

**Report on the Findings and
Recommendations of**

**Improving Access to Health and
Mental Health Care for Chicago's
Deaf Community**

Phase II

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A Collaboration of
Advocate Health Care and
Sinai Health System

Project Team:

Toby Perlman, PhD; Teri Hedding, MA; Kris Balfanz-Vertiz, MSW, LSW;
Carroll Cradock, PhD; Dorothea DeGutis, MD; Melanie Estarziau, MPH;
Lisa Foster, MA; Barbara Giloth, DrPH; Gary Kaufman, MD;
Helen Margellos-Anast, MPH; Linda P. Miller, MEd; Jennifer Orsi, MPH;
Steven Whitman, PhD



Table of Contents

Executive Summary.....	i
Introduction to “Improving Access to Health and Mental Health for Chicago’s Deaf Community: Phase II”	1
Description of Intervention.....	5
Study Methodology.....	9
Results.....	21
Lessons Learned & Challenges.....	43
Recommendations.....	45
Conclusion.....	47
References.....	49
Acknowledgements.....	51
Appendices.....	53

List of Figures and Tables

Figure 1	Visual Depiction of Recruitment Process Flow.....	17
Table 1	Demographic and Other Characteristics among Enrolled Participants of the Self-Management of Depression Intervention.....	22
Figure 2	Median Depression Knowledge Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	23
Table 2	A Comparison of the Proportion (%) of Depression Intervention Participants at Baseline vs. Week 8 and 3-Month Follow-up who Knew the Correct Response to Specific Depression Knowledge Questions.....	23
Figure 3	Figure 3. Median Scores for Self-Rated Abilities Health Practices Sub-Scales among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	24
Figure 4	Median Self-Efficacy to Control/Manage Depression among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	25
Figure 5	Median Perceived Stress Scale Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	25
Table 3	Proportion of Depression Intervention Participants Engaging in Productive and Non-Productive Behaviors Intended to Decrease Stress and Depression: Baseline vs. Week 8 and 3-Month Follow-up..	26
Figure 6	Proportion of Depression Intervention Participants in Each Physical Activity Stage of Change: Baseline vs. Week 8 and 3-Month Follow-up.....	27
Figure 7	Beck II Depression Scores among All Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up	27
Figure 8	Beck II Depression Scores among Most Severely Depressed Depression Intervention Participants at Baseline (≥ 28): Baseline vs. Week 8 and 3-Month Follow-up.....	28
Table 4	Proportion of Depression Intervention Participants Correctly Responding to Patient Role Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up.....	28
Figure 9	Median Patient Role Knowledge Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	29
Table 5	Demographic and Other Characteristics among Participants Enrolled in the Cardiovascular Disease Intervention.....	31
Figure 10	Median CVD Knowledge Scores among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	32
Table 6	Proportion (%) of CVD Intervention Participants who Responded Correctly to CVD Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up.....	32

Figure 11	Median Nutrition Knowledge Scores among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	33
Table 7	Proportion (%) of CVD Intervention Participants who Responded Correctly to Nutrition Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up.....	33
Figure 12	Comparison of Median Scores for Self-Rated Abilities Health Practices among CVD Intervention Participants by Domain: Baseline vs. Week 8 and 3-Month Follow-up.....	34
Figure 13	Comparison of CVD Intervention Participants' Perceived Ability to Respond to an Emergency by Type: Baseline vs. Week 8 and 3-Month Follow-up.....	35
Figure 14	Diet Stages of Change among CVD Intervention Participants over Time.....	35
Figure 15	Physical Activity Stages of Change among CVD Intervention Participants over Time.....	36
Figure 16	Proportion of Male and Female CVD Intervention Participants who Consumed 5 or More Servings of Fruits and Vegetables by Time Point.....	37
Figure 17	Mean Intake of Fiber (gms) Per Day for Male and Female CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	37
Figure 18	Percent of CVD Intervention Participants who Consumed the Recommended 20%-35% of Calories from Fat by Gender: Baseline vs. Week 8 and 3-Month Follow-up.....	38
Figure 19	Mean Intake of Total Fat (gms) and Saturated Fat (gms) Per Day among Male and Female CVD Intervention Participants: Week 1 vs. Week 8 and 3-Month Follow-up.....	38
Figure 20	Mean Intake of Cholesterol (mgs) Consumed Per Day among Male and Female CVD Intervention Participants: Week 1 vs. Week 8 and 3-Month Follow-up.....	39
Figure 21	Mean Number of Days Exercised among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up.....	40
Figure 22	Proportion of CVD Intervention Participants in Each Weight Category: Baseline vs. Week 8 and 3-Month Follow-up.....	40
Table 8	Proportion of CVD Intervention Participants Correctly Responding to Patient Role Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up.....	41

Executive Summary

Background:

People who identify as Deaf with a capital “D” consider themselves to be part of a linguistic minority who share a valued cultural connection. They are likely to have been deaf from birth or prelingually (generally defined as before the age of 3), and they rely solely upon sign language or manual communication for the input of information. The preferred language of more than half of deaf persons living in the U.S. is American Sign Language (ASL), a formal language that has its own grammar and syntax. It is not based on the English language and requires face-to-face contact to provide full comprehension. Most Deaf people are not bilingual and, therefore, are not fluent in English.

In order to gain a better understanding of the health status, health care experiences, communication styles, barriers to accessing health care, health knowledge and health behaviors of Deaf individuals, Chicago’s two major providers of health and mental health care to Deaf persons (Sinai Health System (SHS) and Advocate Health Care (AHC)) previously collaborated to develop and implement a comprehensive health survey of 203 Deaf patients. Based on the results of the survey of Deaf adults and the collaboration with experts in the field of Deaf research, SHS and AHC designed Phase II of the project, which is a three-year demonstration project to evaluate the effectiveness of two health education interventions for Deaf adults. This collaboration complements the work of others nationally focused on reducing disparities in health care for Deaf populations.

Overall Goal:

Our overall goal was to evaluate two health education interventions for Deaf adults: one targeting the prevention of cardiovascular disease and the other, the self-management of depression. The interventions were intended to increase health knowledge, self-efficacy, and prevention/self-management behaviors among Deaf participants. Additionally, this project was expected to increase appropriate patient role behaviors often lacking in the Deaf community due to communication and cultural barriers. The long-term goal of this project is to increase access to quality health and mental health care for Deaf persons locally and regionally.

The Intervention:

The three-year demonstration project, Improving Access to Health and Mental Health for the Deaf Community in the Chicago Metropolitan Area, consists of two health education interventions intended to increase knowledge, improve self-efficacy and result in positive behavior change around two health topics: (1) the prevention of cardiovascular disease (CVD), and (2) the self-management of depression. Both the depression and CVD interventions were comprised of six, two-hour educational sessions held on a weekly basis over six weeks (two additional sessions were necessary for the collection of pre-test/post-test evaluation data, so the total time commitment was eight weeks). Each two-hour session was divided into three parts: 1) 80 minutes of participatory presentation (including role-playing, role modeling and practice) of new material; 2) 20 minute break for socialization and a healthy snack; and 3) 20 minutes for review and homework. All classes were taught by a Deaf health educator fluent in American Sign Language.

Study Methodology:

The success of each intervention was evaluated using a pre-post test methodology with each participant serving as his/her own historical control. The measurement tools used for the pre- and post-test evaluations were based upon the objectives set forth for each intervention. Each intervention's objectives, as well as outcome measures associated with each objective, are discussed in detail within the full report below.

Overall, we measured knowledge, self-efficacy, and behaviors relating to the intervention objectives at specific time points in an effort to determine changes over time. As the Intervention Phase of the project ended after the Week 8 session, we initially assessed our success for each intervention at Week 8 vs. Baseline. We also brought participants together for another assessment 3 months following the 8-week session. At that time, we collected additional data to assess whether improvements noted at Week 8 were maintained.

Results:

Self-Management of Depression Intervention

1. Increase knowledge among Deaf adults, screened positive for depression, about the disease
Respondents' depression knowledge improved significantly over the 8-Week course and at the 3-month follow-up when compared to Baseline. For example, participants were more likely to know the definition of clinical depression, how depression medication acts within the brain, and the best way to communicate thoughts and feelings to others, at the Week 8 and 3-month follow-up when compared to Baseline.
2. Increase perceived self-efficacy to manage depression more effectively
Participants reported significantly more confidence in their ability to control/manage depression at Week 8 and the 3-month follow-up when compared to Baseline. However, participants' level of perceived stress did not change throughout the intervention or at the 3-month follow-up.
3. Increase the likelihood that participants will adopt one or more positive self-management behaviors for depression
Participants were significantly more confident in their ability to improve their mental health and engage in responsible health practices at both the Week 8 and 3-month follow-up when compared to Baseline. Participants also felt empowered to engage in physical activity at the conclusion of the intervention.
4. Decrease levels of depression among participants
Participants reported significantly fewer depressive symptoms at Week 8 and the 3-month follow-up when compared to Baseline. Furthermore, those who were most depressed at Baseline saw the most significant decrease in symptoms, meaning that the intervention was especially helpful for those most in need.

5. Increase knowledge and behaviors among Deaf clients consonant with an effective patient role

There was no improvement in patient role knowledge among participants at Week 8 or the 3-month follow-up when compared to Baseline. This finding could be due to the relatively small amount of time spent on this topic in comparison to self-management of depression during the course.

Prevention of Cardiovascular Disease Intervention

1. Increase knowledge of Deaf adults with identified CVD risk factors about cardiovascular disease

Participants' knowledge surrounding cardiovascular disease and nutrition improved significantly over the 8-Week intervention and at the 3-month follow-up compared to Baseline. For example, significantly more participants knew to call 911 and take an aspirin if they thought they were having a heart attack at the Week 8 and 3-month follow-up compared to Baseline. Furthermore, a significantly higher proportion of participants knew that baked fish is a healthy alternative to red meat at Week 8 and the 3-month follow-up when compared to Baseline.

2. Increase perceived self-efficacy to change CVD risk factors

Participants were more confident in their ability to eat healthy, exercise, and engage in responsible health practices at Week 8 and the 3-month follow-up when compared to Baseline. Participants were also significantly more confident in their ability to respond to a heart attack or stroke after the intervention and at the 3-month follow-up.

3. Increase the likelihood that participants will change one or more CVD risk behaviors

Participants were more engaged in improving their diet and participating in physical activity at Week 8 and the 3-month follow-up when compared to Baseline. Participants reported eating significantly more fiber and were more likely to consume the appropriate amount of calories from fat at Week 8 and the 3-months following the intervention when compared to Baseline. Participants also significantly reduced the amount of total fat and saturated fat they consumed.

Even while participants were more confident in their ability to participate in physical activity, there was no significant increase in self-reported frequency of exercise at Week 8 or the 3-month follow-up when compared to Baseline.

4. Increase knowledge and behaviors among Deaf clients consonant with an effective patient role

Participants significantly improved their knowledge of the patient role at Week 8 and the 3-month follow-up compared to Baseline. For example, participants were

more likely to know that they should ask for an interpreter when they make a doctor's appointment.

Lessons Learned and Challenges:

Our project team learned several important lessons from this project:

- Health education classes that integrate evidence-based practices for CVD prevention and self-management of depression into a linguistically and culturally sensitive model for Deaf persons are effective and well-accepted.
- It takes the buy-in and support of the community to successfully recruit participants and implement health education classes at multiple locations.
- Preferences with regard to time and location of classes differ for specific subpopulations within the Deaf community so a variety of times and locations are needed to maximize the potential for participation.
- Transportation costs also need to be taken into account and overcome in order to maximize potential for participation.
- Utilizing videotapes in ASL helps to assure internal and external reliability for evaluation measures.

We also encountered some challenges with implementing the project:

- Recruitment was especially challenging for the depression self-management classes due to the stigma of admitting to being depressed within the Deaf community.
- Retention was also difficult for the depression self-management classes as symptoms associated with depression (fatigue, poor concentration, low motivation) impede a participant's ability to show up for the first class and to complete the entire 8-week course of classes.
- We had a difficult time recruiting minority participants, particularly African American participants. This was likely due to the fact that we did not have an African American health educator on staff throughout the entire intervention.
- We were unable to provide childcare for participants and this remains a challenge that we and others need to consider with future interventions.
- Within Chicago it was difficult to find space for an eight-week class. Many locations, such as churches or community based organizations, could not commit to an eight-week use of their space.

Recommendations:

- It is essential to collaborate with community leaders. Working with community leaders at Deaf agencies proved to be the most successful method for recruiting Deaf participants.
- It is imperative that all organizations serving Deaf persons be identified, and that time and energy are devoted at the onset to establishing connections with all of these organizations. Specific effort needs to be focused on recruiting from within agencies that serve disadvantaged and minority subpopulations of the Deaf community.
- Health educators need to reflect the cultural diversity of the Deaf community. We would have likely been more successful in recruiting African American participants if we had a Deaf health educator throughout the intervention who was from that community.
- Condensed classes could address some of the difficulties we faced in finding available space for eight weeks in certain communities. In addition, provisions should be made to assist with transportation and childcare needs.
- The use of words such as ‘stress management’ and ‘relaxation’ have fewer stigmas associated with them and may lead to increased participation for the depression self-management course.
- It may be beneficial to design and test health education classes based on a more generalized patient activation model that can be applied to any disease. This might prove to be a more efficient and sustainable approach than developing individual classes on each specific chronic disease.

Conclusion:

Overall, we learned that health education classes that integrate evidence-based practices for CVD prevention and self-management of depression into a linguistically and culturally sensitive model for Deaf persons are effective and well-accepted. Further research with a more stringent study design is needed to determine if these findings can be replicated and if they are generalizable to the entire Deaf community.

Introduction

Background and Significance

An estimated 28 million people in the United States are deaf or hard of hearing and this disability is increasing with the aging of the population. The subgroup that self-identifies as being culturally Deaf is even more difficult to define. People who identify themselves as Deaf with a capital “D” consider themselves to be part of a linguistic minority who share a valued cultural connection, not a medical problem.¹ They are likely to have been deaf from birth or prelingually (generally defined as before the age of 3), and they rely solely upon sign language or manual communication for the input of information. Data collected as a part of the National Census of the Deaf Population in 1972 suggested that 500,000 persons signed “good/excellent” at home and a little over half of those (280,000 or 0.14% of the total population) were deaf.² This number increases to 0.19% of the population if you include “poor/fair” signers who are deaf.² This would translate into approximately 11,328-15,374 Deaf persons living in the Chicagoland area in 2000 (assuming that use of sign language has remained constant over time). The average reading level for Deaf persons when they graduate from high school has been found to be equivalent to that of a 4th grade hearing person.^{1,3} The preferred language of more than half of the deaf persons living in the U.S. is American Sign Language (ASL), a formal language that has its own grammar and syntax.⁴ It is not based on the English language and requires face-to-face contact to provide full comprehension. Most Deaf people are not bilingual and, therefore, are not fluent in English. Prelingually deaf persons, therefore, face a major barrier to health care access, information, and especially to good physician-patient communication.^{5,6}

In order to gain a better understanding of the health status, health care experiences, communication styles, barriers to accessing health care, health knowledge and health behaviors of Deaf individuals, Chicago’s two major providers of health and mental health care to Deaf persons (Sinai Health System and Advocate Health Care) previously collaborated to develop and implement a comprehensive health survey of 203 Deaf patients. This face-to-face survey was administered in ASL, and constituted Phase I of the study.

The results of the survey of Deaf adults in Chicago, conducted between fall 2002 and spring 2003, were instrumental in guiding the development of this intervention project.^{7,8,9} The survey revealed a generally low level of knowledge of health and healthy behaviors among respondents. Results from the topic area of cardiovascular disease and cardiac risk factors demonstrated that as many as 40% of the respondents surveyed could not identify any of the 7 most common warning signs of a heart attack. The most common warning sign of a heart attack identified was chest pressure/pain, but even this seemingly obvious warning sign was identified by less than half of respondents (49%). *(In a random digit-dial study among 1294 hearing adult respondents in 20 study communities, 89.7% of respondents identified chest pain or discomfort as a symptom.¹⁰)* Additionally, 62% of respondents could not identify any of the 7 most common warning signs of a stroke. *(In a random digit-dial telephone survey in the Cincinnati Metropolitan area of 1880 hearing adults, 43% of those interviewed were not able to identify any of the*

warning signs of a stroke. The authors concluded that considerable education is needed to increase the public's awareness of stroke warning signs and risk factors.¹¹ The most common warning sign of a stroke identified was sudden numbness of face, arm, leg, or one side of the body, but even this warning sign was identified by only 29% of respondents. Furthermore, less than half of respondents correctly identified the following risk factors for a heart attack or stroke: smoking (42%), diabetes (40%) and lack of physical activity (36%). Based on the low level of knowledge of these survey respondents around the topic area of cardiovascular disease and cardiac risk factors, it was decided that one focal point of the intervention would be education about prevention of cardiovascular disease.

Survey results around the topic area of mental health revealed that 25% of respondents have taken medication for depression, and as many as 40% of respondents have reported seeing a psychiatrist or counselor for depression. Depression is often a missed diagnosis even among hearing people, and is probably more likely to be missed in the Deaf population given communication barriers with health care providers, so the true prevalence is likely higher. Based on these results as well as the well-developed mental health services of AHC and SHS, the management of depression was chosen as the second focal point of the current phase.

Robert Pollard, PhD, Associate Professor of Psychiatry at the University of Rochester School of Medicine, and Steven Barnett, MD, a family practitioner and faculty member at the University of Rochester Medical School, were identified as expert consultants with considerable experience in researching health services for Deaf individuals. Dr. Pollard discussed with the project team the likelihood that most Deaf individuals grow up relying on their hearing parents to interact on their behalf with health professionals, thereby limiting their ability to learn effective patient behaviors in their encounters with the health care system. Dr. Barnett further identified patient role challenges for many Deaf individuals. These may include: 1) not knowing family history; 2) less likely to know the names of medications; 3) less likely to ask questions; 4) difficulty being assertive about asking for an interpreter; and 5) different communication expectations during a medical visit. Based on these conversations, strengthening the Deaf individual's effectiveness as a patient has become an integral part of this intervention project.

Elaine Jones, RN, PhD, Faculty of Arizona College of Nursing, was also an important collaborator during the planning of Phase II of the project. Dr. Jones recently tested a Deaf Heart Health Intervention and had identified/developed a series of measures, some of which were adapted for this project. A few articles have been published summarizing some of Dr. Jones' findings and experiences with the Deaf Heart Health Intervention.¹²⁻¹⁷ Dr. Jones also provided input, based on what she learned from her pilot study, regarding data collection and effective methods for collecting data from Deaf persons (e.g., DVDs, videos, answer sheets with pictures).

Based on the results of the survey of Deaf adults and the collaboration with experts in the field of Deaf research, SHS and AHC designed a three-year demonstration project to evaluate the effectiveness of two health education interventions (one focusing on the

prevention of cardiovascular disease and the other on the self-management of depression), on the health knowledge, self-efficacy, self-management and on patient role behaviors of Deaf adults. This collaboration complements the work of others nationally focused on reducing disparities in health care for Deaf populations.

Overall Goal:

The interventions were intended to increase health knowledge, self-efficacy, and prevention/self-management behaviors among Deaf participants. Additionally, this project was expected to increase appropriate patient role behaviors often lacking in the Deaf community due to communication and cultural barriers. The long-term goal of this project is to increase access to quality health and mental health care for Deaf persons locally and regionally.

Project Overview:

Building on a framework of social learning theory¹⁸, the intervention utilized techniques known to increase confidence in one's ability to manage/prevent health conditions. Both the depression and CVD interventions were comprised of six, two-hour educational sessions held on a weekly basis over six weeks (two additional sessions were necessary for the collection of pre-test/post-test evaluation data, so the total time commitment was eight weeks). Each two-hour session was divided into three parts: 1) 80 minutes of participatory presentation of new material (including role-playing, role modeling and practice); 2) 20 minute break for socialization and a healthy snack; and 3) 20 minutes for review and homework. All classes were taught by a Deaf health educator fluent in American Sign Language.

Description of the Intervention

Recruitment & Enrollment of Participants:

The Deaf health educators were responsible for recruitment and screening of potential participants. They started with two main strategies for project recruitment. The first was an internal strategy targeting clinicians in the Sinai and Advocate programs and encouraging them to refer patients they thought could benefit from the intervention. The second strategy, an external strategy, was to recruit participants through existing Deaf events, Deaf organizations where there are many Deaf clients, and members of the Deaf community who present for education and screening events. The project team quickly determined that the internal strategy as well as recruiting participants through existing Deaf events provided limited numbers of participants and therefore the team focused more energy on recruiting participants through Deaf organizations.

This last method served as the most effective recruitment strategy. Since the first step when recruiting a potential participant was to determine eligibility, the Deaf educators worked in conjunction with Deaf organizations to advertise screening dates and times. At most screening sessions, the health educators would first screen people for depression. If the person was eligible for the depression intervention, they were asked if they were interested in participating. If the person was not eligible for the depression intervention or was not interested, then they would be screened for the CVD intervention. If the person was eligible for the CVD intervention they were asked if they were interested in participating in this intervention. The exception to this flow of events occurred when a participant was referred to the program specifically because of a pre-existing diagnosis of depression or CVD.

While this process flow took place at the beginning of the study, we did stray from it during later stages of the intervention as we were having trouble meeting our recruitment goals for both interventions. At that time the Deaf educators set up screening events specific to CVD or depression as well.

Given the sensitivity of the questions around depression, we obtained informed consent from potential participants prior to screening them for their eligibility. The informed consent document can be found in **Appendix 1**. Since many people who are Deaf are not fluent in English, they were given the option of having the informed consent document signed to them in ASL. If the person agreed to be screened for the research project after having learned about it, he or she was asked to sign the informed consent document. If they screened as eligible and agreed to participate, then a personal data form was completed (**Appendix 1**).

Initially, individuals who agreed to participate were then randomized either to immediately enter the intervention immediately or serve as a wait-listed control. However, since we had difficulty meeting our recruitment goal for each intervention the wait-listed control option was dropped. All eligible and interested participants were then enrolled into a class during their screening. Generally the class would begin one to two weeks after the screening event.

To be considered a completer of the intervention, participants had to attend Week 1 and Week 8 (the pre- and post-test evaluation classes) as well as four of the six intervention sessions. Participants were considered ‘dropped’ if they did not meet the requirements for completion of the intervention and the health educator was able to contact them about their reason for dropping the class. Participants were considered ‘lost to follow-up’ if they did not meet the requirements for completion of the intervention and the health educator was unable to contact the participant after 3 tries.

Inclusion/exclusion criteria:

Participants in either intervention were required to be ≥ 18 years, Deaf, and proficient in ASL. Additionally, participants had to meet criteria specific to each of the interventions.

- i. *Self Management of Depression Intervention Inclusion Criteria:*
 - o Score positive for depression using the Beck Depression Inventory-II.¹⁹ A score of > 20 was considered positive for depression; or,
 - o Referred by a mental health worker with a previous diagnosis of Depression.

- ii. *Prevention of Cardiovascular Disease Intervention Inclusion Criteria:*
 - o Score positive for at least one risk factor for CVD (elevated blood pressure, elevated cholesterol, family history, diabetes, smoking, $BMI \geq 25$, age greater than 40); or,
 - o Currently receiving treatment for a CVD risk factor or cardiovascular disease.

Copies of the screening forms are attached in **Appendix 2**.

The Intervention:

Depression Self Management:

The self management of depression intervention focused on building knowledge, self-efficacy, and positive behaviors based on social learning theory and current evidence based practices for depression management. For example, participants learned the definition of depression, the different symptoms associated with the disease, and the role that antidepressants play in management of these symptoms. They also learned how to function effectively in the patient role, including how to develop and convey their medical and family history to their health care providers. Participants learned how to identify self-improvement goals related to better management of their depressive symptoms. They then learned the skills necessary to achieve their personalized goals: positive thinking, participation in pleasurable activities, and stress management. Built into the curriculum was the weekly opportunity to learn and practice guided relaxation skills (i.e., deep breathing and visualizing a safe place). Workbooks, handouts and ASL videos helped guide participants when they practiced these skills outside of the classroom.

The specific objectives of the Depression Self Management Intervention were:

- To increase knowledge about the disease and its management among Deaf adults screened positive for depression;
- To increase perceived self-efficacy to effectively manage depression;
- To increase the likelihood that participants will adopt one or more positive self-management behaviors for depression;
- To improve the management of depression among participants in the depression intervention; and,
- To increase knowledge and behaviors among Deaf participants consonant with an effective patient role.

An outline for the self management of depression intervention curriculum can be found in **Appendix 3**.

Cardiovascular Disease Prevention:

The prevention of cardiovascular disease intervention was also built around the social learning theory and included topics and activities to increase knowledge, self-efficacy, and healthy behaviors among participants.

The specific objectives of the Cardiovascular Disease Prevention Intervention were:

- To increase knowledge among Deaf adults with identified CVD risk factors about cardiovascular disease and its prevention;
- To increase perceived self-efficacy to change CVD risk factors;
- To increase the likelihood that participants will change one or more CVD risk behaviors; and,
- To increase knowledge and behaviors among Deaf participants consonant with an effective patient role.

An outline of the curriculum for the prevention of cardiovascular disease intervention can be found in **Appendix 3**.

Pilot Testing:

Both curricula were pilot tested prior to being fully implemented for training and quality assurance purposes. For a detailed description of the pilot test please see page 14.

Compensation

Participants were also given compensation for their time and travel in completing the intervention. Participants received \$100 compensation for completing the class. Originally, \$50 compensation was given at the end of the Week 8 class and \$50 was given at 3-month follow-up. However, we found that some participants had a difficult time attending each class due to lack of money for the gas, public transportation, or childcare costs. We then modified the compensation schedule so the participants received \$10 at end of each class to help them attend the classes more regularly. The participants were also given \$20 for completing the 3-month follow-up.

Study Methodology

Study Design:

The project included a strong evaluation component intended to measure the intervention's process and its effectiveness in meeting its goals. The success of each intervention was evaluated using a pre-post test methodology with each participant serving as his/her own historical control.

As the Intervention Phase of the project ended after the Week 8 session, we initially assessed our success for each intervention at Week 8 compared to Baseline. We also brought participants together for another assessment 3 months following the 8-week session. At that time, we collected additional data to assess whether improvements noted at week 8 were maintained.

The study took place between May 2005 and February 2007. The Institutional Review Boards of the SHS and AHC approved the study initially and at annual reviews.

Evaluation Design:

Identifying and Translating the Evaluation Tools:

Identification/Development of Measurement Tools

After identifying the objectives of the intervention, a literature search was conducted in order to identify additional existing validated measurement tools that could be used to measure these objectives. The project team has built upon already existing measurement tools whenever possible. The use of pre-existing, validated instruments allows for valuable comparisons between the findings of the present study and those conducted with other populations. A subcommittee coordinated by Helen Margellos-Anast and Melanie Estarziau developed the remaining measurement tools (See **Appendix 4** for a listing of tools and their sources and **Appendix 5** for examples of the measurement tools the project team developed).

Self-Management of Depression Measures by Objective

1. Increase knowledge among Deaf adults, screened positive for depression, about the disease

To measure depression knowledge, participants were asked a series of 10 multiple choice questions relating to depression, depression symptoms, depression medication, and behaviors to manage depression. The total score for this measure ranged from 0 to 10 with a higher score reflecting more knowledge.

2. Increase perceived self-efficacy to manage depression more effectively

We used two tools to measure participants' self-efficacy. The first was the Self-Rated Abilities for Health Practices Scale²⁰ which measured participants'

perceived ability to manage their health. We used three of the four subscales included in this tool for the Depression arm. The three subscales we utilized related to psychological well-being, responsible health practices, and physical activity/exercise. Each of the three subscales included seven items and each item asked participants to rate their perceived ability to perform the respective health practice on a scale from 0-4 with 0 being ‘not at all’ and 4 being ‘completely’. Each participant could score between 0-28 for each subscale with a higher score reflecting a higher level of self-efficacy.

We also utilized a previously developed questionnaire to measure participants’ perceived ability to control or manage their depression²¹, which is comprised of six statements where participants were asked to rate their level of agreement with each statement on a scale from 1 to 10 with 1 being ‘not confident at all’ and 10 being ‘totally confident’. Participants’ scores could range from 6-60 on this tool. A higher score represented a higher level of self-efficacy.

3. Increase the likelihood that participants will adopt one or more positive self-management behaviors for depression

There were three separate measures employed to gather information about participants’ behaviors relating to management of stress and depression.

The first measure was the Perceived Stress Scale²². The Perceived Stress Scale is comprised of a series of 10 questions measuring the degree to which situations in an individual’s life are appraised as stressful. The scale asks about thoughts and feelings during the last month and how often an individual felt a certain way on a scale from 0 to 4, with 0 being ‘never’ and 4 being ‘very often’. The scale range for this instrument is 0-40 with a higher score indicating a higher level of stress experienced.

The second tool was designed by the project team to gauge behaviors utilized in managing stress and depression symptoms. Participants were given several examples of behaviors that a person may perform when stressed, half of which could be categorized as productive and the other half non-productive. Respondents were first asked to indicate whether or not they participated in each behavior. If they answered ‘yes’ then they were asked to indicate to what degree they participated (i.e., ‘not very often’, ‘sometimes’, or ‘very often’).

We also utilized the Physical Activity Stages of Change scale²³ to measure participants’ readiness or intent to change physical activity behaviors. This scale is based on the premise that people are somewhere on a continuum of change and therefore “one size doesn’t fit all”^{24, 25} in terms of an intervention. Therefore, if we identify where a participant is at on this scale at Baseline, we can track that person’s movement along this continuum over time. The possible score for this scale ranged from 1 to 5:

- 1) Pre-Contemplation: Currently not physically active and do not intend to start being physically active in the next six months;
- 2) Contemplation: Currently not physically active, but is thinking about becoming physically active in the next six months;
- 3) Preparation: Currently physically active, but not on a regular basis.
- 4) Action: Physically active on a regular basis, but have begun within the past six months;
- 5) Maintenance: Physically active on a regular basis and have been for longer than six months

4. Decrease levels of depression among participants

We also evaluated each participant's Beck Depression Inventory-II¹⁹ score to evaluate his/her level of depressive symptoms across time. This inventory includes a set of 21 statements used to measure the severity of a person's depression during the past two weeks. The scale ranges from 0-63 with a higher score representing more severe depression.

CVD Measures by Objective

1. Increase knowledge of Deaf adults with identified CVD risk factors about cardiovascular disease

To measure cardiovascular disease knowledge, participants were asked a series of 10 multiple choice questions that we created relating to heart attack and stroke warning signs, risk factors, emergency response, and behaviors to decrease one's risk (**Appendix 5**). The total score for this measure ranged from 0 to 10 with a high score reflecting more knowledge.

To measure nutrition knowledge, participants were asked a series of 15 multiple choice questions relating to the American Heart Association's recommendations for fruits and vegetables, protein, dairy, and sodium. Additional questions regarding serving size, healthy food alternatives, cholesterol, and reading food labels were also included (**Appendix 5**). The total score for this measure ranged from 0 to 15 with a higher score reflecting more knowledge.

2. Increase perceived self-efficacy to change CVD risk factors

We used two measures to evaluate participants' self-efficacy. The first was the Self-Rated Abilities for Health Practices scale²⁰. This scale measures participants' perceived confidence in their ability to manage their health. We used three of the four subscales included with this instrument, which were the nutrition, physical activity/exercise, and responsible health practices subscales. Each item within a subscale asked participants to rate their perceived ability to perform the respective health practice on a scale from 0-4 with 0 being 'not at all'

and 4 being ‘completely’. Each participant could score between 0-28 for each subscale with a higher score reflecting a higher level of self-efficacy.

The second was a scale we developed intended to measure self-efficacy related to participants’ ability to respond to an emergency (**Appendix 5**). Each participant was asked to rate how confident he or she felt about his or her ability to respond to a heart attack and a stroke. The scale ranged from 0 “Not at all Confident” to 10 “Totally Confident” for each emergency situation.

3. Increase the likelihood that participants will change one or more CVD risk behaviors

We utilized the Physical Activity Stages of Change scale²³ and the Diet Stages of Change scale²⁶ to measure participants’ readiness or intent to change physical activity and diet behaviors, respectively. As mentioned above, each of these scales is based on the premise that people are in a process of change and “one size doesn’t fit all”^{24,25} in terms of an intervention. Therefore, if we identify where a participant is on this scale at Baseline, we can track that person’s movement along this continuum over time. The possible score for each scale ranges from 1 to 5, with 1 reflecting the ‘pre-contemplation’ phase (have not thought about engaging in the behaviors) to 5 reflecting the ‘maintenance’ phase (having engaged in these behaviors regularly and having done so for the past 6 months).

The Berkeley Nutrition Services Screener²⁷ was employed to measure eating habits among participants over time. The screener provides a list of foods and asks participants to select how often they eat the food on a scale ranging from “Less than 1/Week” to “2+ a Day” for fruits, vegetables, and grains and “1/month or less” to “5+ times a Week” for meats and snacks. Based on participants’ responses the tool allowed us to calculate approximate daily nutrient intake for fruits, vegetables, fiber, fat, and cholesterol for each participant.

Participants were also asked about their exercise behaviors for the week prior to the evaluation. We developed this measure to ask participants what exercises they participated in and for how long during the previous week. Each day was listed individually, and participants could indicate whether or not they exercised on that day, and for how long (**Appendix 5**). Participants could report having exercised from 0 to 7 days and for 15 minutes to 1 hour for each day in which they reported exercising during the past week.

Participants were weighed at each time point throughout the intervention. Participants were also asked to report their height at screening so that the evaluators could calculate BMI scores for each participant at different time points throughout the intervention and follow-up period.

Patient Role Measures by Objective

1. Increase knowledge and behaviors among Deaf clients consonant with an effective patient role

Participants from both interventions were evaluated on their knowledge of the patient role through a series of six questions (**Appendix 5**). This tool included two multiple-choice questions and four True/False questions relating to knowledge of the patient role. The score for this measure ranged from 0 to 6 with a higher score representing a higher level of patient role knowledge.

Course Satisfaction Measure

At the conclusion of the intervention, participants were asked to rate their satisfaction with the teacher, curriculum, and course tools (i.e. pamphlets and videos). Participants were asked to rate their level of agreement with nine statements about the class with 0 representing “Not at All” and 4 representing “Completely” (**Appendix 5**).

Social Benefits Measures

At the three-month follow-up evaluation participants were asked three community building questions. These questions were utilized to measure to what degree participants continued to keep in contact with each other and discuss class topics. These tools also measured the means by which participants kept in contact with each other (i.e., face-to-face, e-mail, TTY) (**Appendix 5**).

Translating the Instruments

All data were collected with American Sign Language (ASL) versions of instruments that were presented to participants on videotape. Therefore, once all of the instruments were identified, we began translating them into ASL. The first step was to create an ASL gloss, which is a written representation of each question as it is to be translated into ASL—in other words a script for sign language. While ASL is a visual-manual language and cannot be completely captured in a written format, the gloss was imperative to portraying the essence of each question to the person who signed the instruments for the videotapes.

Creation of Answer Sheets

After we identified all of the measurement tools, “Deaf-friendly” answer sheets were created for each measure. These answer sheets contain few words and lots of visual cues and pictures, making it easy to follow along and minimizing the possibility that a person would get distracted and confused when looking from the video to the answer sheet.

Validating the Quality of the Instruments

a. Back-translations

After the glosses were created, we wanted to ensure that the translations accurately captured the true meaning of each question. Therefore, Teri Hedding (the project’s co-director), one of the project’s health educators, and an ASL interpreter met to recheck all of the glosses and to revise them accordingly. Once the translations had been checked in

this manner, an outside person fluent in both English and ASL, who had never before seen the tools, was brought in to back-translate the translations into English. This was done by having one of the project's health educators sign each of the questions to this person, who then wrote down in English exactly what the health educator had signed. The project's evaluator then reviewed the translations against the original English version of the measurement tools and noted any discrepancies. The team that had originally reviewed the glosses then reassembled and made revisions to the gloss where necessary. This process helped verify that our translations were sound, and also helped to identify any ambiguous questions.

b. Tool Validity Trials

In order to further verify the quality of the translations, a Tool Validity Trial (TVT) was conducted prior to initiating the pilot test of our intervention and tools. The TVT took place the week of 9/13/04. The purpose of this trial was to ensure that the ASL version of the instrument was capturing the same information as the English version (i.e., that the two versions were as similar as possible). The way in which we measured this was by recruiting 10 bilingual (ASL and English) individuals from Jacksonville, Illinois to take both the English and the ASL version of our instruments. The hypothesis was that if the two versions are measuring the same concepts, an individual's answers to both versions of the instrument should correlate well (i.e., should be very similar). The participants in the sub-study were administered the English version of the tools on the first day, and then returned on the following day to complete the ASL version.

For the majority of our instruments, the two versions did in fact correlate well. There were two tools however, for which the ASL and English versions did not correlate very well: the Beck Depression Inventory and the Perceived Stress Scale. In response to the results of this trial, a sub-committee reviewed each of the questions on the above two tools and determined ways to better match the ASL gloss to the English version. This process proved tedious, but it was vital to assuring that our translations were capturing the concepts that we were interested in as accurately as possible. The process of having someone fluent in English and ASL, who had not seen the questions before, back-translate these revised instruments from ASL to English was then repeated.

A second TVT took place on 4/5/05 and 4/6/05, the purpose of which was to re-test the validity of our new translation of the Perceived Stress Scale (PSS). The process was identical to that described above. A total of 11 participants were recruited for the TVT. All participants attended both days. The results of the second TVT showed that responses to the ASL version of the instrument correlated well with responses to the original English version. Our revised translation was therefore sound and the instrument was ready to be put on the evaluation video.

Pilot Testing the Evaluation Tools and Curriculum:

As part of the training and quality assurance process, the health educators tested each intervention with a small number of clients, to assure that the wording of the instruments was clear and that the class material was understandable. The pilot test also helped us

assure that the amount of material being covered was appropriate for the length of the classes.

The pilot classes took place from October 27-December 17, 2004. The CVD classes were taught by Sinai's health educator and met on Tuesdays, while the Depression classes were taught by Advocate's health educator and met on Wednesdays. A total of 10 participants for the CVD pilot class and 9 for the depression class were recruited from among existing patients of Sinai and Advocate.

Of the 10 people enrolled in the CVD intervention, 6 successfully completed the course (missed fewer than 3 classes), and 5 of the 9 people that enrolled in the depression intervention completed the course. Overall, participants reported that they found the classes extremely worthwhile and interesting and the instructors very informative. In fact, on a scale from 0 to 4, with 4 being the highest, participants from both the depression and CVD interventions rated their overall satisfaction with the course at 3.7.

Key Findings:

With a few exceptions, we found that the instruments performed quite well and measured concepts that were addressed in the curriculum. A few exceptions and our responses are outlined below.

a. Depression

During the pilot we used a pre-existing instrument that required participants to write in what they did to relax or relieve stress. However, many participants have difficulty writing in English, so many left this question blank. We decided to create a new questionnaire that includes pictures of several types of relaxation techniques, like deep breathing and positive thinking, mixed in with activities that are not considered appropriate activities to relieve stress, like drinking alcohol or taking extra depression medication. Participants are then prompted to check whether they did any of those activities over the past week when they felt depressed or stressed, and if so, how often they did them. There is still a place for participants to write in any activities that they did when they felt depressed or stressed that are not on the list. This "Relaxation Techniques Questionnaire" is shown in **Appendix 5**.

Secondly, there were several depression knowledge questions that all participants answered correctly at Time 1. This was of concern because it leaves no room for improvement between Time 1 and Time 2. When the project team reviewed the questions, it was concluded that they were sufficiently difficult, and that our pilot study sample was simply more knowledgeable than the general Deaf population about depression and its management given that they had been recruited from patients already in therapy.

b. CVD

The pilot identified several knowledge questions that all participants missed at Time 1. If a fair number got them correct at Time 2, then there was no need to change the questions because the concept was learned during the course. However, when all participants

missed the question at both time points (as was the case with a few questions), then either the concept was not being adequately addressed in the curriculum, or the question was not well written/translated. A sub-committee met and reviewed the evaluation knowledge questions against the curriculum. When questions were identified that were not covered in the curriculum, the sub-committee decided whether the questions should be re-written, or whether the concept was vital and therefore should be added to the curriculum. Alternatively, when a topic was found to be covered in the curriculum, the translation was assessed in detail and revised accordingly.

The pilot also revealed that the Nutrition Knowledge Questionnaire was too complicated and detailed for the level of information we were covering in the course. In response, the subcommittee spent a significant amount of time identifying very specific topics and goals that were important for participants to have learned by the end of the course. In the end, six topics were identified and an overall goal was set for each of them. Next, 15 questions were identified and/or created that would measure progress toward our goals in each of the six topic areas (**Appendix 5**). Once the questionnaire was complete, a visual answer sheet (i.e., containing pictures and little text) was created for the instrument.

c. Additional lessons learned from pilot participants:

Many participants suggested that each question be re-signed once all of the response options have been signed. Participants noted that by the time they had seen all of the responses, they had forgotten the question. This was a fairly simple way to improve the evaluation, so it was decided that when the evaluation video was re-taped, we would sign the question followed by the responses and then sign the question again. Secondly, the health educators both noted that several participants were losing their places on the answer sheets. Additional spacing between questions was added to the answer sheets to address this concern.

Creating the ASL Evaluation Video:

The evaluation video had to be redone following the pilot. In preparation for the taping, two complete gloss packets were assembled (one for CVD and one for Depression) which contained all of the evaluation instruments exactly as they were to be signed for the video, including the instructions. These final gloss packets incorporated a lot of the feedback received from participants during the pilot. For example, during the pilot it was discovered that participants often forgot the question that was asked after they had watched each of the possible answers being signed. In response, each of the multiple-choice questions was repeated twice in the gloss packets and thus was signed twice on the video. Additionally, a prompt was added telling participants when they needed to turn the page in their answer sheet packet. Finally, we added three practice questions to the beginning of the video to prepare participants for the types of questions that would be asked.

Since Teri Hedding, our project's co-director, had contributed extensively in the preparation of the gloss, and thus understood the essence of all of the questions and how they were to be signed, it was decided that she would sign the evaluation questions on the video. Because of her experience with video production, Toby Perlman, the project's

other co-director, agreed to oversee the editing process. The final filming for the evaluation video occurred on May 31, 2005, and the editing on June 2 and 3.

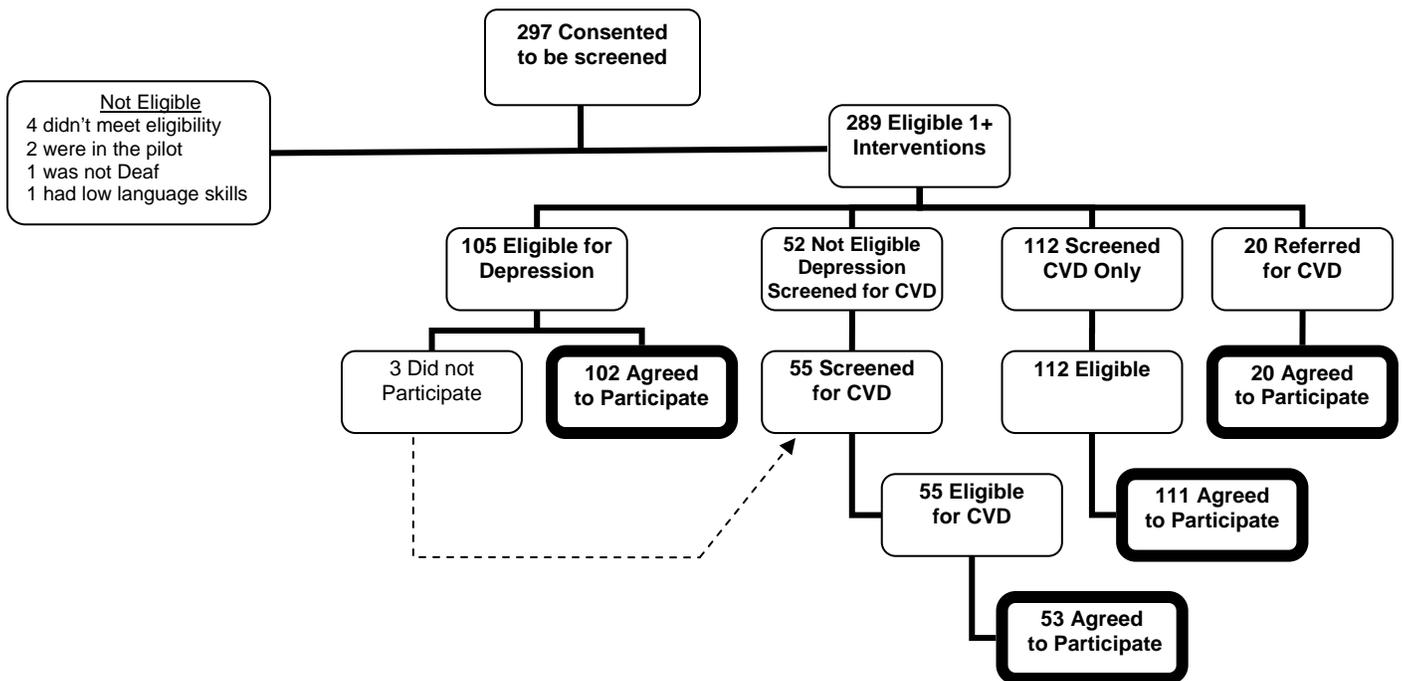
Recruitment and Enrollment Process:

Each intervention’s eligibility criteria and process are described on pp.5-6 above.

Recruitment

There were 298 people approached to participate in one or more of the interventions. Of those approached, virtually all, 297 (99%), consented to be screened. Of those screened, 289 were eligible for one or more interventions (105 persons who screened as eligible for the self-management of depression intervention and 187 persons who were eligible for the CVD intervention). Virtually all of those who were eligible agreed to participate in the intervention. See **Figure 1** for a visual depiction of the recruitment process flow.

Figure 1



Enrollment and Attrition: Self-Management of Depression Intervention

While 102 people initially agreed to participate in the Depression Intervention, only 78 (76.5%) came to the first class and were therefore enrolled into one of 17 classes offered (for a list of classes, locations, and dates see **Appendix 6**). Fifty-six (72% of enrolled) completed the 8-week intervention and 39, (50% of enrolled) completed the 3-month follow-up.

Overall, there were 22 individuals (28%) who enrolled and did not complete the intervention. Fourteen of these individuals withdrew for various reasons: work conflicts (3), school conflicts (n=2), general time conflicts (n=2), overwhelmed (n=1), ill (n=1), on vacation (n=1), lacked money (n=1), or overslept (n=1). The remaining eight individuals were considered ‘lost to follow-up’ and thus we could not determine their reasons for dropping out of the class.

Enrollment and Attrition: Prevention of Cardiovascular Disease Intervention

One hundred sixty-six people enrolled (90% of the 184 who originally agreed) into one of 20 classes offered (for a list of classes, locations, and dates see **Appendix 6**). One hundred and fifty (90% of enrolled) completed the 8-week intervention and 131(79% of enrolled) completed the 3-month follow-up.

Overall, there were 16 individuals (10%) who enrolled and did not complete the intervention. Ten of these individuals withdrew for various reasons: a personal or family health problem to attend to (n=3), a personal conflict with a classmate (n=2), trouble getting to and from class (n=2), evaluation was too difficult (n=1), going on vacation (n=1), and having a time conflict (n=1). The remaining six individuals were considered ‘lost to follow-up’ and thus we could not determine their reasons for dropping out of the class.

Missing Data

In circumstances where a participant who completed the intervention had missing data for an instrument intended to measure knowledge, the missing item was considered incorrect. When there was missing data for a multi-item scale (not related to knowledge), data imputation was utilized in an effort to avoid biasing results. When a participant had this situation, the participant’s mean score from the available data points within the scale was used as a surrogate marker²⁸ when the majority (67% or more) of the other data points within the scale for that participant were available; otherwise the score for the participant was considered missing. Data imputation via mean score methodology was utilized for the following measurement tools:

Self-Management of Depression Intervention:

- Self-rated Abilities for Health Practices Scale
- Self-efficacy to Control/Manage Depression
- Perceived Stress Scale
- Beck Depression Inventory II

Cardiovascular Disease Intervention:

- Self-Rated Abilities for Health Practices Scale

Statistical Analysis

Population demographic data were compared for those enrolled and those who completed the course within each intervention by using Chi-Square or Fisher's Exact test, as appropriate, for categorical data. For continuous data, the mean or median is reported depending on the distribution of the variable under analysis.

Statistical Analysis for Self-Management of Depression Intervention

To examine changes between Baseline scores and Week 8 scores as well as Baseline scores vs. 3-month follow-up scores for knowledge, self-efficacy, behaviors, and other outcomes measures we employed the non-parametric Wilcoxon Sign Rank Sum test. To examine changes over time in the proportion of participants correctly responding to specific knowledge questions and to detect changes in the proportion of participants at each stage of change over time we utilized the McNemar test for proportions.

Statistical Analysis for CVD Intervention

To examine changes between Baseline scores and Week 8 scores as well as Baseline scores vs. 3-month follow-up scores for knowledge and self-efficacy we utilized the Wilcoxon Sign Rank Sum test. To examine changes over time in the proportion of participants responding correctly to specific knowledge questions and to detect changes in the proportion of participants at each stage of change across time we utilized the McNemar test for proportions. Furthermore, we measured the mean change in consumption of nutrients, level of exercise, weight, and BMI of participants over time using the paired t-test.

For all statistical tests a p-value of less than 0.05 was considered statistically significant. Two-sided tests of hypothesis were used. All statistical analyses were performed using SAS statistical software, version 9.1 (SAS Institute, Inc., Cary, NC).

A more detailed description of the exact methodology and statistical testing utilized for each specific outcome variable is included in the "Results" section.

Results

Self-Management of Depression Results

Since there were some participants who had already completed the cardiovascular disease intervention prior to enrolling in the self-management of depression intervention, those participants are eliminated from the results below. The results are limited to 50 participants who completed the intervention and 35 participants who completed the intervention and the 3-Month follow-up.

Population Characteristics of Enrolled Participants

Table 1 describes the population characteristics of people who enrolled in the self-management of depression intervention. In brief, the majority (85%) of the enrollees were female and had a median age of 40 years. The racial and ethnic make-up of the group varied with just over half being non-Hispanic White, 19% Hispanic, 18% non-Hispanic Black and 6% of another race/ethnicity. The majority of enrollees were from the suburbs of Chicago (77%). Just over half (60%) of enrollees reported a greater than high school education, with 65% reporting a household income of less than or equal to \$20,000. The job status varied among the group. The health insurance status of enrollees also varied with most enrollees reporting either public (Medicare or Medicaid) or private (employer-sponsored) insurance. Only 11% reported being uninsured.

The demographics of those who completed the intervention (n=50) versus those who did not (n=12) only differed with respect to education level. Enrollees who had a lower education level were more likely to complete the intervention as compared to those of a higher education level. This may be due to the fact that those with a higher education level were significantly more likely to report having a full time or part time job (as opposed to SSI/SSDI/laid-off/un-employed) when compared to those with a lower education level (data not shown).

Depression Knowledge

One objective of the intervention was to improve depression knowledge among participants. Participants were asked 10 questions to assess their knowledge of depression and its effective management. Overall, depression knowledge scores improved between baseline, the completion of the intervention, and the 3-month follow-up (**Figure 2**). However, even as the median score improved from 4/10 at Baseline to 6/10 at Week 8 and 5/10 at the 3-Month follow-up, there was still substantial room for improvement.

Table 2 shows the proportion of participants who answered each depression question correctly at Baseline, Week 8, and during the 3-month follow-up. As can be seen, there was an increase in depression knowledge for a variety of depression knowledge questions at Week 8 and the 3-month follow-up as compared to Baseline.

Table 1. Demographic and Other Characteristics among Enrolled Participants of the Self-Management of Depression Intervention

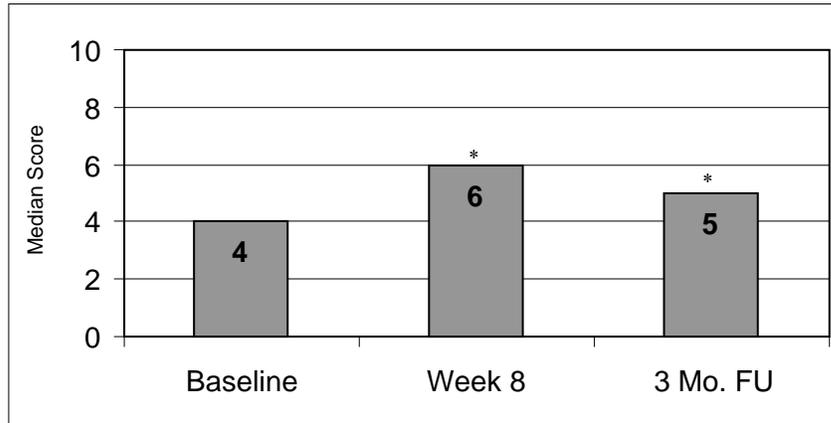
Characteristics	% of Enrolled (n=72)
Gender	
Female	85
Male	15
Age (median)^a	40
Age^a	
18-44	56
45-64	32
65 and Up	7
Race/Ethnicity	
Non-Hispanic White	57
Non-Hispanic Black	18
Hispanic	19
Other	6
Marital Status	
Married/Cohabiting	26
Divorced/Separated/Widowed	29
Single/Never Married	38
Other	1
Location	
City	23
Suburbs	77
Education Level	
≤High School	40
>High School	60
School^b	
Residential	35
Mainstream	61
Other	3
Income^c	
≤\$20,000	65
>\$20,000	22
Don't Know/Refused	11
Job Status	
Full Time/Part Time	40
SSI/SSDI/Laid-Off/Un-Employed	33
Retired	7
Other	19
Insurance Status	
Public	49
Private	33
Other	4
None/Self-Pay	11
Don't Know/Refused	3

^amissing: n=4

^bmissing: n=1

^cmissing: n=1

Figure 2. Median Depression Knowledge Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant difference per the Wilcoxon signed-rank sum test

Table 2. A Comparison of the Proportion (%) of Participants in the Depression Intervention who Knew the Correct Response to Specific Depression Knowledge Questions at Baseline, Week 8, and 3-Month Follow-up

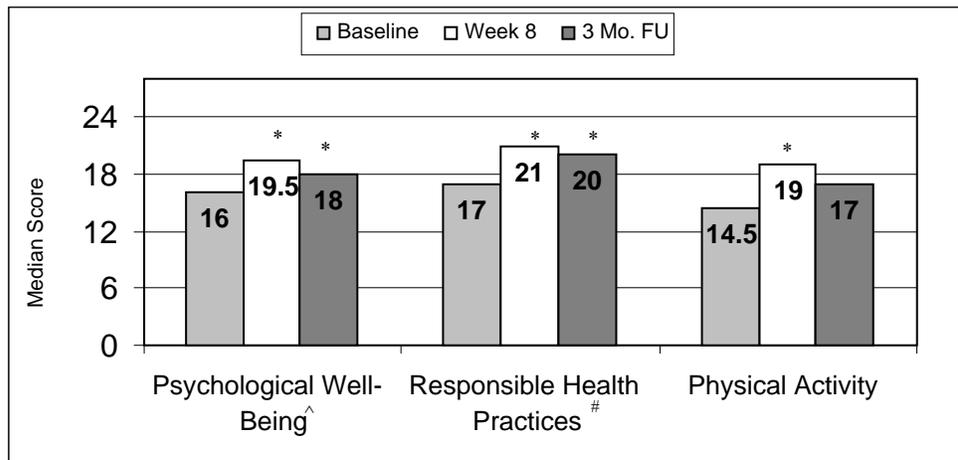
Depression Knowledge Answer	Baseline %	Week 8 %	Week 8 p-value*	3-Mo. FU %	3-Mo. FU p-value*
An example of clinical depression is thinking negatively and feeling hopeless more than two weeks	34	52	0.04	49	0.44
It is incorrect to think that depressed people would get better if they stopped being so lazy	52	58	0.53	37	0.09
Call 911 or go to the emergency room if you think you want to kill yourself	34	66	0.001	54	0.06
Some depressed people sleep too much and some too little	36	44	0.37	26	0.13
SSRI depression medicine works by helping your brain send messages about feeling better	30	54	0.01	57	0.01
When you start thinking negative thoughts, think "STOP"	28	50	0.01	51	0.11
It is true that some antidepressants will work better than others for you	52	72	0.05	51	0.56
Taking depression medicine and exercising everyday can help reduce depression	48	66	0.02	69	0.06
The best way to relax is to breathe slowly and think of a safe place	70	94	0.001	83	0.13
Assertive behavior is the best way to communicate thoughts/feelings to others	34	62	<0.003	63	0.002

*McNemar test for proportions used to assess significance between Baseline and the 8 week or 3 month follow-up. Significant findings are **bolded**.

Depression Self-Efficacy

Another objective of the intervention was to improve participants' self-efficacy, or confidence, in their abilities to do the things necessary to better manage depression. One of the tools utilized was the Self-Rated Abilities for Health Practices Scale²⁰. As can be seen in **Figure 3**, participants' perceived ability to improve their psychological well-being, responsible health practices, and physical activity improved significantly from Baseline to Week 8. Furthermore, participants' perceived ability to improve psychological well-being and engage in responsible health practices remained improved at the 3-month follow-up. Participants' perceived ability to engage in physical activity/exercise was not significantly improved at the 3-month follow-up as compared to Baseline. This may be due to the fact that physical activity/exercise was not emphasized as much during the intervention as compared to the topics included in the other two sub-scales.

Figure 3. Median Scores for Self-Rated Abilities Health Practices Sub-Scales among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant difference per the Wilcoxon sign rank sum test

[^]n=48 at Baseline and Week 8

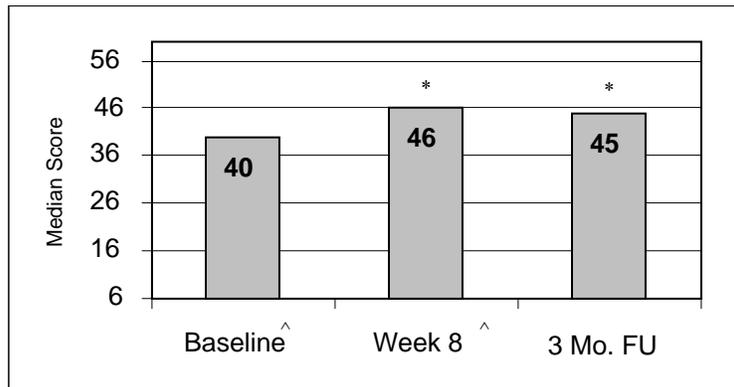
[#]n=49 at Baseline and Week 8

Participants were also evaluated on their self-efficacy to control/manage depression over time. As can be seen in **Figure 4**, there was a significant increase among participants in their perceived ability to control/manage depression at Week 8 and the 3-month follow-up when compared to Baseline.

Self-Management of Depression Behaviors

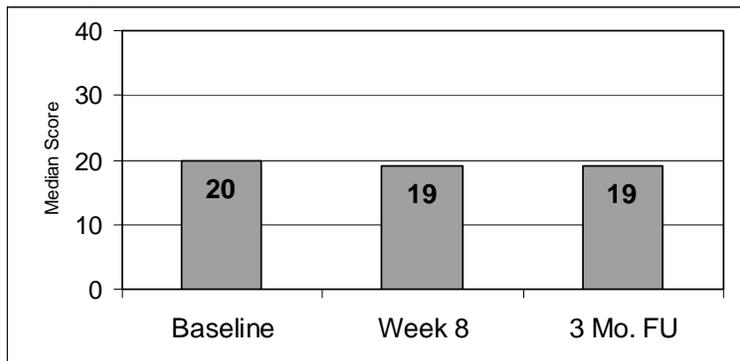
Another objective of the intervention was to increase the likelihood that participants would adopt one or more positive self-management behaviors for depression. The Perceived Stress Scale was one measure used to examine this objective. As can be seen in **Figure 5**, there was no significant improvement (i.e. decrease) among participants with respect to the amount of stress they perceived to be present in their lives at Week 8 or the 3-month follow-up when compared to Baseline.

Figure 4. Median Self-Efficacy to Control/Manage Depression Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant difference per the Wilcoxon signed rank sum test
^n=49

Figure 5. Median Perceived Stress Scale Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant difference per the Wilcoxon signed rank sum test
^n=34

Participants were also asked to mark specific behaviors they engage in when they feel stressed or depressed. The results, by behavior, are shown in **Table 3**. In brief, there was a significant increase in the proportion of participants engaging in productive behaviors (e.g. breathing slow and deep, taking a walk or exercising, thinking positive) at Week 8 when compared to Baseline. There was also a significant increase in the proportion of participants who were engaging in two of the seven productive behaviors at the 3-month follow-up compared to Baseline (**Table 3**).

With respect to non-productive behaviors, there was no significant change in the proportion who reported participating in these behaviors over time. This may be a result of the fact that the intervention placed a greater emphasis on the adoption of productive behaviors than the elimination of non-productive behaviors. These results may also be indicative of the fact that it is difficult to eliminate coping behaviors people may have engaged in at Baseline, even if those behaviors are not productive.

Table 3. Proportion of Participants Engaging in Productive and Non-Productive Behaviors Intended to Decrease Stress and Depression among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up

Type	Behavior	Baseline % Yes	Week 8 % Yes	Week 8 p-value	3-Mo. FU % Yes	3-Mo. FU p-value
Productive	Call or e-mail a friend	76	84	NS	80	NS
	Breathe slow and deep	66	96	<0.01	89	<0.05
	Think positive	80	96	<0.05	91	NS
	Call a doctor or counselor	68	76	NS	66	NS
	Do something positive I enjoy	90	94	NS	91	NS
	Think of a safe place	78	96	<0.05	91	NS
	Take a walk or exercise	76	96	<0.01	89	<0.05
Non-Productive	Yell or be crabby at someone	80	66	NS	77	NS
	Take drugs	8	0	NS [^]	14	NS
	Watch TV	88	94	NS	94	NS
	Smoke cigarettes	22	18	NS	23	NS
	Go to bed during the day	76	72	NS	71	NS
	Drink wine, beer or liquor	32	36	NS	49	NS
	Take extra depression medicine	32	38	NS	43	NS
	Eat junk food	86	94	NS	86	NS

*McNemar test for proportions used to test significance. NS=Not Significant

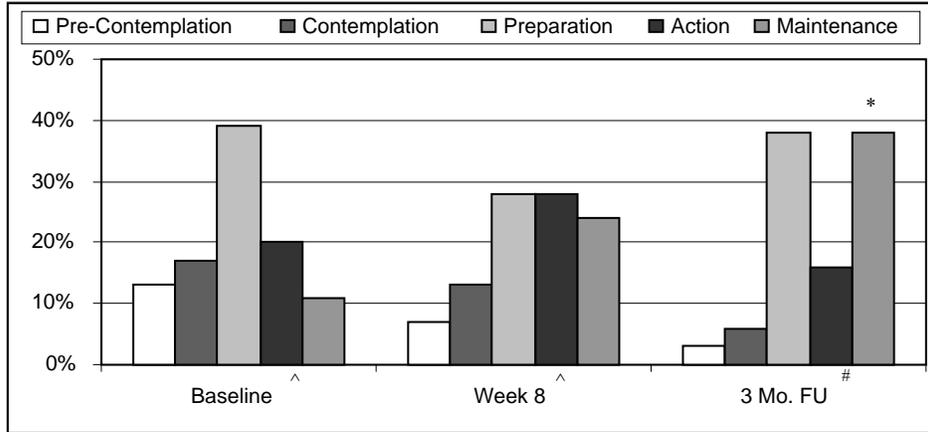
[^]In order to conduct significance testing, a value of 0.1 was used in place of 0.

We also measured each participant’s current stage on the stages of change continuum surrounding physical activity, at Baseline, at the 8 Week evaluation, and at the 3-month follow-up. Since participants are likely to be in different stages of change at the beginning of the intervention, we measured where they were at Baseline and subsequently determined if they were moving towards a positive direction (i.e., the right) along the continuum. For example, if a participant was not thinking about physical activity (i.e. pre-contemplation) at the start of the intervention, our hope was that they would have begun to think about engaging in physical activity after the intervention (i.e. contemplation). As can be seen in **Figure 6**, there was a statistically significant increase in the proportion of participants in the maintenance phase at the 3-month follow-up when compared to Baseline, which was a positive finding.

Self-Management of Depression Outcome

To measure the overall efficacy of the intervention, we measured participants’ level of depression over time. As can be seen in **Figure 7**, the median Beck II score decreased significantly from 25 at Baseline, to 21 at Week 8 and 19 at the 3-month follow-up, which means that participants reported being significantly less depressed. Furthermore, by the time of the 3-month follow-up, the median Beck of 19 is just below the cutoff for being considered clinically depressed (a score of 20).

Figure 6. Proportion of Depression Intervention Participants in Each Physical Activity Stage of Change: Baseline vs. Week 8 and 3-Month Follow-up



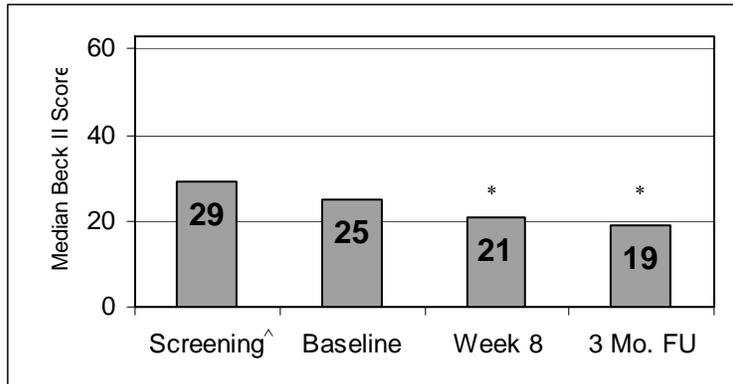
*Statistically significant by the McNemar test for proportions

^n=46

#n=32

Among those most severely depressed at baseline (Beck II ≥ 28), the median Beck score at Baseline was nearly 40. This group also benefited significantly from the intervention, as evidenced by the improvement (decrease) in median Beck II scores by Week 8 and 3-months (**Figure 8**). This suggests that the intervention was very helpful for those most in need of the intervention (i.e. those most severely depressed at Baseline).

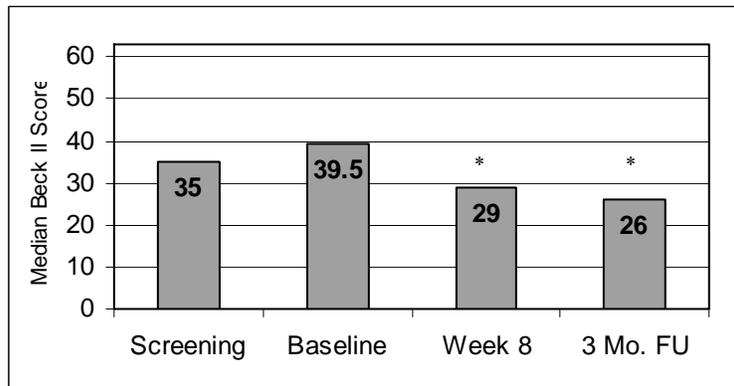
Figure 7. Beck II Depression Scores among All Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the Wilcoxon signed rank sum test

^n=49

Figure 8. Beck II Depression Scores among Depression Intervention Participants Most Severely Depressed at Baseline (≥ 28): Baseline vs. Week 8 and 3-Month Follow-up

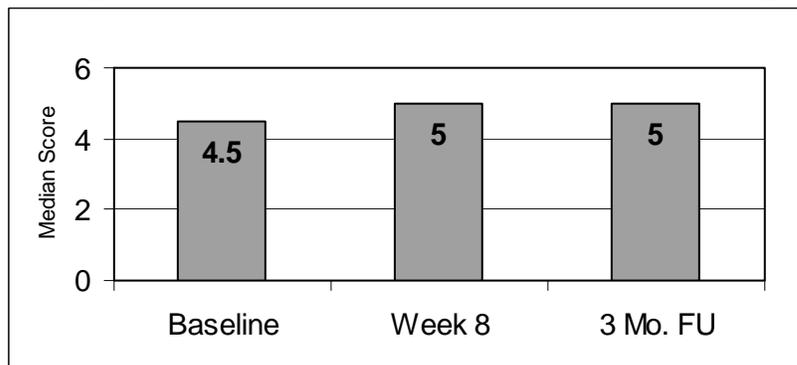


*Statistically significant per the Wilcoxon signed rank sum test
[^]n=19 at Screening, n=20 at Baseline and Week 8, n=16 at 3-Mo. FU

Patient Role Knowledge

Another objective of the intervention was to improve participants’ knowledge of the patient role. There was no significant improvement in Depression intervention participants’ knowledge of how to act more effectively in the patient role over the course of the follow-up (**Figure 9**). However, there was relatively little time spent on this topic throughout the intervention, which may explain why there was no significant improvement over time. **Table 4** shows the proportion of participants correctly responding to each of the patient role knowledge questions at each time point. In brief, there was only a statistically significant increase in the proportion who knew that they should ask for an interpreter when they make their doctor’s appointment at Week 8 when compared to Baseline (86% vs. 68%).

Figure 9. Median Patient Role Knowledge Scores among Depression Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the Wilcoxon signed rank sum test

Table 4. Proportion of Depression Intervention Participants Correctly Responding to Patient Role Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up

Patient Role Answer	Baseline % Correct	Week 8 % Correct	Week 8 p-value*	3-Mo. FU % Correct	3-Mo. FU p-value*
Before you go to the doctor you should ask for an interpreter on the phone when you make an appointment	68	86	<0.05	77	NS
If you don't understand your doctor ask him/her to repeat until you understand	78	84	NS	83	NS
Share your medical problems with your doctor	72	86	NS	74	NS
Share information about grandparents, parents, sisters, brothers, or children's diseases with your doctor	68	74	NS	74	NS
Share any medication you are currently taking with your doctor	74	68	NS	66	NS
Share any food or medication allergies you have with your doctor	60	60	NS	63	NS

*McNemar test for proportions used to test significance. NS=Not Significant

Course Satisfaction

Overall, participants were very satisfied with the teacher, curriculum and the course materials used throughout the intervention. The median score for each of the measures was four, which is the highest rating of satisfaction possible.

Social Benefits

At the 3-month follow-up, twelve of 35 (34%) participants reported that they kept in contact with classmates. Of those, about 2/3 said they have talked about topics and/or questions pertaining to depression. Among those who kept in touch (even if they did not discuss depression) the most frequently used modes of communication among participants were face-to-face and e-mail followed by Sidekick and TTY.

Prevention of Cardiovascular Disease Results

Since there were some participants who had already completed the self-management of depression intervention prior to enrolling in the prevention of cardiovascular disease intervention, those participants are eliminated from the results below. The results of the cardiovascular disease intervention evaluation, by objective, are limited to 148 participants who completed the intervention and 129 participants who completed the intervention and the 3-Month follow-up.

Population Characteristics of Enrolled Participants

The characteristics of persons enrolled in the cardiovascular disease intervention are shown in **Table 5**. In brief, just over half (55%) of enrollees were female, the mean age of enrollees was 60 years, and most were non-Hispanic White (80%) and lived in the suburbs of Chicago. Almost 2/3 of enrollees reported being married or cohabitating. Fifty-seven percent reported an education level of less than or equal to high school and about half (52%) reported going to a mainstream school. In terms of household income, just over half (54%) reported income greater than \$20,000 annually. Furthermore, the majority of enrollees reported being retired or having a full time/part time job, and having public (Medicare or Medicaid) or private (employer-sponsored) health insurance.

CVD Knowledge

As seen in **Figure 10**, participants improved significantly in their knowledge of cardiovascular disease between Baseline and the Week 8 and 3-month follow-ups. In fact, by Week 8 and continuing through 3-months, the median score rose from 6 of 10 to 8 of 10.

Table 6 shows the proportion of participants who responded correctly to each cardiovascular disease knowledge question. There was a significant increase in the proportion of participants who knew the correct response at Week 8 compared to Baseline for 8 of the 10 questions. This improvement remained significant for 5 of the 10 questions at the 3-Month Follow-up.

While there was a significant increase in the proportion who knew the correct response for “Which food group should you eat the least” and “Diabetes increases the risk for heart disease by:”, the proportion who knew the correct answer to each of these questions remained quite low at Week 8 (57% and 47% respectively) and the 3-Month Follow-up (49% and 46% respectively). Perhaps participants misunderstood the question about which food group they should eat the least. The question pertaining to how diabetes increases the risk for heart disease is very difficult, which may explain the low proportion answering it correctly at Week 8 and the 3-Month Follow-up.

For the two questions in which there were not significant increases at Week 8 or the 3-Month Follow-up when compared to Baseline, the proportion who already knew the correct response at Baseline was very high in each case (almost 90%).

Table 5. Demographic and Other Characteristics among Participants Enrolled in the Cardiovascular Disease Intervention

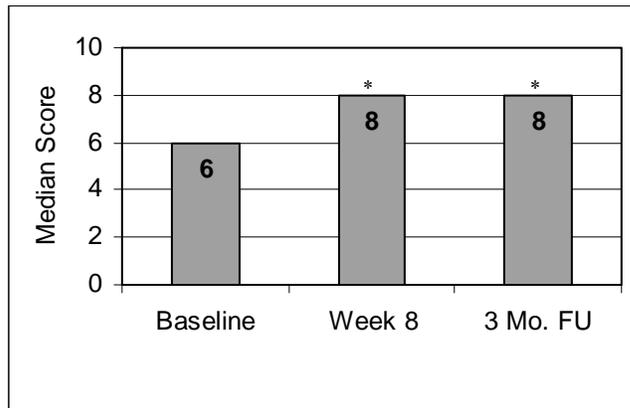
Characteristics	% of Enrolled (n=164)
Gender	
Female	55
Male	45
Age (mean)^a	60
Age^a	
18-44	12
45-64	46
65 and Up	37
Race/Ethnicity	
Non-Hispanic White	80
Non-Hispanic Black	9
Hispanic	7
Other	4
Marital Status	
Married/Cohabiting	65
Divorced/Separated/Widowed	21
Single/Never Married	13
Other	1
Location	
City	24
Suburbs	76
Education Level	
≤High School	57
>High School	43
School^b	
Residential	43
Mainstream	52
Other	4
Income^c	
≤\$20,000	39
>\$20,000	54
Don't Know/Refused	6
Job Status	
Full Time/Part Time	29
Retired	46
SSI/SSDI/Laid off/Un-Employed	18
Other	7
Insurance Status	
Public	46
Private	48
Other	2
None/Self-Pay	4
Don't Know/Refused	1

^amissing: n=9

^bmissing: n=1

^cmissing: n=2

Figure 10. Median CVD Knowledge Scores among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the Wilcoxon signed rank sum test

Table 6. Proportion (%) of CVD Intervention Participants who Responded Correctly to CVD Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up

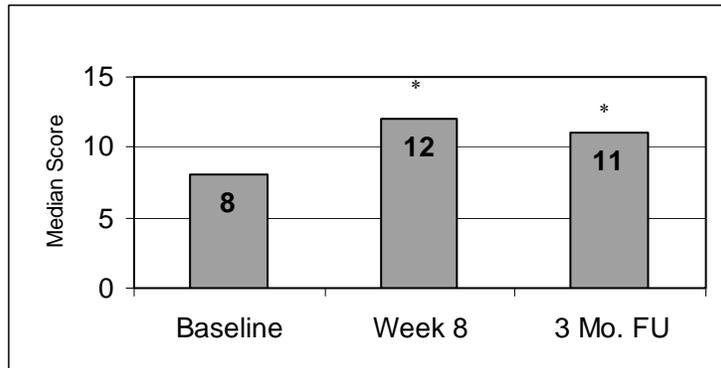
Cardiovascular Disease Answer	Week 1 % Correct	Week 8 % Correct	Week 8 p-value	3-Mo. FU % Correct	3-Mo. FU p-value
Chest pain that goes to left arm is a warning sign for a heart attack	88	93	NS	94	NS
Leg won't move is a warning sign for a stroke	51	74	<0.0001	67	<0.05
Call 911 and take aspirin if you think you are having a heart attack	61	86	<0.0001	86	<0.0001
If you stop smoking you will decrease the risk of heart attack and stroke	54	85	<0.0001	85	<0.0001
A heart attack is when some of the heart dies from not enough oxygen	30	76	<0.0001	78	<0.0001
High blood pressure increases one's risk for a stroke	89	91	NS	88	NS
Exercising more will help lower cholesterol	64	76	<0.05	77	NS
Fats, oils, and sweets is the food group that you should eat the least	43	57	<0.01	49	NS
It is recommended that everyone should exercise at least 30 minutes everyday	74	93	<0.0001	85	NS
Diabetes increases the risk of heart attack by causing the liver to make more cholesterol	24	44	<0.01	46	<0.01

*McNemar test for proportions used to assess significance between Baseline and the 8 week or 3 month follow-up. Significant findings are **bolded**.

Nutrition Knowledge

Participants were also asked a series of nutrition knowledge questions to assess their understanding of basic nutrition at different time points. As **Figure 11** shows, participants' overall nutrition knowledge improved significantly by Week 8 and this improvement was sustained through the 3-Month Follow-up.

Figure 11. Median Nutrition Knowledge Scores among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the Wilcoxon signed rank sum test

Table 7. Proportion (%) of CVD Intervention Participants who Responded Correctly to Nutrition Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up

Category	Nutrition Knowledge Answer	Baseline % Correct	Week 8 % Correct	Week 8 p-value*	3-Mo. FU % Correct	3-Mo. FU p-value*
Grains	Grains, along with fruits and vegetables, should make up most of the food you eat each day	66	89	<0.0001	85	<0.0001
Fruits/Vegetables	A person should eat 5 or more servings of fruits and vegetables per day	9	34	<0.0001	35	<0.0001
	A potato is not a vegetable	41	74	<0.0001	74	<0.0001
Dairy	Mozzarella cheese is the best low fat choice	34	83	<0.0001	78	<0.0001
Meat/Poultry	Baked fish is a healthy alternative to meat	86	93	<0.05	93	<0.05
	Chicken McGrill is the healthiest McDonalds choice	41	57	<0.01	45	NS
	There is cholesterol in meat	57	74	<0.01	71	<0.05
	A serving size of meat is equivalent to a deck of cards	45	81	<0.0001	81	<0.0001
Fats/Oils/Sweets	Olive oil is the best choice for cooking oil	76	86	<0.05	85	<0.05
Salt	2,400 mg salt = 1 teaspoon	49	78	<0.0001	79	<0.0001
	A chicken breast has the least amount of salt out of all options given	76	85	<0.05	85	<0.05
Nutrition Labels	The package of pretzels contains 200 calories	23	27	NS	25	NS

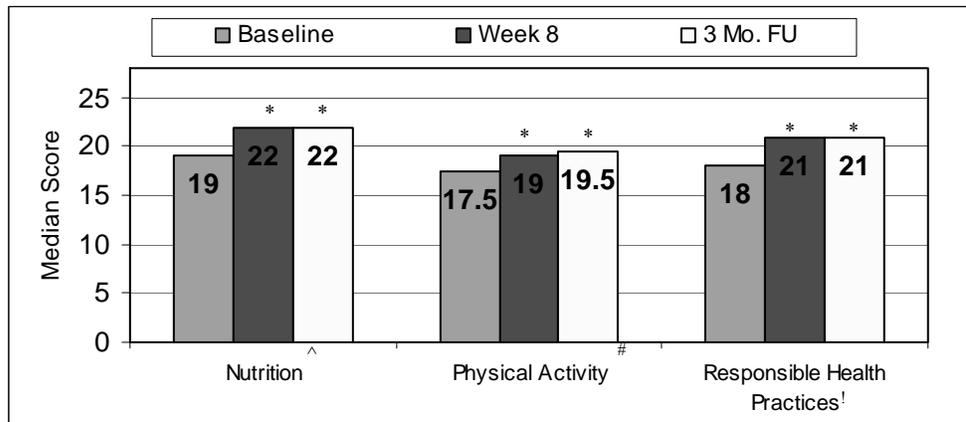
NS=Not Significant

As shown in **Table 7**, nutrition knowledge among participants improved significantly at Week 8 and the 3-Month Follow-up for the following categories: Grains, Fruits/Vegetables, Dairy, Meat/Poultry, Fats/Oils/Sweets, and Salt. Conversely, participants' knowledge regarding nutrition labels did not improve significantly over time. Participants had a difficult time determining how many calories were in a bag of pretzels that had two servings with 100 calories per serving (correct response: 200 calories). Based on instructor feedback, many of the participants found this topic difficult and requested additional time be spent covering this topic in the future. However, due to time limitations, it was not possible to expand teaching time for nutrition labels during the intervention.

CVD Self-Efficacy

One of the tools utilized to determine participants' perceived confidence to engage in activities to improve their cardiovascular health was the Self-Rated Abilities for Health Practices Scale.²⁰ As can be seen in **Figure 12**, participants' perceived ability to eat healthfully, participate in physical activity/exercise, and engage in responsible health practices improved significantly at Week 8 and the 3-Month Follow-up when compared to Baseline.

Figure 12. Comparison of Median Scores for Self-Rated Abilities Health Practices by Domain among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the Wilcoxon signed rank sum test

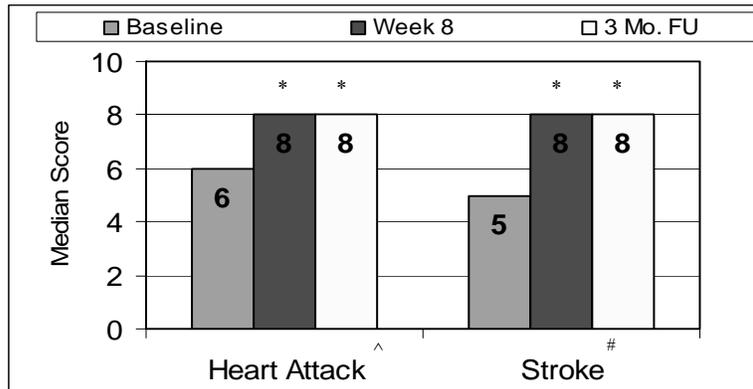
^n=143 at Baseline and Week 8

#n=142 at Baseline and Week 8; n=128 at 3-Mo. FU

!n=144 at Baseline and Week 8; n=128 at 3-Mo. FU

Participants also improved their perceived ability to respond to an emergency after the intervention. As can be seen in **Figure 13**, participants' self-efficacy to respond to a heart attack and stroke improved at Week 8 and the 3-Month Follow-up when compared to Baseline. At Week 8 and the 3-Month Follow-up participants reported a median self-efficacy score of 8, meaning that participants were very confident in their ability to respond correctly to a heart attack and a stroke.

Figure 13. Comparison of CVD Intervention Participants' Perceived Ability to Respond to an Emergency by Type: Baseline vs. Week 8 and 3-Month Follow-up

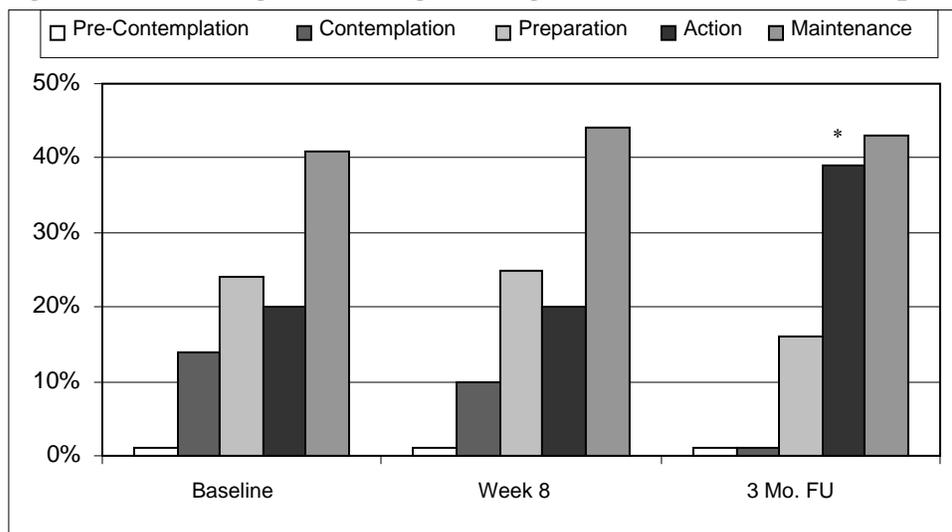


*Statistically significant per the Wilcoxon signed rank sum test
 ^n=145 at Baseline and Week 8; n=126 at 3-Mo. FU
 #n=143 at Baseline and Week 8; n=127 at 3-Mo. FU

Cardiovascular Disease Risk Behaviors

Both eating healthy and participating in moderate exercise on a regular basis are essential to prevention of cardiovascular disease. One way to measure intent to change behaviors is through the Diet Stages of Change model. We measured participants' diet stages of change scores across time. For example, if a participant was thinking about eating more healthfully (i.e. contemplation) at the start of the intervention, our hope was that they would have begun to engage in healthful eating after the intervention (i.e. action). We were pleased to see a significant shift toward a positive direction in the diet stages of change scale from Baseline to the 3-Month Follow-up. As can be seen in **Figure 14**, there were significantly more participants in the action phase of the diet stage of change at the 3-Month Follow-up than at Baseline. We also saw a general shift toward a positive direction over time with more participants moving into the action/maintenance stages.

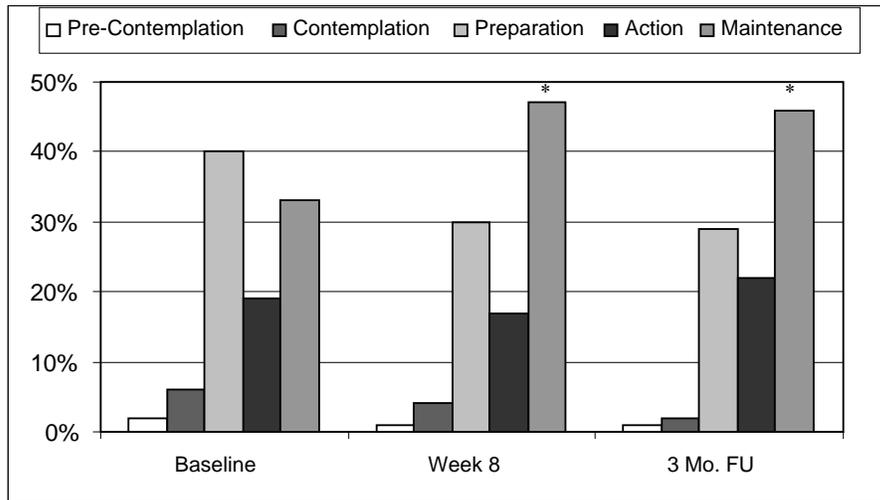
Figure 14. Diet Stages of Change among CVD Intervention Participants over Time^



^n=136 at Baseline and Week 8, n=123 at 3-Mo. FU
 *Statistically significant per the McNemar test for proportions

There was also a significant and positive shift in physical activity stages of change continuum from Baseline to Week 8 and the 3-Month Follow-up. As can be seen in **Figure 15**, there were significantly higher proportion of participants in the maintenance phase of physical activity (i.e. exercising regularly and had been for the past 6 months) at Week 8 and the 3-Month Follow-up when compared to Baseline.

Figure 15. Physical Activity Stages of Change among CVD Intervention Participants over Time[^]



[^]n=142 at Baseline and Week 8, n=124 at 3-Mo. FU

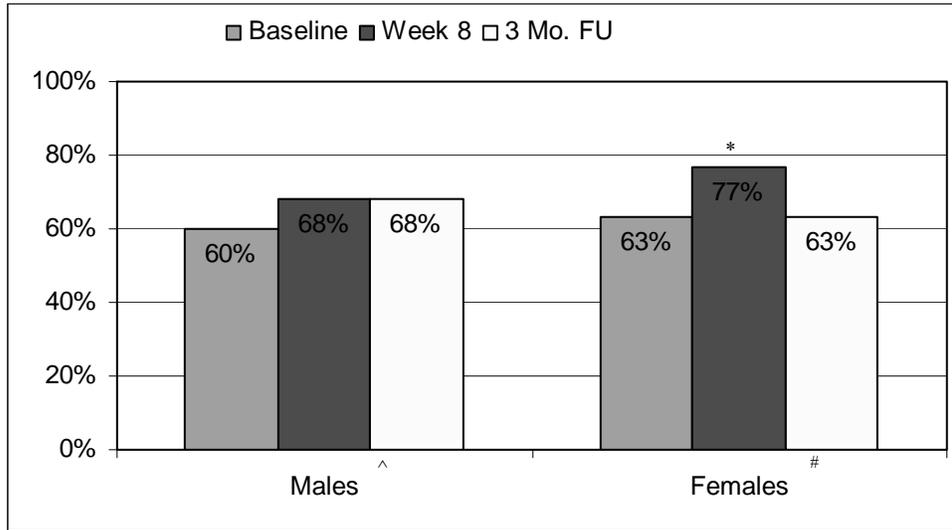
*Statistically significant per the McNemar test for proportions.

Participants were also asked to complete a rapid food screener, which evaluated the types of foods they ate and how often they ate them. **Figure 16** shows the proportion of participants, by sex, consumed five or more servings of fruits and vegetables per day over time. As can be seen in this figure, there was only a significant increase in the proportion of female participants who ate five or more servings of fruits and vegetables at Week 8 compared to Baseline (77% vs. 63%).

Since fiber is known to be an important part of a healthy diet, we also calculated participants' intake of fiber based on the rapid food screeners that participants' completed. As can be seen in **Figure 17**, both men and women in this intervention improved their mean consumption of fiber at Week 8 and at the 3-month follow-up when compared to Baseline.

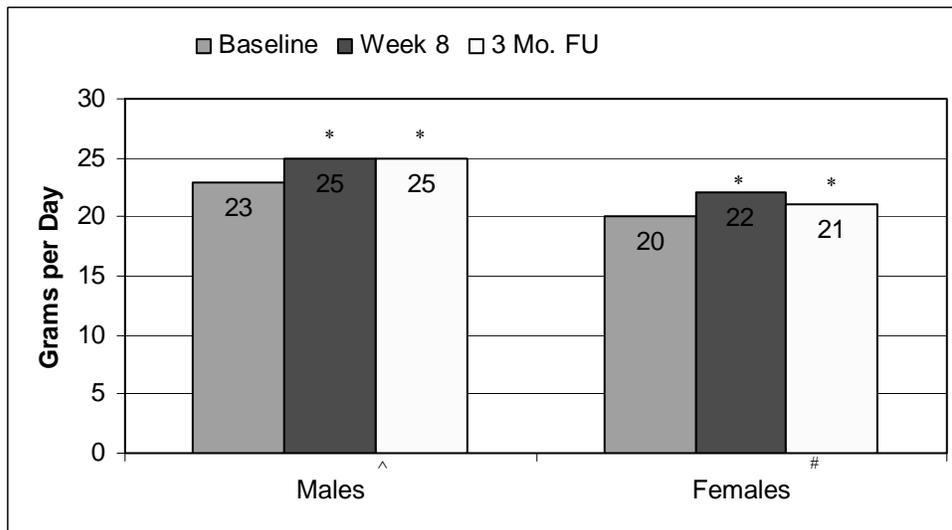
Limiting the intake of fat is also part of a heart healthy diet. The USDA recommends that 20%-35% of calories per day come from fat. We measured the proportion of participants who met this recommendation over time by gender (**Figure 18**). As can be seen in this figure, the proportion of both males and females meeting this recommendation improved significantly at Week 8 and the 3-month follow-up when compared to Baseline. At the end of the intervention over $\frac{3}{4}$ of the male participants and about $\frac{3}{4}$ of the female participants reported a daily intake of fat within the recommended range.

Figure 16. Proportion of Male and Female CVD Intervention Participants who Consumed 5 or More Servings of Fruits and Vegetables by Time Point



*Statistically significant per the McNemar Test for Proportions
 ^n=64 at Baseline and Week 8; n=55 at 3-Mo. FU
 #n=83 at Baseline and Week 8; n=73 at 3-Mo. FU

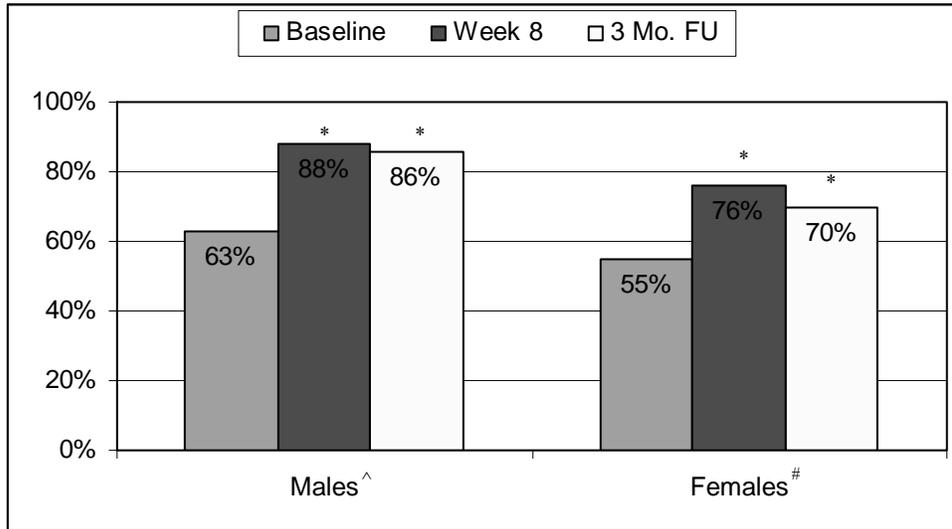
Figure 17. Mean Intake of Fiber (gms) Per Day for Male and Female Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the paired t-test
 ^n=64 at Baseline and Week 8; n=55 at 3-Mo. FU
 #n=83 at Baseline and Week 8; n=73 at 3-Mo. FU

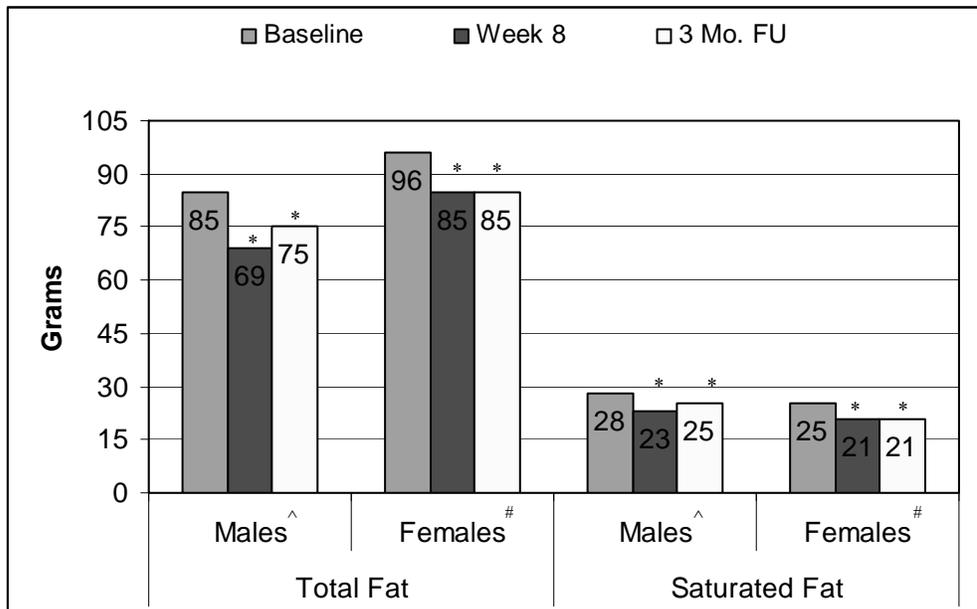
We also calculated the mean intake of total fat and saturated fat among participants over time by gender. As can be seen in **Figure 19**, the mean intake of total fat and saturated fat at Week 8 and the 3-month follow-up decreased significantly for both male and females when compared to Baseline.

Figure 18. Percent of CVD Intervention Participants who Consumed the Recommended 20%-35% of Calories from Fat by Gender: Baseline vs. Week 8 and 3-Month Follow-up



*Statistically significant per the McNemar Test for Proportions
[^]n=55 at 3-Mo. FU
[#]n=72 at 3-Mo. FU

Figure 19. Mean Intake of Total Fat (gms) and Saturated Fat (gms) Per Day among Male and Female CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up

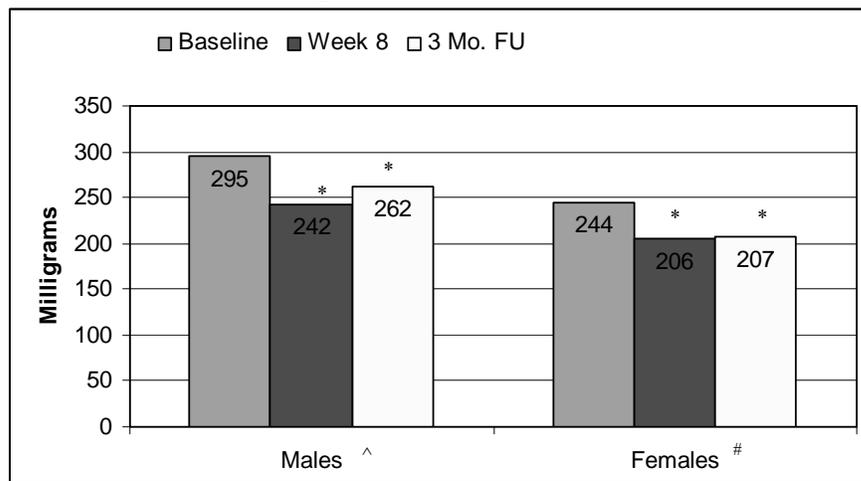


*Statistically significant per the paired t-test
[^]n=55 at 3-Mo. FU
[#]n=72 at 3-Mo. FU

Another key nutrient to measure is cholesterol. The mean intake of cholesterol among participants by gender and time point is shown in **Figure 20**. Overall, male participants had a higher intake of cholesterol than female participants at each time point. Both male and female participants reported consuming significantly less cholesterol at the Week 8 and 3-month follow-up when compared to Baseline.

Exercise is another important component to cardiovascular health. Therefore, we asked participants to report their exercise habits, including the number of days and the amount exercised per day, during the week prior to each evaluation. **Figure 21** displays the mean number of days that participants’ reported exercising for any length of time over the course of the intervention and at the 3-month follow-up. As can be seen in this Figure, the mean total number of days exercised among participants increased from 4.4 days at Baseline to almost 5 days at Week 8 and about 5 ½ days at the 3-month follow-up.

Figure 20. Mean Intake of Cholesterol (mgs) Consumed Per Day among Male and Female CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up



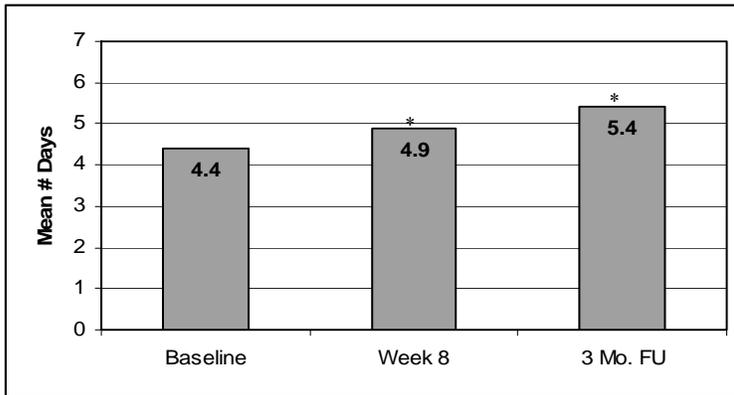
*Statistically significant per the paired t-test

^n=55 at 3-Mo. FU

#n=72 at 3-Mo. FU

The proportion of participants who met the Centers for Disease Control and Prevention’s recommended amount of exercise per week (exercising moderate intensity five days per week for at least 30 minutes per day)²⁹ was also examined (data not shown). Forty-three percent of participants met this goal at Baseline. This proportion increased to 44% at Week 8 and 46% at the 3-month follow-up, however these increases were not statistically significant.

Figure 21. Mean Number of Days Exercised among CVD Intervention Participants: Baseline vs. Week 8 and 3-Month Follow-up[^]



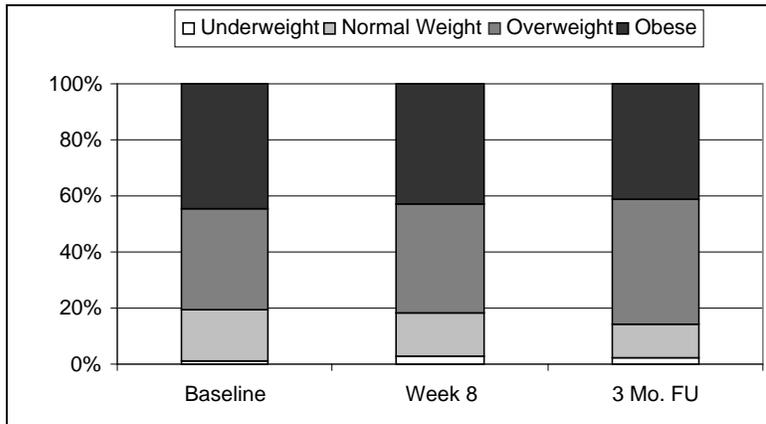
[^]Three participants were eliminated from analysis because the exercises they participated in could not be classified as cardiovascular exercises; n=145 at Baseline and Week 8, n=126 at 3-Mo. FU

*Statistically significant per the paired t-test

CVD Intervention Outcome

One way to measure the impact of eating more healthfully and exercising over time is by measuring participants’ body mass index (BMI) at various time points. We utilized participants’ BMI scores to classify them into one of four weight categories; underweight (BMI<18.5), normal weight (18.5≤BMI≤24.9), overweight (25.0≤BMI≤29.9), and obese (BMI ≥30.0). As can be seen in **Figure 22**, the majority of the participants at each time period were overweight or obese. Furthermore, the proportion of participants in each weight category did not change significantly (i.e. participants did not lose or gain weight) over the course of the intervention or by the 3-month follow-up. This lack of statistically significant findings is not surprising as this intervention did not focus on weight loss as a primary outcome. However, this finding does suggest the need for weight loss interventions for Deaf persons as over 80% of participants were overweight or obese at each time point.

Figure 22. Proportion of CVD Intervention Participants in each Weight Category: Baseline vs. Week 8 and 3-Month Follow-up[^]



[^]Percentages do not add up to 100% due to missing data (n=4)

*Statistically significant per the McNemar Test for Proportions

Patient Role Knowledge

Another objective of the intervention was to improve participants' knowledge of the patient role. There was significant improvement in participants' knowledge over time (**Table 8**). In brief, there was a statistically significant increase in the proportion who knew that they should ask for an interpreter when they make their doctor's appointment and the proportion who knew to ask questions until they understand their doctor at both the Week 8 and 3-Month Follow-up. There was also a significant increase in the proportion who knew to report food/medicine allergies to their doctor at Week 8 and the proportion who knew to report current medications to their doctor at the 3-Month Follow-up when compared to Baseline.

Course Satisfaction

Overall, participants were very satisfied with the teacher, curriculum and the course materials used throughout the intervention. The median score for each of the measures was four, which is the highest rating of satisfaction possible.

Social Benefits

At the 3-month follow-up just over half (57%) of participants said they had kept in touch with participants they met in class. Among those who had kept in touch, the majority (84%) did talk about or ask questions to each other relating to cardiovascular disease. Among all participants who kept in touch (even if they did not discuss heart health) the most frequent modes of communication were face-to-face followed by e-mail, Sidekick, videophone, and TTY.

Table 8. Proportion of CVD Intervention Participants Correctly Responding to Patient Role Knowledge Questions: Baseline vs. Week 8 and 3-Month Follow-up

Patient Role Answer	Baseline % Correct	Week 8 % Correct	Week 8 p-value*	3-Mo. FU % Correct	3 Mo. FU p-value*
Before you go to the doctor you should ask for an interpreter on the phone when you make an appointment	72	84	<0.05	88	<0.01
If you don't understand your doctor, ask until you understand	88	96	<0.05	97	<0.05
Share your medical problems with your doctor	86	88	NS	91	NS
Share information about grandparents, parents, sisters, brothers, or children's diseases with your doctor	79	86	NS	83	NS
Share any medication you are currently taking with your doctor	76	78	NS	88	<0.05
Share any food or medication allergies you have with your doctor	74	82	<0.05	78	NS

NS=Not Significant

Lessons Learned & Challenges

Overall, the project team learned that health education classes that integrate evidence-based practices for CVD prevention and self-management of depression into a linguistically and culturally sensitive model for Deaf persons are effective and well-accepted. In fact, many participants asked for additional classes to be offered.

Recruitment and Retention

There was some difficulty with recruiting participants for the intervention. While our two organizations have large numbers of Deaf patients, we additionally wanted to target Deaf individuals without links to specialized programs for Deaf individuals. Despite culturally appropriate advertising in media frequented by the Deaf community, we quickly learned that our strongest referral source was Deaf agencies. From this experience we learned that it takes the buy-in and support of the community to successfully recruit participants and implement health education classes at multiple locations. We could not succeed without the active support of community leaders within these Deaf organizations in both recruiting participants and providing sites for classes throughout the Chicago metropolitan area.

Recruitment was especially challenging for the depression self-management classes. The stigma of admitting to being depressed within the Deaf community complicates the recruitment process. Retention was also difficult for the depression self-management classes as symptoms associated with depression (fatigue, poor concentration, low motivation) impede a participant's ability to show up for the first class and to complete the entire 8-week course of classes.

We also had a difficult time recruiting minority participants, particularly African American participants. In part this could be due to the lack of space for classes in areas where African Americans were more likely to reside (i.e., on the south side of Chicago). However, it is more likely due to the fact that we did not have an African American health educator for the entire length of the project. *During the short period of time in which we had an African American health educator, we saw the number of African American participants increase.* Due to this limitation, recruitment and the subsequent generalizability of our results to minority populations suffered.

Scheduling Classes

The scheduling of classes themselves presented additional challenges. Preferences with regard to time and location of classes differed for specific subpopulations within the Deaf community. For example, elderly participants wanted classes during the daytime, while working individuals preferred night/weekend classes, and those with children requested classes in the middle of the day after their children went off to school. The health educators responded by offering a variety of times and locations to maximize the potential for participation.

People also found 8 weeks a long period to which to commit. Specifically, there were issues regarding both transportation and childcare for this length of time. After much

discussion, we decided to maintain the 8-week curriculum as we felt meaningful change in knowledge, self-efficacy, and behaviors could not be adequately attained in less than 8 weeks. To aid the participants with transportation costs, we revised the compensation schedule from a lump sum at the end to a per-class basis. We were unable to provide childcare for participants and this remains a challenge that we and others need to consider with future interventions.

Furthermore, within Chicago it was difficult to find space for an eight-week class. Many locations, such as churches or community based organizations, could not commit to an eight-week use of their space.

Evaluation

Given that many Deaf individuals have poor English proficiency, we decided to present the test measures in American Sign Language. We found few tools available for measuring knowledge, self-efficacy, and behaviors that had been validated with Deaf persons. We responded by translating, validating and pilot testing the evaluation tools ourselves. We also struggled with the delivery methods we should use to assure reliability of the measures across time and between groups. We subsequently decided that the evaluations would be videotaped in ASL to ensure consistency. We also created answer sheets containing few words and lots of visual cues and pictures, to make it easy to follow along and minimize the possibility that a person would get distracted and confused when looking from the video to the answer sheet.

Even with all of these adaptations, the evaluations themselves were seen as frustrating and tedious by many of our participants. We recognized that Deaf individuals are not used to being evaluated in this way. To meet this challenge, we took several steps. First, we added three practice questions to the beginning of the evaluation, to orient participants to the process. Second, our educators provided encouragement and scheduled a break to allow the participants a chance to rest. To further reduce fatigue, we had the first and last class devoted to the evaluation only. We also learned that many individuals forgot the questions when presented with a list of answers. We altered our format to repeat the question after the answer list was presented.

Recommendations

Recruitment

Through our experiences with this project we learned that it is essential to collaborate with community leaders. Working with community leaders at Deaf agencies proved to be the most successful method for recruiting Deaf participants. Many of these Deaf agencies also advertised our project to clients and offered space for screening sessions as well as classes. Since these partnerships were essential to our project success, we have decided to establish a community advisory group that we will work closely with in our future work.

It is also imperative that all organizations serving Deaf persons are identified, and that time and energy are devoted at the onset to establishing connections with all of these organizations. Specific effort needs to be focused on recruiting from within agencies that serve disadvantaged and minority subpopulations of the Deaf community.

We also recommend that health educators reflect the cultural diversity of the Deaf community. We would have likely been more successful in recruiting African American participants if we had a Deaf health educator who was from that community.

Course Length

Some participants had considerable difficulty committing to an eight-week class series. While a longer class series allows more time for the reinforcement of key concepts and for behavior change to occur, future efforts will need to weigh the pros of the longer class series against the obstacles people face in committing to such a long interval of time. Condensed classes would also address some of the difficulties we faced in finding available space for eight weeks in certain communities. In addition, provisions should be made to assist with transportation and childcare needs.

Course Marketing and Content

Since a negative stigma is associated with the word “depression” within the Deaf community much as it is within the hearing population, alternative course titles and descriptions should be considered. For example, the use of words such as ‘stress management’ and ‘relaxation’ have fewer stigmas associated with them and may lead to increased participation.

We chose to initially focus on CVD prevention and depression self-management because they are conditions that affect a large number of persons. However, there are several other conditions for which a similar approach might prove effective (e.g., Diabetes management, nutrition and weight management, HIV prevention, asthma management, etc.). Additionally, it may be beneficial to design and test health education classes based on a more generalized patient activation model that can be applied to any disease. This might prove to be a more efficient and sustainable approach than developing individual classes on each specific chronic disease.

Finally, avenues need to be explored in utilizing available technology such as videoconferencing and the Internet to reach persons who have this access.

Conclusion

The main goal of this 3-year demonstration project was to implement two health education interventions intended to increase knowledge, improve self-efficacy and result in positive behavior change around two health topics: (1) the prevention of cardiovascular disease (CVD), and (2) the self-management of depression.

We were able to meet these goals, as shown by improvements in knowledge, self-efficacy, and positive behaviors change at Week 8 compared to Baseline for both interventions. For the most part, positive findings were also seen at the 3-month follow-up, which suggests that the knowledge gains, improved self-efficacy and positive behavior changes may be sustainable.

There have been few health education programs for Deaf adults described in the literature. Only two such peer reviewed articles could be found. Both studies were conducted by a research group lead by Dr. Georgia Robins Sadler in San Diego, California. This group conducted a study regarding a breast cancer education program for Deaf women³⁰ and a prostate cancer education program for Deaf men³¹, both of which were conducted in ASL. Both studies also concluded that Deaf men and women would benefit from linguistically and culturally appropriate health education programs.

Limitations:

There were several limitations associated with this demonstration project.

First, participants were self-selected for the intervention. In addition to being motivated to participate, persons who participated were likely to be connected to a Deaf organization and have the time to attend an 8-week health education intervention. Thus the study population was likely not representative of the entire Deaf community. Therefore, we do not know if either of these education interventions would be effective in the larger Deaf community.

The fact that we did not have a control group against which to compare the noted improvements among program participants limits our ability to draw definitive conclusions from our findings. However, the consistency of significant positive findings for both interventions is suggestive that the findings are likely indicative of the effects of the intervention as opposed to outside factors.

Another concern involves the validity of the questionnaires used to gather study related data. There are very few instruments that have been validated in American Sign Language. Thus, it is possible that questionnaires validated in English may not have remained valid when translated into American Sign Language. To reduce this possibility we engaged bilingual experts in English and American Sign Language to assist with translation and we also conducted a tool validity trial. However, we also created some tools ourselves, which have not been validated.

The small sample size of the self-management of depression intervention (n=50) also limits our ability to make conclusions about this intervention. It is more difficult to see statistically significant improvements within such a small group. Even with this limitation, we saw many statistically significant improvements, which leads us to believe that this intervention did have a positive effect on participants.

Finally, our results may be subject to social desirability bias. This means that once participants knew which outcomes were advantageous for the intervention, they may have over-reported these outcomes to please the health educators. In an effort to limit social desirability bias, the evaluations were conducted by someone other than the health educator.

Conclusion:

Overall, we learned that health education classes that integrate evidence-based practices for CVD prevention and self-management of depression into a linguistically and culturally sensitive model for Deaf persons are effective and well-accepted. Further research with a more stringent study design is needed to determine if these findings can be replicated and if they are generalizable to the entire Deaf community.

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Village of Chicago Ridge

Appendix 1: Consent and Personal Data Forms

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**YOU HAVE THE CHOICE OF READING THIS FORM IN ENGLISH
OR HAVING SOMEONE PRESENT IT TO YOU IN AMERICAN SIGN
LANGUAGE.**

Title: Improving Access to Health and Mental Health for Chicago's Deaf
Community

Principal Investigators: Toby S. Perlman, PhD—Manager of Deaf and Hard of
Hearing Program, Advocate Illinois Masonic Medical
Center

Teri Hedding, MA—Manager of Deaf Access Program,
Sinai Health System

Sponsor: Michael Reese Health Trust

PURPOSE OF THE STUDY

You are being invited to participate in a study being conducted by researchers at Advocate Health Care and Sinai Health System. Our goal is to determine if attending a two-hour class about depression or about cardiovascular disease each week for eight weeks will help you to know more about depression or about cardiovascular disease. If you attend the depression classes, we hope that you will learn how to better manage depression. If you attend the cardiovascular disease classes, we hope that you will learn how you can lower your risk of this disease. We also hope that you will learn ways to better communicate with your doctor about your health, symptoms you have and questions you need answered. Approximately 300 other Deaf people living in the Chicago area also will participate in the depression and/or cardiovascular disease classes and this study. Please read this form carefully and ask any questions you have before you agree to join the study.

This study has been reviewed, approved, and will be monitored according to Federal law by the Institutional Review Boards of Advocate Health Care, 205 W. Touhy, Suite 203, Park Ridge, IL 60068-4202 and Sinai Health System, California and 15th St., Chicago IL, 60608.

PROCEDURES

Before starting this study, you will be asked some questions privately about your physical and mental health. We will use these questions to find out if you are eligible for this project. Your answers to these questions will be confidential. These questions will take less than an hour.

If it is decided that you are eligible, we will ask you to return some time within the next two weeks (or longer) to answer some more questions (approximately 1 to 1 ½ hours) and then start health education classes on either depression or cardiovascular disease. If you agree to join in the study, you will attend several classes about depression or cardiovascular disease with about 10 to 12 other Deaf people. Each class will be two-hours long and you will be asked to attend one class each week for eight weeks. You also will be asked to return for a final session three months after your last class. This final session will be a time for you to ask any additional questions, as well as for us to ask you some questions about what you have learned and what changes you may have made in your life. This session is expected to take approximately 1 to 1 ½ hours. The classes will be interactive and will include games, demonstrations, and videos to teach you about either depression or cardiovascular disease. In order to determine if these classes are helpful, we will ask you some questions at your first class, at your last class and three months after the last class. Please try to be as honest with your answers as possible. Some of the questions may be personal.

In order to be considered a participant of this project you must attend at least 6 of the 8 sessions. If you miss more than 2 classes you will no longer be considered a part of the research and thus will not be compensated for any additional classes attended. If you still wish to attend classes for your own benefit and without further compensation you may do so.

These classes are not intended to take the place of therapy sessions with a mental health counselor and/or appointments with your medical doctor. You should continue to see your regular mental health counselor and/or medical doctor as you have been until now. If you do not have a regular mental health counselor or medical doctor and you want to or need to see one, we will give you some names of providers so you can choose one and make an appointment. We are hoping that these classes will help you to learn more than you would if you only attended therapy sessions with a mental health counselor and/or appointments with your medical doctor.

RISKS

It is very unlikely that your participation in this study will hurt you. You may be upset with some of the questions, or you may not feel comfortable answering them. If you do not want to answer a question, you do not have to answer it. You can go to the next question. It is possible that you may be uncomfortable participating in some of the class activities. If you do not want to participate in a class activity, you do not have to. If you wish to stop attending the classes, you may do so at any time. All reasonable precautions will be taken to reduce the risk that your confidentiality will be broken (see CONFIDENTIALITY).

BENEFITS

Although no benefits can be guaranteed, you may benefit from learning about depression and/or cardiovascular disease and how to make changes to better manage depression or reduce risk for cardiovascular disease. There will be a break during each class to socialize and eat a healthy snack.

COSTS

The classes associated with this study are free. You will be responsible for your own transportation to each class and to the additional session that occurs three months after you have attended the last class.

COMPENSATION

You will be paid for your time and travel at the end of each class at a rate of \$10/class attended. You will be paid \$80 if you attend all 8 classes. If you miss more than 2 classes, you will be compensated only for the classes attended prior to your 3rd missed class.

If you attend the single session 3-months after your last class, and you completed at least 6 of the 8 class sessions, you will be reimbursed an additional \$20.

CONFIDENTIALITY

Your participation in this study is confidential and all records will be kept private. Your name will not be on the records. Your records will be identified only with a number. During the classes, however, other students will know who you are. During the first class, we will discuss the importance of keeping the names of other students and everything that occurs in the classroom private. We will ask students attending the depression sessions to sign a “Confidentiality Agreement” stating that they agree to keep the names of other students and everything that occurs in the classroom private. Although participants in your class will know your first name, they will not see or know your responses to any of the questionnaires we give you.

Results of this study may be published, or presented at scientific meetings, but your identity will not be disclosed. Your name or any material identifying you as a participant will not be released without written permission except on the occasion that such release is required by law. You agree that your medical records related to this study may be inspected by the Food and Drug Administration (FDA) or other appropriate governmental oversight agencies as required by law and by representatives of the Advocate Health Care and Sinai Health System Institutional Review Boards (IRB).

RESEARCH RELATED INJURY

In the event of a research-related injury, compensation is not available from Advocate Health Care or Sinai Health System for injury or any associated costs. You do not waive any of your legal rights by signing this form.

QUESTIONS

In the event that you experience a research related injury, or if you have questions about the study, you may contact the Principle Investigators, Toby Perlman, PhD at 773-296-3737 (TTY)/773-296-3241 (voice) or at Toby.Perlman@advocatehealth.com, or Teri Hedding, MA 773-257-6289 (TTY) or at hedt@sinai.org, at any time.

For information on your rights as a study subject, you may contact Alan Channing, President and CEO of Sinai Health System at 773-257-6434 (voice).

VOLUNTARY PARTICIPATION/WITHDRAWAL

You are under no obligation to participate in this study. If you choose not to participate in this study, your medical care will not be affected in any way.

You are free to withdraw from this study at any time by notifying Toby Perlman, PhD at 773-296-3737 (TTY)/773-296-3241 (voice) or at Toby.Pperlman@advocatehealth.com OR Teri Hedding, MA at 773-257-6289 (TTY) or at hedt@sinai.org. We will ask you to sign a form indicating you no longer wish to participate. If you leave the study, we will use the information we have collected from you up to that point, but will not ask you to answer any more questions. Your withdrawal will not affect your current or future medical care in any way.

RESEARCHER CONFLICT OF INTEREST DISCLOSURE STATEMENT

The Health Educators asking you to participate in this research study have not and will not benefit personally from this study.

Research Subject's Bill of Rights

The rights explained below are the rights of every person who is asked to be in a research study. As a research participant, I have the right:

1. to have the purpose of the study clearly explained; to learn what the study is attempting to find out;
2. to be told what choices for care I have and how they may differ from participating in the research study;
3. to be told what will happen to me and whether any of the procedures, drugs or devices used in the study will be different from the routine care I could expect;
4. to be told about any risks, side effects or discomforts that may occur that are due to my research participation and how these may differ from routine care;
5. to be told whether I can expect any personal benefit from participating in the research study and the likelihood of such a benefit;
6. to ask any questions I have before consenting to participate and throughout my time in the study;
7. to know what medical treatments are available to me and how they will be paid for, if any complications arise due to my participation in this study;
8. to have all records bearing any information that could identify me held in confidence by the researcher(s) and revealed, as is required by law, only for review by

appropriate governmental oversight authorities such as the Federal Food and Drug Administration. Authorized representatives of the Advocate Health Care and Sinai Health System Institutional Review Boards will have access to the research records for review and evaluation purposes and will hold my information confidential.

9. to be kept informed of any new medical or technical developments that may affect my condition or my willingness to participate in the research;
10. to refuse to participate or to withdraw from the study at any time without affecting my regular medical care;
11. to receive a copy of the complete consent form;
12. to be free of pressure while considering whether I wish to agree to be in this study.

CONSENT

By signing this form, I acknowledge that this study has been explained to me, including the procedures, and potential risks and discomforts. I have read this consent form in its entirety and have spoken to the investigator or his/her representative and have had all questions answered to my satisfaction. My signature indicates my agreement to voluntarily participate in this study conducted by Toby Perlman at Advocate Illinois Masonic Medical Center, 836 W. Wellington Ave. Chicago, Illinois, 60657 and by Teri Hedding at the Sinai Health System, 2755 West 15th Street, Chicago, Illinois, 60608. I will receive a completed signed copy of this document.

Signature of Participant
(Parent or Guardian, when appropriate)

Date

Printed Name of Participant
(Parent or Guardian, when appropriate)

Research Representative's Statement

I have explained this research study to the subject and have answered any questions he/she had.

Signature of Research Representative

Date

SHSIRB #04-48
Printed Name and Title of Research Representative
Protocol Number

AHCIRB #3774A
Protocol Number

Witness Statement

I acknowledge that I witnessed the Research Representative named above discuss participation in this research study with the subject, that the subject had opportunity to ask questions about the research, and the subject agreed to participate in the research and signed to consent to that effect.

Witness Signature

Date

Witness Name (Please print)

Personal Data Form

1. Name: _____
2. Home Address: _____
3. City: _____ 4. State: _____ 5. Zip Code: _____
6. Phone/TTY: _____ 7. E-mail: _____
8. Gender:
- | | |
|-------------|---|
| MALE..... | 1 |
| FEMALE..... | 2 |
9. Date of Birth (mm/dd/yy): _____
10. Race/Ethnicity:
- | | |
|---------------|---|
| NH BLACK..... | 1 |
| NH WHITE..... | 2 |
| HISPANIC..... | 3 |
| OTHER..... | 8 |
- SPECIFY: _____
11. Marital Status:
- | | |
|--|---|
| Married..... | 1 |
| Living with someone in a "marriage like" relationship..... | 2 |
| Divorced..... | 3 |
| Widowed..... | 4 |
| Separated..... | 5 |
| Never Married..... | 6 |
| OTHER..... | 8 |
- SPECIFY: _____
- REFUSED..... 98
12. School Finished?
- | | |
|-----------------------------------|---|
| Less than high school..... | 1 |
| High school graduate..... | 2 |
| Vocational/business school..... | 3 |
| Some college..... | 4 |
| College graduate..... | 5 |
| Professional/graduate degree..... | 6 |
| OTHER..... | 8 |
- SPECIFY: _____
- DK/NOT SURE..... 97
- REFUSED..... 98

13. What kind of school?

Deaf school.....	1
Mainstream without program for deaf children.....	2
Mainstream with program for deaf children.....	3
OTHER.....	8
SPECIFY: _____	
DK/NOT SURE.....	97
REFUSED.....	98

14. Working now?

Working full-time.....	1
Working part-time.....	2
Retired.....	3
Full-time student.....	4
Laid off or unemployed.....	5
Stay at home.....	6
SSI/SSDI.....	7
OTHER.....	8
SPECIFY: _____	
DK/NOT SURE.....	97
REFUSED.....	98

15. Insurance, what? **[CIRCLE ALL THAT APPLY]**

Medicaid/public aid.....	1
Medicare.....	1
Employer sponsored insurance.....	1
Other private insurance.....	1
No insurance/self-pay.....	1
OTHER.....	1
SPECIFY: _____	
DK/NOT SURE.....	97
REFUSED.....	98

16. a. Total money earned a year in your home above or below \$40,000?

[IF EQUAL TO \$40,000, CIRCLE 1 HERE, AND CIRCLE 2 IN Q16.b]

Below.....	Go #16b.....	1
Above.....	Go #16c.....	2
DK/NOT SURE.....	finished.....	97
REFUSED.....	finished.....	98

16 b. Is it above or below \$20,000?

Below or equal to \$20,000.....	1
Above \$20,000 [\$20,001 - \$40,000].....	2
DK/NOT SURE..... finished.....	97
REFUSED..... finished.....	98

[END HERE]

16c. Is it above or below \$60,000?

Below or equal to \$60,000 [\$40,001 - \$60,000].....	1
Above \$60,000.....	2
DK/NOT SURE..... finished.....	97
REFUSED..... finished.....	98

Those are all of my questions. THANK YOU FOR YOUR TIME!

[Let the participant know when and where their first session will be held]

Date of session: _____ Location of session: _____

ASSIGNED STUDY ID NUMBER #: _____

Appendix 2. Screening Forms

Screening Form for Depression Intervention

Screener (initials only): _____	Date of Screening (mm/dd/yy): _____
Location: _____	Study ID # _____

[IF THE PERSON IS INTERESTED IN PARTICIPATING, OBTAIN INFORMED CONSENT, AND THEN SCREEN FOR ELIGIBILITY.]

I. Method of Consent:

- ORAL..... 1
- WRITTEN..... 2

Now I am going to ask you 21 groups of statements. Please pay attention to each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**.

Note: If a person says that several of the statements in the group seem to apply equally well, circle the highest number for that group.

2. Sadness

- I do not feel sad..... 0
- I feel sad much of the time..... 1
- I am sad all the time..... 2
- I am so sad or unhappy that I can't stand it..... 3

3. Pessimism

- I am not discouraged about my future..... 0
- I feel more discouraged about my future than I used to be..... 1
- I do not expect things to work out for me..... 2
- I feel my future is hopeless and will only get worse..... 3

4. Past Failure

- I do not feel like a failure..... 0
- I have not failed more than I should have..... 1
- As I look back, I see a lot of failures..... 2
- I feel I am a total failure as a person..... 3

5. Loss of Pleasure

- I get as much pleasure as I ever did from the things I enjoy..... 0
- I don't enjoy things as much as I used to..... 1
- I get very little pleasure from the things I used to enjoy..... 2
- I can't get any pleasure from the things I used to enjoy..... 3

6. Guilty Feelings
- I don't feel particularly guilty..... 0
 - I feel guilty over many things I have done or should have done....1
 - I feel quite guilty most of the time.....2
 - I feel guilty all of the time..... 3
7. Punishment Feelings
- I don't feel I am being punished..... 0
 - I feel I may be punished..... 1
 - I expect to be punished..... 2
 - I feel I am being punished..... 3
8. Self-Dislike
- I feel the same about myself as ever..... 0
 - I have lost confidence in myself..... 1
 - I am disappointed in myself..... 2
 - I dislike myself..... 3
9. Self-Criticalness
- I don't criticize or blame myself more than usual..... 0
 - I am more critical of myself than I used to be.....1
 - I criticize myself for all of my faults..... 2
 - I blame myself for everything bad that happens..... 3
10. Suicidal Thoughts or Wishes
- I don't have any thoughts of killing myself..... 0
 - I have thoughts of killing myself, but I would not carry them out.....1
 - I would like to kill myself..... 2
 - I would like to kill myself if I had the chance..... 3
11. Crying
- I don't cry anymore than I used to.....0
 - I cry more than I used to..... 1
 - I cry over every little thing.....2
 - I feel like crying, but I can't..... 3
12. Agitation
- I am not more restless or wound up than usual..... 0
 - I feel more restless or wound up than usual.....1
 - I am so restless or agitated that it's hard to stay still.....2
 - I am so restless or agitated that I have to keep moving or doing something.....3

13. Loss of Interest	
I have not lost interest in other people or activities.....	0
I am less interested in other people or things than before.....	1
I have lost most of my interest in other people or things.....	2
It's hard to get interested in anything.....	3
14. Indecisiveness	
I make decisions about as well as ever.....	0
I find it more difficult to make decisions than usual.....	1
I have much greater difficulty in making decisions than I used to.....	2
I have trouble making any decisions.....	3
15. Worthlessness	
I do not feel I am worthless.....	0
I don't consider myself as worthwhile and useful as I used to.....	1
I feel more worthless as compared to other people.....	2
I feel utterly worthless.....	3
16. Loss of energy	
I have as much energy as ever.....	0
I have less energy than I used to have.....	1
I don't have enough energy to do very much.....	2
I don't have enough energy to do anything.....	3
17. Changes in Sleeping Pattern	
I have not experienced any change in my sleeping pattern.....	0
I sleep somewhat more than usual.....	1a
I sleep somewhat less than usual.....	1b
I sleep a lot more than usual.....	2a
I sleep a lot less than usual.....	2b
I sleep most of the day.....	3a
I wake up 1-2 hours early and can't get back to sleep.....	3b
18. Irritability	
I am not more irritable than usual.....	0
I am more irritable than usual.....	1
I am much more irritable than usual.....	2
I am irritable all the time.....	3

19. Changes in Appetite
- I have not experienced any changes in my appetite.....0
 - My appetite is somewhat less than usual.....1a
 - My appetite is somewhat greater than usual..... 1b
 - My appetite is much less than before.....2a
 - My appetite is much greater than usual.....2b
 - I have no appetite at all.....3a
 - I crave food all the time.....3b
20. Concentration Difficulty
- I can concentrate as well as ever..... 0
 - I can't concentrate as well as usual..... 1
 - It's hard to keep my mind on anything for very long.....2
 - I find I can't concentrate on anything.....3
21. Tiredness or Fatigue
- I am no more tired or fatigued than usual..... 0
 - I get more tired or fatigued more easily than usual..... 1
 - I am too tired or fatigued to do a lot of the things I used to.....2
 - I am too tired or fatigued to do most of the things I used to..... 3
22. Loss of Interest in Sex
- I have not noticed any recent change in my interest in sex.....0
 - I am less interested in sex than I used to be..... 1
 - I am much less interested in sex now.....2
 - I have lost interest in sex completely.....3

_____ **Total Score (Q2-Q22)**

Assess answers to screening questions to determine eligibility:

If the **Total Score** from questions **2-22** of the Beck is ≥ 20 then eligible.

PERSON IS ELIGIBLE FOR THE STUDY: ____ YES ____ NO

If eligible, determine if the person is interested in participating:

PERSON IS INTERESTED IN PARTICIPATING: ____ YES ____ NO

IF PERSON IS ELIGIBLE AND INTERESTED IN PARTICIPATING, ASK **Q23** AND THEN COLLECT INFORMATION ON THE **PERSONAL DATA FORM**.

23. Do you currently receive treatment for depression?
- YES.....1
 - NO.....2

Screening Form for CVD Intervention

Screener (initials only): _____ Date of Screening (mm/dd/yy): _____

Location: _____ Study ID # _____

[IF THE PERSON IS INTERESTED IN PARTICIPATING, OBTAIN INFORMED CONSENT, AND THEN SCREEN FOR ELIGIBILITY.]

1. Method of Consent:

ORAL..... 1
WRITTEN..... 2

2. Are you older than 40 years of age?

YES..... Go to Q3..... 1
NO.....Go to Q3..... 2

1. Do you currently smoke cigarettes?

YES..... Go to Q4..... 1
NO.....Go to Q4..... 2

2. Has a doctor, nurse or other health professional ever told you that you have high blood pressure?

YES..... Go to Q5..... 1
NO.....Go to Q6..... 2

3. Do you currently receive treatment for high blood pressure?

YES..... Go to Q6..... 1
NO.....Go to Q6..... 2

4. Has a doctor, nurse or other health professional ever told you that your cholesterol level is too high?

YES..... Go to Q7..... 1
NO.....Go to Q8..... 2

5. Do you currently receive treatment for high cholesterol?

YES..... Go to Q8..... 1
NO.....Go to Q8..... 2

6. Has a doctor, nurse or other health professional ever told you that you have diabetes?

YES..... Go to Q9..... 1
NO.....Go to Q10..... 2

7. Do you currently receive treatment for diabetes?

YES..... Go to Q10..... 1
NO.....Go to Q10..... 2

8. Has anyone in your family (parents, siblings) been told by a doctor, nurse or other health professional that they have high blood pressure?
 YES..... Go to Q11..... 1
 NO.....Go to Q11..... 2
9. Has anyone in your family (parents, siblings) been told by a doctor, nurse or other health professional that they have high cholesterol?
 YES..... Go to Q12..... 1
 NO.....Go to Q12..... 2

PROMPT: We would like to measure your height and weight. Do you mind if we take these measurements?

12. Height (in inches)= _____ in.
 REFUSED.....98

13. Weight= _____ lbs.
 REFUSED.....98

BMI (kg/m²)	19	20	21	22	23	24	25	26	27	28	29	30	35	40
Height (in.)	Weight (lb.)													
58	91	96	100	105	110	115	119	124	129	134	138	143	167	191
59	94	99	104	109	114	119	124	128	133	138	143	148	173	198
60	97	102	107	112	118	123	128	133	138	143	148	153	179	204
61	100	106	111	116	122	127	132	137	143	148	153	158	185	211
62	104	109	115	120	126	131	136	142	147	153	158	164	191	218
63	107	113	118	124	130	135	141	146	152	158	163	169	197	225
64	110	116	122	128	134	140	145	151	157	163	169	174	204	232
65	114	120	126	132	138	144	150	156	162	168	174	180	210	240
66	118	124	130	136	142	148	155	161	167	173	179	186	216	247
67	121	127	134	140	146	153	159	166	172	178	185	191	223	255
68	125	131	138	144	151	158	164	171	177	184	190	197	230	262
69	128	135	142	149	155	162	169	176	182	189	196	203	236	270
70	132	139	146	153	160	167	174	181	188	195	202	207	243	278
71	136	143	150	157	165	172	179	186	193	200	208	215	250	286
72	140	147	154	162	169	177	184	191	199	206	213	221	258	294
73	144	151	159	166	174	182	189	197	204	212	219	227	265	302
74	148	155	163	171	179	186	194	202	210	218	225	233	272	311
75	152	160	168	176	184	192	200	208	216	224	232	240	279	319
76	156	164	172	180	189	197	205	213	221	230	238	246	287	328

14. BMI= _____	
BMI 25 or GREATER.....	1
BMI LESS THAN 25... ..	2
CANNOT CALCULATE.....	88

Assess answers to screening questions to determine eligibility:

If answer "YES" to any of questions 2 through 11 **or** BMI is 25 or greater then eligible.

PERSON IS ELIGIBLE FOR THE STUDY: ____ YES ____ NO

If eligible, determine if the person is interested in participating:

PERSON IS INTERESTED IN PARTICIPATING: ____ YES ____ NO

IF THE PERSON IS ELIGIBLE AND INTERESTED IN PARTICIPATING, THEN COMPLETE THE **PERSONAL DATA FORM**.

Appendix 3. Curriculum Outlines

Depression Curriculum Outline

- Session 1: EVALUATION #1
Depression Definition, Social Learning Theory
(Depression What?)
Relaxation Techniques (Breathe Deep)
- Session 2: *Self-Change Skills, Self Improvement Goals: Positive Thinking
(Think Positive)*

Relaxation Techniques (Breathe Deep)
- Session 3: *Self-Change Skills, Self Improvement Goals: Pleasant Activities
(Activity Me Enjoy)*

Relaxation Techniques (Breathe Deep)
- Session 4: *Self-Change Skills, Self Improvement Goals: Symptom Reduction
(Symptoms, Do Do?)*

Relaxation and Visualization Techniques (Breathe Deep, Imagine Safe)
- Session 5: *Part A: Medication—Types, Side Effects & Benefits
(Medication What? Help How?)*
*Part B: Review and Maintenance of Skills Learned in Sessions 1-4
(Symptom Pops Up...Do Do?)*

Relaxation and Visualization Techniques (Breathe Deep, Imagine Safe)
- Session 6: *Family/Medical History
(History Me What?)*
*Social Skills – Communication & Assertiveness
(Social Skill, Which?)*

Relaxation and Visualization Techniques (Breathe Deep, Imagine Safe)
- Session 7: *Patient & Providers: 3 R's [Responsibilities, Rights & Roles]
(Doctor-Me Communicate How?)*
Relaxation and Visualization Techniques (Breathe Deep, Imagine Safe)
- Session 8: EVALUATION #2
Developing a Life Plan
Review of Sessions 1-7

Cardiovascular Curriculum Outline

- Session 1: “You’re at risk, Now what”
*Evaluation
- Session 2: “Change is Good!”
- Session 3: “Body problems, same with heart? What to do?”
- Session 4: “Exercise and eat right-Save life!”
- Session 5: “Let’s Review!”
- Session 6: “Past and Present”
- Session 7: “Medicine and Doctor”
- Session 8: “Class over, Now what?”
*Evaluation

Ongoing:

Individual/Group Activities

*Rap Sessions (including exercise)
20- minute snack breaks/socialization*

Appendix 4: List of Measurement Tools and Their Sources

Measurement Tools for the Depression Intervention
<p><u>KNOWLEDGE</u></p> <p>1) Depression Knowledge Questionnaire <i>Source:</i> Project Team</p> <p>2) Patient Role Knowledge Questionnaire <i>Source:</i> Project Team</p>
<p><u>SELF-EFFICACY</u></p> <p>3) Self-Rated Abilities Health Practices Scale</p> <ul style="list-style-type: none">- To measure perceived self-efficacy to manage depression- We are using 3 of 4 subscales, each of the scales have 7 items:<ul style="list-style-type: none">a) Physical Activity/Exerciseb) Psychological Well-Beingc) Responsible Health Practices <p><i>Source:</i> Becker H, Stuijbergen A, Oh HS, Hall S. The self-rated abilities for health practices scale: A health-efficacy measure. <i>Health Values</i> (1993), 17; 42-50.</p> <p>4) Self-Efficacy to Control/Manage Depression <i>Source:</i> Stanford Chronic Disease Self-Management Study. Psychometrics reported in: Lorig K, Stewart A, Ritter P, Gonzalez V, Laurent D, Lynch J. Outcome measures for health education and other health care interventions. Thousand Oaks CA: Sage Publications, 1996, pp. 24-25, 41-45.</p>
<p><u>BEHAVIOR</u></p> <p>5) Perceived Stress Scale <i>Source:</i> Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. <i>J of Health & Soc Behav.</i> 1983, 24(4); 385-396.</p> <p>6) Mental Stress Management/Relaxation <i>Source:</i> Project Team</p> <p>7) Physical Activity Related Behaviors Questionnaire <i>Source:</i> O'Connor M. Exercise promotion in physical education: application of the transtheoretical model. <i>Journal of Teaching in Physical Education.</i> 1994, 14(1); 2-12.</p>
<p><u>OUTCOMES</u></p> <p>8) Beck Depression Inventory-II <i>Source:</i> Beck, A. T., Steer, R. A., & Brown, G. K. (1996). <i>Manual for the Beck Depression Inventory</i>, 2nd ed. San Antonio, TX: The Psychological Corporation.</p>

Measurement Tools for the Cardiovascular Disease Intervention

KNOWLEDGE

1) CVD Knowledge Questionnaire

Source: Project Team

2) Patient Role Knowledge Questionnaire

Source: Project Team

3) Nutrition Knowledge Questionnaire

Source: Project Team

SELF-EFFICACY

4) Self-Rated Abilities Health Practices Scale

- To measure perceived self-efficacy to change CVD risk factors
- We are using 3 of 4 subscales, each of the scales has 7 items:
 - a) Nutrition
 - b) Physical Activity/Exercise
 - c) Responsible Health Practices

Source: Becker H, Stuijbergen A, Oh HS, Hall S. The self-rated abilities for health practices scale: A health-efficacy measure. *Health Values.* (1993), 17; 42-50.

5) Self-Efficacy to Respond correctly in an Emergency

Source: Project Team

BEHAVIOR

6) Fruit, Vegetable, Fiber and Fat Screener

Source: Block G, Gillespie C, Rosenbaum E, Jenson C. A rapid food screener to assess fat and fruit and vegetable intake. *Am J Prev Med.* 2000, 18(4); 284-8.

7) Exercise Frequency Questionnaire

Source: Project Team

8) Diet Related Behaviors Questionnaire

Source: McCann B, Bovberg V, Curry S, Retzlaff B, Walden C, Knopp R. Predicting participation in a dietary intervention to lower cholesterol among individuals with hyperlipidemia. *Health Psychology.* 1996, 15(1); 61-64.

9) Physical Activity Related Behaviors Questionnaire

Source: O'Connor M. Exercise promotion in physical education: application of the transtheoretical model. *Journal of Teaching in Physical Education.* 1994, 14(1); 2-12.

Appendix 5. Measurement Tools Developed by the Project Team

Depression Knowledge Questions

These questions are about your knowledge of depression. Please circle the letter that you think is correct for each question. Answer as best as you can.

1. Which is an example of clinical depression?
 - a. Sad feelings because you miss someone who died last week.
 - b. Think negative and feel hopeless more than two weeks.*
 - c. Very upset two or three days because life is hard.
 - d. Crying, sad and lonely because friends hurt your feelings today.

2. Which is the **WRONG** answer?
 - a. When people are depressed, chemical changes occur in their brain.
 - b. If someone in your family has depression, you can become depressed, too.
 - c. If you get a serious disease like heart attack or cancer, you can become depressed.
 - d. Depressed people would get better if they stopped being so lazy.*

3. If you think about wanting to kill yourself, what should you do?
 - a. Go to sleep and then you will feel better when you wake up.
 - b. Call 911 or doctor or go to emergency room.*
 - c. Take extra depression medicine.
 - d. Stay home and watch funny TV shows.

4. Which is the **CORRECT** answer about depression?
 - a. Men and women always cry when they are depressed.
 - b. Everybody has the same symptoms when they are depressed.
 - c. Some depressed people sleep too much and some sleep too little.*
 - d. Depression is not a disease but a form of extreme laziness.

5. How does SSRI depression medicine work?
 - a. It helps your brain send messages about feeling better.*
 - b. It lowers your blood pressure so you are more relaxed.
 - c. It reduces the sugar in your body (Special Sugar Reduction Inhibitor).
 - d. It dries up your tears so you don't cry so much.

6. How can you practice Positive Thinking?
 - a. Make a list of negative thoughts and practice them everyday.
 - b. When you start thinking a negative thought sign, "STOP."*
 - c. Try to do everything correctly so you will feel positive.
 - d. When you feel bad about yourself, stay home until you feel better.

7. Which is **true** about antidepressant medication?
 - a. Some antidepressants will work better than others for you.*
 - b. You should take antidepressants when you feel depressed but not everyday.
 - c. When you start to feel better, you should stop taking the medicine.
 - d. The new anti-depressants can help everyone who is depressed.

8. Which behaviors help reduce depression?
 - a. Exercise everyday and drink with friends on the weekend.
 - b. Exercise everyday and stay home alone so no one bothers you.
 - c. Take depression medicine and drink with friends on the weekend.
 - d. Take depression medicine and exercise everyday.*

9. What is the best way to relax?
 - a. Close your eyes and breathe fast 10 times.
 - b. Drink wine or beer with friends.
 - c. Breathe slowly and think about a safe place.*
 - d. Drink wine or beer when you are alone.

10. Which type of behavior is the best way to communicate your thoughts and feelings to other people?
 - a. Aggressive behavior
 - b. Assertive behavior *
 - c. Ignoring behavior
 - d. Passive behavior

SE Control/Manage Depression

We would like to know **how confident** you are in doing certain activities. For each of the following questions, please circle the number that corresponds to your confidence that you can do the tasks regularly at the present time on a 10-point scale from 1, *not at all confident* to 10, *completely confident*.

How confident are you that you can...

1) Keep from getting discouraged when nothing you do seems to make any difference?

1 2 3 4 5 6 7 8 9 10

2) Keep from feeling sad or down in the dumps?

1 2 3 4 5 6 7 8 9 10

3) Keep yourself from feeling lonely?

1 2 3 4 5 6 7 8 9 10

4) Do something to make yourself feel better when you are feeling lonely?

1 2 3 4 5 6 7 8 9 10

5) Do something to make yourself feel better when you are feeling discouraged?

1 2 3 4 5 6 7 8 9 10

6) Do something to make yourself feel better when you feel sad or down in the dumps?

1 2 3 4 5 6 7 8 9 10

Cardiovascular Disease Knowledge Questionnaire

These questions are about your knowledge of cardiovascular disease. Please circle the letter that you think is correct for each question. Answer as best as you can.

1. Which is a warning sign for a heart attack?
 - a) Leg won't move
 - b) Bad coughing
 - c) Both of your ears begin to hurt
 - d) Chest pain that goes to left arm *

2. Which is a warning sign for a stroke?
 - a) Leg won't move *
 - b) Pain in your chest
 - c) Diarrhea
 - d) Itching all over your body

3. If you think you are having a heart attack; what should you do?
 - a) Ignore it
 - b) Lie down
 - c) Call 911 and take an aspirin *
 - d) Call your doctor for an appointment

4. If you stop smoking you will:
 - a) Decrease the risk of heart attack and stroke *
 - b) Lose weight
 - c) Increase the risk of breast cancer or prostate cancer
 - d) Increase the risk of getting pneumonia

5. What is a heart attack?
 - a) The heart beats really fast
 - b) A person is surprised and the heart "skips a beat"
 - c) Some of the heart dies from not enough oxygen *
 - d) Some of the brain dies from not enough oxygen

6. Which of the following increases one's risk for a stroke?
 - a) Asthma
 - b) Ulcers
 - c) Itching
 - d) High Blood pressure *

7. Which will help you lower your cholesterol?
 - a) Exercising more *
 - b) Taking aspirin
 - c) Eating less salt
 - d) Eating more meat and eggs

8. Which food should you eat the least?
- a) Fats, oils & sweets *
 - b) Vegetables
 - c) Meat, Poultry, Fish, Dry Beans, Eggs & Nuts
 - d) Fruit
9. It is recommended that everyone should exercise:
- a) When you feel like it
 - b) 2 hours everyday
 - c) At least 30 minutes everyday *
 - d) After eating "bad" food
10. Diabetes increases the risk of heart attack by:
- a) Causing the heart to slow down
 - b) Causing the liver to make more cholesterol *
 - c) Causing the pancreas to make more insulin
 - d) Causing the lungs to breathe harder

Nutrition Knowledge Questionnaire

The next questions are about your knowledge of nutrition. Please circle the answer that you think is correct.

1. Experts recommend that we eat a certain number of fruits and vegetables every day to be healthy. How many servings of fruits and vegetables do you think it is recommended that you eat in a day? Please circle the correct number.

1 2 3 4 5 6

[CORRECT RESPONSE = 5 OR 6]

DON'T KNOW/NOT SURE 98

2. Which does not count as a vegetable?

Corn 1
 Potatoes 2*
 Peas 3
 Bell Pepper 4

3. Which do you think is a healthy alternative to red meat? Would you say...

Bacon 1
 Bologna 2
 Fish (Baked) 3*
 Sausage 4

4. How much is a serving size of meat?

Would you say it is the size of...

A deck of cards 1*
 A dinner plate 2
 Both of your hands 3
 A pair of dice 4

5. If you are at McDonald's, which is the healthiest choice?

Big Mac 1
 Filet of Fish 2
 Grilled Chicken Sandwich 3*
 Chicken McNuggets 4

6. If you must cook with oil, which is the healthiest to use?
- Coconut Oil..... 1
 - Palm Oil 2
 - Vegetable Oil..... 3
 - Olive Oil..... 4 *
7. If a person felt like something sweet but didn't want to eat a lot of sugar, which would be the best choice?
- Honey on Toast..... 1
 - Oatmeal cookie 2
 - Strawberries 3 *
 - Vanilla Ice Cream 4
8. Which food group, along with fruits and vegetables, should make up most of your food intake for a day?
- Grains..... 1*
 - Meat..... 2
 - Dairy..... 3
 - Fats, oils and sweets 4
9. Which is the healthiest choice for breakfast?
- Fruit Loops..... 1
 - Oatmeal with Raisins 2 *
 - Breakfast Sausage..... 3
 - Bagel with Cream Cheese 4
10. Which type of milk is healthiest for your heart?
- Vitamin D (whole milk) 1
 - Skim Milk (fat free) 2 *
 - 2% Milk 3
11. Which cheese would be the best choice as a lower fat option?
- Plain cream cheese 1
 - Mozzarella cheese..... 2 *
 - Cheddar cheese 3
 - Swiss cheese..... 4
12. Which food has the least amount of salt?
- Ready made frozen dinner 1
 - Canned soup 2
 - Bacon 3
 - Chicken breast..... 4 *

13. You are supposed to eat less than 2,400 mg of salt a day, this is about:
- 1 teaspoon..... 1*
 - 1 tablespoon..... 2
 - 1/2 cup..... 3
 - 1 cup 4
14. Which foods have cholesterol?
- Fruits and vegetables 1
 - Bread..... 2
 - Meat 3*
 - Olive Oil..... 4

Next you will see a nutrition label that was found on a bag of pretzels.

Nutrition	Amount/Serving	%DV*
Facts	Total Fat 1g	2%
Serv. Size	Sodium 560mg	23%
1 ounce	Total Carb 23g	8%
	Sugars 1g	
Servings 2.0	Protein 2g	
Calories 100	* Percent Daily Values (DV) are based on a 2,000 calorie diet.	

15. If someone finished this entire bag of pretzels, how many calories will they have consumed? Would you say...: [READ RESPONSE OPTIONS THROUGH "2,000"]
- 100 calories..... 1
 - 200 calories..... 2*
 - 400 calories..... 3
 - 2000 calories 4

Self-Efficacy to Respond Correctly in an Emergency

We want to know **how confident** you are in emergencies. Please circle the number that matches your confidence in knowing what to do in emergencies on a 10-point scale from 1, *not at all confident* to 10, *completely confident*.

1. How confident are you that you will know what to do if you were having a heart attack?

Not at all
Confident 1 2 3 4 5 6 7 8 9 10 Totally
Confident

2. How confident are you that you will know what to do if you were having a stroke?

Not at all
Confident 1 2 3 4 5 6 7 8 9 10 Totally
Confident

Exercise Frequency Questionnaire

Next we are going to ask you about your exercise habits. We want to find out how many days you did exercise last week and for how long. Some examples of exercise are running, fast walking, tennis, swimming, biking or yoga.

If you didn't exercise last week because you didn't have time, you were too tired, you didn't feel like it, or other reasons like that then don't circle anything on this page.

If you can't do exercise because of health problems, please circle "Can't exercise" at the top of the paper.

For those of you that exercised last week...

Did you exercise on Sunday? If you did circle the word Sunday and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Sunday don't circle anything for that day.

Did you exercise on Monday? If you did circle the word Monday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Monday don't circle anything for that day.

Did you exercise on Tuesday? If you did, circle the word Tuesday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Tuesday don't circle anything for that day.

Did you exercise on Wednesday? If you did, circle the word Tuesday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Tuesday don't circle anything for that day.

Did you exercise on Thursday? If you did, circle the word Tuesday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Tuesday don't circle anything for that day.

Did you exercise on Friday? If you did, circle the word Tuesday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Tuesday don't circle anything for that day.

Did you exercise on Saturday? If you did, circle the word Tuesday, and then circle how many minutes you exercised. Was it about 15 minutes, 30 minutes, 45 minutes, or about an hour? If you didn't exercise on Tuesday don't circle anything for that day.

[Once they are all finished, have them turn the page in the answer sheet book. Make sure they are looking at the video before you press play again.]

If you exercised last week, please circle what you did for exercise. You can circle more than one thing. If you don't see anything that matches what you did for exercise, write down what you did in the box. If you didn't exercise last week, please don't circle anything.

[Pause the video here so they can circle their answers]

Patient Role Knowledge Questionnaire

1. Before you go to the doctor, you should: (circle correct answer)
 - a. Pay for an interpreter
 - b. Ask for an interpreter on the phone when you make an appointment
 - c. Arrange for a family member or friend to come with you to your doctor's appointment to interpret for you
 - d. Do nothing, you'll ask for an interpreter in your doctor's office during your appointment

2. What should you do if you don't understand your doctor? (circle correct answer)
 - a. Wait until you get home and ask your family or a friend
 - b. Try to guess as much as you can
 - c. Be angry with your doctor
 - d. Ask your doctor to explain again until you understand

The next questions are about the kind of information you should share with your doctor.

3. Should you share medical problems (such as diabetes, high blood pressure, or asthma) with you doctor?
Circle Yes or No.

4. Should you share information about your grandparents, parents, sisters, brothers, or children's diseases with your doctor?
Circle Yes or No.

5. Should you share any medication you are currently taking with your doctor?
Circle Yes or No.

6. Should you share any food or medication allergies you have with your doctor?
Circle Yes or No.

Curriculum/Video Evaluation

0= Not at all 1=A Little 2=Somewhat 3=Mostly 4= Completely

1. Overall, how satisfied were you with the classes?
2. Were the class activities interesting and fun?
3. Were you able to follow the material presented in the classes?
4. Were the handouts that you got in class to take home with you helpful?
5. Were the classes worthwhile?
6. Was the instructor helpful and informative?
7. How informative was the video that was shown in class?
8. Was the video interesting?
9. Was the video easy to follow?

Comments:

Community Building Questions

"In the 3 months since the classes ended, have you kept in contact with any class participants that you met in the class?"

"If yes, have you ever talked about or asked them questions related to heart health/Depression or answered such questions for them since stopping the class?"

"If yes, do you usually communicate face to face, through e-mail, a sidekick, TTY or other?"

Appendix 6. List of Intervention Classes: 2005 & 2006

2005 Classes		
Dates	Organization & City	Class
May 16 - June 30 2005	Mount Sinai Hospital / Chicago	CVD
May 16 - June 30 2005 (class cancelled after 3 rd week)	Mount Sinai Hospital / Chicago	Depression
June 6 - July 25 2005	Mount Sinai Hospital / Chicago	Depression
June 9 – July 28 2005	Anixter / Chicago	CVD
June 9 – July 28 2005	Anixter / Chicago	Depression
Sept. 6 – Oct. 25 2005	Township of Schaumburg/Deaf Services / Schaumburg	CVD
Sept. 6 – Oct. 25 2005	Township of Schaumburg/Deaf Services / Schaumburg	CVD
Sept. 8 – Nov. 3 2005	Township of Schaumburg/Deaf Services / Schaumburg	Depression
Sept. 8 – Nov. 3 2005	Township of Schaumburg/Deaf Services / Schaumburg	Depression
Sept. 14 – Nov. 9 2005	Silent Apartment Cooperative / Chicago	CVD
Sept. 28 – Nov. 16 2005	Levy Center / Evanston	CVD
Sept. 28 – Nov. 16 2005	Levy Center / Evanston	Depression
Oct. 3 – Nov. 21 2005	Harper College / Palatine	Depression
Oct. 3 – Nov. 28 2005	Mount Sinai Hospital / Chicago	Depression

2006 Classes		
Dates	Organization & City	Class
Jan. 17 - March 7 2006	DuPage CIL/ Glen Ellyn	CVD
Jan. 17 - March 7 2006	DuPage CIL/ Glen Ellyn	Depression
Feb. 2 - March 30 2006	Thresholds/Chicago	Depression
Feb. 10 - March 31 2006	Access Living / Chicago	CVD
March 8 - April 26 2006	Chicago Ridge City Hall/Chicago Ridge	CVD
March 14 - May 9 2006	Fox River Valley CIL/Elgin	CVD
March 14 - May 9 2006	Fox River Valley CIL/Elgin	Depression
May 1 - June 26, 2006	Township of Schaumburg/Deaf Services / Schaumburg	CVD Afternoon
May 1 - June 26, 2006	Township of Schaumburg/Deaf Services / Schaumburg	CVD Evening
May 15 - July 19, 2006	Township of Schaumburg/Deaf Services / Schaumburg	Depression
May 22 - July 10, 2006	Chicago Ridge City Hall/Chicago Ridge	CVD
May 22 - July 25 2006	Thresholds/Chicago	Depression
June 1 - July 20, 2006	Fox River Valley/CIL/Elgin	CVD
June 8 - July 27 2006	Episcopal Church of Our Savior/Elmhurst	CVD
Sept. 8 - Oct. 27, 2006	Chicago Hearing Society/Chicago	CVD
Sept. 11 - Oct. 30, 2006	Township of Schaumburg/Deaf Services / Schaumburg	Depression
Sept. 11 - Nov. 6, 2006 (2 classes--one afternoon and one evening)	Township of Schaumburg/Deaf Services / Schaumburg	CVD
Sept. 18 - Nov.13, 2006	DuPage CIL/ Glen Ellyn	Depression
Sept. 19 - Nov 7, 2006	Chicago Hearing Society/Chicago	Depression
Sept. 21 - Nov. 9, 2006	Will-Grundy Center for Independent Living / Joliet	CVD
Sept 11 - Dec. 14, 2006 (class ended 11/16)	Waukegan Dept for Human Services/Waukegan	Depression

CIL=Center for Independent Living