Addressing Chronic Diseases in the Mississippi Delta through Health Education Prevention

Education: Approaches to Take Absolute Control through Knowledge (ATTACK)

Susan Mayfield-Johnson  Rebekah Young
Richard S. Mohn  Ryan Ebersole
University of Southern Mississippi

Abstract

Prevalence rates for diabetes, hypertension, and cardiovascular disease in Mississippi rank among the highest in the nation. Rural areas, particularly the Mississippi Delta, have higher concentrations of individuals who are at risk of developing these and other chronic diseases. While economic factors and geographic isolation limit access to health care, a general lack of culturally appropriate preventive health care education remains a leading barrier to optimal health care in the state. The ATTACK (Approaches to Take Absolute Control through Knowledge) project was developed to address the prevalent chronic disease in the Mississippi Delta. This community health education program focused specifically on diabetes, hypertension, and cardiovascular disease with special emphasis on nutrition and increased physical activity. In a novel approach, ATTACK was specifically designed to target members of faith-based organizations and teachers at Head Start Centers throughout the Mississippi Delta. Despite the sudden, unexpected discontinuation of funding which led to termination of program activities, ATTACK assessments revealed an increase in participants’ knowledge of target blood pressure, blood glucose, cholesterol, and BMI. ATTACK demonstrates the potential for success of future
community health educational programs designed to improve the quality of life in the Mississippi Delta through culturally appropriate, adult learning modalities.

Keywords: health education, community, chronic diseases, underserved, Mississippi Delta

Addressing Chronic Diseases in the Mississippi Delta through Health Education Prevention Education: Approaches to Take Absolute Control through Knowledge (ATTACK)

A survey of perceptions of health was conducted by New South Research (2007) to assess awareness and understanding of health related topics in the Mississippi Delta. In total, 400 respondents in 17 counties of the Mississippi Delta region were surveyed by phone with the results varying by no more than 4.9 percentage points. The study oversampled females, African-Americans and younger adults in order to better reflect the thoughts and perceptions of the Mississippi Delta consumer population.

The top three major health concerns in the Mississippi Delta were listed by respondents as diabetes (#1), heart disease (#2) and cancer (#3). Although the respondents were familiar with the conditions associated with diabetes for the most part, there were a substantial percentage of the respondents that did not know that blindness (14%), amputations (13%), kidney failure (16%), stroke (19%) or heart disease (24%) were consequences of diabetes. Furthermore, awareness of the importance of monitoring blood pressure was only higher among older and less educated respondents. Although respondents were clear on the benefits that exercise has in terms of heart disease (93%), the less educated, however, were less likely to know about the benefits of exercise in decreasing the risk of heart disease. The respondents as a whole were less certain about the benefits of exercise for preventing and managing diabetes (87%) and strokes (82%) (New South Research, 2007).

Research shows that Mississippi currently reports the highest prevalence of diabetes and hypertension in the nation. Diabetes mellitus was the seventh leading cause of death in Mississippi in 2010. The Mississippi Delta counties had a mortality rate of 80.6 per 100,000 (Mississippi State Department of Health, 2010). The prevalence of diabetes among adult Mississippians has also increased from 6.1% to 12.2% from 1994 to 2010, reflecting a 100% increase in 17 years. Furthermore, the Mississippi State Department of Health reports that prevalence of hypertension in 2007 was 33.17% statewide (38.7% for African Americans in this state), which increases the patient’s risk of heart disease and stroke, and can lead to kidney disease, blindness and mental impairment.

Cardiovascular disease (CVD), principally heart disease and stroke, ranks as the leading cause of death in Mississippi (Mississippi State Department of Health, 2010). The state’s CVD mortality rate in 2007 was 20.3% higher than that of the United States, and for the Mississippi Delta counties the rate was 32% higher. For several risk factors (e.g., obesity and diabetes), Mississippi has the highest prevalence rates in the nation. One out of five Mississippian who die under the age of 65 each year die from CVD, more than from all types of cancer, traffic injuries, suicides, and AIDS combined.
African Americans and persons with lower socioeconomic status, lower education levels, and limited access to care are at particular risk for complications from chronic diseases like diabetes, hypertension, stroke, and heart disease. Education and economic factors as well as geographic isolation are barriers to health care access. Rural areas, especially those in the Mississippi Delta, have higher concentrations of individuals identified at particular risk for chronic diseases (Delta Health Alliance, 2010). Insufficient numbers of health care providers further complicates these high risk parameters. For instance, 64 of 82 counties were designated as having health professional shortages for primary care (Delta Health Alliance, 2010). Some counties in the Mississippi Delta have no health care providers within their geographic boundaries, and others have providers located in areas at great distance from the majority of the population.

The failure to secure optimal preventative care and treatment practices and to achieve optimal self-care is rooted in numerous individual, environmental, and healthcare system-based variables. A major barrier to optimal care is the lack of access to quality, culturally appropriate preventative health care education.

While specific chronic health prevention efforts focused on obesity or diabetes have been on the rise in the Mississippi Delta, community health education prevention programs with a multi-faceted disease approach are lacking. Since diabetes, hypertension, CVD, and obesity have co-morbid risk factors, a comprehensive and complimentary approach should be warranted.

**ATTACK (Approaches To Take Absolute Control through Knowledge)**

The ATTACK program was funded to develop, implement, and evaluate a community health education prevention program addressing the Mississippi Delta’s prevalent chronic diseases, specifically diabetes, hypertension, and cardiovascular disease, with concentration on both nutrition and increased physical activity, that moved education into practice among African American faith-based and community-based educational organizations. **ATTACK** was also a community health prevention and education program addressing the Mississippi Delta’s prevalent chronic diseases that had a strong emphasis on adult learning methods.

For **ATTACK**, an intensive educational workshop was developed to provide participants with the basic knowledge about diabetes, hypertension, and cardiovascular disease. Adapted from the Mississippi State Plan for Heart Disease and Stroke Prevention and Control (2004), **ATTACK** embraced community-based participatory approaches incorporating a “Know Your Numbers” (KYN) campaign (MSDH, 2004) as methods for implementing programs to prevent and treat CVD and reduce health disparities. High priority targets identified by MSDH were rural and underserved communities, women, being African Americans, low socioeconomic status, low education levels, and limited access to care. The KYN program was originally developed by the MS Chronic Illness Coalition of the MSDH to enhance health screening, knowledge, and self-awareness of CVD risk factors. **ATTACK** culturally adapted the KYN program for Mississippi Delta residents with a strong focus on African American women.
Because these three chronic diseases have similar risk factors and were significantly impacted by obesity, nutrition and physical activity were also strong foci for these topics. Additional health education sessions were developed that emphasized core concepts in nutrition, label reading, and portion control. As part of the nutrition education session, a supermarket tour was proposed where items participants commonly buy (list developed through a brainstorming session) are examined within the supermarket. Special attention was given to environmental marketing strategies of food industries as well as label reading. Experience with other supermarket tours had proven successful (Story, Mayfield-Johnson, Downey, Anderson-Lewis, Young, & Day, 2010) where participants examined and practiced food label reading and demonstrated how small changes in selection and consumption made a difference in health status.

For areas where there was not a close supermarket, a supermarket sweep activity was incorporated. Supermarket sweep was a simulation where participants examined commonly purchased items and read their food labels. Comparisons of various items were examined to note fat, calories, sodium, etc. consumption, and discussions were held on what healthy eating means for individuals. Grocery items were displayed, and food labels were made to assist with these activities. A small gift card to the supermarket toured was drawn for a door prize within each group, or food products used in the supermarket sweep activities were given to participants as door prizes.

Within the physical activity sessions, participants explored various physical activity exercises that could be done at home and with everyday equipment. Various types of strengthening exercises, circuit exercises, and cardio activity were discussed and demonstrated for participants to engage, at their level of comfort, in a group setting. Goal setting for physical activity and participant support were also discussed.

The county cook-off was a community activity among the various faith-based organizations where participants demonstrated application of knowledge and cooking skills. As participants made changes to their daily diets and reduced fat, sodium, and caloric intake, sharing and tasting of those recipes provided an opportunity for individuals to note taste changes and improvements. Participants discussed the healthy changes made to the dish and noted caloric, fat, and sodium intake. Gift cards were given to winners in various categories with the opportunity for discussion of knowledge, beliefs, and skills learned and how application into daily living had impacted heath status and adaptation for change.

For the community-based education organizations, head start centers across the Mississippi Delta were selected to participate in professional development workshops where activities were condensed into intensive educational sessions, supermarket sweep, and physical fitness activities. CEU’s were provided for the 5-hour workshop for teachers, administrators, and other workers in the head start centers.

**ATTACK Participants**
The design for the **ATTACK** project was concentrated on African American faith-based and community-based educational organizations within the Mississippi Delta. African American faith-based organizations in the Mississippi Delta have largely been defined as churches. According to Phillip (1993), the African American church has always concerned itself with upgrading the psychological, social, economic, and physical well-being of the African American community, and historically, many have turned to the African American church as a site for learning. The church has not only served as a place for worship, it is also known as a focal point where its members can learn values, knowledge, and skills. It has, in essence, become a social service agency fulfilling the individual and communal needs for blacks that, in contrast, are often serviced by social and civic organizations for whites (Isaac, Guy, & Valentine, 2001).

The importance of the black church has been documented in four areas of community medicine: primary care delivery, community mental health, health promotion and disease prevention, and health policy (Blank, Mahmood, Fox, & Guterbock, 2002). This has been warranted because African Americans have lower life expectancies, are less likely to have health insurance, make fewer primary care visits, and have lower birth weights and higher infant mortality weights as compared to their white counterparts (Sutherland, Hale, & Harris, 1995; President’s Initiative on Race, United States Health Resources and Services Administration, 1998). The African American church has played an important cultural role in the community. Patillo-McCoy (1998) found that the African American church’s collective ethos and its emphasis on God as active in societal affairs supported secular activities within the community. As a result, the African American church has had to make health and health education a priority in its organization because of the high need.

The African American church has also served as an informal social service provider throughout its history; it is often seen as a gatekeeper to gaining access to the community. Many underserved minority communities often mistrust outside health programs and providers because of a history of exploitation and discrimination (Markens, Fox, Taub, Gilbert, 2002). The African American church has played a pivotal role in the successful planning, implementation, and evaluation of health promotion programs with several studies demonstrating that the African American church has served as an important conduit to inform and educate racial and ethnic minorities about preventative care (Eng, Hatch, & Callahan, 1985; Markens, et al., 2002; Saunders & Kong, 1983; Smith, 1989).

Community-based education organizations largely consisted of Head Start centers across the Mississippi Delta. Head Start programs have provided comprehensive child development, educational, health, nutritional, social and other varied services to predominately underserved preschool children and their families, and Head Start programs have also been required to mediate the direct participation of parents in the development, implementation, conduct, and direction of local programs (McGroder, 1990). As a result, Head Start center teachers, administrators, and other workers often serve as intermediaries with underserved community members.

Most research has demonstrated that Head Start centers provide positive effects on cognitive and socioemotional development for children (McGroder, 1990), however, little research has explored concepts of nutrition and health with Head Start centers and staff.
Children attending Head Start centers tend to be overweight when compared to the general population of pre-school aged children (Feese, Franklin, Murdock, Harrington, Brown-Binns, Nicklas, Hughes, & Morales, 2003; Whitaker, Gooze, Hughes, & Finklestein, 2009; Williams, et al., 2004), and demographic characteristics of Head Start teachers tend to match their students (Lumeng, et al., 2008). Because ATTACK sought to impact the prevalent chronic diseases among African Americans in the Mississippi Delta by implementing and evaluating a community health education prevention program, inclusion of and participation with congregational members of black churches and Head Start centers’ teachers was deemed a novel approach to reach underserved community members. All participants were over 18 years of age and lived or worked in Bolivar, Coahoma, Humphreys, Leflore, Sharkey/Issaquena, Sunflower, Quitman or Tallahatchie, and Washington counties in the Mississippi Delta.

Methods

The ATTACK project developed and implemented a community health education program addressing the Mississippi Delta’s prevalent chronic diseases, specifically diabetes, hypertension, and cardiovascular disease, with concentration on both nutrition and increased physical activity, that moves education into practice among community and faith-based organizations. The research design initially included demographic indicators; pre and post health assessments (SF-8™); pre and post-test measurements of knowledge, attitudes, and beliefs related to Mississippi prevalent chronic diseases; pre and post biometric indicators (blood pressure, glucose, and body mass index rates); and program training session evaluations.

Based on the KYN pre and post-test, information regarding participants’ knowledge of diabetes, cholesterol, hypertension, and body mass index (BMI) was adapted, but additional questions related to risk factors associated with these conditions were incorporated; the multiple-choice questionnaire was developed to evaluate knowledge of what having a condition means (e.g., diabetes is high blood sugar), what attitudes regarding measurement are considered normal (e.g., normal blood pressure is 120/80), and beliefs on how risk factors are related to these conditions.

Biometric indicators of blood pressure, blood glucose, height, weight, and BMI measurements were also collected by Community Health Advisors (CHAs) from a previous research project. CHAs are local, indigenous residents of underserved communities, who serve as bridges between the community and health care providers in an effort to promote health among groups traditionally lacking adequate health care access (Witmer, Seifer, Finocchio, Leslie, and O’Neil, 1995). The CHAs had been trained through the Getting on Target with Community Health Advisors (GOTCHA) project (Mayfield-Johnson, 2011), and appropriate technical skills (blood pressure readings, glucose monitoring, and BMI calculations) had been taught, supervised and verified by the investigators and health care providers associated with the project. Baseline biometric indicators were collected with 4-month post-measurement collections planned.
However, unexpected and abrupt changes to funding significantly modified the ability to complete all aspects outlined in the research design and significantly affected the evaluation findings of the research project. Changes to funding are discussed in later sections. Baseline measurements were collected for all indicators, but only pre and post-test measurements of knowledge, attitudes, and beliefs related to Mississippi prevalent chronic diseases were collected. As a result, analysis of demographic variables and changes to knowledge, attitudes, and beliefs related to Mississippi prevalent chronic diseases are reported. Analysis was conducted through SPSS version 20 (IBM SPSS, New York, NY).

Results

Table 1 displays the socio-demographics of the participants (n=308, with 9 missing). The average participant was an African American female with a mean age of 45.8 (SD = 14.18). The majority of participants (95%) had completed a high school diploma or obtained a GED, and 67% had obtained an Associates degree or higher. Most participants (72%) reported being employed full-time, with group insurance (42%) and never having been married (37%).

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (n=293)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>40</td>
<td>13.7 %</td>
</tr>
<tr>
<td>Female</td>
<td>253</td>
<td>86.3 %</td>
</tr>
<tr>
<td>Race/Ethnicity (n=275)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>270</td>
<td>98.2 %</td>
</tr>
<tr>
<td>Caucasian</td>
<td>3</td>
<td>1.1 %</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>0</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2</td>
<td>0.7 %</td>
</tr>
<tr>
<td>Native American (Indian/Alaska Native)</td>
<td>0</td>
<td>0.0 %</td>
</tr>
<tr>
<td>More than one</td>
<td>0</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Marital Status (n=2689)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>99</td>
<td>36.9 %</td>
</tr>
<tr>
<td>Separated or divorced</td>
<td>47</td>
<td>17.5 %</td>
</tr>
<tr>
<td>Currently married or living with a significant other</td>
<td>27</td>
<td>10.1 %</td>
</tr>
<tr>
<td>Widowed</td>
<td>95</td>
<td>35.4 %</td>
</tr>
<tr>
<td>Educational Attainment (n=274)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th through 12th grade</td>
<td>15</td>
<td>5.5 %</td>
</tr>
<tr>
<td>Completed high school or GED</td>
<td>53</td>
<td>19.3 %</td>
</tr>
<tr>
<td>Some college</td>
<td>35</td>
<td>12.8 %</td>
</tr>
<tr>
<td>Community college graduate</td>
<td>39</td>
<td>14.2 %</td>
</tr>
<tr>
<td>Completed college</td>
<td>100</td>
<td>36.5 %</td>
</tr>
<tr>
<td>Graduate school</td>
<td>32</td>
<td>11.7 %</td>
</tr>
</tbody>
</table>
Employment Status (n=271)

- Not employed: 13 (4.8%)
- Working full-time: 194 (71.6%)
- Working part-time: 34 (12.5%)
- Working more than 1 job: 6 (2.2%)
- Retired: 14 (5.2%)
- Disabled: 10 (3.7%)

Insurance Status (n=265)

- Private: 49 (18.5%)
- Group: 122 (46.0%)
- Medicare: 27 (10.2%)
- Medicaid: 12 (4.5%)
- None: 46 (17.4%)
- Other: 9 (3.4%)

* Percentages may not equal 100% to rounding

The pre- and post intervention responses are shown in Table 2. Correct responses are presented in bold type. A significant increase (p < .001) was observed in items 2, 4, 5, 6, and 8 in the pre-test/post-test scores. Additionally, item 7 showed a significant increase (p < .05) in the post-test score in relation to the pre-test. For each of these items the largest decrease in response choice was in “don’t know/not sure”.

<table>
<thead>
<tr>
<th>Question (n)</th>
<th>Pre %</th>
<th>Post %</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is hypertension? (n=214)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. High blood sugar</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>b. <strong>High blood pressure</strong></td>
<td><strong>88</strong></td>
<td><strong>93</strong></td>
<td><strong>5</strong></td>
</tr>
<tr>
<td>c. Being overweight</td>
<td>2</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>d. High calorie diet</td>
<td>2</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>2. What should your target blood pressure be? (n=228)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Greater than 140/90</td>
<td>4</td>
<td>0</td>
<td>-4</td>
</tr>
<tr>
<td>b. Between 120/80 and 140/90</td>
<td>29</td>
<td>21</td>
<td>-7</td>
</tr>
<tr>
<td>c. <strong>120/80 or less</strong></td>
<td><strong>51</strong></td>
<td><strong>78</strong></td>
<td><strong>27†</strong></td>
</tr>
<tr>
<td>d. Don’t know/not sure</td>
<td>16</td>
<td>1</td>
<td>-15</td>
</tr>
<tr>
<td>3. What is diabetes? (n=226)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. <strong>High blood sugar</strong></td>
<td><strong>95</strong></td>
<td><strong>97</strong></td>
<td><strong>2</strong></td>
</tr>
<tr>
<td>b. High blood pressure</td>
<td>2</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>c. Being overweight</td>
<td>2</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>d. High calorie diet</td>
<td>1</td>
<td>1</td>
<td>&gt;1</td>
</tr>
</tbody>
</table>
4. **What should your target glucose (blood sugar) be?** *(n=229)*
   - Greater than 200: 2, 1, -1
   - **Between 100 and 200**: 24, 39, 15†
   - Less than 100: 42, 54, 12
   - Don’t know/not sure: 32, 6, -28

5. **Body Mass Index (BMI) is a measure of body fat on?** *(n=230)*
   - Muscle mass: 15, 5, -10
   - **Height and weight**: 57, 86, 29†
   - Health status: 3, 2, -1
   - Don’t know/not sure: 26, 7, -19

6. **What should your body mass index (BMI) be?** *(n=229)*
   - Greater than 30: 4, >1, -3
   - Between 25 and 29: 20, 22, 2
   - **Less than 25**: 27, 69, 42†
   - Don’t know/not sure: 50, 9, -41

7. **What should your cholesterol be?** *(n=226)*
   - Greater than 200: 1, 2, 1
   - **Between 126 and 200**: 37, 45, 15*
   - Less than 126: 31, 46, 15
   - Don’t know/not sure: 32, 8, -24

8. **What are risk factors?** *(n=207)*
   - Conditions or behaviors that make me healthier: 10, 5, -5
   - **Conditions or behaviors that make it more likely that I will develop disease**: 82, 93, 11†
   - Conditions or behaviors that make me smarter: 2, 1, -1
   - Conditions or behaviors that help me lose weight: 6, 1, -5

9. **Which of these are risk factors you can change?** *(n=230)*
   - Age: 1, >1, >1
   - Race: 0, 0, 0
   - Family history: 0, 0, 0
   - **Weight**: 99, 98, -1

10. **Which of the following are risk activities you cannot change?** *(n=226)*
    - Physical inactivity: 1, >1, >1
    - Weight: 0, 0, 0
    - High blood pressure: 3, 1, -2
    - **Family history**: 97, 99, 2

*Note: *= p < .05, † = p < .001. The correct answers are bolded. Percents may not equal 100 due to rounding.
Discussion

Mississippi reports some of the highest diabetes, hypertension, and cardiovascular disease prevalence rates in the nation. Though highly preventable, a general lack of knowledge regarding the risk factors and preventive measures associated with these conditions complicates efforts to reduce their incidence and prevalence. Moreover, the first goal of Healthy People 2020 is to help individuals of all ages increase life expectancy and improve their quality of life, and the purpose of Objective 7 is to increase the quality, availability, and effectiveness of educational and community-based programs designed to prevent disease and improve health and quality of life. Focusing a prevention education program on the priority areas of health already identified as areas of concern by Mississippi Delta residents was key to the planning, implementation, and evaluation of the ATTACK program.

ATTACK also incorporated an innovative design in that it moved education into practice among its participants. While many prevention programs focus on the changes in knowledge among its participants, this novel design incorporated what is learned and had participants apply that knowledge into real life situations and surroundings. While focusing on chronic health conditions of Mississippi Delta residents, it also provided an opportunity to highlight the strengths of its participants and showcase application of knowledge into preventative health behavior changes.

Serious challenges to the complete implementation and evaluation of ATTACK were converged around issues related to the sudden and premature discontinuation of funding. Notice of immediate discontinuation of funding was received unexpectedly from project managers with four months remaining in the twelve month project period. The funder had received notice that they would not be eligible for continued funding from the federal government, and restructuring of services and programs to salvage the organization became their primary focus. Specifics were not provided about the selection process for projects discontinued prematurely, however, new projects (like ATTACK) were one of the first to be terminated. As a result of two days notice of termination, all outstanding scheduled programs, follow-up biometric measurements, and follow-up health appraisals had to be cancelled.

Although some follow-up health appraisals and biometric measurement had been completed at some sites, comprehensive evaluations of the program cannot be reported. Sites were staggered in pretest measurements and completion of health education prevention program with four-month follow-up post-test measures. Thus, continued implementation and full evaluation with follow-up measurements were not possible in all sites. However, results from the knowledge pre and post-test shed incredible light into the health education status of many Mississippi Delta residents.

Table 2 lists the pre and post-test knowledge questions. While definitions about what a disease is are important to understanding the disease, applications of what optimal levels of certain indicators (i.e. blood pressure rates, glucose rates, cholesterol, and BMI) are may be lacking. If residents do not know what healthy levels are for many chronic diseases, how can they strive toward attaining a healthier lifestyle? Findings from Table 2 demonstrate that many
of the health education messages on Mississippi’s chronic diseases are not getting to the appropriate individuals

**Conclusion**

*ATTACK* was a community health prevention and education program addressing the Mississippi Delta’s prevalent chronic diseases with strong emphasis on cultural adaptations and adult learning. *ATTACK* focused on the complications of and worked to strengthen the talents of everyday citizens in underserved communities. The program not only emphasized changing knowledge, it moved education into practice. By taking what is taught in “the classroom,” and assisting community individuals with grocery shopping and label reading in real life situations, participants can apply the skills learned and make health enhancing decisions. By working with community individuals to understand their diabetes and hypertension conditions, adherence to prescribed physician’s regimes can be improved, and noncompliance rates can be reduced.

Our analysis revealed a significant increase in participants’ knowledge of target blood pressure, blood glucose, cholesterol, and BMI levels following four educational sessions. These findings suggest that further educational efforts should focus on culturally adapted health education sessions with appropriate adult learning modalities, opportunities for follow-up measurements, and opportunities for adaptation of education into practice which should improve the quality of life of Mississippi Delta residents by reducing the prevalence of diabetes, hypertension, and cardiovascular disease in Mississippi.
References


Mississippi State Department of Health, Mississippi Chronic Illness Coalition-CVD Advisory Committee, Mississippi Task Force on Heart Disease and Stroke Prevention, eds. (2004). *Mississippi State Plan for Heart Disease and Stroke Prevention and Control*. Jackson, MS: MSDH.


