clinic to diabetes patient care and be responsible for handling cross-referrals, conducting basic diabetes education, setting up appointments for CDMP participants, and interacting with providers on patient issues. CDMP was originally designed to receive referrals directly from SCHC for those patients who had completed basic diabetes education at the clinic. However, soon after initiation of the program, participants from the clinic and elsewhere began self-referring into the program. Those who did not have a regular provider were referred to SCHC for health care and diabetes classes. Those unable to attend the classes in the clinic were offered basic education in the home as part of CDMP. Over a 2-year period, 260 people were recruited into the program, 170 of whom were patients of SCHC.

CDMP developed an intervention designed to provide resources and support across the domains in which farmworkers interact, including peers, families, the community, the environment, and health care. The core CDMP activity became weekly or biweekly support groups facilitated by promotoras. The objectives of the support groups were to provide information, build shared empathy, and create a network of support. Emotional support

was a common theme of the groups, and based on participant input, stress and depression became major topics. The inclusion and discussion of spiritual and inspirational messages at the beginning of each group meeting were embraced by participants and became the foundation of the support group structure. Informational aspects of social support were included in group sessions in which participants were taught and encouraged to set concrete and achievable self-management goals. Advocacy was also a major component and addressed the tangible or practical aspects of social support. Advocacy included referring and setting up doctor's appointments, helping participants communicate with their physician or family members, helping with paperwork for services, going together to apply for a library card, setting up free eye examinations, and accessing health resources such as glucose strips, medication, and orthopedic shoes.

The CDMP was designed to respond to the working hours and seasonal nature of farmworker communities as well as to family responsibilities of community members. Rather than develop an intervention with a specific time period, participants were in control of both the duration and intensity of their involvement with the program. Promotoras contacted participants regularly in person or by telephone to provide ongoing support. Promotoras provided regular reminders to those who were actively involved and periodically contacted those who did not attend regularly to reextend the invitation to participate. In situations of crisis, the promotoras increased their contact through more frequent telephone calls, home or hospital visits, and office visits.

Methods

CDMP employed a participatory model of evaluation, in which the 3 main project partners, CSF, SCHC, and the Mel and Enid Zuckerman College of Public Health participated in the development of evaluation methodology and instruments, data entry and management, and, to some extent, data analysis and reporting. Participatory evaluation ensures that evaluation is both relevant and meaningful to those involved in the intervention and increases the likelihood that results will be integrated into program design and ultimately used to sustain programs.

Although participants may have been involved in CDMP, on and off or continuously, over the course of 2 years, data reported here are limited to 1 year's participation. The 3 sources of data are clinical data (diabetes

health indicators), questionnaire data (perceptions of support), and program participation logs. The Human Subjects Committee of the University of Arizona approved the use of participant data and ensured the confidentiality of participants. The SCHC patients provided HIPAA authorization for disclosure of medical information.

Clinical Data

Clinical data were collected as part of routine clinical examinations and included glycosylated hemoglobin (HbA1c), blood lipids (high-density lipoprotein [HDL], low-density lipoprotein [LDL], and triglycerides), and blood pressure. Clinical records of all SCHC participants were reviewed every 6 months by the SCHC medical director, who extracted relevant data that were then entered into the CDMP database by a promotora. For the purpose of this study, only those who had both initial and 12-month data were included. Of the 260 participants, 170 were patients of SCHC, and 102 had initial and 12-month data. However, only 70 patients had HbA1c at both time points.

Questionnaires

A questionnaire was administered by a promotora upon entry into the program and after 12 months. Relevant questions were those related to perceived support from friends and family. Perceived social support was measured using a 5-point Likert-type scale measuring how comfortable participants felt talking with family and friends about their diabetes and their emotions. Participants were also asked how supportive their family was in helping them control their diabetes and what kinds of support the family offered.

Program Participation

In this promotora-driven program, participation was determined both by the persistence of the promotoras in contacting individuals frequently and consistently and by the desire of the individual to be in the program. Promotoras documented each contact they had with a participant using a coding system that described the type of contact. Types of contact included telephone contact for conducting recruitment, program reminders, or monitoring/check-ins; support group participation and home visit contacts to provide emotional support such as active listening, encouragement, or motivation; advocacy contact to access resources or programs; or educational

contact on diabetes self-management. The duration of each contact varied from a 5-minute reminder telephone call to an hour-long educational session or a 2-hour peer support group. In the analysis, each contact is considered a discrete instance of support or evidence to the participant that the promotora is interested and concerned about the participant's welfare and progress in diabetes self-management. An active participant received a telephone call each week to remind him or her of the support group, while those who did not attend regularly received check-in calls approximately once a month. In 1 program year, among all participants, promotoras contacted a participant by telephone between 1 and 50 times, with an average of 25 calls per participant. Participants attended an average of 12 support groups each year, although some participants chose not to attend while others attended weekly for the entire year. Promotoras provided referral and advocacy for approximately half of the participants.

Using a unique identifier for each participant, a Microsoft Access database was used to integrate clinical data, participant questionnaires, and program participation. Because of variability in dates, participants who had a clinical visit between 8 and 16 months after baseline were included in the study. Paired *t* tests were performed to determine changes in clinical measures, with a focus on HbA1c as the gold standard of diabetes control. Differences in gender, age, and having a personal physician were also explored. The Pearson correlation coefficient was used to investigate the relationship between the change in HbA1c level and the number and types of promotora contacts. The range of values for the number of promotora contacts was large enough for the outcome to be considered continuous, so a Pearson correlation coefficient was appropriate. The support scales for perceived diabetes support from family and friends were analyzed using the Wilcoxon nonparametric test for 2 related samples.

Results

Of the 102 participants who had initial and 12-month information, 70 had HbA1c measurements at both times and were therefore eligible for inclusion in the analysis (see Table 1). Most were women and had an average age of 60 years. Nearly all had worked in agriculture during their lifetime. The high level of unemployment may reflect the seasonal nature of farmwork because participants would have been more likely to participate when work was unavailable to them (in the summer). Access to

Table 1
Participant Demographics (N = 70)

Variable	%
Married	57.1
Female	77.1
Average (SD) age, y	60.5 (11)
Retired	38.6
Not currently working	34.3
Ever worked in agriculture	73.5
Family ever worked in agriculture	87.2
Insured	80
Income less than \$10 000	67
Born in Mexico	85.7
In community more than 10 y	65.7
Diabetes more than 10 y	40.1
Regular physician	70
Physician more than 1 y	32.9
Current care for diabetes	70
Told by a physician about high blood pressure	64.3
Told by a physician about high cholesterol	75.7
Average (SD) number of promotora contacts	73.1 (49.4)
Average (SD) HbA1c, %	8.2 (2.1)
HbA1c, glycosylated hemoglobin.	

both insurance and a regular source of care were issues of concern. Two thirds of participants had poor glycemic control (HbA1c >6.9%) when they entered the program.

Clinical data collected on the 70 participants at approximately 12-month follow-up demonstrate positive changes in the clinical indicators of diabetes control. Significant changes include decreased HbA1c level, which showed a mean difference of 0.58%; HDL cholesterol, which increased by 3.2 mg/dL; and systolic blood pressure, which decreased by 5.8%. Among those participants who initiated the program at high risk for diabetes complications (HbA1c >6.9%), there was a significant mean decrease in HbA1c of 1.0%. The drop in LDL cholesterol was 8.6 mg/dL (Table 2).

Specific strategies used by promotoras to provide support had a positive impact (Table 3), as documented by the Pearson correlation coefficients assessing the association

Table 2
Change in Clinical Measures at 1 Year

Clinical Variable (N = 70)	Mean (SE) Difference
HbA1c, %	-0.58 (0.22) ^a
HDL cholesterol, mg/dL (n = 69)	+3.2 (1.1) ^a
LDL cholesterol, mg/dL (n = 67)	-6.9 (4.8)
Systolic blood pressure, mm Hg (n = 69)	-5.8 (2.5) ^b
Diastolic blood pressure, mm Hg (n = 69)	-2.1 (2.0)
At-risk patients (HbA1c >6.9%) (n = 45)	
HbA1c, %	-1.0 (0.32) ^a
HDL cholesterol, mg/dL (n = 43)	+2.5 (1.0)
LDL cholesterol, mg/dL (n = 41)	-8.6 (6.1) ^b
Systolic blood pressure, mm Hg (n = 42)	-4.1 (3.0)
Diastolic blood pressure, mm Hg (n = 42)	-1.1 (2.8)
HbA1c, glycosylated hemoglobin; HDL, high-density lipoprotein; LDL, low-density lipoprotein.	
a. Significant at the .01 level	
b. Significant at the .05 level.	

Table 3
Correlation Between Promotora Contacts and HbA1c Level (N = 70)

	Pearson Correlation Coefficient	P Value
Total contacts	-0.215	.074
Telephone	0.072	.556
Support group	-0.343	.004
Advocacy	-0.417	.001

between promotora contacts and HbA1c level. While the overall number of promotora contacts did not correlate with HbA1c, both the number of support group contacts (emotional support) and the number of advocacy contacts (tangible support) were significantly correlated with improved glycemic control ($P = .004$ and $P < .001$, respectively).

Table 4

Perceived Support on a Scale Ranging From 1 to 5 (N = 70)^a

Type of Support	% Showing Positive Change
How much does your family support you in controlling your diabetes? (n = 43)	32.5 ^b
How comfortable are you talking with your family about how diabetes affects your diet? (n = 59)	50.8 ^c
How comfortable are you talking with your family about how diabetes affects your emotions? (n = 54)	46.3 ^b
How comfortable are you talking with your friends about how diabetes affects your diet? (n = 54)	44.4
How comfortable are you talking with your friends about how diabetes affects your emotions? (n = 49)	49.0 ^c
How comfortable do you feel asking questions or talking about your concerns with your physician? (n = 65)	43.1 ^c

a. Wilcoxon signed ranks test.
b. Significant at the .05 level.
c. Significant at the .01 level.

Analysis of pre/post questionnaire data indicated that participants perceived greater social support 12 months after enrolling in CDMP. There was a significant number of participants who reported greater support from their families and who felt more comfortable talking with family members and friends about the effect of diabetes on their emotions. Participants also reported increased comfort in addressing concerns about diabetes with their physician (Table 4).

Discussion

Diabetes self-management requires challenging and permanent lifestyle changes that must be maintained over a lifetime to minimize diabetes complications. The stressful nature of the disease and the underlying social quality of diet and exercise behaviors underscore the potential

benefits of supportive family and friends who might be willing to modify what they eat versus the pitfalls of those who are unknowledgeable or unsympathetic to the impact of dietary restrictions.

Findings from the CDMP evaluation are important both in delineating facets of social support that could contribute to one's ability to self-manage diabetes as well as in understanding the value of the community health worker model in providing and facilitating support that will result in clinical outcomes. Participants who enrolled in the program with elevated HbA1c levels experienced a decrease in HbA1c levels of approximately 1% over the course of the 1 year that they participated in the program. Two types of promotoras activity, support groups and advocacy, are correlated with this improvement. These findings are in line with theories of social support, which maintain that both emotional and tangible support are influential in diabetes self-care. It is also important to note that CDMP intentionally used support groups to extend the benefits of social support beyond the promotoras to include peers. Thus, the finding that participation in support groups is associated with decreased HbA1c level is particularly salient. Although the correlations between decreased HbA1c and support groups and advocacy are small ($r = -0.343$ and $r = -0.417$, respectively), the complexity of factors that influence metabolic control makes these findings worthy of note.

To better understand the nature of the relationship between support and metabolic control, this evaluation study included a pre/post questionnaire on perceived support. As expected, a significant number of participants reported an increased ability to talk with both family and friends about how diabetes affects their emotions from baseline to 12-month measurement. In addition, participants reported increased comfort in talking with their physician about concerns they had regarding diabetes, which may be linked to the advocacy, or tangible support, they received from promotoras in terms of accessing medical care. Taking control of one's clinical care was also a regular theme of the support groups, which may also attribute to this finding.

Limitations

Findings should be viewed in light of several limitations, many of which stem from the fact that the evaluation was designed within the framework of a community-based intervention with few resources dedicated to the process of data collection.

First, the clinical data used in this evaluation study were based on SCHC patients who actually had a physician visit during the time frame of baseline and 1-year follow-up. Excluded from this sample are participants who see a physician in Mexico or who do not see a physician regularly. It is worthwhile to consider that such participants are likely to have benefited more substantially from the intervention.

A second obvious limitation is that as a demonstration project rather than a research study, the data lack a comparison group. The fact that promotoras were responsible for administering the questionnaires might also be considered a limitation given concern that participant responses may reflect a desire to appear that they are following the counsel of the promotoras with whom they have developed an intimate relationship. However, insight into Mexican American culture suggests that increased confidence between the interviewer and participant may actually improve the candidness of the responses.

Finally, there was no fixed dosage of promotora contact; rather, participants were allowed to participate in the program to the extent that they felt the need. While this is a limitation to the extent that the program helped those who were seeking help, it is also a good indication of how a self-management program will operate in the real world. A self-management program will ultimately be successful only with those who are interested in engaging in the program.

Implications

This evaluation study documents positive outcomes from diabetes care that include strategies to increase both tangible and emotional support over the life span. In addition, findings from the CDMP contribute to a growing body of knowledge on the usefulness of a community health worker model that emphasizes social support to affect health outcomes, especially for marginalized populations such as farmworker communities who suffer shocking disparities in diabetes morbidity and mortality.

References

- Villarejo D, Lighthall D, Williams D III, Souter A, Mines R. *Suffering in Silence: A Report on the Health of California's Agricultural Workers*. Woodland Hills: California Institute for Rural Studies; 2000.
- US Department of Labor. *Findings from the National Agricultural Workers Survey (NAWS) 2001-2002: a demographic and employment profile of United States farm workers*. Research Report No. 9. Washington, DC: US Department of Labor; 2005.
- US Department of Health and Human Services. *Assuring a Healthy Future Along the U.S.-Mexico Border*. Washington, DC: US Department of Health and Human Services; 1999.
- Bastidea E, Cuéllar I, Villas P. Prevalence of diabetes mellitus and related conditions in a south Texas Mexican American sample. *J Community Health Nurs*. 2001;18:75-84.
- Kowalski K, Hoffman CJ, McClure A. Nutritional patterns and needs of migrant farm workers in Northwest Michigan. *J Am Diet Assoc*. 1999;99(2):221-224.
- Naess S, Eriksen J, Midthjell K, Tambs K. Diabetes mellitus and psychological well-being: change between 1984-1986 and 1995-1997. Results of the Nord-Trøndelag Health Study. *J Diabetes Complicat*. 2004;18(3):141-147.
- Anderson RJ, Freedland KE, Clouse RF, Lustman PJ. The prevalence of comorbid depression in adults with diabetes. *Diabetes Care*. 2001;24:1069-1078.
- De Groot M, Anderson R, Freedland KE, Clouse RE, Lustman PJ. Association of depression and diabetes complications: a meta-analysis. *Psychosom Med*. 2001;63(4):619-630.
- Hovey JD, Magaña C. Acculturative stress, anxiety, and depression among Mexican immigrant farmworkers in the Midwest United States. *J Immigr Health*. 2002;2:119-131.
- Heuer L, Lausch C. Living with diabetes: perceptions of Hispanic migrant farmworkers. *J Community Health Nurs*. 2006;23(1):49-64.
- Gallant M. The influence of social support on chronic illness self-management: a review and directions for research. *Health Educ Behav*. 2003;30(2):170-195.
- Gleeson-Kreig J, Bernal H, Woolley S. The role of social support in the self-management of diabetes mellitus among a Hispanic population. *Public Health Nurs*. 2002;19(3):215-222.
- Carranza SN, LeBaron S. Adherence among Mexican Americans with type 2 diabetes: behavioral attribution, social support, and poverty. *Fam Med*. 2004;36(8):539-540.
- Kim-Godwin YS, Bechtel GA. Stress among migrant and seasonal farmworkers in rural southeast North Carolina. *J Rural Health*. 2004;20(30):281-288.
- McDowell I, Newell C. *Measuring Health: A Guide to Rating Scales and Questionnaires*. 2nd ed. New York, NY: Oxford University Press; 1996.
- Van Dam HA, Van Der Horst FG, Knoop L, Ryckman RM, Crebolder HFJM, Van den Borne BHW. Social support in diabetes: a systematic review of controlled intervention studies. *Patient Educ Couns*. 2005;59:1-12.
- Fisher EB, Brownson CA, O'Toole ML, Shetty G, Anwuri VV, Glasgow RE. Ecological approaches to self-management: the case of diabetes. *Am J Public Health*. 2005;95(9):1523-1535.
- Gary T, Bone LR, Hill MN, et al. Randomized controlled trial of the effects of nurse case manager and community health worker interventions on risk factors for diabetes-related complications in urban African Americans. *Prev Med*. 2003;37:23-32.
- Swider SM. Outcome effectiveness of community health workers: an integrative literature review. *Public Health Nurs*. 2002;19(1):11-20.
- Reinschmidt KM, Hunter BJ, Fernández ML, Lacy-Martínez CR, deZapian JG, Meister J. Understanding the success of promotoras in increasing chronic disease screening. *J Health Care Poor Underserved*. 2006;17:256-264.
- Corkery E, Palmer C, Foley ME, Schecter CB, Frisher L, Roman SH. Effects of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care*. 1997;20(3):254-257.