Implementation of a Diabetes Self-Management Intervention for Mexican-American Families in the Arizona-Mexico Border Region

Marilyn M McEwen, PhD, RN, FAAN
Carolyn Murdaugh, PhD, RN, FAAN
Alice Pasvogel, PhD, RN & Joseph Hepworth, PhD

University of Arizona College of Nursing
Tucson, AZ, USA

Grant Support: R01MD005837
NIH Institute for Minority Health and Health Disparities
Background

• 50 million Hispanics - 16% of the U.S. population - are disproportionately affected by diabetes (12.8%) when compared to non-Hispanic Caucasians (7.6%).

• Type 2 diabetes (T2DM) self-management is a complex and chronic trajectory that occurs in a family environment.

• Diabetes self-management education and support (DSME/SS) builds knowledge, skills and abilities for successful T2DM self-management, decreases A1C and weight, reduces A1C by 1%, has a positive effect on other clinical indicators and health care costs.

• There is a paucity of evidenced-based lifestyle modification programs tailored to Hispanic culture and integrate family members into the intervention.
110th meridian west
Purpose

To refine, expand (Phase I), test and evaluate the effectiveness of a culturally tailored evidenced-based family intervention - in a community setting - to improve behavioral and biological outcomes for Hispanic adults with T2DM and their family members (Phase II).
Methods: Phase I
Methods Phase II

• Two-group, experimental repeated measures design.

• Participants with T2DM and a family member (n=157 dyads) were randomly assigned to an intervention or a wait list control group.

• Data were collected at baseline, post-intervention (3 months), and 6 months post-intervention.

• A series of $2 \times 3$ repeated measures ANOVAs were used to test the hypotheses with interaction contrasts to assess immediate and sustained intervention effects.
Results: Phase I

The FAB (n=24) participated in intervention revision, improving the reach of the family intervention.
Phase II: Study Flow Chart

Enrollment

Total Encounters (n=929)

Completed A1C Screening (n=639)

Excluded (n=290)
(Before A1C Screening)
Declined to participate
Unable to contact/schedule
Did not meet other eligibility criteria

Did Not Meet Study Criteria (n=378)

Eligible for Study (n=261)

Excluded (n=102)
(After A1C Screening)
Declined to participate
Unable to contact/schedule

Consented/Enrolled (n=157)

Consented/Not Enrolled (n=2)

Intervention Group (n=83 dyads)

T2 Data Collection (n=51 dyads)
Participants (n=58)
Withdrawn from Study (n=9)
Unable to contact/schedule (n=14)
Family Member (n=52)
Withdrawn from study (n=18)
Unable to contact/schedule (n=13)

T3 Data Collection (n=43 dyads)
Participant (n=56)
Withdrawn from study (n=6)
Unable to contact/schedule (n=2)
Able to contact (n=+6)
Family Member (n=50)
Withdrawn from study (n=5)
 Unable to contact/schedule (n=2)
Able to contact (n=+5)

Time 1

Control Group (n=74 dyads)

T2 Data Collection (n=54 dyads)
Participant (n=54)
Withdrawn from Study (n=5)
Unable to contact/schedule (n=15)
Family Member (n=54)
Withdrawn from study (n=5)
Unable to contact/schedule (n=15)

T3 Data Collection (n=44 dyads)
Participant (n=50)
Withdrawn from Study (n=3)
Unable to contact/schedule (n=4)
Able to contact (n=+3)
Family Member (n=49)
Withdrawn from study (n=2)
Unable to contact/schedule (n=6)
Able to contact (n=+3)
Results: Phase II

Participants with T2DM

• Age ranged from 38 to 75 (M=54.3, SD=9)
• 65% female; 71% married
• 68% < than a high school education
• 65% family income ≤ $20,000
• Average BMI 33 (SD=6.9, Range 19-56)
• Hemoglobin A1c ranged from 8-14 (M=9.97, SD=1.6)

Family Members

• Age ranged from 18 to 88 (M=47, SD=16)
• 53% had less than a high school education
• 59% had family income ≤ $20,000
• Average BMI 33 (SD=7.4, Range 21=67)
Results: Phase II

• Participants had significant intervention effects for total DM self-management activities (p=.001), total DM self-efficacy (p=.003), and total DM distress (p<.001) with DM self-management and DM self-efficacy being sustained for 6 months.

• Family members had significant intervention effects for total DM family self-efficacy (p=.016) which was sustained for 6 months.
Conclusions:
Second Transitional Research Phase


Marylynm@email.arizona.edu