

**Social Determinants of Health and Health Care Delivery: African American Women's
T2DM Self-Management**

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Key words: Social determinants of health, Type 2 diabetes, African American women, and health care delivery.

Acknowledgement:

I would like to express my deep appreciation to the ten African American women for sharing their stories experiences, knowledge, and insights during the interview process. To the community leaders & clergy members for their support accessing the community. To my editors: The late Dr. Beverly Rosenthal, John Haradon, Wendy Britt, Dr. Linda Phillips, Judith Mwanga & Edson College of Nursing and health innovation writing group. My special thanks to my dissertation chair and Mentor Dr. Janice D. Crist, Thank you for your encouragement, guidance and contribution. To my committee members Dr. Deborah Vincent and Marylyn McEwen; special thanks for your guidance, expertise and support throughout my study. Last, but certainly not least, to my family thank you for your love, support, encouragement, and prayers. My heartfelt gratitude to my husband, Charles Ochieng Maduma, who is my hero and shining star throughout this process. Special thanks to my sons Peter and Sam, my daughters Holly and Risper Ochieng who was also my transcriptionist.

Abstract

African American (AA) women have high prevalence of Type 2 diabetes mellitus (T2DM) and complications. No studies have been conducted about how social determinants of health and health care delivery affect their T2DM self-management. The purpose was to describe how social determinants of health and healthcare delivery may influence AA women's T2DM self-management using qualitative descriptive methodology (N=10). Ten participants were interviewed. Participants' geographical location, education, level of income, health literacy, and systemic racism, i.e., healthcare delivery services, e.g., inadequate healthcare services, providers' assumptions about the patient's knowledge of diabetes, providers' attitudes toward patients, and stigma related to diabetes as a disease were identified. *Understanding the role of social determinants of health and the health care delivery system in influencing T2DM self-management is a powerful tool for providers and practitioners for improving practice and health care policies to decrease health disparities and improve health outcomes among AA women with T2DM.*

Introduction

African American (AA) women have a disproportionately higher prevalence of Type 2 diabetes mellitus (T2DM) than Latino and non-Latino white women (Peek, Cargill, & Huang, 2007; Spanakis & Golden, 2013). The literature shows geographical locations, stigmatization, discrimination, socioeconomic status, and historical factors as some of the influencers of high prevalence of type T2DM in this population. The current study provides a description of how social determinants of health may affect T2DM self-management among AA women with T2DM.

Background

Disparity exists in the rate of new incidences of T2DM and other chronic diseases among minority groups including AA women as compared to their Latino and non-Latino white women. The disparity is more prevalent in AA women living in poor rural neighborhoods as compared to those in rich urban neighborhoods (Larson, Story, & Nelson, 2009). AA women who live in poor neighborhoods with average annual incomes of about \$15,000 are reported to experience 1¼ times higher rates of new cases of diabetes than those in neighborhoods with average incomes of \$100,000 (Gaskin et al., 2014; Spanakis & Golden, 2013). In addition, living in poor rural neighborhood not only increases the prevalence of T2DM, but makes it difficult for AA women to access healthcare services they need to manage their disease (Braveman, 2011; Spanakis & Golden, 2013). The phenomenon may be explained by inadequate recreational opportunities for exercise, encroachment of fast-food restaurants, as well as poorly lit streets, which discourage simple evening exercises needed for diabetes self-management (Bhattacharya, 2012, Gaskin et al., 2014; Larson Story, & Nelson, 2009).

Conceptual Framework

Critical social theory (CST) perspectives framed this inquiry to uncover factors in society that

might play a role in AA women's *diabetes self-management*. The CST perspective was used as a way to critique existing understandings and to illuminate any existing social injustices based on issues such as gender, class, race, economic status, discrimination, and age. With CST perspective, researchers strive to understand people's feelings and meaning of experiences beyond their narratives. Using the CST perspective, researchers moved away from the notion that the AA women with T2DM are non-compliant or non-adherent to treatment; rather, researchers used a community point of view and critically assessed social factors that influence AA women's health behaviors (Crist, Parsons, Warner Robbins, Mullins, & Espinosa, 2009; McEwen & Wills, 2015). Social factors including cultural practices and perceived unrealistic life-style changes have been identified as barriers to diabetes self-management in the AA population (Bhattacharya, 2012).

The Ethno-Cultural Gerontological Nursing Model (ECGNM) (Phillips et al., 2015) was also used to understand how historical, economic, public attitudes and policy influence AA women's perception and T2DM self-management.

Purpose and Methodology

Although psychosocial aspects of diabetes self-management among AA women have been studied, no researches have been conducted to explore how social determinants of health and health care delivery may affect T2DM self-management among AA women. The purpose of this study was to explore and describe social determinants of health and health care delivery that may influence T2DM self-management among AA women. Two research questions used were; (1) How do social determinants of health influence T2DM self-management in AA women? (2) How does health care delivery influence T2DM self-management in AA women? The specific methodology used in the study was *Qualitative Description*.

Methods

The researchers used demographics and qualitative descriptive methodology to describe factors that influenced AA women's T2DM self-management. Purposeful and maximum variation sampling techniques were used to select participants sharing common characteristics such as gender and social background; but also with varying levels of education, age, income, occupation, and location of residency. AA adult women diagnosed and having lived with T2DM for at least one year; able to speak, read, and understand English; residing in the southwest US, and willing to voluntarily participate in the study were recruited. Recruitment ended when the qualitative data reached saturation, when no new information could be obtained from the respondents (Speziale & Carpenter, 2003, p.25).

Data collection included a demographic questionnaire, audiotaped individual interviews, observation, and field notes. Semi-structured interviews were conducted lasting 60 to 90 minutes using open-ended questions and subsequent probing questions to clarify participants' responses to the initial questions. The environment in which the participants' T2DM self-management behaviors took place and social determinants of health that influenced their health behaviors T2DM self-management were observed. Field notes contained relevant observation data.

Lincoln and Guba's (1985) trustworthiness criteria were met: credibility, through remaining engaged over time, checking in with peers for feedback, and checking findings with participants (Munhall, 2012); transferability, by using purposive and maximum variation sampling to capture a wide range of population characteristics (Munhall, 2012) dependability, consistency of findings throughout the study (Lincoln & Guba, 1985); conformability, by staying close to the data and using participants' statements during the data analysis (Munhall, 2012); and reflexivity, by the researchers' reflecting on their biases after each interview (Jootun et al., 2009).

Atlas.ti version 7.1.8 software was used to manage the qualitative data. Tables were used to display open codes to assist the researchers to clearly visualize the data, get the sense of every participant's line of story, and draw overall conclusions about the themes that emerged within the categories. Qualitative content analysis was used to reveal the participants' naturally occurring events and meanings (Miles, Huberman, & Saldana, 2014; Sandelowski, 2009). Three steps in abstracting through open coding, theoretical coding, and thematic coding supported the categories reported in the findings. Coding occurred in three steps: (1) open coding, (2) theoretical coding, and (3) thematic coding, which are discussed further below.

Open coding

Open coding involved reading through the data several times and identifying words, phrases, or sentences that summarized what was seen happening (not based on existing theory; rather, based on the meaning that emerges from the data) (Miles et al., 2014). Words or phrases that appeared repeatedly in the participants' responses showed patterns in a social setting. Included in open coding, the *in vivo* coding was used to prioritize or honor participants' voices. This involved using participants' own words or short phrases from the participants' own recorded data (Miles et al., 2014). The words or phrases, which may have been culturally specific or indigenous to the group (participants), were placed in quotation marks to distinguish them from the codes generated by the researcher (Miles et al., 2014).

Theoretical Coding

Theoretical coding is a process in which a researcher has an existing theory or conceptualization based on clinical evidence, and then applies a theoretical model to the data or to the research questions (Miles et al., 2014). The open codes were grouped into categories, which consisted of the two *a priori* research questions. If open codes did not fit into the *a priori* categories, additional tentative categories were created. Researchers developed a codebook based on the two main categories. These theoretical codes were named based on the two research questions: (1) How do social determinants of health influence T2DM self-management? (2) How does health care delivery influence T2DM self-management in AA women?

Thematic Coding

To draw final conclusions, theoretical codes were categorized into themes. The codes relevant to each theme were gathered and grouped together systematically according to their meaning. This process ensured the themes fit according to the coded extracts and the entire research data before proceeding with the final analysis process and final thematic conclusions. When all analyses were completed, reports were generated based on the findings.

Findings

The sample consisted of 10 AA women with T2DM, ages 26-69 years (mean=51.2), four married, eight living with family or spouse, eight employed, and income ranging from \$18,000 to above \$60,000. Nine of ten participants had health insurance, had a primary care provider (PCP), and had had annual health screenings. The one participant who did not have health insurance or a PCP reported that she lost insurance when she lost her job. Due to the snowballing technique for recruitment, of the 10 participants, 5 happened to be nurses and one was a respiratory therapist technician.

All the findings fit within one category, "Social Determinants of Health and its Influence on T2DM Self-Management" representing the significant influencers of T2DM self-management among AA women with T2DM. The two sub-categories were (1) Social Determinants of Health, and (2) Healthcare Delivery and Social Factors.

Social Determinants of Health

The findings of this study were that social determinants of health influenced AA women's self-

management of their T2DM. Five themes emerged within this sub-category: geographic location, education, level of income, health literacy, and systemic racism. Theme 1: Geographic Location. Living in a rural area was identified as a factor influencing T2DM self-management due to the difficulty of accessing healthcare. Some participants reported going to federally funded clinics where they saw different providers each time, leading to inconsistency in care. One participant said: *“I can never get the full picture. . . .you ask a question and they say no that’s probably not it and they don’t elaborate think because they don’t know my history”* Other participants felt that it was hard to get to see a specialist like an endocrinologist because they had to drive more than one hour to get to the closest specialist. A shortage of resources including primary care providers was reported as a disadvantage especially when participants had an acute issue between appointments.

Theme 2: Education. The five nurse participants and the one respiratory therapist technician with at least a junior college degree reported some level of understanding about diabetes and how they needed to take care of themselves even without education from their providers. These participants reported going to a class and getting a certificate and/or being able to research online and find more information on how to manage their T2DM. Participants said: *“When I go to med-surg seminars I always make sure that I go to see what is new in the treatment of diabetes...”* The participants without health care backgrounds or higher education were not able to find out more information. They entirely depended on their providers for the necessary information to manage their T2DM. One participant said: *I put diabetes on the shelf...And so then I came here and I really didn’t have any symptoms so I just thought you know what, maybe it’s gone again. So I chose not to look into it; not go to the doctor again. I thought it was gone again.”* As demonstrated, education influenced diabetes T2DM self-management because it determined where one lived and the type of job and income, and also health literacy.

Theme 3: Level of Income. Economic status was also identified as a theme in this category because of its influence on T2DM self-management. Level of income was identified as a factor that influenced participants’ behavior in either a positive or negative way. For example, participants with low incomes were more likely to ignore the recommended diet due to inability to afford healthful food items.

One participant reported that she was forced to eat junk food just because she could not afford good or recommended food due to her reduced income. Describing her experience this participant stated, *“There was lots of times that I wasn’t eating well because I couldn’t afford to feed all of us without buying junky processed carby foods.”* Participants with low levels of income reported difficulty following a diabetic diet, reporting that it is expensive to eat healthfully, especially if they had a large family.

Theme 4: Health Literacy. Health literacy emerged as a factor that influenced T2DM self-management in AA women with T2DM. Women who reported that they had knowledge about diabetes and its potential complications reported that they were very proactive in making sure they followed up with their providers to ensure better management of the disease. One of the women said, *“I know that if I have a wound and it doesn’t heal, I know I need to get it checked, it is not something that I play around with, because I know that I still have been diagnosed even though I will feel like I really don’t have everyday symptoms per se but I’m still very conscious of it. I know it’s been diagnosed and so I just watch it. I’m just very conscious of it. I’m very careful”* Participants who did not have much information, however, were not aware of the importance of follow-up appointments, following the prescribed diet or medication regimen, or the need for dental care, eye exams or laboratory tests for monitoring diabetes. For example, one woman said; *“I remember thinking oh here is the pill. I will take it and it will fix the*

problem. So over the next few years when it didn't fix the problem, that is when my frustration set in."

Theme 5: Perceived Systemic Racism. Despite the changes that have taken place in society, racism still immersed as a factor that influenced T2DM self-management. The lack of trust for the healthcare industry as a whole made it difficult for AA women to trust what the health care providers had to offer. One woman said; *"There is no good education or treatment around here, I am telling you that right now, for black people, I don't know about other people either.. It is really bad on black people, because most people I see with amputated legs are black people."* In a conversation during a health fair encounter with a participant whose blood glucose was elevated, the participant reported, *"A provider told me that I was diabetic but I did not go back to the provider and I not taking any medication—you cannot trust those people."*

Healthcare Delivery and Social Factors

Perceived challenges related to healthcare services emerged as social factors that influenced *T2DM self-management* among this population. Four themes emerged within this category: Inadequate Health Education by Healthcare Providers, Provider Assumptions of the Patients' Knowledge of Diabetes, Perceived Inadequate Health Care Services and Provider Attitudes, and Perception of Stigma Related to Diabetes as a Disease.

Theme (1): Inadequate Health Education by Healthcare Providers. Participants reported inadequate teaching about diabetes from their providers. That is why some participants thought diabetes was an acute illness and that they would be cured once they completed the medication dose given to them. Some participants reported that their providers handed them brochures on diabetes, and then told them to go to diabetes classes, but were not provided with any information to help them understand why the diabetes classes were important. In addition, some participants reported that they were given partial and incomplete information that was misleading given their limited knowledge or understanding of diabetes. For example, excerpts included, *"I was told to just watch what I eat...they told me not to eat sweet stuff so I thought it was the sweet stuff that made it go up, then I found out I was eating the wrong stuff like potatoes and starchy stuff."* Participants also reported that their providers did not take the time to provide the necessary information that was needed for better *T2DM self-management*. For example, one participant stated, *"Yeah he doesn't have time."*

Theme (2): Provider Assumptions of the Patients' Knowledge of Diabetes. Perceived provider assumptions of patients' knowledge of diabetes also emerged as a theme. Interestingly, this theme emerged from five of the six participants who were healthcare providers. Participants who worked in healthcare reported that providers made assumptions about patients' knowledge of diabetes, and that these assumptions might not be accurate. These women reported that they were not provided with adequate education upon their initial diagnosis with T2DM. As healthcare providers, the participants reported that inadequate education had a great impact on *T2DM self-management* *"They give you diagnosis and they give you some medicine...I think they assume because I'm a nurse I don't need to be educated."* Participants reported that they did not receive information or education during their initial diagnosis of T2DM, which led to poor *T2DM self-management*.

Theme (3): Perceived Inadequate Health Care Services and Provider Attitudes. Participants reported that they perceived inadequate healthcare services related to discrimination. Participants reported that they felt like there were no good services for AAs with T2DM no matter how they tried to manage their diabetes. Perceived inadequate

healthcare services were attributed to provider unwillingness to give ample time to patients during visits and inability to answer a patient's questions: "I can never get the full picture. Or you ask a question and they say no that's probably not it and they don't elaborate...if somebody without medical knowledge went in there what impression would they leave with." And, "There is no good education or treatment around here, for black people...most people I see with amputated legs are black people."

Other participants reported that the provider's attitude might lead to either poor or better *diabetes self-management* depending on how the information was relayed to the patient. Some participants reported that they felt discounted, and then came to the conclusion that they were being discriminated against. They did not feel that they had enough support, compassion, and empathy from their providers. These participants stated that the providers' attitudes made them feel like their having developed T2DM was their fault. In describing their experiences, some participants reported that the provider's approach caused frustration and stress, which greatly affected their *T2DM self-management as indicated in the excerpt*,

"It was a bit shocking because of the way he relayed the issue to me..he was telling me, you are overweight, you are a diabetic and very soon you will have all these problems. You will be blind if you don't take care of yourself.. I found myself avoiding going to the doctor..I just don't want to put myself through that...Well I kind of felt like it was my fault."

It was evident that a good patient-provider relationship encouraged *diabetes self-management*. Patients who reported a positive experience and attitude from their providers had better T2DM *self-management* and more follow-up appointments.

Theme (4): Perception of Stigma Related to Diabetes as a Disease. Participants reported that stigma influenced their T2DM self-management. They felt that having T2DM, they were stereotyped by society; that individuals with T2DM were blamed for having poor personal health care behaviors, were considered unhealthy, and had unhealthful lifestyles. They felt uncomfortable sharing or telling people that they had diabetes due to societal perceptions of individuals with T2DM. One woman said, "I don't tell people that don't know, because of the stigma associated with it. So I could be with new friends and I just don't say anything...I told my brother but, you know, I told him to check himself, not everybody else." They did not want to be treated differently or considered different: "I am having a drink and one of my old friends comes and says you should not be having that, you are diabetic; and the other person would be surprised, like, 'you are diabetic?' So yes, in that aspect it is not something that I announce when I meet someone."

Another participant reported that due to fear of stigmatization she felt uncomfortable eating out. She felt stigmatized when people made comments when she ate certain foods: "*When you have diabetes, people judge you when you eat certain foods they think should not be eaten by someone who has diabetes. They make comments like, That's why she has diabetes, she eats too much.*" Most of the participants reported not discussing their T2DM with anybody else except their family members and close friends, from fear of being treated differently.

Discussion

The findings of this study revealed that economic factors, education, and health literacy influence T2DM self-management which is consistent with current literature. People in high resource groups had better diabetes self-management, as compared to those in low resource groups, who struggled to buy healthful food (Weaver, Lemonde, Payman, & Goodman, 2014). Walker et al. reported that diabetes self care and positive outcomes were associated with socioeconomic and psychosocial determinants of health including education; and that people with low

socioeconomic status were associated with increased mortality rates (Walker, Gebregziabher, Martin-Harris, & Egede, 2014). In another study, environment, social support, and education were observed to influence self-care among AAs and Latinos living with diabetes (Peña-Purcell, Cutchen, & McCoy, 2018).

Low health literacy level contributed to poor T2DM self-management among AA women. This is consistent with literature that shows that low literacy level is associated with poor health outcomes in certain minority groups (ODPHP, 2014). Low literacy levels may affect reading and comprehending health information including prescription and other health education provided by health care providers. For example, AA women reported misunderstanding the concept of diabetes self-management (Lynch et al., 2012). One study revealed that the concepts of diabetes self-management understood by AA women with T2DM were limited to only medications, diet and exercise. Moreover, the AA women's definitions or concepts of these terms and the idea of how to manage their T2DM were shown to be inconsistent with evidence-based recommendations. AA women's understanding of exercise entailed mild physical activities such as walking up and down the stairs once a day in contrast to evidence that the ideal exercise for people with diabetes was moderate to vigorous physical activity of 150 minutes per week to achieve desired glycemic control (Lynch et al., 2012).

Low income and poverty among AA women with T2DM may have a number of actual and potential negative consequences on their T2DM self-management. For example, low income and poverty may prevent AA women with T2DM from accessing health services they need, resulting in poor self-management of their diabetes (Guerra, 2013; Shrivastava, Shrivastava, & Ramasamy, 2013). The negative socioeconomic conditions AA women with T2DM experience lead to poor diabetes self-management practices that result in diabetes complications and poor health outcomes (Guerra, 2013). Even with a college degree, AA women still experience comparatively higher rates of unemployment than non-Latino white (NLW) women. For example, in 2011, the unemployment rate among AA women in general was 14.1% compared to 7.4% among NLW women. Among AA adults with a college degree the rate of unemployment was 6.9% compared to 3.9% among NLW women (Weller & Fields, 2011). It is estimated that one in every four AA women, including those in the workforce, are uninsured (Guerra, 2013). In general, only 13.2% of AAs have health insurance compared to 77.7% of NLW women. In Pinal County, where the current study was conducted, only 92% of the whole adult population had health insurance in 2015 which was still below the Healthy People 2020 target of 100% (Arizona Department of Health Services, 2014).

Another finding in this study was perceived stigma which was found to influence T2DM self-management in AA women. This finding is consistent with current literature. Women diagnosed with diabetes in Ghana reported that they could not tell their family members or spouses for fear of being treated differently or being abandoned by their husbands (Mogre, Johnson, Tzelepis, & Paul, 2019). Interestingly, a participant in the present study reported that the term "sugar disease" was a term used among some AA communities, especially those who migrated to United States from Africa. It was interpreted as a derogatory term that stigmatized people with T2DM. Stigma was identified in this study as a problem facing AA women with T2DM. Stigma also posed a great challenge for their T2DM self-management.

Many AA women with T2DM have difficulty eating a healthful diet due to the stigma associated with diabetes (Browne, Ventura, Mosley, & Speight, 2013; Willig, Richardson, Agne, & Cherrington., 2014:). Because of the community stigmatization of diabetes, AA women with T2DM have difficulty practicing dietary habits and healthful eating or even informing family

members or friends of their diabetes diagnoses, which further complicates their adherence to a T2DM self-management regimen (Willig et al., 2014). In addition, AA women who self-blame and believe that they are responsible for their conditions are in a helpless situation that they feel is futile, further complicating their T2DM self-management and increasing their chances of developing diabetes complications (Browne, Ventura, Mosley, & Speight, 2013; Willig et al., 2014;).

The fear of stigmatization also influences AA women with diabetes to not follow important diabetes self-management behavior and practices. This is particularly true for adhering to diabetic dietary practices in social gatherings. AA women with T2DM find it difficult to refuse food or extra portions in the company of friends or family members who are unaware of their diabetes diagnoses (Willig et al., 2014). This deliberate choice of not practicing the recommended behavior due to fear of stigmatization may lead to poor health outcomes among AA women with T2DM. Poor psychosocial adjustment and denial have also been found to contribute to poor diabetes self-management among AAs with T2DM (Collins-McNeil, Edwards, Batch, Benbow, McDougald, & Sharpe, 2012).

The perceived provider assumptions of the patient's knowledge of diabetes and lack of provider-patient communication were found to affect diabetes self-management among AA women with T2DM. These findings are consistent with the findings in the current literature. Other studies reported that provider-patient communication and deficient knowledge of T2DM was a barrier to diabetes self-management (Goderis et al., 2009). Studies conducted in New Zealand, Brazil, and Ghana reported that diabetes self-care was heavily provider-centered as opposed to patient-centered. These studies further revealed that; provider knowledge of diabetes, accessibility to health care facilities and patient education influenced diabetes self-management (Mogre, Johnson, Tzelepis, & Paul, 2019; Sheridan et al., 2011; Torres, Rozemberg, Amaral, & Bodstein, 2010;).

Perceived negative provider attitudes toward patients with diabetes are not supported in the literature; rather, the lack of trust between the AA community and healthcare system does appear in the literature. AAs across all social, economic and geographical strata have a common distrust of the established health care system due to past historical experiences (Wallerstein & Bonnie, 2010). For example, the Tuskegee syphilis experiment in which many AAs lost their lives in a public health research project has created skepticism and distrust of the established health care system among AAs in general (Wallerstein & Bonnie, 2010). Many AA women with T2DM in general find it hard or are reluctant to discuss their health situation or follow a treatment regimen due to distrust of the health care system.

Washington poignantly illustrated this point about the historical abuse by early researchers such as syphilis study in Tuskegee: "*The purchase of black slaves for purposes of clinical experimentation, the use of black bodies for anatomical dissection and the display of black subjects as curiosities at fairs, museums and zoos*" (Washington, 2006). In addition, the experiments that were conducted on black women without any anesthesia by Dr. James Marion Sims have caused existing distrust of the healthcare system among AA community. This makes it difficult for researchers to conduct experimental studies within this community, in order to identify specific treatment tailored to this population (Wallerstein & Bonnie 2010).

Perceived systematic racism and discrimination place AA women with T2DM at risk for not receiving preventive care and low-quality health care services (Hostetter, & Klein, 2018). Many AAs find it difficult to speak to their healthcare providers in an open or honest way (Grace, 2011). AA patients have a tendency to stop interacting when questioned by their health care providers. These AA patients feel that the provider is invading their privacy and seeking

information that is not necessary for them to provide health care, which may lead to defensiveness, hostility, and failure to adhere to treatment (Grace, 2011). This may result in reluctance to seek health care, resulting in delayed diagnosis of diabetes and initiation of treatment, leading to poor disease prognosis and health outcomes (Grace, 2011). Therefore, misconceptions about recommended practices, distrust of the established health care system, and negative historical experiences may explain the high prevalence of T2DM among AA women, poor T2DM self-management, and poor outcomes.

Perceived stigma and related discrimination were found to influence T2DM self-management among AA women. These findings are consistent with current literature. Understanding the role of stigma in diabetes self-management is a key to identifying new strategies to support and motivate AA women with T2DM toward better outcomes. Typically, stigma is associated with negative labeling or characteristics of an individual or group of people (Link & Phelan, 2001). The modern understanding of the term stigma is derived from the work of Erving Goffman in the 1960's who viewed stigma as a social construction of identity (Arthur & Hall-Clifford, 2009; Goffman, 1963). When an individual or a group of people internalize stigma, it degenerates or reduces their ability to hold onto what is important in their lives, social and environmental relationships, and wealth and life chances. Identifying stigma as a barrier to diabetes self-management and working with women regarding their internalization of stigma are critical for improving health outcomes in AA women with T2DM.

Application

As the number of diabetes cases continues to rise, health care systems are increasingly empowering patients to participate in their own care. Diabetes self-management is encouraged to foster patient initiatives to promote and manage their health to delay onset of diabetes complications. Diabetes self-management allows patients and their families to acquire the necessary knowledge to manage the complexities of diabetes in their daily lives (Shrivastava, Shrivastava, & Ramasamy, 2013).

The American Association of Diabetes Educators (AADE) outlines seven essential self-management behaviors necessary to achieve desired diabetes management outcomes. The behaviors include healthful eating, being active, monitoring blood glucose levels, taking medication, problem solving, reducing risks, and healthful coping (AADE, 2014). These seven self-management behaviors were further adopted in 2014 as a framework for patient-centered diabetes self-management education (DSME) and care. The AADE framework is evidence-based and useful in organizing diabetes education for patients with pre-diabetes and those with diabetes (AADE, 2014), including T2DM.

Knowing how social determinants of health may influence T2DM self-management can be a powerful tool for providers to use in advocating for improving health policies that will help decrease health disparities among AA women, and, specifically, to improve health outcomes among AA women with T2DM. The philosophical perspective of CST which guided this study helped the researchers be cognizant of potential social determinants of health that might influence AA women's T2DM self-management.

The Ethno-Cultural Gerontological Nursing Model (ECGNM) (Phillips et al., 2015) suggests that for persons in unique ethno-cultural groups, health perceptions are influenced by historical/structural contextual influences (i.e., economics, policy, public attitudes, and ascriptions). Historical examples applied to the specific group in this study could include trauma and resilience, as portrayed in Washington's *Medical Apartheid* (2006). Examples for AA women could include structural/systemic racism, institutional discrimination, day-to-day micro-aggressions and violence, naturalized racism, and group-based/cohort meanings, beliefs, and

practices. Specifically, findings in this study included gendered experience, cultural traditions perceptions of discrimination, wellness/health, and self-care. The ECGNM suggests personal and family resources also affect decisions about utilizing services. Examples are knowledge of available services and financial resources (Phillips et al., 2015). Thus, this framework also supports both categories of the current findings and can be used for future inquiries into disparities. It can also sensitize providers to be aware of individuals' contextual influences on their health habits and self-care practices.

Limitations

This study was only conducted in rural Arizona, and the sample was limited to women and mainly healthcare providers who volunteered to be in the sample. Although saturation of findings was reached, transferability (Lincoln & Guba, 1985) is limited to similar samples in similar contexts. Future research should include recruitment of broader samples to broaden transferability of findings.

Conclusion

Using a CST perspective and the ECGNM for this study, social determinants of health were found to be critical factors that influenced AA women's self-management of T2DM. Opportunities exist for primary care providers to improve T2DM self-management through insights about these influences using the DSME, AADE framework, and working with local and state government to inform health policies that affect social determinants of health.

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Appendix A

TABLE 1. Influence of social determinants on T2DM Self-Management.

Sub-Category 1: Social Determinants of Health

Themes		Excerpts
	<p>Theme 1: Geographical Location.</p> <p>Theme 2: Education.</p> <p>Theme 3: Level of income</p> <p>Theme 4: Health Literacy</p> <p>Theme 5: perceived Systemic racism</p>	<p><i>“I can never get the full picture. . .you ask a question and they say no that’s probably not it and they don’t elaborate--I think because they don’t know my history.”</i></p> <p><i>“Like when I go to med-surg seminars I always make sure that I go to see what is new in the treatment of diabetes....”</i></p> <p><i>“I put diabetes on the shelf... And so then I came here and I really didn’t have any symptoms so I just thought you know what, maybe it’s gone again. So I chose not to look into it not go to the doctor again. I thought it was gone again.”</i></p> <p><i>“...I was already having problems..I don't think it is related to diabetes. Heart, you know”</i></p> <p><i>“there was lots of times that I wasn’t eating well because I couldn’t afford to feed all of us without buying junky processed carby foods.”</i></p> <p><i>“I know that if I have a wound and it doesn't heal, I know I need to get it checked, it is not something that I play around with, because I know that I still have been diagnosed even though I will feel like I really don’t have everyday symptoms per se but I'm still very conscious of it. I know it's been diagnosed and so I just watch it. I'm just very conscious of it. I'm very</i></p>

	<p><i>careful”</i></p> <p><i>“I remember thinking oh here is the pill. I will take it and it will fix the problem. So over the next few years when it didn’t fix the problem, that is when my frustration set in”.</i></p> <p><i>“There is no good education or treatment around here, I am telling you that right now, for black people, I don’t know about other people either..It is really bad on black people, because most people I see with amputated legs are black people.”</i> In a conversation during a health fair encounter with a participant whose blood glucose was elevated, the participant reported; <i>“a provider told me that I was diabetic but I did not go back to the provider and I not taking any medication ---you cannot trust those people.”</i></p>
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Appendix B

TABLE 2. Influence of social determinants on T2DM Self-Management.

Sub-Category 2: Healthcare Delivery and other Social factors

Themes	Excerpts
	<p><i>“I was told to just watch what I eat...they told me not to eat sweet stuff so I thought it was the sweet stuff that made it go</i></p>

up, then I found out I was eating the wrong stuff like potatoes and starchy stuff.”

“They give you diagnosis and they give you some medicine..I think they assume because I’m a nurse I don’t need to be educated.”

“It was a bit shocking because of the way he relayed the issue to me...he was telling me, you are overweight, you are a diabetic and very soon you will have all these problems. You will be blind if you don't take care of yourself...I found myself avoiding going to the doctor... I just don't want to put myself through that... Well I kind of felt like it was my fault.”

“I am having a drink and one of my old friends comes and says you should not be having that you are diabetic and the other person would be surprised like you are diabetic?...so yes in that aspect it is not something that I announce when I meet someone.”

“When you have diabetes, people judge you when you eat certain foods they think should not be eaten by someone who has diabetes. They make comments like:... that’s why she has diabetes, she eats too much.”

“I told my brother but, you know, I told him to check himself..., not everybody else.”

Theme (1): Inadequate Health Education by Healthcare Providers;

Theme (2): Provider Assumptions of the Patients’ Knowledge of Diabetes.

Theme (3): Perceived Inadequate Health Care Services and Provider Attitudes.

Theme (4): Perception of Stigma Related to Diabetes as a Disease.

else.

“I don’t tell people that don’t know, because of the stigma associated with it. So I could be with new friends and I just don’t say anything.”

“the preconceived notions that people have about diabetes especially type II, that people with diabetes are large and they live to eat and you know they have the “sugar disease.”