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The Value of Diabetes Self-Management Programs for African Americans in Community-Based Settings: A Review of the Literature

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Diabetes affects individuals in all cultures, but the prevalence is predominately higher among minorities. African Americans are disproportionately affected by this chronic illness, making diabetes a common concern in the African American culture. Because of diabetes, African Americans have higher rates of blindness, kidney failure, and non-traumatic limb amputations (Centers for Disease Control and Prevention (CDC), 2014). Tight glycemic control or blood sugar values that remain within a specific range can prevent or slow the progression of diabetes complications (American Diabetes Association (ADA), 2011). To improve glycemic control, diabetes self-management education (DSME) programs target lifestyle and behavior modifications with effectiveness reported in African Americans (Samuel-Hodge et al., 2009; Collins-McNeil et al., 2012; Gutierrez et al., 2014).

When looking at the number of African Americans suffering with diabetes, it is quite evident that traditional methods such as pamphlets or videos providing information regarding diabetes have been unsuccessful when implemented as the only strategy. By recognizing the community as an excellent conduit through which diabetes education, health promotion, and preventive health care interventions can occur, can reduce diabetes disparities globally. Therefore, the purpose of this manuscript is to examine community-based health promotion literature relevant to African Americans with diabetes which contributes to the science of community-based nursing.

Review of the Literature

Community-based interventions have been documented in the literature as being successful and can have compelling influences on beliefs and health care behaviors (Sherifali, Greb, Amirthavasari, Gerstein, & Gerstein, 2011). This literature review was conducted to examine DSME interventions relevant to African Americans in community-based settings. A review of the literature was conducted using the online databases CINAHL, PubMed, Web of Science, Scopus, and PsycInfo. Inclusion criteria were English-language articles published between 2005 thru 2014 that reported on DSME in community based settings. Key terms entered into the search engines (“faith-based,” “community-based,” “self-care,” “self-management,” African American,” “diabetes education,” and “diabetes,”) in various combinations. Key concepts related to the model guiding this study, Social Cognitive Theory (SCT) were also examined. The literature search yielded a total of 13 research studies for DSME in faith-based and community-based settings from 2005 thru 2014.

Diabetes Knowledge

Primary care clinics are where most patients are diagnosed and treated for diabetes. Teaching diabetes self-management skills and knowledge can be challenging in the primary care setting, especially when physicians are limited with time spent with patients. Therefore, many patients diagnosed with diabetes may not be receiving diabetes self-management education. Diabetes knowledge affects diabetes self-management, and clearly, literacy affects knowledge development. These DSME programs emphasized and focused on diabetes knowledge and self-management skills. Two of the studies were descriptive (Montague, Okoli, & Gerrier-Adams, 2003; McCleary-Jones, 2011), one was a quasi-experimental intervention (Walker, Steven, & Persaud, 2010), and one was a randomized controlled trial (Williams et al., 2014). All of the studies involved African American adults. Two of the studies used the Diabetes Knowledge Test (DKT) (Walker, Steven, & Persaud, 2010; McCleary-Jones, 2011), one study used the Spoken Knowledge in Low Literacy Diabetes (SKILLD) scale, (Williams et al., 2014), and one study used the Test of Functional Health Literacy in Adults (TOFHLA), and the TOFHLA Numeracy Test (Montague, Okoli, & Gerrier-Adams, 2003).

Montague, Okoli, and Gerrier-Adams (2003) conducted a literacy study of eighty-one African Americans with diabetes, and found that 33% of participants had minimal to poor functional literacy (Montague et al., 2003). Poorly managed diabetes among African Americans has been associated with low levels of diabetes literacy resulting from low levels of literacy in general, low socioeconomic status, and lack of access to diabetes information (Jackson, et al., 2006). A systematic literature review from 1980 to 2003 found that low literacy was associated with poor medication adherence, increased hospitalization, and decreased glycemic control with increased reports of microvascular and macrovascular diseases among African Americans (McCleary-Jones, 2011).

Similarly, McCleary-Jones (2011) conducted a descriptive study evaluating health literacy and its relationship with diabetes knowledge, self-efficacy and diabetes self-management among African Americans. The author used Bandura's Social Cognitive Theory to guide this study. A convenience sample of 50 African Americans participated in this study. Health literacy was evaluated by using the Rapid Estimate of Adult Literacy in Medicine (REALM) questionnaire. The Diabetes Knowledge Test (DKT) was used to evaluate diabetes knowledge. The Summary of Diabetes Self-care Activities questionnaire (SDSCA) was used to assess diabetes self-management behaviors. The Diabetes Self-Efficacy Scale evaluated the level of confidence a person had in performing

self-care activities. The author hypothesized that a correlation existed between scores on the REALM and DKT with the score on the SDSCA among African Americans with diabetes. The findings revealed statistically significant findings between health literacy and diabetes knowledge. Diabetes knowledge was positively associated with dietary self-care activities (McCleary-Jones, 2011).

Walker, Steven, and Persaud (2010) sought out to increase knowledge and self-management of diabetes among African American with type 2 diabetes. This intervention consisted of 3 two-hour interactive sessions regarding diabetes knowledge, diabetes complications, and diabetes self-management. Diabetes knowledge was evaluated using the Diabetes Knowledge Test (DKT) scale. Outcome indicators for this study included baseline: (a) physiological measures, (b) self-report of exercise activities, (c) diet recall, (d) diabetes adherence, and (e) blood glucose levels. The study results revealed a statistically significant improvement in diabetes knowledge. There were no improvements in hemoglobin A1C (HbA1C), body mass index (BMI), and weight. (Walker et al., 2010). This may have been related to the interventions. Both prior studies samples consisted African Americans. The interventions provided by each study were not culturally tailored to meet the needs for the sample population. Walker et al. (2010) used nursing students to help implement their study, who most likely were not part of the community and could not provide peer support for community members.

Although participants in this study had no initial improvements in the physiological outcome indicators after the intervention, the improvement in diabetes knowledge may eventually lead to improvements in HbA1C, and weight reduction. Acquiring diabetes knowledge has the potential to improve diabetes self-care behaviors.

Lastly, Williams et al. (2014) conducted a randomized controlled trial evaluating a culturally tailored community-based group DSME among African Americans. A total of 25 participants completed the study. The outcome indicators included: (a) demographic variables, (b) self-management questions, (c) diabetes knowledge, (d) self-efficacy, (e) problem-solving skills, (f) HbA1Cs, (g) weight, height, and BMI, and (h) general physical and mental health status. The Spoken Knowledge in Low Literacy Diabetes (SKILLD) scale was used to evaluate diabetes knowledge. The Medical Outcome Study (SF-12) scale assessed physical and mental status, and confidence in diabetes management was assessed by the Diabetes Empowerment Scale-Short Form (DES-SF). The study findings indicated a decrease in HbA1Cs levels but this finding was not statistically significantly different. In addition, there were statistically significant

diabetes knowledge and foot care findings (Williams et al., 2014). All four studies gave insight into the importance and the need for diabetes education. Also, these studies validated the need for designing relevant and effective educational materials to help individuals with low literacy levels.

Symptoms Management

People with diabetes oftentimes experience symptoms throughout the course of the disease and lack understanding as to why these symptoms occur. Bhattacharya (2012) conducted a qualitative study examining the factors influencing diabetes self-management among African American adults. When the participants were asked about symptoms experienced after being diagnosed with diabetes, the participants were unable to relate the symptoms to diabetes, instead they contributed the symptoms to old age. In addition, the participants interpreted nutrition and physical activity guidelines as impractical and culturally irrelevant and medication non-adherence was found to be due to inadequate knowledge of diabetes as a chronic disease (Bhattacharya, 2012).

DSME has the potential to provide participants with the necessary information to acquire the knowledge to recognize signs and symptoms associated with their illness and about treatments for acute complications. Lorig, Ritter, Villa, and Armas (2009), examined a community-based, peer-led intervention. Evaluation measures included: (a) health status, (b) lifestyle behaviors, (c) health care utilization, (d) self-efficacy, (e) HbA1C, (f) depression, (g) symptom management, and (h) diabetes knowledge. Self-efficacy was assessed using the diabetes self-efficacy scale. Health care utilization was measured by self-report, depression was evaluated with the Health Distress scale, and the Patient Activation Measure (PAM) scale was used to assess diabetes knowledge. Lifestyle behaviors were assessed. The findings revealed statistically significant improvements in depression, symptom management and healthy eating (Lorig et al., 2009). Diabetes self-management helps participants recognize and treat signs and symptoms of acute complications such as hypoglycemia which in turn may decrease unnecessary use of the health care system.

Diabetes Self-Management

According to the American Diabetes Association (ADA), DSME is the continuing process of providing knowledge, acquiring the skills, and having the capability for diabetes self-care (ADA, 2011). This process incorporates skills necessary to make informed decisions, goal setting, and managing the demands of living with diabetes and is guided by evidence-based standards (Haas et al., 2012). However, for most African Americans with diabetes, making healthy choices poses

challenges, because friends and families are often insensitive to the needs of the person who has diabetes. For example, women are usually responsible for shopping and cooking for the family and may purchase foods preferred by other family members, thus making their food choices at home more difficult. In the work place friends or colleagues are not necessarily mindful of the person who has diabetes. Eating healthy can be expensive, especially when you live in communities where grocery stores are out of reach and fast food stores are in reach. Thus, for many African Americans, cost and transportation can be a major barrier to healthy living. Barriers to DSME were reported by Chlebowy, Hood, and LaJoie (2013) in the study exploring gender differences in diabetes self-management among African American adults. The findings indicated that for men barriers to diabetes self-management were: lack of family support, lack of time, and lack of knowledge. For women, barriers to self-management were lack of finances, embarrassment, negative outlook, and perceived lack of disease control (Chlebowy, Hood, & LeJoie, 2013).

Johnson and Nies (2005) conducted a qualitative study to explore barriers to health promoting behaviors of African Americans. The sample consisted of twenty-one African American adult participants, twelve resided in rural areas and nine resided in metropolitan areas. Focus group interviews were used to collect data and three themes emerged from the data: cost, not having enough time, and lack of motivation. In the first theme both groups identified cost as a barrier, however, the metropolitan group felt that cost was a factor but not an obstacle for being healthy. The rural group felt cost was a primary barrier for eating and living healthy. For example, one respondent indicated that eating healthy is expensive, although the desire to eat healthy exists, the funds are limited. Fast foods are easily accessible and less expensive and healthy foods are expensive and inaccessible (Johnson & Nies, 2005). Another theme identified was lack of time; both groups agreed that scheduling was a major issue. Health promoting behaviors interfered with work, family, and home obligations. Many participants felt that there were not enough hours in the day to participate in health promoting activities. Lack of motivation was the third theme. Both groups lacked motivation for various reasons such as long work hours, fatigue, home priorities, money, transportation, unsafe neighborhoods, and other personal reasons (Johnson & Nies, 2005). It is apparent that African Americans face many challenges and barriers such as transportation issues and access to healthy nutrition that may prohibit them from practicing adequate self-care activities, therefore, community based diabetes interventions are deemed appropriate to address the unique needs of this community.

Steinhardt, Mamerow, Brown, and Jolly (2009), examined the effects of a Diabetes Coaching Program (DCP) on resilience and diabetes self-management. A convenience sample of 16 African Americans with type 2 diabetes participated in the study. The authors used a pre-experimental, 1-group pretest-posttest design to test the feasibility of the DCP. Outcome indicators examined included the following: (a) resilience, (b) coping strategies, (c) diabetes empowerment, (d) depression symptoms, (e) diabetes self-management, (f) and physiological measures (BMI, glucose, HbA1C, lipids, and BP). The results revealed statistically significant improvements in diabetes self-management and empowerment, weight reduction, total cholesterol, and blood pressure (Steinhardt et al., 2009). These results revealed the importance of health coaching and the impact it can have on diabetes self-care behaviors. It also demonstrated the need for health care professionals to serve more in the coach role. Sometimes individuals need to be coached into adopting healthier lifestyle behaviors. Coaching may be an important part of an intervention designed to help African Americans successfully manage their diabetes.

Another study conducted by Lynch, Liebman, Ventrelle, Avery, and Richardson (2014), examined a community-based group intervention on self-management behaviors and peer support for weight reduction among African Americans diagnosed with diabetes and hypertension. A total of sixty-one participants were randomized into two groups: (a) the Lifestyle Improvement through Food and Exercise (LIFE) intervention, or (b) the control group. The classes were facilitated by a registered dietitian and two African American peer supporters. The outcomes measured for the study included: (a) height and weight, (b) nutrition patterns (c) physical activity and (d) quality of life. The Summary of Diabetes Self-Care Activities (SDSCA) scale was used to assess diabetes self-care practices. Treatment success was defined as 5% weight reduction and 0.5% reduction in HbA1C at 6 months' post intervention. The results of this study were reduction in Hb A1C, and improvements in healthy eating, physical activity, and knowledge of diabetes nutrition. There were no differences in weight reduction between the two groups (Lynch et al., 2014).

This study demonstrated the importance of peer support, which is greatly needed among diabetes patients. Group intervention allows participants to share stories and learn from each other. Group intervention could be considered a motivational strategy, because people motivate others to change. These aspects of an education intervention for African Americans with diabetes could be important to improve diabetes self-care markers for these persons.

Self-Efficacy

Self-efficacy is having the confidence and the ability to carry out a given task. The greater the confidence the greater the self-efficacy. Several research studies documented the applicability of the concept self-efficacy to diabetes self-management. Spencer et al. (2011) examined a culturally tailored, behavior-theory-based community health worker intervention for African Americans and Latino adults with type 2 diabetes for improving blood glucose control. In this study, 164 African American and Latino adults were randomized into a Community Health Worker (CHW) intervention group or a control group. Both groups received information on healthy eating and physical activities. The intervention group received diabetes education and two home visits. The home visits addressed diabetes self-management goal setting. Participants also received one clinic visit with their primary care provider. The program evaluated the following outcome indicators: self-management knowledge, diabetes self-management, diabetes-specific psychological distress, diabetes self-efficacy, physical activity, and dietary practices. Participants' HbA1C and low density lipoprotein (LD) levels were abstracted from medical records. There were several statistically significant outcome indicators, HbA1C at baseline was 8.6 to 7.8% post intervention for the intervention group compared to 8.5% baseline to 8.5% post intervention for the control group. Other statistically significant results noted were a decreased LDL level and improved diabetes knowledge for those in the treatment group (Spencer et al., 2011).

Similarly, Peek et al. (2012) conducted a study with the objective of testing patient interventions that combined culturally tailored diabetes education and shared decision-making training. A total of 21 participants were recruited. The outcome indicators for this study included (a) diabetes self-management, (b) system management, (c) diabetes knowledge, (d) glucose monitoring, (e) self-efficacy, (f) HbA1C, and (g) LDL levels. Diabetes self-management was evaluated by using the Summary of Diabetes Self-Care scale. There were statistically significant improvements in several outcome indicators including self-care, glucose monitoring, and HbA1C levels (Peek et al., 2012). Both of the prior studies highlighted the importance of empowering individuals to take control over their diabetes disease. These findings also demonstrated that diabetes is an illness that can be managed. Both studies focused on culture, which reinforces the importance of developing and implementing cultural specific interventions.

Community-based Studies

To develop appropriate DSME programs for African Americans, consideration for health beliefs, nutritional practices, and religious beliefs must be considered. Spirituality plays an important role in the lives of many African Americans. Spirituality is expressed in all areas of the African American family including work, recreation and well-being. Active involvement of healthcare providers and church health representatives (CHRs) with the participants, promote a sense of social support and may influence participant engagement in promoting healthy lifestyle modifications (Frank & Grubbs, 2008).

Because spirituality and religion are an important part of health beliefs for many African Americans, considering these elements may be integral in planning diabetes self-management interventions. Samuel-Hodge et al. (2009) conducted a randomized study to test the efficacy of a culturally tailored faith-based 12-month intervention for African Americans to improve diabetes self-management. The participants assigned to the special intervention (SI) group received the following: (a) individual counseling and group education sessions, (b) monthly phone contacts, and (c) encouragement postcards, followed by a 4-month reinforcement phase. The participants assigned to the minimal intervention (MI) group were mailed 2 pamphlets, and 3 bimonthly newsletters with general health information. Also, church diabetes advisors (CDAs) facilitated the interventions. The researchers solicited information to determine the following: diabetes self-management behaviors, physiological measures (HbA1Cs, weight, and blood pressure), diabetes knowledge, and quality of life indicators. A total 201 participants were recruited for the study. Findings indicated significant improvements in diabetes knowledge and diabetes quality of life (Samuel-Hodge et al., 2009).

The results of this study showed that the participants in the intervention group demonstrated improvements in diabetes knowledge and quality of life compared to the control group. This study gives insight into the importance and the need for intense diabetes education and confirmed that the traditional method of providing education was less effective. In addition, the study demonstrated the need for culturally tailored diabetes interventions incorporating one-on-one and group strategies to address participants' learning styles. These aspects of intervention design could be important for interventions for African Americans with diabetes.

While the previously mentioned researchers conducted a randomized study, Collins-McNeil et al. (2012), took a different approach. This group of

researchers examined a culturally tailored 12-week faith-based DSME intervention for African Americans. Sessions were led by healthcare providers and clergy persons. This study evaluated diabetes self-management behaviors, psychological behaviors (stress and anxiety), and physiological measures. DSME was delivered through various strategies, including the integration of spirituality into the curriculum. Pre and posttest comparison were used to evaluate the physiological indicators. The appraisal of diabetes self-management was measured with a visual analogue scale (VAS). Depression, anxiety, and stress symptoms surrounding diabetes were assessed using the Center for Epidemiological Studies Depression Scale (CES-D), Spielberger State-Trait Anxiety Inventory (STAI), and the Perceived Stress Scale (PSS). The findings revealed statistically significant improvements in medication adherence, nutrition, and daily foot checks. There were statistically significant effects on the following outcomes: systolic blood pressure decreased by 9mmHg, there was a 10mg/dL reduction in blood lipids, an increase in high density lipoprotein (HDL) of 4mg/dL and a reduction of 26 mg/dL in triglycerides. Also, intervention participants had an average 5.3 cm reduction in waist circumference, a weight reduction average of 2.2 pounds, and their physical activity increased. Although the other measures were not statistically significantly different, the post-test scores showed improvement in depressive symptoms and HbA1Cs levels (Collins-McNeil et al., 2012).

This study demonstrated the importance of collaboration among health care providers and clergy in terms of helping persons with diabetes successfully managed their illness. Within this study, the diabetes self-management intervention was delivered by the health care provider and the clergy person. People who attend church regularly are more likely to participate in health promoting behavior that is, supported by the pastor or clergy. Programs that incorporate health care professionals to deliver diabetes education demonstrate to the participants that the provider cares for them personally and not just professionally.

Gutierrez et al. (2014), conducted a 12- week DSME faith-based feasibility study. The goal of this study was to evaluate a diabetes negative outcomes prevention program for African Americans and Latinos. The intervention was facilitated by a nutritionist and a diabetes educator. The curriculum integrated spiritual and practical principles relating to diabetes self-management behaviors. Several outcome indicators were assessed including: weight, diabetes knowledge, self-management behavior, attitudes, and health-related quality of life. The health-related quality of life was assessed with four questions related to: (a) self-reported knowledge and consumption of healthy foods,

unhealthy foods, and healthy food quantity, (b) frequency and duration of physical activity in the prior 30 days, (c) attitudes and motivation regarding food consumption and physical activity, and (d) self-reported changes in energy levels, endurance, general health and levels of stress. The questions were closed-ended using a Likert-type response format. The findings of the study showed improvements in the following areas: diabetes knowledge from baseline (90.8%) to endpoint (97.1%), increased physical activity from baseline (124 days) to endpoint (162 days), and increased healthy eating from baseline (66.7 days) to endpoint (77 days). At the completion of the study, participants reported better physical endurance (91%), increased energy levels (75%), and a more active lifestyle (Gutierrez et al., 2014).

A program that fosters collaboration between health agencies and faith-based institutions can have compelling effects on quality of diabetes education, poor health prevention, and health promotion. In one program, Johnson et al. (2014) provided DSME that consisted of two components: (a) diabetes knowledge, and (b) support for self-management and behavioral change. The DSME was delivered by an outside agency, and participants received support services from trained case managers (CM) provided by the agency. The program was designed to provide and reinforce DSME in underserved communities. Within this program the CMs collected data through surveys. Outcome indicators included: (a) assistance with diabetes management, (b) diabetes self-care practices, (c) patients' - provider interactions, (d) patient perception about their healthcare provider, (e) health related quality of life, (f) access to the emergency department, (g) confidence level, and (h) the individual's opinion about diabetes self-management (Johnson et al., 2014). The study findings revealed statistically significant improvements in: (a) participant's trust in health care providers, (b) health related quality of life indicators, (c) interaction with health care provider, and (d) support for diabetes self-management, and (e) the clinical measure, HbA1C from baseline [7.9%] to end point [7.3%]. (Johnson et al., 2014).

Studies demonstrated the importance of collaboration among faith-based institutions and community agencies in terms of screening strategies and helping persons with diabetes managed their illness. One study used the faith-based institution as a screening site. Designing faith-based interventions for diabetes screening can help in the early identification of diabetes, and with early identification and proper treatment, can lead to a reduction in the negative sequelae associated with poor diabetes self-care. Diabetes self-management education was provided by a community agency. The studies demonstrated the importance of collaboration among communities and faith-based institutions,

which can have compelling effects on the African American community of diabetics at large.

Culturally-Tailored Interventions

The health disparity in diabetes that exists for African Americans is partly because teaching strategies addressing diabetes and self-care management may not take into consideration the health beliefs, nutritional practices, religious beliefs, and socioeconomic status of many African Americans. Traditionally, African Americans have dietary beliefs and physical activity patterns that may have been passed down through generations. These include eating fried foods and foods high in sodium. Community-based approaches have been documented in the literature as being successful in helping African Americans better manage their diabetes. There is clear evidence of the value of culturally tailored interventions for African Americans over the usual interventions implemented in traditional settings. Several studies indicated this outcome.

Collins-McNeil et al. (2012), used a 12-week faith-based approach to diabetes education among African Americans residing in low resource neighborhoods. The methods implemented were culturally appropriate by using culturally targeted written materials, videotapes, and African American presenters to deliver the content. The participants in this study completed six weekly 2-hour sessions of face-to-face diabetes education and then participants were instructed to practice self-management behaviors independently for an additional six weeks. Study results revealed improvements in dietary habits, diabetes self-care, and metabolic care for the African American participants (Collins-McNeil et al., 2012). Also, Samuel-Hodge et al. (2009) conducted an eight-month faith-based intervention program to improve diabetes self-management among African Americans. The intervention included 12 biweekly sessions lasting 90 to 120 minutes per session. The educational components were conducted in several churches where the participants were predominantly African Americans and four of the sessions were led by health professionals from the community selected by the church diabetes advisor. The findings indicated significant improvements in diabetes knowledge and diabetes related quality of life among African Americans.

McDowell, Wallace, Tillery, and Cencula (2011) examined a 20-week faith-based intervention in a two-year period designed to reduce obesity among African Americans. The interventions were culturally targeted and included nutrition sessions delivered once every two weeks along with physical activity and motivational sessions. The physical activity sessions incorporated traditional and nontraditional activities, such as line dancing and salsa dancing. Each intervention session began and ended in prayer (McDowell et al., 2011). Samuel-

Hodge et al. (2009) and McDowell et al. (2011) conducted their intervention over a longer period of time, whereas Collins-McNeil (2012) conducted her intervention over 12 weeks. Although the dosages varied in each of the studies, the findings indicated across the board that culturally tailored approaches in faith-based settings could produce positive outcomes among African Americans with diabetes.

When identifying major influences for African Americans, religion and spirituality are major factors. Faith-based interventions that incorporate active involvement of the pastor fosters a sense of social support and addresses spiritual and cultural values among the participants. Pastors are typically the gatekeepers for access to their church members and are essential in developing a trusting and working relationship among members and communities. Faith-based health teaching can have a lasting effect on church member's behaviors by linking practical principles with biblical principles. Thus, culturally tailored diabetes self-management education in community settings can lead to overall health improvements among African Americans with type 2 diabetes. Developing and implementing culturally tailored diabetes self-management interventions in community-based settings may help reduce the diabetes disparities plaguing African Americans.

Conclusion

The aggregate of the studies analyzed may allow for some generalizations. For example, it is reasonable to view diabetes self-management education delivered in community-based settings effective in improving diabetes outcome indicators. The results of these studies lead to possible solutions that researchers can implement to reduce diabetes disparities and improve the quality of patients suffering with diabetes. The review of literature confirmed that traditional delivery of diabetes self-management education is changing. More research is needed in community-based settings focusing on culture, empowerment, coaching, and spirituality. Gaps identified from the review of the literature include: (a) the need to recruit and retain an adequate representation of African Americans into research studies, (b) a need to develop and implement studies focusing of empowerment, and (c) more studies are needed to examine the effectiveness of faith-based interventions.

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