Spiritual, Religious, and Faith-Based Practices in Chronicity

An Exploration of Mental Wellness in Global Context

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Chapter 10

“God takes care of it”

Spiritual practices and mental wellness of people living with type 2 diabetes in Belize

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Introduction

This study originated from a multi-organisation collaboration¹ with the purpose of learning about how to prevent type 2 diabetes mellitus² from worsening in Belize. Diabetes is a major concern in Belize where the prevalence for adults (20 to 79 years of age) is 17.1% of the population, up from 9.8% in 2010 (World Data Atlas 2019). Belize ranks fifth poorest in the world and the poorest in amalgamated South and Central America for diabetes prevalence (WHR 2019). The proportional mortality attributable to diabetes has increased from 5.6% in 2001 to 11.95% of total deaths in 2019, and it is considered the leading cause of death in Belize alongside coronary heart disease (WHO 2016a; WHR 2019). There is high prevalence of the diabetes risk factors of being overweight (50.5%) and obese (20.6%) respectively (WHO 2016a). In a 2018 study of a random sample of Belizeans, 33.1% were found to be in a prediabetes range, while 8.5% of those were undiagnosed (Isabel 2018). Hospitalisation rates for diabetes-related complications such as heart attacks, strokes, renal failure, and amputations are also rising in Belize, a country considered among the “least developed” in Latin America (UNDP, n.d.).

There is an intricate latticework of intermingling ethnicities and cultures in Belize, with a population that self-identified in the 2010 Census as 53% Mestizo, 26% Afro-descendant Creole, 11% Indigenous Mayan (including three distinct groups, namely Yucatec, Mopan, and Q’eqchi’), 6% Garifuna, as well as Mennonite, Middle Eastern, Indian, and Asian. As such, the country is not only a notable place to advance prevention and intervention of diabetes (due to prevalence), but also to study the implications of chronic disease management in a context of cultural multiplicity (SIB 2013; OYE 2017). Living with chronic illness is challenging in any country, but chronicity takes on a specific meaning unique to Belize, as does wellness and resilience. An important pillar of resilience for people living with diabetes in Belize is found in spiritual or religious³ attitudes and practices. Diabetes prevention, education, and treatment interventions that are designed to be culturally appropriate and take into account patient spirituality or religiosity in self-management strategies have been shown to positively affect health outcomes (George et al. 2013; Koenig 2014; Rivera-Hernandez 2016; Roger and Hatala 2017; Sridhar 2013; WHO 2018). This culturally sensitive care is not consistently

available in Belize, however, and it could represent an important overlooked resource for mental health support and promotion (Balboni et al. 2015; Koenig 2014, 2004).

We maintain that it is important to understand how patients' spirituality or religiosity affects compliance with care plans, health behaviours, coping with chronicity, mental health, wellness goals, social supports, physical functioning, and overall health in order to deliver care that best serves the people who utilise it. When health services are incongruent with the beliefs and cultural practices of the people they are meant to serve, patient uptake of care and adherence to care plans are negatively impacted (Anderson 2017; Waldram 2008), and this is often heightened in Indigenous contexts and cultures. With the Belize health system's efforts to curb the growing rates of diabetes and its complications, it is crucial to understand the perspectives of patients themselves regarding what works in diabetes care and self-management (Anderson 2017). In this chapter we will explore how the spiritual practices of people living with diabetes in Belize affect their commitment to self-management, their psychosocial health, and their mental wellness or their ability to transcend the difficulties of living with chronicity.

Chronicity and diabetes in Belize

Rates of diabetes (and other chronic illnesses) are swiftly rising around the world (Rivera-Hernandez 2016; WHO 2018). In their volume on chronicity and experiences of illness, Manderson and Smith-Morris (2010, 6) described causes of obesity and diabetes as "a result of economic transition: from agricultural subsistence to one of industrial wage labour..." and "the resulting decrease in physical activity and overconsumption of high-fat, nutritionally poor foods consistently and reliably produce poor metabolic health." These authors outlined the varying emergence of diabetes chronicity burdens across low-, middle-, and high-income countries, then state that populations are now affected worldwide regardless of "social boundaries of class or wealth" (Manderson and Smith-Morris 2010, 10). While its swelling prevalence is universal, diabetes is exacerbated by conditions of poverty, precarity, and structural violence; patients, for example, cannot take medications they cannot afford (Weaver and Mendenhall 2014).

A common feeling in Belize is that "everyone has diabetes" regardless of class, race, ethnicity, age, sex, or gender, though statistical evidence stratified across categories is scant (key informant, 2020). Literature specific to Belize agrees with the wider assertion that diabetes places a disproportional burden on Low-Middle Income Countries (LMICs), and within the country, there may be pockets of lower average incomes and higher diabetes prevalence (Dekker et al. 2017; WHO 2016b). A mixed-methods study by Dekker et al. (2017) found that the village of Elderidge, near Punta Gorda in southern Belize, had 79% of its population living below the poverty line and that diabetes was poorly controlled in 74% of patients. Physicians in this study were concerned regarding prescribing insulin for patients without refrigeration, with low levels of health literacy, and with limited education on disease process and self-management strategies (Dekker et al. 2017). The study also

revealed a need for more wellness and lifestyle counselling for diabetes patients, including locally relevant nutrition advice; “We eat what we can afford,” is how one participant framed the issue (Dekker et al. 2017, 8).

In 2014, Gulley and colleagues studied an occupational diabetes screening program at a major corporation in Belize and found that half of the employees had elevated glycaemic levels, most of the employees had previously been unaware. They cited economic constraints in purchasing diabetes-friendly food products (e.g., quality protein, complex carbohydrates, multigrain) as a major issue for employees (Gulley et al. 2014). Similarly, for the employees who did know they had diabetes, it was difficult to afford glucometers, testing strips, and oral medication, resulting in inadequate glycaemic control (Gulley et al. 2014). While this article shows potential in the areas of corporate social responsibility and worker productivity-driven research, and demonstrates a high, hidden prevalence, it also highlights the need to address the added burdens of mental wellness and the accessibility of nutritious food and medical supplies.

A university group from the United States carried out an education and screening program with the general public in Punta Gorda (Belize) and six of its surrounding villages in 2011 (Brown et al. 2013). Although less than 5% of participants reported experiencing diabetes symptoms, they found that 52.6% of participants had elevated blood glucose. Further, while Body Mass Index (BMI) is a globally accepted risk factor for diabetes, this data set showed no relationship, leading authors to question what kind of variation was underlying the difference that is manifesting in this part of Belize. Thus, while using patient BMI as a risk factor is tempting,⁴ it is inadequate on its own, making blood glucose testing even more important; however, testing supplies are expensive and in short supply in Belize. Regardless of lacking prevalence data by income category, there are substantial economic factors to overcome in stretching T2DM prevention and treatment planning across Belize. As institutions are an important part of the interplay of forces exacerbating the condition, interdisciplinary cooperation is needed for solution-focused research and evidence-based development across silos; chronicity requires innovation of system planners.

Spirituality, mental wellness, and diabetes care

A 2018 systematic review found a positive relationship between patient spirituality or religiosity and improved management of T2DM (Darvyri et al. 2018). Spiritual practices, such as regular prayer, scripture reading, or communal worship, improved patient emotional adjustments to diagnosis, psychological endurance with chronic disease, mental health (including reduced depression and anxiety), glycaemic control, and quality of life (QoL) (Heidari et al. 2017; Darvyri et al. 2018). A structured review of articles from five continents between the years of 1970 to 2012 also found that practicing spirituality or religiosity is beneficial to diabetic patients' health, self-responsibility, self-management, mental health, coping strength, and social support systems (Permana 2018). In another literature review, religious practices, such as mosque and religious ceremonies

attendance, religious support provided and received, and subjective religiosity were linked to improved mental wellness and lower psychological distress, as well as reducing alcohol, nicotine, and drugs use while improving physical exercise and diet (Heidari et al. 2017).

There is also literature particular to African American, Native American, Latino, Hmong, Adventist people (in the United States), and Indigenous Peoples (in Canada) with T2DM that describes a lack confidence in the medical system, and the need to shift into more holistic approaches with great importance placed on spirituality, mental wellness, and local cultural practices (Devlin et al. 2006; Jacklin et al. 2017; Koenig 2014). Spirituality is a central patient strength found in underserved communities in eastern United States (both urban and rural), and strengths-based care is essential to optimising outcomes (Aamar, Lamson and Smith 2015; Gupta and Anandarajah 2014). A study in Qom City, Iran, found significant positive correlations between religious practices and diabetes self-management, including regularly testing blood sugars, performing foot care, sticking to a specific diet, and not smoking (Heidari et al. 2017). Studies with Thai Muslim women, Thai Buddhist women, and Malaysians outlined similar findings (Lundberg and Thrakul 2013; Saidi, Milnes and Griffiths 2018). Other studies similarly show significant relationships between T2DM patients' spirituality or religiosity, reduced emotional and mental problems, and increased QoL scores (Yazla et al. 2017). Most evidence in these areas recommends embracing cultural, religious, and spiritual care, and collaborating with faith leaders for optimal health outcomes and support (Darvyri et al. 2018). Indeed, a faith-based intervention for Hispanic Catholic church-goers found improvements at 6, 9, and 12 months on glycated haemoglobin (HbA1C), waist circumference, QoL, mental health, and self-efficiency measurements (Wilmoth et al. 2019).

Studies on Muslim T2DM patients observing fasting during Ramadan provide further clinical management advice (e.g., pre-Ramadan assessment, Ramadan-specific education) (Lee et al. 2017). Knowing how Muslim patients tend to modify their pharmaceutical schedule around fasting, for example, helps providers to work more effectively with them (Al-Arouj et al. 2010; Lee et al. 2017). Fasting is not unique to Muslim observers. It is a common spiritual or religious practice in many of the world's faith and cultural traditions that requires understanding and a collaborative approach between health care providers, patients, and spiritual or religious leaders. A study in Ethiopia found Orthodox Christians, Protestants, and Muslims modifying timing and amount of dosages for diabetes around fasting rites (Habte et al. 2017). Taking insulin while fasting resulted in hypoglycaemic episodes that could be better managed with medical advice (Habte et al. 2017).

Diabetes is also exacerbated by psychological stress that adversely affects health behaviours such as exercise levels, dietary choices, and compliance to medication schedules (Hackett and Steptoe 2017). T2DM and depression are associated with poor glycaemic control and cardiovascular complications (Hackett and Steptoe 2017). Evidence has shown Eastern-based spiritual practices such as yoga and meditation reduce stress and depression (Ferguson, Willemsen and Castañeto 2010). Prayer has not been studied as much in this way, and there are concerns with studying spiritual or religious practices that must be considered, yet there are

studies that suggest prayer has an alleviating effect on stress (Ferguson, Willemssen, and Castañeto 2010; Koenig 2008). For example, a mixed-methods study with Roman Catholic participants showed that an intervention of two private prayers per day and one two-hour group session per week for ten weeks decreased participants' overall self-reported stress (Ferguson, Willemssen and Castañeto 2010). Another quantitative study found prayer and encouraging self-talk to decrease stress levels in university students (Belding et al. 2010). Despite these studies, there is no wide consensus on which spiritual practices (e.g., yoga, meditation, prayer) affect T2DM-specific outcomes and in which ways.

Spirituality and T2DM in Belize

Belizeans draw on cultural or spiritual healing traditions for many diseases including T2DM. Indigenous Mayan healers, for example, have diabetes-specific prayers, rituals, and herbal medicines (Hatala, Waldram and Caal 2015). Garifuna healers conduct ceremonies with ancestral prayers calling on the help of the spirits of ancestors who may guide them to use specific medicinal plants and to embrace behavioural changes (Ellis 2010). Christianity is the most practiced religion in Belize in its many forms (e.g., Roman Catholic, Pentecostal, Seventh-Day Adventist, Anglican, Methodist, New Covenant, Mennonite, Indigenous-Christian, Garifuna-Christian), but there is little found in the literature about faith-based diabetes interventions (proven to work elsewhere) applied in this context. While we know that Belizeans practice a rich array of spiritual, religious, and faith-based practices, that cultural-spiritual healers provide care for their communities, and that faith-based missions mobilise international medical volunteers, it is not yet clear how to bridge health care and spiritual care efforts toward better outcomes for people living with T2DM in Belize.

While there is an abundance of literature on spirituality, religiosity, and faith-based practices positively affecting health and well-being, Roger and Hatala (2017) discuss the need for a more specific understanding of how medicine and health care can become responsive to the needs of patients from an increasing plurality of faiths. The purpose of examining spiritual and religious practices is to understand how they affect clinical practice (e.g., lifestyle counselling, behavioural changes, adherence to care plans, patient-provider relationships, the communication of diagnoses, etc.) for treatment to be efficacious. Certainly, providers are right to be concerned, as not all spiritual practices are easily compatible with medical protocols, and some even detract from them and their compliance. Authors found that diabetes patients seeking out spiritual healing in Ghana, Kuwait, and the United States, for example, would not consistently take their medications, which exacerbated complications (De-Graft Aikins 2005; Jeragh-Alhaddad et al. 2015; Koenig 2004).

In summary, more research at the interface of spirituality and chronicity is needed on T2DM in Belize to better understand: 1) prevalence trends across sociodemographic categories to identify key populations for prevention and education programs, 2) the role of corporate social responsibility in transformative research, 3) how to enhance self-management of material and medical

resources for those living with chronic poverty, 4) which specific spiritual practices are being used and how they affect outcomes, 5) potential guidelines for health care providers regarding how to support their patients' spiritual resources for best results, and 6) how faith-based organisations can collaborate in health promotion efforts. This exploratory qualitative study was therefore a first step to address several of these gaps and provide direction for future research priorities and clinical practice.

Methodology

Research framework

This qualitative study used a Constructivist Grounded Theory (CGT) methodological design with an Interpretive Phenomenology (IP) approach. CGT allows for local people to inform and build the theory of what is happening in their lives with their collective lived experiences (Charmaz 2011). IP is interested in consciousness in day-to-day experiences (Hesse-Biber 2017). The questions of how people experience diabetes and spiritual or religious practice and make meaning of interactions are of particular interest for IP, requiring attention at the level of awareness, sensations, cognition, and interpretation (Hesse-Biber 2017). CGT and IP are often used together without the recognition that this is the case through *mudding*, *slurring*, or *blurring*, yet we are explicit about using both (Wimpenny and Gass 2000). While theoretical underpinnings differ at points during the research process, we found them complementary, and in practice, both rely on interviews as a main method of qualitative data generation.

Ethical considerations

The ongoing engagement with Belizean partners helped to ensure the spirit and intent of the study were aligned with community wellness and that no harm will come of it. The entire research process was explained to participants prior to consenting to the detail required by the University of Manitoba Ethics Review Board including purpose, scope, risks, benefits, compensation, declination, withdrawal, privacy, confidentiality, data usage, and storage. Participants were randomly assigned pseudonyms from a list of the most popular names in Belize and Central America. Data were kept on one password-encoded laptop in a locked office. The University of Manitoba Human Research Ethics Board approved the study (HS23313 [H2019:406]). Developments for a research ethics board in Belize are underway, and a Steering Committee guided the ethical processes for the Belizean side of the partnership.

Participants

The population of focus was decided by a local Steering Committee and involved adult Belizeans with T2DM who are not suffering from major complications (e.g.,

blindness, amputation, renal failure). Snowball sampling was used, starting with the local research coordinator, health care administrators, providers, and Belize Diabetes Association (BDA) offices. Our interviewee sample was 11 people (eight women, three men) between the ages of 48 and 89, including one person with partial blindness due to an occupational injury/wound healing complicated by diabetes. Participants were from four of the six districts of Belize, namely Toledo, Stann Creek, Cayo, and Belize City, representing people of Creole, Garifuna, and East Indian heritage. The sample was lacking Mayans, Mestizos, minorities, and people from the Corozal and Orange Walk districts, limited by the COVID-19 public health restrictions that arose.

Data generation

The primary qualitative method was interviewing, though site visits;⁵ discussions with key informants, participatory observation, and field notes were also used. The interview questions were based on the Diabetes Quality of Life Questionnaire, although we modified it to include feedback from the Steering Committee and study participants; it was used as a conversation guide in semi-structured interviews (Hewitt 2007; Liamputtong 2007). All participants' first language was English, the national language of Belize, though varying in dialect. Interviews took place in February and March 2020.

Data analysis

Interview transcripts, corresponding memos, and field notes were coded using Dedoose software with one author taking the lead and other team members providing expert checking and inter-reader reliability for verification. Data were analysed line-by-line and paragraph-by-paragraph, attending to the underlying meanings of what is being said, portrayed, and assumed (Hesse-Biber 2017). Literal codes, focused codes, and analytic categories were used in a systematised order to analyse data for emerging themes through the CGT framework, keeping the human story central (Charmaz 2014). The trustworthiness of the analysis was ensured through: 1) discussion with Belizean stakeholders; 2) reflexivity and integrity as continuous practice; 3) asking how each part of the decision trail impact participants; 4) asking if the emerging theory and story makes sense in context; and 5) looking for the negative cases that disprove or alter emerging theories (Charmaz 2014; Hesse-Biber 2017).

Positionality

Religion and spirituality emerged as a major theme in this work. The authors come from a diversity of cultural and spiritual backgrounds, experiences, and influences, including Garifuna, Bahá'í, Buddhist, Christian, Jewish, and Indigenous ceremonies of North and South America. When we discuss religious beliefs and spiritual practices relayed to us by participants, it is for the purpose

of informing the effect on their health and health care. We do our best to relay what was shared with us without having to agree/disagree, promote or dispute anyone's spiritual beliefs.

Results: Spiritual practices as diabetes care

Ten of the eleven participants in this study reported that they had a strong faith in God, ascribing many health and mental wellness benefits to this. The analysis of qualitative data from this study produced three main themes: 1) "All you need to do is do the right thing": Fasting and building determination, 2) "I don't stress about it": Spirituality lessening mental stress, and 3) "Once you pray, a lot of things get done easy": Prayer as a way of life. These themes focus on the manner in which spiritual practices (e.g., fasting, observing Lent, prayer, referring to sacred texts, meditation) help to build determination and commitment to healthy lifestyle choices for T2DM self-management, and provide relief for both inner tensions and external stressors that could otherwise exacerbate the condition. Our findings also highlight numerous types of prayers used to help with T2DM and chronicity (e.g., prayers for guidance on how to live, for protection from harm in surgery, for help meeting basic needs, for acceptance of one's condition, for surrendering to God's will, and of gratitude for each day of life) and that people most often engaged in spiritual practices daily at home, but did not necessarily attend formal religious events on a regular basis.

"All you need to do is do the right thing": Fasting and building determination

Central to diabetes self-management is eating a diet of fresh fruits and vegetables, proteins, and complex carbohydrates while avoiding addictive simple sugars (Ahmed, Guillem and Vandaele 2013; Franz and Evert 2012). Participants used spiritual fasting practices to strengthen their psychological determination to abstain from problematic foods that exacerbated diabetes symptoms. Inspired by his Garifuna spiritual outlook and practices, George, for example, controlled his blood glucose levels through daily fasting, eating only one small meal each day. Rather than dabble in moderating his consumption of desserts and sweet beverages, he abstained from sugar altogether and focused on eating fresh local produce. He disliked the trend he had seen of people with diabetes needing increasing anti-diabetic drug dosages without changing their lifestyle choices, an important consideration in a country where medications are not always available and/or affordable. As George explained: "We need to do more. We need to get to the root of the problem... I call for fasting, or intermittent faster. Because if you don't eat, your sugar won't go up. I could tell anybody that."

While fasting is not a prescribed activity or ritual of Garifunaduau, cleansing and purification are used in the Garifuna spiritual healing tradition. George was a proud Garifuna man who found personal power in fasting and exercise, having tried and abandoned numerous T2DM-related prescriptions he found ineffective and misaligned with his values. Practicing his spiritual regime

positively reinforced his dedication to his health and to God while his faith reciprocated in strengthening his resolve; he experienced these elements coming together to improve his chronic condition and make life consistently more manageable without the use of pharmaceuticals.

Cynthia was also a Garifuna woman and a retired nurse. She went through months of “binge-eating” after she was diagnosed with T2DM, disbelieving of, and struggling with her shift in identity from being a health care provider to becoming a patient of the health care system with chronic disease. While she was in denial, her blood glucose levels were high and increasing. As Cynthia expressed:

I was in denial. Because when I checked my sugar level, it will be 300, 400, but I don't care, I'm going to take my coke [Coca Cola], eat whatever I want. And it took me about six months to accept the condition I was in. I was in denial. I said, “No!” because maybe I had a lot of coke, maybe because I eat a lot of sweet things. I was in denial for almost six months before I accepted this; I am one of them [diabetic patients] now.

Cynthia came to accept her new limitations, in part, through perseverance, prayer, and faith in God, settling into a clear fortitude: “Having diabetes is a condition that you have to live with, and all you need to do, is do the right thing and have control.” Cynthia considered her coming to acceptance of her condition an important part of being able to follow self-management guidelines, which she was now firm with herself about and committed to. Other participants shared this sentiment of strength and determination, and expressed an attitude of self-responsibility in balance with an acceptance of and surrender to God in an ultimate sense. Felisha, a Creole woman, also outlined:

I hope that in the future, I live many more years and that diabetes don't bother me that much. I believe it's up to me to take care of myself. When God says it's time, I understand that part, but without that, just taking care of myself.

Study participants talked about God as someone or a force that helps them in their day-to-day lives with “heavy lifting” that may be too overwhelming to do on their own, and as a persuasive, consistent, and clear voice of health promotion and encouragement for self-care. As George explained: “For what to do, when to do, what not to do, I pray.” While social support wavered in their lives from time to time (e.g., workout buddies dropping off, simple sugars at family gatherings, alcohol drinking expected at cultural celebrations), their sense of God's presence did not. In this way, comradery or social support extends for these individuals beyond the human realm to the spiritual worlds where God, or personified Creator, becomes their most reliable ally and consistent voice of support. Yvonne, a Creole woman, for instance captured this sentiment expressed by all participants when she shared that “What helps me stay motivated? Oh, everything! I'm a believer in God. He's the person who really keeps me going.”

Some participants in this study also described specific religious observances that helped to solidify their own willpower and positive choices, such as Lent. Lent is a six-week Catholic observance of sacrifice or self-denial from an individually meaningful, often food-related, object of personal choice (people often give up sugar or red meat for Lent). When asked what the most challenging aspect of living with diabetes was, Yvonne again explained: “I think the carbs and the crave for sugar... This is Lent, it’s the Lent season. And that is what I said I am going to give up for this, and if I survive, I know I’m good (laughing).” Yvonne credited observing Lent with fortifying her ability to overcome daily sugar cravings. This discipline and health promoting activity is difficult as sugar induces psychological processes of craving and reward that surpass neurobiological responses to many addictive drugs (Ahmed, Guillem, and Vandaele 2013). Observing Lent in this way, therefore, sets high self-expectations of willpower and positive self-choice, and these are reinforced through accountability to not only others in the spiritual community, but to God; faith in God helps one “rise to the occasion.” Once this strength and ability is discovered and experienced through action in fasting and reflection on that action, the participants commented how this further strengthened faith in themselves-with-God while transforming old patterns of neurobiological responses and cravings.

For many of the participants, Lent also provided a powerful spiritual narrative and “hero” to emulate, namely the Christian biblical Easter story of the crucifixion, sacrifice, and resurrection of Jesus Christ. In Christianity, Jesus is interpreted as God personified and the highest expression of humanity. Participants shared how they drew strength from how Jesus endured being nailed to a cross while still emanating compassion towards his injurers, and through this story they understood their own personal and temporary renunciation or sacrifice (e.g., sugar) as relatively small. In this way, the Hero’s Journey provides profound inspiration to overcome craving and addiction by creating, affirming, then cementing new and healthier neuropathways and habits of spiritual activity, choice, reward, and power.

Finally, gaining spiritual determination to abstain from cravings also applied to alcohol. Alcohol consists of simple sugars, and alcoholism is well known to exacerbate diabetes (Barcia et al. 2015; Kim and Kim 2012; Weaver and Mendenhall 2014). Maurice and Henry both quit previously significant amounts of partying and alcohol drinking when they were diagnosed with diabetes. Henry, an East Indian man, explained:

Well, I grew up in a Catholic mission. Then I have turned over to a New Covenant Church... Yeah, it helps! Because before, man, I used to be out there drinking a beer, drinking all these things that don’t agree with this diabetes thing... It’s helped me a lot.

Living with diabetes can be more difficult, complicated, and fatal for those with a co-morbidity of alcoholism. Strong spiritual practices, such as prayer and fasting, coupled with accurate medical information, can facilitate with limiting

alcohol and sugar consumption and with a determination to choose a different, more wellness-promoting, path in life.

“I don’t stress about it”: Spirituality lessening mental stress

Despite the seriousness of the topic, most participants smiled and laughed a lot throughout their interviews. Nine participants expressed that Bible readings, prayers, and meditations guided them to “not stress,” that they were supported to maintain peaceful relationships with other people, and that their health and mental health benefitted accordingly. They described strategies like moving to the countryside, staying home more often, actively modifying their state of mind through meditation and prayer, not holding malice toward other people, emanating goodwill toward their community members, and asking God for what they need. In many cases, it was a matter of following their spiritual teachings regarding “dwelling within a trusting relationship with God” and “nurturing a positive outlook on life,” such as those found in biblical texts, that were helpful at developing these positive mental attitudes and practices. When asked how she coped with the T2DM-related stress, Isabella, a Garifuna woman in her late eighties, outlined:

I pray a lot. I refer to my Bible readings. I interact with my past students, my friends, and my family. They come to help me a lot. So far, I try to live a stress-free life, realising that I have lived a full life. I don’t worry too much about other things that are not important. And I love people... I believe that as a Christian, as a child of God, I accept everyone. My mother used to say, “You don’t do to others what we don’t want them to do to you.”

Yvonne similarly found mental stress-reducing reassurance and lifestyle guidance in sacred texts and prayer practice. As she expressed:

The Bible tells you not to worry about anything... Make your concerns known to God. And because I used to, I worked for years, and I had a supervisor position, and it was very stressful, and I realise that stress makes you ill. When I read that, that is my foundation. You don’t worry about anything. You tell him what you need, and he’ll provide it. And he has. It has improved my mental health and my physical health of my body. It is a connection. And my health has improved because of that.

Reflective of these passages, when Felisha was also asked to say more about not holding malice, she explained her personal approach inspired by biblical passages, as well as her prayer and meditation practices:

When having diabetes, you don’t want to be frustrated. You don’t want to be quarrelling with people. You don’t want to get into any mess, you

know? So, if anybody want to quarrel with me, I don't pay them no mind. I just sit down there and let them talk, and when they get enough of talking, well, that's their thing. We are friends again. I don't hold malice and say, I am vexed with this one and I won't – No, no, no! That's the way how I live my life. And it's good for everybody who have diabetes. Don't wanna have nothing holding over their shoulder. Diabetes is enough... 'cause can't hold malice at people when you're sick too.

Making peace and setting boundaries on interpersonal drama in relationships was inspired by spiritual practices and teachings. Natalia, a working mother of three, semi-jokingly warned all her family members and colleagues that if they gave her stress or made drama, then they would kill her. Isabella evoked a spiritual sense of kinship with her fellow human beings as a way of life. She explained: "I try to be pleasant and welcoming to everybody. I love my children and try to instil into them that you have to be pleasant to everybody. To me that is the important part of life." Cynthia also said she had no stress except not being able to consistently afford what she needed. She and others described not stressing as a way of being in the world, and as a perennial rebuttal of negativity even in the face of poverty and chronic illness. Josefina, a busy Garifuna grandmother, similarly said: "I relax my mind and don't let nothing bother me." Meera, an East Indian woman, also shared: "I just don't worry about it because the more I worry about it, the worse it gets for me."

Overall, prayer, meditation, and referring to sacred texts helped participants to feel peaceful inwardly, as well as outwardly caring toward other people, affecting their relationships positively while mitigating their psychological stress to make for healthier, easier T2DM living.

"Once you pray, a lot of things get done easy": Prayer as a way of life

Participants in this research described various types of prayer that they draw on in their lives. As explored above, participants prayed for strength, determination, and commitment to healthy behaviours and overcoming addiction; they prayed for acceptance of their condition and the ability surrender to God's will; and they prayed for harmonious relations in their families, their communities, and peace within themselves. At the same time, they also talked about praying to stay mentally and spiritually strong even when they were feeling physically frail and facing poverty, which gave participants the "lift of God's presence," guiding their lives and making enduring chronicity easier.

Additionally, participants used prayer to feel closer with God and for returning to trust in times of turbulence. George had suffered four years of preventable medical complications and difficult experiences of the health care system that had left him partially blind and unsure which of his physicians (who were in disagreement) he could trust. He provided an example of the power of faith in enduring difficulties and of personal prayer for help in hard times:

I believe in God, you know. I believe in God. I know that once you pray, a lot of things get done easy... I'm sure it helps. A lot, lot, lot. When your situation is not going forward, not getting there, that's when I pray.

Meera was experiencing health issues that were more pressing than her T2DM at the time of the interview. She decided not to think about or impose her will on the future, preferring to surrender to God. She used prayers like daily blessings to give thanks for each day of life. She provided an example of personal prayer for surrender to God's will and gratitude for life: "I live just one day at a time. Because then, there's no tomorrow. That's the way I see it. When you live to see another day, just say, Thank God."

Participants also shared how they prayed for protection of their health, including emergency surgeries in health care settings and daily preventative care practices at home. They often attributed good outcomes to the good will of God. Meera said:

Recently, about a year now,... I get a surgery on like Tuesday, and Wednesday, I was home, praise God. Just like I didn't get a surgery. And I was worried because they say, I am a diabetic and could get hard to heal. But no.

Felisha described a similar experience:

Two years ago, I got a hysterectomy... And thank God, I didn't catch not one infection. The eighth day after my surgery, I'm driving the car. The ninth day, I went to take out my stitches, I washed my clothes, I do everything. Without an infection, praise God, no infection.

Praying for health protection and asking that one's health needs be met not only crystallised patients' priorities within themselves, but it also multiplied feelings of gratitude when those needs were met and allowed for acceptance when difficulties arose. Similar to prayers of trust that God will provide, participants experienced feelings and thoughts of gratitude that replaced psychological stress and worry with a sense of peace and wellness. Prayers of gratitude for the blessings in life focused participants' thoughts away from wishing for another reality in which they do not have diabetes. When Meera was asked about her toughest daily challenges, she said: "I don't really find it hard... I personally thank God for it." Meera felt that complaining was not of any help to her, and that she had to sometimes fight for the state of her health and at other times, surrender. When Rosa, who was past the age of retirement, mentioned she was a (Methodist) minister, she was asked how her spiritual relationship might affect her health and/or her well-being. While she admitted that working her full-time job on top of her clergy work could tire her out, she shared an example of personal prayer for balance, health, trust, and in gratitude:

I think that probably helps me to keep it in balance. I pray about it, pray for healing. Over all these years, all the time, it used to be, oh, 200 [blood glucose

levels], but it never affected my sight or anything. So, I said, probably God takes care of it. Praying and making sure that I meditate, and I watch it isn't getting any worse. Cause I hear about people talk about 400 and 500. Then their eyesight start going. But no, everything just kinda was normal, in order to live with it... (laughing) I don't have time to be sad. No, no, no! No time for sadness. Give thanks for everything! Every little thing.

From a different angle, Isabella practiced a synergy of Garifuna and Roman Catholic spiritual and religious traditions, sharing a unique insight into cultural variations on prayer practices. This included the spiritual work involved in divining the messages sent in dreams and calling on one's spiritual inheritance through ones' ancestors. She shared a little about the most sacred ceremony of honouring the ancestors by Garifuna family/community called the *Amalihani* (abbreviated to the *Mali*) which includes dance and prayers:

Well, you have the *Mali*. There is the belief. I personally admire our practices to invoke the help of the spirit of our ancestors. When we dream about the ancestors, and we talk with them as we are talking now. It is mainly in our dreams that we talk as Garifuna. It is a sad situation that the church condemns it and says it's paganism and what not. And this is what has caused a lot of people to look down on the culture, say negative things, and not want to accept themselves. And that is where we have gone wrong. That is it. But gradually now, the trend is changing because when our children go abroad to study, and they realise that has happened. They say, Well, this is me, I am Garifuna. I do not have to believe everything my ancestors' believed, but I can sift out and get the good out of it. Because from every good there is some bad, and from every bad there is some good (laughing and smiling).

Indigenous spiritualities, such as those of the Garifuna people, have survived many colonial oppressions, thus providing practitioners insight and fortitude in surviving types of social chronic adversity, including chronic disease. This spiritual philosophy and historical inheritance helped Garifuna people to survive, endure, be resilient, and thrive (Ellis 2010). It helped Garifuna participants, and similarly other Belizeans, to accept the aspects of diabetes that seem negative alongside those experienced as positive, in the sense that they are two sides of the same coin, or two parts of a whole, and this lessened emotional vicissitudes of living with diabetes, even the literal spikes and drops in blood sugar, which can feel dizzying, frightening, and weakening.

Discussion

This exploratory study identified that people living with T2DM in Belize use spiritual practices (e.g., prayer, fasting, meditation, rituals, reading sacred texts) that empower commitment to health-promoting behaviours. The study findings

demonstrate that spiritual practices lessen the otherwise compounding psychological stresses of dealing with chronicity and can provide the strength and endurance needed to live each day, to live with peace, joy, and gratitude. Fasting, praying for acceptance of one's condition, and observing Lent, were examples of spiritual practices that helped build the discipline and determination needed for participants' diabetes self-management tasks. This included daily exercise and refraining from sugar and alcohol. Reading sacred texts, following spiritual teachings, engaging in prayer and meditation, all helped participants reduce the stress from their interpersonal relationships, their workloads, and their internal tensions. Numerous types of prayers were described by participants such as counting blessings, asking for protection, and listening for guidance. Ten of 11 participants engaged in spiritual practices at home each day but did not necessarily attend church or ritual on a regular basis. Overall, this study illustrates how spiritual practices are an important part of health and mental wellness for people living with chronic conditions such as diabetes and may represent an under researched resource, in Belize and elsewhere, for improving mental wellness outcomes.

Spirituality, mental wellness, and chronicity

A quantitative analysis between religiosity and self-management in older adults with diabetes in Mexico (Rivera-Hernandez 2016) found a positive association. This author illustrated that those involved in their church tend to exercise more, smoke less, and drink less alcohol. This also builds on a study that demonstrated similar results in a youth (aged 11 to 15) population in Canada where those with higher spiritual health scores engaged in less health risk-taking behaviour (e.g., less smoking, alcohol use, drug use, sexual intercourse); the study concluded that it is important to differentiate spirituality from religiosity, and that the former is a protective factor (Hatala et al. 2020).

While this and several other studies have “used church attendance as the main measure of religiosity” (Rivera-Hernandez 2016, 9), our study suggests many people find faith in God and spiritual practices important to managing diabetes, but do not necessarily attend church or religious events on a regular basis, instead relying on the day-to-day management of diabetes in homecare and “homework” (Mattingly, Gron, and Meinert 2011). By advancing the notion of “chronic homework” Mattingly, Gron, and Meinert (2011) drew our attention to the kind of cultural “work” that patients and families are expected to carry out in their home or “popular health sector” contexts in the day-to-day management of their chronic conditions. Such “low-tech” social technologies and day-to-day strategies, or “work of coping,” these authors argue, have received minimal attention in the academic literature (Mattingly, Gron, and Meinert 2011), and we would add that a similar situation can be seen with spiritual or faith-based coping practices.

Through a movement toward promoting self-management, a substantial burden of chronicity “homework” is placed on patients involved in diabetes care (Roger and Hatala 2017; Mattingly, Gron and Meinert 2011). Self-

management assumes patients can afford nutritious food, clean water, glucometers, testing strips, and to live in a peaceful place, with caregivers for the elderly, amputees, the visually impaired, or other people with complications; many people in Belize cannot afford these things, and rely on a patchwork of volunteer efforts, government, and private systems (key informants, 2020). While gender-based analysis is often missing in the T2DM studies, there are studies that note that such chronicity “homework” falls more often on the shoulders of women than of men (Arifin et al. 2020). According to Arifin et al. (2020), Indonesian women with diabetes, for example, have both more caregiving duties and greater stress than their male counterparts. These women manage their own diabetes without additional support, despite compounding stresses of paid work, housework, kin work, and chronicity homework, while men feel their diabetes does not contribute stress, because the women in their lives look after them (Arifin et al. 2020). Though most of our participants reported not experiencing much stress, those who did were working mothers, those who could not reliably afford what they needed, and those who had experienced negligence at the hands of the health care system.

Similarly, while spirituality and social support are often lumped together in the literature, this assumes people who attend a church, temple, or mosque benefit from the community and outreach of these communities (Darvyri et al. 2018; Permana 2018). Our study suggests that individual, at-home, spiritual practices pertaining to T2DM self-management merit more inquiry. A cross-sectional study on spirituality, social support, and diabetes in Peru defined “social support” as nurses counselling and collaboratively goal-setting with the patients, rather than the care one receives from one’s spiritual community (Krederdt-Araujo et al. 2019). Authors found that when nurses provided spiritually intelligent social support services in their regular visits with diabetes patients, adherence levels to care plans increased (Krederdt-Araujo et al. 2019). Though health outcomes were not assessed subsequently, authors theorised that adherence to care plans would be expected to improve outcomes (Krederdt-Araujo et al. 2019). They concluded that this approach could improve clinical management by mobilising spirituality and social support to optimise patient self-care (Krederdt-Araujo et al. 2019). Our study confirms that these are worthy directions for health care providers and systems to pursue, not only in Belize but perhaps more generally as well.

Living with diabetes predisposes people to higher risk of psychological conditions like depression and excessive stress, both of which already disproportionately affect those living in poverty (Sam, Ghosh, and Richardson 2015; Weaver and Mendenhall 2014). Depression has been linked to long-term chronic diseases such as T2DM in studies in other countries (Darvyri et al. 2018; Heidari et al. 2017). Mental health issues carry substantial social stigma in some parts of Belize, and there is work to be done in addressing these issues. Key informants at the BDA suggest the need for screening all T2DM patients for depression and mental health issues. They have started practicing letting patients know that mental and emotional aspects are important aspects of health, offering links to supports and resources for the people that come

through their doors. More efforts like this could help those living with T2DM in Belize through the difficulties of living with chronicity.

While depression and stress are typically more prevalent in people living with diabetes, the Belize situation may or may not agree with the literature. The small sample of people in our study consistently reported very little to no stress, but this cannot be generalised to the population at large. In a sample of impoverished youth living in Belize City, for example, different results could be anticipated. Stress and depression are possibly under-reported because of stigma, under-diagnosis, and/or low help-seeking behaviour. Alternatively, the pervasive feeling that was shared by participants (e.g., “I honestly have no stress,” and “I don’t get down,” and “I don’t let it bother me”) could be indicative of the richness of the cultural and spiritual or religious practices in Belize. Participants laughed a lot, even when discussing the gravest consequences of having the disease, with remarkable capacity to find humour in dark circumstances and lightness in chronicity. Scheper-Hughes wrote about resilience as people “having a talent for life,” the ways people adapt and endure not only chronic illness, but also difficult living conditions perpetuated under the forces constructed by macro-political economic movements (Vigh 2008, 18). Just as chronicity takes on meaning unique to Belize, so too does wellness and resilience. Spiritual practices greatly facilitate people with T2DM in Belize carrying on living with determination and commitment to health while rebuking stress and negativity in the face of chronic disease and poverty.

Our findings about health-enhancing spiritual practices can assist in improving both T2DM clinical management and self-management; this is in agreement with similar findings from countries such as Iran, Indonesia, Malaysia, Thailand, Sudan, Nigeria, Sweden, the United Kingdom, Australia, Canada, and the United States (Ahmed 2003; Arifin et al. 2020; Brown et al. 2013; Heidari et al. 2017; Jacklin et al. 2017; Lundberg and Thrakul 2013; Marshall and Archibald 2015; Permana 2018; Rubin, Walen and Ellis 1990; Saidi, Milnes and Griffiths 2018; Unantenne et al. 2013). Fasting, observing Lent and other rituals, prayer, meditation, and referring to sacred texts are some of the spiritual practices present in Belize that may represent an underutilised resource and source of wellness for people living with T2DM, chronicity, and the exacerbations of poverty. Health care providers (HCPs) and planners can therefore increase opportunities to support patient wellness and mental health by better understanding the local cultural resources and spiritual practices of patients, as well as through collaborating with spiritual or religious health practitioners and healers.

Implications for health care providers

Literature on the clinical management of diabetes for those who practice fasting outlines risks (e.g., hypoglycaemic events, malnutrition, etc.) and benefits (e.g., weight loss, reduced insulin intake, lower risk of heart attack and stroke, etc.) (Grajower and Horne 2019). There is also some literature on Ramadan-specific diabetes care (Al-Arouj et al. 2010; Lee et al. 2017). Our findings agree that it is

important for HCPs to ask their patients about health-related spiritual or religious practices such as fasting, to advise patients on diabetes management implications of their spiritual fasting practices, and to work collaboratively with patients to develop appropriate care plans.

Similarly, HCPs can ask about spiritual practices such as prayer. Medical doctor and researcher Rossiter-Thornton (2002) described a non-denominational approach to addressing patient-centred needs that included a model called the Prayer Wheel. Our research findings suggest that this tool, or a similar tool adapted for the Belizean cultural context, would likely be: 1) welcome by patients, 2) facilitate patient-provider communication, 3) promote positive health behaviours, and ultimately 4) improve health outcomes. While physicians may be reluctant to address spirituality as a part of health care provision, there are important implications for clinical practice that can be addressed with a few short questions embedded into medical history interviews (George et al. 2013; Koenig 2004, 2014; Rossiter-Thornton 2002).

The literature calls for training HCPs on overall awareness of patient cultural and spiritual practices, on spiritual resource assessment, on positive associated factors, and on negative shifts to look out for (e.g., loss of faith in God with diagnosis, negative fatalism deterring self-help efforts) (Roger and Hatala 2017). Our findings agree with previous work suggesting that it can be beneficial for HCPs to routinely ask about patient spirituality in their medical history taking and improve adherence to care plans through being open to patient spiritual practices, referring patients to spiritual resources, and engaging with faith leaders (Heidari et al. 2017). Finally, our findings also suggest that individual HCPs in Belize can facilitate improved outcomes by sharing diabetes information with faith leaders and by becoming more knowledgeable about local spiritual practices, cultural activities, and resources, but that these efforts would further flourish with support from health care administrators.

Implications for health care system planners

Acknowledging and meeting the need for mental health services can be helpful in reducing social stigma, reducing depression and anxiety, and improving T2DM outcomes (Hackett and Steptoe 2017; Permana 2018; Weaver and Mendenhall 2014). Telling people matter-of-factly that mental health is an important part of health, that depression can be a part of diabetes but does not have to be, and that there is support available can be very helpful to overcome a cultural climate that was described by informants as: “We’re a people who don’t want to talk about our health, especially old people,” and “If you say you have depression here, it casts you as an outsider, so, no people won’t talk about themselves like that,” and “Diabetes, like cancer, people are afraid to talk about it because they don’t want people to know. If they talked about it, they could help it. But they give up hope.” There were stories of a friend whispering confessions of having diabetes after years of hiding it and it being confused with HIV. It would be useful to get underneath these issues to help people share

more about diabetes in a safe space, and there is a role for health system planners in this.

Day camp programs aimed at education for prediabetic youth in the United States have been successful at reducing prevalence and improving outcomes; physician organisers stress the importance of consistent messaging, defining the struggle against diabetes as a war against veracious sugar and sweet beverages (SSB) marketing campaigns (Stevens 2019). Stevens (2019) notes the challenges posed by the fact that eating right and exercising do not show youth immediately gratifying effects, while SSB consumption does. Our key informants discussed how the Belize economy has been transitioning toward more sedentary forms of employment, and that their population was increasingly consuming processed foods. Further, drinking SSB was often perceived as a symbol of higher social status, and that SSB companies often sponsor elementary schools that would be otherwise underfunded. SSB billboards can be seen in a central position in schoolyards promoting consumption to children, and providing permanent, influential messages. Still, evidence shows that something as small as a two-day diabetes camp filled with education and fun sports can make a significant difference in health outcomes while simultaneously mobilising communities (Stevens 2019). Supporting and evaluating educational day camps and prevention efforts in the context of Belize is an important area for future intervention and study.

Studies in marginalised communities in the United States have also shown success in faith-based intervention strategies with adults with T2DM from Pentecostal church groups (Marshall and Archibald 2015; Stevens 2019). Our study describes an underlying need for more T2DM prevention and education programming in Belize and suggests that intervention approaches such as collaborative educational sessions with combined health care and faith organisations would be beneficial in slowing the spread of diabetes in Belize. Our findings also suggest that bringing people together from the silos of health care and cultural-spiritual or religious traditions would also be beneficial in promoting interdisciplinary dialogue, understanding, problem-solving, innovation, research, and development initiatives with the shared purpose of improving care for people living with T2DM in Belize (see Figure 10.1 for more details).

Areas of future research

Participatory, transformative, and capacity-building research would be a useful area of study to increase research and development opportunities for aspiring researchers in Belize. Boosting local capacity may be especially important to communities such as the Indigenous Mayan where people are more comfortable working within their own worldview framework and speaking in their first languages with local interviewers. Interviews with local Community Health Workers (CHW), Allied Health professionals, herbal doctors, cultural-spiritual healers, and faith leaders could contribute much to the literature. It would be useful to understand more about culturally specific (e.g., Mayan, Mestizo, Garifuna, etc.) diabetes-related practices and beliefs and how they affect outcomes. Research on

Figure 10.1 Recommendations for coordinated service provision between health care providers and community leaders.

prevalence differences across socio-demographic categories would be useful to identify priority populations for prevention and education programs. Research could also inform emerging guidelines for health care providers on how to address their patients' spirituality so as to move them toward the best health and mental health outcomes. Further research could also inform how the sectors of health and faith can exchange knowledge and collaborate in health promotion efforts.

Strengths and limitations

One strength of the study is that CGT provides in-depth knowledge within context, so it can readily inform location-specific health care policy decision-making, possibly leading to new understandings, new theories, or building on established theories (Charmaz 2014, 2011). It can generate ideas, policies, solutions, action, and theories from the grassroots level by digging into local realities; it is a good way to listen to the voices of people most impacted by issues, and it resists the importation of theories from elsewhere (Charmaz 2011; Creswell 2018; Hesse-Biber 2017).

A limitation of our study is that we did not have the opportunity to interview a representative sample, which would require more interviews with people from communities such as the Mayan, Mestizo, Mennonite, Chinese, migrant worker, other visible minority communities, as well as people from the Corozal and Orange Walk districts. Another limitation of the study is that it is not possible to analyse demographic differences across class, ethnicity, race, gender, age, geography, access to National Health Institute (NHI), or other descriptors due to the small sample size. Finally, we also acknowledge these findings did not focus on or demonstrate negative experiences with religion or spiritual practices and resistance with health care approaches to T2DM care.

Conclusion

The voices of the people of Belize are diverse, important, and insightful. This qualitative exploratory study allowed for some understandings to emerge where there had been a dearth of knowledge on spiritual attitudes and practices toward diabetes in Belize directly from people themselves. The main findings include that a central instrument of wellness in the face of chronicity is a rich and pervasive spiritual vision that guides people to healthier lifestyles, to find meaning, to psychological wellness, and to transcend daily suffering. Church attendance is not an adequate measure of spiritual practice in Belize because people frequently pray, meditate, and refer to spiritual texts at home as an important part of T2DM daily homework and self-management. There are important implications for HCPs, for policy and planning, and for research and development. In working toward becoming more hospitable to patients' spiritual understandings and experiences of chronic disease, the health care system has the potential to stop the silencing and marginalisation of those living in chronicity, of topics of spiritual health, and of the ways these forces coalesce. This, in turn, can lead to new innovations and collaborations for quality, integrative care.

Notes

- 1 In collaboration with local research coordinators, community health workers, the Belize Diabetes Association, the Ministry of Health Belize, the National Health Insurance Office, and the World Diabetes Foundation which all have representation on the project's Steering Committee, and in partnership with the University of Manitoba, Canada.
- 2 Type 2 diabetes mellitus accounts for the vast majority of diabetes in Belize and will be referred to interchangeably with the shorter terms "diabetes" or "T2DM" for the purposes of this paper.
- 3 Elaborating on the intricacies of definitions of the terms "spiritual" and "religious" are beyond the scope of this paper. "Spirituality" is used as a term inclusive of "religiosity." Similarly, "spiritual" is conceptualised as inclusive of "religious." For a more in-depth discussion, please refer to (Koenig 2008).
- 4 BMI is inexpensive to calculate and more "visible" than other risk factors.
- 5 Site visits included meetings at the offices of National Institute of Cultural Heritage, Ministry of Health, National Health Insurance office, Belize Diabetes Association (Punta Gorda, Dangriga, and Belize City locations), Punta Gorda Polyclinic, San Antonio Clinic, administration offices (Punta Gorda, Dangriga, Independence, and Belmopan), University of Belize, and in the community.

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