

Supplemental Material

Community Health Representative Training

Prior to protocol initiation, all community health representatives received 40 hours of training in CKD and CKD self-management, the theoretical framework of the intervention, group management skills, and in implementing the intervention protocol itself. The principal investigator and study coordinators participated in the training. The training incorporated didactic interactive lessons, mock sessions with feedback, and direct observation followed by debriefing.

Home-based Intervention

In the home-based intervention, a community health representative visited the participant's home every other week and educated the participant. Topics emphasized included: (1) weight loss, (2) exercise, (3) healthy eating, (4) medication management, (5) coping with stress, (6) risk factor management (i.e., blood pressure, hyperlipidemia), (7) alcohol and substance abuse, (8) smoking cessation, and (9) other health concerns. Each of the curriculum areas was covered in each household during the 12-month intervention, but topics were covered in differing order based on participant's preference and relevance to the participant's current situation. All sessions included a brief coaching segment with a personalized review of progress made, problem solving and goal setting, as well as a safety assessment. Community health representatives implemented the intervention in the participant's native language if preferred by the participant. Sessions typically employed a problem-solving approach with specific referral to community resources, including medicine men, as appropriate. Participants were trained in the use of home blood pressure and home glucose monitoring.

Group sessions were also conducted in the intervention group every 3 months and incorporated components of cognitive-behavioral therapy for weight loss, including self-monitoring of eating and exercise, behavioral goal setting, stimulus control techniques, cognitive restructuring, assertive communication skills, stress management, and relapse-prevention. Group discussions focused on active problem solving and weight loss maintenance. Some of the sessions included culturally popular activities (e.g., traditional food, bingo games, eating together

Supplemental material is neither peer-reviewed nor thoroughly edited by CJASN. The authors alone are responsible for the accuracy and presentation of the material.

as a family, etc.) and promoted group cohesion, modeling of desirable behaviors, and peer support for change. Group meals included discussions around taste of the food prepared, the ease of food preparation, and strategies for implementing the recipes at home, acceptability to family and friends, and steps towards trying new eating styles at home. Participants were provided with handouts for future reference. Further details about the intervention are available at <https://www.pcori.org/research-results/2013/reducing-health-disparity-chronic-kidney-disease-zuni-indians>.

Standardization of the Intervention

Intervention delivery by the community health representatives was supervised by the program coordinators. Fidelity checklists served to monitor delivery or omissions of intervention components and these checklists were reviewed with the supervisor following the sessions. Refresher training was conducted prior to the 6- and 12-month visits, and booster training sessions were conducted at 3 and 9 months. Community health representatives were observed delivering the intervention to a simulated patient on two occasions prior to participant enrollment to assure competency and completeness. They were also observed at two home-based sessions provided to each participant to assure that the required content was covered and adequate time was spent on each topic.

Supplemental Table 1. Examples of culturally-specific motivational text messages sent to study participants in their Shiwi language with the English translation below each message.

<p>Do' lił yam aksha (program), ele do' akshiye. Do' yam weya'kkya ayyubutchiye, dap ayyubutchik'yanne. Dom ande:moła hish k'okshi deye'kya akya do' ela'da'ukya.</p> <p>Staying with the program is good for you. You learn to care for yourself as your health is worth the effort and those efforts lead to success.</p>
<p>Dobinde yadonne dom anikchi'yakya. Do'yam dek'ohaninne ichema'a, do' an'nadundekwi' do' I:wichema'na.</p> <p>Take each day as it comes—a day at a time. You are in control of your choices.</p>
<p>(Do'o) K'yabocha dap k'yabali: emma dudu'p kwa k'okshamme, dap kwa do' idona'maba dom chi'kwa a'she ba'niyunna, hish leh'ab atdanni.</p> <p>Drinking a lot of alcohol is not good and drinking without eating will make your blood sugar dangerously low.</p>
<p>Do' biłihanna, chikwa we'ya'kkya anniłikya, ade a:tsu'mme, dap ade an ish'ana I:yasannon'a. Do' yam weya'kkya an a:kwa' I'kwilicho'ap do' yam ononna k'okshun'na. A'nadunne'dek'wi do' yam onayałanne k'okhi a'wona' a'wela'den'na</p> <p>Just think about your life if you took all of your medications, lost a little weight and controlled your blood sugar, blood pressure and cholesterol.</p>

Supplemental Table 2. Baseline characteristics of the participants by participation status at end of study.

Characteristic	Dropped out (n = 27)		Completed (n = 98)		P-value
	Mean or N	SD or %	Mean or N	SD or %	
Home-based kidney care group	13	48	50	51	0.83
Age (years)	44	11	48	12	0.19
Female (%)	11	41	46	47	0.66
Body mass index (kg/m ²)	31	8	32	7	0.97
Diabetes (%)	16	59	56	57	1.0
Blood pressure (mm Hg)					
Systolic	135	22	129	17	0.54
Diastolic	86	13	84	13	0.74
High-school graduate (%)	19	70	59	61	0.50
HbA1c (%)	7.8	2.6	7.5	2.4	0.56
Serum total protein (mg/dl)	7.5	0.8	7.7	0.6	0.41
Serum cholesterol (mg/dl)	183	46	193	51	0.57
Serum triglycerides (mg/dl)*	144	105-171	133	88-200	0.92
Serum HDL cholesterol (mg/dl)*	45	41-61	49	39-65	0.60
Serum LDL cholesterol (mg/dl)	106	36	115	38	0.43
Estimated GFR (ml/min/1.73 m ²)	104	41	103	27	0.16
Urine ACR (mg/g)*	131	58-1273	167	57-493	0.62
hsCRP (mg/L)*	2.9	1.5-6.4	2.9	1.0-6.2	0.85
Morisky score†	4.7	2.2	5.1	2.4	0.45
KDQOL measures					
Symptom/Problem List	88.7	12.9	85.9	12.9	0.17
Effects of Kidney Disease	92.8	13.4	93.0	8.8	0.37
Burden of Kidney Disease	68.3	24.5	73.4	21.5	0.34
SF-12 physical score	45.1	9.1	45.6	9.0	0.84
SF-12 mental score	50.5	9.8	48.9	10.0	0.35
Patient activation total score	63.5	15.6	62.7	18.4	0.73
Patient activation level ≥3	21	78	74	76	1.0

* Median and IQR.

† Use of the ©MMAS is protected by US copyright laws. Permission for use is required. A license agreement is available from: Donald E. Morisky, ScD, ScM, MSPH, Professor, Department of Community Health Sciences, UCLA School of Public Health, 650 Charles E. Young Drive South, Los Angeles, CA 90095-1772.

Abbreviations: ACR, albumin:creatinine ratio; GFR, glomerular filtration rate; HDL, high-density lipoprotein; LDL, low-density lipoprotein; SF-12, short-form 12 health survey.

Supplemental Table 3. Summaries of differences (12 months minus baseline) for quantitative outcome measures.

Characteristic	Usual Care		Intervention	
	Mean	SD	Mean	SD
Primary outcome measure				
Patient activation total score	-1.4	15.3	9.2	26.0
Secondary outcome measures				
Body mass index (kg/m ²)	-0.2	1.9	-1.3	2.1
Blood pressure (mm Hg)				
Systolic	5.2	19.0	3.4	19.1
Diastolic	0.2	14.9	-0.1	12.8
HbA1c (%)	0.1	1.4	-0.5	1.4
Serum total protein (mg/dl)	-0.1	0.4	-0.2	0.4
Serum cholesterol (mg/dl)	-4.5	44.5	-19.0	54.3
Serum triglycerides (mg/dl)*	-8.5	-32.8-23.3	-8.0	-46.0-30.5
Serum HDL cholesterol (mg/dl)*	1.5	-6.0-9.0	3.5	-1.8-11.8
Serum LDL cholesterol (mg/dl)	-4.9	36.5	-12.4	41.2
Estimated GFR (ml/min/1.73 m ²)	-9.6	12.2	-5.2	14.2
Urine ACR (mg/g)*	18	-62-359	-45	-176-13
hsCRP (mg/L)*	1.7	-0.5-6.5	-1.5	-5.8-0.0
Morisky score†	0.8	2.0	0.1	1.9
KDQOL measures				
Symptom/Problem List	2.7	11.5	0.1	13.7
Effects of Kidney Disease	2.9	8.8	3.2	8.0
Burden of Kidney Disease	2.3	31.9	14.8	22.1
SF-12 physical score	0.8	10.6	2.1	9.4
SF-12 mental score	-0.2	10.0	7.5	11.0

* Median and IQR.

† Use of the ©MMAS is protected by US copyright laws. Permission for use is required. A license agreement is available from: Donald E. Morisky, ScD, ScM, MSPH, Professor, Department of Community Health Sciences, UCLA School of Public Health, 650 Charles E. Young Drive South, Los Angeles, CA 90095-1772.

Abbreviations: ACR, albumin:creatinine ratio; GFR, glomerular filtration rate; HDL, high-density lipoprotein; hsCRP, high sensitivity C-reactive protein; LDL, low-density lipoprotein; SF-12, short-form 12 health survey.