We have on this earth what makes life worth living
April's hesitations
The aroma of bread at dawn
A woman's opinions on men
The works of Aeschylus
Grass growing on a stone.
Mothers living on a flute's sigh
And the invaders' fear of memories
We have on this earth what makes life worth living

- Mahmoud Darwish

A GROUNDED THEORY STUDY ON THE HEALTH RESILIENCE OF ARABIC-SPEAKING REFUGEES WITH TYPE 2 DIABETES MELLITUS IN NEW BRUNSWICK

by

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ABSTRACT

Health resilience improves coping, disease management, and quality of life for people living with chronic disease. Due to challenges posed by displacement, lifestyle changes required for managing type 2 diabetes, and disruptions caused by COVID-19 mitigation measures, there is increased risk for complications for newly arrived refugees living with type 2 diabetes, but many manage well. The purpose of this study was to explore how Arabic-speaking refugees in New Brunswick use health resilience to manage type 2 diabetes during resettlement in Canada, within the context of the COVID-19 pandemic. A grounded theory approach was used to describe the process of health resilience from participants' perspectives. Self-reliance was found to be a core driver of participants' decision-making, actions, and interpretations in health management and resettlement. Future examinations of self-reliance may increase understanding of health resilience and unveil clinical applications for others living with chronic disease.

DEDICATION

I dedicate this thesis and the years of time, work, and other commitments it represents to my mother, Suzan, the most resilient person I know. I also dedicate it to my husband Mike, children Tariq, Atlas, and Aida. Without your love and support, I could not have made it here. Finally, I dedicate this work to the participants who have helped me learn about resilience in health and in life. Thank you.

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List of Abbreviations

CIC- Citizenship and Immigration Canada

GAR- Government Assisted Refugee

PSR- Privately Sponsored Refugee

T2DM – Type 2 diabetes mellitus

UNHCR- United Nations High Commissioner for Refugees

WHO- World Health Organization

Chapter 1 Introduction and Background

Health resilience has been found to improve coping, disease management, and quality of life for people with type 2 diabetes mellitus (T2DM). However, not much is known about how the process of resilience in health conditions may lead to better health outcomes. The proportion of Arabic-speaking refugees in Canada is growing and understanding how those affected utilize health resilience to manage T2DM is critical for healthy resettlement. In 2015, Canada accepted nearly 50,000 Syrian and other Arabic-speaking refugees from previous waves of displacement, yet limited data highlights the health concerns of this population. Due to the challenges posed by resettlement, pre-migration conditions, and the limitations in resources posed by COVID-19 mitigation measures, there is increased risk for complications in this population. In this introductory chapter, the concepts upon which the study question was developed (health resilience, diabetes, and Arabic-speaking refugees) are examined. Chapter 2 describes the methodology and methods, while chapter 3 is dedicated to the ethical considerations. In chapter 4, study results are presented within a manuscript format, followed by chapters 5 and 6 dedicated to implications and knowledge translation, respectively.

Resilience is a process of striving for recovery and growth from adversity. Studies examining resilience differ in viewing resilience as an innate ability, a learned skill, or a part of an iterative process. The concept has been examined extensively in the fields of child psychology, education, and mental health (Richardson, 2002; Werner & Smith, 1989; Womble et al., 2013). It has become of interest in more recent health studies for its potential to prevent and modify disease (Hilliard et al., 2012; Rohan et al., 2015; Wilson

et al., 2017). Building resilience has been identified as a priority in *Health 2020*, the World Health Organization (WHO) framework on achieving optimal health for all (Ziglio, 2017). For the purposes of this research, health resilience refers to the iterative process that moves the individual forward from diagnosis towards recovery or maintenance. Healthcare providers may benefit from understanding the process of health resilience in patients to nurture coping and adaptation and to promote health and quality of life.

Type 2 diabetes mellitus (T2DM) is a highly prevalent chronic non-communicable disease, globally and in Canada, that is characterized by abnormal blood glucose, which may lead to complications relating to tissue and organ damage and poor quality of life (Public Health Agency of Canada, 2018). It has become highly prevalent in New Brunswick as one in 10 individuals living in this province are also living with the disease, a rising trend related to both the aging of the population and social determinants of health (Government of New Brunswick, 2016; Jameson, 2018; Statistics Canada, 2017a). Many refugees from developing countries are suffering from a T2DM epidemic, such as those in the Middle East, Africa, and South Asia (World Health Organization, 2018). To successfully manage this disease, the affected individuals needs to have sufficient knowledge, access to resources, and coping skills in order to modify their lifestyle (Fritz et al., 2016; Wilson et al., 2017), all within a supportive social and economic environment. For example, the individual needs to understand which foods are nutritious, where to find them, how to afford to buy or grow them, and to be persistent in following dietary requirements to manage T2DM. The person managing T2DM must become familiar with the resources that allow him/her to access healthy and nutritious foods

regularly, hygienic living and working conditions to prevent injury and infection, and to receive and adhere to medication regimens. Health resilience may play a critical role in facilitating disease management and quality of life (Wilson et al., 2017). However, a more in-depth exploration of how health resilience can be used in managing T2DM is needed.

Canada's population grows mainly through migration (De Maio, 2010). Tens of thousands of newcomers arrive to this country as refugees annually (Government of Canada, 2018). In New Brunswick, Arabic has become the most frequently cited mother tongue (other than English or French) (Statistics Canada, 2017b), indicating the growth in this newcomer population in the province. Because of war and political instability, many refugees come from Arabic-speaking countries, such as Syria, Iraq, Libya, Egypt, and Somalia. Over half of all refugees admitted to Canada from 2014 to 2019 were Arabic-speaking (Citizenship and Immigration Canada, 2019a). Unlike immigration guidelines, which require applicants to be fairly healthy, educated, and financially independent, refugees are granted admission to Canada based on need (Gabriel, et al., 2011). Therefore, many refugees arrive in Canada having experienced physical hardships, deprivation, and trauma. More attention to this population's health is needed to better support its integration. Currently, most healthcare systems in Canada are not equipped to assess or address the unique needs of newcomers to Canada (Beiser, 2009), a reality that has direct impacts on the wellbeing and resettlement of newcomers, particularly refugees whose health needs may need prompt attention after arrival.

Many of the refugee-producing countries are also characterized by a high prevalence of T2DM (United Nations High Commission for Refugees, 2014). However,

it is unknown whether prevalence of T2DM in refugees to Canada reflects prevalence in their countries of origin, due to limited research in this area. However, if this is the case, resettlement challenges (such as language barrier, financial hardship, different healthcare system, etc.) pose an additional barrier for individuals to manage T2DM after arrival. Given that refugees have already coped with challenges to health, safety, and other basic needs of life due to pre-migration conditions, the process of resilience in these individuals may have already been refined to assist them in managing T2DM as they face new challenges. These challenges include the linguistic, environmental, economic, and social differences they must recognize and navigate to access the resources necessary for staying healthy. In addition, such settlement challenges are now experienced within the context of a global pandemic of the novel coronavirus disease (COVID-19), which has been associated with increased risk of severe complications among people with T2DM and created unique changes to conventional resettlement and health management.

In response to the COVID-19 outbreak, declared a pandemic by the WHO in early March 2020, Canadian governing bodies of all levels began a series of mitigation measures to limit the spread of the infection (Government of Canada, 2020), presenting additional and unique challenges to refugees. In New Brunswick, as in the other provinces and territories, these measures included the closure of schools, recreational facilities, and all other non-essential establishments (Government of New Brunswick, 2020a). Newcomer-serving agencies, such as the multicultural councils, which are a lifeline for many refugees who face language and other challenges in accessing essential services, were included in the closures of in-person services. Healthcare services were also restricted to urgent services only, with primary care services limited to remote

consultations and many elective procedures in hospital or community facilities cancelled or delayed (Horizon Health Network, n.d.) for a few months. Refugees and Canadians who are managing a chronic disease could not access routine preventative care in person such as diabetes education, foot care, primary care, and others for at least three months in the spring of 2020, which may have resulted in further delays as clinics addressed backlogs from the temporary closures. Social distancing measures were also legislated so that no two persons who do not live in the same home may come within two meters of each other (Government of New Brunswick, 2020a). For refugees, social distancing has also made it difficult to receive assistance from volunteers or other community supports who would normally provide settlement assistance, language support, transportation, and other services. Finally, most public service announcements in New Brunswick are provided in the two official languages, English and French, adding further challenges to adhering to mitigation measures for refugees without access to newcomer services.

Although Arabic-speaking refugees may face additional difficulties in resettlement because of the COVID-19 pandemic due to reasons mentioned above, they also have resilience. These individuals have overcome remarkable difficulties to maintain health in challenging conditions before arriving in Canada, and continue to overcome challenges posed by language, loss of social support systems, income, and others. Resilience has been a catalyst in the journey towards better health and living (Simich & Andermann, 2014). However, not much is known about how resilience carries individuals towards positive outcomes. With limitation of services, economic losses, and other challenges that a majority of Canadians now face because of the COVID-19 pandemic, understanding how resilience facilitates health protection may inform other individuals with T2DM on

living and thriving with current measures. Specifically, service providers working at fractions of pre-pandemic capacities, such as newcomer-serving agencies or home-support services may benefit from understanding resilience in Arabic-speaking refugees by identifying resources that promote health and coping outside of those provided by conventional services.

In my experience as an acute care nurse, I have observed many patients live well with chronic illness, despite the many obstacles to do so, such as financial difficulty, poor literacy, or competing needs. I came to develop a strong curiosity about how these individuals manage to do so well and learned that they would be labelled as resilient. I also learned about the many challenges that refugees face in adapting to a new life, with or without chronic illness, in my personal and professional life, and wondered how these resilient individuals *become* resilient in facing daily challenges. In my pursuit of graduate studies, it became clear that what I am interested in is to uncover the process of resilience in such individuals that leads them from vulnerability to thriving, despite the obstacles that may hinder the ability to manage a chronic illness. I also wish to explain how resilience may assist other similar individuals in working towards a positive outcome during resettlement while living with a chronic condition. Grounded theory allowed me to work towards these research goals.

In this study, I was interested in exploring how Arabic-speaking refugees living with T2DM may use health resilience to manage their disease and health during the COVID-19 pandemic mitigation measures in New Brunswick. Through a grounded theory approach, I offer some insight into the process that allows resilient individuals to cope and settle in their new home, participate in prevention of the spread of COVID-19

infection, while learning how healthcare providers may recognize and, perhaps, nurture resilience in other refugees who may be living with T2DM or other chronic conditions.

1.1 Literature Review

Resilience is a new construct that originated in the physical sciences and was adopted by the social sciences in the mid-twentieth century (Mebarki, 2017). To understand how this concept is useful in examining disease management within the context of distress (as in displacement and pandemics), some background literature will be reviewed. A scoping review was completed using CINAHL, PubMed, and Google Scholar databases to explore how the term resilience was defined and studied in a range of health and social science research articles. As grounded theory aims to generate new theory about a concept- in this case, health resilience- performing literature reviews before the research is conducted was initially discouraged because of its potential to bias the researcher going into the study (Corbin, 2013; Glaser, 2012). The literature review, though not part of classical grounded theory, can help identify how the existing literature identifies concepts of interest, establish whether a theory already exists on the studied phenomenon, and support study rationale (Dunne, 2011). Therefore, this review serves to inform the reader and myself of the researchers' understanding of the concepts being used, rather than a theoretical framework (Corbin & Strauss, 2008).

The term *resilience,* derived from the Latin verb *resilire* – to recoil- is "the capability of a strained body to recover its size and shape after deformation caused especially by compressive stress," and "an ability to recover from or adjust easily to misfortune or change," (Merriam-Webster, n.d.). The first definition came from the

physical sciences, usually referring to resilience of different metals against shock. First defined in 1904, resilience not only defined the ability of a metal to return to its original shape after being exposed to shock (such as extreme force or temperature), but the metal's ability to withstand future shocks after the initial one (Mebarki, 2017). Since that time, the construct was adopted by many other fields from ecology to child psychology (Clauss-Ehlers, 2003; Miller-Lewis et al., 2013; Womble et al., 2013). Each discipline defines and measures the concept differently to develop different applications. Resilience in health or health resilience is more recent (Clauss-Ehlers, 2003) and was the phenomenon of interest in my research.

Definitions of Resilience

Resilience became a popular concept in the fields of education, psychology, and mental health in the last three decades. When examining resilience, it is important to note that it can be viewed within the individual, community, or system (Ziglio, 2017), which changes how the concept is recognized, how it may be nurtured, and what outcomes may be influenced by it. In this paper, the focus will be on individual resilience. Since its emergence in the field of child psychology (Werner & Smith, 1989), it has evolved in meaning and application. By reviewing the evolution of resilience, the understanding of its value to healthcare providers working with individuals and communities facing acute or chronic health challenges, particularly as they relate to the social determinants of health becomes apparent. Broadly, resilience in the social sciences is defined as striving for or achieving a positive outcome despite hardship by individuals, communities, or systems (Clauss-Ehlers, 2003; Collishaw et al., 2016; Glonti et al., 2015; Miller-Lewis et

al., 2013; Rohan et al., 2015; Rutter, 1987; Werner, 1997; Womble et al., 2013; Worthington & Scherer, 2004). Three waves of resilience research in the humanities have been described and each wave saw an evolution in the definition of resilience.

In the mid-twentieth century, developmental psychologists began using the term resilience to describe the trait of children who thrive and succeed in meeting developmental milestones despite having lived through prenatal, neonatal, or early childhood challenges (Kagan, 1975; Rutter, 1987; Werner, 1997). These researchers were concerned with learning what personality traits distinguished resilient children from those who were not. These innate traits were viewed as built-in and unchangeable with time or stressor (Werner, 1997). In this view, resilience was a trait only realized retrospectively, after determining whether the individual was successful in overcoming difficulties. These early researchers focused efforts on identifying unchangeable traits such as sex and personality disposition to explain whether resilience would be expected or not. However, reliance on correlation studies to explain presence or absence of resilience occasionally resulted in contradictory results. For example, Werner and Smith (1982) found that being female was associated with higher resilience, while Schure (2013) found the opposite. Further, most of the research in these areas did not explore interventions to test causation (Shean, 2015), which restricted the usefulness of this view of resilience as a trait. During this early wave of resilience research, physical health was not considered in the outcome of resilience.

Richardson (2002) described an evolution in resilience literature since the 1980s. He described a "second wave" in which resilience was viewed as "the process of coping with adversity, change, or opportunity in a manner that results in the identification and

enrichment of resilient qualities or protective factors" (p.308). In this second wave of resilience research, scholars believed some process must have taken place to develop resilient qualities, and the goal was to identify such processes to look for ways to nurture resilient persons. Similarly, a nursing theorist also described resilience as an iterative internal and external process in which the individual adapts to stressors (Polk, 1997). Second wave literature moved beyond describing innate and unchangeable resilience traits to identifying skills, mechanisms and interventions that nurture resilience behaviors and dispositions, regardless of outcome (Rutter, 1987; Sideroff, 2004; Wilson et al., 2017). While earlier research explored how demographic attributes (sex, age, ethnicity) influenced resilience, "second wave" (Richardson, 2002) research explored how resilience skills, behaviors, beliefs, and qualities were gained through experiencing adversity. Rather than viewing resilience as a dichotomous outcome of present/absent, second wave resilience scholars observed how progressive growth in character and skills prepared the individual to face future challenges.

The latest, and still evolving, trend in resilience literature takes on a post-modernist view, with self-actualization, personal growth, and creating a new reality as the trajectory of resilience, rather than mere survival from adversity. Resilience in this view develops as individual attributes, resources, and goals to thrive with, not just despite, stressors (Richardson, 2002).

1.1.1 Resilience process. Resilience is not only regarded as a process of positive adaptation when facing adversity, but as a pre-requisite to face future adversity. There seems to be a general consensus in the literature that resilience improves with exposure to distress (Rutter, 1987). Higher resilience is associated with less depressive symptoms

(Gallacher et al., 2012; Schure, 2013; Womble et al., 2013), lower rates of relapses, and post-traumatic stress disorder (Pakalniškienė et al., 2016). Therefore, most interventions related to resilience in psychology and education focus on assessing capabilities for resilience, and subsequent training or counselling to promote further resilience (Nery-Hurwit et al., 2018; Pakalniškienė et al., 2016). What is not clear in the literature is whether resilience to social hardship can prepare the individual or community for a different type of assault. For example, while children growing up with an alcoholic parent may have become addiction free adults (Werner & Smith, 1989), it is unknown whether they would demonstrate resilience in coping with a chronic or terminal illness.

Resilience in Refugees

When it comes to application to specific population groups, resilience has been examined in refugees for its protective effect on mental health (Beiser, 2009; Simich & Andermann, 2014). Experts expect poor mental health outcomes from a group that has been subjected to war, persecution, trauma, and socioeconomic deprivation (Colborne, 2015), likely due to the negative impact of these experiences on the brain. However, this is not always the case. In a large study examining mental health in Vietnamese refugees arriving to Canada between 1980 and 1993, Beiser (2014), found that refugees' prevalence of mental health disorders in their first year of arrival was similar to the local population, and much lower at four and 10 years after arrival. Beiser suggests that social cohesion with their ethnic group and a psychological focus on their new home (rather than dwelling on the past) facilitated mental health resilience in this group. This focus described by Beiser would be described as resilience behaviour by others (Nery-Hurwit et al., 2018; Polk, 1997; Worthington & Scherer, 2004). However, there has been no known

examination of how these correlates of resilience improve adaptation to new reality of permanently living in a new country with social and physical environments vastly different from their countries of origin. Similarly, relocating from one's home after it has become uninhabitable, as refugees often do, is a form of resilience behaviour that is worthy of examination for understanding human will to thrive.

1.1.2 Health Resilience

Definitions and uses of resilience vary between disciplines. Even in the physical sciences, what defines a material as resilient or not is ambiguous (Mebarki, 2017). In health sciences other than mental health, resilience is a relatively new construct. Studies examining health resilience in physical conditions such as diabetes, cancer, and spinal cord injury tend to borrow from the theories and definitions of other human sciences (Geard et al., 2018; Glonti et al., 2015; Hilliard et al., 2012). Since health is heavily influenced by psychosocial beliefs and behaviours, it flows logically that the theories, definitions, and measurement tools of resilience used by educators and psychologists would be useful in examining health resilience in physical challenges. Much of the published work on health resilience tends to focus on predicting or measuring resilience in health using factors defined within psychology (Hilliard et al., 2012; Nery-Hurwit et al., 2018; Pakalniškienė et al., 2016), but only a limited number of studies focus on describing how individuals use resilience in managing chronic health challenges. Further, most of the studies are cross-sectional, making it difficult to determine whether resilience predicted health outcomes or vice versa. There are studies that support correlations between similar concepts (such as motivation, self-determination, resilience, and coping

strategies) and managing diabetes (Shigaki et al., 2010; Ward et al., 2011; Wilson et al., 2017; Worthington & Scherer, 2004), but very few review *how* resilience may lead to better diabetes management. Few studies have examined the mechanism by which the individual consciously perceives stressors, responds to them, and has a physiological (positive or negative) outcome as a result . Therefore, there is a gap between understanding resilience and physical health outcomes from the perspective of the individual.

Physiological resilience is of interest when examining health resilience. Referred to as "organismic balance and mastery" (Sideroff, 2004, p.13), it involves a process of self-soothing, planning actions, and focusing on goals, like a runner in a marathon, with the desired outcome of physical success in meeting needs of daily life, driving actions. Psychosocial and physical health resilience intersect in one physical location: the human brain. Stressors and how they are perceived can have positive or negative effects on the brain, which result in physical and behavioural changes (McEwen et al., 2015). An individual, for example, may socially and psychologically adapt to childhood adversity, such as living with a parent with alcoholism, and become a functional adult who finds meaningful relationships and employment without addictions (Werner & Smith, 1989). However, the changes in the brain resulting from living with the stressor may cause an immunobiological response that leads to the development of disease, such as type 2 diabetes and Alzheimer's disease (McEwen et al., 2015). Such findings suggest that while a positive behavioural response may signify resilience in social development, the physical ramifications of the same stressor may not demonstrate resilience in health. In studies examining resilience, the outcome is often psychosocial (e.g. having supportive

relationships), with mental illness as the primary health outcome measured (Gallacher et al., 2012; Geard et al., 2018; Ward et al., 2011; Wilson et al., 2017). In a study examining the role of resilience in healthy aging among American Indians, researchers found a correlation between presence of resilience characteristics and lower rates of depression, but not with prevalence of chronic pain (Schure, 2013). It is difficult to conclude whether health resilience would be limited to mental health resilience because of the lack of research on the subject.

Health resilience, for the purposes of my research, is the process of responding to a stressor (acute or chronic) through examining resources, planning actions, and executing behaviours geared towards surviving from the worse possible outcomes of a health condition and moving forward within (not just despite) the condition. Based on this definition, examining resilience requires inquiry into the social determinants of health, meanings attached to stressors and their management, and perceptions of the new reality resulting from the process of resilience. Whereas the outcome of behavioural and psychosocial resilience is psychosocial wellbeing, the outcome of interest when examining health resilience may be stable health outcomes, such as glycaemic control and absence of complications of diabetes (Hilliard et al., 2012). Resilient individuals, however, may have different goals that help them to cope and manage disease. As will be discussed below, using a grounded theory approach aims to uncover the process of study (i.e., health resilience), and this may lead to a different understanding of it. Therefore, in this study, I examine how coping with the stressor of displacement, a resilience process, may facilitate managing type 2 diabetes.

1.1.3 Type 2 Diabetes Mellitus

Diabetes mellitus is a name given to several conditions in which blood glucose is impaired. As described by Jameson (2018), it occurs when the body is no longer able to metabolize glucose effectively due to a lack of insulin or lowered effectiveness of insulin. In type 1 diabetes mellitus, usually diagnosed in childhood, the body is almost completely lacking the ability to produce insulin. As a result, the body is unable to metabolize and clear sugar from the blood stream. This condition almost always requires the affected individual to receive insulin through regular subcutaneous injections. In contrast, T2DM is a condition that more frequently develops after age 40 and is a result of reduced sensitivity to insulin. Insulin therapy is not always used in treating T2DM. There are other types of diabetes mellitus, such as gestational diabetes, which have different causes and pathways but share the same main symptom of hyperglycemia (increased blood glucose). Diabetes of all types is highly prevalent with a global estimate of over 400 million people living with the disease, with half of people with diabetes undiagnosed (Jameson, 2018). The Middle East and Pacific Rim regions have the highest prevalence of T2DM globally, presumed to be related to a combination of socioenvironmental, genetic, and lifestyle factors (Hilliard et al., 2012; Jameson, 2018). Even with treatment of lifestyle changes and the use of insulin and/or glucose-lowering agents, diabetes mellitus reduces life expectancy and quality of life, as it leads to cardiovascular, renal, and other complications over its course.

Since 75% of people living with T2DM globally are from poorer socioeconomic regions (International Diabetes Federation, 2019), the financial, social, and broader

societal impacts of the disease are significant and can hinder efforts to manage the disease. Once T2DM is diagnosed, the treatment and management may impact employment, social activity, and other aspects of the affected individual's lifestyle. Affected individuals must monitor their diet to ensure it is well balanced with medication intake and blood glucose levels. They must also maintain healthy circulation through physical activity. Moreover, they must monitor for injury, eye damage, and other precautions because of their reduced ability to heal (Canadian Institute for Health Information, 2015; Government of New Brunswick, 2016; Jameson, 2018). In turn, the affected individual will need treatment for these complications in addition to diabetes medication. Such resources are often lacking in disadvantaged societies (Public Health Agency of Canada, 2018). For example, in New Brunswick, people living within lower income brackets are twice as likely to report having diabetes than those in the highest income bracket (Diabaetes Canada, 2019). Displacement often results in disadvantages that are also associated with diabetes, such as reduced income, difficulty accessing health services, poor diet, and others (International Diabetes Federation, 2019). Therefore, it may take creativity, resourcefulness, and persistence on the part of the affected individual to manage T2DM while enduring such difficult circumstances.

Diabetes in Canada. Diabetes in Canada is estimated to affect 7.3% of Canadians over the age of 12 years (Statistics Canada, 2017a). Specifically, T2DM accounts for about 90% of diagnoses (Canadian Institute for Health Information, 2015). It is reported that people of non-Caucasian ethnicities (Arab, African, Asian, Indigenous, and Hispanic), older age, and male sex are at higher risk for the disease, as are those with modifiable risk factors such as lower income and higher body mass index (Diabaetes

Canada, 2019; Public Health Agency of Canada, 2018). Countries that share the high-risk ethnicities mentioned previously (e.g.: China, Egypt, etc.) also have a high prevalence of T2DM (International Diabetes Federation, 2019), suggesting possible genetic links to the disease. In New Brunswick, 12% of residents live with T2DM, about 96,000 people (Government of New Brunswick, 2016). This high prevalence can have significant impact on the individual's quality of life, health services, and productivity in school and the workplace. An additional challenge for New Brunswick in addressing such a high diabetes prevalence is that the province already houses a larger demographic related to increased risk, such as higher median age, higher rates of obesity, and lower median income (Hellstrom, 2019). If current trends continue, it is projected that up to one in four New Brunswickers will have some type of diabetes by 2038 (Gupta, 2017)

Diabetes in Refugees. T2DM has been ranked seventh among 20 high priority areas for screening and treatment in immigrants and refugees according to the Delphi consensus criteria (Swinkles et al., 2011). There has been little research to date that investigates the disease burden of T2DM amongst refugees coming to Canada. By virtue of being a refugee the usual sources of social support, healthcare, and income that support healthy living are lost or become more difficult to access. Even with financial support, refugees may not have the knowledge needed to navigate the Canadian healthcare system, determine quality of locally available food, or receive culturally appropriate social support (Oda et al., 2019a). There is not much known about how refugees with T2DM manage their health once in Canada. Despite the Middle East being the region with the highest prevalence of T2DM globally and a growing source of refugees

(International Diabetes Federation, 2019), few studies have been completed on persons with origins in this group in Canada.

1.1.4 COVID-19 Infection

Coronaviruses are a group of pathogens that cause various respiratory illnesses in humans (World Health Organization, 2020). In late 2019, a new variant of these viruses, known as COVID-19, emerged in China quickly spreading to other countries (World Health Organization, 2020). The disease spreads through air droplets inhaled directly from contaminated air or indirectly from touching contaminated hands on mucous membranes (Diabetes Canada, 2020). The infection mimics influenza in people who exhibit symptoms and can have more serious complications for those with underlying chronic conditions, including T2DM (Diabetes Canada, 2020). Prevention is, therefore, imperative for people living with T2DM.

The COVID-19 virus is believed to have spread globally via international travelers who contracted the virus in one country, transmitted to others in another country and leading to the global pandemic. Thus, to limit the extent of the pandemic, most countries have implemented social distancing and other public health measures that reduce contact between individuals who do not live in the same household (World Health Organization, 2020). To achieve social-distancing, many non-essential services, including shops, recreational facilities, and some health services were closed or limited for months, and though many reopened, limitations remained in place to control infection rates (Government of New Brunswick, 2020a).

The province of New Brunswick experienced low incidence of COVID-19 cases in the first year and a half of the pandemic (Government of New Brunswick, 2020b). With this success, the government of New Brunswick gradually lifted pandemic mitigation restrictions, with measures to reduce person-to-person transmission. It is unknown how these instructions were understood or implemented by refugees at the time this study was proposed.

1.1.5 Refugees in Canada

One in 100 people in the world today is displaced (World Health Organization, 2018). As a signatory on the 1951 United Nations Convention on Refugees, Canada provides safety and resettlement to refugees, defined as those fleeing war, persecution, and other human-inflicted disasters (Convention Relating to the Status of Refugees, 1951). As part of this convention, Canada aims to accept nearly 50,000 refugees annually (Govenment of Canada, 2018b).

In Canada, refugee-status is granted by one of three routes: government assisted refugees (GAR), privately sponsored refugees (PSR), and blended sponsorship (Citizenship and Immigration Canada, 2019b). While all groups must meet the UN convention definition of refugee, assistance received for resettlement varies significantly between groups. Government-assisted refugees are documented by the United Nations High Commissioner for Refugees (UNHCR) outside of Canada and then sponsored by the government to travel to Canada, and are provided with health and social insurance for federal programs, usually including a monthly income to support their resettlement during the first 12 months in Canada (Citizenship and Immigration Canada, 2019b).

These federal programs support most basic financial needs for GARs, such as housing, healthcare, and language training, including guidance to access necessary services by resettlement specialists (Oda et al., 2019b). On the other hand, PSRs have Canada-based sponsors, such as family or organizations (such as churches and businesses), that support them financially and indirectly in arrival and resettlement for the first 12 months in Canada (Government of Canada, 2016). They receive health and social services through provincially funded and run programs in a similar manner to most residents of a given province and accessing those services can be facilitated by newcomer-serving organizations or their sponsors, if available, in their place of residence. Otherwise, it is often up to sponsors or the refugees themselves to learn about services available to them, and how to access them, including any associated cost for services not covered through the universal public healthcare system (Oda et al., 2019b). Blended-sponsorship refugees receive a blended category of federal and provincial supports. They are identified by the UNHCR as refugees, matched by the government of Canada with private sponsors, so that the sponsors are responsible for their financial and material needs in the second half of their first year, while the government sponsors the first half (Govenment of Canada, 2018a). There is a difference in economic outcomes between PSRs and GARs, with the former group being more than twice as likely to be employed and self-sustained than the latter, even when controlling for level of education and language attainment (Kaida et al., 2019).

Arabic Speaking Refugees. Of particular interest in the last two decades is the increase in the number of Arabic-speaking refugees. Globally, two of the top three countries of origin for refugees are Arabic-speaking countries: Somalia and Syria (United

Nations High Commission for Refeugees, 2014). This is due to the pressing humanitarian conditions created by insurgency in these two countries. For example, in the last 7 years over 13 million Syrians have fled to living conditions that are more stable (United Nations News, 2019). Similarly, Somalia has experienced waves of civil unrest, insurgent violence, and military operations that led to deaths of thousands and exile of millions of Somalis (United Nations Security Council, 2019). Arabic-speaking refugees also arrive from other countries. Of the approximately 130,000 refugees admitted to Canada between 2015 and May 2019, nearly 75,000 cited Arabic as their mother tongue (Citizenship and Immigration Canada, 2019a). This is likely attributable to the humanitarian crises taking place in Iraq, Syria, Sudan, Somalia, and other countries experiencing armed conflict (United Nations High Commission for Refeugees, 2014). Of the nearly 3000 refugees resettled to the province of New Brunswick between 2015 and 2019, approximately 2200 were Arabic speaking, the vast majority of whom were privately sponsored (Citizenship and Immigration Canada, 2019a).

Health of Arabic-speaking refugees. The health of refugees, in general, is poorly represented in Canadian studies (Gabriel, et al., 2011), and this is true for Arabic-speaking refugees as well. There has been a limited number of published studies (limited to individual clinics) that reported health concerns of refugees, many of whom speak Arabic (Beiser, 2009; Newbold & McKeary, 2017; Oda et al., 2019b; Swinkles et al., 2011; Taylor, 2019) but few that are longitudinal such as those completed with Southeast Asian refugees arriving in Canada three decades ago (Beiser, 2014). The Canadian health system is widely viewed by care providers as poorly equipped to serve newcomers, partly due to lack of familiarity with non-local populations (Swinkles et al., 2011). For example,

many care providers are unsure of special health needs of specific ethnic groups, nor are they aware how to bill for services using non-conventional provincial health plans (Marwah, 2014). This may result in delays of access to care or in not receiving the right kind of care.

When considering the increased number of refugees being admitted to Canada, particularly those who are Arabic speaking, it is critical to conduct research that sheds more light on the health needs and the impact on health and social services. Such research could be useful for healthcare providers, policy makers, and for improving the health of this population group. Statistical data from other host countries point to an increased prevalence of chronic non-communicable disease among Arabic-speaking refugees relative to host populations. (Berkowitz et al., 2016; Kayali et al., 2019; Pottie et al., 2011; Yun et al., 2012). For example, Iraqi refugees in the US have a higher incidence of mental health, cardiovascular diagnoses, and diabetes than refugees of other origins (Yun et al., 2012). In a study situated in Lebanon, T2DM, was the third most reported chronic illness (Doocy et al., 2016). In Europe, the WHO (2018) reported a high mortality rate attributed to diabetes among refugees of all ethnicities when compared to other causes of mortality in this group. In Australia, researchers found that obesity affected over half of Sudanese refugees, a risk factor for developing T2DM, with T2DM affecting approximately 6% of those surveyed. The Middle East region, from where most Arabic-speaking refugees in Canada arrive, suffers from the highest prevalence of diabetes in the world (International Diabetes Federation, 2019). In Canada, the prevalence of T2DM is unknown among refugees specifically, but there is evidence that newcomers of all

categories experience a higher prevalence of the disease compared with the Canadian population (Beiser, 2005).

While studies on Arab-speaking refugee health from other countries highlight the prevalence of T2DM in this population, the paucity of research studies in Canada limits proper development and allocation of appropriate healthcare resources for refugees (Gabriel, et al., 2011). Limited research on refugee health may be due to a lack of differentiation between immigrants and refugees in studies examining newcomer health. This omission is detrimental to understanding the health needs of refugees. Immigrants are required to meet minimum education levels, financial requirements, and to pass health screening to be granted residency, and may be denied immigration if their health is deemed to be requiring excessive use of the healthcare system (Immigration, Refugees and Citizenship Canada, 2018). Hence, they arrive in Canada in a healthier state than the average Canadian in the same age bracket eventually reaching similar health status to the general population- this is termed the healthy immigrant effect (Beiser, 2014; Swinkles et al., 2011). Refugees, on the other hand, are more likely to be granted asylum based on humanitarian needs, including health challenges such as trauma and other conditions that pose short and long-term health risks, and arrive in Canada in worse health conditions than their immigrant counterparts (Coakley & Fabreau, 2017; Gabriel, et al., 2011; Pottie et al., 2011). While immigrants may develop chronic diseases overtime, they have the advantage of settling in Canada and familiarizing themselves with the available resources before being diagnosed, which is not the case for refugees who arrive, already socioeconomically disadvantaged, and with poorer health in general compared with the general population (Berkowitz et al., 2016; Gabriel, et al., 2011).

Prior to arriving in Canada, many refugees may not be aware that they have a chronic disease (Citizenship and Immigration Canada [CIC], 2015). For example, of nearly 1500 Syrian refugees screened prior to arrival in Canada in 2015 as part of the immigration medical exam, about 2 % reported having diabetes (CIC, 2015). Yet diabetes was considered one of three potential conditions to be aware of when screening and resettling the first group of nearly 26,000 Syrian refugees who arrived in Canada in 2015, with the other two conditions being war-related injuries and developmental disabilities (Hansen et al., 2016), suggesting that diabetes is recognized as a concern in this population.

Culture plays an important role in affecting refugees' health. In the United States, Inhorn and Serour (2011) found that Arab refugees often cite poorer self-rated health, fear of cultural discrimination, and difficulties with accessing care due to language barriers, and misunderstanding of cultural needs (such as preference for a care provider of the same sex). In Canada, a study exploring the unmet health needs of Syrian refugees found that many refugees view their health poorly. Many respondents were unable to access appropriate resources, partly due to public funding models of healthcare (provincial vs. federal), and partly due to unfamiliarity with navigating a new healthcare system (Oda et al., 2019b). Therefore, how refugees are covered for healthcare, how they are supported to access needed sources, and how they may view their own health may influence their health in the context of resettlement. Disclosing and/or discussing illness of any kind is viewed as taboo in Arab culture. In a study of Arab Americans, researchers found that patients with T2DM avoided sharing their diagnosis to the extent of avoiding seeking care (Fritz et al., 2016). A concept that may be explained by a cultural view of

chronic illness, including diabetes, being considered as a sign of weakness (Al-Krenawi et al., 2004; Fritz et al., 2016). As a collectivist culture, reputation and social acceptance are important to individual success (Aldhalimi & Sheldon, 2012), relative to Western culture, which is more individualistic. Therefore, persons of Arab origin may avoid revealing any information, such as illness, that makes them less desirable for employment, marriage, and other forms of exclusion. Further, social events in Arab culture tend to focus around food (Fritz et al., 2016), so a person with T2DM may avoid sharing their diagnosis or implementing dietary restrictions in order to conceal their illness or to avoid disrespecting the host by refusing high-glucose foods. By understanding cultural facilitators and barriers in disease management through interviewing resilient individuals, care providers may be better equipped to support Arabic-speaking refugees.

In New Brunswick, refugees have difficulty accessing culturally sensitive health and social services due to the lack of language support, employment opportunities, transportation, housing, and access to halal food, leading many to leave the province shortly after arrival (Hallstrom, 2018). This may be attributed to a relatively small, more rural, and less diverse population and higher unemployment rates compared with other provinces (Hellstrom, 2019). Additionally, pre-arrival conditions such as trauma, interruption in schooling, and gender-based violence (Newbold & McKeary, 2017) can have an impact on health conditions and ability to trust figures of authority, such as medical providers. It is important to learn more about the settlement process that refugees experience in order to create opportunities to participate in the workforce, civil society, and community in New Brunswick (Hellstrom, 2019). While little data is available on

chronic disease prevalence, including T2DM among Arabic-speaking refugees to New Brunswick, the proposed study aims to uncover how they may have learned to manage given the challenges posed by pre-arrival conditions and resettlement.

1.1.6 COVID-19 and Refugees

Refugees may be at high risk for infections of all types, including COVID-19, due to poor access to appropriate health resources, crowded living conditions, and generally poorer health compared with host populations (Lau et al., 2020). Shelters housing refugees in Canada have been reported to have COVID-19 outbreaks several times throughout the pandemic (Global News, 2020a, 2020b). Some conditions that contribute to their vulnerability include closures of newcomer agencies due to social-distancing measures reducing access to this lifeline for many refugees. Agencies such as the Multicultural Association of Fredericton (MCAF) and others, provide language services, referrals to community services, and connect newcomers with their local ethnic community for further support. Public service announcements regarding pandemic mitigation measures are provided in Canada's official languages (English and French). Refugees who lack both languages are significantly disadvantaged as it is up to them or those who support to find the information in their language (for example, online). Due to crowded living conditions many refugees are unable to socially distance, as many are temporarily or permanently living in shared housing (Lau et al., 2020). Finally, refugees with chronic illness may also be further disadvantaged by a lack of physical access to services that can help prevent complications, such as diabetes education.

1.1.7 Resilience as a Process of Thriving in Diabetes and Displacement

Resilience is born out of hardship experiences (Bettelheim, 1979) and can be cultivated through social cohesion, help or resource seeking, maintaining hope, and perseverance behavior (Perkins, 2018). Displacement by war and other human disasters devastates almost every aspect of life for an individual, family, and community. While refugees are perceived as a socially and medically vulnerable group, asylum-seeking itself is an act of resilience. Individuals and communities living in exile tend to exhibit social cohesion, resourcefulness, and creativity in adapting to their new condition, with some studies reporting lower mental illness rates in the years following initial resettlement (Beiser, 2014; Simich & Andermann, 2014). What helps individuals become resilient in managing T2DM prior to being displaced may have "cascading effects and set the stage" (Hilliard et al., 2012, p.740) for adapting to life in Canada as a refugee. Conversely, persevering acute experience of war and displacement may have a paradoxical effect of having negative health consequences such as acute or chronic disease (McEwen et al., 2015).

Negative health consequences do not signify poor resilience, rather resilience is a process of moving towards optimal outcomes, not just achieving them. Resilience qualities have been shown to be correlated with a better quality of life for individuals living with diabetes (Nawaz et al., 2014), but it is unknown how this is facilitated. While some research has been completed to understand the resettlement of Syrian refugees in Canada, including manifestations of resilience (Oda et al., 2019b; Perkins, 2018), to the best of my knowledge, none of the studies have examined how resilience is used to

manage chronic disease in Syrian or other Arabic-speaking refugees. Health resilience may uncover how individuals maintain some semblance of coping with baseline health and, consequently, quality of life during the journey of displacement and resettlement.

1.2 Research Question

How do Arabic-speaking refugees use health resilience to manage type 2 diabetes during the COVID-19 pandemic?

1.3 Significance of the Study

In Canada and abroad, T2DM has reached epidemic levels (Public Health Agency of Canada, 2018), having an impact on social, economic, and quality of life factors. Arabic speaking refugees come from conditions of varying degrees of deprivation (economic, social, health services) but all face similar challenges in navigating resources to live well and to manage chronic disease, if present. To manage T2DM, individuals must have sufficient disease knowledge, health literacy, access to appropriate healthcare and other resources, a treatment plan, and be able to modify lifestyle. For newcomers, such as refugees, the same guidelines must be followed within a context of resettlement, which includes adapting to a different environment, health system, and language barriers. The spread of the COVID-19 to New Brunswick presented additional challenges to staying healthy and safe for this population, which is at an increased risk for infection as discussed earlier. Though the spread of COVID-19 in New Brunswick was relatively low at the time the study was conducted, it is prudent to understand how Arabic-speaking refugees are managing their health, as new waves and variants of COVID-19 arose. While resilience has been explored within the displacement experience (Massfeller &

Hamm, 2019; Pickren, 2014), there is a noticeable gap in examination of health resilience among refugees in the literature. Diabetes is among the most commonly reported chronic diseases in this group, including a long list of social determinants of health preventing ideal disease management (Doocy et al., 2016; Kayali et al., 2019; Yun et al., 2012), yet little is known about health resilience in refugees with T2DM in Canada. The WHO (2020) asserts that resilience promotes adherence to public health measures that may limit COVID-19 transmission. Building resilience is also identified as a priority in *Health 2020*, the WHO framework on achieving optimal health for all (Ziglio, 2017). . Examining how resilience plays a role in addressing T2DM may help build an understanding of the issues Arabic-speaking refugees faces in living healthy after arriving in Canada. Considering the current COVID-19 pandemic, lessons learned from this group's experience of managing with limited resources may also be beneficial in preparing other Canadians with chronic disease during service interruptions. Such understanding may be critical in developing effective public health communications, health promotion and supportive programs for this population.

Chapter 2 Methodology

2.1 Research Design – Grounded Theory

I chose a Straussian grounded theory research design for this study. Grounded theory is the method of choice for researchers looking to "explore social processes with the goal of developing theory," (Streubert & Carpenter, 2011, p.130) and as I was interested in exploring the social process of health resilience in understanding how refugees manage T2DM, the method fit the question. There were also practical reasons for the methodology choice, which are discussed in the section below.

2.1.1 Philosophical underpinning and theoretical framework

In line with grounded theory, the chosen methodology for the study, there are no strictly defined philosophical underpinnings that guide data collection or analysis (Glaser, 2012). Instead, the researcher extracts concepts, relationships, and processes to describe a theory after data has been collected (Corbin, 2013; Creswell, 2009). Therefore, the researcher undertaking a grounded theory study need not describe an *a priori* theoretical framework.

Grounded theory as a method was developed by sociologists working within a faculty of nursing (Stern, 2013). Anselm Strauss (1956) and Barney Glaser co-introduced the concept of symbolic interactionism in sociology, which aims to guide sociologists in identifying symbols, such as words, clothes, or physical gestures, that have social significance and can explain or predict social processes (Stern, 2013). Social interactionism served as an epistemological basis for Strauss, though both he and Glaser later rejected the need for the grounded theory researcher to begin with any preconceived

knowledge or ideas on his/her research topic (Corbin, 2013; Dunne, 2011). This inductive approach was a unique perspective at that time as sociology was a heavily deductive field of research, relying on theory and quantitative approaches (Stern, 2013; Streubert & Carpenter, 2011). Similarly, Glaser rejected the notion that good research needs to begin with a theory, and instead was interested in theory development emerging from the research phenomenon being examined. A final point of interest is that nursing research at the time of the discovery of grounded theory also followed a biomedical approach (Stern, 2013) that viewed individual variations as anomalies, rather than a phenomenon of interest in itself. However, Charmaz, who developed constructivist ground theory, argued that Glaser's approach to grounded theory utilizes a positivist lens which considers only one reality that the researcher seeks to uncover, whereas she views reality as being shaped by both researcher and participant preconceptions (Rieger, 2019). Grounded theory continued to evolve since it was developed by Glaser and Strauss. The two authors parted ways after Strauss, working with Corbin, published a methodology guide decades later, which Glaser rejected as genuine grounded theory (Streubert & Carpenter, 2011). Later still, Charmaz developed constructivist grounded theory, with more clearly defined philosophical underpinnings and other methodological deviations from the original approach (Streubert & Carpenter, 2011). Because the ultimate goal of all variations of the method is to develop a theory that is grounded and developed within the context and details of the data, many scholars accept them as the same method with recognition that the researcher's perspective (including philosophical underpinnings) will vary as with any other method of study (Corbin & Strauss, 2008; Rieger, 2019).

2.1.2 Research Methodology

Grounded theory methodology allows the researcher to let "data to tell you what theory is hidden there" (Stern, 2013, p.163). Regardless of the chosen approach to grounded theory, the main aim is to uncover a social process from the data itself (Corbin & Strauss, 2008; Glaser, 2012). Nurses, particularly, benefit from this approach because their work often involves single individuals or groups while borrowing from mostly broad theories based in medicine (Corbin, 2013). Grounded theory was a useful approach for my proposed study because it allowed me to explore beyond traditional stereotypes attached to the refugee population as vulnerable and helpless in both mainstream media and academic research in order to invoke intervention and assistance (Pickren, 2014). I wished to explore how refugees use health resilience to manage T2DM despite the expected difficulties they face in doing so, as I have observed in personal and professional experience. Given the diversity of refugees, and the complex physical and psychosocial impact of managing T2DM, it was imperative to examine this population from its unique perspective to understand the experiences of refugees living in New Brunswick. Further, there is little research on the health concerns of Arabic speaking refugees in New Brunswick or in Canada, generally. A grounded theory approach allowed the simultaneous identification of some of these concerns while unveiling how they are addressed by those experiencing them.

Grounded theory, regardless of specific approach, requires the researcher to undergo *constant comparison*, in which data from one source (e.g., a participant) is compared with data in other sources to support or challenge researcher's interpretation of

the data as a theory is developed(Streubert & Carpenter, 2011). Constant comparison took place from initial data collection through to writing, with the goal of uncovering common and differentiating factors leading to observed outcomes or phenomenon (Corbin & Strauss, 2008). As the social process of health resilience was the focus of this research, grounded theory was appropriate for my research question, my observations from nursing experience, and my ability to apply research as a graduate student. For its practical guidance, Straussian grounded theory was the approach taken for my study.

2.1.3 Straussian Grounded Theory

While there are disagreements on philosophical frameworks and methodological details among the various approaches to grounded theory, Corbin (2013) asserts that the end products of a grounded theory study are the same. They all involve collecting data from participants, breaking it down into concepts, placing these concepts in relation to each other and to some uncovered process in order to form a central theme or theory (Corbin, 2013). All three approaches to grounded theory mandate collecting data until *theoretical* saturation is reached. The point at which saturation is reached varies in qualitative methods. Some researchers use the point at which no new themes are found in the data as a signal to stop collecting data, while others use a more deductive approach, looking for data that challenges a theoretical model suggested by the data (Saunders et al., 2018). For the purposes of my study, *theoretical* saturation was identified when the researcher found that new data does not suggest theoretical alternatives to the developing theory (Corbin, 1998). This is not to suggest that reaching saturations denotes supporting

the theory in any deductive manner, but only to guide me in deciding when sampling and recruitment may end (Saunders et al., 2018)

Strauss' grounded theory, influenced by symbolic interactionism and inspired by pragmatism, strayed from Glaser's in that it loosely adopted a theoretical framework that views the human self within a constant cycle of "context/event/problem/meaning/action/interaction," (Corbin, 2013, p.180). The individual is assumed to view and construct identity, environment, and reality through his/her interaction with the social environment. While this philosophical assumption makes constructing and using grounded theories complex, it is the researcher's tool to recognizing and considering the complex nuances at play when examining, in my case, the complex concept of health resilience, the heterogeneous experience of refugees, and the wide spectrum of impacts of living with T2DM. There are arguments in the literature that as Strauss and Corbin revised their approach over time, they adapted more of a constructivist approach, similar to Charmaz's, in which reality is viewed as a social construct that is subjective from the view of the individual and the researcher observing him/her (Rieger, 2019). Strauss's approach takes aspects from both Glaser and Charmaz and is more structured for the novice researcher, and this led to my selection of a Straussian approach for my study.

2.1.4 Researcher's Perspective

Grounded theory, classically, requires the researcher to enter the field without any assumptions about the population, processes, or phenomenon of interest (Creswell, 2009; Stern, 2013). This naiveté allows the researcher to be completely open to what the data

reveals as it is collected from participants and/or objects (Streubert & Carpenter, 2011). Strauss's approach, recognizes and values the prior knowledge and experience that the researcher brings to the study (Corbin, 2013). The approach supports clarifying motives, prior knowledge, feeling, and perception of the data, so that the reader may understand the researcher's perspective, a process known as *reflexivity* (Corbin & Strauss, 2008).

2.1.4a Researcher's perspective within the context of this study

As a nurse, I come with evidence-based knowledge of diabetes and good diabetes management. However, *how* an individual works towards good diabetes management is not something I have experience with, having had little experience with diabetic patients outside the clinical setting. As a healthcare provider, I want to see positive outcomes in the people I care for, in and out of the care setting., There is always a nagging curiosity about why some people have positive outcomes, while others do not. Furthermore, while I have personal exposure to the experience of displacement, without being displaced or living with any health conditions. I saw some of my displaced family members thrive and live well socially and physically, while others did not under seemingly identical circumstances. These motivations strongly guided my research question and my inquiry during the research. Thus, I took steps to both illuminate this personal perspective while also remaining open to other possibilities, to ensure that it is the data, and not my ideas, that are guiding theory development. These steps include writing sensitivity notes (see rigour section below) to outline how an aspect of the data may have resonated with my own experience. Additionally, to detect potential bias, participants were consulted on interpretations of the initial findings of the analysis, as discussed below. All potential

definitions of diabetes management and displacement were considered as described by the participants. While I defined health resilience to facilitate discussion with participants, what constitutes health resilience- and what does not- came directly from participants.

The grounded theory researcher should have good written and spoken communication skills to aid in collecting rich and accurate data that allows for clear interpretation (Streubert & Carpenter, 2011). I believe that my broad background as a nurse and former immigrant allowed me to notice nuances that may not be readily evident to someone without either of those attributes. They may also introduce biases, as mentioned above, and I worked to mitigate these. I speak Arabic and English fluently, which allowed me to complete interviews with participants in their first language to remain sensitive to the linguistic nuances that may influence how participants attach meaning to experiences that they are describing.

2.2 Research Methods

2.2.1 Sample, Sampling, and Setting

Based on my research question, some eligibility criteria were used in recruiting the participant sample. Inclusion criteria included Arabic-speaking adult refugees with T2DM. Refugee status was self-reported using the UN definition given above- i.e.: someone who cannot return to their home country due to fear of persecution or other danger, regardless of legal status in Canada. At the time of recruitment, potential participants were asked if they view themselves as refugees to Canada, having left their home for their own safety and security, with little reason to believe they could return

home. Participants had to have access to a phone or communication device that can be used privately, due to social-distancing measures. Refugees who have been in Canada for less than five years were invited to participate. The journey of refugees prior to arriving in Canada may have been characterized by trauma and social deprivation, but may have also nurtured resourcefulness, determination, and action for improving their livelihoods. Based on my definition of resilience as a process, seeking asylum is one way that an individual may be using available resources (such as transportation, social network, and Canadian embassy, for example) to seek a better outcome. With the assumption that refuge-seeking is an act of resilience, refugee-experience served as a theoretical sampling criterion. Interviewing participants while in the settlement period may shed light on how resilience may be playing a role in making a new home in a similar manner to leaving their original one.

Sampling followed a combination of purposive, snowball and theoretical sampling. To begin tackling my research questions, I initially interviewed one person who considers themselves a refugee to Canada and currently living with T2DM. From there, I utilized a snowball sampling approach, recruiting others through the initial participant by inviting him/her to share my contact information with others who may be interested in participating. Simultaneously, recruitment efforts took place through social media (Facebook) and paper posters posted in consenting stores and religious centres that serve newcomers. As analysis began from the first interview, concepts were generated from the data soon after, as described below. Once enough concrete ideas and concepts were extracted from the data, I planned to use theoretical sampling to probe deeper into emerging concepts and/or theory. This approach was to guide sampling of subsequent

participants based on their experience with health resilience and type 2 diabetes (Streubert & Carpenter, 2011), as developed in initial analysis. However, recruitment challenges made it difficult to proceed with theoretical sampling. While typical grounded theory studies recruit about 30 participants (Corbin & Strauss, 2008), I aimed to interview 8-10 participants. This number eventually changed based on recruitment success and attaining theoretical saturation.

2.2.2 Recruitment

Recruitment took place through social media by posting the recruitment poster to Facebook groups that target participants may view, such as "Arabs in New Brunswick," "Ask Fredericton," "Syrian Association of Fredericton," and others. A poster describing the study, recruitment criteria, and contact information was posted on various Facebook groups and WhatsApp groups that included individuals living in New Brunswick. The poster was used to advertise on a classified website (Kijiji) and a hard copy was posted at community stores (with permission). The poster included a line encouraging viewer to forward contact information to anyone they feel may qualify, so that these individuals can learn about the study and initiate contact with the researcher, if desired. Once a participant reached out to the researcher by phone or through social media, they were screened for eligibility before being asked to provide their mailing address or email address to receive a consent form in English or Arabic. A copy of the poster in both languages can be found in Appendix A.

2.2.3 Data collection

Corbin and Strauss (2008) suggest that anything that provides a source of information relating to the research question may possibly be a source of data, and not just interviews. While I used phone or video interviews as my primary form of data collection, I also took detailed field notes of my observations of participant non-verbal expressions where applicable, such as background noise, or if video interviewing, body language. I asked participants if they were willing to speak with me again later to see if my analysis accurately reflected their thoughts, and for them to share any new thoughts they have had since being interviewed. ***2.2.3a Demographics***. Demographic data were collected to provide descriptive statistics about the sample. Data collected included age and country of origin, transitional country, sex, year of leaving country of origin and year of arriving in Canada and living arrangement directly prior to arriving in Canada. Health-related demographic data were also collected, such as whether they had a primary care provider currently, date of diagnosis with T2DM (before or after arrival in Canada will be captured based on this date and arrival date), presence of family history of T2DM, and presence of other conditions. The demographic questionnaire was presented in English and Arabic and was completed with the interviewer to ensure that the questions were understood by the participants. The complete questionnaire can be found in appendix B.

2.2.3b Interviews. Grounded theory research often involves using unstructured interviews. This type of interview allows the participant to lead the direction in which data collection takes place, removing some of the potential bias that interview guides can create (Corbin & Strauss, 2008). Although an extensive literature review was completed

prior to data collection, the researcher was open to finding completely different information than that found in previous literature. See rigour section below for further discussion on potential biases and how the researcher addressed them.

For my chosen study population, unstructured interviews were critically important for several reasons. Language challenges may make it difficult to translate certain terms into meaningful terms for an Arabic layperson (e.g., Haemoglobin A1C) and such translations may be intimidating. The nature of qualitative research situates it to extract abstract concepts, meanings attached to them, and to describe immeasurable human experiences, making first-language interviewing important for gathering accurate and rich data that may otherwise be lost through an interpreter (Corbin, 2013). Therefore, I offered participants the option to complete the interviews in Arabic or English, as I speak both fluently. The limitations to in-person primary care and other services posed by COVID-19 mitigation measures have likely caused unprecedented challenges that may have been missed by directing the interview through specific questions. Unstructured interviews gave participants a voice to share thoughts, desires, challenges, and strengths that have not been considered in the literature thus far.

A sample of questions that were used to initiate or re-open interview conversations are listed in Appendix C. After reviewing consent and interview procedures, I explained the purpose of the study, highlighting that the participant's story is important for helping care providers understand the needs and strengths of persons living in their situation. I then invited them to share their stories, using an opening question, with probing questions prepared to keep the conversation going. Examples of

the questions are inviting them to share the story of how they came to live in Canada, how and when they were diagnosed with T2DM, and soliciting any messages they may wish for share about their experience in working towards living well with T2DM given challenges posted by displacement, resettlement, and the COVID-19 pandemic.

Interviews were completed through phone or internet calling applications such as Zoom. Participants were encouraged to select an interview time that allowed them to speak privately. Interviews took between an hour and 90 minutes. Interviews were recorded using two voice recorders. Audio recordings were uploaded to the researcher's computer, which was stored in a secure and locked cabinet, after which the original audio file was deleted from the recorders. Interviews took place in Arabic and were directly transcribed in English. A volunteer Arabic speaker who was recruited prior to transcription for linguistic accuracy reviewed transcripts, after agreeing to protecting study participant confidentiality. This linguistic review took place over Zoom conference calls, where the reviewer listened to excerpts from each interview while reviewing transcripts on a shared screen, so that no files were ever sent to the reviewer. Transcriptions were uploaded to NVIVO software for analysis. The files were backed up to the university-sanctioned cloud-based storage system, *OneDrive* for one year past graduation.

2.2.3c Field notes and memos. Non-verbal behaviour can augment the understanding and meaning of information relayed by participants. During the interview process, I observed and recorded physical or other non-verbal observations in my field notes. While mostly used by ethnographers, grounded theory researchers also use field notes to record

observations of participants in the environment where the phenomenon of interest is taking place, which is ideally where interviews also take place (Charmaz, 2006). They are useful in adding data that may have surfaced during interviews but was not recorded in the transcripts. Field notes also serve to support agreement (or disagreement) between the researcher's perspective and the participant's or other source of data (Charmaz, 2006). Field notes were taken in the form of free notes written by the interviewer immediately prior, during, or after the interview. Notes included data such as timing chosen for the interview, background noise, viewing of sources described by participants to keep updated on pandemic mitigation measures in New Brunswick, and others. Additionally, I documented my personal perspectives, feelings, preconceptions, and thoughts prior to and after the interviews. I also documented theoretical perspectives on how the findings compare with each other and any existing literature. Finally, I documented what went well and what may be improved in the interviews process, any unexpected events, or other relevant findings to help improve subsequent interviews. If the participant agreed to a second brief interview after the initial one, I reviewed such observations with him/her to ensure that my interpretation is reflective of the participant's experience. This was an important step to ensure that it is the participant's and not my views that are being relayed in the findings.

2.2.4 Data analysi

In qualitative research, analysis begins after the transcription of the first interview as the researcher begins to see emerging concepts, themes, or ideas (Corbin & Strauss, 2008). It is even suggested that analysis begins during the first interview, as the

researcher probes to dig deeper into what the participant is saying or to move on to new discussions. I followed Corbin and Strauss's (2008) suggested analytical steps for grounded theory analysis, as outlined below . I also drew upon the expertise of others, including members of my thesis committee, to review the process, in order to ensure that the progression, direction, and end-product of the analysis is as intended by the research question and method (Corbin & Strauss, 2008). Details of the analysis plan are discussed below.

2.2.4a Coding. Coding, in the context of this study, refers to the process of scanning data – in my case, transcripts and field notes from interviews- to derive concepts, which may then be grouped into themes or categories (Creswell, 2009). The words chosen to label the concept, theme, or category may be *in vivo* codes, or verbatim from the participants (Charmaz, 2006; Corbin & Strauss, 2008) or defined by the researcher as he/she describes the concept the data is referring to.

In Straussian grounded theory, three types of coding occur with varying levels of analysis: open, axial, and selective or theoretical coding. On initial review of the data, the researcher performs *open coding*, which, as the name suggests, involves openly selecting concepts that may be concrete and simple, such as taking medication, or may be more abstract, such as displacement as punishment (Strauss, 1990). The important advantage of open coding, referred to as microanalysis by Corbin and Strauss, is that it allows the researcher to freely pick up concepts from the data without relating them to each other or to the research question, in order to become deeply immersed in the data to facilitate all possible interpretations later in the analysis (Corbin & Strauss, 2008). A disadvantage for

novice researchers such as myself is that it was at times difficult to refrain from looking for meanings or jumping to conclusions at this phase of coding (Corbin & Strauss, 2008), which is where I applied some of Corbin and Strauss's suggestions for ensuring rigour (see rigour section below). I also looked to my mentors for guidance. For example, my thesis supervisor and myself independently reviewed codes for the first interview transcript and its associated fieldnotes to compare and discuss the analysis procedures in subsequent transcripts. He reviewed how remaining interviews are analysed for consistency and bias (see Rigour, below). Memo-writing throughout analysis helped identify any concerns with coding (see Memos, below).

Axial coding took concepts that emerged during open coding and related them to each other under more abstract concepts, themes or categories, though these two modes of coding occurred simultaneously (Corbin & Strauss, 2008). Finally, these categories were further integrated to form a substantive theory through the unveiling of a core category that links actions taken by participants, context, causal factors, consequences and interaction between all of these in hypothesizing how the phenomenon of interest (Corbin & Strauss, 2008), in my case, how resilience in managing T2DM progressed among participants. In previous publications, this step was termed selective coding (Rieger, 2019; Strauss, 1990). This is an analytical step that is unique to Corbin and Strauss. Glaser (Stern, 2013), and later Charmaz (2006) describe selective and theoretical coding, respectively, when referring to placing grouped concepts into more abstract categories that can then form the basis of a new theory. ***2.2.4b Memos.*** In qualitative research, memos differ from field notes in that they are analytical, rather than descriptive (Lewis-Beck, Bryman, & Futing Liao 2004). During data analysis, when I selected a code

to describe a section of text, I wrote a memo, with a title and date, to describe how and why the concept was chosen to attach to the data under review (Lewis-Beck et al., 2004). I also explicitly defined the concept or code to make clear how text is selected to go under it (Strauss, 1990). I included any thoughts, assumptions, ideas, or meanings that were raised during the coding process for the selected code. Also, as open coding may yield simple concepts which are later grouped into themes, memos served as a paper-trail of how themes emerged. Further, I used memos to raise questions or points that need more clarification, such as questions about how concepts relate to each other or what should be probed deeper, which will guide the next interview (Corbin & Strauss, 2008). Finally, memos, in comparison with the raw data and the field notes taken, were part of ensuring rigour by providing a paper trail of the process of analysis.

2.2.4c Constant comparison A key step in analysis when using grounded theory is constant comparison, which keeps the researcher cognizant of how particular concepts, expressions, or responses differ between participants and within one participant's narrative (Streubert & Carpenter, 2011). For example, all participants discussed the concept of fate- the belief that all events were pre-destined by a higher power. I compared how each participants discussed this concept by looking for associations, meanings, and beliefs associated with this concept throughout each participants' interview transcript, and other transcripts. In addition, theoretical comparison were conducted to compare participant's narrative to similar ones in the scholarly literature by searching terms and concepts used by them, in order to further understand and/or contrast experiences around a certain concept (Corbin & Strauss, 2008). For example, after examining the concept of

fate as described above, I compared my findings with that of available scholarly literature that discussed fate within similar individuals (those with diabetes or other chronic disease, among refugees, etc). Similar to coding and memos, constant comparison may lead to further theoretical sampling to further explore certain concepts (Corbin & Strauss, 2008). However, this was not possible during my study period due to recruitment challenges. The process of constant comparison was demonstrated in detail through memos, and some discussion was included in the findings.

2.2.5 Rigour and Trustworthiness

Different approaches to grounded theory are guided by different trustworthiness criteria. Straussian grounded theory involves more detailed and structured steps to demonstrate rigour, suggesting 13 criteria in the latest edition of the textbook (Corbin & Strauss, 2008). Some of these criteria included evaluating sampling procedures, sensitivity, emerging categories/themes, and context, among others (Corbin & Strauss, 2008). This is daunting for a beginner like myself, so I followed general trustworthiness demonstration criteria used in qualitative methods, such as those described by Lincoln and Guba (1985). Sensitivity as discussed below was an important verification step in the research process. However, in my final reporting, I used as many of the criteria suggested by Corbin and Strauss as possible, with consultation from committee members with expertise on qualitative research in general, and grounded theory specifically. To be clear, most of Corbin and Strauss's evaluation of research criteria are the same as those used by other qualitative methods, but with more structure on how they may be demonstrated.

***2.2.5a Sensitivity*.** Early grounded theory was both praised and criticised for presuming that the researcher can be objective and analytical without any attachments or preconceived ideas about the data (Stern, 2013). Corbin and Strauss's answer to this issue is *sensitivity*, which is the ability to detect what it is in the data that needs to be relayed from the perspective of the participant (Corbin & Strauss, 2008). *Sensitivity* is applied by using the researcher's common experiences with the participants (such as gender or having worked with people living with T2DM) to determine that something in the data is worthy of coding or using as a key feature in the emerging theory (Corbin & Strauss, 2008). While sensitivity may be viewed as a facilitator for bias, it is viewed as a filter by Corbin and Strauss (2008). Researchers' more intimate familiarity with the topics discussed by participants allow them to pick up messages and significant issues that may not be picked up by a naïve observer.

> "When we speak about what we bring to the research process, we are not talking about forcing our ideas on the data. Rather, what we are saying is that our backgrounds and past experiences provide the mental capacity to respond to and receive the messages contained in data—all the while keeping in mind that our findings are a product of data *plus* what the researcher brings to the analysis" (Corbin & Strauss, 2008, p.34)

To keep boundaries clear between sensitivity and bias arising from my professional experience with T2DM and working with refugees, I followed Corbin and Strauss' advice. They advise to compare observations that resonate with my experience against what the participants are saying, to focus on concepts as they are defined (rather than how

they manifest in the raw data), and to focus efforts on the meanings that participants attached to objects or concepts, rather than my own (Corbin & Strauss, 2008). Taking the time to describe my own experience as a nurse (through memos and field notes) allowed me to clarify the difference between which observations are shaped by my experience and which are the participants'. I included in my memos my personal or professional experience that influenced my interpretations within a given analytical step.

2.2.5b Credibility. To demonstrate that findings are credible in qualitative research, the researcher must check with participants that any conclusions, themes, or explanations resonate with the participants directly, a step termed *member checking* (Streubert & Carpenter, 2011). To support credibility in my research, I reviewed emerging concepts and theory with participants. I also aimed to support my findings from other data sources, such as the literature. Experts in qualitative research, and specifically in grounded theory, on my thesis committee critiqued my findings from a theoretical standpoint to ensure that the findingsrreflect what is observed to the data. Further, I debriefed with a member of my committee who is not familiar with qualitative research to receive feedback on how clear my findings are presented with respect to the data (Streubert & Carpenter, 2011). This exercise facilitated substantiating any conclusions through discussion and reflection on the data and methodology.

2.2.5c Dependability. Dependability is similar to the concept of validity in quantitative research, in that it can only be achieved once credibility has been demonstrated (Streubert & Carpenter, 2011). Once data sources (in my case, the participants) generally support research findings, I move to exploring external sources to

demonstrate that it would do the same. This may be accomplished through an external audit, where a researcher who is well versed in qualitative methods, in my case, my thesis supervisor, reviews my analytical process for accuracy, consistency, and flow (Natow, 2020). To ensure that an external audit is possible, I kept my raw and cleaned data (field notes, audio recordings, transcripts), study communications (emails and/or other correspondence with participants and thesis committee members), and analytical records (NVIVO files, including memos) stored in an organized manner. Continued and proactive consultation with committee members during analysis and at the conclusion of data collection and analysis worked to ensure that research findings are dependable.

2.2.5d Confirmability. Confirmability facilitates dependability by providing an audit trail of how the research was carried out from data collection to conclusion (Streubert & Carpenter, 2011). As stated throughout this proposal, I kept a record of audio recordings, transcripts, field notes, and analytical memos saved in a secure electronic folder to allow an external auditor to follow the path that led me from initial analysis through to theory development. While it is possible that an external reader may disagree with my findings, a review of this audit trail will explain how the emerging theory fits within the definitions of concepts and categories in my memos, and the data contained in each of these categories and codes.

2.2.5e Transferability. Termed *fit* by Corbin and Strauss, transferability refers to the level of agreement that others have with the concepts, meanings, and emotions presented in the research findings (Corbin & Strauss, 2008; Streubert & Carpenter, 2011). By understanding the health resilience process of managing T2DM in Arabic-speaking

refugees, findings may assist both those living with the disease and those who care for them to understand their health through a strength-based lens that considers health resilience as opposed to health risks. Findings may be meaningful to other refugees living with chronic disease, and purposive and snowball sampling aimed to arrive at a level where findings will meet transferability thresholds.

2.3 Timeline

As a part time student, I focused my efforts to complete the thesis research component of my studies in a reasonable amount of time, so as not to lose touch with the data and analysis. Research proposal discussion was completed in August 2020, and ethics submission was completed and submitted to the University of New Brunswick Research Ethics Board (REB), file number REB#2020-115, and the Horizon Health Network REB, file number RS #: 2021-2977. The planned timeline can be viewed in appendix D. I followed the timeline in the order shown, but with a four month delay due to slow recruitment. My thesis defense took place on February 28, 2022.

Informed consent

A bilingual consent form (in English and Arabic) was sent electronically to ensure that participants were aware of the nature, purpose, procedures, risks, and benefits of the research. I reviewed the contents of the consent document with participants over the phone, once they received it and before they signed it. They were given all the time necessary to answer questions regarding the research. I reiterated that their participation is voluntary and does not influence any of the services they receive currently or in the future. Every attempt was made to ensure that participants signed this consent form prior to proceeding by encouraging them to, walking them through electronic signature steps, and/or offering to mail them a paper consent form, if they prefer an ink signature. However, for those with literacy challenges or distrust of documents that appear legal in nature or require signature, I offered a verbal consent procedure that was recorded in the audio files, only after ensuring that every attempt was made to explain the purpose of consent and confidentiality. In the recording, both the researcher's explanation of items in the consent document and the participants verbal agreement were recorded. A template of the bilingual consent form is provided in appendix E.

Risks and benefits

While no benefits are expected for the participants of this research, I explained that the purpose is to provide others living with T2DM and care providers with some examples of how Arabic-speaking refugees living with T2DM manage, find, and navigate resources (or not) on their own during pandemic-mitigation measures, as well as potential

areas for improvement for care providers. There was a low risk of harm as a result of participation in this study as the interview posed no more risk of physical or psychological harm than a regular day-to-day conversation (Government of Canada, 2019). However, discussing events relating to illness and displacement may bring on strong emotional reactions. Therefore, a distress protocol, a copy of which can be found in appendix F, was prepared in case of a distress situation. A check-in was completed at the follow-up interview as well if participants agreed to one. Participants were provided with a $25 gift certificate to a grocery store as a token of appreciation for their time.

Protection of human rights

As recruitment took place through social media and public venues, it was up to the participants to contact the researcher to join the study. Later in the recruitment process, potential participants were invited to learn about the study from nurses at a Fredericton Downtown Community Health Centre (FDCHC), and only consenting individuals were connected with me. Throughout the consent process and data collection, I emphasized that participation is voluntary, confidential, and that they may withdraw at any time. They received their gift certificates regardless of whether they finished the interviews.

Confidentiality and anonymity

The only location where participants identifying information was recorded was the consent form, which was saved electronically. Electronic copies of the consent form were saved in an encrypted and backed-up cloud storage, as described earlier. Participants were identified using pseudonyms in the transcripts, reports, and presentations. Other

identifying information that arose in the audio files (name of participant or family members, contact information, public healthcare number or any other information unique to that individual that may reveal his/her identity) were transcribed using other pseudonyms or a description of information being shared, without mention of the private information. For example, if the participant mentions their child's name, a pseudonym was used in the transcription. If participants consented to having their identities revealed in photos or other resources presenting study findings that may be shared on social media, a separate consent process was to be followed and it will be made clear that it was not a requirement of this study. The consent form was to be developed in consultation with participants to ensure that only information they are comfortable with publicly revealing is included in the consent form. None of the participants were interested in revealing their identities in any knowledge translation activities, but they did agree to sharing their stories anonymously, so a second consent process was not necessary.

Chapter 4 Manuscript

A GROUNDED THEORY STUDY OF HEALTH RESILIENCE IN ARABIC-SPEAKING REFUGEES LIVING WITH TYPE 2 DIABETES MELLITUS IN NEW BRUNSWICK.

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The strengths of this study include that it served as a platform for refugees to be heard, in their own language, without interpretation, narrating their experience from the perspective of themselves as experts on themselves. One of the participants completed the interview from her hospital bed, insisting that she wanted to complete it at that time as it was a chance to have someone to speak with while she was unable to have visitors due to COVID-19 restrictions at the hospital. I believe that this study adds to a small but growing body of strength-based research with populations living with immense challenges. Finally, my position as someone who is bi-cultural, bi-lingual, and a nurse, who completed all interviews, translated, and transcribed them gave me a unique ability to pick up on details that may have been glanced over if I worked with an interpreter or research assistant.

Keywords: health resilience, refugee health, diabetes, diabetes management

Background

Health resilience helps individuals live well while lacking resources and experiencing difficult circumstances (Edward, 2013; Hilliard et al., 2012; Nawaz et al., 2014). For the purpose of this study, health resilience refers the process of responding to a stressor (acute or chronic) through examining resources, planning actions, and executing behaviours geared towards surviving from negative health outcomes and moving forward from the stressor. Type 2 Diabetes mellitus (T2DM) has received special attention from resilience researchers as it disproportionately affects disadvantaged populations and yet requires many resources and sufficient knowledge to be managed (Cairns et al., 2012; Wilson et al., 2017). To manage T2DM, individuals must have sufficient disease knowledge, health literacy, access to appropriate healthcare and treatments, adhere to a treatment plan, and modify lifestyle (such as diet, activity, and stress levels). Refugees with T2DM must manage their disease within a context of displacement and resettlement. More recently, additional challenges were imposed on this context by the emergence of the COVID-19 pandemic, for which refugees are at an increased risk due to having T2DM and socioeconomic disadvantages (Diabetes Canada, 2020). Health resilience is described as supporting individuals with T2DM in living well despite such obstacles (Wilson et al., 2017). However, it is unknown how health resilience facilitates positive health outcomes. The purpose of this study was to examine how Arabic-speaking refugees in New Brunswick use health resilience to manage T2DM during resettlement in Canada, within the context of the COVID-19 pandemic.

Refugee health (including T2DM) and resilience are poorly studied yet growing in importance. Unlike landed immigrants and other categories of newcomers, refugees arrive in Canada in poorer health, lower socioeconomic status, lower grasp of the local language, and after experiencing traumas (Alexander, 2014; Feinberg et al., 2020; Gabriel, et al., 2011). After arrival, refugees may live in crowded housing, have poor access to culturally appropriate healthcare (including hesitance of care providers in providing care), work in low-paying jobs, display mistrust of authority, and face language and cultural barriers (Beiser, 2005; Lau et al., 2020; Merritt & Pottie, 2020). Yet, many refugees have historically thrived, with less frequent physical or mental health challenges in the long term (Beiser, 2009, 2014; Simich & Andermann, 2014). In most academic and mainstream media, refugees are portrayed as vulnerable and needing intervention and assistance (Pickren, 2014). While this population requires support, the strengths, and skills they possess due to experiencing challenges are often overlooked. Asylum-seeking itself is an act of resilience. Individuals and communities living in exile tend to exhibit social cohesion, resourcefulness, and creativity in adapting to their new environment, with some studies reporting lower mental illness rates in the years following initial resettlement (Beiser, 2014; Simich & Andermann, 2014). As such, this study aims to examine T2DM with a focus on refugee health resilience, which may inform care providers working on how to recognize and capitalize on individual strengths.

The number of persons seeking asylum in Canada has been steadily growing in recent years. Of the approximately 130,000 refugees admitted to Canada between 2015 and May 2019, nearly 75,000 cited Arabic as their mother tongue (CIC, 2019a), fleeing humanitarian crises taking place in Iraq, Syria, Sudan, Somalia, and other countries

(United Nations High Commission for Refeugees, 2014). Of the nearly 3000 refugees resettled to the province of New Brunswick between 2015 and 2019, approximately 2200 were Arabic-speaking refugees (CIC, 2019a). Refugees arrive in Canada as government-assisted refugees (GARs) or privately assisted refugees (PARs). The main difference between these two categories is that GARs receive assistance and funding for extended healthcare, housing, education, and basic living from the federal government in the initial arrival period, while PARs receive only provincial health coverage, with most basic needs covered by private entities, such as churches and other social organizations (Gabriel et al., 2011). Given the increased number of refugees being admitted to Canada, particularly those who are Arabic speaking, it is critical to conduct research that informs healthcare providers, policy makers, and other agencies supporting this group of newcomers.

Type 2 diabetes mellitus (T2DM) prevalence may be a significant concern for Arabic-speaking newcomers to Canada as they resettle. The Middle East region (where Arabic is the most commonly spoken language) has the highest prevalence of T2DM in the world (Doocy et al., 2016; Jameson, 2018; Kayali et al., 2019; Yun et al., 2012) and is also experiencing political instability, leading to an increased number of Arabic-speaking refugees seeking asylum in Canada and other countries in recent years. Over 2000 Arabic-speaking refugees arrived in New Brunswick between 2015 and 2019, making Arabic the most commonly spoken language at home other than English or French (Government of Canada, 2017). Despite the increasing number of Arabic-speaking refugees, it is unknown how many are living with T2DM. However, 12% of New Brunswickers (versus 9% of Canadians) are living with the disease, and those of low

socioeconomic status, including refugees, experience a higher risk of experiencing complications (Diabetes Canada, 2019). Such socioeconomic challenges impact diabetes management due to reasons that include reduced income, difficulty accessing health services, and poor diet (International Diabetes Federation, 2019).

Resilience is an increasingly relevant concept in health research (referred to in this paper as health resilience). Health resilience may support self-management and better quality of life for individuals living with diabetes (Nawaz et al., 2014), but it is unknown how this is facilitated. What helps individuals become resilient in managing T2DM prior to being displaced may have "cascading effects and set the stage" (Hilliard et al., 2012, p.740) for adapting to life in Canada as a refugee. While some researchers studying resettlement of Syrian refugees in Canada alluded to manifestations of resilience in this group (Oda et al., 2019b; Perkins, 2018), no known studies have examined how health resilience is used to manage chronic disease in Arabic-speaking refugees. Health resilience is also cited to be an important factor in health promotion and disease prevention at the population level. For example, the WHO (2020) asserts that resilience promotes adherence to public health measures that may limit COVID-19 transmission. Therefore, understanding the process of health resilience in Arabic-speaking refugees with T2DM may assist Canadian healthcare and resettlement professionals in recognizing and fostering the strengths and skills that promote health.

There is limited knowledge on how refugees with T2DM manage their health and settlement during the COVID-19 pandemic and its associated service limitations. Prevention is imperative for people living with T2DM to avoid common complications of diabetes and severe complications in a comorbid respiratory disease such as COVID-19,

which may potentially lead to acute-care hospitalization or premature death. Refugees may also be at high risk for COVID-19 due to disadvantages relating to the social determinants of health (such as low income and social status, crowded housing and limited access to health services) (Lau et al., 2020). For instance, during the COVID-19 pandemic, news outlets reported that shelters housing refugees in Canada had outbreaks on several occasions (Global News, 2020a, 2020b), likely due to difficulty maintaining social distancing. Closures of in-person newcomer services due to social-distancing measures may have hindered access to important health information, which potentially increases risk of exposure to COVID-19. Public service announcements regarding pandemic mitigation measures were provided in Canada's official languages (English and French) in mainstream media at the time the study was conducted. Refugees who lack proficiency in both languages are significantly disadvantaged as it is up to them or those who support them to find information in their language. Refugees with T2DM may be further disadvantaged by a lack of in-person access to services that help prevent complications, such as diabetes education. Given the timing of this study, examination of health resilience in refugees with T2DM took place within the context of the global COVID-19 pandemic.

Methods

Grounded theory is a qualitative research method that was developed by Drs Anselm Strauss and Barney Glaser in the late 1960s through their work with the concept of symbolic interactionism in sociology, which aims to guide sociologists in identifying culturally-influenced symbols, such as language, clothes, or physical gestures, that have

social significance and can explain or predict social processes (Stern, 2013). The two authors diverged after Strauss, working with Juliet Corbin, published a methodology guide decades later (Streubert & Carpenter, 2011). Strauss and Corbin's grounded theory, influenced by symbolic interactionism and inspired by pragmatism, strayed from Glaser's in that it explicitly adopted a theoretical framework that views the human self within a constant cycle of "context/event/problem/meaning/action/interaction" (Corbin, 2013, p.180), in which the researcher's perspective is also subject to experiential influences. Glaser's approach presumes that the researcher's perspective can be neutralized through constant comparison, so that findings are viewed as objective (Rieger, 2019). Strauss's approach is more structured and provides guidance for the novice researcher in applying the research process, which is why it was selected by the graduate student researcher. The main aim of grounded theory is to uncover a social process from the data itself (Corbin & Strauss, 2008; Glaser, 2012). Grounded theory involves collecting data from participants, breaking it down into concepts, placing these concepts in relation to each other and to some uncovered process in order to form a central theme or theory (Corbin, 2013). Data is collected until *theoretical* saturation is reached-when the researcher finds that new data does not suggest theoretical alternatives to the developing theory (Corbin, 1998).

Grounded theory methodology was selected to explore the study question due to its compatibility with the focus on process and its suitability for topics that are not well-studied. The researcher aimed to explore how refugees use resilience to manage T2DM given the difficulties as they resettle in New Brunswick within the context of the COVID-19 pandemic. Little is known about how many refugees in New Brunswick (from any background) are living with T2DM, so there is no published data on this population from

which one can frame a theoretical approach to research. As discussed in the previous section, while health resilience has been established as a catalyst for optimal disease management and quality of life, there is little examinations of how the process of health resilience takes place. Uncovering the process of resilience, from the unique perspective of Arabic-speaking refugees to New Brunswick, and its role in addressing T2DM may help build an understanding of the issues this population faces during resettlement in Canada.

Sampling, sample, and setting

To address the study question of how Arabic-speaking refugees living with T2DM use health resilience to manage their disease during the COVID-19 pandemic, a combination of purposive, snowball and theoretical sampling was used.. The researcher aimed to interview 8-10 participants, or up to a point of reaching theoretical saturation. The setting for this virtual study spanned the entire province of New Brunswick.

Inclusion criteria included Arabic-speaking adult refugees with T2DM, who had lived in Canada for less than five years and resided in New Brunswick at the time of the study. Refugee status was self-reported using the UN definition- someone who cannot return to their home country due to fear of persecution or other dangers (Convention Relating to the Status of Refugees, 1951), regardless of their documented legal status in Canada. Participants were required to have access to an electronic communication device (such as a smartphone) to use in a private setting for the duration of interview, in order to abide by social-distancing measures during the study.

Recruitment

Recruitment took place between October 2020 and March 2021. A bilingual poster (English and Arabic) describing the study, recruitment criteria, and contact information was posted on various social media platforms targeting Arabic-speaking individuals living in New Brunswick and on a classifieds website (Kijiji). Posters were also forwarded to a Middle Eastern store in Fredericton, New Brunswick, an Arabic interpreter, diabetes education clinics, and the Fredericton Downtown Community Health Centre (FDCHC) to share with their patrons. A collaborating clinic informed potential participants or their family member (where language barriers exist) about the study in English.. If potential participants were interested, their contact information was passed on to the researcher to reach out to them. Potential participants were screened for eligibility before being asked to provide their email address to receive a consent form in English or Arabic at least one day before being interviewed. The consent form was reviewed verbally in Arabic with participants to ensure that they understood the content prior to agreeing to participate. Those who agreed to participate were given the choice to consent verbally in audio-recorded interviews or to return the signed form. Five eligible participants were interviewed during the study period.

Data collection

As is common in grounded theory research, the researcher relied on individual interviews with participants to collect data. Demographic data (age, sex, level of education, occupation, date of departure from home country, and others) was collected to help describe the participants. In addition, field notes were taken by the researcher after

each interview to give context, non-verbal observations, and initial thoughts to consider for analysis (Corbin & Strauss, 2008). As the researcher is fluent in Arabic and English, interviews were completed in Arabic, to allow participants to express themselves as eloquently and comfortably as possible, while field notes were completed in English. Strauss's approach to grounded theory data collection allows the researcher to use findings from the literature and other forms of documentation as data (Corbin & Strauss, 2008). However, the researcher avoided this step until after data analysis was completed, in order to allow extraction of codes and categories from participant narratives without the influence of existing ideas from the literature.

Phone or video (Zoom) interviews were used due to the COVID-19 pandemic restrictions. Interviews took 60 to 90 minutes and were audio-recorded. Interviews were mostly unstructured, without specific reference to the term health resilience, to allow the participant to identify the concepts that are most meaningful to them, rather than those pre-determined by the researcher's definition (Corbin & Strauss, 2008). However, an introductory statement was prepared to explain the focus of the study, along with a short list of broad open-ended questions (such as: tell me about how you moved to Canada) which was created and used to move the conversation along when necessary. Some questions were asked in later interviews based on data uncovered in preliminary analysis. The first three interviewees were asked the additional questions during follow-up conversations. Follow-up conversations, in which participants were consulted on concepts/processes arising from the data, and asked outstanding questions, took 15-30 minutes.

After each interview, the audio files were uploaded to the researcher's encrypted and university-sanctioned cloud-based storage system, OneDrive, after which the original audio files were deleted from the recorders. Participant names were replaced with pseudonyms in all data documents. Interviews conducted in Arabic were translated and transcribed directly into English, sentence by sentence (as opposed to verbatim) by the researcher. A volunteer Arabic speaker reviewed English transcripts against the Arabic audio recordings to confirm accuracy, after signing a confidentiality agreement. The transcriptions were uploaded to NVivo software (QSR International Pty Ltd., 2020) for analysis. All study-related documents were saved on OneDrive and are to be stored for a period of one year after the researcher's graduation date.

Detailed field notes (Corbin & Strauss, 2008) on observations of the interviews were another source of data to document non-verbal behaviour and environmental observations that may augment the understanding and meaning of information relayed by participants. Field notes were taken in the form of free notes written by the interviewer immediately prior, during, and/or after the interview. Notes also included personal perspectives, feelings, preconceptions, and thoughts on the interviews, and considerations for subsequent interviews. Outlining the researcher's position in the data through field notes also supports rigour through highlighting the researcher's *sensitivity* to the data (Corbin & Strauss, 2008). These notes were also uploaded to NVivo and used in the analysis as additional sources of data.

Data analysis

Corbin and Strauss's (2008) suggested analytical steps for grounded theory were used to guide analysis. Coding, in the context of this study, refers to the process of scanning data to derive concepts, which may then be grouped into themes or categories (Creswell, 2009). In keeping with Straussian grounded theory, three types of coding took place simultaneously: open, axial, and selective coding. During open coding, text was scanned line by line for concepts that may be concrete and simple, such as *finding medication* (Strauss, 1990). Axial coding involved merging open codes into more abstract concepts or themes (Corbin & Strauss, 2008). Finally, in selective coding, these categories were arranged around a core category that informed the process being uncovered (Corbin & Strauss, 2008) from which a grounded theory could be developed. A sample analytical table (Table 1) demonstrates the use of open and axial coding and placement of text within the hierarchy of codes. Figure 1 also shows how open codes fit under each of the axial codes.

Throughout analysis, memos were written to explicitly define concepts or codes and to describe why they were placed under a given broader concept (Strauss, 1990). Memos were also used to track questions raised during analysis that were asked in future interviews and to keep a record of the analytical process to ensure rigour (Corbin & Strauss, 2008). NVivo Pro 12 (QSR International Pty Ltd., 2020) software was used to complete and organize coding and summarize demographic data.

Rigour

Straussian grounded theory includes 13 criteria for maintaining rigour in the latest edition of the textbook (Corbin & Strauss, 2008). In this study, the researcher relied on four commonly utilized rigour criteria of confirmability, dependability, credibility, and transferability as described by Lincoln and Guba (1985) as well as sensitivity, a criterion suggested by Corbin and Strauss (2008).

To ensure confirmability of the study, the researcher kept raw and cleaned data (field notes, audio recordings, transcripts), study communications (emails and/or other correspondence with participants and thesis committee members), and analytical records (NVivo files, including memos) stored in an organized and secure manner. Periodic consultation with thesis committee members during analysis and at the conclusion of data collection and analysis were conducted to maintain dependability of research findings. Participants were contacted after data analysis was completed to ensure that the concepts and process derived from the data resonated with them and to maintain credibility (also known as member checking) in the research process (Lincoln & Guba, 1985). Finally, transferability was sought through providing rich description of participant experiences derived from interviews, field notes, and follow up interviews, to determine whether findings are applicable to Arabic-speaking refugees in other contexts or time periods.

Sensitivity and researcher's position

Sensitivity is the ability to detect what it is in the data that needs to be relayed from the perspective of the participant (Corbin & Strauss, 2008). Thus, it should be made explicit that the research question for this study comes from the researcher's personal

curiosity about how individuals living in difficult circumstances maintain their health and wellness. To ensure that it is the participants' concerns that lead the discussion, rather than exclusively the researcher's, unstructured interviews were used to collect the data. In presenting the findings of this research sensitively, the researcher relied on her nursing knowledge of T2DM, Arabic language skills and experience of living in the Middle East to extract the most salient concepts, in consultation with participants. While sensitivity helps the researcher's inquiry deeper and to draw out relevant details from participants, it should not lead to analytical bias (Corbin & Strauss, 2008). By writing sensitivity notes throughout analysis (Corbin & Strauss, 2008), the researcher explicitly delineates how a code or segment of text became interesting from her own experience, while looking for other data that supports or challenges any arising interpretations as part of the process of constant comparison. When interpretations seemed to emphasize the researcher's views, they were reviewed, highlighted as being influenced by researcher's prior experience, or removed from the final write-up.

Ethics Process

This study was approved by the University of New Brunswick Research Ethics Board (REB #2020-115); and by Horizon Health Ethics Network Research Ethics Board (RS#2021-2977). Prior to data collection, participants were provided with a written and verbal explanation of the ethics process to ensure their understanding of the voluntary nature of the study, their freedom to limit or end their participation at any time, and to understand how the privacy and confidentiality of their data will be maintained. They were asked to sign or verbally agree to join the study in audio recordings. The consent

process was ongoing, with the researcher making every effort to ensure that participants are aware that their participation in any component of the research was voluntary and within the boundaries of what they are comfortable disclosing.

Findings

Findings are presented under three sections. The first section provides a description of participants based on demographic data and general characteristics observed in the interviews. The second section describes the theory that was developed from the data to address the study question. In the third section, the self-reliance theory of health resilience is explained further using a model describing the journey of Arabic-speaking refugees from diagnosis to time of interview, within the contexts of displacement, resettlement, and living under pandemic-mitigation measures in New Brunswick.

Participants

Five participants took part in the study, two of whom were female, and all of whom were married. One participants reported being between 19-34 years of age, two participants reported being between 35 and 50 years of age, and two were over 65 years. One participant completed elementary education, one participant reported completing middle school education, and three reported having at least a university degree. Two of the participants were currently employed. All participants arrived in Canada under the government-assisted refugee program, except for one participant, who reported arriving as a landed immigrant. Three of the participants reported Syria as their home country, while the other two reported Iraq and Palestine, respectively. Egypt, Jordan, and Lebanon

were reported as transitional countries that participants had lived in prior to settling in Canada. Four of the five participants left their home country between 2011 and 2014, while one participant was born with refugee status. All participants reported living with extended family while residing in transitional countries, and two continued to live with extended family after arriving in Canada. Participants had been living with T2DM between 7 and 25 years (diagnosed between the ages of 25 and 54), and three had additional chronic conditions. All participants were diagnosed with T2DM prior to arriving in Canada. Three participants were diagnosed in their home country, while two were diagnosed in the transitional country.

The self-reliance theory of health resilience

The core category underlying health resilience in this study was found to be self-reliance, centered around four axes: knowledge seeking, selfcare, creativity, and positive outlook. Within the study, self-reliance refers to the individual's authority over their thoughts, plans, and actions, including connecting with others for support. Directly and indirectly, participants described being solely responsible for moving forward from life-disrupting events, including T2DM and displacement. Viewing themselves as being solely responsible for the actions and outcomes relating their health, participants made many statements alluding to self-reliance as the core driver of health resilience, which allowed them to maintain or improve their health in their journey of settlement in Canada. Though most participants discussed the importance of support received from others (family, community groups, systems, and governments), they believed that, ultimately, "you are your own doctor." (Lina).

Self-reliance was the underlying driver of health resilience for Arabic-speaking refugees with T2DM in the study. Tools of self-reliance theory of health resilience, as described by the participants, included 1) knowledge-seeking, 2) selfcare, 3) creativity, and 4) having a positive outlook. The names given to these components were derived from descriptions given by participants when discussing how they manage T2DM. These components overlapped in the participants' descriptions and gave them a sense of empowerment and control over their health. For example, after a participant learned an idea they were curious about (e.g., eating high protein/low carbohydrate diet helps reduce blood sugar), they found creative ways to apply it (e.g., eating more legumes). When they saw positive outcomes, which then gave them a positive outlook on their health, they became motivated to find more ways to participate in their own care. Participants described developing these components through life experiences, which increased self-reliance, as depicted in Figure 2. These tools are described below.

Knowledge Seeking

Knowledge seeking was described as a responsibility that supported self-reliance in healthy living with T2DM as well as general health. Participants described being curious by nature and seeking answers to important health questions. They also believed that prior experiences supported their learning and understanding of diabetes and subsequent health plans. Lina stated, "life is a school, and teaches you…through dealing with people and observing, you learn, so imagine what you learn from your health?" Participants capitalized on their own and others' knowledge to increase self-reliance, such as

knowledge of using Hemoglobin A1C (HgbA1C or A1C) levels in the blood as an indicator of their diabetes status. Samih explained:

> I read, here and here and there, and from the situation I am in, when I call my dad, he is always asking how is your A1C, etc., and he says I am on this diet or doing this or that, and this is what happened to my A1C, so this is how one learns. Life teaches you.

Self-reliance in knowledge-seeking gave participants the confidence to question information given to them. If information was not convincing, they were not afraid to ask questions or suggest possible alternatives. For instance, during one doctor's visit, Ziyad recounted how he questioned his doctor's dismissal of his health concern. He stated:

> So, I mentioned to him: "You know doctor, when I walk around, I sometimes notice that my breathing gets more labored." And he responded that I was just being a worrier, but he ran the test anyway. He told me that I was fine. So, I told him "Well, doctor...I heard you say that the machine was printing extra ink? Maybe the ink is not right.

The result of this questioning led to further testing, which led to a new cardiac diagnosis. Similarly, when Hana experienced multiple miscarriages, she sought healthcare providers from various specialties to find an explanation, and it was her persistence and finding a visiting doctor that finally diagnosed her with T2DM that she credits with her ability to carry pregnancies to term after treatment. She stated:

> I lost five pregnancies... And then I became curious, I started seeing doctors. I didn't leave any doctor in Jordan that I didn't see… They couldn't give me any reason why I keep losing pregnancies. So, once, some people told me that there was a Russian doctor coming to the country, a new one… So, I decided to go see her. She ran thorough tests and examinations. In the end, she told me that my body is all normal, but I had diabetes. This is what is causing clotting in the baby, and then I lose the baby.

Selfcare

Beyond seeking knowledge, participants valued selfcare. Participants described the importance of selfcare in self-reliance. Throughout the interviews, they expressed the need to maintain control over selfcare. For example, when asked whether they would consider professional help for mental health concerns, all of them felt that it was up to the individual to manage their mental health needs. For instance, Lina explained:

> This [emotional difficulty] is in your hands. You can control this yourself, to stay away or to come close to it. You are your own doctor. Just like you doctor yourself, you can control your…these things [emotional difficulties]. That's all.

Selfcare also involved knowing when one needed to reach out to others for support. Hana stated that when she experienced stress because of displacement and later under COVID-19 restrictions, she took it upon herself to address emotional distress and relieve anxiety reaching out to family if necessary: "Sometimes if I found myself feeling bothered, I call my family by voice and video, or I just leave the whole house. I go out." Similarly, when participants were seeking care and needed language interpreters, they often chose to rely on family members. Although interpreters were available at healthcare facilities to provide interpretation, the three participants who were not proficient in one of the official languages preferred to let family members interpret instead. Reasons cited for this were to keep information private within the family, and to limit support received from others to those who are close to participants rather than strangers. Despite doing so, the participants felt guilty for relying on family members. Lina explained that even when offered an interpreter, she preferred her son accompany her to doctor's appointments but felt guilty for doing so:

> Those who are closer to me are more deserving of hearing my private information. It's just that I don't want him to feel pain on my behalf…That has pain, it has difficulty...I can't believe I am letting my son go through this.

Most participants also felt accountable for their T2DM and believed that one must care about health. Lina stated "You have to control and organize yourself so you can be in better health. So, your illness is moderate, not severe." Belief in the importance of selfcare was re-enforced when participants became aware of their diagnosis, the impact on their health, and the effect of healthy actions on the disease and their body. For instance, Basim stated:

> When I got the diabetes, I will be honest and say I was overweight. My weight at that time was 90-95 [KG], and now it is 75. I dropped it a lot. By dieting. So, I was eating traditional foods, like Arab medicine, or traditional medicine. I would eat zucchini – I would wash it and eat it, raw. Just like someone would eat Cucumbers, without cooking them. This dropped my blood sugar to normal levels. Then I said I should take care of myself and watch my food. (Basim)

In discussions relating to selfcare, a desire to avoid insulin therapy, which may be necessary at times for treating T2DM, was expressed as a selfcare goal by three of the five participants. Participants were willing to make radical lifestyle changes to avoid insulin therapy. At one point, Ziyad had been informed by his primary care provider that his HgbA1C levels were high and recommended initiation of insulin therapy to prevent further complications. However, Ziyad insisted that he would make lifestyle changes to improve his HgbA1C levels instead. He stated that after three months of careful diet and activity choices, he was able to bring his HgbA1C levels to normal range. The next time he experienced a spike in his blood glucose (over 20 mmol/L as measured at home) many months later, he stated: "I was scared, and I didn't go to the hospital because I worried, they would give me insulin. I then started a strict diet." Transitioning to insulin

represented a progression of disease, which he wanted to avoid at his young age. This participant reported maintaining a healthy lifestyle and a normal HgbA1C level after this incident.

Creativity

The importance of creativity (i.e., finding innovative ways to apply health advice) in maintaining self-reliance was evident in the participants' narratives. Participants described that it was up to them to find the best way of being healthy based on what they had available. Often, participants reported challenges in following medical advice due to circumstances. For example, Canadian winter weather was cited as a challenge in maintaining a healthy level of physical activity to manage T2DM. Basim reported that if the weather were tolerable, he would walk to his appointments, and if it were too cold or icy, he would pace his apartment. To maintain social ties during COVID-19 Public Health Guidelines, he would visit with friends over the phone daily. When Hana arrived in Canada, her high protein diet was disrupted by the lack of familiarity with food sources and availability of halal meats. Despite the limitations, she used accessible food alternatives to make equally healthy meals:

> Proteins I compensated for with other than meat. Like fish, and the like. I would make salad. Sometimes, I would eat some carbohydrates such as rice with molokhia [jute mallow], a couple of spoonfuls here and there. One manages, goes on. On another day I may eat zucchini or something that I manage to eat.

Similarly, Lina found an alternative to the meals she used to enjoy in her home country, which resulted in a healthier option, bringing her family together, and keeping the memories of her home country alive. She stated:

> Here we are able to make shish tawooq [grilled chicken], BBQ… things we used to eat in restaurants. We just look it up on YouTube, and we make it. We all participate in making it, and, Thank God, we never felt that we were missing anything. Thank God.

Positive Outlook

Positive outlook – defined as viewing experiences more lightly or without dwelling on them- was mentioned by participants as a tool to maintain self-reliance in managing physical and mental health in general and in relation to T2DM. All participants made mention of a belief in fate – the belief that certain events in life are pre-destined, so there was no point in dwelling on them. Participants did not question why they developed T2DM or why they were displaced as they believed these were predestined events. Though participants were aware of the increased risk of complications from COVID-19 infection in those with T2DM, most participants denied thinking or worrying about it. For example, Samih stated:

> I'm taking all the required precautions, the mask, social distancing, etc., so if you're going to catch the virus, you're going to catch it, even if you're in an island by yourself, if that virus is there, you could catch the virus. So, to think about it too much because I have diabetes, to take further precautions, I already am taking the precautions, there is really not much more I can do to avoid the virus. (Samih)

Events that took place were also seen as pre-destined, and participants looked back on them with gratitude:

> I don't know, but when I got here, God made it so that I arrive here and then get stents, so I can have another chance at life…Thank God. Here, like, if it weren't for God, and the good doctor, I don't think I would have reached this far. When I got to the hospital, I arrived with like a heart attack, no breathing, no…Thank God. (Lina)

In many instances, participants described looking back at difficult experiences less-seriously than they had experienced them. Hana's experience of arriving in Canada was uncomfortable, but she laughs when she remembers it; "It was so scary [laughter]. We

arrived, when it was…The weather was like this outside, all snow. The snow up to the knees." Facing embarrassing moments relating to lack of familiarity with local culture was also viewed lightly after some time had passed. For example, Ziyad called to get an appointment at the Dr. Everett Chalmers Hospital in Fredericton, New Brunswick. Assuming that the hospital was run by a physician by the same name, as is common in his home country, he asked to be given an appointment with Dr. Chalmers. The phone operator informed him that this physician had passed away years ago. He recalled:

> This is also a funny incident, even for me, although at that time it was painful, and I was embarrassed- hearing that he was dead for 15 years. I imagined myself in her place, laughing my head off as soon as I hung up.

When events or experiences are viewed in a lighter lens, the participants found that they were able to learn from them and pass on this learning to other newcomers. Looking back on these experiences less seriously also made it easier to reflect on them and to unpack the relevant issues.

The journey of Arabic-speaking refugees living with T2DM in New Brunswick: a model of the self-reliance theory

The journey of Arabic-speaking refugees living with T2DM from diagnosis to present time was described as a model of the self-reliance theory of health resilience. The journey of participants from diagnosis to the time of interview is described chronologically by important events described by participants, drawing in the relevant concepts from the self-reliance theory. The journey, as visualized in figure 3, is continuous, as health resilience is an ongoing learning process as one experiences new life events (i.e., there is no beginning or end to health resilience). Signposts in the figure

signify events described by participants in their journey, though the terms used to describe them were selected by the researcher.

Diagnosis

After initial reactions to diagnoses of T2DM, participants described how they immediately made and executed health plans. The plans included medical treatments (oral antidiabetic medications), and lifestyle changes. All but one participant reported having a healthy diet prior to being diagnosed with T2DM, which they believed protected them from having severe symptoms or complications at the time of diagnosis. This selfcare knowledge and experience supported a belief that they had control over managing diabetes in the future.

> Thank God, I ate healthy, like carbohydrates, rice, pasta etc., I didn't eat much, why? Because I liked to take care of my body a little. These things can make you fat, so I really took care of my body, and I didn't even know I had diabetes. (Hana)

After diagnosis, all participants reported following a medically designed health plan, and seeing improvements in their health.

> He gave me medications, and a diet, and it started to drop, the A1C, it went down to 8.4, then 6, then 5.8- that was the lowest I got it, 5.8, but this is how it was. Since that day, I have been taking medication, and a cholesterol pill once a day, 20 mg, just for prevention (Samih)[1]

Participants described challenges relating to culture that had an impact on how they lived with T2DM. These mainly revolved around food and food sharing customs. This challenge threatened control over one's selfcare.

> When I mess up and say, "come on, it's ok…it is what it is, just this one time." It happens once every two or three months, or they may insist "this is something you love, just eat it! Who cares high blood sugar or not" So then I do, and I harm myself, and I feel the increase in my blood sugar. (Lina)

Others avoided situations where culture was perceived as a threat to control of one's healthy diet.

> With us in Iraq, when there is food on the table, and one person pulls[2] their hand back, the rest have to pull their hands back too. Do you understand how? It is a tribal custom, so I used to be reserved not to go because if I pull my hand back, so will the rest. (Basim)

Redefining

Participants discussed the period following diagnosis with T2DM as a period of redefining the way they live to manage their disease. As participants familiarized themselves (knowledge-seeking) with the diagnosis and the lifestyle modifications that work best to improve their health while living with T2DM, they described feeling empowered and hopeful with respect to their ability to selfcare while living with the disease.

> Anyone suffering from increase in blood sugar should stay away from sweets and bread. It goes down, waaay down. If their blood sugar was 100 for sure it will go down to 85…Through dieting, I take care of it. I sleep well. You feel you have more energy in a lot of things. (Lina)

Participants also described the importance of taking care of their health, which reinforced seeking and maintaining control over their health management plan.

> It's important to watch the tests and realize that you have done something wrong if your A1C is not good, that you have done something wrong the last 3 months. Let's change your diet or something. When the tests are closer together, decisions can be made more easily and quickly. Especially with something like diabetes. (Ziyad)

Displacement

Displacement was a period in which participants were no longer living in an environment in which they felt that they belonged and all but one participant described their health as being directly affected by being removed from their country of origin.

Displacement took many paths among participant narratives, but always included stress, uncertainty, and disruptions to resources and activities for healthy living. Three participants experienced living in a warzone. For example, Basim stated that "terrorism was surrounding us, and many people had to flee to Kurdistan and other parts of Iraq, and others to Turkey, and some to Lebanon." Participants described stress, fear, and isolation due to war, which had impacts on their mental health.

> Like, there was tiredness, insomnia, anxiety, at night. During the day, I walk around, I worry I'm feeling uptight…while you walk around you may get stopped by those supporting the regime. They may take you, they may take someone to question them, to harm them. (Lina)

Further, threat of not being able to access essential resources for health was a source of stress but there was evidence of commitment to continuing selfcare:

> We were worried that medications would run out, that groceries would run out. So [son], God guided him.to get to two or three pharmacies, to bring me medications just in case there was a curfew or siege ... that I would have medications available. (Lina)

One participant had left her home country prior to the start of violence but lived in fear for her family who remained behind. One participant was born as a refugee in Lebanon, and while he did not experience violence associated with war directly, he faced systematic and social discrimination because of being a Palestinian refugee living in Lebanon. He explained:

> Palestinians in Lebanon are forbidden from 73 professions. The Palestinian in Lebanon, in the simplest of human rights, to own a home, is prevented from owning a home. I would have to buy it under the name of a Lebanese person, and then he would give me permission to live in it, but legally, it is owned by this Lebanese person. (Samih)

Being treated as a perpetual outsider in the country in which he was born was a driver in seeking to resettle elsewhere. Syrian refugees in Egypt were also perceived suspiciously, driving many to find refuge in other countries.

> "An aggressive campaign was started against us by the Egyptian media suggesting that those Syrians are brothers [Islamic Brotherhood] or that they participate in the protests." (Ziyad)

Another participant discussed the stress of affording food and medication while in Lebanon, his transitional country, and then being told that he needed an urgent open-heart surgery, which he could not afford. However, he received and accepted help.

> So, at home, they found out, and told others, and friends, and so and so, to solve it. It was about $5670 US just for the hospital. So, after a while, we got the amount, and good people helped me. And I got the surgery. I had the surgery, and thank God, I followed the instructions, and I had the open-heart surgery. Thank God, I now talk to you. (Basim)

Beyond the emotional challenges that participants faced during displacement, they faced identity crises. Their identity changed and they found themselves labelled as "refugees" which redefined how other people perceived them. The participants seemed to be disturbed by the new identity as indicated by Basim. He mentioned, "In Iraq, I was spoiled. Truly spoiled. 'I want this, and I don't want this.' I went from Extravagance to reality. I became a refugee. I became a refugee. I became a refugee. A refugee." (Basim)

One participant positively reframed his health condition as a key consideration in his application to be resettled abroad with his family:

> It was through the United Nations, my file was referred, I believe, most probably, it was my health condition that… [helped us get nominated leave]. (Ziyad)

Reuniting or remaining with family was viewed as critically important in easing the experience of displacement: "Yes, my husband's siblings, and there were many Syrian

families. We all lived in one neighborhood. Thank God," while Lina stated living with her sons and their families eased the stress while living in Egypt:

> Well, we lived all in one house. We rented a big house, so we lived together, me, [son] and [other son], and the cousins played together. Throughout the day [son] or [other son] would be home at all times. We may take them out to the beach…

In addition to helping participants adapt to change, being able to keep family near fostered a sense of security while displaced from home:

> I didn't know a soul in Dubai. I stayed in a hotel, and I started applying around and, luckily, in 3 weeks, I was able to get a job, then I went and brought my brother out, then my sister got married and came out. And I think it was all because I was there. Then my youngest brother finished university, and I helped him come to Dubai, and he works there. (Samih)

Resettlement

Resettlement was described by participants as a period in which one familiarized themselves with a new environment to understand how to best care for their health and manage T2DM. Participants believed that adaptability and ability to keep a familiar environment were important factors in the resettlement process in Canada. For example, while physical activity was seen as an important part of managing T2DM, cold winters were cited as a barrier to achieving it. Participants found ways to stay physically active despite the weather, such as walking indoors when it was cold. Samih stated:

> I still move a lot at work. I like to keep walking, coming, and going, so I move at work. It's not that I don't exercise. At least, I move my body at work, but as continuous exercise like jogging or something, no. So, during the winter…but in the summer, for example, I do go out, I walk… I walk continuously, like I'll exercise for a full hour, and the pace would be more than what it would be at work.

Participants described struggling to eat foods that promote health and were culturally familiar, but that the process got easier as they familiarized with food sources.

> For sure. Until now we eat foods that are just not like in Syria or Jordan, or especially root vegetables, you know. Most things here are frozen. Approximately, we have spent the past two years, including this year, that we started going to farms and to find things like, that are fresh. (Hana)

Most participants returned to their T2DM diet plans once culturally appropriate foods, such as halal foods, and appropriate medication were available.

> Medication is a medication in the end, so I take the same dose. As far as eating habits, it hasn't really changed much. Now we have the ability to get all the Arabic foods, halal meat, halal chicken, so it's all available. So, it didn't affect very much like we can't have a food because it's not available. However, when we first arrived for a little while, we didn't know where to find the foods, but little by little, one learned. (Samih)

Adapting to weather, culture, language, and navigating a different healthcare system were described as tasks, rather than obstacles, of resettlement. The weather was described as shocking, initially, until participants learned to prepare for and cope with it.

Though three of the five participants had good English language skills prior to arriving in Canada, they reported challenges relating to language. In their narrations, these participants felt they could communicate with Canadian counterparts in English, but there were differences in semantics. Participants felt that at times, Canadians communicated using slang or placed meanings to certain terms which newcomers may not be aware of. For instance, Ziyad warns other newcomers who have good command of English of how cultural norms and differences in the medical system influence language. He stated "[knowing English] is not that simple. The whole culture, the whole system is different here." For example, his language skills did not compensate for his lack of familiarity with how to fill a medical prescription locally.

I thought it would be like back home, you drop off the prescription and the pharmacist fills it in 2 minutes and you're on your way. I discovered that it would take

much longer. They asked for my ID, and my federal health care information etc. It took over an hour, while my family waited outside.

The language barrier not only affected communication, but also social activity and the sense of control over one's affairs that participants valued. "With languages, you can understand what someone is saying, you can answer them immediately, quickly, you can laugh at a joke with them… you don't need to wait until someone explains it to you. This has affected me a lot." (Lina).

Navigating the healthcare system was of most concern for participants on arrival and during their initial settlement period. In many respects, participants felt that healthcare services were like what they were used to prior to arriving in Canada. Basim stated: "the experience in Iraq is like the experiences of Canada, but the difference is the equipment and medications" Conversely, filling prescriptions was burdensome:

> I thought it would be like back home, you drop off the prescription and the pharmacist fill it in 2 minutes and you're on your way. I discovered that it would take much longer. They asked for my ID, and my federal health care information etc. It took over an hour, and this was all while my family waited outside. (Ziyad)

Another participant struggled to get medication due to not having a primary care provider. He had brought enough medication to last four months after arriving in Canada and was able to renew his prescriptions through a walk-in clinic, but with different medications than what he had previously taken, as these were not available in Canada.

Most participants reported having to get referrals to specialists and diagnostic labs (as opposed to going to them directly) as a difference that was frustrating initially. Wait times were also mentioned several times. As one of them stated,

> "You have to go to a general doctor and wait for a referral and be put on a waiting list. That's one of the negatives…in my opinion. Honestly though, I am used to this system now." (Ziyad)

Those who landed in Canada as Government Assisted Refugees (GARs) reported being connected with primary care immediately, so no interruptions were experienced to medication or regular assessments. Care even began prior to arrival in some instances. As one participant recalled:

> Because I was pregnant in my fifth month, and from all the tests that I had before getting on the plane, they knew I had diabetes, and they monitored me on the plane. A doctor kept watching me, every now and then, she would check my blood sugar, and if I needed something, she would give me medications, or insulin, if I needed it, for example, until we landed in Canada. Immediately, they took care of me. They gave me some medications and told me to make do until I get a family doctor. (Hana)

However, a participant who arrived in Canada as a landed immigrant reported experiencing great difficulty in accessing care. He was not able to get regular blood tests like he had done prior to arriving because he did not have a family doctor and he feared for his health for a time until a friend offered to ask his family doctor if she would be willing to refer him for regular diabetes lab tests:

> So, we had a friend who also follows up with the doctor downtown, and he told her about me, I told him: "I don't want to bother her, but I just want to refill the prescription, and to order me blood work every 3 or 4 months," just because one doesn't want to die. So, that's it, really. For me, I never went to see the doctor afterwards, I know what I need and how much I need to take. (Samih)

When circumstances were viewed as hindering adapting to life in Canada, participants felt a loss of control over their health and selfcare capacity.

> I'm still not settled in life. Lack of sleep, I don't sleep well, I go to work at night from 1 AM to 9 AM. I wake up at midnight, I pray, and get myself ready, start at 1, work till 9, then in the morning I don't sleep very well, I may sleep at 6 PM for a couple of hours…all in all I may sleep for 4-5 hours a night, and I know these things [feeling unsettled and disturbed sleep] can affect my diabetes, so all these factors affect my diabetes more than any diet. (Samih)

A lot of emphasis was placed on HgbA1C in indicating health status and diabetes control. Participants described getting used to not having access to their full lab results (as they did in their home countries) as taking control and information away, although accepting this difference in practice took time. Samih, who was the most recent arrival in the sample of participants, was still grappling to accept having his lab results withheld unless they were abnormal. He explained:

> My doctor… used to send me the full lab report by email, and the doctor would tell me, we need to recheck this next time, we need to follow up on that. However, here, I don't know. I don't get my results. However, the doctor tells me if my Hgb A1C was ok, she wouldn't call me. However, when it went up to 7.2, she called me to let me know that my Hgb A1C. So, this is it, I don't know what's going on with myself.

When healthcare providers collaborated with participants in their healthcare plan, participants felt empowered and were driven to adhere to medications and lifestyle modifications. For example, working with participants to avoid insulin was seen as valuable and empowering. Lina stated:

> Well, at first my doctor said come, your cumulative [HgbA1C] is high. We need to move you over to insulin. I said "no, give me time, I promise the next test will be satisfactory." So, she said "ok, I'll give you time." She referred me to a dietitian. The dietitian helped me a lot. I showed her everything that I eat. I showed her that I stay away from fat, from flour, from rice, from carbohydrates, from chocolates. She reassured me that I am helping myself. Next test I was down to 5.

Ziyad had a similar experience:

> She told me "Your blood sugar is 8 and we may have to move you on to insulin." I said no, please give me 3 months and I will show you results. And truly, I started going to the gym, this was before COVID, and I was watching my diet. At my next lab, I found that my test was 6.1.

As participants started to understand that some of their challenges were experienced by others in their new home, they learned to be more patient "Well, it's the same way we

see it. If the local (Canadian) is facing the same problem, then I also need to be patient. There are people with worse problems and getting worse with wait times." (Ziyad)

COVID-19 pandemic

The onset of the COVID-19 pandemic resulted in many restrictions to accessing health services and other resources necessary for maintaining a healthy lifestyle, as experienced by most Canadians. However, all participants asserted that health services relating to managing their T2DM were not affected by the pandemic, and no change was experienced other than observing increased infection-prevention measures at diagnostic laboratories and medical clinics (wearing a mask, hand-sanitizing, etc.). Most participants stated that phone follow-ups in management of T2DM were normal before the pandemic.

Participants believed that COVID-19 had little impact on their daily life. Four of the five participants denied having fears for their health due to their increased vulnerability to COVID-19 infection because of having T2DM (which they were all aware of). All participants disclosed that they followed public health guidelines and adapted their activities accordingly. Basim stated that he was not afraid of contracting the virus, given his age and comorbidities, as "Death is a right." Samih also asserted:

> In the end this is something from God. I have to submit to Allah. That's all. It happened. We are like everyone else. We didn't think about it too much, but one has to follow the instructions and restrictions, no going out.

Despite the confidence about their health, one participant expressed fear of inadvertently transmitting COVID-19 to others, rather than contracting the disease themselves. Others worried that loved ones living in areas experiencing high COVID-19 cases would contract the disease. A participant saw a benefit to COVID-19 related lockdowns, citing the benefit of having less obligations and more time to appreciate a slower pace of life:

> Earlier, I was more rushed…I was picky with certain things…because with this illness, I am like anyone else, others have more difficult situations… Like, corona came to tell people: "you need to slow down. Stop speeding, stop crowding, stop intermingling…" (Lina)

Upon further probing, however, some challenges were disclosed relating to the pandemic. One participant lost employment, while another decided to stop taking language classes to protect her health from the risk of contracting COVID-19, given her diabetes and being pregnant at the time. Participants with young children at home struggled with keeping households managed and noise controlled. Ziyad stated: "Working from home is quite strenuous. It's not right, it's not healthy, it's not a work environment, same with studying from home, especially when kids are at home."

There was creativity in managing stress within the pandemic measures. Participants found ways to maintain social ties and manage stress during COVID-19. For example, Basim described adapting his social activity to Canadian lifestyle under COVID-19 pandemic mitigation measures as:

> Adapt means as much as possible, to get used to visiting in the afternoon [outdoors], if the weather is good, I go see the Syrians. If the weather is not good, I will sit with my kids, I will watch TV, I will use my mobile phone, and whatever else.

When frustration levels rose due to managing cohabiting with all household members around the clock, but no other facilities were open due to lockdown, participant found other outlets.

> I'm telling you if something is frustrating me or I feel bothered, like the house is closing in on me, I go out shopping, I go to the river, I go…I take my family and go to Mactaquac [Provincial Park]. The important thing is that we leave the house. (Hana)

They were comfortable drawing boundaries to respect public health guidelines and their own health. While participants felt that social obligations made managing diabetes

difficult in their home countries due to expectations around food-sharing, withdrawing from social obligations was easier for COVID-19 restrictions. Lina stated: “I refused to go to some weddings. There are things that I won’t do. “Come on, mom, we will take you to this place, or that”. No, I don’t have to.” Similarly, Basim stated that he demanded travelers wait two weeks before visiting him, as recommended by public health measures to prevent travel-related spread of COVID-19:

> We have a Syrian family that went in the summer, they went to Toronto, and when they came back, they came over, and we said don’t come up. Wait 15 days then come over. Why? Because my health doesn’t take it…and surely, they waited 15 days.

It is not clear whether this comfort with setting boundaries is due to participants being in Canada where the cultural social norms are influenced by Canadian culture or because the pandemic measures affected these social norms.

Look forward

Participants considered the positive aspects of living in New Brunswick after getting settled, such as acceptance of newcomers, more control of their lives due to being far from their culture, and a better lifestyle. These benefits became evident as participants finished reflecting on their journey during interviews. From their experience living in different places, and from familiarizing with the social and physical environment in New Brunswick, participants also looked forward to the future by expressing wishes and/or recommendations to improve life in the province for newcomers and Canadians. For one participant who was the latest to arrive in Canada, few discussions relating to looking forward came up. For this participant, most discussions focused on resettlement.

Just as many newcomers adapt to life in Canada, Ziyad felt that Canadians in New Brunswick were also adapting to newcomers. Initially, he felt healthcare providers did not understand cultural accommodations that were important for his family, such as ensuring privacy for women who cover their hair (wear the hijab) for religious reasons so that no men see their hair. However, in a short number of years, he reported that healthcare providers recognized the cultural needs of his family immediately upon seeing her hijab and pulled curtains around her bed to protect her privacy. This made him feel both respected and accepted. He explained:

> Initially we used to ask when my wife was there to please pull the curtain, and she covers her hair. Now, they look at someone and if they look hijabi, they automatically pull the curtains. For us, what we've seen in Fredericton, there is respect for newcomers, there is welcoming. (Ziyad)

Basim reported having friendships with some Canadian families, which he valued: "We have a lot of social ties, with Canadians, they come to our house, and we have friends, who come over all the time," though he admitted he spends more time with Arabs who share his language and culture. Connecting with other Arabs was particularly important for those who did not speak English. "Yes, there are Arabs who come visit us and we go visit them… Thank God. Thank God. Thank God [for being able to communicate with them]." (Lina)

Participants described ways that resettlement improved their health and wellbeing because of the opportunity to decide on their own lifestyle, social ties, and terms of engaging with others. This control over one's social life was not possible in their home countries, where extended families and in-laws set the terms for their social lives, engagements, and obligations, creating stress and/or conflict at times. Hana elaborated:

> Over there, I had issues and problems. There were the in-laws, uncles, family…all jumbled up. Now I am far away, and I know that my family is safe and together, so I feel comfortable, and I am happy with my own family, to no end.

Ziyad also described a better lifestyle in Canada, which he was able to find and enjoy once he got over some of the challenges of resettlement:

> Availability of playing fields is not there back home. Only those playing for the national team got to go and play in field. Here, fields are available to the public. Employers don't work you more than 8 hours here unless you want to. Back home, everyone worked 12 hours. Sure, the salary was good, maybe a bit better than here, but this was at the expense of your health eventually, if we stayed back home.

Participants looked forward to life in Canada in terms of desires and/or recommendations to improve life for newcomers and all Canadians. Healthcare services were the most discussed in participants future recommendations. Despite several systemic issues relating to wait times and access to physicians, participants spoke highly of the healthcare team. Messages of gratitude were frequent in the interviews: "I want to thank them for the respect and welcome they show to newcomers. I never once saw anything disturbing from anyone." (Ziyad) They also felt that all their health needs were met:

> Anything I need, but anything I need, I got. And that's what I want. As a person who worked in health. Others may not feel this, but I feel this because I worked in it. I thank them and appreciate their special efforts, and their care for me, and especially Dr. [name] and Dr. [name]. Through you, I want to thank them. (Basim)

Further, medication coverage and access to care was seen as critical to participants' ability to continue caring for themselves:

> As I said, just covering the cost of medication. So, when someone is in a position where they have to take a medication, that they are able to take it. That's the most important. And the most important thing is that a person finds a doctor who cares for him, for his diabetes, a family doctor, who is good. (Hana)

One participant had symptoms he believed were related to T2DM and needed attention:

> The role of forgetfulness and memory loss is an important factor in diabetes if you have it for a long time. Please make sure to record this in the issues relating to the effects of diabetes on the body. (Basim)

Paying attention to the psychosocial determinants of health was also deemed important by participants. Participants felt that healthcare providers have a role in recognizing and supporting emotional needs of those living with T2DM. Lina explained:

> The diabetic patient need kindness, emotional support, extra care. You should put down that, because worrying and stress can increase blood sugar, or it can make it worse if it was already a bit high…. It's not just about the diabetic patient taking their pills or something.

Participants felt that refugees with diabetes had a voice that needed to be heard by healthcare providers and the wider public. By narrating experiences and expressing concerns relating to health and resettlement, participants felt that their participation in the study may provide a voice for other refugees. Ziyad explained that a refugee needs to be understood as individual, rather than as a project with a list of tasks to be completed i.e., learning English, or getting a blood test). He stated:

> The refugee needs two things: one is to feel seen and heard and the other is to be felt with. They need to feel that the service provider hears them and feels their needs. Just because I speak English doesn't mean everything is ok.

Three of the participants stated that they were motivated to participate in this study to have their concerns with the healthcare system heard, but also to express their desire to be understood by Canadians at large. Some participants believed that newcomers lack of familiarity with local norms may be misconstrued as inconsiderate behavior. Ziyad mentioned:

> I wish there could be awareness for all those attending the hospital. I truly believe that those in the health sector are well equipped. and as I see more people like yourself joining the health sector, and other newcomers, receiving the right training and lectures to learn how to deal with newcomers, that helps, but it would also be great if local people, the other patrons at the hospital, can also receive some awareness about newcomers then that would be great.

Participants also wanted to be heard by other newcomers who have less experience than they do in the region, to be aware of cultural nuances that may not be significant in their home countries but can cause problems in Canada:

> Yes, recently, I had people stay with me for a month … Their kids were really active. I told them, this house, I own, so it's ok, your kids are fine. However, tomorrow, you will go live in the apartment building, you will need to have some control, you will need to teach them not to run around, not to yell, or hit each other. Like that. I told her this is the same for schools. (Hana)

Ziyad cautions newcomers against being overconfident in their ability to integrate simply due to having a grasp of the English language.

> When I get together with my Syrian fellow and we think back on our early days, some guys tell me, "Well [Ziyad], at least you spoke English," and I tell them "No, it's not that simple. The whole culture, the whole system is different here."

Finally, he wished to make a point regarding research with newcomers. He stated that refugees were a unique group in comparison to immigrants or other newcomer categories, and he expressed gratitude for learning that there are studies that focus on this group, separately from the others. He stated:

> I believe it is a topic that needs attention and to address the problems of those coming from other places, especially refugees, not just immigrants. There may be immigrants coming from the Middle East, even Syria, Egypt, etc., but these people arrived already qualified. They have IELTS [English proficiency exam], they have experience in Dubai or Qatar, or Riyad or wherever. So, the scope of immigrants is different from the scope of refugees. Refugees are more representative of the community. They come from all crusts of society, there is the doctor, the labourer, etc. They come from all levels of society. They don't all have the same linguistic ability, or academic attainment…I'm not going to say cultured, because sometimes

> the illiterate is more cultured than the educated, but I'm saying that it should be recognized, that they are not all the same.

Follow up on findings

When participants were contacted for follow-up on the developing process, three were available to meet by phone. Phone conversations took place with these three participants in June of 2021. They supported the process suggested by the researcher and reiterated examples to support its components. The researcher used this opportunity to follow up on the participants' plans for receiving a COVID-19 vaccine, which was available to priority groups, including those living with T2DM, as this was not yet available when the initial study interviews took place. One participant had received the vaccine, while the other two were reluctant due to not having enough compelling information to feel comfortable receiving it.

Discussion

Health resilience in this study was found to be a product of self-reliance. Self-reliance is not a new concept in health or resilience research (Nawaz et al., 2014; Pickren, 2014; Zautra et al., 2008), though the terms used to describe it may vary. Resilient individuals and communities have been described as having a problem-solving approach, positive attitude, confidence in reaching out for support, and strengths that are viewed as valuable in thriving with a chronic illness (Edward, 2013). Participants in this study described using creativity, selfcare, positivity, and knowledge-seeking to maintain self-reliance in managing diabetes during displacement and resettlement. Previous researchers have proposed that experiencing adversity promotes a resilience approach to life in

general and to chronic disease management in particular (Edward, 2013; Pickren, 2014; Werner, 1997). By virtue of the involuntary nature of crises such as displacement, individuals build resilience by reflecting on their responses to prior challenges and responding with approaches that they learned were helpful (Pickren, 2014). Participants in this study also believed that life lessons guided their health journey and strengthened their health resilience through observations and trial and error. Therefore, health resilience is a continuous process of learning, and while support from others can influence it, everyone's learning journey is unique.

Selfcare was viewed as an important responsibility and commitment by participants in this study. This view supported a sense of control over one's health and fueled knowledge-seeking, creativity, and positive outlook and vice versa. Participants used their knowledge about diabetes to recognize necessary changes to their selfcare upon diagnosis, such as weight loss. Having their selfcare practices disrupted by displacement and resettlement led to fear and uncertainty, but they utilized the other components of self-reliance to get back on their own defined track. They judged their selfcare often by their HgbA1C levels, which they felt strongly about being aware of. This focus on clinical indicators of diabetes status is a sign of both patient engagement and health resilience (Corathers et al., 2017). Fostering collaborative patient-provider relationships, where participants can maintain control over their health plan and knowledge of their health status may promote health resilience, as supported by this study and others (Corathers et al., 2017; Kim et al., 2019).

The impact of positive thinking among participants in this study served to maintain hope, reduce anxiety, and reframe negative past experiences so that lessons were learned,

and accomplishments recognized. Positive outlook also facilitated resilience in other refugees who survived violence, along with access to support, educational, and employment opportunities (Sherwood & Liebling-Kalifani, 2012). None of the participants described T2DM diagnosis as life-changing, despite being relatively young (age 25-54 years) at the time of diagnosis. However, having a less serious view of the diagnosis was not reflected in their health behavior. Similarly, participants viewed changes required to adapt to Canada's weather, health system, language, and culture as steps towards, rather than as barriers of, resettlement. Participants had a belief that anyone in their position would be doing all they can to reach the most positive possible outcome, though this is not necessarily the case. Moreover, the concept of fate, which is rooted in the culture and religion of the Middle East, was credited by participants as refocusing emotional efforts on what was within one's control, rather than creating a sentiment of fatalism (Straughan & Seow, 1998). Positive outlook may be incorporated in nurses' assessment of individuals living with T2DM as one way to measure self-reliance, especially given the strong association between the disease and socioeconomic disadvantages (Berkowitz et al., 2016; Public Health Agency of Canada, 2018; Wilson et al., 2017). Doing so would capitalize on the individual's assets in promoting health, rather than focusing on the deficits.

Creativity assisted participants in finding ways to promote health, safety, and wellbeing, given the individual's circumstances. Participants examined and modified their immediate environment to promote health, such as pacing a hallway at home to achieve adequate daily exercise. All participants described surrounding themselves with foods, persons, and other objects (e.g., Arabic TV shows) that were familiar to them as a

way of promoting mental health. These familiar objects and activities play an important role in promoting diabetes management and confidence in selfcare (Novak et al., 2020). Within the context of limited health resources, compounded by the COVID-19 pandemic, understanding creativity in individuals with T2DM and how it corresponds with health outcomes may offer a more practical and collaborative approach to T2DM management. Creativity was perhaps fueled by both participants' knowledge and experience, which may have increased their confidence in trying new ways of managing their health. Shigaki et al. (2010) found that health literacy alone was not enough to promote adoption of physical activity, dietary modifications, and other lifestyle behaviors recommended for diabetes management. Instead, intrinsic motivation was an important factor in driving lifestyle modifications for living well with T2DM (Shigaki et al., 2010) which the authors suggest highlights the importance of examining the reasons patients may wish to make modifications, and how they may achieve their goals. Engaging in such conversations may facilitate personalization of medical advice or health teaching to make selfcare less burdensome to the individual and to ensure that health activities are aligned with the individual's goals, and not an external party's.

Knowledge seeking bolstered self-reliance among participants by informing them of how to care for themselves, and increasing their confidence in seeking new knowledge, including questioning information being given to them. Long wait times and short appointments may be especially frustrating for such individuals who are eager to learn about their condition and treatment plan in detail. While participants asked their providers questions relating to their health, they often relied on family or social media to receive information relating to diabetes and COVID-19 pandemic updates. When asked,

participants denied that this was due to language difficulties. However, there is evidence that lack of easily accessible health information in refugees' language and literacy level and closure of face-to-face resettlement services hinder adherence to public health guidelines and resettlement in refugee populations (Clarke et al., 2020; Janzen et al., 2021). Given the rapidly changing situation in public health and disease information relating to COVID-19, knowledge seeking is an important aspect to examine among refugees in general, and those with chronic disease, such as T2DM.

A surprising finding in this study was the minimal impact of COVID-19 mitigation measures on the health and health resilience of participants. While participants understood the increased risk of complications that persons with T2DM carry in case of COVID-19 infection, they did not voice any major concerns or disruptions to their health or daily routines. Recent research on refugee health during COVID-19 pandemic suggests that refugees face disruption in settlement services, increased stress due to pandemic restrictions' impact on accessing health services (e.g.: having to use language interpretation through phone health appointments, etc.), and inconsistencies in receiving pandemic-related information that is appropriate to language, literacy, and culture (Clarke et al., 2020). However, participants denied having any challenges in accessing information relating to COVID-19 or to health services. This may be explained by the significantly low levels of COVID-19 infection in New Brunswick since the start of the pandemic (Government of New Brunswick, 2021). Two of three participants that were reached for follow-up voiced COVID-19 vaccine hesitance, citing mistrust of information received from the government and safety concerns. While this was not explored formally as part of the research, it is an important finding that warrants further investigation.

Participants voiced the importance of having their experiences be heard and understood by healthcare providers. They believed that refugees come with experiences, needs, and contributions that are unique in the various categories of newcomers, which are often undifferentiated in health studies on newcomers in Canada (Beiser, 2005). Due to their disadvantaged beginnings in Canada in comparison to immigrants, who are chosen based on younger age, language , higher educational and career attainment, refugee experiences may be lost in data that views all newcomers as equal (Beiser, 2009; Merritt & Pottie, 2020). Findings from this study support previous findings that show that while immigrants are prone to experiencing the healthy immigrant effect (Gabriel, et al., 2011), refugees may have different long-term health outcomes based on the fact that they arrive in poorer health and from a more diverse socioeconomic background (Beiser, 2009, 2014; Merritt & Pottie, 2020). More studies focusing on refugee health in the initial arrival period are needed to understand expectations for long term health consequences that may need future response from healthcare providers.

Conclusion

Self-reliance in refugees with diabetes is an important discovery of this study because it shifts focus from vulnerabilities to strengths in examining how they manage their health. Refugees have extensive experience in facing radical life challenge based on their past experience and may help contribute to facilitating coping and thriving in the face of community-wide challenges, such as the current pandemic (Lupieri, 2021). Although understanding self-reliance in this population may be of particular interest to those who work closely with them (healthcare providers, etc.), the author cautions against

equating self-reliance with placing responsibility of addressing challenges solely on the individual. Access to healthcare, housing, and opportunities to make a living independently through employment or education are critical catalysts of resilience (Lupieri, 2021; Sherwood & Liebling-Kalifani, 2012) and widely recognized as social determinants of health. Further research on resilience within a health context and nursing perspective may serve to prevent such misinterpretations as well as to take the concept of resilience from metaphor to action (Zautra et al., 2008). For nurses, understanding self-reliance within a health resilience lens may shift focus from assessing vulnerabilities and gaps in selfcare to supporting assets.

Strengths and Limitations

The strengths of this study include serving as a platform for refugees to be heard, in their own language, without interpretation, narrating their experience from the perspective of themselves as experts on themselves. This study adds to a small but growing body of strength-based research with populations living with immense challenges. Finally, the researcher's position as a bi-cultural and bi-lingual nurse, who completed all interviews, translations, and transcriptions enhanced continuity and sensitivity in data collection that may have been missed if working with an interpreter or research assistant.

Some limitations were identified in the study. Firstly, the target number of participants was not reached, due to difficulty recruiting participants. This may be due to a low number of eligible individuals in New Brunswick as little is known about the number of refugees living with diabetes in the province. Secondly, pandemic mitigation

measures required graduate students to complete all research activities without in-person interaction. Restrictions to gathering in public spaces may have also limited the number of people who would have seen any physical posters that were put up. Therefore, only participants who used social media or those who happened to be seen by a recruiting clinic during the study period would have heard about the study. Moreover, only those with access to a private phone or video conferencing application could have joined the study. Individuals without access or familiarity with technology may have had vastly different experiences than those who were interviewed. Finally, participants served by English-speaking services in Fredericton were accessible for recruitment, the data may not have captured experiences of Arabic-speaking refugees living in rural areas, in other cities, or in other predominantly French-speaking areas in the province. Therefore, findings of this study, while raising important concepts, should be used as a starting point to understand how self-reliance fosters health resilience in Arabic-speaking refugees. However, further research that incorporates more diverse perspectives would be helpful in further understanding the theory.

New Contribution to the Literature

Through this study, the author unveiled self-reliance as an underlying driver of health resilience in Arabic-speaking refugees who are living with T2DM, leading the proposed theory of self-reliance. The components of self-reliance were found to develop organically through each participant's experience with adversity, but everyone developed and adopted these tools at their own unique pace and pattern. Therefore, further studies into self-reliance may be designed to explore positive outlook, creativity, knowledge-

seeking, and selfcare to further understand them and their link to better health and social outcomes. An increased understanding of self-reliance may then be useful in developing tools for healthcare providers to assess, educate, and support similar clients in achieving better disease management and quality of life.

The impact of the COVID-19 pandemic on refugees and those with diabetes has been found to be significant in published literature (Benjamen et al., 2021; Lupieri, 2021; Merritt & Pottie, 2020). However, participants in this study denied having been negatively impacted by pandemic restrictions or by the known increased risk of contracting the disease. This may be due to the low incidence of COVID-19 cases in the province of New Brunswick, and specifically in Fredericton. All participants described periods of having interruptions to their access to health and other important resources prior to COVID-19-related restrictions (due to displacement), which may explain why they did not feel impacted by the interruptions introduced by the pandemic. While this was a small sample, it raises important questions regarding why the impact of the pandemic was viewed to be small in this area, as explorations of these questions may help prepare health systems and their clients for future public health crises.

At the time the study was proposed, the researcher intended to create shareable written material, based on study findings, and featuring participants (with permission), to motivate others trying to manage T2DM under difficult circumstances, including the COVID-19 pandemic restrictions. However, participants were not comfortable with having their identities revealed for this purpose, though they agreed to have anonymized findings published and shared for the same purpose.

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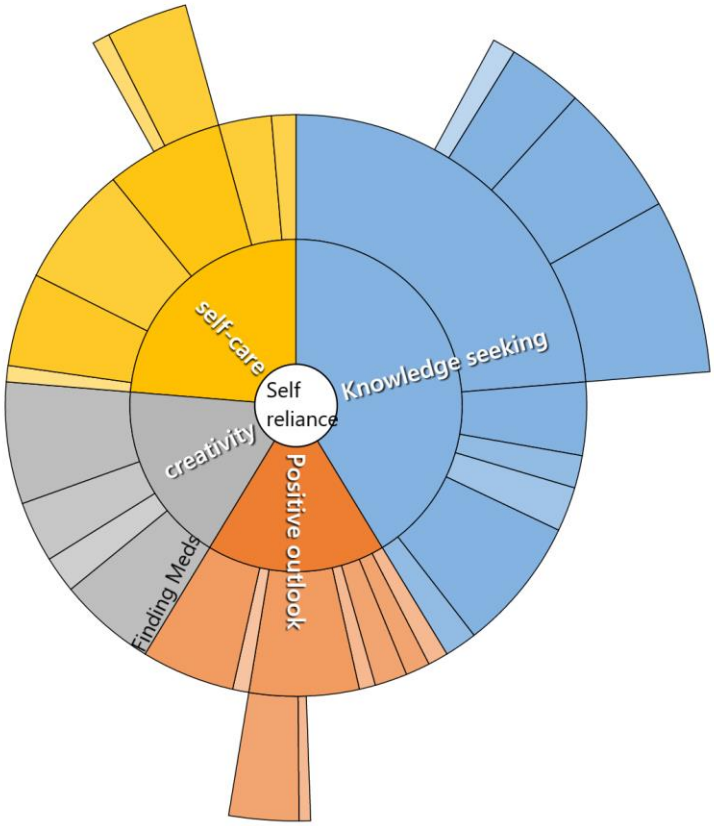
Tables and Figures

Table 1 Sample coding table

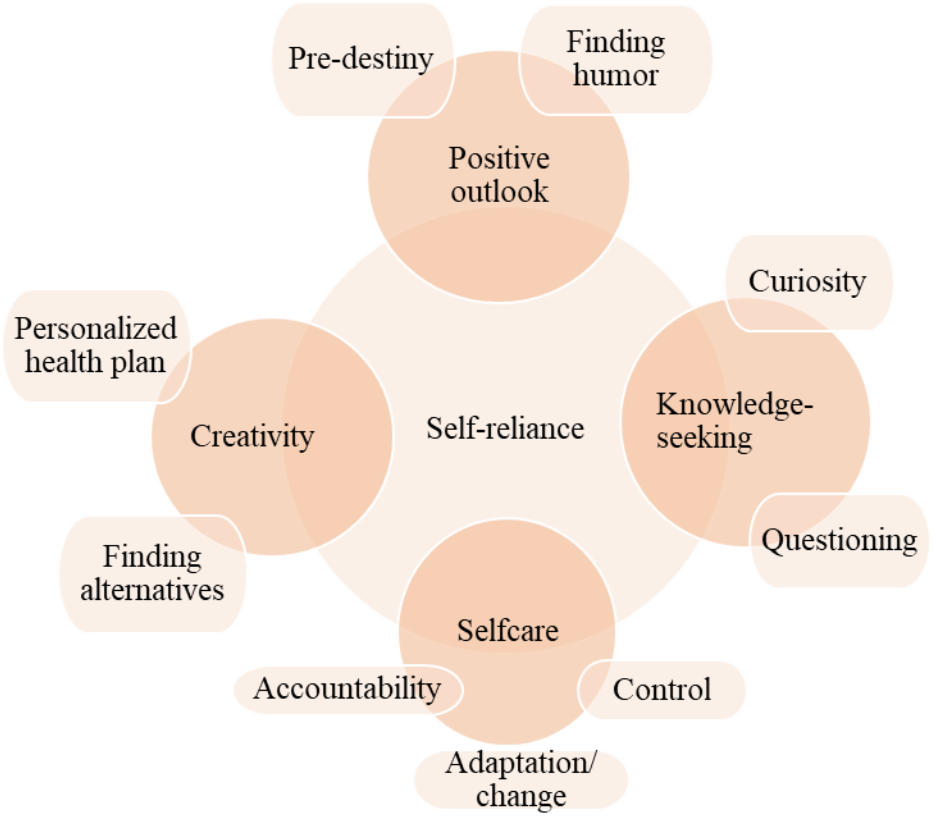
Core category	**Axial codes**	**Open code example**	**Sample text**
Self-Reliance	Positivity	Predestiny	"So, I don't know, but when I got here, God made it so that I arrive here and [have a heart attack] then get stents, so I can have another chance at life."
	Creativity	Finding alternatives	"I had to reach out to friends who are doctors, friends who are pharmacists, for a period, not short…people needed medications, but they couldn't get to them."
	Knowledge-seeking	Asking questions Curiosity	"I, in my nature, I like to learn about everything I don't know. And especially this is a thing that affects me, so I read articles, I read, every time I read an article, I get a recommendation to read about diabetes, or this or that."
	Selfcare	Accountability	"You have to control and organize your self so you can be in better health. So, your illness is moderate, not severe."

Figure 1 Hierarchy*1* of coding process with example code



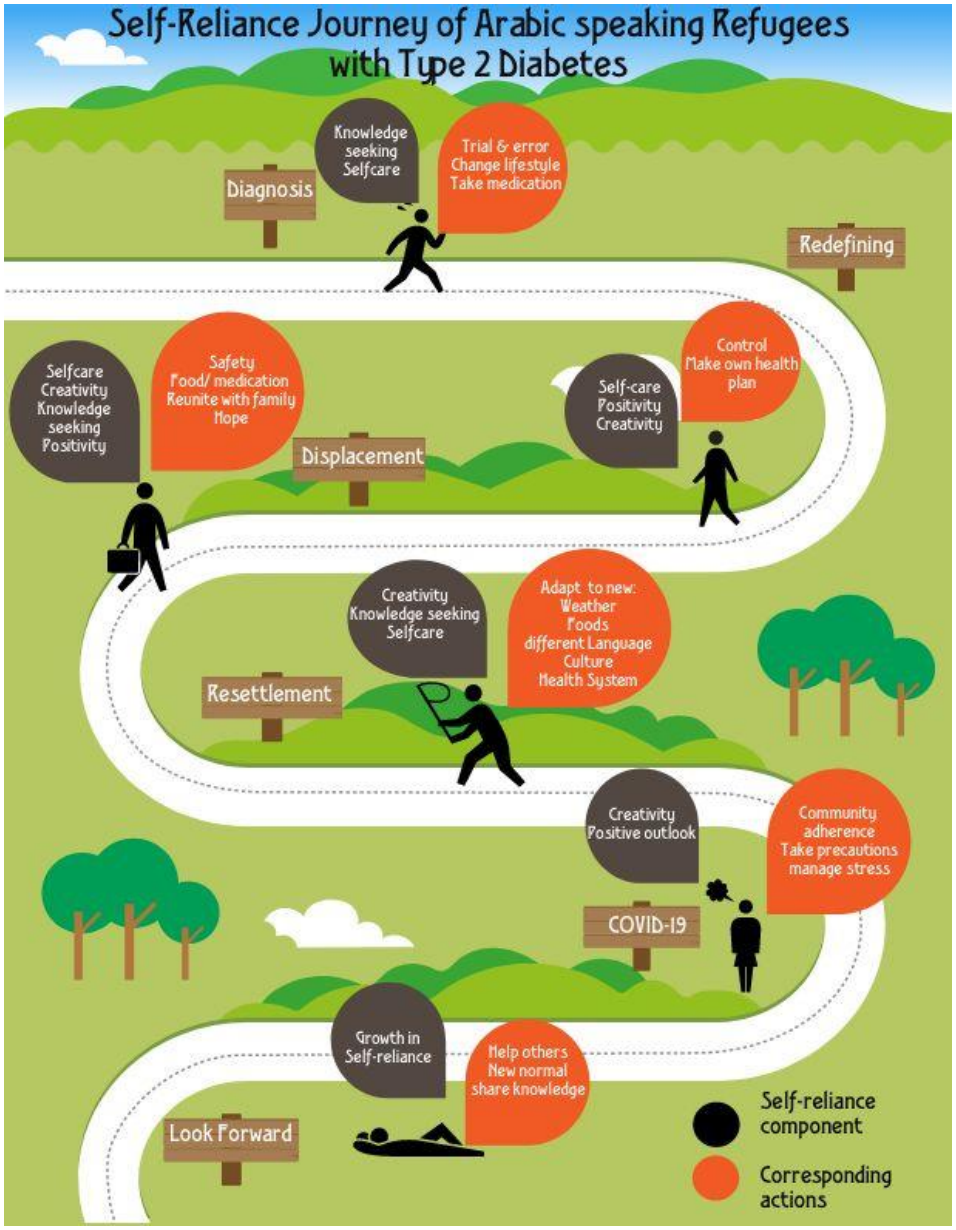
1 The figure represents the codes extracted from the study data. Each color in the figure represents an axis (category of codes) of the self-reliance model, while each arc/slice represents codes under a particular axis. Self-reliance, which was the core concept

Figure 2 Self-reliance theory of health resilience



identified by the researcher, integrates the axes into the proposed self-reliance theory of health resilience.

Figure 3 Self-reliance Journey of Arabic-Speaking Refugees with T2DM in New Brunswick



Chapter 5 Implications and Conclusion

The purpose of this study was to explore how Arabic-speaking refugees with type 2 diabetes use health resilience in health management and resettlement after arriving in New Brunswick within the context of the COVID-19 pandemic. Findings were used to propose a self-reliance theory of health resilience that may inform future research, nursing practice with individuals in similar circumstances, and resettlement efforts. This study is part of a small but growing body of research on the health of refugees as a distinct group of newcomers. There is limited published data on the number of Arabic-speaking refugees in New Brunswick who are living with T2DM or other noncommunicable chronic conditions. This study offers insight into the experience of Arabic-speaking refugees living with T2DM in New Brunswick as they resettle during the COVID-19 pandemic using a health resilience focus. In this section, suggestions on how this model informs three levels of healthcare are offered.

Implications to nursing practice

The self-reliance theory of health resilience proposed by this research provides an alternative strength-focused set of considerations for nurses working with vulnerable populations. By considering the four interrelated components of self-reliance (positivity, creativity, knowledge-seeking, and selfcare), nurses and other healthcare providers may be able to identify and bolster client attributes that nurture health management and recovery while building a stronger collaborative professional relationship.

Due to protocols established by employers, the nursing process, or time-constraints, nurses are accustomed to working with patients using a problem-solving

approach (Lenzen et al., 2018; Poskiparta et al., 2001). There are practical reasons for this approach. Patients often see nurses for support in addressing one or more health concerns, so it is expected that these concerns will be the focus of nurse-patient interaction. Nurses then use their knowledge and established protocols to plan and implement interventions designed to address these concerns. However, assessing strengths and designing interventions around them are not commonly practiced. Findings of this study suggest that participants recognize and use attributes that promote health, such as seeking-knowledge or having a positive outlook. Nurses may use these findings as examples to assess health resilience- promoting factors and to collaboratively work with patients to include them in a plan of care.

Several examples from the findings suggest that refugees are looking for a person-centered approach to care that is not always encountered. For example, as Ziyad mentioned: “just because I speak English, it doesn’t mean that I am ok.” It may seem obvious to assume that a newcomer who has a good command of English understands all instructions. However, nurses who are native speakers of English may not be aware of linguistic and cultural nuances that may change the meaning behind words. By having a collaborative approach, offering interpretation by professional interpreters or family members, and allowing patients to reiterate their understanding (where feasible and deemed necessary) may help prevent misunderstandings that impact nurse-patient relationships or patient safety. Further, as suggested by participants, Arabic-speaking refugees with T2DM are seeking both medical and emotional support. A language barrier may impede appropriate emotional support or detection of the need for emotional

support. Nurses working with Arabic-speaking T2DM patients should take consider comprehension when deciding on the use of interpretation services.

Finally, as all participants asserted that they valued learning as much as possible about their condition and their specific medical status, nurses may support this knowledge-seeking behavior by sharing information in a linguistically and culturally appropriate manner. For example, nurses may access Arabic educational resources for patients relating to diabetes through a credible source, such as diabetes organizations, and share these paper or electronic sources with patients. As many participants stated they use the internet to learn more about diabetes, COVID-19, and other issues impacting health, nurses can play a critical role in preventing health misinformation by referring patients to credible electronic sources. Collaborating with newcomer serving agencies may support continuity and consistency in delivering health information to newcomers with T2DM. Working with other members of the healthcare team, nurses may consider sharing lab results and other patient information to both inform and support patients in their diabetes management journey.

Implications to nursing research

Further research examining self-reliance and its components is needed to understand health resilience and its impact on the health and wellbeing of refugees and other vulnerable populations. Nurses may work in areas dedicated to caring for refugees, yet there is limited scholarly research to support the nurses' knowledge about trauma and displacement. Building the body of evidence in this area may inform practice by

identifying areas for assessment, diagnosis, and intervention for nurses working with Arabic-speaking refugees with T2DM and other underlying health issues.

This study confirms previous research's suggestions that newcomers are not created equal (Gabriel, et al., 2011). As one of the participants in this study indicated, those entering Canada as immigrants tend to be selected from more advantaged populations (mastery of Canada's official languages, higher educational qualifications, young age, etc.), while those who arrive as refugees come from more diverse socioeconomic backgrounds. Refugees are more likely to have experienced trauma and instability in accessing healthcare, housing, and other social determinants of health. T hey may have already learned how to manage health conditions (such as T2DM) with access to few, intermittent, and/or unfamiliar resources. However, much of the data on newcomer health combines all newcomers regardless of the path taken to come to Canada (Beiser, 2005; Berkowitz et al., 2016; De Maio, 2010; Kalich et al., 2016). The specific needs and strengths experienced by refugees may not be evident in research focused on newcomers as one homogenous group. By examining how refugees (Arabic-speaking and others) with T2DM use health resilience to manage their disease, researchers may further understand how to support this population and all Canadians who experience challenges to self-reliance.

This study offers insights on health resilience from the patient's perspective but examining it from the nurses' and other healthcare provider's perspective may be illuminating. For example, participants in this study believed that commitment and actions to achieving positive health outcomes are no different than those of anyone living with T2DM or other chronic condition. However, a nurse, including the researcher in this

study, may note that not all people living with T2DM apply the type of effort and exhibit the same curiosity to promote health exhibited by the participants. The simple act of explicitly making this observation to patients may be empowering and therapeutic. Further research examining the experience of nurses working with Arabic-speaking refugees with T2DM may also increase understanding of health resilience in this population and how it can be used to foster positive health outcomes.

Implications to systems and policy

Findings in this study highlight two important factors for consideration in health systems and policy development. First, newcomers who arrive as immigrants may experience similar difficulties navigating the healthcare system as those who arrive as refugees, yet they are not given the same guidance and support in accessing healthcare In addition to having to cover their healthcare privately for the first three months upon arrival (Immigration, Refugees and Citizenship Canada, 2021), immigrants with T2DM are tasked with understanding how to access the various services needed to manage their disease, without extended coverage (available for refugees) or automatic outreach from newcomer-serving agencies as often experienced by refugees. Second, as suggested by previous research (Gabriel, et al., 2011), this study found gaps in access to culturally-sensitive healthcare among the different categories of newcomers, which may have some negative consequences on the health of those with T2DM and other chronic diseases for which self-management and health literacy are especially salient and supportive dimensions of care. Further studies are needed to support these findings at a population level.

Some participants in this study discussed the impact on health of access to culturally appropriate foods and affordable medication. Guidelines on healthy nutrition may not always consider Arabic-speakers' food preferences relating to their cultural and socioeconomic status, as found in this study. In this study, participants capitalized on the knowledge they had from healthcare providers in their home countries to know what culturally appropriate foods are compatible with a healthy diet to manage T2DM. However, for those diagnosed after arrival in Canada, the guidelines may not take foods familiar to Arabic-speaking refugees into consideration, which may impact nursing care as well as health outcomes for those patients

Some participants who arrived as government assisted refugees in this study had healthcare access facilitated early on arrival, or even before arrival, while others had to learn to navigate health services on their own, even though all newcomers are expected to be unfamiliar with the Canadian health system upon arrival. The potential negative consequences to health created by delayed or inadequate access to healthcare is exacerbated by system-wide issues such as long wait-times in emergency rooms and lack of primary care providers, as found previously (Woodgate et al., 2017). One participant in this study almost ran out of medication stockpiled before arriving in Canada because he did not know how to access a primary care provider and because he had to wait a long time for an appointment once he learned how to do so from a friend. This finding flags a potential disadvantage that newcomers with T2DM who arrive as landed immigrants or privately assisted refugees face as it is assumed that they can navigate the system on their own or with presumed support from sponsors (who may also be unfamiliar with accessing resources and services for managing T2DM).

Health policy at the various levels of government may improve access and equity in healthcare for newcomers by considering the lack of familiarity and cultural differences experienced by newcomers relating to healthcare services. For example, at the federal level, government resources for new immigrants currently describe the healthcare system and coverage in Canada but does not outline the common service delivery model of family physicians or Nurse Practitioners as gatekeepers to accessing other healthcare services, or the long wait-times to access a family physician commonly found in most provinces in Canada. It is possible that this omission has an impact on how and how long it takes for newcomers (immigrants or refugees) to access healthcare after arrival. At the provincial level, New Brunswick healthcare systems may wish to consider innovative health service delivery models found in other provinces that receive large numbers of newcomers. These models, such as mobile clinics, workplace health services, cultural health brokers, and others (Aery, 2017) work towards increasing health equity for newcomers by bridging knowledge and cultural differences between healthcare providers and newcomers. Further examination of the health needs of newcomers should occur before making recommendations specific to New Brunswick.

Chapter 6 Knowledge Translation

Upon completion of the study and thesis defence, findings will be disseminated through three avenues: publication, live presentation, and social media. I aim to submit manuscripts to the following journals: Canadian Journal of Diabetes, Refuge, or the Journal of Immigrant and Minority Health. My final thesis has been formatted as a manuscript so that it may be readily edited and submitted for publication after thesis defence. This format allowed me to structure my writing in a manner that is appropriate to the audience with a focus on demonstrating relevance of the study to the reader. The target audience for academic dissemination (journals and/or live conferences) will be nurses and other healthcare providers who would interact with Arabic speaking refugees living with T2DM. I also plan to create plain language articles with Arabic-speaking refugees as the target audience, specifically those living with T2DM. I hope to produce short plain-language articles with ideas deemed relevant by the participants that may help others. For example, providing a list of tips, resources, and/or quotes by participants that will be helpful for others with diabetes as they navigate the daily tasks of managing their disease. They may also be short summaries of the experience living with T2DM during resettlement in Canada, which can validate the experiences of others living through a similar situation. These would be intended for motivational materials, and not as health or medical advice. No participant agreed to provide their photo to include in such articles as originally intended, so the articles will be general in nature. These plain-language resources will be available for sharing with relevant refugee organizations (e.g., Multicultural Association of Fredericton) and community groups' social media pages and

for the participants to share with others. Finally, I will submit an abstract to present findings to the North American Refugee Health Conference, hosted by the Society for Refugee Healthcare Providers, taking place in June 2022, as well as other relevant Canadian-based events. I will look for other opportunities to share my findings that may be recommended by my graduate academic unit, thesis supervisor or committee members. The main objective of the academic and plain-language dissemination activities is to share new knowledge gained from my study with those who may benefit from it.

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Appendices

Appendix A Recruitment poster

مرض السكري من النوع 2 واللاجئين
دراسة بحثية

والتشتيت الاجتماعي ، فإن العديد من الخدمات المهمة للأشخاص المصابين بداء السكري (COVID-19) بسبب الفيروس التاجي
ليظلوا بصحة جيدة مغلقين أو متغيرين. كونك جديدًا على كندا يمكن أن يجعل من الصعب الحفاظ على صحتك

إذا كنت:
فوق عمر ال 19
تتحدث العربية
لاجئ - مما يعني أنك في كندا لأنه ليس من الآمن العودة الى وطنك
لديك مرض السكري من النوع 2 ، و
تعيش في نيو برونزويك

فأود أن أتحدث اليكم
أنا ممرضة مسجلة و طالبة ماجستير في جامعة نيو برونزويك. إذا وافقت على التحدث
معي ، فسنتحدث عبر الهاتف أو الفيديو في وقت مناسب لك ومرة أخرى بعد 3 أو 4
أشهر. سوف يستغرق حديثنا حوالي ساعة وستحفظ خصوصيتك. تقديرًا لوقتك ،
ستحصل على بطاقة هدايا متجر. يرجى الاتصال بي عن طريق رسالة خاصة أو البريد
الإلكتروني أو الهاتف. لا تتردد في مشاركة هذا الملصق
يمكنك التواصل في أي وقت حتى 31 مارس 2021

شارك بقصتك

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Type 2 Diabetes and Arabic-Speaking Refugees - research study

Because of coronavirus (COVID-19) and social-distancing, many services that are important for people with diabetes to stay healthy closed or changed. Being new to Canada can also make it difficult to stay healthy.

If you are:

1. 19 years or older
2. Speak Arabic
3. A refugee (which means you are in Canada because it is not safe to live in your home country)
4. you have type 2 diabetes, and
5. Live in New Brunswick

Then, I would like to talk to you.

I am a registered nurse and master's student at UNB. If you agree to speak with me, we will talk by phone or video at a time that works for you and again after 3 or 4 months. Our talk will take about an hour and will be kept private. In appreciation of your time, you will receive a superstore gift card. Please contact me by private message, email, or phone. Feel free to share this poster.

Please respond anytime before March 31 2021

Share your story

University of New Brunswick
Faculty of Nursing
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Appendix B Demographic Questionnaire

1. Sex: ___Male___Female
2. Age:
□ 19-34
□ 35-50
□ 51-65
□ 65+
3. Country of origin:_____
4. Marital Status: _____
5. Level of Education:
□ Elementary
□ Middle School
□ High School
□ University or higher
6. Occupation and Employment status:
_____
7. Date of leaving country of origin:_____
8. Transitional country_____
9. Date of Landing in Canada:_____
10. Legal Status in Canada: _____
□ Government-Assisted Refugee
□ Privately Sponsored Refugee
□ Landed Immigrant
□ Other: _____
11. Living arrangement before arrival in Canada:
□ Private residence
□ Shared accommodation (friends/family)
□ Institutional (shelter/refugee camp/etc.)
□ Other: _____
12. Current living arrangements
□ Private residence
□ Shared accommodation (friends/family)
□ Institutional (e.g.: shelters)
□ Other: _____
13. Do you have a: ____Family doctor OR ___Nurse Practitioner OR __Neither?
14. Date you were diagnosed with Type 2 Diabetes: _____
15. Do you have other family members with Diabetes? ____Yes ___No
16. Do you have other chronic conditions that require medication (e.g., hypertension)?
____Yes ___No

1. الجنس: __ذكر __أنثى
2. العمر:
□ 19-34
□ 35-50
□ 51-65
□ 65+
3. بلد الأصل:_____ ___
4. الحالة الاجتماعية:_____
5. المستوى التعليمي:
□ ابتدائي أو أقل
□ اعدادي
□ ثانوي
□ جامعي أو أعلى
6. المهنة والوظيفة الحالية:
_____
7. تاريخ ترك بلد الأصل:_____
8. البلد الانتقالي:_____
9. تاريخ الوصول الى كندا:_____
10. وضع الاقامة القانونية:
□ لاجئ بمراعاة الحكومة
□ لاجئ بمراعاة فئات خاصة
□ مهاجر
□ آخر: _____
11. ترتيبات المعيشة قبل الوصول الى كندا:
□ مسكن خاص
□ مسكن مشترك
□ مؤسسة (مخيم، ملجأ، الخ)
□ آخر: _____
12. ترتيبات المعيشة حاليا:
□ مسكن خاص
□ مسكن مشترك
□ مؤسسة (ملجأ)
□ آخر: _____
13. هل لديك: _طبيب عام او_ ممرض مؤهل أو __لا؟
14. تاريخ تشخيصك بمرض السكري:
15. هل يعاني أحد افراد عائلتك بمرض السكري؟
___نعم ___لا
16. هل تعاني من أي أمراض أخرى تحتاج العلاج (مثل ارتفاع ضغط الدم)؟ ___نعم ___لا

Appendix C Interview Questions

English:

Checklist for the interviewer:

1. Consent has been explained and granted (through consent form and verbal agreement on audio recording)
2. Schedule interview when and where the participant can have a private and quiet space for at least 1.5 hours
3. Fully charged voice recorder and iPhone
4. A list of resources from https://mcaf.nb.ca/en/resources/ as well as Health Canada and Government of New Brunswick available for participants, should they have questions on accessing resources online or need a phone number (such as 811).

Opening: Firstly, thank you very much for meeting with me to help me understand the needs of refugees and others who are new to Canada as they manage type 2 diabetes, before and after coming to Canada and during COVID-19. Specifically, I am interested in learning how you manage in ways that are unique to your situation so that you are meeting your health-related goals or at least working towards them. I hope that the findings will help relay accurate ideas to nurses and other care providers working with individuals such as yourself so that they are better informed about how Arabic-speaking refugees are living with diabetes after arriving in Canada. It may also help other Arabic-speaking refugees to learn how you are managing. The interview will take approximately one hour, but it may be less or more if that is what you are more comfortable with. I will

be recording the interview so that I can catch everything we talk about, but I will also be taking a few notes while we talk. Is this acceptable? Your identity (and anything you share that can reveal it, such as a phone number or spouse's name) will be kept confidential and what we talk about will be pooled with what others say. You can stop the interview at any time without any questions or penalties, and you will still collect your gift card. Do you have any questions for me before we begin?

1. Firstly, tell me about how you came to Canada
2. Can you tell me about how you looked after your health with T2DM before coming to Canada?
3. What were some of the positive things?
4. What were some of the challenges you have experienced?
5. Can you tell me about how you have looked after your health since arriving in Canada?
6. What were some of the positive things?
7. What were some of the challenges you have experienced?
8. Can you tell me how COVID-19 has impacted your ability to take care of your health?
9. What are some important messages you would like your care providers, society (neighbors, friends, employers, etc.), and government leaders to know about type 2 diabetes and refugees?
10. Thank you very much, once again for meeting with me today. Your insight is very valuable to my education, my future work as a nurse, and hopefully, to other nurses as well. I have been taking some notes during our chat. Do you

mind if I quickly review them with you? To make sure that I have not misunderstood anything. Do you have any questions for me?

Arabic:

بداية أود أن أشكركم على حضوركم هذا الاجتماع للتعرف أكثر على احتياجات اللاجئين والقادمين الجدد إلى كندا والتعامل السليم مع مرض السكري نوع ٢ وخاصة انه يدخل في دائرة اهتمامي فهم كيفية التعامل مع حالتكم الصحية خاصه خلال جائحة مرض الكورونا للوصول للأهداف الصحية المرجوة

أتمنى ان ما نصل إليه سيكون مساعدا لي ولطاقم التمريض والعاملين على الرعاية الصحية حتى يكونوا على دراية ومعرفة أفضل للتعامل مع حالتكم. مشاركتك بخبرتك قد تساعد اللاجئين المصابين بالسكري أيضاز

سوف تستغرق المقابلة حوالي الساعة، اقل او أكثر، حسب الحاجة

سأقوم بتسجيل المقابلة بالإضافة إلى إنني سأقوم بكتابه بعض الملاحظات أثناء الحديث وذلك حرصا على الدقة في تسجيل كل الملاحظات. هل هذا مقبول من طرفكم؟

علما بأن كل المعلومات في هذه المقابلة ستبقى سرية.

١) اود منكم التعرف على كيفية وصولكم إلى كندا

٢) متى وكيف تم تشخيصكم بمرض السكري نوع ٢

٣) كيف تهتم بصحتك بعض تشخيصك؟ قبل وبعد الهجرة الى كندا؟

أ. ما بعض الإيجابيات في العناية بمرض السكري في بلدك؟ وفي كندا؟

ب. ما بعض السلبيات في العناية بمرض السكري في بلدك؟ وفي كندا؟

٤) كيف أثرت جائحة الكورونا على صحتك وعلى برنامجك الصحي؟

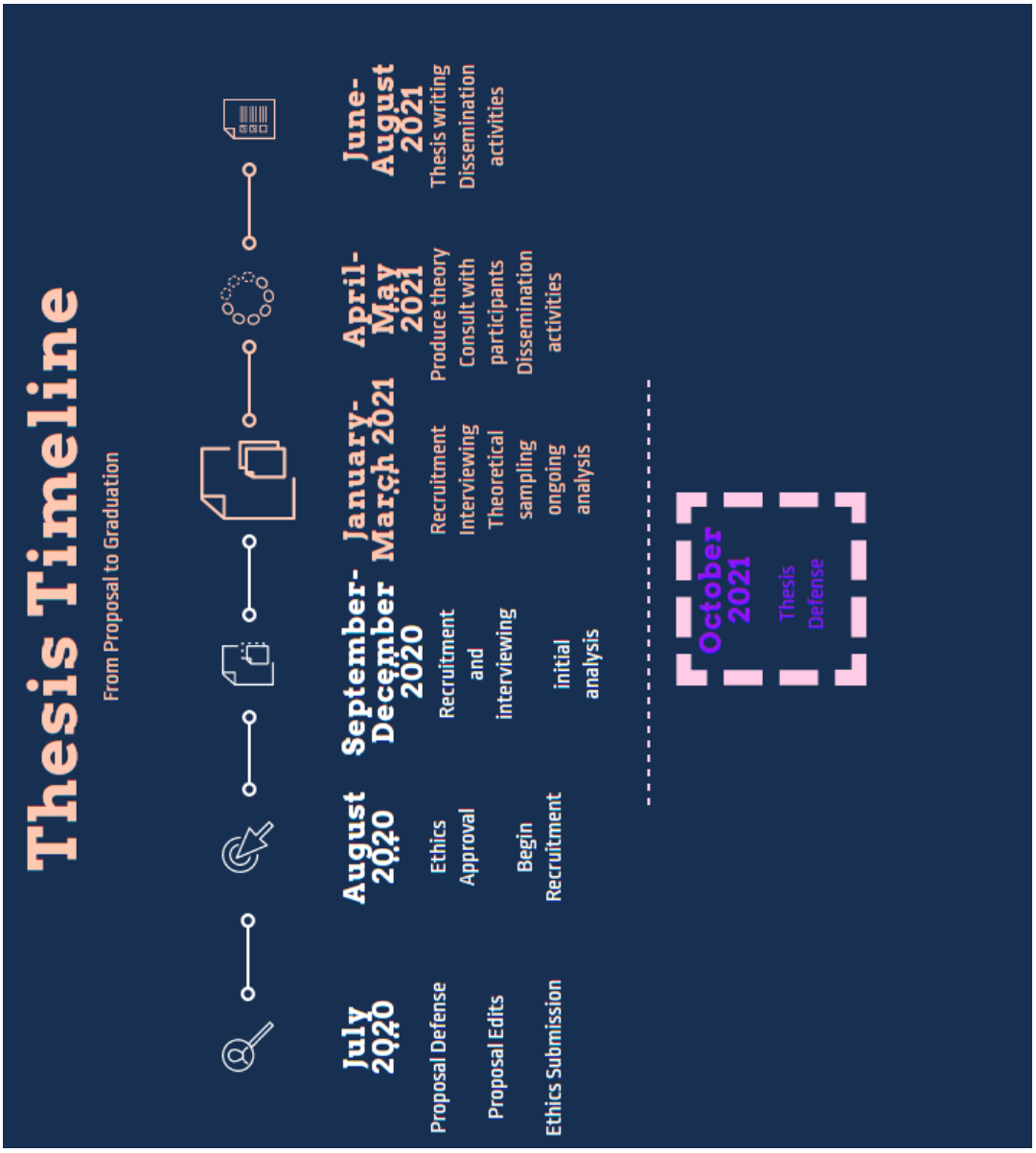
5) ما هي الرسائل التي تودون ايصالها إلى مقدمي الرعاية الصحية، المجتمع (الجيران، الأصدقاء، الموظفين .....إلخ) والمسؤولين الحكوميين لتحسين أوضاع اللاجئين المصابين بهذا المرض.

5) اشرح لي عما تعرفه عن جائحة مرض الكورونا وعلاقته بالسكري

اود أن أشكركم مرة أخرى لان ايضاحاتكم قيمة جدا ومهمة لي في متابعة تعليمي ومستقبلي المهني كممرضة، كما أتمنى أن تكون كذلك لطاقم التمريض جميعا.

لقد قمت بكتابه بعض الملاحظات اثناء محادثتنا، و لتفادي أي سوء فهم أثناء الحديث هل لديكم أي مانع في مراجعتها معا؟

Appendix D Thesis Timeline



Appendix E Distress Protocol

For the participant(s)

If a participant indicates that they are stressed or appear to be in distress (e.g., crying or shaking), the interviewer will:

1. Stop the interview.
2. Provide immediate support by assessing their feelings and validating them (e.g.: “It is completely normal to cry when talking about loss, and this does not make you weak”)
3. Assess the participant’s mental status. You can ask “Are you okay?” “Please tell me what thoughts you are having.” “Would you like to take a break?” “Tell me what you are feeling right now?”
4. Depending on the participant’s response you may also ask: “Do you feel you are able to go on about your day?”
5. If participant feels able to carry on; resume the interview or focus group discussion
6. If participant is unable to carry on:
7. Discontinue the interview and explain that the interview will not continue because the participant’s stress response is more important to address right now.
8. Encourage the participant to contact their family doctor, a walk-in clinic, or mental health provider OR
9. Helpful resources:

Tele-Care:

A FREE and confidential service that provides access to bilingual registered nurses who can offer health advice and information 24hrs a day, 7 days a week all residents of New Brunswick.

Dial 811

Chimo Helpline:

A FREE and confidential provincial crisis phone line, that is accessible 24hrs a day, 7 days a week to all residents of New Brunswick.

Provincial Helpline: 1-800-667-5005 (toll-free, province-wide)

Emergency Care:

In an emergency, dial 911 or visit your local emergency department.

MCAF- (506) 454-8292

MAGMA- (506) 857-9430

YMCA Newcomer connections (Saint John)- (506) 634-4860 Saint John Newcomers Centre – (506) 642-4242

Complete list of newcomer serving agencies: http://www.nb-mc.ca/members/

Follow up

10. Follow participant up with a courtesy call (if participant consents) OR

11. Encourage the participant to call either if he/she experiences increased distress in the hours/days following the focus group

For the interviewer

12. The interviewer will conduct 2 – 3 interviews in a week to prevent the chances of experiencing physical and/or psychological exhaustion.

13. Upon completion of every interview and focus group, the interviewer will complete field notes. On the field notes, she will document their reflections including any distress during the interview/focus group.

14. The interviewer will debrief after every interview with the thesis supervisor.

15. Potentially 'difficult' interviews/focus groups will be flagged prior to transcription.

16. The transcriber will be encouraged to take breaks (if they need to) and debrief with a member of the research team

17. If the researcher continues to experience distress, refer them to access the student counseling services.

18. Follow up

19. The interviewer will be encouraged to access the thesis supervisor or the appropriate student resources if she experiences increased distress in the hours/days following the interview/focus group or transcription

McCosker, H., Barnard, A., Gerber, R. (2001). Undertaking sensitive research: Issues and strategies for meeting the safety needs of all. *Forum: Qualitative Social Research, 2*(1)

Gregory, D., Russell, C., Phillips, L. (1997). Beyond textual perfection: Transcribers as vulnerable persons. *Qualitative Health Research, 7*(2), 294-300.

Appendix F Informed Consent

Study Title: Health Resilience of Arabic-Speaking Refugees with Type 2 Diabetes Mellitus during COVID-19 Pandemic Mitigation Measures

- ***Study Researcher****:* Hanin Omar, Registered Nurse and Master of Nursing Student at University of New Brunswick, Hanin.omar@unb.ca or 506-471-9911. She speaks English and Arabic.
- ***Research supervisor***: Dr. David Busolo, Faculty of Nursing, University of New Brunswick, David.busolo@unb.ca or 506-456-2898.
- ***Thesis committee members***:
  - Dr. Jason Hickey, Faculty of Nursing, University of New Brunswick (Jason.hickey@unb.ca; 506-458-7644)
  - Dr. Neeru Gupta, Faculty of Arts, University of New Brunswick (neeru.gupta@unb.ca; 506-453-5177)

Please contact Dr. Busolo, Dr. Hickey, or Dr. Neeru if you have any concerns about the study.

You are invited to join a study on health resilience in Arabic-speaking refugees who have type 2 diabetes during the coronavirus (COVID-19) pandemic. Health resilience means doing things to take care of your health even if it is not easy. To join the study, you must:

1. Be 19 years or older
2. Have type 2 diabetes
3. Have moved to Canada or are staying here since 2015 because it is not safe to return to your home country

4. Live in New Brunswick
5. Speak Arabic

Hanin will explain the information in this form, and you can ask questions. If you agree to join, you can sign the form and send it back any way you like (email, scan, or mail). You can also say that you agree out loud at the start of your interview, which will be recorded. You will keep a copy of this form.

Study Aim: Hanin is interested in learning about how Arabic-speaking refugees with type 2 diabetes use health resilience after moving to Canada and during the coronavirus (COVID-19) pandemic. She will ask you questions about your life in Canada, before moving here, and about your diabetes (for example: when did you start having diabetes?). She will be talking to you by phone or by video (example: WhatsApp) for about one hour in Arabic or English. You will be one of about ten people that Hanin is looking to talk to.

Please know that:

1. It is up to you to agree to join this study. You may change your mind any time without having to explain why.
2. There is very little risk expected in the study. If you feel uncomfortable in any way, you can stop the interview. Please tell Hanin right away if you feel any discomfort. She will work with you to make sure you have some options to feel better and to be safe.
3. We can talk by phone or video, in English or Arabic and at a time that works for you. Please find a quiet and private place to talk.
4. Hanin will use a voice recorder to record your talk with her. She will save this file on a computer that uses a password and then delete the original one from the

recorder. This talk will be typed and translated to English without any names of people that we may have mentioned. It will be used to compare what you and others say.

5. Only Hanin will know your name and email or phone number. She will save your information on a password-protected computer that only she can reach and delete it after finishes her studies. If you sign a paper consent, Hanin will scan it to save on this computer, and then she will shred the paper.
6. To thank you for helping with this study, you will get a $25 gift card to the Atlantic Canadian Superstore. You will get this even if you do not finish the interview.
7. When Hanin shares what she learns from your story with others, she will use a different name to protect your privacy. Hanin may share what she learns from the study in short articles for social media, academic journals, and conferences. If you like, you can see these.
8. Later, you can choose to share your story in photos and stories that can be shared on social media or at live presentations. You do not need to agree to this to be in the study. If you agree to be in these photos, you will give a separate consent and you will get all the information that you need at that time.
9. By sharing your story in this study, you may help others with diabetes who are having similar experiences to yours. You may also help healthcare providers and others who work with refugees with diabetes to better understand your needs and strengths. Some people also find it useful to talk about their experience with someone.

10. This study has been reviewed and approved by the Research Ethics Board (REB) at the University of New Brunswick. For research problems or questions about this study, please contact the REB at the Office of Research Services (506) 453-5189 or REB chairperson, Dr. David Coleman dcoleman@unb.ca.

- ☐ I understand the information in this form. I have had all my questions answered and I agree to join this study.
- ☐ I have been given a copy of this consent form.
- ☐ I want to receive a copy of my interview transcript. No___ Yes ___
- ☐ I want to receive a summary of the findings. No___ Yes ___
- ☐ I do not want to sign this document. Instead, I will read the first sentence above so that there is a recording of my consent.

_____ _____ _____

Signature (type your) Date Contact (phone/email)

_____ _____

Printed Name and Signature of the Researcher Date

This study has been reviewed by the University of New Brunswick Research Ethics Board and is filed as REB #2020-115.

استمارة موافقة مستنيرة

عنوان الدراسة: المرونة الصحية للاجئين الناطقين بالعربية المصابين بمرض السكري من النوع 2 خلال تدابير التخفيف من الجائحة 19

الباحثون في الدراسة:

- حنين عمر، ممرضة مسجلة، طالبة ماجستير في التمريض، جامعة نيو برونز ويك. تتحدث الانجليزية والعربية. يمكن الوصول إليها على5064719911 و.Hanin.omar@unb.ca
- مشرف البحث هو د. ديفيد بسولو، كلية التمريض، جامعة نيو برونز ويك. يمكن الوصول إليه على David.busolo@unb.ca أو 5064562898.
- أعضاء لجنة البحث هم
  - د. جيسون هيكي، كلية التمريض، جامعة نيو برونز ويك Jason.hickey@unb.ca 5064587644
  - د. نيرو جبتا.5064535177 gupta@unb.ca

إذا كانت لديك تعليقات أو قلق بشأن البحث، فيرجى الاتصال بالدكتور بسولو أو د. هيكي أو د. نيرو

أنت مدعو للانضمام إلى دراسة استكشاف المرونة الصحية لدى اللاجئين الناطقين بالعربية الجدد على كندا والذين يعيشون مع داء السكري من النوع 2 خلال جائحة .COVID-19 المرونة الصحية تعني القيام بأشياء لرعاية صحتك، حتى لو لم تكن سهلة. لكي تكون مؤهلاً للدراسة، يجب:

.1أن يكون عمرك 19 عامًا أو أكثر

.2 أن تم تشخيصك بمرض السكري من النوع 2

.3ان تقيم في كندا أو أقمت هنا منذ عام 2015 أو في وقت لاحق لأنه ليس من الآمن العودة إلى بلدك

.4 ان تقيم في نيو برونز ويك

.5 أن تتكلم العربية

سوف تشرح لك حنين جميع المعلومات الواردة في هذه الاستمارة وستتاح لك الفرصة لطرح الأسئلة. إذا قررت المشاركة، سيُطلب منك التوقيع عليها أو الموافقة شفهيًا في بداية حديثك المسجل صوتيا مع حنين، وستحتفظ بنسخة من هذه الاستمارة لمعلوماتك.

هدف الدراسة: تهتم الباحثة حنين بمعرفة كيف يستخدم اللاجئون الناطقون بالعربية المصابون بداء السكري من النوع 2 المرونة الصحية بعد انتقالهم إلى كندا وأثناء جائحة فيروس كورونا (COVID-19). سيطرح عليك الباحثة أسئلة عن حياتك في كندا، قبل الانتقال إلى هنا، وعن كيفية التعايش مع مرض السكري من النوع 2 (على سبيل المثال: متى تم تشخيصك بمرض السكري؟). سوف تتحدث معك عبر الهاتف أو عبر دردشة الفيديو (مثال: WhatsApp) لمدة ساعة واحدة باللغة العربية أو الإنجليزية. ستكون واحدًا من حوالي 10 أشخاص يتطلع الباحث إلى التحدث إليهم.

يُرجى العلم بما يلي:

1. اختيارك للانضمام إلى هذه الدراسة يعود لك وحدك. يمكنك تغيير رأيك في أي وقت دون الحاجة إلى شرح السبب..

2. لا يوجد خطر متوقع إذا انضممت إلى الدراسة. إذا شعرت بعدم الارتياح بأي شكل من الأشكال أثناء المقابلة، فلديك الحق في إيقاف المقابلة. يرجى إبلاغ حنين على الفور إذا شعرت بأي انزعاج خلال مقابلتك. ستحرص على أن تكون لديك بعض الخيارات لتشعر بتحسن وأمان.

3.. لديك خيار التحدث عبر الهاتف أو الفيديو باللغة العربية أو الانجليزية. يمكنك أيضًا اختيار وقت ويوم مقابلتك. من المتوقع أن تستغرق المقابلات حوالي ساعة واحدة.

4. سيتم تسجيل المحادثة باستخدام مسجل صوت (لا يوجد فيديو)، محفوظ على حاسوب آمن، وسيتم حذف التسجيل الأصلي بعد نقله إلى الحاسوب الآمن. سيتم طباعة الحوار، وترجمته إلى الإنجليزية (إذا لزم الأمر)، وسيساعد في فهم البيانات بعد الانتهاء من التحدث.

5. ستعرف حنين فقط اسمك الأول ومعلومات الاتصال بك، وسيتم حفظ هذه المعلومات في جهاز حاسوب آمن طوال فترة الدراسة وسيتم حذفها بعد الانتهاء من البحث. سيتم تصوير أي نسخ موقعة من نموذج الموافقة هذا وحفظها في جهاز حاسوب آمن لا يمكن الوصول إليه إلا من قبل الباحث بينما سيتم تمزيق النماذج الورقية.

6. لشكرك على المشاركة في هذه الدراسة، سيتم إرسال بطاقة هدايا بقيمة 25 دولارًا إلى متجر Atlantic Superstore إليك. ستصلك هذه البطاقة، حتى لو لم تكمل المقابلة.

7. عند استخدام المعلومات من مقابلتك في كتابة النتائج التي يمكن للآخرين رؤيتها، سيتم استخدام أسماء مختلفة لحماية خصوصيتك. ستتم مشاركة المعلومات في رسائل إخبارية أو مقالات مكتوبة قصيرة على وسائل التواصل الاجتماعي. ستتاح لك الفرصة لرؤية هذه المقالات قبل مشاركتها حتى تتمكن من تقديم الملاحظات إذا كنت ترغب في ذلك. كما سيتم عرض النتائج في المنشورات والمؤتمرات الأكاديمية.

8. في وقت لاحق، ستتاح لك الفرصة لمشاركة النصائح المفيدة شخصيًا من خلال مقالات مصورة سيتم مشاركتها على وسائل التواصل الاجتماعي أو في المؤتمرات التي تحضر شخصيا. المشاركة في هذه التسجيلات غير مشترطة للمشاركة في هذه الدراسة. إذا قررت المشاركة في مقاطع الفيديو هذه، فسيتم استخدام معاملة موافقة منفصلة وشرحها في ذلك الوقت.

9. من خلال المساعدة في هذا البحث، سوف تساعد في دعم الآخرين المصابين بداء السكري الذين قد يواجهون تحديات مماثلة لك وإبلاغ مقدمي الرعاية الصحية وغيرهم ممن يعملون مع اللاجئين المصابين بداء السكري لفهم احتياجاتك ونقاط قوتك بشكل أفضل.

10. تمت مراجعة هذه الدراسة البحثية والموافقة عليها من قبل مجلس أخلاقيات البحث (REB) في جامعة نيو برونز ويك. بالنسبة للمشكلات البحثية أو الأسئلة المتعلقة بهذا المشروع، يمكن الاتصال بمكتب خدمات الأبحاث من خلال مكتب خدمات البحوث (506) 453-5189 أو رئيس مجلس إدارة REB، الدكتور ديفيد كولمان . dcoleman@unb.ca

- ☐ أفهم الشرح المقدم لي. لقد أجبت على جميع أسئلتي بما يرضي، وأوافق طواعية على المشاركة في هذه الدراسة.
- ☐ لقد حصلت على نسخة من نموذج الموافقة هذا
- ☐ أرغب في الحصول على نسخة من محضر المقابلة. لا __ نعم ___ (البريد الإلكتروني: _____)
- ☐ ود الحصول على ملخص للنتائج. لا __ نعم ___ (البريد الإلكتروني: _____)
- ☐ أفضل عدم التوقيع على هذا المستند. بدلاً من ذلك، سوف أقرأ التصريح أعلاه حتى يتم تسجيل موافقتي.

_____ _____ _____

التوقيع (اكتب) التاريخ تفاصيل وسيلة الاتصال

_____ _____ _____

اسم وتوقيع الباحث

تمت مراجعة هذه الدراسة من قبل مجلس أخلاقيات أبحاث جامعة نيو برونز ويك وتم تقديمها برقم -REB #2020 115.

Curriculum Vitae

Candidate full name: Hanin Subhi Omar
Universities Attended:
University of Calgary (Calgary, Alberta), Bachelor of Science in Biological Sciences, 2005
University of Calgary (Calgary, Alberta), Bachelor of Arts in International Relations, 2005
University of Calgary (Calgary, Alberta), Bachelor of Nursing, 2010
University of New Brunswick (Fredericton, New Brunswick), Master of Nursing, 2018-2022
Publications:
Stirling B, Hickey J, Omar H, Kehyayan V. Stigma towards mental disorders in Qatar: A qualitative study, QScience Connect 2019:2.
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Conference Presentations and Workshops

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