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ORIGINAL PAPER

Diabetes: Christian Worldview, Medical Distrust and Self-Management

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Abstract To inform the development of a combined diabetes prevention and self-management intervention in partnership with church communities, this study sampled African American church leaders and members ($N = 44$) to qualitatively study religious beliefs and practices, diabetes prevention and self-management behaviors, and related community actions. Prior to commencing the study, internal review board approval was obtained. Although not required, community consent was officially provided by the church pastors. Individual consent was subsequently obtained from eligible community members who expressed an interest in participating in the study. Following a participatory action research approach, the inquiry group method was used. Qualitative data were analyzed with content analysis. Findings revealed Christian worldview, medical distrust and self-management as prominent themes. Findings suggest that diabetes providers address religious orientation in the provision of care with attention to rebuilding trust with the African-American community to improve health outcomes.

Keywords African Americans · Diabetes · Churches · Christian · Medical distrust · Self-management

Introduction

Type 2 diabetes (T2D) disproportionately affects African Americans with diabetes prevalence and premature death rates two and three times higher than those of whites,

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respectively (Centers for Disease Control [CDC] 2011, 2013). Among African Americans, disease burden reflects a gap between what we know can prevent T2D onset or optimize its treatment outcomes and the care actually received. T2D prevention and self-management interventions demonstrate a 10-year delay or even prevention of T2D onset in adults with prediabetes and 0.76 % reduction in mean A1C level (gold standard assay for glycemic control) in adults with T2D (Diabetes Prevention Program [DPP] 2013; Haas et al. 2012; Knowler et al. 2002, 2009; Norris et al. 2002). Clinically relevant, each 1 % reduction in mean A1C level is related to a 37 % decrease in the risk of kidney and eye disease and a 21 % reduction in any diabetes complication or death (DCCT 1993; UKPDS 1998). For African Americans, receipt of T2D prevention and self-management education is modest with few offered in community-based, culturally sensitive settings.

Beginning research indicates that T2D prevention and self-management interventions may be translated to church settings (Boltri et al. 2008; Davis-Smith et al. 2007; Dodani and Fields 2007; Goldfinger et al. 2008; Yeary et al. 2011; Ivester et al. 2010; Faridi et al. 2010). However, scant research examines combining prevention and self-management interventions—despite their common components (e.g., T2D education and behavioral strategies for healthy dietary and physical activity patterns)—into one combined intervention to target community populations (Newlin et al. 2011). Little is known about designing and implementing diabetes programs in partnership with church communities. The Centers for Disease Control and extant literature indicate that formative qualitative data collection from community stakeholders is an imperative step in developing collaborative health promotion programs (Bolton and Georges 1996; Campbell et al. 1999; Resnicow et al. 2001; Clay et al. 2005).

Therefore, to inform the development of collaborative health promotion programs targeting African Americans with or at risk for diabetes T2D, this study explores qualitatively church community values, diabetes prevention and self-management behaviors, and related community-based actions among African-American church stakeholders, including African-American churchgoers and their leaders.

Literature Review

African-American Religious Beliefs and Values

African-American churches are social organizations characterized by tight, supportive religious networks based on shared religious beliefs and values often guided by Christian traditions (Melkus and Newlin 2009; Newlin and Melkus 2010; Purnell and Paulanka 2003). African-American church communities, consistent with Christianity and their African heritage, largely believe that the entire universe is sacred and that the spiritual and physical realms coexist harmoniously (McRae et al. 1998). In relation to health, it follows that wellness reflects harmony while illness may reflect disharmony, sin or turning away from God. Restoration of health or harmony is often viewed as fostered through engagement in spiritual practices—such as prayer and laying on of hands—and both folk and more traditional medical practices (Melkus and Newlin 2009; Newlin and Melkus 2010; Purnell and Paulanka 2003). Regardless of practices chosen, however, God or Jesus is commonly believed to be the cause of health and healing, which may be realized through faith practices and/or healthcare action based on divinely inspired medical knowledge. Viewed as a gift from God and related to spiritual well-being, health is valued highly among African-American churches (Abrums 2000, 2004; Newlin et al. 2002; Markens et al. 2002).

African-American churches often believe that they are charged with promoting and preserving the health needs of its members and those of the larger community (Levin 1984; McRae et al. 1998; Cnaan 1999, 2002; Ammerman et al. 2003). Following a mission of healing and service, they have historically promoted outreach programs, providing health care—screening, education and/or clinical care—to promote health among medically underserved populations (Baskin et al. 2001; Peterson et al. 2002). In fact, national data indicate that African-American congregations provide more healthcare services for socioeconomically disadvantaged populations than white congregations (Chavez and Higgins 1992). Community service, such as the provision of health promotion programs, is a core value among African-American churches, reflecting Jesus' ministry to those in need (Cnaan 1999, 2002).

Diabetes Prevention and Self-Management Behaviors

African Americans with or at risk for diabetes T2D frequently report diabetes prevention and self-management behaviors may positively influence diabetes outcomes (Anderson et al. 1996; Maillet et al. 1996; Egede and Bonadonna 2003; Boltri et al. 2006). One qualitative study, sampling urban blacks with diabetes, indicated that participants believed that it was important to understand diabetes management and practice-related behaviors—including diet, exercise and medication administration—in order to prevent disease-related complications (Anderson et al. 1996). Others, though, express limited confidence in medical recommendations and lack of control over their diabetes, describing it as a "death sentence" regardless of self-management behaviors (Egede and Bonadonna 2003).

Poor access to or quality of health care may adversely affect levels of diabetes prevention and self-management behaviors (Bolton and Georges 1996). Estimates suggest that less than 50 % of African Americans with diabetes receive disease-related education while those at risk receive far less given limited reimbursement for diabetes prevention education.

Investigations indicate that several factors—both provider and patient factors—may interfere with the delivery of diabetes prevention and self-management education. Provider factors may include lack of provider knowledge about current educational standards, cultural differences with patients, time constraints, lack of support staff and low reimbursement rates. Patient factors include healthcare costs and acceptability of health care provided (Chin et al. 2001; Larme and Pugh 2001; Tripp-Reimer et al. 2001; Zgibor and Songer 2001). Individuals with diabetes, for example, may incur substantial out-of-pocket costs for diabetes-related services and as a result may forgo recommended care, such as diabetes education (Zgibor and Songer 2001). In terms of acceptability of health care provided for African Americans with diabetes, the literature indicates that cultural sensitivity in the provision of care is often lacking and ideally should be incorporated into educational programs (Tripp-Reimer et al. 2001; Anderson et al. 1996; Maillet et al. 1996).

Community-Based Actions

Little research has examined community-based actions in developing and implementing diabetes health promotion programs. The church-based health promotion literature, however, suggests that churches may be a viable avenue for implementing collaborative diabetes education programs targeting African Americans (Newlin et al. 2012). Further, church-based diabetes prevention and self-management studies overwhelmingly report use

of group educational formats and tend to document improved outcomes (Boltri et al. 2008; Davis-Smith et al. 2007; Dodani and Fields 2007; Goldfinger et al. 2008; Yeary et al. 2011; Ivester et al. 2010; Faridi et al. 2010). The literature underscores the importance of pastor endorsement, which may facilitate recruitment efforts and participant enrollment (Newlin et al. 2012; Clay et al. 2005). The literature indicates that the type of research orientation adopted and followed throughout the course of the investigation—such as a participatory or project orientation—tends to influence the longevity and sustainability of the health promotion program. Researchers following a participatory action research (PAR) orientation tend to report that church communities assume a level of organizational ownership for the health promotion program following completion of the study (Newlin et al. 2012).

Research has not explored religious beliefs and practices, diabetes prevention and self-management behaviors, and diabetes community actions specifically in African-American church populations. While building on the extant literature, the current study examines these factors in church community stakeholders to inform the development of collaborative diabetes prevention and self-management programs targeting African-American adults.

Methods

Study Design

This study is part of a larger qualitative study exploring diabetes-related health beliefs, values and preferences for community-based diabetes prevention and self-management education across diverse black American (i.e., Nicaraguan, Haitian and African-American) church communities. Using a descriptive, longitudinal research design, the inquiry group method was followed. The inquiry group method is characterized by traditional focus group interviewing (FGI) with the integration of participatory action research (PAR) principles (Parker and Barry 1999). FGI makes use of group interaction to stimulate discussion among participants, thereby fostering insights into and cumulative development of a topic, which may not be accessible outside of a group context (McDaniel and Bach 1994; Safman and Sobal 2004; Robinson 1999; Carey 1995).

Building on traditional FGI, the inquiry method adheres to a participatory process of group exploration that aims, through the generation of local knowledge, to heighten community awareness of health-related concerns and stimulate associated community action in partnership with nurses to improve the health and well-being of communities (Parker and Barry 1999). The inquiry group method is a longitudinal method involving a series of FGIs conducted over time to allow for cumulative generation of local knowledge with ongoing reflection, discussion and validation of findings.

Setting and Sample

This study took place in Dade County, Florida, at two sister African-American Protestant churches. The sampling criteria were tailored in response to community advisory board (CAB) feedback. A CAB—comprised of local leaders, including church leaders and lay black American churchgoers—voiced a preference for study inclusion of *all* interested adult church members, as opposed to church leaders and women with T2D exclusively as originally planned in the study's proposal. The CAB emphasized that diabetes primary and secondary prevention efforts are critically needed to benefit *all* adult church members, respectively, with wide church input warranted. Therefore, eligibility criteria included the

following: (1) 21 years of age or older; (2) English-speaking; and (3) congregational member or leader. Upon gaining community consent from church pastors for congregational research participation, individual eligible participants were consented for enrollment into the study using purposive sampling procedures. Given the study's PAR research approach, coupled with high community interest in the study, a cap was not placed on the total number of enrollments. Further, church members were permitted to enroll throughout the course of the inquiry group process; i.e., before any scheduled FGI.

All participants received monetary compensation for their time and travel with a choice of a $25 gas, phone or grocery store coupon for participation in each focus group. Each church community received a $100 donation upon completion of the entire inquiry group process.

Measures

All participants completed a demographic and health history survey. An interview guide structured the inquiry group processes, collectively involving members from each of the two sister African-American churches. The interview guide addressed the following concepts: (1) faith community values; (2) diabetes prevention and self-management behaviors; (3) and community-based actions for diabetes education, guided by the Centers for Disease Control *Diabetes Community Partnership Guide* (CDC 1999). The interview guide was reviewed and approved by the study's CAB.

Data Collection

Data collection took place longitudinally in accordance with the inquiry group method (Parker and Barry 1999). Over a series of four focus groups, the interview guide questions were posed with data generation and subsequent verification. Each FGI was approximately 90 min in duration. The audiotapes were transcribed with checks for accuracy by three research assistants.

Data Analysis

Quantitative data were entered into an excel file and then imported into SAS for descriptive analysis. Qualitative data were analyzed using Krippendorff's (2004) method of content analysis. With the group as the unit of analysis, an iterative process of categorizing, coding and simultaneously interpreting the data led to the identification of prominent themes and related patterns that best expressed the views of the study participants. Enhancing the credibility or validity of the findings, independent corroboration was achieved. To promote reliability or dependability and confirmability of the findings, an audit trail of the data analysis was established.

Findings

The sample ($N = 44$), on average, was 45 years of age and predominately female (57 %). Most were at risk for diabetes (77 %) based on African-American ethnicity. Those reporting a diagnosis of diabetes (33 %) had diabetes for 9 years on average. Most attended church regularly with 70 % attending three or more times weekly and 14 % reporting two

to three times weekly. Qualitative data analysis identified three prominent themes: (1) Christian worldview; (2) medical distrust; and (3) self-management. Christian worldview was the most salient theme with recurrence throughout the themes of medical distrust and self-management.

Christian Worldview

Participants overwhelmingly expressed Christian beliefs provided a foundation for their worldview, informing their daily lives including their approach to health and well-being. Collectively, participants described their religious worldview as grounded in a personal relationship with God, which is fostered through faith and giving one's life to Jesus. Trusting in God was described as allowing for the manifestation of God's biblical promises, including wisdom and good health. A male congregant explained: "We got to trust God with all our hearts" (Proverbs 3:5)…and "when He say that, He mean it exactly like that." "By our faith we are made whole" (Mathew 9:22). "By the stripes of Jesus," he continued, "we already healed" (Isaiah 53:4–5).

With a Christian worldview, church members gave resounding praise to God for extraordinary healings. A number of participants shared their personal testimonies of God's healing power. One female participant described how her relationship with God healed her depression:

> I used to suffer from depression and was actually hospitalized for it…I hit rock bottom, two nervous breakdowns, everything. But the closer I drew back to God, because I already knew Him before the fall…I was on Zoloft, the highest dose…I began to go to church…began to sing in the choir again…began to teach…youth at the church… and one day… I said…I'm so sick of this medicine… I don't want to take it anymore. So, I stopped taking it…I'm twenty-seven now…That was about five years ago…I depend on God now. He's my joy, He's my strength. That's where I get everything from and know He's able to do EVERYTHING, nothing is impossible with God…I haven't been on a pill since and I will never be on one!

Another participant shared, I am now walking. "I was in a wheelchair for five years" but "God delivered me from four wheels to three inch heels." I was in an automobile accident, she explained, and suffered multiple leg breaks. Although surgeries followed, she continued, "they said I would never walk again." But I am walking with "three-inch heels!"

A church pastor shared he placed his trust in God when diagnosed with a "low blood count." Trusting God, "I went into the hospital smiling and people thought I was crazy coming in emergency smiling in the condition I was in…and they talking blood transfusion." "They said if it [blood count] don't come up you gonna stay in there…Well it came up a point and a half…and they said that's unheard of…there's no way it came up and I hadn't [had] anything." "God made it happen," he said. "It happened because God said so and that's my belief and faith in God."

Medical Distrust

Distrust of medical professionals was expressed widely. Distrust of medical professionals was stimulated by mistreatment of African Americans in medical research, profit motivations and the biomedical model. The biomedical approach to care inhibited patient-provider communication with limited regard for religious beliefs or practices. Medical

distrust, for some, compromised confidence in their providers and encouraged medical vigilance. Recurring in the theme of medical distrust, Christian worldview often provided a framework for managing distrust with reliance on God for medically related guidance.

Unethical research studies targeting the black community were reported as generating medical distrust. As one participant stated "things in the past that's happen[ed]…, the African-American community, the minority community…[was] used in research tests the wrong way." The financial motivations of medical professionals were drawn into question. Is it that "doctors and pharmacists," asked a participant, "…attempt to keep patients on medications for the purposes of making money or…just don't think to take you off them?"

Participants voiced concern about the biomedical model. A male stated:

> I've seen in health care…a focus on so much medicines being given because this is what kills the disease but if you focus on the person you can motivate the person enough to…lose the body weight, to change eating habits…not go to certain restaurants…I am not worried about disease, I am worried about my health.

The biomedical approach to care fueled distrust among participants as their religious belief system, central to their daily lives, received limited regard. Participants indicated they were not provided with sufficient rationales for proposed medical treatments, support for religiously guided treatment preferences or opportunities to negotiate a related treatment plan. In this context, some participants reported forgoing medical advice and holding firmly to their religious convictions. For example, a pastor shared that his doctor does not advise him to fast beyond 3 days, especially without fluids. But, the pastor explained, "I put my faith and trust in God…and fast beyond 3 days every time" "So, I know he [doctor] don't know what he is talking about." "I don't listen to him [my doctor] concerning things that God already done prove," the Pastor explained, "KNOWLEDGE is power…and it starts with the Word of God."

Similarly, another church member spoke to medical distrust, emphasizing the need for vigilance when receiving care. While hospitalized for blood loss secondary to surgery, he refused extensive testing, dietary recommendations and blood transfusions. "I just refused to take anymore of that…and ha[d] solid foods where I can feel more energy…and my blood filled back up." "So you gotta be careful and watch or pay attention to what somebody's suggesting you should…or shouldn't have." "Sometimes," he continued, "doctors make mistakes…so you have to be on top of your own game."

Building on the theme of vigilance, participants further expressed their reliance on God when faced with medical decisions. A male participant shared an experience of consulting God on his brother's surgery. "The Lord said if you [brother] take it you either die or you might…wear a colostomy bag." I told my brother "do not take the surgery" regardless of what the doctor says. After a week of continued medical treatment, surgery was deemed medically unnecessary, he explained. "So, you're [your] own doctor," said the participant. "You consult God…on everything because doctors don't know nothing…God's got the answers…Get the answer from God…and once He give it to you, you stand on that."

Closely related, a participant shared a story when hospitalized for pneumonia, and "they had to do a procedure in order to clear my lung." "They scheduled the surgery and weren't gonna allow me to see the surgeon prior to surgery." "So I told them there will be no surgery on me." "I wanted to look him [surgeon] in his face to see who it was that was gonna be operating on me" before consenting to surgery. Answering the request, the doctor met me and shook my hand. "Once I shook his hand there was a spiritual confirmation that he could go ahead and operate."

Diabetes Self-Management

Grounded in faith, participants expressed responsibility for diabetes prevention or self-management behaviors. Self-management behaviors were most frequently described in terms of medication management, dietary patterns and physical activity.

Managing Medications

Some participants described self-managing diabetes medications independent of medical advice. Others described medication management in terms of integrating medical guidance with God's wisdom.

One male participant, for example, described how he self-managed his insulin therapy to avoid hypoglycemia. He stated:

> Once, I woke up…it was like sixty-five [blood glucose] and I was praying to the Lord because like I saw my hands turning purple and my legs felt real funny. So that's why I tell everybody around me when my sugar is low I'm not gonna take no shot, so I try to keep it around about 200 or 250…And I just talked to the Lord about it and I don't even worry about it and I feel like I got no sugar. It don't bother me…I say its in your hands Lord.

Other participants explained discontinuance of prescribed medication regimens. An elderly women reported she stopped taking the "doctor's [diabetes] medicine" 3 years ago "because I've been on the herbs." While taking herbs, I "just weaned off my medicine and I got a whole briefcase full of medicine that my doctor thinks that I am taking." Another female stated she "took her [mother] off the high blood pressure medicine…You just gotta watch the diet, what you eat and control yourself…and have faith in God."

A male participant stated that he was not alarmed when he learned his blood pressure was high at a recent church-based health screening. "I [had] sort of taken myself off the medications." But, he continued, "I want to advise people to at least use wisdom." "Believe in God and use wisdom," he emphasized, because "I've gone to the doctor, gotten back on pills…and with prayer…I've gone down to 140/90."

Another participant warned that when "going off medications" seek "spiritual advisement" because the "devil…guides us to death, guides us to all the dark powers and all the bad things in life…very craftily even where you may be thinking to yourself in your heart oh God what should I do." Be careful, he continued, when uncertain because "the devil" may be "trying his best to tell you what to do."

Managing Diet and Physical Activity

In expressing responsibility for their diabetes prevention or self-management behaviors, participants emphasized a moderate diet and regular physical activity are essential for good health, including diabetes outcomes. Healthy dietary and exercise patterns were expressed as grounded in self-discipline. With respect to diet, for example, one female stated, "that you can still…eat …things that you like to eat, just in smaller portions. Like, I can't have a big bowl of ice cream, so I condense it into a little eight ounce bowl." "Healthier living," she continued, "doesn't have to be grievous. Just like following God's commandments, it doesn't have to be hard, especially if we are all doing it together." Likewise, regular exercise was reported as facilitated by group church activities, such as "praise walking" or "praise aerobics."

While participants voiced an eagerness to follow a healthy lifestyle, they also expressed barriers to optimal dietary and physical activity patterns. A need for stronger dietary knowledge and skills was widely expressed. One female stated, for instance, "…we don't know exact details, you know, or in depth as far as all the healthy nutrition facts…" Many expressed that scrutinizing food labels would facilitate improved dietary selections. Challenges in obtaining nutrition facts at fast food restaurants were reported. Exposed to the popular media, participants shared learning of dietary strategies through books and television shows, such as *Good Morning America*.

A lack of role models living a healthy lifestyle was also identified as a barrier. A male church member stated:

> I grew up and I see a lot of people in my community grew up not seeing anybody running and jogging, not seeing anybody exercising, not seeing anybody eat a bunch of fruits and fibers. So, its not that we don't have a taste for it, we have to force ourselves to eat it and so…the things that enrich our lives and make us wholesome is much of our trial…

Many concurred with this statement, emphasizing the Church with health fairs and educational programs, for example, may "energize and strengthen" the community. Church members indicated a willingness to work with trusted medical professionals in community-based efforts to address the problem of diabetes. One participant questioned whether doctors may someday send patients to church for healing. Women church members expressed how daily demands served as a barrier to a healthy lifestyle. One female voiced that "with good intentions, wanting to be the best worker, the best Christians, the perfect daughter…the perfect wife…we add things to our plate." We think "I have to do this because nobody else will…if I don't take care of my mom no one else will or if I don't do this at work, its not gonna get done." "Thinking we are doing something good," she continued, "we are actually killing ourselves."

Discussion

The sampled population of African-American adults with or at risk for diabetes reported high rates of church attendance. According to national statistics, African Americans are the most religiously committed ethnic/racial population nationally. More than half of African-Americans (53 %) attend religious services at least weekly with more than three-in-four (76 %) praying daily and almost nine-in-ten (88 %) reporting absolute certainty that God exists. Nearly eight-in-ten African Americans (79 %) indicate that religion is very important in their lives with 79 % reporting affiliation with a Christian faith (Pew Forum 2013).

Christian Worldview

Christian worldview was identified as a predominant theme in the present study. Christian worldview informed the sample's construction and interpretation of reality with Scripture providing an orienting framework. Scripture and prayer, providing to access God's wisdom and guidance, steered health-related decisions, actions and behaviors daily. Similar findings are published in the research literature (Johnson et al. 2005; Boltri et al. 2006; Polzer and Miles 2007; Harvey and Cook 2010; Jones et al. 2006). For example, sampling African American's, a diabetes prevention study identified that the Bible serves as "guidebook to

health" and both faith and prayer as "tools for confronting illness" (Boltri et al. 2006). Anchored by a Christian worldview, the study sample attributed extraordinary healings to God or fulfillment of His biblical promises, which is consistent with other qualitative findings (Polzer and Miles 2007; Abrums 2000, 2004; Benkert and Peters 2005). Similarly, quantitative findings indicate that African Americans, relative to whites, are significantly more likely to believe in miracles and attend faith healing services (Mansfield et al. 2002; King and Bushwick 1994).

Medical Distrust

Uniquely contributing to the diabetes literature, the present study identified distrust of medical professionals as an emergent theme in the analysis. Medical distrust has received limited attention in the diabetes literature while the larger medical literature well documents African-American distrust of medical professionals. Distrust is grounded in the historical experience of racism (Abrums 2000, 2004; Kennedy et al. 2007; Eiser and Ellis 2007). The unethical treatment of African Americans in the Tuskegee Syphilis Study, our nation's history of racially segregated healthcare delivery, and persistent unequal treatment in health care have engendered historical African-American distrust of medical providers (Abrums 2000, 2004; Kennedy et al. 2007; Institute of Medicine 2002, Kirk et al. 2006, Vimalananda et al. 2011; Campbell et al. 2012; Lewis et al. 2010; Lukoschek 2003; Sims 2010; Benkert and Peters 2005). National surveys reveal that African Americans report discrimination occurs "often" or "very often" in African Americans' interactions with white physicians (Malat and Hamilton 2006) and that African Americans place significantly less trust in their physicians relative to whites (Doescher et al. 2000).

The study findings revealed mistreatment of African Americans in medical research, motivations for profit and the biomedical model as stimulating medical distrust in the sampled population. Reports indicate that medical distrust may be fed by an expectation, among African Americans, that they will be experimented on during the course of routine medical care with physicians and pharmaceutical companies conspiring to exploit African Americans (Jacobs et al. 2006; Lukoschek 2003). Further, distrust is fueled by questionable motives of medical professionals as well as objectification or "medicalization" in the healthcare encounter with minimization of patient concerns (Sims 2010; Peek et al. 2010b).

Findings also revealed that medical distrust may compromise confidence in medical providers with inhibited patient-provider communication, an expressed need for medical vigilance and/or refusal for medical care. Studies document distrust may foster "hypervigilance" and discourage care-seeking, patient-provider communication and adherence to prescribed regimens of care (Sims 2010; Benkert and Peters 2005; Jacobs et al. 2006). Likewise, sampling African American's with diabetes, a qualitative study found distrust of white physicians contributed to reduced treatment adherence and less forthcoming communication (Peek et al. 2010b). In a setting of distrust, participants reported holding firm to their faith for medically related guidance. For some African Americans, distrust may be managed by a Christian belief system with understanding that God is in control of all things (Abrums 2000, 2004).

Self-Management

Study results indicated that participants often assumed responsibility for their diabetes prevention or self-management behaviors, often with God's guidance. In terms of medications, some participants self-managed their regimens independent of medical advice

while others self-managed their regimens with the integration of medical guidance, drawing on God's wisdom. The research literature documents that patients, particularly in the setting of medical distrust, may not follow prescribed medication regimens (Peek et al. 2010b, Lewis et al. 2010; Jacobs et al. 2006; Lukoschek 2003). In a study sampling African American's with diabetes, findings revealed that participants believed that doctors place too much trust in prescription medications (46 %), most prescription medications are addictive (40 %), and prescription medications do more harm than good (25 %) (Piette et al. 2010). Additionally, mounting evidence documents African Americans, particularly those with a strong religious orientation, may call upon God to inspire themselves and/or physicians with guidance for medical decisions, including those concerning medication regimens (Abrums 2000, 2004; Polzer and Miles 2007; Polzer 2007; Johnson et al. 2005; Harvey and Cook 2010).

Findings further indicated that the sampled population often assumed responsibility for their diabetes prevention or self-management behaviors in terms of dietary and physical activity patterns. Several participants voiced an eagerness to engage in a healthy lifestyle while others reported ongoing efforts to so. However, gaps in dietary knowledge, limited role modeling and daily commitments to family, church and work served as barriers for some. Likewise, the literature suggests that, among African Americans, dietary knowledge deficits or challenges and uncertainty in applying dietary principles in their daily lives may compromise success with a healthy lifestyle (Murrock et al. 2013; Boltri et al. 2006). Additional studies underscore adherence to dietary regimens may be inhibited by employment responsibilities and the "multi-caregiver role" with its challenges in caring for others and self (Samuel-Hodge et al. 2000; Murrock et al. 2013).

Study findings also indicated that the Church may serve to overcome barriers to diabetes self-management with group physical activities and health fairs, among other activities to promote health among its members. Published reports well document that church-based health programs may facilitate diabetes prevention or self-management behaviors, particularly diet and physical activity patterns with social support, encouragement and accountability (Polzer-Casarez et al. 2010; Johnson et al. 2005; Newlin et al. 2012; Boltri et al. 2006). Church members indicated a desire to collaborate with trusted medical professionals in educating the community about diabetes.

The study findings identified Christian worldview, medical distrust and self-management as predominant themes. Further research, including quantitative investigations, is indicated to better understand the relationships among these concepts and their relationships to diabetes outcomes. Also, given the findings of frequent church attendance, shared worldview and commitment to primary and secondary prevention efforts, further research may examine churches as venues for combined diabetes prevention and self-management educational programs, particularly with PAR approaches. Additional research is needed to better understand the concept medical distrust among African Americans with or at risk for diabetes.

Study Limitations

In the presented study, bias may limit interpretation of the findings. Data were generated from the African-American churches as a unit through collective participation in the inquiry group process. As a result, censoring and conformity may have biased the data. Closely related, the phenomena of "groupthink" may have further biased the data. However, the longitudinal inquiry method, with prolonged engagement, likely promoted

person triangulation with ongoing church community validation of findings throughout the inquiry group process, thereby reducing error.

Conclusion

Sampling two African-American church communities, findings revealed their Christian worldview, medical distrust, endorsement of diabetes prevention and self-management behaviors, and collective desire to promote the health of fellow parishioners through health-related activities or programs. These findings contribute to the understudied domain of religious beliefs and practices, diabetes prevention and self-management behaviors, and diabetes community actions specifically in African-American church populations. Uniquely, findings contribute to understanding medical distrust in African-American populations with or at risk for T2D. The findings informed the development and implementation of combined diabetes prevention and self-management programs in partnership with church communities in accordance with a PAR approach.

The sampled population's voices affirm those of other African American's as documented in previous qualitative studies. For nearly two decades, African-American research participation has revealed this population's overall high levels of religiosity. African-American research participation has also provided multiple insights, through personal intimate accounts, on a Christian worldview shared by many, and its relation to health, including diabetes outcomes. Yet, to date, the implications of this research have not been fully realized in clinical practice. Religious orientations and related care preferences are not routinely addressed in diabetes care encounters. At the same time, strong evidence indicates that African-American medical distrust—grounded in a history of racism, discrimination, research mistreatment and unequal medical treatment—remains while diabetes health disparities persist.

Diabetes care for African Americans requires attention to rebuilding trust with consideration of individual religious orientations, care needs and treatment preferences through, for example, shared decision-making (SDM). SDM is a bidirectional relationship between the patient and provider involving shared deliberation, negotiation and agreement about the most suitable treatment plan (Peek et al. 2010a). For those African Americans with a strong religious orientation, SDM may reveal a need to attend to patient religious health beliefs and practices. For many African Americans, SDM may uncover patient needs for the acquisition of diabetes-related knowledge and skills to foster success with prevention and self-management behaviors. SDM may further reveal patient preferences for delivery of routine diabetes care and education in churches, and other culturally concordant settings, where African Americans may benefit from religious social support and other health-related resources.

The American Diabetes Association and American Association of Diabetes Educators recommend a model of SDM in the provision of diabetes care and education. While it may take over a decade for uptake of evidence-based recommendations in clinical practice, the *Affordable Care Act's* value-based payment strategy may accelerate uptake with modification in practice patterns to facilitate achievement of performance standards. Accelerated uptake of SDM in clinical practice—with attention to religious orientations and preferences in addition to diabetes prevention and self-management behaviors as warranted—may help to rebuild trust in the African-American community and facilitate more optimal care for this population disproportionately burdened by diabetes.

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