DIABETES IN MEXICO: CULTURAL BELIEFS AND MANAGEMENT IN AN URBAN SETTING

by

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THESIS ABSTRACT

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This thesis explores the cultural beliefs and illness management practices of thirty diabetic patients who receive care at a *Centro de Salud* in Mazatlán, Sinaloa, Mexico. This is done through an International Studies and Medical Anthropology lens – one that is interdisciplinary and bridges theory and practice. Analysis of thirty semi-structured interviews with diabetic patients and semi-structured interviews with five staff members, conducted over ten weeks, contributes to our understanding of the tensions that arise between recommended illness management practices and the actual practices of patients. Explanatory Models of patients reveal beliefs that are rooted in biomedical and traditional Mexican cultural beliefs, while staffs perspectives are primarily rooted in biomedical beliefs. Recommendations are made for staff providing primary care, including the acknowledgement and incorporation of patients' perspectives into care plans. Recommendations are also made for system level improvements to be implemented by the Mexican federal government.

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CHAPTER I

INTRODUCTION

Chance encounters and random conversation about my research in Mexico brought about many unsolicited and unprompted opinions on type 2 diabetes or non-insulin dependent diabetes (hereafter "diabetes"). Alfredo[1], the owner of the local restaurant where I often ate lunch, told me the increase in diabetes was happening because of all the unhealthy foods people ate and that this unhealthy food had large quantities of sugar. The owner of my lodging, Juan Pablo, said that diabetes was caused not only by the shift in diet in Mexico, but also from all the stress in people's lives. His friend, Juan Miguel, who worked as a Hospice caregiver, thought the increase in diabetes was because of a shift in diet and genetics. Juan Manuel Mendoza, a key informant and sociology professor at the local university, Universidad Autónomo de Sinaloa, thought the increase in prevalence was because of the increase in obesity and people no longer knowing how to cook. Others discussed with me informally how their lives had been impacted with diabetes, whether that meant cooking for diabetic family members or dealing with a new diagnosis themselves and the distress they felt. I often heard statements such as, "the whole world has diabetes"; many of those formally interviewed told me, "I wasn't surprised when they diagnosed me with diabetes."

All of these anecdotes made evident that diabetes was part of the discourse in people's lives in contemporary Mexico, whether or not they themselves had diabetes.

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[1] All names used, apart from key informants, are pseudonyms. This includes all staff and patients interviewed.

Over ten weeks of research in Mazatlán, Sinaloa, Mexico, I interviewed thirty diabetic patients, five staff members at the *Centro de Salud* (Public Health Center) and collected participant observation notes from the clinic and the city to better understand diabetes in Mexico and how diabetes impacts people's daily lives. It is with the critical lens of a Masters of International Studies student that I attempt to bridge academic theory with how people live with and receive care for diabetes.

My research has four major objectives: 1) explicate how modernization and globalization has changed the landscape of Mazatlán and how this has created a riskscape for diabetes; 2) contribute to our understanding of the beliefs of Mexican diabetic patients about their disease and how these beliefs determine the course of their illness; 3) elucidate medical staff and providers perspective about diabetes management and their perspectives on how to provide improved care; and 4) elucidate the role family plays in assisting with diabetes management. I use these objectives to focus my research on the experience of Mexican diabetic patients, contributing to the previous research of anthropologists and sociologists. This is done in an effort to understand what has changed over the last 30 years for patients in terms of their cultural beliefs, management practices, and barriers they face to healthy living and illness management. I focus on the last 30 years as there has been a significant increase in diabetes prevalence in Mexico during this period.

To understand diabetic patients' experiences, in this chapter I will first provide context by discussing the emergence of diabetes and the biomedical understanding of diabetes. My literature review will focus on the delivery of health services, medical anthropology's perspective on disease and illness, definitions of explanatory models

(EMs), which are used to understand cultural beliefs, and how gender influences the experiences of people living with diabetes. Chapter II dives into how Mazatlán and Mexico have changed over the last 30 years and how these changes have impacted health and diabetes, as well as how the Mexican federal government is responding both at policy and clinical levels. In Chapter III, I explore the EMs and daily lived experience of the patients interviewed. Chapter IV reveals how diabetic patients manage their disease and how this approach differs from medical providers' suggestions for management. Using the interdisciplinary lens of International Studies that combines theory and practice, Chapter III is based in theories and research in Medical Anthropology, while Chapter IV is rooted in biomedicine and clinical practices. Lastly in Chapter V, I conclude with suggestions for improving care for diabetic patients in Mexico and beyond.

Diabetes in Mexico: Emergence and Statement of the Problem

Between 1950 and 2000, the number of deaths worldwide from non-communicable diseases (NCDs) increased from 44 to 73 percent and is predicted to reach 78 percent by 2025 (Frenk, Gonzalez-Pier, Gomez-Dantes, et al., 2006). This increase in NCDs is in conjunction with a decrease in communicable diseases (such as malaria or TB), with NCDs becoming particularly more prevalent in low and middle income countries (LMICs). This shift represents an epidemiological transition, with Mexico being no exception to this trend (Guzmán et al., 2010). Mexico's disease profile has shifted from one of malnutrition, communicable (infectious) and parasitic diseases to a country dominated by obesity, diabetes, and other nutrition-related, chronic NCDs (Barquera et al., 2013).

Diabetes is on the rise around the world; the number of people with diabetes has risen from 108 million in 1980 to 442 million in 2014 (World Health Organization, 2016a). Diabetes is now sweeping the globe, with a significant increase in LMICs; by 2025, 80 percent of all new cases will take place in these countries (Boutayeb, 2010). Over the past four decades, diabetes has become one of the most important health problems in Mexico; it is the principal cause of death among women and second among men (Rull et al., 2005). In 2012, Mexico had a diabetes mortality rate of 14.5 percent (World Health Organization, 2015), which is significantly higher than the three percent mortality rate from diabetes in the United States (World Health Organization, 2016b). According to the International Diabetes Foundation, in 2015, 14.7 percent of the Mexican population between 20 and 79 had diabetes (2015). By 2025, diabetes is predicted to be at a prevalence rate of up to 20 percent of the Mexican population (International Diabetes Foundation, 2015); if the nation does reach the predicted prevalence rate, this will represent a 68 percent increase in just 12 years. In 2012, at a regional meeting of the Northwest Congress on Diabetes, Dr. Ernesto Echeverría Aispuro of the Mexican Ministry of Health stated that the state of Sinaloa had the second highest number of adults with diabetes in the nation and was in first place for children (Peraza, 2014).

Particularly disconcerting about the rapid increase in diabetes are the enormous consequences of early onset of type 2 diabetes on individuals living with the disease, their families, society, and the health care system. Considerations of consequences of early onset of diabetes is particularly relevant for a country like Mexico, as diabetes affects people in LMICs at a younger age when compared to their counterparts in higher income countries (Boutayeb, 2010). A younger age of diagnosis leads to longer exposure of hyperglycemia and the increased likelihood that diabetics will develop chronic complications, such as blindness and kidney failure. These conditions also lead to early retirement and a large number of people becoming incapacitated before the age of 50 (Rull et al., 2005). There is a strong argument presented by the biomedical field for diabetes to be prevented and by those who live with diabetes for their disease to be controlled. This is argued in an effort to curb the social and financial implications and impacts of diabetes. Financial costs are significant; the Ministry of Health estimates they will spend up to 83 million USD a year on direct and indirect costs associated with diabetes (Arredondo & Zúñiga, 2004). Costs to patients and their families are also significant; 52 of every 100 USD is spent on health in Mexico at the household level (Arredondo, 2013). Social burdens associated with caregiving are also particularly relevant to diabetes and can include things like emotionally heavy situations that can turn into physical burdens for the caregivers' life (Mendez-Luck, Kennedy, & Wallace, 2009).

Biomedical Understanding of Diabetes

Before going further, it is important to understand the pathophysiology, complications, risk factors, prevention, management, and treatment of diabetes from a biomedical perspective. Type 2 diabetes is an endocrine disorder that is based on elevated glucose levels in the blood and is a result from the body not producing sufficient amounts of insulin, having elevated production of glucose by the liver, and insulin resistance by peripheral tissues (Poss & Jezewski, 2002). Diagnosis is accomplished through testing fasting blood glucose levels, with the preferred method of measurement being the hemoglobin a1c, which focuses on the glucose level over the past 3 months, or through multiple finger prick measurements using a glucometer.

When elevated blood glucose levels are not managed, complications can arise. The primary chronic complications of diabetes are: nephropathy (kidney damage), retinopathy (damage to blood vessels in the eye), cardiovascular diseases, neuropathy (nerve damage), and peripheral vascular disease (circulation disorders) (Barquera et al., 2013). According to the biomedical model, the leading risk factors for developing type 2 diabetes are obesity and having a strong family history of the disease. Other risk factors include behavioral factors such as unhealthy diet, physical inactivity, and tobacco use (Robinson & Elliott, 2009). Obesity is particularly concerning in the case of Mexico as there has been a 178 percent increase in obesity among women ages 11 to 45 over a 10 year period (Barquera, Tovar-Guzman, Campos-Nonato, et al., 2003).

Prevention occurs at three levels: primary, which aims to prevent the occurrence and onset of the disease; secondary, which is about arresting the progress of the disease once diagnosed; and, tertiary, which tries to reduce the negative consequences of disease progression (Robinson & Elliott, 2009). Prevention at the primary level occurs via dietary and exercise regimens and is usually the responsibility of the individual to prevent. The responsibility at the individual level is problematic, given that modifiable risks are shaped by underlying socioeconomic and environmental conditions (Robinson & Elliott, 2009). In secondary prevention, glycemic control is the focus as control is seen as important for long-term health consequences and is focused on how lifestyle and self-care practices impact control (de Alba Garcia et al., 2007). Tight glycemic control is seen as essential for prevention of complications (Arar, Hunt, & Larme, 1998). Glycemic control continues to be the focus during the tertiary level of prevention, as hyperglycemia over time leads to serious damage and complications, which may require surgery or other interventions (World Health Organization, 2016a).

Effective management of diabetes requires a complex, continual, and demanding self-care routine involving strict dietary control, exercise, self-monitoring of blood glucose levels, and a regimen of oral medications on a daily basis, though some diabetics also require the use of insulin (Arar et al., 1998). Specifically the recommendations that people should follow to control diabetes include: achieve and maintain a healthy body weight, do at least 30 minutes of regular, moderate-intensity activity on most days, eat a healthy diet focusing on avoiding sugar and fat intake, and avoid tobacco use such as smoking. Other interventions include foot care due to risk of amputation, screening and treatment for retinopathy (which causes blindness), blood lipid control to regulate cholesterol levels, and screening for early signs of diabetes-related kidney disease and treatment (World Health Organization, 2016a).

Review of Literature

Delivery of Health Services

How people receive care is central to how they experience and manage illness. Arthur Kleinman, a medical anthropologist, proposed a model in which medical systems can be viewed as cultural and social systems. Kleinman (1986) contends that these systems "are not simply systems of meaning and behavioral norms, but those meanings and norms are attached to particular social relationships and institutional settings" (p.31). By viewing health care as a cultural system, just as we would view any other cultural system, such as kinship, we can understand illness, the responses to it, how individuals experience it, the interpersonal interactions that occur, and how social institutions are interconnected (Kleinman, 1980). This cultural system is what Kleinman classified as the health care system (HCS).

The HCS is composed of three distinct, yet overlapping social arenas in which illness is experienced: the popular, professional, and folk arenas (Kleinman, 1978) (see figure 1 below). In the popular arena, care is primarily conducted within the realm of the family, though it also includes social and community networks. Somewhere between 70 and 90 percent of sickness is managed in the popular domain across all societies (Kleinman, Eisenberg, & Good, 1978). The popular arena is where the majority of health care decisions are made, including when to seek care in other arenas, whom to consult and whether to follow recommended treatment. The folk sector consists of non-professional healing specialists, whether these are sacred or secular. The professional arena primarily consists of biomedicine, or professional scientific medicine, and professionalized traditional healing traditions, such as Chinese medicine, acupuncture, and chiropractic medicine. Using the HCS model allows us to understand how in modern societies we find an amalgam of modern and traditional beliefs, values, and institutions. The HCS will be discussed more in relation to my findings, but has been found in studies to demonstrate the wide range of sources for medical advice, as well as the simultaneous use of biomedicine and alternate forms of care (Whiteford, 1999).

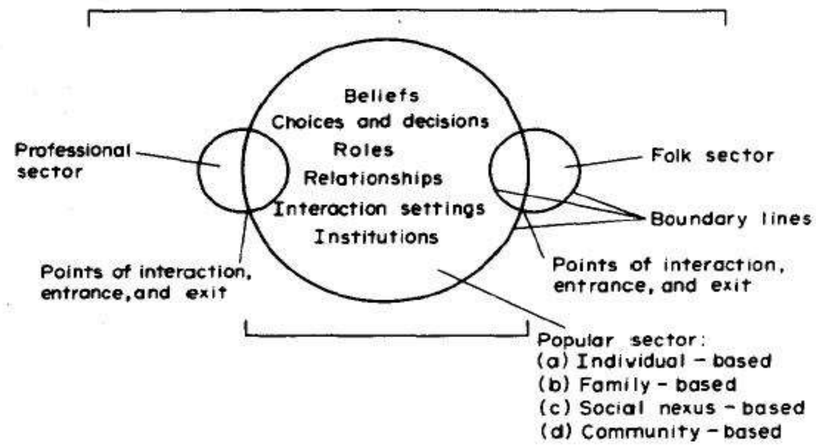

Figure 1: Health Care System's three arenas (Kleinman, 1978)

The HCS consists of six core tasks and are as follows (Kleinman, 1986): 1) The cultural construction of illness as a socially learned and sanctioned experience. 2) The cultural construction of strategies and criteria to evaluate and guide choices about practices, treatment, and outcomes of care. 3) The cognitive and communicative processes used to manage sickness including labelling, classifying, and providing personally and socially meaningful explanations. 4) Healing activities including all types of therapeutic interventions such as diet, drugs, and healing rituals. 5) Deliberate and non-deliberate preventive and sickness producing behavior. 6) Managing the range of therapeutic outcomes, including treatment failure, cure, and chronic illness. Through these core activities of the HCS those who are sick negotiate and manage their illness.

Biomedicine can be viewed as a cultural system, one that has evolved and continues to evolve through social choices (Gordon, 1988). By breaking down the biomedical system we begin to see how biomedicine is a cultural system (Kleinman, 1980). Biomedicine's social institutions are clinics, hospitals, professional associations, and health bureaucracies. The social roles are divided between sick and healing roles.

Interpersonal relationships occur at multiple levels: doctor-patient, patient-family, and social network relationships. Interactions occur at home or in doctor's offices. Viewing biomedicine as a cultural system allows for the social and cultural aspects of a patient's experience to be part of the story. Through this research, my goal is to expose the cultural experience of Mexican diabetic patients through their experiences in the HCS.

The holistic and critical view of biomedicine as provided through HCS is in contrast to the clinical reality that many patients experience. Treating diseases through biochemically oriented technology is ultimately reductionistic in its value orientation and dehumanizes those receiving care. The biochemical and physiological orientation that medical providers incorporate does not affirm patients' experience of illness, which often incorporates social, psychological, and moral aspects of physiology (Kleinman, 1995). The disconnect between the two approaches may be found in the narrow view of health that biomedicine takes, which is often cure or elimination of disease. This is compared to how the World Health Organization (WHO) defines health, which includes a complete state of physical, mental, and social well-being (2016b). Regardless, biomedicine's approach is particularly problematic as it lacks treatment techniques to transform patients' lives and to delve into the dilemmas a human being embodies in illness (Finkler, 2001). This problematic approach can be seen in the public health field, which still calls for treatment to be based in behavior modification, treatment adherence, and achieving therapeutic goals, despite public health's more recent recognition of the social, cultural, political, and economic influences on health and illness (Guzmán et al., 2010).

Culture at the Center of Experience

A distinction in medical anthropology that helps to push culture[2] to the center of the experience of sickness is that of disease versus illness. Disease denotes a malfunctioning or maladaptation of biological or physiological processes, while illness signifies the experience of disease and how society reacts to the disease (Kleinman, 1978). Illness is the way the sick person, their family, and societal networks have a shared language to perceive, label, explain, evaluate, and respond to physiological diseases. The distinction between illness and disease also points to a larger framing problem found within biomedicine, which focuses on a medical perspective and ignores the social origin of the sickness (Kohrt & Jallah, 2015). By ignoring social origins of sickness, biomedicine stigmatizes the individual rather than pointing towards political, economic, and other social problems associated with sickness.

More importantly the distinction of disease and illness is important on a care level as cultural variation in beliefs about illness gives rise to different ideas of how to address illness and can be seen in individual beliefs and institutionalized practices (Charmaz, 2000). In addition, providers often resist the discussion of culture as relevant to diagnosis thus furthering the division between patient and provider experience and perspective (Ramirez-Stege & Yarris, in press). This resistance can be seen in professional practitioners only seeing disease and offering technical information and treatments, while patients seek symptom relief, but also personally and socially meaningful explanations

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[2] It is important to consider what is meant by culture within the context of illness and healing. It is perhaps best defined as "A framework of beliefs, expressive symbols and values, in terms of which, individuals define their world, express their feelings, and make their judgments…It is the fabric of meaning, in terms of which, human beings interpret their experience and guide their actions." (Geertz, 1973).

and treatments. This distinction seen in a larger context, points to major health care problems such as patient dissatisfaction, inequity of access to care, and spiraling costs, which are rarely addressed by the biomedical model.

Explanatory Models

Explanatory models (EMs) can be used to help understand a particular set of beliefs people have about an illness. EMs focus on the actual transactions that occur between patients, their families, and practitioners. Focus on actual transactions is a key distinguishing feature of EMs, as traditionally the HCS dyad of patient-provider does not acknowledge the actual complex decision making that occurs when family is involved in the process (Kleinman, 1986). EMs are composed of questions to explain five issues: etiology or causality, time and onset of symptoms, pathophysiology, course of sickness including severity and type of sick role, and treatment (Kleinman, 1980). EMs are tied to specific systems of values that are centered in different subsectors of the HCS and have historical and social roots in the patients' lives. They are typically formed to cope with specific health problems, such as diabetes.

The EM has many practical applications; for example EMs can help us to understand how people utilize the multiple sectors of Kleinman's HCS model and where they are able to and chose to draw on care resources (Coronado, Thompson, Tejeda, et al., 2004). EMs also allows us to understand the medically pluralistic approach that people use to navigate medical beliefs, choices, and treatment (Kleinman, 1978). A number of studies found that Mexican Americans moved easily between folk and professional arenas of the HCS, demonstrating the medical pluralism in patients' decision making (Jezewski & Poss, 2002; Poss & Jezewski, 2002).

Previous research has investigated EMs about diabetes related to causality, symptoms, treatment, and social significance primarily among Mexican Americans and Mexicans in Guadalajara and Cosamaloapan (Alcozer, 2000; Daniulaityte, 2004; de Alba Garcia et al., 2007; Hatcher & Whittemore, 2007; Jezewski & Poss, 2002; Juarez, 1998; Weller et al., 2012). More specifically in relation to medical pluralism, these studies demonstrated that diabetic patients blend systems of health care in creating their EMs, combining the conventional biomedical system and the traditional Mexican health belief system. For example, causality of diabetes was often linked to dietary and hereditary factors, though *susto* or fright was consistently listed as a cause in all but one study. Symptoms related more to the biomedical model and included excessive thirst and blurry vision. Treatment was generally a combination of lifestyle factors (diet and exercise), use of medication, and herbal remedies. This blending of two systems may be a result of patients elaborating on causes that stem from their social worlds, including distress, and influence from physicians who largely focus on pathophysiology origins of illness (Mendenhall et al., 2010).

EMs of patients are sometimes in conflict with biomedical explanations and treatment, which may cause poor and inappropriate treatment (Juarez, 1998). How patient and provider EMs interact discloses the real structures of how knowledge and logic influence the healing and management process. The ultimate goal is for patients, families, and practitioners to share similar EMs, as similar EMs improve clinical communication, causes fewer problems in clinic management, and improves patient adherence and satisfaction (Kleinman, 1986). Conflicts can reveal not only the discrepancies in EMs, but also in status and power in health care relationships (Kleinman, 1978), which was something that was prevalent in the interactions I saw while conducting research. The individual's experience is influenced by the patients' ability to make sense of their personal history and past experiences with treatment and integrate these with biomedical concepts provided by practitioners.

Daily Lived Experience

How illness is experienced and presented to the world varies widely from person to person. Some people are diagnosed with a disease, but do not experience illness. Others experience illness before receiving a diagnosis or only believe that they have a disease and are never diagnosed. The experience of a chronic illness, such as diabetes, can be endless or episodic, and may come in intervals or have a continual progression. Illness is a subjective experience, including experiencing unknown emotions and bodily sensations and having to make meaning of such experiences (Charmaz, 2000). The experience of chronic illness means much more than the subjective experience of physical distress, acknowledging symptoms, dealing with unknown bodily sensations, and needing care. Experience of chronic illness also includes social responses and making sense of experiences in a meaningful way, which often includes reconstruction of self, as well as daily struggles. People who live with chronic illness, yet do not feel they have a disease, may face some or none of these struggles.

Gender and Performativity

While the daily lived experience of illness varies from person to person, it is also important to consider that the experience people present to the world and particularly to people in positions of authority (such as a white, American woman, researcher like myself in this study) are part of many identities that are performed due to social and cultural expectations. The act of performativity encompasses the process of portraying many identities and can be defined as “a constructed identity, a performative accomplishment which the mundane social audience, including the actors themselves, come to believe and to perform in the mode of belief” (Butler, 1988, p.520). This is not to say that these identities are inauthentic, but that the identity and experience presented are situated and accomplished with a specific audience in mind (Riessman, 2003). Put another way, identities must be accomplished in order to show that people have a set of beliefs about a person’s identity or experience.

A significant aspect of performativity that will be discussed further in relation to my findings is one of gender being performatively produced and further compelled by a felt need to adhere to culturally-expected gender roles and the performative character of gender in every day rituals (Butler, 1990). This can be seen in the gendered performances of those who have illnesses, as will be seen in my findings. The political, social, and historical nature of a society influences the construction of gender, therefore influencing masculinity and femininity as two distinct realms of social life (Noriega, 2014). The distinction of gender roles in social life is illustrated in the gendered experience of illness.

Gendered Experience of Illness

Krieger stated that gender “refers to a social construct regarding culture-bound conventions, roles, and behaviors for, as well as relations between and among, women and men and boys and girls” (as cited in Vlassoff, 2008, p.26). Keeping in mind this definition of gender and that gender roles typically are on a continuum rather than as the binary that is presented to us by society, the evidence for gender difference in the experience of health and illness has not been conclusive up to this point. This inconclusiveness may be due to the cultural categories of masculinity and femininity obscuring the complexity of human relationships, as these categories do not acknowledge the range of experiences of real human beings (Womack, 2010).

However at the same time, scholars argue that the gender roles of men and women can affect their experience of health and illness. Clarke and Bennett (2013) state that the experience of chronic conditions are gendered and influenced by masculinity and femininity norms. Broom and Lenangh-Maguire (2010) further this argument stating the "interplay between gender and chronic diseases is intricate and subtle" (p.207). Traditional gender relations, roles, and identities are reproduced through the daily management of a disease like diabetes. Broom and Lenangh-Maguire found that various forms of gender affect how people experience chronic conditions such as diabetes, as well as how they live with the condition, which reciprocally shapes how people enact gender. How gender impacts illness and illness impacts gender is a complex interplay, but masculinity and femininity also play out in a distinct manner, as will be discussed in the next section and I will discuss in relation to my findings. However, I will also keep in mind that there are no single versions of masculinity and femininity in relation to illness and multiple versions may play out.

Masculinity, Performativity, and Illness

To understand men's experience of illness in Mexico, we must begin by understanding how masculinity is defined and plays out in everyday life. Machismo and the Mexican man is often the center of analysis in performativity and is still portrayed as Octavio Paz first did in 1959, "represented as disorderly, hypersexual, and an aggressive womanizer who drank excessively, and someone incapable of expressing his true feelings" (as cited in Noriega, 2014, p.71). These stereotypes of macho and machismo found their origins in the golden age of Mexican cinema in the 1940's and 50's, where men were portrayed as the true *caballero* or cowboy/gentleman (Gutmann, 2007). However, machismo can rarely be reduced to a coherent set of sexist and chauvinistic ideas, as there are often multiple versions of machismo. An example is seen in the work of Arciniega who defined *caballerismo* or a gentlemen as being compromised of "attributes related to family centeredness, social responsibility, and emotional connectedness" (as cited in Estrada & Arciniega, 2015, p.192).

In his pivotal study on masculinity in Mexico, Gutmann (2007) found that masculinity is "more subtle, diverse, and malleable than is generally assumed" (p.24). In this vein, men in Mexico do not live in a homogeneous, stable notion of being a man, but must constantly meet cultural expectations through their daily actions and decisions. Gutmann found that there is generally little consensus in Mexican society about the terms macho, machismo, and *machista*. In his work on masculinity in Sonora, Mexico, Noriega (2014) argues that there is now greater diversity in what counts as "manly." These conflicting views of masculinity are in part due to contrasting experiences, such as urban and rural, generational differences, socioeconomic status, and stage of life.

Performativity in relation to masculinity in Mexico plays out as an ideal man who is courageous, stoic, and at times boastful. This courageous, stoic man is the image many researchers have in mind when they find men who do not express suffering in relation to illness. An example of this comes from a study on anxiety and depression among men in Tamaulipas, Mexico, in which the authors suggest that men suppress and minimize psychological suffering in order to not identify with emotions or symptoms of mental illness (Muñoz, Ramírez, & Sagarduy, 2015). The stoic portrayal of men also played out in a study of the interaction of multiple chronic conditions and gender where men were found to be frustrated with their loss of autonomy and physicality, yet remained stoic and resigned, which the authors purport reflects masculine norms of control, self-reliance, and toughness (Clarke & Bennett, 2013). In Chapter III, I illustrate some of the diversity of ways of performing masculinity in relation to diabetes in Mexico.

Femininity, Performativity, and Illness

The stereotype of women in Mexico, as portrayed by Octavio Paz in his 1959 work, was conceptualized only in relation to men: "In a world made in man's image, woman is only a reflection of masculine will and desire" (as cited in Gutmann, 2007, p. 229). This narrow view of femininity is further described as being submissive to men and women are expected to be nurturing and supportive (Vlassoff, 2008). This nurturing and supportive character is central the stereotype of *marianismo* which many Mexican women are assumed to portray (Chavez, 2013). *Marianismo* was first described by Evelyn Stevens in 1973 as having infinite humility and sacrifice, as well as obedience towards the men in her family, particularly husbands (Navarro, 2002). Portraying women in Latin America as versions of *marianismo* has been heavily critiqued as it does not take into account their varied and complex lives, which are influenced by economic and political conditions, and includes a variety of interests and experiences (Browner, 1986).

In Mexico, femininity plays out in conflicting ways for women's roles related to caregiving and illness. Women are expected to embody emotionally charged personas through their daily tasks of caring for the sick, overseeing children's education and health, and taking the lead in spiritual education and participation (Noriega, 2014). Yet this maternal altruism may also have ulterior motives, such as women guaranteeing care in their old age by caring for their young (Browner, 1986). There are also powerful alternative roles women fulfill such as healers and the holders of information and thus mediating social relations within families and societies (Womack, 2010).

Women are expected to perform these roles of caregiver and bearer of all responsibility in upholding social and moral standards within the family, including when they suffer from illness. In a broad overview of gender and illness, Vlassoff (2008) argues that women's roles as major caregivers in the household will take away from their ability to fully recover from an illness. Clarke and Bennett (2013) discuss women who experience chronic illness yet are also firmly rooted in their social roles and responsibilities and are more concerned with how their illness might affect their significant others than the course of their own illness. They are seen to uphold these norms of selflessness, sensitivity to others and nurturing nature. Of course, as with the variations seen in masculinity, there are also variations in femininity. In Chapter III, I will both support and challenge the idea of women as solely focusing on their roles as caregivers and nurturers and how this plays out in their diabetes experience.

Purpose of Study

How people receive care, experience illness rather than disease, and how their care and illness experience then plays out as a daily lived reality is central to the experience of those living with chronic conditions such as diabetes. Illness has a deeper impact in that the social and daily lived realities of those living with diabetes likely influences disease prevention and clinical care. Kleinman (1980) argues just this in his book *Patients and Healers in the Context of Culture,* saying "translation from social and behavioral science to clinical science, and the reverse, is especially important and in the past has been little and often poorly done" (p.xi). Studies have argued that having a deeper understanding of patients' experience of disease leads to improved communication and better outcomes and enables the provider to personalize their approach to patient care, ultimately negotiating with patients more effectively (Loewe & Freeman, 2000). EMs in particular can be used to develop specific clinical strategies that can be directly applied into practice (Kleinman et al., 1978). The information that is elicited by using EMs was central to my decision to focus my research on Mexican diabetic patients' cultural beliefs and daily lived experiences, with the ultimate goal of understanding how to improve the care they receive within the biomedical setting.

To reach my ultimate goal of my research, I developed the following research questions: 1)What are the beliefs of Mexican diabetic patients about their disease and how does this determine the course of their illness?; 2) What are medical staff and providers' perspectives about patients' diabetes management and what they can do to improve care? Are their beliefs in line with the biomedical model?; 3) How has the landscape of Mazatlán changed and been influenced by forces of globalization and modernization and thus contributed to creating a riskscape for diabetes?; and, 4) What role do family members play is assisting diabetic patients with the management of their disease? What do they do to provide assistance? In the next section I will discuss the methodology I used to answer these research questions.

Methodology

To answer these research objectives, I lived in Mazatlán, Mexico for ten weeks in the summer of 2015 in order to conduct my field research with Mexican diabetic patients.

My methodology was primarily based in ethnographic methods as “ethnography strives to understand the interaction of individuals not just with others, but also with the culture of the society in which they live” (Merriam, 2009, p.23). To conduct ethnographic research, immersion as a participant observer is key and is a primary method of data collection I used. In addition to participant observation, I conducted semi-structured interviews with 30 diabetic patients at the *Centro de Salud*. I also conducted semi-structured interviews with five of the staff members.

I received written permission from the director of the clinic to conduct research prior to my arrival with the help of one of my key informants, a former colleague of the director. Upon my arrival in Mazatlán, we met with the director and I received verbal permission from him to conduct my research. He introduced me to the team of doctors and their nurse who were charged with providing medical care for hypertensive and diabetic patients at the clinic. The nurse told me to come to the clinic the next week at 8 in the morning to start conducting my research. My study had also received approval from the University of Oregon’s Research and Compliance Services.

I used convenience sampling as my primary sampling method, which was based on the location and availability of patients, relying on those who came in to have an appointment with one of the doctors. While the nurse was checking the patients in and taking their vital signs, she would briefly explain to the diabetic patient who I was and the purpose of my study; this recruitment process was typically done in my presence as my only space in the clinic was at her work station. The selection criteria for those who could be interviewed were as follows: 1) diagnosed with type 2 diabetes for more than 1 year; 2) born in Mexico; 3) reside in the state of Sinaloa and; 4) be over the age of 18.

I conducted interviews with 30 participants and obtained verbal consent from the participants as it was not culturally appropriate to sign a written consent form (Mercado-Martinez & Ramos-Herrera, 2002). The interviews were semi-structured and lasted between 20 minutes to an hour, depending on the length of responses provided by the participants, and were conducted at the clinic either in an empty exam room or sometimes in an empty corridor if no other space was available. All interviews were audio recorded after obtaining verbal consent from the participants and were conducted in Spanish. With the audio recording everything was preserved for analysis (Merriam, 2009). In addition, during and immediately after the interviews I wrote down additional observations about my participants and things that were striking during the interview or that which couldn't be preserved on audio recording such as body language and facial expressions. See Appendix A for the full interview questions.

My original plan was to conduct semi-structured interviews with family members of the participants who acted as caregivers and offered emotional support for their diabetic family members as I had hypothesized that role of family in caring for diabetes was very important. However, based on the information obtained in the semi-structured interviews with the participants it became clear that the role of family members in managing diabetes was not as important as I had hypothesized. I, therefore, did not conduct these interviews with family members. However, I was able to visit one participant, Guadalupe, in her home for an afternoon to share a meal and conversation with her and her daughter-in-law. This home visit gave some insight into her daily reality of living with diabetes and how her diabetes was influenced by family. I will discuss the home visit with Guadalupe in more detail in Chapter IV.

While I was not able to interview family members, I did have the opportunity to conduct semi-structured interviews with five staff members at the *Centro de Salud* to understand their perspectives on diabetes and the patients they attend to. I interviewed the two physicians who attended to diabetic patients at the clinic, the nurse that assisted the two physicians, a nutritionist, and a health promoter. These interviews were also audio recorded and conducted in Spanish. Their set of interview questions is in Appendix B. In addition to these interviews, I collected participant observation notes of the clinical interactions between the different staff members and patients they attended to by providing health care services.

Field notes were also regularly recorded following informal discussions with key informants and community members I met who were interested in my study. I also collected notes while out in the city in an effort to understand how people in Mazatlán live on a daily basis, particularly in relation to diet and exercise, as well as structural factors that impact people's lives.

Participant Demographics

Participants of the semi-structured interviews with diabetic patients included 21 females and 9 males. All 30 participants had been diagnosed with type 2 diabetes and all except one participant utilized *Seguro Popular*[3] as their form of insurance. The one participant who did not have *Seguro Popular* worked for the *Centro de Salud* as a health promoter and while he did receive some of his care at the state worker clinics (ISSSTE), he primarily sought care at the *Centro de Salud*. The majority of the participants (n=25,

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[3] *Seguro Popular* is the socialized medical insurance program which I will discuss further in Chapter II.

83 percent) were between the ages of 40 and 64, with the average age being 55 and outliers were 37 and 71 years-old. The majority of participants (n= 27, 90 percent) lived in various *colonias* (neighborhoods) around Mazatlán, representing a large catchment area; at times participants lived closer to a smaller *Centro de Salud* that offered less services, but they had to go to the primary one, as catchment areas were pre-determined by the Ministry of Health. A few of the women (n=3, 10 percent) interviewed lived on ranches outside of the city.

In terms of education, slightly more than half of the participants (n=17, 57 percent) attended some amount of primary school (up to grade six) and another quarter (n=7, 23 percent) attended secondary school (grade 7 to 9). Only one participant completed high school and three had attended some amount of undergraduate studies (10 percent). The most striking thing about these differences in education levels was of those who only attended primary school, 82 percent (14 of the 17 participants who attended primary school) were over the age of 50, potentially suggesting a generational difference in education attainment. Half of the participants (n=15) stated they were unemployed; for those who were employed, nine participants (30 percent) worked in the formal economy and six participants (20 percent) worked in the informal economy. The most common response for women who were unemployed was that they were housewives.

Regarding family structure, 20 participants were married or in a civil union (67 percent); all of these participants lived either with their partner (n=9, 30 percent) or their partner and children (n=11, 37 percent). Only one of the nine men interviewed was not married or in a civil union. Three participants were divorced (10 percent), four were widowed (13 percent), and four were single (13 percent). Four participants lived alone

(13 percent) and of these were women who were single, divorced or widowed. Five participants discussed living with their children and grandchildren (17 percent), and one participant lived with her father and siblings (3 percent).

Nine participants (30 percent) had been diagnosed with diabetes for under 3 years and 8 participants (27 percent) had been diagnosed for 3 to 5 years; just over half of the sample (n=17, 57 percent) had diabetes for less than five years, which may have an impact on the daily lived experience of patients, as I will discuss in more detail in Chapter III. However, 11 participants (37 percent) have been diagnosed with diabetes for 10 or more years, which is also significant in terms of lived experience. The other two participants had been diagnosed with diabetes for 6 to 10 years (7 percent). The average number of years since diagnosis was 8 years, with the outliers being one year and 20 years since diagnosis.

Data Analysis

Data analysis of the qualitative data from interviews, participant observation notes, and field notes took place in several steps. Clinical and field notes were recorded daily and automatically categorized under general overall themes such as "patient concerns and advice" or "food and diet" or "social class." The interviews, while conducted in Spanish, were translated and transcribed directly into English. The interviews were placed into an initial matrix using Excel, which were blocks of text, both quotations and summaries, for each patient; the blocks of text were classified under each of the interview questions.

I then reviewed these initial matrices for trends across cases and developed a set of codes and sub-codes using both deductive and inductive methods. Deductive codes and sub-codes were based on central ideas found in the biomedical perspective of diabetes, as well as the EM framework and prior findings from studies that investigated the EMs of diabetic Mexicans and Mexican Americans (Alcozer, 2000; Daniulaityte, 2004; de Alba Garcia et al., 2007; Hatcher & Whittemore, 2007; Jezewski & Poss, 2002; Juarez, 1998; Weller et al., 2012). Examples of central ideas used to create deductive codes include: self-management techniques according to biomedicine, etiological explanation of diabetes, and family caregiving. Inductive codes and sub-codes also emerged from the data upon analysis of the transcripts. When there was a trend of three or more interviewees giving the same response, the response would become a main code, which was an overarching thematization for sub-codes. Once this process was complete, the data was entered into Tableau and the statistical program R to calculate percentages and correlations across questions and demographic categories. I further analyzed the statistical data looking for patterns around gender, education levels, and age.

Setting of Study

Mazatlán, Sinaloa, Mexico is located in the northwest of Mexico on the Pacific coast (see figure 2), and is often referred to as the “Pearl of the Pacific.” The state of Sinaloa is divided politically into 18 districts; Mazatlán is located in the southern area of the state (Beraud, 2012). Due to Mazatlán’s location on the coastline and it being part of the rich marine ecosystem in the Gulf of Mexico, most foreigners only know Mazatlán as a tourist destination though much of the economy is also based in the fishing industry (Osuna, 2007). While Mazatlán maintains part of its economy through fishing and shrimping, overall the economy has become based in the service industry (J.M. Mendoza, personal communication, August 21, 2015) and employment in informal economic activities is quite prevalent with a heavy presence of street vendors and other odd jobs in public spaces (Gomez et al., 2015).

Figure 2: Map of Mazatlán, Sinaloa, Mexico (Google Maps, 2016)

Corresponding to this emphasis on tourism, arriving in Mexico for my field research I found a very modern city with every amenity I could imagine. The modernity is a contrasting image that most people often have when they think of Mexico: rural villages with dirt roads, indigenous people, and lack of infrastructure. Mazatlán is anything but this and people often said to me during my time in Mazatlán, "*Hay muchos Méxicos"* (there are many Mexicos). Part of the modernity in Mazatlán was evident in the classic undertones of capitalism that were present at every turn. These undertones of capitalism could be seen in the abundance of western chains such as Carl's Jr., Dominos, Home Depot, and Walmart, or the modern malls with giant movie theaters, or the massive billboard screens playing YouTube videos of cats. I was overwhelmed with just how globalized and modern Mazatlán was.

While it was hard to escape the capitalistic features of Mazatlán, leaving the tourist areas and wealthier parts of the city to enter poorer *colonias* or neighborhoods throughout the city, you can see the rhythms of daily life in Mazatlán, people who are not focused on consumerism, but on trying to make a life, often one based on limited economic resources. This poverty was particularly true of the population that was the focus of my research, those at the lowest rungs of the socioeconomic ladder who received public health care through the Ministry of Health.

Centro de Salud

I conducted the majority of my field research at the primary *Centro de Salud* in Mazatlán, which was the largest in the municipality and had the largest catchment area, though was only one of eight total public health clinics in Mazatlán. The *Centro de Salud* was located three blocks from the main market in the historical downtown and many of the main city bus lines passed the clinic on the side entrance or within a few blocks' walk. Walking to the clinic every morning, I would pass fishermen selling their fresh catch of the morning and the *abarrotes* (corner stores) opening to sell their wares to those seeking breakfast or the day's food. Small vendors would set up directly outside the clinic to sell food, such as *tamales or churros*, to the people seeking care that would inevitably be at the clinic for hours as they waited to be attended to.

Patients began arriving as early as 5 A.M. to form lines in the main waiting room (after having filled the rows of benches completely) either to be seen by a doctor or get a medical certificate, which is needed in Mexico to enroll in school or work in certain industries. The hired private guards would give out numbers to the people waiting, but only began to start processing people for services at 8 A.M. For those seeking medical services with one of the physicians, the guards called ten people at a time to show their proof of having *Seguro Popular* to the cashier or pay a fee of 60 pesos if they were uninsured. The patients then passed to a window marked "Control" where the woman behind the window assigned the patient to a specific doctor depending on what condition they were seeking treatment for that day. Patients then returned to the waiting room until they were called back to the exam room area by one of the nurses.

The exam room area consisted of ten private exam rooms and five nurses' stations in the hallway, offering patients little to no privacy as they spoke with nurses and subsequently waited to enter the exam rooms. Once called back to the exam room area by one of the five nurses, patients were checked in by being called up to the nurses' desk. Nurses would then discuss with the patient why they were there, take their vitals (height, weight, and blood pressure), and discuss the medications the patient was currently taking. After being checked in, the patients sat on benches or stood along the walls waiting to see the doctor.

Many other services were offered across the expansive clinic and included: laboratory services, dental, nutritionists, psychological services, programs for tuberculosis and leprosy, vaccinations, Pap and clinical breast exam services, and assistance from social workers. A separate building housed workers who assisted patients with *Seguro Popular* and the *Oportunidades/Prospera* program, which is a welfare type assistance program offered to families living in poverty by the federal Mexican government. The general environment of the *Centro de Salud* was one of controlled chaos; people wandered in the side entrance and passed through the exam room area on their way to the main waiting area in search of the service they had come to the clinic for. People often interrupted the nurses to ask for information creating, in general, a noisy environment. It was in this controlled chaos that patients patiently waited to receive treatment and care for their diabetes.

Considerations

My connection with the *Centro de Salud* and the medical staff there gave me access to interviewing diabetic patients. In the informed consent process, I clarified that I would not use their real name, nor identify them in my report to the clinic or in my thesis. Despite these clarifications, few participants provided me with any negative feedback regarding their care at the clinic, though a small handful did complain about the lack of free medication they received at the clinic. There is the possibility that my connection to the clinic and the medical staff prohibited the participants from giving honest feedback about their clinical care as they did not want to potentially jeopardize their ability to receive services.

In introducing myself to the patients, I also clearly identified myself as a Masters student from the United States who was conducting research for my thesis. While I tried to distinguish myself as a student, sometimes I was still identified as a doctor by patients or as more of an expert than I was by medical staff, just based on my identity as a white, American, college-educated woman. My identity thus likely influenced the responses that people gave to me, how they acted around me, and relates to performativity as I discussed in this chapter. Despite this, I still take the information that I will present in Chapter III and IV to be an authentic version of the participants' selves and experiences, as any identity we present to the world is on some level an essence of who we are.

CHAPTER II

GLOBALIZATION'S IMPACT AND HEALTH CARE'S RESPONSE IN MEXICO

Before diving into my research findings, it is imperative to understand how Mexico and Mazatlán have changed over the past 30 years, thus creating a landscape ripe for an increase in diabetes. I will also discuss in this chapter how the federal government in Mexico is responding to the drastic increase in diabetes, as well as how the Mexican health care system provides care for diabetic patients.

Globalization and Changing Landscape in Mazatlán

> Without a historically deep and geographically broad analysis, one that takes into account political economy, we risk seeing only the residue of meaning. – Paul Farmer (2004)

Overview of Globalization

According to the *Economies of Happiness*, globalization is at its core an economic process involving deregulation of big business and banks, which allow them to enter local markets worldwide, often disrupting the interests of local economies and democratic initiatives of nation-states (Frey & Stutzer, 2002). Globalization has impacted Mexico in significant ways. While Mexico was once classified as a "developing country" the World Bank had now classified the country as "Upper Middle Income" (World Health Organization, 2015). Despite this economic classification, globalization and modernization have an unequal impact on different segments of society and improvement to life standards is not uniform across Mexico (Rodriguez-Abrego, Pena, Garza, et al., 2010). Before discussing specific forces behind globalization and how they are impacting the population in Mexico, it is important to provide specific examples of shifts that have occurred due to globalizing influences.

In the north of Mexico, a study looked at the competition between Mexican national supercenters and foreign supercenters in 2000 and 2007 in order to assess the impact of NAFTA on regional commercial competition (Gastelum, 2009). The study found that the number of Wal Marts increased by 590 percent in the northern states, compared to a 44 percent, 10 percent, and 14 percent increase for Mexican super center chains, indicating a dominance in the market by an American chain and just one example of globalization occurring in Mexico. Other changes in Sinaloa can been seen in the internal forced displacement related to narco trafficking. Globalization has led to restricted access of markets for illicit drugs, which in turn has led to fighting in rural areas for territory and trafficking routes (J.M. Mendoza, personal communication, August 21, 2015). The increase in drug trafficking has also led to development in cities and at times has been driving the economic pattern (Korn & Ryser, 2006). These are just two examples of how globalization has impacted the state of Sinaloa.

Impact of NAFTA

The economic changes in Sinaloa have their roots in several macroeconomic forces, among them the North American Free Trade Agreement (NAFTA) has been and continues to be one of the largest globalizing forces impacting Mexico and has contributed to significant changes, including in Mazatlán. With NAFTA a free market model was adopted in Mexico, shifting away from a national market model, which led to competition between US and Mexican markets (Ochoa & Wilson, 2001). NAFTA promised to boost Mexico to First World status by using comparative advantages in international markets, attracting foreign investments, and global competition stimulating national production all leading to the ultimate promise that life would get better for the vast majority of people in Mexico (Wise, 2003).

A primary example of NAFTA's failure to improve life for a large portion of the Mexican population can be seen in Mexico adopting a food security model and stopping production of the majority of its own food, leading to malnutrition across the country. In neoliberal models such as NAFTA what is meant by food security is that a country is "secure" enough to import all of its needed food. This reflects the free market tenant of comparative advantages or devoting productive capacities to what the country does best with trade liberalization supposedly guaranteeing access to markets across borders (Carlsen, 2011). In the case of Mexico, corn production was seen as unfit, as the yields of Mexican farmers were well below the average yields of farmers in the United States, suggesting Mexico turn to corn imports while devoting their production to counter-seasonal and tropical fruits and vegetables for export.

Moving towards a "food security model" eventually led to agricultural and economic instability and can be seen in the outcome of NAFTA: Mexican farmers being hard hit. The heavily subsidized corn imports from the United States reduced the selling prices for Mexican farmers by 50 percent and small farmers' income fell 50 to 70 percent from 1993 to 2005 (Frey & Stutzer, 2002). It is estimated that anywhere between 2.5 to 3.2 million farmers were economically impacted and up to 1.5 million were forced out of farming and displaced, contributing to rural-to-urban and transnational migration. This forced displacement was only made worse when the promise of jobs in industries never materialized to replace the destroyed livelihood of farmers. Similar models of job creation were used under CAFTA (Central America Free Trade Agreement), as seen in the example of *maquilas* or assembly factories. The cheapest labor in all of Central America was available in Nicaragua, yet under the foreign owned factories workers' rights were trampled, which included denying legally-entitled pay to workers and thus only fed into the cycle of poverty created under free trade agreements (Witness for Peace, 2008).

The "food security" model implemented under NAFTA also led to people having to purchase food in order to survive. The story of people no longer growing their own corn to make tortillas, but purchasing tortillas despite drastic increases in prices, was told to me by multiple people while conducting my field research. Beyond the need to purchase food, NAFTA had a particularly large impact on the poor as the agreement did not take into consideration the relative underdevelopment and widespread poverty in Mexico and fed into these disparities (Wise, 2003). In December 1994, just 11 months after NAFTA took effect, Mexico was forced to drastically devalue its currency leading to economic crisis, which only widened the gap in economic and social disparities. The poor became poorer with their real incomes falling 30 percent from 1995 to 1997 (Finkler, 2001). These falling wages were the main reason that poverty increased at sharp rates. NAFTA primarily benefitted the upper and middle classes with advantages of a modern economy, but the poor (who are the focus population of my research) continue to suffer, having to rely on part time, seasonal, and informal work in order to survive.

Rural-to-Urban Migration, Tourism, and Social Class

While NAFTA had a large impact on Mexico, one of the biggest effects NAFTA had on Sinaloa has been the mass displacement of farmers and other rural Sinaloense, leading to significant rural-to-urban and transnational migration. Rural-to-urban migration has resulted in 79 percent of the Mexican population (of 127 million people) now living in urban areas (World Health Organization, 2015, 2016). This migration pattern is also due to a number of other factors: rural economic crisis, rise in agricultural technology leading to a decreased need for manual labor, and the attraction that urban life represents (Osuna, 2007). These factors combines have led to economic deterioration for the poor with extra burden for the rural poor being added with the proliferation of drug trafficking (Finkler, 2001). This is particularly the case in cartel-controlled states like Sinaloa, which has led to an increase in migration to coastal urban centers, like Mazatlán. The municipality of Mazatlán grew from 249,998 people in 1980 to 403,888 people in 2005, representing a 150 percent increase in population in a quarter century (Osuna, 2007).

Rural-to-urban migration has fed into Mazatlán's growing need for labor as the city has become a popular tourist destination. Fifteen percent of the population in Mazatlán has migrated from other states in Mexico, such as Nayarit and Durango (Wilson, 2008). Local populations also feed the growing labor needs in construction and service jobs at tourist centers (Leatherman & Goodman, 2005). Tourism started growing in the late 1960's and was emphasized as a form of economic development. The emphasis on tourism only increased with the development of the National Trust Fund for Tourism Development which was established in 1974 (Wilson, 2008). The effects of the development of this fund aimed at tourism could be seen in Mazatlán; starting in the mid-1970's the city began to develop the Golden Zone, which is a predominantly tourist zone and was aimed at providing services exclusively for tourists (J.M. Mendoza, personal communication, August 21, 2015). Tourism models shifted towards US models, with an emphasis on vacation packages and timeshares. Mazatlán developed a Mexican culture, which was designed for tourist consumption and did not correspond with the culture of Sinaloa (J.M. Mendoza, personal communication, August 21, 2015).

With tourism has come a wave of western influence; understandable, given that 84 percent of foreign tourists visiting Mexico come from the United States (Wilson, 2008). A second wave in tourism came to Mazatlán with a modern highway being built between Durango and Mazatlán and opening in October 2013. The modern highway has decreased travel time by land significantly and has led to a rise in Mexican national tourists vacationing in Mazatlán. This has subsequently led to an increase in infrastructure and housing and demand for workers in construction and the service industry.

Tourism and globalization have also impacted social class and contributed to the changes now seen in Mexican society. Social class has always been important in Mexico (J.M. Mendoza, personal communication, June 30, 2015) and the increase in tourism led to continuing class cleavage in Mexico. A good example is seen in the daily service staff in hotels as they are unable to move beyond minimally paid positions to those of profitable status, which contributes into the perpetuation of the bottom rung of the social hierarchy. Class cleavage is only further complicated by tourism, as people strive to be seen as part of the middle class. An example of striving to be part of the middle class is when Mexican families will take out loans to be able to vacation in Mazatlán and thus be seen as part of the middle class (P. Peraza, personal communication, June 30, 2015). People now strive to have nice clothes, cars, and cell phones, while neglecting to leave enough money to buy healthy food; showing that symbols of prestige and class have become increasingly Western (Leatherman & Goodman, 2005). Tourism and globalization have led to an increase in capitalistic behaviors and an emphasis on consumerism, ultimately changing how people live on a daily basis and feeding into the emphasis on upward social class mobility. This conspicuous consumption has become the marker that defines a person's social status.

When I asked one of my key informants, Patricia Peraza, a graduate student at the local university and native resident of Mazatlán for 40 years, what is the main reason Mazatlán has changed in the past thirty years, she said, "You really can't point to just one thing in terms of why there have been changes. Really it's a confluence of factors and these all stem from and contribute to one another" (personal communication, July 31, 2015). Distinguishing whether globalization, NAFTA, rural-to-urban migration, tourism, or social class has most impacted Mazatlán is impossible, as these factors interact with one another. Regardless, these factors have made Mazatlán the very modern and westernized place that it has become today.

Impact on Health

Mazatlán's economy has shifted significantly and subsequently so have the daily lived experiences of the residents. This led me to ask the following question: how does this shift in daily lived experience impact people's health? Globalization has led to an erosion of social conditions particularly for the poor and disadvantaged, which has led to an increase non-communicable diseases (NCDs), such as diabetes (Harris & Seid, 2004). As I will discuss, these global forces have led not only to changes in how people live and the diseases they have due to these shifts in lifestyles, but also how they receive care for and manage these conditions.

Riskscape for Diabetes and Mexico's Response

Globalization and Diabetes

Globalization has diffused medical technologies and vaccines, which has led to a reduction in communicable disease, fertility rates, and childhood deaths. Globalization also increases life expectancies and the risk of chronic disorders due to the strong association between disease incidence and aging (Wiedman, 2010). Globalization has also led to the dissemination of consumerism, which accentuates the gap between the poor and the rich; this gap between the rich and the poor is important as health inequalities amongst the poor are also risk factors for major chronic diseases (Yach & Beaglehole, 2004). These risk factors also are related to levels of disposable income and exposure to corporate marketing. With the poor and working class having the most exposure to these negative social determinants of health, it is no surprise to see an increase in prevalence of diabetes especially among these socioeconomic groups.

Riskscape for Diabetes

The process of globalization has created a riskscape for diabetes by significantly changing the social and physical environments where people live. Morello-Frosch et al. (2001) were the first to use the term riskscape and it can be thought of as geographies of exposure and susceptibility, which increases a person's risk for disease. In the case of the residents of Mazatlán their lives have been transformed, particularly in relation to how people work, eat, move, and have connection to the land. The widespread emergence of riskscapes, like that in Mazatlán, points to a neglect by policymakers in their role to help prevent the spread of NCDs by installing policy that promotes preventative health measures for all age groups (Yach & Beaglehole, 2004).

Changes in Diet and Exercise

Globalization and tourism have led to a shift to a modern lifestyle amongst Mexicans and a commoditization of diets (Leatherman & Goodman, 2005). A transition to a modern lifestyle is evident when observing how Mexicans eat and a shift in their levels of physical activity, which has resulted in an increase in obesity and diabetes (Wiedman, 2010). This transition, however, is more complex than stating that people now have modern lifestyles. Price hikes in food in Mexico (associated with NAFTA) pushed the cost of basic foods out of reach for millions of people. Given the rising importance of consumerism many Mexicans desire to be viewed as similar to their neighbors in the United States and have adapted similar dietary habits (Marsh, Mcpherson, Brown, et al., 2011). One example of taking on consumption habits like those in the United States can be seen in sweetened soft drinks having an important economic and cultural capital in most part of Latin America, marking class status and consumptive ability. Mexico is one of the largest consumers of Coca-Cola per capita in the world; the average annual intake of Coca-Cola beverages is 225 liters per person (Henriksen, 2013).

Beyond high soda consumption, there has also been a dramatic shift in dietary habits among Mexicans. To understand this dietary shift, I must first define what nutritional transitions are. A nutritional transition is the replacement of a traditional diet rich in fruit and vegetables to one dominated with higher quantities of animal fat and less complex carbohydrates, such as processed foods. This nutritional transition has mainly resulted in a Western diet, one high in saturated fats, sugar, and refined foods, but low in fiber, whole grains, and nutrients (Carlsen, 2011). In Mexico, there is a higher prevalence of processed foods and food such as tamales and cakes that used to be reserved for special occasions such as holidays and birthdays are now more widely available than in the past 30 years (P. Peraza, personal communication, July 31, 2015). The transition to a modern lifestyle, especially the increase in women working outside the home, has also led to an increase in commercialized processed foods, as well as fast food consumption, food consumption outside the home, an increase in availability of ready to eat foods, and in general a decreased amount of time for food preparation (Barquera, Campos, & Rivera, 2013; Leatherman & Goodman, 2005).

Walking down the streets of Mazatlán, the dietary shift was evident in my daily observations. I constantly found fliers advertising special deals and packages for fast food. Dominos offered deep-pan pizza with the option of adding two appetizers for just 80 pesos or around 5 USD. Chano’s Burgers, a local chain, offered Buffalo wings and multiple burger and fried combo options. Almost every chain offered delivery, making fast food all the more convenient and appealing to eat. Doing my grocery shopping at one of the local supermarkets, *La Ley Vieja*, I would find people who did not have a single healthy or non-processed item in their carts. Some employees at the clinic where I conducted my research did not drink water and would only drink soda. Walking by families having breakfast, I would encounter everyone drinking either a 500ml soda or a liter of juice. Portion sizes at restaurants were large and comparable to those found at chain restaurants in the United States. All of these dietary habits were in combination with where people did their shopping. While there were large open-stall markets to buy fresh produce and meat around the city, one of the quickest and easiest ways to buy food was at the local *abarrote* or corner store. While these stores often sold staples, such as pasta, oil, flour, and a small selection of fruits and vegetables, they mainly sold snack foods such as tamales, ice cream, and packaged sweet breads (see photo, figure 3).

Figure 3: Local *abarrote* in Mazatlán

Another significant change associated with adopting a modern lifestyle is a shift towards relative physical inactivity. Across the globe nearly one third of the adult population is physically inactive and this is particularly true in the Americas (Pratt, Charvel Orozco, Hernandez-Avila, et al., 2014). To meet adequate levels of physical activity, one set of standards includes the following recommendations: 1) 30 minutes of moderate-intensity physical activity at least 5 days a week; 2) 20 minutes of vigorous-intensity physical activity at least 3 days a week; or 3) some combination of the two (Hallal et al., 2012).

Given these high levels of physical activity one must participate in, a sedentary lifestyle is the reality for some of the population living in Mazatlán. With the economy becoming more and more service driven, people have become more sedentary with more time spent sitting in front of television screens, though a sedentary lifestyle now begins during childhood where children refer to the television as *la nana* or the nanny (P. Peraza, personal communication, July 31, 2015). Physical inactivity to some extent was evident during my time in Mazatlán, with most people driving or taking the bus to get places; it was rare to see people walking or biking long distances as a mode of transportation. There was, however, also an exercise culture in Mazatlán where people would go out to run, walk, and rollerblade along the boardwalk or *Malecón* in the mornings and evenings. The municipality has also installed exercise equipment and soccer fields around the city in an effort to encourage people to exercise. I would also see yoga and Zumba classes happening around the city (see figure 4).

Figure 4: Yoga class on the beach in Mazatlán

The shift in diet and physical activity contributes to the increase in NCDs in LMICs. Mexico faces an especially challenging situation as it has one of the highest and rapidly increasing prevalence rates of diabetes and obesity (Pratt et al., 2014); 71.2 percent of the adult population in Mexico is now considered to be overweight or obese (Cities Changing Diabetes, 2014). Obesity is no longer only found in middle and upper classes, but has become a sign of poverty and if measures are not taken in Mexico, obesity will contribute significantly to the disease burden (Henriksen, 2013; Marsh et al., 2011). Risks associated with diet and physical inactivity are more complex than obesity and include a high body mass index, low levels of fruit and vegetable consumption, high blood pressure, high cholesterol levels, and rising rates of diabetes (Mendenhall et al., 2015; Yach & Beaglehole, 2004).

Measures Being Taken by the Mexican Federal Government

Undertaking interventions, such as policy changes that impact the population level are key to having a broad impact at the population level and are needed instead of merely relying on individuals to make lifestyle changes (Gomez et al., 2015). In 2010, the Mexican Ministry of Health launched the National Strategy to Control Obesity and Overweight [*Acuerdo Nacional para la Salud Alimentaria* (ANSA)], which was based on the World Health Organization’s Global Strategy on Diet, Physical Activity and Health (Barquera et al., 2013). ANSA was a multi-sector policy effort that involved different ministries within the federal government and participation of academia, civil society, and the private sector (Pratt et al., 2014). ANSA had ten objectives to prevent obesity and NCDs; examples which include: reducing fats and sugars in beverages and educating the public to control the recommended portion sizes in foods (Barquera et al., 2013). While ANSA laid the needed partnerships and groundwork for obesity prevention it lacked a specific budget to support implementation and there was no monitoring process to measure the impact of the objectives (Pratt et al., 2014).

The Mexican federal government has also taken a major step in an attempt to curb the obesity epidemic by creating a tax on sugar sweetened beverages and junk food. In

May of 2013, the Mexican Congress approved Law 30021, a tax reform bill that imposes an eight percent levy on junk food and creates a tax of one peso for every liter of soda or sugary beverages sold (BBC News, 2013). This law went into effect on January 1, 2014. The Mexican National Institute for Public Health and the University of North Carolina carried out an initial evaluation to understand the impact of the tax levy and found an average of six percent decrease in purchases during 2014, with the greatest effect on lower-income households who cut their purchases by an average of nine percent (Boseley, 2015). The Mexican federal government has also placed restrictions on advertisement of sugary foods and beverages during times that children are likely to be watching television programming (P. Peraza, personal communication, July 31, 2015). While these measures are a move in the right direction to curb obesity and diabetes, there is still a need to control and manage the epidemic number of cases of diabetes that exist.

Mexican Health Care System and Diabetes

The changes that have occurred in Mexico due to globalization have not only impacted the population's daily lived experience with illness, but also how people provide and seek care. Health care activities once associated with family and kin have become the role of professionalized healers, primarily through biomedicine. It is important to note that while the Mexican health care system is patterned on the North American model, the Mexican system is distinctive in its own right and must be understood within the local sociocultural context (Finkler, 2001).

The Mexican national health care system was established in 1943 with the founding of the Ministry of Public Health [*Secretaría de Salud* (SSA)] and the Mexican Institute for Social Security [*Instituto Mexicano del Seguro Social* (IMSS)] (Frenk et al., 2006). The health system is also composed of the following sectors (though there are many more examples than those included here): the Institute of Social Security and Services for Civil Servants [*Instituto de Seguridad y Servicios Sociales de Trabajadores del Estado* (ISSSTE)], the National Oil Company [*Petróleos Mexicanos* (PEMEX)], the Railroad Workers, and the Electrical Workers (Finkler, 2001). There is also an abundance of private health care options in Mexico. SSA is the agency that unemployed workers, self-employed merchants, and the poor use to access health care services, representing the safety net for those without access to private insurance or insurance based on their employment status. SSA is also the focus agency of my research. Many people who receive care through SSA are now insured through *Seguro Popular* or Popular Health Insurance. While Mexico is considered to have a socialized medicine model, in reality the health care system more resembles a segmented model similar to the disjointed private and public system in the United States.

SSA and *Seguro Popular*

SSA is funded by resources from the federal Mexican government, state governments, and a small annual fee paid by recipients of *Seguro Popular*, who are the primary users of SSA services. In 2010, SSA served 34.2 percent of the population in Mexico (Peraza, 2014). Within SSA there are three levels of care that patients can seek. The most expansive services are offered at the primary level and are centered on primary medical care offered via public health centers or *Centros de Salud*, such as the center where I conducted my research. The secondary level of care is offered at General Hospitals that offer basic specialized forms of care such as emergency medicine, OB-

GYN, pediatrics, internal medicine, and general surgery (Peraza, 2014). The tertiary level of care is offered at specialized hospitals.

Seguro Popular was established by law in 2003 and first piloted in 2004; the program became universal in 2010 (Frenk et al., 2006). The establishment of *Seguro Popular* was the main reform of the System of Social Protection and Health (SSPH), which introduced new financial rules for community-based and public health services. To qualify for *Seguro Popular*, people cannot have another type of insurance and families must complete an economic study to determine if they will have to pay a premium to receive services. The program is based on a sliding-scale premium structure with the poorest 20 percent of citizens being exempt from paying for health care services (Frenk et al., 2006). *Seguro Popular* covers the majority of basic medical services and diagnostics, including 91 different interventions (Rodriguez-Abrego et al., 2010).

SSA and Diabetes

SSA takes a multi-level approach to diabetes through policy, treatment, and support strategies that are all located within with the professional arena of the Mexican HCS. Within the statewide strategic plan for Sinaloa there are a number of policy recommendations to address obesity and diabetes, including but not limited to: promotion of correct levels of diet and physical activity at the individual and collective level, establishing general guidelines for specific actions to prevent NCDs, providing access to effective coverage for NCDs, improving the competency and capacity of health professionals, and guaranteeing medical supplies and laboratory tests (Secretaria de Salud de Sinaloa, 2013).

While these goals are lofty and non-specific, they are reflected in the treatment plans and support strategies of SSA. These are directed by the evidence-based national diabetes guidelines, protocols, and standards that have been fully implemented following international standards and contain standard criteria for referral of patients for treatment (World Health Organization, 2016). Treatment for diabetes has the goal of alleviating symptoms, maintaining metabolic control, preventing complications, improving quality of life, and reducing mortality (Secretaría de Salud, 2012). Treatment uses non-pharmaceutical and pharmaceutical strategies. Non-pharmaceutical strategies focus on weight management, dietary plans, sufficient communication between medical providers and patients and their families, control strategies, and development of healthy lifestyles (Secretaría De Salud, 2001). Pharmaceutical strategies focus on individual treatment plans with a regimen of oral medications and/or insulin. Diabetic patients primarily receive care for their illness at *Centro de Salud*, though those who are not in good control of their blood glucose levels or have advanced diabetes with complications receive their care at the General Hospital, most often from internal medicine specialists.

The two primary support strategies provided to diabetic patients are the 5 Steps to Your Health program and support groups or *Grupos de Ayuda Mutua* (GAM). The 5 Steps to Your Health program (*Cinco Pasos a Tu Salud)* was established in 2011, with a focus on five strategies: Moving Your Body, Drinking Water, Eating Fruits and Vegetables, Measuring Your Weight, and Sharing Your Results with Your Community (Secretaria de Salud de Sinaloa, 2013). While this was implemented nationally, I did not once encounter any available literature related to the 5 Steps to Your Health program, nor heard anyone at the clinic talk about this campaign. However, there are 10,0000 GAM groups in existence across Mexico and in the state of Sinaloa 11.7 percent of diabetic patients who receive services at SSA attend these groups (Secretaría De Salud, 2001). GAM groups also offer support for patients who have high blood pressure or are obese or overweight.

Diabetic Care at the Centro de Salud

Care for Diabetic Patients

At the *Centro de Salud*, patients with diabetes are monitored on a monthly basis using SSA protocols and standards by one of the two physicians, Dr. Francisco Jimenez and Dra. Margarita Gonzalez. Before being seen by one of the doctors their nurse, Julia Sandoval, will have measured their fasting blood glucose levels, in addition to taking their other vital signs. Diabetic patients are required to come to the clinic every thirty days in order to receive their needed medication that is provided free of charge to them. The doctors performed a standard review of the patient's current symptoms, discussed the last time they had sought care and the importance of seeking regular medical care, their medication regimen, as well as discussing diet, exercise, and foot care. The physicians also attended to any additional health concerns the patient had as time permitted and referred the patient as needed to a nutritionist, the laboratory, or any other services the patient was in need of.

Programs to Support Diabetic Patients

While most patients receive care for their diabetes only through the monthly visits to the physicians some are referred to the GAM courses that are run by one of the nutritionists in the clinic. As discussed earlier, GAM groups are a strategy that focuses on providing patients with strategies to adopt healthy lifestyles, particularly related to diet, exercise, and self-management techniques. The strength of these groups is that they are based in acceptance and sharing where the participants meet on a monthly basis to exchange experiences and support one another (Esqueda, Aroch Calderón, Jiménez, et al., 2004).

At the *Centro de Salud* patients who are obese, have diabetes, high blood pressure, or high cholesterol are referred to the GAM program, typically by one of the physicians or nutritionists. The groups are about 25 people in size and happen on a once a month basis. I had the opportunity to attend and observe two of these sessions while conducting my research. The class started with testimonies by participants as to why the GAM course has been so beneficial to their lives; the testimonials were given while each participant was being weighed and had appropriate vitals taken. In one of the courses an exercise instructor came to lead the group in fifteen minutes of exercise and then gave a short lecture on the importance of different types of exercise. In other cases, specialists came to talk about the physiology of a disease or the nutritional content of food. The group then shared a meal, each having contributed a healthy food to the group. I had an opportunity to talk with one of the participants, Felipa, who said the group has, “made a big difference in my life and helped me a lot” due to significant weight loss and helping her to develop healthier habits in her life.

Alternative Health Care Systems in the Community

Apart from the biomedical system discussed thus far, patients also simultaneously draw on the folk arena of the HCS, using a variety of complimentary, not competing, alternatives (Hunt, Arar, & Akana, 2000). The increasing use of biomedicine does not replace folk models and treatments with biomedical concepts and practices (Ross, Timura, & Maupin, 2012). Use of folk treatments was evident when talking to diabetic participants in my study who used herbal remedies (n= 13, 43 percent) and prayer or turning to God (n=8, 27 percent) in conjunction with pharmaceutical medications in the management of their diabetes.

One of the most frequent types of alternative treatments that those with diabetes seek is the use of medicinal plants or herbal remedies. Many hold the belief that these plants are effective, they are of low cost, and can be needed to achieve a complete cure (Romero-Cerecero, Reyes-Morales, Aguilar-Santamaria, et al., 2009). More than 400 herbal remedies for diabetes have been recorded worldwide (Hunt et al., 2000). In Mazatlán, I went to several different herb stores (see figure 5) and the most common herbs recommended to me for diabetes were moringa, which came in pill, leaf, and powder form, as well as *semilla de venadillo, campaco* (a wood product), *and diabete* (mixture of leaves, branches, wood and seeds), all of which were used to make teas that were consumed once or twice a day.

Figure 5: Herbal store at Mercado Pino Suarez

Other forms of complementary care exist, such as people going to see local witches or *brujeros* or *brujas* (J.M. Mendoza, personal communication, June 30, 2015) or the use of massage which is used to treat not only muscular pains, but also emotional states. Many people also seek out the use of prayer to amplify healing powers of medications or go to *curanderos* for specific types of illnesses, such as *susto* or fright (Hoskins, 2012; Hunt et al., 2000). Alternative care was also sought out in the use of products from Omnilife, as discussed by one participant's daughter-in-law who worked selling the products. She told me that these products were "all natural herbal products" (personal communication, August 12, 2015).

It was in this setting where people blend different sectors of care within a modern and globally-influenced Mazatlán, that I conducted the bulk of my research. My aim was to understand how people's lives have changed since their diagnosis with diabetes, their cultural beliefs around their illness, how they live on a day to day basis with diabetes, and ultimately how all of these factors impact how they manage their illness.

CHAPTER III

EXPLANATORY MODELS AND CULTURAL BELIEFS

As I discussed in Chapter I, people's illness can be understood within the context of their beliefs, how they access the health care system (HCS), and their daily lived experiences. A way to get at these beliefs and topics is through the use of Explanatory Models (EMs). Based on prior research conducted and my research objective of contributing to our understanding of the beliefs of Mexican diabetic patients, I set out to use the EM framework developed by Arthur Kleinman[4] to identify what were the specific beliefs and the daily lived experience of the participants in my research, particularly in relation to their diagnosis of diabetes. While my study is based on Kleinman's original eight questions related to etiology, causality, and other topics, I dug further to understand how people manage this chronic condition and the emotional implications diabetes has on people's lives. As with previous research, at times there is vagueness, multiplicity of meanings, and lack of boundaries between ideas and experiences in my participants' EMs (Kleinman, 1980). My findings are discussed below.

Explanatory Model

Etiology and Causality Models

When I asked the participants in my study what they thought was the cause of their diabetes, I received a variety of responses, many of which reflected etiological responses that incorporated biomedical understandings with folk attributions.

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[4] Arthur Kleinman discussed the need for anthropologic and cross-cultural methods use to address spiraling costs of medical conditions. He presented a framework with which to use that uses social science concepts to address limitations within the medical field, including the explanatory model of illness and a series of 8 questions for clinicians to use. This framework will be used to identify beliefs related to diabetes (Kleinman et al., 1978).

Understanding etiological beliefs is particularly important as these form the core of people's medical knowledge and knowing the cause of one's illness is often how people make sense of their suffering (Finkler, 2001). Etiology also often shapes expression of illness and is associated with behaviors.

As seen in previous studies with Mexican Americans, many of the participants in my study connected diabetes to their personal history, whether citing behaviors or events that caused the illness (Hunt, Valenzuela, & Pugh, 1998), though many also cited causes that were related to family history. As I will discuss in more detail, the most common causes cited by the participants for their diabetes were improper care, suffering, *susto*, and it being hereditary, though 9 participants (30 percent) cited a combination of these most common responses. Other responses included *coraje*, which is typically translated as anger (de Alba Garcia et al., 2007), and other diseases having caused their diabetes, such as one woman who said her diabetes started because of her breast cancer diagnosis and treatment.

Hereditary

The most common cause of diabetes that participants cited was based on hereditary factors (n=14, 47 percent). This explanation is similar to other studies where Mexican and Mexican American's discussed diabetes as being hereditary (Alcozer, 2000; Arcury, Skelly, Gesler, et al., 2004; Daniulaityte, 2004; Finkler, 2001; Loewe & Freeman, 2000; Mercado-Martinez & Ramos-Herrera, 2002). Diabetes being a hereditary disease falls in line with the biomedical model's explanation of having an increased risk of having diabetes if there is a family history or having a genetic pre-disposition to the disease (Everett, 2011). There is also the possibility that as people receive care from the biomedical system, the physicians transmit to the patients the notion of inheritability of diseases, thus influencing patients' etiological explanations (Finkler, 2001).

Some of the participants stated that their diabetes was purely from hereditary factors. Rosa, a 50 year-old woman who owns an *abarrote* and has been diagnosed with diabetes for 18 years said, "Well it [the cause] was hereditary. My mom had diabetes, my grandparents. A lot of my family had diabetes." Rosa's response was similar to the response from Iván, who was a 57 year-old unemployed security guard, who was quite knowledgeable about how to care for diabetes and at the time of the interview had been diagnosed with diabetes for 14 years. He stated, "All of my family had diabetes, my mom, my dad, my grandparents. I believe it [my diabetes] was from this."

While Rosa and Iván clearly connected their diabetes to hereditary factors, others discussed having diabetes from hereditary factors with a sense of disbelief, but ultimately stating the cause was hereditary thus connecting their explanation to the biomedical narrative, similar to the study by Daniulaityte (2004). This connection can be seen in the case of Jose, a 71 year-old man who had diabetes for 10 years and said, "I don't know what the cause was, suddenly they diagnosed me with diabetes. I don't know why or how, or if it was hereditary." The general sense of not knowing for sure whether or not the cause of diabetes was hereditary can be seen in the 7 participants (23 percent) who stated that the cause was hereditary along with some other explanation, such as improper care or suffering. Jessica, a 58 year-old housewife who had diabetes for 14 years said:

> The truth is I don't know because before we thought it [diabetes] was hereditary, but now it's a normal disease that many people have. Before people said it [diabetes] was from a *susto* or something like that, but now anybody can have diabetes… I don't know if it's because I have a diabetic aunt and it's because of this or because I was going to get the disease. I don't know. A lot of times it's

> because of the habits one has: one's diet, lack of exercise, and things like this contribute.

While Jessica had clearly incorporated the biomedical understanding of diabetes being a hereditary disease into her etiological explanation, she was also conflicted within her explanation. Guadalupe, a 54 year-old massage therapist and healer who had diabetes for one year, wove in an explanation based on hereditary factors into the general suffering she has experienced as seen in her explanation, “I have a lot of emotional problems, economic problems, but as I say I need to live life calmly… More than this I also have a lot of effects [of diabetes]: hypertension and everything from being diabetic. You know it's hereditary what comes with life.” This interweaving of explanations around what caused Guadalupe’s diabetes is in stark contrast to those who strictly believe the biomedical explanation of people not taking proper care of themselves as the cause of diabetes.

Improper Care

Improper care was cited by 7 participants (23 percent) and included explanations such as poor nutrition habits and minimal or no exercise as the cause of diabetes. These explanations were similar to explanations Mexican Americans gave in other studies, such as eating too many sweets and lifestyle factors such as dietary habits (Alcozer, 2000; Arcury et al., 2004). According to the biomedical model the largest risk factor for developing diabetes is not following proper diet and exercise recommendations. Jorge, a 63 year-old man, who had diabetes for 15 years and discussed not being able to find employment due to his age, said in regards to the cause of his diabetes, “It’s because I didn't take care of myself. When I was diagnosed I had already started to feel bad… I didn't believe that I had this disease at first. But I went to a doctor and he said, ‘You have diabetes.'" While Jorge gave a more general response to not taking care of himself, he also discussed drinking too much soda and that he didn't use a diet. Alma, a 45 year-old housewife who had diabetes for one year attributed her diabetes to more specific examples of improper care. She said, "I didn't control what I ate very well. I drank a lot of Coca-Cola. I think it was because of this." One important thing to note about the quarter of participants who cited improper care, is that the majority of those interviewed would not have seen diabetes as being preventable, which is in direct contrast to biomedicines perspective on diabetes. I will discuss this contrast in perspectives further in Chapter IV.

The most striking thing about the participants who said that their diabetes was caused by improper care was that 6 out of the 7 were women (20 percent of the total participants, 87 percent of those citing improper care). At first I considered that citing improper care might be a gendered difference with the female participants in my study being more knowledgeable about the biomedical explanation of diabetes than the male participants. To determine if this was the case, I reviewed all 30 participant's transcripts for overall biomedical knowledge, including things like: diet, exercise, cause of diabetes, if diabetes has a cure or not, and knowledge of symptoms. Twenty-four of the thirty participants (80 percent) had a good working knowledge of diabetes. All nine male participants in the study had a good working knowledge of biomedicines perspective on diabetes, though only 5 of the 9 (56 percent of men) discussed regularly following the recommendations. Only 15 of 21 women (71 percent of women) in my study had a good understanding of diabetes from the biomedical perspective, which leads me to conclude that while more women than men cited improper care as the cause of their diabetes this was not due to superior knowledge of the biomedical understanding of diabetes. Women citing improper care as the cause of their diabetes may be in part due to women's higher utilization of the HCS, thus having a narrative that is in line with their medical practitioners (Vlassoff, 2008).

Suffering

Seven participants (23 percent) stated that due to suffering in their lives they had diabetes; this included the sub-themes of stress and shame. Emotional stress and distress was found in a number of other studies conducted on EMs of Mexicans and Mexican Americans (Alcozer, 2000; Daniulaityte, 2004; Mendenhall, 2012; Mercado-Martinez & Ramos-Herrera, 2002). In some cases, the precipitating events were not simple or discrete, but a culmination of events often outside the persons' control and part of a larger social phenomenon (Loewe & Freeman, 2000). This can be seen in the case of Lilliana, a 50 year-old woman who had diabetes for 12 years and owned a *taqueria* with her husband. She said:

> Stress. My mom is diabetic, my dad as well. My mom says that with diabetes it can come because of stress and make a person sick. I've always helped to take care of my mom's diabetes and she's been sick with Alzheimer's. With this, I had mental health problems because I didn't understand and it seems like all of the problems that my mom has, I have as well. I've accepted that I was at fault and I went to see a psychologist, who told me, 'take care of yourself you're pre-diabetic'. And my sister has marriage problems and I get involved with all of other people's problems and I shouldn't. I didn't understand and then I was sick.

As seen in Lilliana's explanation for her diabetes social factors were the cause of her stress, suffering, and ultimately her diabetes.

When analyzing those who cited suffering in more detail, I found that 6 of the 7 participants who discussed suffering were women, which led me to ask what were the factors that led women to be impacted more than men by suffering, at least amongst the participants in my study. There were several cases of preoccupations related to family members; this focus on family by women falls in line with the definitions of femininity that I discussed in Chapter I. More specifically women discussed diabetes being due to a loss of family members and being worried about their children. Ximena, a 54 year-old housewife, lived near San Ignacio on a ranch, about 2 hours from Mazatlán, but was seeking treatment at the *Centro de Salud* that week as she was in town caring for family. She presented an overall story of hardships, but when I asked specifically about the cause of her diabetes, Ximena said, "I think I have diabetes because I lost my husband and three sons, and from there it came. I felt worse and worse and worse. Then they detected the [high] glucose [levels] from the anguish and worries and everything." To Ximena, her diabetes is clearly linked to the loss of her family members. This clear distinction related to worrying about children can also be seen in the case of Laura, a 53 year-old housewife who had diabetes for about 5 years. She said:

> They say it's [diabetes is] hereditary and my dad died from diabetes, but I don't know. I have a son who went to the United States and then I started to get worse [in terms of my health]… He was there for two years, but now he's here, he has a job and is married. It was bad [the situation] because he went without papers. It's because of this I have diabetes.

Laura's explanation not only represents a case of femininity related to worrying for her son, but also is an example of global forces bearing down on her health. With globalization has come increased immigration restrictions, which causes many people to migrate without documentation between Mexico and the United States.

I was also interested to see of the women who discussed suffering had any of them experienced any form of structural violence[5], as women are often more likely the victims of these instances of violence. Only one woman discussed this type of incident in relation to her suffering. Maria, a 60 year-old woman who had diabetes for 3 years and was very distraught throughout the interview, often tearing up, said, “My mother was diabetic, so maybe it was hereditary. But more from problems in life: the troubles, the beatings, all the suffering.” While she did not go in-depth into discussing her overall suffering, Maria’s case clearly incorporates a form of structural violence as being part of her personal etiological explanation around her diabetes.

Susto

A more culturally specific form of suffering and distress can be seen in the etiological explanation of *susto* or fright; 7 participants (23 percent) cited this to be the cause of their diabetes, with 6 of the 7 being women. *Susto* is prevalent in medical anthropology literature, particularly in studies about Mexican and Mexican American populations (Poss & Jezewski, 2002). *Susto* is described as a specific event that leaves people more susceptible to diseases, including diabetes. This definition of *susto* is in contrast to the previous classification of it being a specific culturally bound syndrome found in Latin America (Poss & Jezewski, 2002). *Susto* was also described as an experience that led to a loss of vital life forces or a person’s soul and included a specific set of symptoms such as restless sleep, listlessness, debilitation, and depression (Weller et al., 2002). Treatment was aimed at inducing the lost force back into the body to eliminate

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[5] Paul Farmer discussed structural violence as social mechanisms that become embodied as health inequalities. These types of incidents can be thought of typically as things like domestic violence or sexual assault (2003).

the symptoms (Weller et al., 2002). The previous understanding of *susto* was not something I found in participants' stories related to *susto*. For my participants *susto* was not viewed as a specific illness in and of itself, but rather was a specific etiological explanation of diabetes.

Among my participants, *susto* was a severe fright caused by a sudden, unexpected and very unsettling event. Paulina, a 49 year-old woman who had diabetes for 2 years, described her diabetes as being caused by a *susto* and said, "The truth is, I think it as a *susto* that I had. I received news that they killed one of my children (begins to cry). [What happened] was two of my children that were attacked. One was killed and they hit one of my daughters." Paulina's story was one of three very similar stories that described finding out about violence committed against their children. The case of Ramón, a 70 year-old man who had diabetes for 20 years and owns an *abarrote*, described the following scenario to me as the cause of his diabetes:

> Well it was a *susto* because one time I was frightened and I felt that my body had fear in it, something like this, and from this my diabetes started… I was in my truck and the police approached it, with guns in their hands and they took me out of the truck. It [the situation] frightened me because I'm not a trouble maker and don't drink; they confused me [for someone else], but it damaged me… I think it was this because I'm very healthy, I never get sick.

These case examples represent an adaptation of what was once a culturally bound syndrome to experiences related to living in a globalized world and the negative impacts it can have on people's lives: there is a stronger presence of a militarized police force and an ever increasing presence and impact on people's lives from drug cartels and gang violence. What is particularly striking is the incorporation of these globalized forces into my participants' narratives of *susto*, representing troubling aspects of their social world explained through illness.

My findings also support previous research conducted with a similar population on *susto* that has pointed to a relationship with social stress (Brooks, 2014), which can be seen in the case of Silvia, a 61 year-old housewife who had diabetes for 2 years and lived on a ranch on the outskirts of Mazatlán with her son and his wife. She had an etiological explanation that combined general social stress and suffering: "Who knows, I was frightened as one of my sons was in an accident. I think it was from there and after that I was very angry with my husband. All of this. Afterwards I was alone with my children." The stress of being a single mother and suffering from social responsibilities are at the core of Silvia's story.

An important distinction to make is that while the biomedical model does not incorporate culturally specific illness experiences such as *susto*, which have no clear physiological or biological origins, the biomedical field is beginning to validate and observe the impacts of stress. In that same line of thought, the state of being sick is commonly regarded as a reflection of daily events and weathering adverse social situations (Finkler, 2001), as seen in the case of Silvia and Paulina above. Perhaps holding this view of sickness at the core of biomedicine will allow for *susto* to be a salient and relevant explanation to providers in the biomedical system.

Cure

Part of the questions in the EM developed by Kleinman related to perceptions around cure of the illness in question. I included an inquiry about cure of diabetes in my semi-structured interviews with participants, even though biomedicine strictly views diabetes as not having a cure and as a long-term chronic condition that can only be managed and controlled. The majority of participants interviewed (n=19, 63 percent) said that diabetes had no cure, though surprisingly 7 participants (23 percent) said that yes, diabetes did have a cure. Thirteen participants (43 percent) responded in some manner about control being important and 3 participants (10 percent) said that God had a role in providing a cure. Only one participant did not know if diabetes had a cure or not. Analyzing this data further, there was overlap between the different responses to whether or not diabetes had a cure, with half of the participants (n=15) providing multiple responses; nine of these participants responded that diabetes did not have a cure and that it could only be controlled, suggesting a strong knowledge of the biomedical understanding of diabetes. This strong knowledge can be seen in the response from Rosa, the 50 year-old participant who had diabetes for 18 years; she said, “They say it doesn’t have a cure. [The process is] control it and that’s it.”

The seven participants who responded “yes” to diabetes having a cure were the remaining part of the sub-group of participants providing multiple responses; these responses can be categorized into three different groups. The first group (n=3) combined the idea that diabetes had a cure and that controlling their diabetes was the way to cure the diabetes. Guadalupe, the 54 year-old massage therapist who had diabetes for a year said, “Yes, if you change your diet, or if you take something, for example, drinking a tea. Everything has a control.” The next group (n=2) combined the response of diabetes having a cure with a strong belief in higher powers and having faith that these things would aid in a cure. Paulina, a 49 year-old woman who had diabetes for 2 years and discussed her diabetes as being caused by *susto*, said, “Yes; I have faith in God as well and that he will do his part.” Paulina’s response suggests some element of fatalism in that the situation will be determined by forces external to one’s self, with fatalism often being associated with Mexican culture (Ross, Mirowsky, & Cockerham, 1983). The last person to discuss diabetes having a cure was Jorge¸ a 63 year-old man, who had diabetes for 15 years and generally seemed desperate about his situation and illness. He said, “A lot of people say no, but I think it does. What I need is a good treatment that will get rid of this [in reference to diabetes].” Jorge later asked me during the interview if I had a magic cure for his diabetes.

The discussion around cure is an important one that is often overlooked within the biomedical system. Biomedical providers automatically assume that those diagnosed and provided with education around their disease will accept that diabetes does not have a cure and therefore needs to be managed. While it was a small sub-group of participants that discussed diabetes having a cure (n=7), this belief does exist and needs to be accounted for, particularly in how education and clinical care are provided.

Symptoms

When I asked people what symptoms they experienced with their diabetes, the participants reported having physical symptoms that are associated with diabetes according to the biomedical understanding of diabetes, suggesting the education they received related to this area of their illness has become part of their personal narrative. They also reported some psychological impact, such as depression, though mental health implications will be explored more in relation to people’s daily lived experiences. See Table 1 for a break down on the types of symptoms and the percentages of those who cited these symptoms.

Symptoms	n=	Percentage
Not affected	11	37%
Tired	10	33%
Dizziness	9	30%
Neuropathy (nerve damage)	8	27%
Pain	7	23%
Thirst and dry mouth	6	20%
Vision problems	5	17%
Urination	5	17%
Weak	3	10%
Depression	2	7%

Table 1: Symptoms as reported by participants

Fifty percent (n=15) of the participants discussed having multiple symptoms and two thirds of the 15 participants who had multiple symptoms (n=10) had 3 or more symptoms, with 5 being the maximum number of symptoms reported. While the number of participants reporting symptoms is significant, what is not clear from the interview data is how symptoms impact the participants' daily lived reality. Surprisingly 37 percent of participants (n=11) said they were not affected by diabetic symptoms, suggesting symptoms did not have much impact to their lives. The impact to participants' lives will be explored more in-depth in the next section. I was also curious if there was a gender difference among those reporting not being affected by symptoms; of the 11 participants who reported not being affected, 6 were women and 5 were men, suggesting there is no significant gendered experience. Participants often were unable to pinpoint the exact onset of their symptoms and often did not have explanations of why their diabetes started when it did, which is similar to findings from previous studies of diabetes among Mexicans (Finkler, 2001).

Daily Lived Experience

An important aspect of Kleinman's EM is analyzing how an illness impacts people on a daily basis and how their lives change. I included three different questions to understand the daily lived experience of people, as told to me within a clinical setting. The clinical setting in and of itself was a limitation to this study, as responses to questions about daily lived experiences may have been entirely different had they been collected via interviews at participant's homes. Regardless, the below discussion gives us insight into how people live on a daily basis with diabetes in an urban center in Mexico.

How People Feel

An important question in Kleinman's EM is, "How does your illness make you feel?," which can help us begin to understand how people live with a chronic condition and how this impacts their life. This consideration is particularly important for a disease like diabetes, which can have a large impact on a person's life as it becomes more advanced and a person has more complications. When I asked this question to the participants, 13 percent (n=4) stated they felt either tired or more lazy since their diagnosis. Ten participants (33 percent) stated they felt bad; what was most striking about those stating that they felt bad was that all of these participants were female.

With no male participants stating that they felt bad, I questioned whether this was the authentic version of men's experience or did their desire to perform masculine roles and present a stoic portrayal in relation to their illness outweigh any impact diabetes had on their life. Analyzing further the responses of male participants, they may not lead to the interpretation of men being viewed solely as stoic figures. This can be seen in the response of Jorge, the 63 year-old man who discussed not being able to find employment due to his age. In describing how he felt, Jorge said, “Very lazy, very lazy. I want to do things, but it's hard to get out of bed.” Jorge’s response, which could not be categorized as feeling bad, demonstrates that he had been impacted by his illness. Oscar, a 60 year-old office assistant who had diabetes for 8 years, discussed his diabetes with a level of normalcy, yet also acknowledged the potential negative impacts it could have in the future. He told me, “I feel good. I do everything; I walk in the morning, I go to work. Given the situation I just try and live with it [diabetes] and not spend time thinking about the disease. I know that tomorrow there may be consequences if don't take care of it [diabetes].” While the male participants may not have felt bad with their illness, their responses also do not indicate that they instead approached their illness with a stoic attitude.

Women’s experiences of feeling bad included responses related to their blood glucose levels as seen in the case of Ximena, the 54 year-old housewife who lived about two hours from Mazatlán. She said, “I don’t feel well when my sugar isn’t in good control. When I’m in good control, I don’t have symptoms and I feel better.” Another common way in which these women expressed feeling bad related to depression, anxiety, and somatic symptoms as seen in the case of Silvia, the 61 year-old housewife who lives on a ranch outside of Mazatlán with her son and his wife. Even though she had diabetes for only two years she expressed the following, “There are times when I feel despair and sometimes pain in my stomach. More than anything it’s that I feel this despair to eat, but once I eat food I feel better.” Paulina, the 49 year-old housewife who said her diabetes came from a *susto* and had strong faith that God would cure her of her diabetes, described a general change to her body and lived experience. She said, “At first I felt bad, now that

I'm managing it [my diabetes], I've become accustomed. But I don't feel the same as before."

While some participants experiences reflected a change, the majority of participants (n=17, 57 percent) said they felt normal, which also included the sub-themes of feeling good, having no pain and feeling calm. Four participants (13 percent) stated they felt nothing. These two responses are significant in that 70 percent of the participants (n=21) said that diabetes had little to no impact on how they felt, which is not something I expected to hear from diabetic patients, who are portrayed as having a burdensome disease. However, rarely does being diagnosed with a disease cause people to suddenly feel sick or have an illness and often results in people postponing changes and dealing with a diagnosis until there are changes in bodily functions, which may point to an explanation centered on minimal impact (Charmaz, 2000).

Before presenting additional data around the idea of diabetes not impacting people's lives, it is important to discuss an important limitation regarding the sample of diabetic patients I interviewed. All of those interviewed and who receive care at *Centro de Salud* have diabetes that is for the most part in good control and have no complications associated with the disease, such as amputations or blindness. As discussed in Chapter II, the Mexican health care system is fragmented and when patients at the *Centro de Salud* have more complex cases of diabetes they are sent to the General Hospital to receive care. The General Hospital is part of the SSA network of care and has specialists, such as internal medicine specialists who can better manage patients' advanced chronic conditions. Given the lack of advanced diabetes it is quite possible that participants in my study did not feel their lives have been impacted. However, there is the possibility that the stories presented during the interviews are authentic versions of the participants' experiences and there has been minimal impact to how they feel on a daily basis.

Impact on Life

Part of what I wanted to know from the participants is how having a chronic condition, such as diabetes, that is associated with severe complications, has impacted their lives. When I asked participants about the impact of diabetes on their lives the most common response that I received was that diabetes had no impact on their lives (n=16, 53 percent), which is similar to the participants not being affected by symptoms and feeling normal. This type of response can be seen in the life of Leticia, a 50 year-old woman who was divorced and worked cleaning houses to support her two daughters. Leticia had diabetes for 10 years and said, "It [diabetes] hasn't affected my life. I don't let my illnesses affect my life. Perhaps I have a pain, but I acknowledge it and move on. I don't dwell in my illnesses or pains." Even though Leticia had a difficult life to begin with she took on the attitude of not letting an illness impact her life, which is an anti-fatalistic approach to dealing with life.

While the majority of people felt there was no impact to their lives, 6 participants (20 percent) felt there had been some sort of significant change to their lives, such as a change in diet. Six participants (20 percent) also said they felt more emotional, with 5 of the 6 being women (83 percent of those stating they were more emotional were women). Three of the women felt more emotional and that their lives had significantly changed as seen in the case of Lilliana, the 50 year-old woman and diabetic for 12 years who significantly discussed stress and suffering as the cause of her diabetes. She said in response to my question asking how diabetes has impacted her life:

> In some aspects, yes [it had impacted my life]. My husband tells me this all the time. You change, you get mad, you have rapid mood swings, and you are more fearful. For example, I love to go the beach, but I'm afraid to go if something might injure my foot. It [the illness] has taken away things that I liked. I changed, I don't do the things that I used to like to do.

The same stress that Lilliana had discussed as being the cause of her diabetes, seemed to continue to permeate her life as she felt she cannot live her life in the manner she wants to. The only other responses related to how diabetes has impacted life was from two participants (7 percent), one man and one woman, who felt they now live with the illness and that diabetes had become a part of their daily routine.

Connected to the idea of daily lived experience and the impact of having diabetes on people's lives, I asked the question, "What have you lost in your life due to your illness?" Half of the participants (n=15) stated they had lost nothing in their lives due to having diabetes, which was similar to those who told me that there was no impact to their lives. In fact, there was a .3922 correlation between the two responses (p value=.015). This correlation in combination with 60 percent of the participants stating they felt normal points to diabetes not having a large impact on people's lives, almost a sense of normality around the illness, which I will discuss further in the next section.

When analyzing those who identified as not losing anything their lives for gendered patterns, the only noteworthy pattern to emerge was 6 of the 15 participants being men, which is 67 percent of all men interviewed. This two-thirds of men who reported diabetes having no impact on their lives may point to some level of stoicism on the men's part and not wanting to present an image of having been impacted by diabetes. While the men interviewed discussed not having lost anything in their lives, several of them discussed having to change their diet and exercise because of diabetes. Two men also discussed having lost sexual function, which is a common side effect of diabetes in men. Similar to men discussing how they feel with diabetes, the discussion of what they have lost is complex and what constitutes masculinity is confounded.

As in the other questions assessing the impact to people's lives there were people who discussed having loss associated with their diabetes. Three participants (10 percent) discussed having lost important aspects of their lives, such as the ability to do things they once enjoyed. In a similar response, 4 participants (13 percent) discussed having to change their lifestyle, particularly around diet and exercise. There were also three participants (10 percent) who discussed that while there lives had changed, the changes were not due to diabetes, but rather due to getting older; these three participants included two who discussed changing their lifestyle. As with most questions in the semi-structured interviews, half of the participants cited multiple responses. Other responses to the question of how diabetes had impacted the participants' lives included becoming more emotional, changes in sexual functioning, and changes with partners and family members.

Normalization

All of these questions around the impact to participants' lives and the continual responses that diabetes had no impact or they had no symptoms may be the result of none of the participants having advanced diabetes. However, minimal impact on people's lives may also be a result of diabetes becoming a normalized part of their lives and of life in Mexico. In Mexico diabetes is a relatively new disease having only increased significantly in the last half of the 20th century (Daniulaityte, 2004). This increase in rates of the disease has helped to establish diabetes as a normal disease and one that touches everyone’s lives in Mexico. In a study done in Oaxaca, Mexico, the informants and their family members described having diabetes as a normal thing, not something to have shame or stigma around (Everett, 2011).

While diabetes is now seen as normal in Mexico, there is also a level of normalization that happens for a person with a chronic condition, as they adapt to the situation at hand and process activities as if normal. According to Charmaz, who reviewed studies on chronic conditions from diverse cultures around the world, “normalizing means finding ways to minimize impact of the illness, disability, and regimen on daily life” (2000, p.283). Normalization is often done with the goal of integrating the control and management of diabetes into the fabric of people’s lives so as to specifically minimize the impact of the disease on the persons social and experiential lives (Arar et al., 1998). This integration is typically done through the process of social adaptation in which the sick person manages symptoms, adheres to treatments, develops workable relationships with health care professionals, and finds sustained support via friends and family (Dimond, 1983). Social adaptation and normalization can be so successful that people then increase their capacities and maintain their health and now have new routines so life seems as if it always existed with the chronic condition (Charmaz, 2000). Social adaptation and normalization are perhaps the strategies the participants in my research used in their lives, particularly those who report having minimal impact in their lives from having diabetes and based on the fact that they are in good enough control of their disease to not receive care from specialists.

Emotional Well-Being

An important aspect of people who live with chronic conditions is their emotional well-being. I included three questions in my semi-structured interviews with participants to explore their fears around having diabetes, how they managed their emotions associated with their illness, and if they felt hopeful in any regards. These three questions revealed a general overall sense of positivity and hopefulness and will be explored more in-depth in the discussion of my findings below.

Fear

The course of an illness, such as diabetes, is often viewed as being very serious and as a life threatening illness (Hatcher & Whittemore, 2007). When asked "What do you fear most about your sickness?," those who reported having any type of fear, most commonly listed one of the advanced complications associated with having diabetes. Given the participants' strong knowledge of the biomedical model and symptoms associated with diabetes, it is only natural they may have fears associated with complications, particularly as being cognizant of symptoms is strongly emphasized by the practitioner for preventing advancement and complications. See Table 2 for the top fears cited by participants and the associated percentages.

Fear	**n=**	**Percentage**
Amputation of an extremity	5	17%
Blindness	1	3%
Dialysis	2	7%
Serious Complication (death, stroke, coma)	2	7%
No fears	18	60%

Table 2: Top fears related to having diabetes (as reported by participants)

Four participants (13 percent) discussed their general fear of having advanced diabetes. Awareness of potentially devastating complications associated with diabetes has also been seen in prior studies (Schoenberg, Drew, Stoller, et al., 2005). In addition, two female participants discussed their fear of leaving their children behind, which is common for those who have been diagnosed with chronic conditions (Holtz, Sowell, & Velasquez, 2012).

The most surprising response related to fears associated with having diabetes was those participants who said they had no fears, with the majority of people reporting this (n=18, 60 percent). Leticia, the 50 year-old single mother of two, strongly emphasized having no fears associated with diabetes and said, “[I fear] Nothing. I'm not scared of diabetes. We all will die, we don't know when and of what. Why would I be afraid of diabetes? I'm in good control which is the most important thing.” Having no associated fears adds to discussion about diabetes having minimal impact on people’s lives, though may also demonstrate that while diabetes is a chronic condition that people will have for life, the participants had much larger barriers and issues to contend with in their lives, which will be explored more in Chapter IV.

Looking at the findings around fear from a gendered perspective, one of the most striking things was that 7 of the 18 participants who stated they had no fears related to having diabetes were men, which is 78 percent of men who were interviewed in this study. Having no fears again could point to a performance in terms of stoicism or masculinity, though it may also be an authentic version of the male participant experiences. Also significant is that 10 of the 12 participants (83 percent of this group) reporting having any fears were women, which could be explained due to their role as caretakers and being more exposed to the complications of diabetes from having family members who had diabetes; six of the ten women reporting fears discussed this exact scenario.

Managing Emotions

Given the potential intensity of diabetes I was curious as to how people were able to manage potential stress or other intense emotions. To investigate this I asked, "What do you do to take care of your emotional needs?" which yielded a variety of responses. One set of responses had to do with seeking assistance that would be recommended by biomedical professionals for managing emotions: two participants sought professional mental health support from the psychologists at the *Centro de Salud*, two participants used medication to manage their anxiety and depression, and two participants discussed using exercise as a way to manage their emotions. All of the participants who followed biomedical recommendations were female suggesting their higher rate of compliance. A good example of following biomedical recommendations and practicing psychological techniques can be seen in the case of Lilliana, who used a variety of techniques:

> Life has some solutions, but not all aspects of life do, I've learned to accept this. I've also learned not to take on other people's problems. This is so important because it is very bad for diabetic patients to be depressed. I've seen a psychologist, which has been very helpful and has given me tools to manage my stress. I also really like attending support groups.

While Lilliana exemplified the biomedical perceptive of how to best manage emotions, there are also a number of other techniques that people used to manage their emotions, many coming from within the participants themselves. Twelve participants (40 percent) discussed calming themselves on their own; Ximena, the 54 year-old housewife from a ranch two hours from Mazatlán is an excellent example of using calming techniques. She said, “Fighting myself, *mija*, because I get upset over nothing. I have to reflect about my illness and need to calm myself down and not get upset, because getting upset damages me. Getting upset makes me sicker and my sugar levels rise and my cholesterol too.” As seen in the case of Ximena, the intense emotions sometimes felt by diabetic patients can be of great concern and there is a need to control these emotions.

Related to calming oneself, 10 participants (33 percent) discussed staying occupied to manage their emotions, which has also been found in prior studies on chronic conditions (Clarke & Bennett, 2013; Sinding & Wiernikowski, 2008). The theme of staying occupied included the sub-themes of performing housework, knitting, sleeping, and leaving the house. Leticia, the 50 year-old divorced single mother of two discussed staying occupied via housework. She told me, “To manage my stress I will clean or do things around the house. Sometimes I do so much I start cleaning the neighbor’s yard as well.” Another way to manage emotions was the one participant who stated that they simply used acceptance and realized that there was much outside of their control. Additionally, 8 participants (27 percent) used prayer or turned to God to help in the management of their emotions; this is not surprising given the predominance of Christianity and Catholicism in Mexico and that other studies also found people looking to higher powers to deal with illness (Holtz et al., 2012).

The most striking response was from the 11 participants (37 percent) who stated they had no stress in their lives from having diabetes. Given the concept of stress in Euro-American psychology, which is generally defined as external pressures that exceed and tax the resources of the person, this response was particularly surprising given the low socioeconomic status that most participants of the study held. This lack of stress is perhaps seen reflected in the case of Guadalupe, the 54 year-old massage therapist who had diabetes for one year. She commented the following, “One tries not to put attention on things, we all have to solve our problems. It’s up to each person and the solutions they choose as there will always be problems. It's important to take things calmly.” Guadalupe exemplifies the attitude of not letting her problems impact her life and a sense of resilience to stressors in her life. This type of attitude will be discussed in detail in the next section.

Positivity and Moving Forward

I was not only interested in the negative aspects of how diabetes impacted my participants’ lives, but also wanted to know if they felt hopeful in anyway in regards to their illness. The responses from the participants could only be described as an overwhelming sense of positivity and need to move forward with their lives; see Table 3 below for the responses related to positivity as cited by participants and the associated percentages.

Do you feel hopeful?	**n=**	**Percentage**
Felt positive	19	63%
Health worsens when negative	7	23%
Need to *seguir adelante* or move forward	5	17%
Living normally; no impact of illness on life	7	23%

Table 3: Positivity of participants related to having diabetes

The combinations of these responses (13 participants cited some combination of the aforementioned responses) can best be understood in the context of people’s responses and stories. Leticia, the 50 year-old single mother of two, exemplified this type of attitude saying, “I have to be positive. This is the only way to live. If we think about that we are sick or we have an illness we fall from this. I have to keep fighting, it's the only way.” It was not only Leticia’s response to this one question that was striking about her positivity, but also her attitude throughout the entire interview, where she discussed leaving her husband due to abuse, going through breast cancer treatment, and having to work to support her two daughters. Despite all of her problems, Leticia emphasized over and over again the need to be positive. For Laura, the 53 year-old housewife who had diabetes for 5 years, despite being preoccupied with her disease in relation to her children, also demonstrated a sense of calm and positivity. In response to the question about hope she said, “My mentality is to move forward in life. I don't think about that I have this illness. I'm mentally prepared to live my life normally.” Laura also exuberated a calm demeanor with an emphasis on being positive throughout the interview.

The only other significant theme in response to the question about being hopeful was in relation to God and the use of prayer, with three participants citing this (10 percent), which was typically in combination with the need to move forward and be positive, as seen in the case of Ximena, the 53 year-old housewife who lived 2 hours from Mazatlán. Ximena told me in a matter-of-fact manner:

> I think positively. It would be worse for me if I thought negatively. I have to have a lot of faith that I'm going to live for a long time that I won't damage or cut my foot, or lose my sight. I have to believe in God and that he will help me. I have to be optimistic and think positively, not negatively. If I'm scared and thinking badly the sooner I will die.

Ximena also emphasized throughout the interview the need to remain positive and keep moving forward.

I was curious if there was a gendered element to the overall sense of positivity that participants discussed during the semi-structured interviews. Further analysis found no difference between males and females in their responses, suggesting that positivity instead is a shared cultural understanding among Mexicans. Previous studies have found a cognitive reframing towards positivity, as well as optimism and confidence being cultural traits among Mexicans (Infante & Lamond, 2003; Wong, Wong, & Scott, 2006). There was a correlation between those who reported the need to move forward with those who accepted living with the illness (p value .01, .4152) and those who discussed living normally with those who stated they had no stress (p value .01, .3980). This positivity, acceptance, and moving forward, I will argue in the next section, contributes to an overall sense of resiliency that I heard in my participant’s stories.

Resiliency

Presented throughout my data, particularly in relation to people’s daily lived experience is an overall sense that the majority of participants are not being impacted by having diabetes and a strong emphasis on remaining positive and moving forward with their lives. While fatalism is typically associated with Mexicans, this attitude of positivity and resiliency seems to be the inverse of fatalism and points more towards an internal locus of control in building a new cognitive framework that allows for people to transform their experiences (Wong et al., 2006). Resilience has been defined as a human capacity to face, overcome, and be strengthened by experiences of adversity or difficulty (Infante & Lamond, 2003). Central to the development of resiliency is personal characteristics such as self-esteem, optimism, internal control, and coping aimed at acceptance, which can lead to an overwhelming sense of positivity and these characteristics were found my sample (Jiménez Ambriz, Izal, & Montorio, 2012).

At the same time an internal sense of responsibility for one's health has been described as biomedical citizenship and is part of the neoliberal discourse around treatment adherence and behavior change (Colvin & Robins, 2013). Viewing diabetes from the biomedical perspective we see that patients need to take one's medication consistently, manage symptomology, and seek emotional support, all while maintaining a normal life; this can easily be interpreted as neoliberal discourse of individual responsibility. It is in this context, understandable that those who gain a sense of resiliency do so out of obligation and with no other choice as the biomedical system does not support them in the daily management of a chronic condition.

Conclusion

The EMs of the diabetic participants in my study do not fall into one stark category or another, but instead blend aspects of biomedicine as well as their own personal or cultural beliefs. The participants in my study had a good understanding of biomedicine's explanation for diabetes, as seen in their etiological explanations of their disease being hereditary or from improper care and citing only biomedical symptoms associated with the disease. Yet there were also explanations relating to *susto*, God, and an emphasis on positivity that relate more to personal and cultural beliefs. People's beliefs are not straightforward and in line with biomedicine, as often assumed they will when people receive a diagnosis and treatment for a chronic condition.

EMs can help to demonstrate the complex interweaving of narratives and is an important concept for biomedical practitioners to understand and use as they treat patients for any condition, but particularly for chronic conditions, as response to treatment is often dependent on where people's beliefs lie in the beginning. Chapter III focused in on the minimal impact people felt diabetes had on their lives, as well as the importance of positivity in their lives. These perspectives that are not rooted in biomedicine will be important within the context of discussing management of this chronic condition, which I will explore more in Chapter IV.

CHAPTER IV

DIABETES MANAGEMENT

In this chapter, I will describe how people are able to manage their illness, barriers they have in illness management, and how their actual illness management practices compares to biomedical practitioner recommendations for management.

While my participants' EMs provide insight into illness beliefs whether biomedical, cultural, or personal, as well as the daily lived experience of having with their illness, it is also important to understand how people manage chronic conditions. This is particularly important for a condition like diabetes that is primarily managed outside the clinical setting and in the popular and folk arenas of the health care system (HCS). Diabetes management is typically achieved through a series of self-care activities that people are expected to perform on their own behalf (Strowig, 1982). Given the rapid increase of diabetes and potential public health implications, it is important for the professional arena of the HCS to understand what lies behind patients' inaction or action related to illness state (Hunt, Valenzuela, & Pugh, 1998). This chapter will provide a glimpse into how the participants in my study manage their diabetes. It will also explore the role family plays in illness management and compare medical providers' and participants' views in order to understand where tensions between beliefs about management occur.

How Patients Manage their Diabetes

Diabetes management is an intensive process that involves taking medication at the same time daily, eating a diversity of healthy foods, and exercising regularly (Mendenhall, 2012). This work, particularly that of the planning, preparation, and consumption of food, is gendered with the majority of work typically being the responsibility of women in the family, regardless if they are the ones or not who have diabetes. It is through these tasks of diet and exercise that biomedicine sets goals for the management of diabetes, but completion of said tasks is often secondary to non-medical factors that occur in people's lives. Influence of non-medical factors can be seen on multiple levels: economic, social, and cultural considerations taking precedence over self-care choices (Arar et al., 1998; Vlassoff, 2008). As well, value systems play a role in illness management, as seen in those who view their health with indifference or use alternative remedies, such as medicinal plants (Mercado-Martinez & Ramos-Herrera, 2002). Disease management is also gendered regarding compliance to recommendations, with women more frequently utilizing the professional HCS (Vlassoff, 2008). Men may have barriers to proper diabetes care due to irregular work hours and other demands of their jobs (Broom & Lenagh-Maguire, 2010). Using this lens of multiple levels of influence on the management of diabetes I approach and analyze the stories of the participants in my research.

Lifestyle and Techniques

To understand how participants managed their diabetes, I asked several questions during the semi-structured interviews that related to techniques, ability to follow recommendations, and diet and exercise habits. The first question to investigate diabetes management was, "What treatment are you using for your diabetes?", though I also engaged in continuous discussion that asked about providers' recommendations. The majority of participants discussed using the main treatments recommended by biomedicine: exercise, diet, and medication, which is similar to previous studies conducted with Mexican Americans (Hatcher & Whittemore, 2007; Hunt, Valenzuela, & Pugh, 1998). See Table 4 for a summary of treatment or self-management techniques and the associated percentages.

Treatment/Self-Management	**n=**	**Percentage**
Diet	22	73%
Exercise	18	60%
Medications	27	90%
Herbal Remedies	13	43%

Table 4: Self-management techniques patients use to treat diabetes

Use of a variety of herbal remedies has also been found in previous studies with similar populations (Argaez-Lopez et al., 2003; Hatcher & Whittemore, 2007). The most common herbal remedy to treat diabetes was *moringa* and was cited by 9 participants (30 percent). The only significant gender pattern to emerge related to treatment was all 21 female participants stated they used medication (100 percent of the women in the study), signifying the remaining 6 participants were male (67 percent of all male participants). This finding reinforces previous studies' findings of women having greater rates of compliance of biomedical recommendations.

Participants often discussed in-length how they managed their diabetes and the different aspects of their illness management, which often presented as a narrative that included both biomedical and cultural aspects of treatment. Jessica, the 58 year-old housewife who incorporated cultural and biomedical explanations into her etiology discussed her treatment in a similar manner:

> Sometimes I use plants and I drink teas, but I don't think these will get rid of my disease, at best they could help with control, but regardless I take my medication. At one point, [my diabetes] was out of control a little bit, but as of late, for the past 2 or 3 years, I've maintained it [my diabetes] in for the most part in good control. Like right now my sugar level was 104, which is in the normal [range].

Jessica, like many participants, was concerned with the control of her diabetes, which is central to recommendations from biomedicine. Leticia, the 50 year-old single mother of two who had diabetes for 10 years provided a holistic overview of her management regimen:

> They tell me to use a diet and exercise. I do both as I'm able. I don't use herbal remedies at all. I'm only taking one pill a day now for my diabetes. When I first started taking medication for diabetes I took four pills a day, now I'm down to one. I just take metformin in the evening. My diabetes is in good control.

Leticia too was concerned with the control of her diabetes, but also with the progression of her illness. She took a lot of pride in her diabetes improving and her decreased use of medication.

If the participants did not specifically discuss their diet or exercise I would ask follow up questions to specifically understand how they incorporated these recommendations into their self-management. I did this for a number of reasons, but primarily due to the emphasis on self-care techniques in biomedicine and most medical providers often citing a lack of compliance in these areas as the reason for diabetes not being in good control.

In terms of food habits, participants gave a variety of responses; see Table 5 below for a summary of responses and the associated percentages.

Food Habits	**n=**	**Percentage**
Maintaining a diet	14	47%
Sometimes use a diet	7	23%
Eat vegetables	10	33%
Eat fruit	5	17%
No sweet foods	6	20%

Table 5: Participants food habits as self-management techniques for diabetes

The majority of those who discussed eating fruits and vegetables were women (3 of the 5 who ate fruit, 9 of the 10 who ate vegetables), which again points to higher compliance among women with biomedical recommendations. Seven participants did discuss food and diet as being a barrier in their lives, with 6 of the 7 being women. This may point to women having more barriers to following recommendations than men do. I will further discuss barriers to health and illness management in the next section.

In terms of exercise, 9 participants (30 percent) discussed their daily activity as their form of exercise, whether this was having a physical job or housework. Four participants (13 percent) discussed moderate levels of exercise such as jogging, exercise classes, or weight lifting. Sixteen participants (53 percent) cited walking as their main form of exercise. Seventy percent of all participants (n=21) discussed exercising in some capacity. There were however, also those who did not exercise (n=6) and discussed exercise causing pain (n=7). Some of those who cited pain did not exercise, though there were others that walked even with the pain.

While the majority of participants discussed following recommendations in their treatment practices, there was a small minority that admitted to not exercising (n=1) and to not using a diet (n=5). An important note about the group not using a diet was that 5 of the 6 were men, which also supports previous studies about male’s non-compliance with biomedical recommendations. I was curious what factors impacted people’s lives and asked why the participants were or were not able to follow recommendations. Thirty percent of participants (n=10) told me that they followed recommendations from medical providers. However, 7 participants (23 percent) said that a diet was difficult to use and 10 participants (33 percent) discussed having barriers to following recommendations, such as time for exercise and cooking, not having child care to exercise, food being expensive, and having a physically demanding job. I will discuss these barriers to illness management more in-depth in the next section, though similar barriers have been found in other studies with similar populations (de Alba Garcia et al., 2007; Poss & Jezewski, 2002). Women again were the majority of those citing barriers to following through on recommendations for care of their diabetes.

Home Visit with Guadalupe – Part I

While discussing in a clinical setting with participants how they manage their diabetes, the discussion provided to me a limited view of their illness management and one that is perhaps performatively described due to the location of the interview. The context of a home visit can help to better understand how participants actually manage their diabetes. During the semi-structured interview with Guadalupe, she invited me to contact her if I needed anything while in Mazatlán; given this opportunity I decided to contact her to arrange a visit in her home in an effort to better understand how she managed her diabetes. Her diabetes management strategies were of particular interest to me since she only had been diagnosed with diabetes for a year and was somewhat resistant to the idea that she even had the disease.

During the interview at the clinic, Guadalupe described to me sometimes following a diet, though also eating foods she still enjoyed. She was trying to eat less meat and flour-based products, while also eating more raw vegetables. In terms of exercise, she mentioned walking sometimes, but preferred to do housework as her exercise. Overall, Guadalupe demonstrated some resistance to the idea that she had diabetes saying to me about her diagnosis, “They told me I had diabetes and I needed to take medicine. I accepted it [the diagnosis] because the doctor told me, but I continue to not feel like I'm diabetic, and even less so now.” In this vein, she talked about not having taken her medication for the past month and a half, only relying on dietary changes and using herbal remedies as her preferred methods to control diabetes. Her not using medication was despite the fact that she had been prescribed metformin, one of the most common pharmaceutical drugs used to treat diabetes. She also talked about not wanting to take medications for the rest of her life as she felt they were damaging to her body.

On a scorching Wednesday afternoon I arrived mid-day at Guadalupe’s house to visit her. She lived alone in a lower-middle class neighborhood near the main university in Mazatlán. Upon entering her home, I met her son, his wife, and their two daughters. Guadalupe’s son was remodeling her kitchen with another man, while the others were there to visit. While Guadalupe lived alone, this opportunity to observe her interactions with her family and understand how they influenced her illness was invaluable.

One of the easiest ways to observe how Guadalupe managed her diabetes at home was by sharing a meal with her. I brought vegetables to contribute to the meal as Guadalupe had told me during the interview that she enjoyed vegetables. We prepared a simple lunch of vegetable salad, an *agua* (juice) made from vegetables, and a chicken salad served on tostadas. For dessert we had what is equivalent to a Popsicle, made with a local fruit, *nanchi*, which was blended up with water and sugar. We ate an overall very healthy lunch, which was in contrast to the lunch served by her daughter-in-law. The others had for lunch chicken tacos, which were essentially chicken, cheese, and a small amount of *nopales* (cactus) in between two tortillas and Coca-Cola. It was interesting to see the contrast in dietary choices and I wondered if Guadalupe would have eaten with her family the more unhealthy option had I not been there.

I was unable to observe Guadalupe's use or non-use of medication, as may have been the case, or further discuss her exercise habits with her. I will note that she lived in a neighborhood that was on the edge of two very busy roads, also near many bus lines, perhaps making it difficult to walk for exercise and easy to take public transportation instead of having to walk. During the home visit it was very apparent that Guadalupe was very knowledgeable about health and what she should and should not do in terms of managing her diabetes. She talked in-length about diet and a sedentary lifestyle causing diabetes. She also spoke of these things in relation to obesity, which she said was one of the main contributors to diabetes. Guadalupe's in-depth knowledge was particularly interesting as she admitted to not following a strict diet for her health conditions (diabetes and high cholesterol) as she sometimes drank Coca-Cola and ate sugar, mayonnaise, and seafood, things she knew she was not supposed to eat but did anyway. I wondered why that despite Guadalupe having this knowledge she still chose to not follow these recommendations. Was her choice to not follow recommendations because she truly did not believe the diagnosis or had not accepted that she had diabetes? I hope to answer this question in part by exploring how EMs and barriers impact illness management decisions people make.

Barriers to Health and Illness Management

Barriers to illness management, such as social determinants of health, are part of the narrative about why people are unable to meet the recommendations of biomedicine. While barriers to illness management are now part of the narrative of the medical staff I interviewed, it is also important to investigate what people feel their barriers are and listen to how they talk about difficult issues in their lives, rather than assume that a set group of people have a certain set of barriers because they are either poor or are from a certain cultural group. I asked participants if they felt they had any barriers and if so, what they were. I also listened for things that people expressed as being extreme stressors in their lives.

Based on these two methods I uncovered a number of different barriers the participants had in their lives. Forty percent (n=12) discussed that either food was a barrier (n=8) or specifically their diet (n=4). Food was a barrier both in cost and availability, as well as learning how to cook and change lifelong patterns, which are all barriers cited in previous studies with similar populations (Arar et al., 1998; Broom & Lenagh-Maguire, 2010; Mendenhall, 2012). An example of these specific barriers can clearly be seen in the case of Ximena, the 54 year-old woman who lived 2 hours from Mazatlán on a ranch. When discussing food, she told me the following:

> On a ranch it's difficult to get the food I need to eat. There’s almost no healthy food and when it does arrive it’s more expensive. Food, in general, is more expensive. I do have chickens there [on my ranch] that I eat and the vegetables that we plant; beans, corn, squash, carrots, lettuce, and tomatoes. But, it's difficult because I always have to think about what I'm eating and about what won't damage me. I can't always eat the same thing.

While Ximena’s case was a bit more extreme, particularly due to where she lived, even those who lived in the city had a difficult time acquiring sufficient food as seen in the case of Jorge, the 63 year-old man who had difficulty finding employment. He told me, “I only eat two times a day, since I can’t work and I don’t have enough money. There’s a Christian church that I go to that gives out food.” At the end of the interview, Jorge even asked I would be able to help him get food, breaking with the macho portrayal that is associated with Mexican men by seeking assistance from the church and me.

Similar to Jorge, there were a total of 6 participants (20 percent) who talked about work being a barrier in their lives, typically in that it was difficult to find secure employment or any employment for that matter. Just over half the participants (n=16, 53 percent) discussed money and financial constraints as major barriers in their lives, impacting their ability to do things like buy food for their diet, pay for medications when the clinic was out, and pay for the bus to even get to the *Centro de Salud*. Economics is the most commonly discussed barrier in previous studies with similar populations (Arar et al., 1998; Holtz et al., 2012; Hunt, Pugh, & Valenzuela, 1998; Mendenhall et al., 2015), though it is logical for economics to be such a large barrier among this population of people given their status among the lowest socioeconomic rungs in Mexico. Thirteen percent of the participants (n=4) also specifically discussed stress as a barrier, typically stemming from emotional and financial problems. The other major category that people discussed as a barrier in their illness management had to do with lacking family and social support. Twenty-seven percent (n=8) stated they lacked family support and 20 percent (n=6) discussed lacking social support.

The one surprising thing about the data related to barriers was that one-third of the participants (n=10) felt they did not have any type of barriers in any aspect of their lives, which led me to analyze who this group of people was. For those citing they had no barriers, all ten were either married or in a civil union, which might suggest that having a partner helped to relieve some of the barriers that impact the lives of the participants. For those who cited lacking social or familial support, all either lived alone or solely with their children. The lack of support is particularly interesting given the emphasis that is placed on social and familial support in the role of managing diabetes (Jezewski & Poss, 2002).

Role of Family

Before starting my research I hypothesized that family would play a large role in caregiving for their family members who had diabetes. This hypothesis was in part due to the large amount of literature about caregiving for diabetics, as well as the importance of family in Mexico, which typically takes precedence over the individual (Finkler, 2001; Mendez-Luck, Kennedy, & Wallace, 2009; Silva & Martinez, 1993; Trujillo, Mroz, Piras, et al., 2012). What I found was quite the opposite, perhaps due in part to the participants not having advanced diabetes, nor any chronic complications, which points to caregiving responsibilities being quite low (Robles-Silva, 2008).

I first asked the question, “Who helps you care for your sickness at home?” and 19 participants (63 percent) discussed at least one family member playing a role in assisting them; 11 participants (37 percent) cited their partner and 10 participants (33 percent) cited their children. While this a significant amount of participants who mentioned family members assisting them, I was also curious what these family members did and asked this question. The most common response was family helped with diet in some manner (n=15, 50 percent), typically in the form of dietary reminders of things they should or should not eat or assisting with the preparation of meals. Family assisting with diet can be seen in the case of Leticia, the single mother of two. She said, “My daughters help me. They usually have food waiting for me when I come home from working all day. With my diet they help, but that's it.” Most participants talked in this manner about family helping them: in a matter of fact way and rarely elaborating or describing in-depth family assistance or support.

Other areas that people discussed receiving assistance with were: exercise (n=1), reminders to take medications or the purchase of medications (n=7), and having their basic needs met, such as financial assistance (n=3). These types of assistance are typical of what has been found in prior studies with similar populations (Hatcher & Whittemore, 2007; Silva & Martinez, 1993). Only one person discussed having a family member attend appointments with them, even though family attendance was identified during interviews with medical staff as being an important component of participants managing their diabetes, and is a common recommendation found in the literature (Hatcher & Whittemore, 2007; Silva & Martinez, 1993). However, only 7 participants (23 percent) said they had received advice from their doctor that they needed to incorporate family members into managing their diabetes, which suggests a discrepancy in the transaction of information between the patients and providers.

While the lack of in-depth support by family members was striking, what was even more shocking was the 12 participants (40 percent) who said they felt alone in their disease and did not receive support from family. When I asked Rocio, a 59 year-old single woman who lived with her father and siblings, who assisted her she said, “My daughter doesn't help me. She has her life, that’s how children are now. She says I bother her.” When I asked her if anyone in her household helped her, she said no and that she was alone in her disease. This type of response was common and to me represents the breakdown of extended family networks in Mexico, which are typically associated with caregiving for chronic conditions. Yet it is also possible that those who stated they are alone in their disease and did not receive any assistance were at times still influenced by family members in the decisions they make, as seen in the case of Guadalupe.

Home Visit with Guadalupe – Part II

Much of my time visiting Guadalupe was filled with conversation between myself, Guadalupe, and her daughter-in-law, Liz, about a variety of topics including Mazatlán as a place, religion, health, and my background. The visit was an opportunity to observe and understand the influence of family on Guadalupe's life, particularly in relation to her diabetes. One of the most obvious areas of influence was in relation to Guadalupe's view that continued use of medication is over the long term harmful to your health, which she expressed during the interview and again at the home visit. At the home visit the influence of Liz was obvious in Guadalupe's beliefs about pharmaceuticals.

Guadalupe had expressed to me that taking medication was bad for your organs. This was reiterated by Liz who described pharmaceuticals as hard on the body and particularly bad for your stomach. Liz went on to describe her resistance to taking medications the rest of her life, which was the same narrative I heard from Guadalupe. Another similarity came in the use of and belief in herbal-based remedies. During my initial interview with Guadalupe, she discussed using herbal remedies, such as *moringa*. During the home visit, Liz discussed with me her strong interest in alternative, plant-based medicine, including the botanical products she sold for a company in Guadalajara.

Another area of potential influence on Guadalupe was religion. During the interview, Guadalupe had discussed with me her strong faith in God and recent conversion to Christianity (within the past few years) and concluded the semi-structured interview by praying for me. Guadalupe felt that her faith in God was what had really helped to turn her life around and was an area she turns to for support. An example came in Guadalupe crediting her faith with finding enough money to remodel her kitchen. Liz also discussed her strong faith and even mentioned that Guadalupe had only been in her family's life within the past few years, suggesting perhaps that this religious conversion on the part of Guadalupe was due to her family. I interpret that in Guadalupe's case the shared connection through religion has helped to bring her more familial support. As seen in the case of Guadalupe and other participants in my study family, barriers, and EMs play a role in influencing their diabetes management.

How EMs and Barriers Influence Management

Given the many influences on people's lives, it is important to understand how EMs and barriers influence diabetes management. I was interested in the implications of beliefs around the etiology of diabetes and how this then influenced their management, particularly for those who cited *susto* and suffering (Garro, 1996). I analyzed the 14 participants' stories who discussed these etiological explanations, looking at how they described management and their overall emotional state. From this analysis, it was clear that only two participants seemed to have poor management of their illness. This was evident in that they did not follow dietary, exercise, and medication recommendations. In addition, the two participants also expressed continual suffering in other aspects of their lives and felt alone in the management of their illness. While this is significant to the lives of these two individuals, given that only 2 of 14 participants of those citing *susto* and suffering had poor management of their diabetes this may point to etiological explanations not having a large impact on participant's management.

Another area of interest within the participants' EMs related to those who thought diabetes could be cured. Of the seven participants who said, "Yes, diabetes has a cure," four had very poor illness management habits, which included not following a diet, not exercising, and not using medication. While this group of four is a very small subset of the overall interview sample (13 percent of the total sample), their personal belief that diabetes can be cured may be the cause of their poor management habits. The idea that diabetes has a cure must be accounted for by medical providers, given that biomedicine's explanation is that diabetes can only be managed and not cured, potentially leading to a great variation in approach to illness management.

In terms of barriers impacting the management of diabetes, one of the most obvious barriers was not being able to follow a specific diet. Twelve participants had cited food and diet as a specific barrier, while another 16 cited finances as a barrier, typically impacting the diet that people were able, or in this case not able to follow. Barriers and EMs will always have an impact on people's ability and willingness to follow illness management recommendations and must be incorporated into illness management strategies. Incorporating barriers into illness management strategies and treatment plans is particularly important given that patients who are labeled as non-compliant for not following doctors recommendations, may from their own perspective feel that they are adequately managing their illness (Heurtin-Robets & Reisin, 1992).

Clinical Experience: Patient and Provider Perspective

I have been discussing diabetes management and the experience of diabetes outside of the clinical setting, yet another central element to understanding patients' experience with diabetes is understanding how being at the clinic and the care they receive there influences their illness experience. Also important is understanding the medical providers and staffs perspectives as these too influence the care the patient receives and their illness experience. The remainder of this chapter will be spent exploring these topics in an effort to understand both parties' experiences, but also to draw out the tensions that occur between the two groups and how these tensions impacts illness management and experience.

Patient's Clinical Experience

While I was primarily curious about patients' overall experience with diabetes, particularly in the context of their home lives, another important aspect of their experience was the one they have at the clinic. Understanding their experience in the clinic is also key for comparison with the perspective of the medical staff. To investigate their clinical experience, I asked three different questions related to care and treatment. The first question I posed was, "What are the most important results to get from your treatment?" in an effort to investigate how people wanted their clinical care to have an overall impact on their lives. Twenty-seven percent of the participants (n=8) discussed wanting to live a healthy life and another 30 percent (n=9) discussed wanting treatment to be effective. In addition, 23 percent of the participants (n=7) gave a response related to medication, such as receiving their free medication or that the medication was effective.

I argue that these responses continue to add evidence towards the participants' focus on positivity and their desire for minimal impact on their lives from this chronic condition. An example can be seen in the response of Ines, a 56 year-old college educated woman who had diabetes for 16 years. She said:

> I think that in terms of results, I want to live in a situation [of health] that is stable because I know the results and they're not very good. I want to have more or less

> a healthy life, and I don't want to arrive in a place or a time where they have to amputate parts of my body because of bad control and care. This is what I don't want.

The overall desire to have a normal, healthy life was common and fits with the narrative about diabetes having a minimal impact on people’s lives and the idea of normalization. The only other primary response to this question was the four participants who commented that nothing in particular was important in the care they received at the clinic.

I followed up with participants by specifically inquiring about the care they received at the clinic, though I acknowledge that people may have responded in a performative manner given my association with the *Centro de Salud* staff and medical providers. That said, 20 participants (67 percent) told me they received good care at the clinic and those who were attended to by Dra. Gonzalez said she provided very good treatment and was attentive and kind. The biggest complaint from the participants was not being able to receive their free medication when they attended their appointment; four participants complained of this (13 percent). A different subset of four participants (13 percent) said this was their first time receiving care at this *Centro de Salud* and thus did not have any comments on the care they received.

I was also curious what the medical staff was telling patients to do to care for their diabetes. The most common recommendations received by the participants from the medical providers were: use a diet (n=15, 50 percent), use exercise (n=10, 33 percent), take medications (n=6, 20 percent), and taking proper care of feet (n=2, 7 percent). These recommendations are the most common ones associated with the biomedical model.

Medical Provider and Staff Perspectives on Diabetes Management

Before I begin my discussion on the medical providers and staff at the *Centro de Salud*, I must offer a disclaimer. It is not my intention to vilify or make heroes of these individuals, but to expose the limitations of their perspectives and demonstrate the real impacts that the recommendations provided have on patients' lives.

Provider EMs and Biomedicine

Medical providers and staff held a consistent view: that of the biomedical perspective, where diabetes is seen as a pathophysiological problem, not one that is social (Arar et al., 1998). Their primary goal for the interactions was to provide technical assistance for the problems presented rather than offer psychosocial management to patients (Kleinman et al., 1978). I spent a significant amount of time observing the medical providers and staff as they interacted with patients and listened to the advice and instructions they gave patients. While I will discuss in detail the specific recommendations providers gave patients in the next section, I will note that these were typically based in diet, exercise, medication use, and foot care, which are common forms of advice in biomedical care for diabetes (Garro, 1996). Overall, the providers and staff held to the biomedical beliefs that diabetes is an endocrine disease that has no cure, and needs to be carefully managed and controlled, so as not to lead to disease advancement and complications.

It was, however, interesting to discuss the beliefs that participants held with the nurse I shadowed with extensively. Julia Sandoval had been working for SSA as a nurse for over 28 years and at this particular *Centro de Salud* for the past 25 years. I shared with her that some participants believed their diabetes came from *susto*, which she and I both knew to be contrary to the biomedical model. She commented to me that *susto* was part of the reason her sister had diabetes and went on to describe the situation that caused this specific instance of fright, which she said caused significant mental anguish for her sister. Julia also commented that her sister's diabetes stemmed from her bad eating habits, thus reflecting Julia's professional training and knowledge. Combining etiological models of cultural beliefs and those learned via professional training is something that medical providers in Mexico often contend with (Finkler, 2001). Julia also discussed her cultural beliefs related to the use of herbal remedies, which her husband who is diabetic grows and uses at home. She told me that it was okay for patients to use herbal remedies, but only if they continued to take their pharmaceutical medication as well. While, I was surprised to hear these things from a medical professional, Julia's response also reflected the blending of systems that often occurs with all types of people, regardless of profession or socioeconomic status.

Instructions and Recommendations to Patients

What I primarily observed of the interactions between medical staff and patients is one that is typical in most clinical settings: the staff and providers fulfilled the role of being the expert and gave orders to patients and the patient's role was to listen and comply with instructions (Kleinman, 1980). To understand what advice and instructions were given, I conducted participant observation with different staff members: physicians, a nurse, and the group of nutritionists. In combination with one-on-one interviews with staff and providers, these observations provided me with significant insight into not only the instructions and recommendations provided to patients, but also providers' perspectives on patients' illness management.

I spent a few days observing the nutritionists, whose main duty was to provide education and dietary planning for any patient that would like to speak with them or is referred by one of the doctors. One example of the type of education provided came from a consultation with a 40 year-old obese woman who had been referred for nutritional advice by her doctor to assist her with weight loss. The nutritionist, began by speaking very rapidly and did the majority of the talking. She offered the woman general recommendations for losing weight and ways to change habits now, rather than focusing on a specific diet. This was emphasized because the woman was pre-diabetic. The nutritionist emphasized cutting down on fast foods, tortillas, breads, and sodas, even though the patient had not expressed eating any of these foods to the nutritionist. This is just one example of the types of advice given by the nutritionist to assist with diets. When I spoke more in depth with Emilia Garcia, the lead nutritionist, about the type of advice given, she talked about adjusting advice for patients who have low economic resources and trying to work with patients to accommodate the barriers they have. She also discussed the specific dietary plans that the *Centro de Salud* has in place for diabetic patients (see Appendix C for the translated handout).

I also spent a significant amount of time observing Julia, the nurse, while she checked in patients for the two doctors who attended to diabetic patients. Julia tended to provide recommendations that related to diet and exercise. She would specifically focus on what to eat and or not eat to help control blood glucose levels for diabetic patients or to prevent diabetes for those who were pre-diabetic. Julia discussed with diabetic patients the importance of bringing a healthy breakfast with them to eat after they had their fasting blood glucose levels checked, so their glucose levels did not drop dangerously low. For those diabetic patients who needed additional services, she would refer them to other services within the clinic, such as the dentist, or in the community, such as churches that assisted with free eye exams and glasses. Overall, Julia tried to serve as a comprehensive resource to assist patients with their physical health.

The last person I conducted observations with was Dra. Margarita Gonzalez, one of the two physicians who provided diabetic care. Dra. Gonzalez spent a significant amount of time talking with her patients, as she genuinely wanted to help people with their conditions. She was overall very good natured and when she scolded her patients she did so in a loving manner. She was very thorough in asking patients questions and the interaction truly seemed like just that: Dra. Gonzalez reacting to and providing advice based on what the patients told her in relation to their lives and conditions. She typically touched upon many topics such as: the proper way to take medication, the need to come in every month for a checkup with a doctor, having labs drawn to get a more comprehensive picture of blood glucose levels, nutrition, exercise, and foot care. She would also provide handouts that she had available on foot care (see Appendix D for the translated handout). When appropriate, Dra. Gonzalez would also emphasize the important role that family had in assisting patients to manage their diabetes. At the end of the appointment she would re-emphasize the advice she had given to patients during the appointment. Dra. Gonzalez also commented to me that when a patient was newly diagnosed with diabetes, she would explain the disease to them in detail and what they needed to do for illness management.

Comparing these interactions to what participants in my study said they received in terms of advice, it appears that the information provided matches up between the two groups. However, what is interesting about all of the interactions I observed is that rarely did the medical providers and staff discuss with patients their perspectives on their illness or check in to understand if they were even able to meet the recommendations. The education was doled out with the assumption that patients could easily comply and had no barriers in completion, but as discussed earlier, participants in my study had significant barriers to illness management. Education provided was also done so under the assumption that patients held the same EMs as medical providers, which is of course not always the case (Maupin & Ross, 2012). These are only two examples of the disconnect that happened between patients and providers, as I will discuss further in relation to providers' perspectives on patients.

Perspective on Patients

During my interviews with medical providers and staff, one thing I wanted to understand was their perspectives on patients' management of diabetes, as well as trying to understand their views on more traditional beliefs that some patients utilized, such as herbal remedies. To begin to understand staffs' perspectives I asked two questions: whether patients were having problems with managing their diabetes and what patients could do better to manage their disease.

Emilia, the head nutritionist, talked about people's ability to meet dietary requirements. Emilia held the view that in Mexico there is a general culture of not informing and educating oneself, which impacts how people react to new dietary requirements. She also discussed patients being either misinformed or unwilling to follow a diet due to not accepting the diagnosis or wanting to cure themselves in their own ways.

Similar attitudes were also reflected by the other two nutritionists who said that people were very used to their lifestyle and did not want to change their habits.

When I discussed whether patients were having issues with managing their diabetes with Julia, she told me, “In my perception, yes they are having problems managing their diabetes, because if they were managing it [their diabetes] well they would have blood glucose levels that were in the range of what is considered normal. We see that their numbers are high by doing blood glucose checks, which means they are not managing their diabetes.” Julia went on to describe how patients were not taking their medications as they were supposed to, did not use using proper exercise and nutrition habits, and needed to be more disciplined in these habits. This perspective of patients needing to better control their diabetes is in direct contrast to 60 percent of the participants (n=18) in my study who said they managed their diabetes and felt it was in control.

When discussing these questions with Dra. Gonzalez and Dr. Francisco Jimenez, they both took the attitude of patients being difficult to work with. In particular the two felt they were not allowed to do their jobs as doctors as patients often waited to seek care only when they were sick rather than being proactive in their care. Dr. Jimenez discussed people’s lack of knowledge around food and how they only bought foods that were convenient, rather than taking the time to cook. However, he also stated that at times patients lacked the knowledge to cook their own food. Both of the doctors emphasized that portion size was difficult for patients to implement and Dra. Gonzalez said, “I always try to approach it [dietary recommendations] at people’s current level of consumption and reduce it from there," though the reality of her ability to give people proper dietary recommendations was limited given the time constraints she faced while seeing patients.

Yet, each of the medical providers and staff also acknowledged that recommended diets and exercise habits can at times be difficult for patients to comply with due to the barriers in their lives. Julia discussed this in detail and said the following:

> Yes, I think they have barriers, principally due to poverty because they can't have an adequate diet and you need money to use a diet. The majority of diabetic patients are older. The older patients are abandoned and alone and they have to try to find money for their food. With them, I give recommendations based on what they can find to eat and food that is in season as it is less expensive. For others I don't know if they have the time, not even to go to the store.

Emilia discussed similar problems that patients had with diet, particularly due to economic constraints. She encouraged patients with economic constraints to eat as best as they are able. Dr. Jimenez and Dra. Gonzalez had a starkly different opinion, however, on the barriers in patients' lives. Dr. Jimenez discussed that Mexico's population was inadequately educated, which is why there was a culture among patients of not prioritizing their health. He felt to change this culture there needed to be more education. Dra. Gonzalez discussed that patients were at times unwilling to follow treatment plans and often patients had a lot of pretexts for not doing so. She felt these pretexts centered on not having money and diets being expensive. It was disconcerting to hear these perspectives from the doctors, given their lead role in caring for diabetic patients and the lack of acknowledgement about people's realities.

Improving Care

While the medical providers and staff pushed responsibility for illness management to the patients, they also discussed barriers they faced in their jobs as health professionals working in the public health care system and what resources they felt they needed to better support diabetic patients. One area that both the doctors and Emilia discussed in relation to better support was having integrated care. Dr. Jimenez commented that patients would best be served if all physicians on staff at the *Centro de Salud* treated diabetic patients (rather than just he and Dra. Gonzalez). However, he also commented that those who had difficulty managing their disease would best be served by integrated care teams, similar to those used in Mexico City, which include psychologists who assist with behavior change and social workers who visit patients in their homes to better understand their situations and ensure they were meeting their illness management goals (Barquera et al., 2013). Dra. Gonzalez discussed how there are these integrated care teams at the General Hospital in Mazatlán for those patients with advanced diabetes, but that there needed to be more of these types of teams in primary care settings. Emilia also suggested more integrated care, which would include specialists at the *Centro de Salud* in an effort to relieve the burden on the patient of having to go to multiple places for care.

There were a number of other small changes that were suggested that would assist the providers in being affective in helping patients manage their diabetes. Emilia wanted to see changes to *Seguro Popular*, particularly the coverage of more preventive services. She also wanted an increase in the frequency of the GAM courses at the clinic, from once per month to every two weeks as she had seen how effective these classes were with diabetic patients. Dra. Gonzalez discussed how the computerized system they were now required to use does not allow much time for talking with patients as there were many questions that often did not relate to the visit, which she felt was a barrier to providing thorough care.

Dra. Gonzalez and Dr. Jimenez also discussed in depth during their interview the system level problems that exist and need addressing. Dr. Jimenez discussed the need for increased taxes by the federal government that would specifically go towards the health system's prevention efforts, including publicity aimed at prevention. He thought lack of publicity for prevention was particularly problematic given the amount of advertising related to junk food. Dra. Gonzalez had similar recommendations calling for nutritionists and psychologists to work in schools, in an effort to start prevention efforts earlier. Doctors playing a lead role in prevention is an important step forward to curbing the ever increasing rate of diabetes. However, these efforts may be ineffective if people feel the disease is not preventable such as three-quarters of participants in my study.

Tensions between Realities and Implications for Management

Understanding participants' perspectives on diabetes management, including how their EMs and barriers to health influenced their ability to meet recommendations, was important to understand as it cannot be assumed that patients and medical professionals hold similar beliefs about diabetes, nor have one hundred percent diverging EMs. In fact, the discrepancies in values, expectations, and goals are what often affect clinic management and often lead to poor and inadequate care (Kleinman et al., 1978). As seen in my findings, practitioners' perspectives tended to be rooted in the clinical context, while patients' perspectives existed within a life-world context and were centered on practical considerations (Arar et al., 1998; Dimond, 1983).

This can be seen in the discrepancies that I point to between the two groups' views throughout this chapter. One major discrepancy can be seen in the participants' belief that they were following recommendations and had their diabetes in control and providers perspective that patients were not managing their diabetes due to high fasting blood glucose levels. Patients did not carry this reductionistic view that is based in a number and their perspective was focused on how they were able to carry out recommendations in the context of the real world (Arar et al., 1998). The participants in my study felt they carried out the recommendations of their physicians and nurses, even in the face of having barriers. Another major discrepancy between the two groups was that participants incorporated positivity and resiliency into their diabetes management strategies, while physicians failed to acknowledge the consequences of patients' diagnosis on their mental well-being and lives. If mental health continues to be ignored by medical staff and positivity not acknowledged as an important strategy, the disconnect between the two groups will only continue to grow.

Another key area of conflict between the two groups lies in the power differentials that existed between providers and staff and patients. This was exhibited consistently through my observations with the staff and can be seen in the following examples. While observing the nutritionists, they constantly spoke to patients as if they were uneducated and rarely gave them an opportunity to talk or contribute to the conversation about dietary habits. In one interaction, a patient kept expressing his desire to change his habits, but the nutritionist disregarded his desire to change and did not provide the man with any solid advice on how to improve his diet. Julia also typically exhibited power over her patients, rarely giving them the opportunity to express concerns or ask questions. She only seemed to have more patience with those patients who complied with her instructions or seemed to have a good understanding of biomedical recommendations. The use of power over patients can be problematic and can lead to non-compliance and dissatisfaction on the part of the patient (Finkler, 2001).

These discrepancies and power dynamics can have serious implications for management of a chronic condition, such as diabetes. Particularly these power dynamics can lead to patients being disempowered as important members in their own care, not having their perspectives and beliefs acknowledged and valued, and providers becoming frustrated with treating “non-compliant” patients and ultimately providing sub-par care. Assumptions on the part of providers about what they “know about patients” can also cause mismanagement as these assumed beliefs were different than the actual beliefs of patients (Maupin & Ross, 2012). To overcome these implications the first step lies in negotiating between perspectives and incorporating the patients’ perspective into care as this will engage in the patients’ trust and avoid discrepancies in how to proceed forward. With any luck incorporating patients’ perspectives may lead to promotion of compliance and reduction of patient dissatisfaction (Kleinman et al., 1978).

Conclusion

How diabetic patients manage their illness and fulfill the recommendations of biomedicine is of great interest to medical professionals and is key to patients being compliant in their disease. The majority of the participants in my study felt they followed biomedicine’s recommendations of using a diet, taking medication, and exercising. However, their ability to meet recommendations was not without barriers and limitations. The largest barrier most participants faced was in relation to their finances, which then often impacted their ability to follow all of the dietary recommendations provided by their medical providers. The participants, however, were minimally assisted by their family members in the care of their diabetes, though the influence of family played out in subtle ways as seen in my home visit with Guadalupe.

Understanding how patients managed their diabetes at home was important for comparing their perspectives to those of medical staff. The narrative that I heard from medical staff and providers was in line with biomedicine's perspective on diabetes. This, combined with the power that providers had over patients, can be problematic to patients' overall management of their disease as there is creation of tension and lack of acknowledgement of the reality of what living with diabetes means for patients' lives. The tensions that exist between the two perspectives could be better resolved by an increase in dialogue between the two groups to better understand said perspectives. These tensions, in part, help to shape the recommendations that I discuss in the conclusion.

CHAPTER V

CONCLUSION

Diabetic patients at the primary *Centro de Salud* in Mazatlán, Sinaloa, Mexico, have a variety of experiences in their illness, often blending systems of care and belief thus forming their own perspective on how diabetes will impact their lives. While the majority believed their diabetes came from some unpreventable source, they had extensive knowledge around how to care for their illness according to the biomedical model. In fact, the majority of patients did manage their diabetes in accordance with recommendations: using exercise and a diet and taking medications to control their diabetes. Despite this, medical providers and staff at the *Centro de Salud* believed that patients did not follow their recommendations for managing diabetes. Nor did the providers and staff inquire about the impacts of diabetes on people's lives. Regardless, the majority of the participants were focused on maintaining a positive outlook and not letting their diabetes diagnosis impact their lives in significant ways. This positivity was at the center of their illness and how their illness impacted their lives.

Through an International Studies perspective, I explored the subject of diabetic patients' illness experiences drawing from various relevant disciplines. In this process, I prioritized the voices of the patients and value these perspective due to my professional and academic background for two primary reasons: 1) Patients are experts in their own lives and illness experiences, and 2) in every day interactions, medical staff and providers have more power in the relationship dynamics with patients. I bridged medical anthropology theory with the practice of public health professionals in an effort to understand the perspectives of the participants in my research. I conclude here with recommendations for improving medical care for diabetic patients, as well as system level recommendations that can help to curb the ever increasing prevalence of diabetes in Mexico. The following recommendations are taken from interviews with diabetic patients and highlights the known discrepancies between biomedicine and patients' perspectives. Also taken into consideration are interviews with staff and providers at the *Centro de Salud* and my research on explanatory models, the health care system, and related literature.

Recommendations for Improving Medical Care

First and foremost, this study suggests the strong need for medical providers and staff to inquire into patient's beliefs, values, and priorities for their illness and their lives. This inquiry is the first step into leveling the playing field of power that exists between those seeking and those providing care. Beyond inquiry, the perspectives of patients should be incorporated into a mutually designed treatment plan and illness management strategies, ultimately ensuring that beliefs and practical considerations are respected by those in the medical profession.

This incorporation of beliefs is done with the goal of empowering patients to become active participants in their health and to bridge the two sets of overlapping perspectives that the two groups possess. To begin the process, providers should incorporate patients' explanatory models into treatment plans and illness management strategies (Jezewski & Poss, 2002; Kleinman, 1986; Poss & Jezewski, 2002; Weller et al., 2012). This can be done by using Kleinman's original eight questions as a starting point, as these were specifically designed for use by clinicians. These questions can then be expanded upon by the staff and providers to understand more specific barriers to care that patients face. Specific discrepancies exposed during the research process are examples of beliefs that could be incorporated into treatment plans and illness management strategies.

Stress and suffering were often discussed by participants as integral parts of their lives that impacted their illness experiences. What is important about this is the overlap we are now seeing with biomedicine acknowledging the impact of stress on people’s physical health and the incorporation of adverse social conditions into how public health views individual health. Extending this line of reasoning of stress and adverse social conditions, we could easily validate and incorporate explanations such as *susto* and suffering. This mental reframing by providers of viewing the validity in etiological explanations would allow for them to incorporate patients’ perspectives into treatment plans. Acknowledging these stressors and adverse social conditions also paves the way for the strategies that address them to be incorporated into illness management strategies. Training during medical school and integration into practice during residency, which would be verified by supervision, are key ways to begin mental reframing within the medical field.

Another important way providers and staff could support patients is by incorporating positivity and resiliency into diabetes management strategies. Participants in my study consistently came back to emphasizing positivity throughout the interview. Assisting patients to develop and foster a positive mind set could be crucial to the success of their adherence to treatment plans and the overall course of their lives. Mindfulness techniques are just one of many that could be used to support patients in this process. The incorporation of positivity and resiliency is key to merging an important strategy that patients use with those the biomedical model recommends.

Adjusting clinical care and education to meet patients' currents beliefs is also key, as at times these beliefs are in direct contrast to the biomedical narrative. Participants discussed diabetes having a cure, which is not in accordance with biomedicine. If this discrepancy is approached purely from an educational approach it will fail to meet patients in the middle ground, as an educational approach assumes that patients have to one hundred percent change their perspective. If providers were to slowly approach change through illness management techniques they would meet less resistance and would acknowledge the patients' realities.

Acknowledging patient's realities around dietary and exercise regimens would be particularly useful, given these are the areas participants discussed having the most difficulty in meeting, as they felt the requirements requested of them were strict. Not assuming that each patient can meet the ideal recommendations is key as well as providing acknowledgement of patients' barriers around physical abilities, financial limitations, work schedules, and levels of familial and social support. If medical providers and staff continue to not fully acknowledge these factors by not changing the diabetes management strategies given and treatment plans developed there will continue to be a rise in complications associated with diabetes, as well as an increase in the prevalence of diabetes.

Recommendations for Systems Level Improvements

Improving care also needs to occur at a systematic level, but needs to start at the clinical level of care. One important recommendation that needs to be implemented immediately is the use of integrated care teams. At minimum these teams need to include at least two physicians, a nurse, a nutritionist, a psychologist, a social worker, and a health promoter. Each of these members of the team has a specific and important role to play in the management, education, behavioral change, and minimization of barriers that can impact the course of an illness such as diabetes. There needs to be a minimum of one team at each *Centro de Salud*, though possibly more depending on the number of patients at each clinic. These integrated teams are essential in assisting patients with the process of learning how to live with an intensive chronic condition such as diabetes and will help to ensure less advanced cases of diabetes.

These integrated teams could be augmented by more integrated care as part of the clinic. Having staff available that specifically focuses on providing physical activity recommendations and exercise classes would be of great assistance to diabetic patients. I also encourage the use of dieticians who can offer specific dietary planning services for diabetic patients. In addition, the GAM classes have great potential for providing social support and a results oriented process for patients. The staff at the clinic recommended an increase in frequency of classes to every two weeks rather than monthly, with more classes being held around the city to be more convenient for patients. An increase in number of groups would also help to reach more patients. It is important to enhance resources, such as the GAM courses, that are already proving to be effective with patients.

While the Mexican federal government has already undertaken initiatives, such as taxes that target junk food and sugar sweetened beverages, it is also important for the government to take a more even active role in the prevention of diabetes. Prevention efforts with adults are at times too late to prevent chronic conditions from forming. Integrating nutritionists and psychologists into public primary schools around the country is an important step in curbing the formation of bad habits and in the prevention of chronic conditions. Media campaigns about preventative health activities and measures would aid in supplementing these more direct prevention efforts. Prevention efforts by the federal government are particularly important for the lowest socioeconomic groups, as the poor tend to suffer the burden of diabetes.

These prevention efforts are also particularly important in the context of patient's etiological beliefs in my study. The majority of participants cited *susto*, suffering, and hereditary factors as the cause of diabetes, which suggests the mentality that diabetes is not preventable. Countering the dialogue around diabetes not being preventable at a young age is important for changing the collective narrative about diabetes and helping to curb the increasing rates of diabetes and other chronic conditions, such as obesity. These nutritionists and psychologists could help to reshape children's perspectives and develop healthy habits, which are an important part of the equation for shifting the course of diabetes in Mexico. To aid in the development of healthy habits, there could be an emphasis on a traditional diet and traditional dietary practices, such as eating at home with *la familia* (the family), which is more in line cultural practices in Mexico.

Implications for Future Research

This initial research into patients' explanatory models and how they managed diabetes resulted in a number of areas for potential research beyond what was presented in this thesis. An area that comes directly from the patients' explanatory models is research to further investigate positivity and resiliency as cultural concepts in Mexico. I hypothesize that the patient's emphasis on positivity comes from within the culture and is the inverse of fatalism, which is often associated as a cultural characteristic of Mexicans.

This positive outlook and attitude seemed to be central to participants' diabetes management strategies. Investigating positivity both as a component of illness management, as well as a cultural concept would be beneficial to help in addressing the adverse social conditions that much of Mexico's population still lives in despite its status as an "Upper Middle Income" country.

Replication and expansion of this research would be timely given the differences found in this research from what was published just 20 years ago on these topics, suggesting a modernization in people's line of reasoning and a much needed update on what constitutes medical professionals cultural understanding of Mexico. I would suggest conducting this research with more patients to have a more solid cultural model of diabetes in contemporary Mexico. It would also be beneficial to conduct this research in homes of patients to better understand the full picture of their illness management practices and remove any performativity that may occur due to a researchers association with medical staff.

Additionally, an important limitation of this study was that all of the participants interviewed did not have advanced diabetes or complications associated with the disease. I recommend replicating this study at different levels of the Mexican health care system, particularly at the General Hospital level to better understand the explanatory models and management strategies of patients living with advanced diabetes. These models and their illness management may differ significantly and potentially impact recommendations made for those who receive care at the *Centro de Salud*. The implementation of these recommendations and further research will be beneficial for our understanding of diabetes as an illness and is much needed as the prevalence rates continues to rise in Mexico and around the world.

APPENDIX A

INTERVIEW QUESTIONS FOR PATIENTS

Please Note for all Appendices: The questions are in English and Spanish with Spanish translations in italics below the English information.

1. What do you call your problem? What name does it have?
   ¿Para usted, como se llama su problema? ¿Qué nombre tiene?

2. What do you think caused your problem?
   ¿Qué piensa que fue la causa de su problema (insert their term)?

3. Why do you think it started when it did?
   ¿Porque cree usted lo empezó en este momento/etapa?

4. What does your sickness [name given by patient] do to you? How does it make you feel?
   ¿Qué afectos tiene su enfermedad? ¿Cómo se sienta con su enfermedad?

5. Do you think it has a cure?
   ¿Cree que tiene cura?

6. What symptoms do you experience with your sickness? How do you experience these symptoms? What do these symptoms do to you?
   ¿Cuáles síntomas tiene usted con su enfermedad? ¿Qué experiencia tiene con los síntomas? ¿Cómo afecta los síntomas a usted?

7. What happens to someone with your sickness?
   ¿Qué pasa a personas que tiene su enfermedad?

8. What do you fear most about your sickness?
   ¿Cuál(es) temor(es) tiene sobre su enfermedad?

9. What kind of treatment you think you should receive? What are the most important results to get from treatment?
   ¿Según usted, qué tipo de tratamiento debe recibir? ¿Cuáles son los resultados más importantes quiere recibir del tratamiento?

10. What are you hopeful for in your care?
    ¿De qué aspectos de su enfermedad se siente optimista?

11. What kind of care do you get at the clinic? What is your opinion of the care you receive?
    ¿Qué tipo de cuidado recibe por el Centro de Salud Urbano Mazatlán? ¿Qué opina sobre el tratamiento que recibe en el Centro de Salud Urbano Mazatlán?

12. What are medical practitioners telling you to do to care for your illness? Are you able to do these things? Why or why not?
    ¿Cómo incorpora el doctor a los miembros de su familia en el plan de cuidado para su enfermedad?

13. Who helps you care for your sickness at home? What do they do for you?
    ¿Quién le ayuda a usted con su cuidado a su casa? ¿Qué hace(n) para ayudarle a cuidar su enfermedad?

14. How has your doctor incorporating your family members into the treatment plan of you illness?
    ¿Quién le ayuda a usted con su cuidado a su casa? ¿Qué hace(n) para ayudarle a cuidar su enfermedad?

15. How does your family members the decisions you make about the management of your disease?
    ¿Qué influencia tiene sus miembros de familia en las decisiones que usted toma en el cuidado de su enfermedad?

16. How has having diabetes affected your life?
    ¿Qué afectos ha tenido la diabetes por su vida? ¿Cómo le ha impactado a usted lo de tener su enfermedad [nombre de ello]?

17. How has it affected your interactions with your friends and family?
    ¿Cómo le ha afectado a sus relaciones con su familia? ¿Y sus amigos?

18. How has it changed your role within your family?
    ¿Cómo ha afectado su papel en su familia?

19. What have you lost in your life due to your illness? How has it changed your ability to do things in your life?
    ¿Cuál ha perdido en su vida por parte de su enfermedad? ¿Cómo ha cambiado su capacidad de hacer cosas en su vida?

20. What do you do to take care of your emotional needs? What do you do to manage anger, stress, or exhaustion associated with your illness?
    ¿Qué haces para dar cuidado a sus emociones? ¿Qué haces para manejar su estrés o agotamiento asociado con su enfermedad?

21. Is there anything else you want to share with me before we conclude?
    ¿Hay algo más que le gustaría compartir conmigo antes de concluir?

22. Do you have any questions for me?
    ¿Tiene alguna pregunta para mí?

APPENDIX B

INTERVIEW QUESTIONS FOR STAFF AND PROVIDERS

Interview Questions – Providers and Staff – English and Spanish

1. Are patients having problems managing their diabetes? If so, why?
   ¿Los pacientes tienen problemas en cuidar su diabetes? ¿Porque?

2. What obstacle to care do you think patients have?
   ¿Qué barreras tienen los pacientes en el cuidado de diabetes?

3. What services do you offer to patients to help them manage their diabetes? What specific programs do you offer? Are these sufficient in meeting patients' needs?
   ¿Cuál servicios usted ofrece a los pacientes para ayudarles en el cuidado de su diabetes? ¿Hay programas que el Centro de Salud ofrece? ¿Los servicios y programas son suficientes para satisfacer las necesidades de los pacientes?

4. What support would you like to better support diabetic patients management?
   ¿Qué apoyo quiere usted para mejorar los servicios que podía ofrecer el cuidado de diabetes en sus pacientes?

5. What types of programs would help meet the needs of the diabetic patients you treat?
   ¿Qué tipos de programas ayudaran en satisfacer las necesidades de los pacientes con diabetes?

6. What could patients do better to manage their disease?
   ¿Qué podrían hacer los pacientes para mejorar el cuidado de su diabetes?

7. What do you think of patients who seek out traditional types of care to manage their diabetes?
   ¿Qué piensa usted de los pacientes que usan métodos tradicionales en el cuidado de su diabetes?

8. What role do family members play in the management of diabetes?
   ¿Cuál cosas hacen los miembros de familia de los pacientes para asistir con el cuidado de la diabetes?

APPENDIX C

DIETARY HANDOUT FROM NUTRITIONISTS

Recommendations for Diabetes
Recomendaciones para Diabetes

- Take prescribed medications from your doctor correctly.
  Tomar el medicamento recetado por el medico correctamente.
- Carry out an adequate dietary plan
  Llevar a cabo un plan de alimentación adecuado
- Do physical activity at minimum 5 days a week for 30 minutes
  Realizar actividad física, por lo menos 5 días a la semana durante 30 minutos
- Don’t skip meals
  No saltarse las comidas
- Have a meal plan
  Hacer el plan de alimentación:
    - Drink two liters of water a day
      Consumir 2 litros de agua natural al día
    - Don’t eat fried foods, fried fish, breaded foods or food with excessive fat
      No consumir alimentos fritos, capeados, empanizados o con exceso de grasa
    - It’s preferable to eat food that is grilled, steamed, cooked on the stove top, or stewed with a little bit of oil
      Preferir alimentos a la plancha, al vapor, cocidos, en estofado, o guisados con poco aceite
    - Minimize salt consumption and quit smoking and drinking alcohol
      Disminuir el consumo de sal, evitar el tabaco y el alcohol

Food Recommendations
Alimentos Recomendados

- Choose 3 portions of fruit per day: 1 apple, ½ pear, 3 guavas, 1 orange, 1 grapefruit, 1 cup of papaya, 1 cup of melon
  Escoger 3 porciones de frutas por día, 1 manzana, ½ pera, 3 guayabas, 1 naranja, 1 toronja, 1 taza de papaya, 1 taza de melón
- Accompany heavy foods with a plate of salad (lettuce, tomato, cucumber, onion, carrot, ¼ avocado) with a little salt and lime, not creamy dressing. Or a salad of cooked vegetables (broccoli, cauliflower, chayote, squash, carrot)
  Acompañar las comidas fuertes con un plato de ensalada fresca (lechuga, tomate, pepino, cebolla, zanahoria, ¼ de aguacate) con poca sal y limón, no aderezo cremoso. O bien ensalada cocida (brócoli, coliflor, chayote, calabaza, zanahoria).
- Eat beans such as lima, pinto, lentils and soy
  Consumir leguminosas como habas, frijol de la hoya, lentejas, y soya

- Eat corn tortillas and wheat bread, natural juices without additional sweetener
  Consumir tortillas de maíz y pan integral, jugos naturales
- Eat skim and low-fat dairy (milk and yogurt); white cheeses: panela, fresco, Ricotta, Oaxaca
  Alimentos lácteos descremados (leches y yogur); quesos blancos: panela, fresco, requesón, Oaxaca
- Cook with minimal oil, accompany meals with juices sweetened with Splenda or water
  Cocinar con poco aceite, acompañar las comidas con agua de sabor natural y endulzarla con Splenda

Food that is Not Recommended
Alimentos No Recomendadas

- Mango, banana, watermelon; don't drink soda, bottled teas or juices
  Mango, plátano, sandia; evitar refresco, te y jugos industrializados
- Avoid all types of fried food, junk food or any food with excessive fat; avoid flour tortillas, sweets, candies, and canned foods
  Evitar cualquier tipo de fritura, comida chatarra o cualquier alimento con exceso de grasa; evitar las tortillas de harina, dulces, golosinas, alimentos enlatados
- Eat very little sausages (hotdogs, chorizo, ham). Avoid pork products (lard, chicarrón, chorizo, barbequed, meat grease)
  Consumir pocos embutidos (salchicha, chorizo, jamón). Evitar los productos derivados del puerco (manteca, chicharrón, chorizo, carnitas, asientos).
- Avoid consumption of butter, margarine, mayonnaise, dressings, ketchup and desserts rich in cream and sugar
  Evitar el consumo de mantequilla, margarina, mayonesa, aderezos, cátsup y postres ricos en crema y azúcar

APPENDIX D

FOOT CARE HANDOUT

What do you know about the feet of diabetics?

¿Qué sabe sobre el Pie Diabético?

The correct way to care for the feet
El correcto cuidado de los pies

1) Wash your feet in lukewarm water every night. Dry them gently and completely, especially between the toes with an absorbent and soft towel.
   Lavarse los pies con agua tibia todas las noches. Secarlos suavemente, en forma completa, especialmente entre los dedos, con una toalla absorbente y blanda.
2) After bathing, put cream on the feet, one to three times a week, in order to maintain healthy skin
   Después del baño, aplicar crema a los pies, una a tres veces por la semana, para mantener la piel sana.
3) Apply once a week antimicrobial powders in the shoes
   Aplicar una vez a la semana polvos antimicóticos en el zapato
4) Never walk around barefoot
   Nunca camine descalzo
5) Calluses must be cut and treated by competent people, who carefully uses antiseptic
   Las callosidades deben ser cortadas y tratadas por personas competentes, cuidadosas de la antisepsia
6) Avoid all types of wounds, cracks, scarps, and blisters on the feet and toes.
   Evite todo tipo de heridas, grietas, raspaduras y ampollas en los pies y dedos.
7) Avoid cracks below the toes, drying well your skin. Don't leave soapy water between the folds of the toes.
   Evitar las fisuras debajo de los dedos, secándose muy bien la piel. No dejar agua jabonosa entre los pliegues de los dedos.
8) Never use hot water bottles or other heat sources directly on the foot, you can burn yourself because your sensitivity is diminished.
   No use nunca botellas de agua caliente, bolsas de agua caliente u otros objetos de calefacción directa sobre la piel, puede quemare si su sensibilidad esta disminuida.
9) Avoid applying irritating medications on the feet, especially iodine and commercial products to remove calluses and bunions
   Evite aplicar en los pies medicamentos irritantes, especialmente tintura de yodo y los preparados comerciales para extirpar callos y "juanetes".
   If you want to go on long walks, you need to wash the skin well. Don't use soapy water between your toes

10) *Si desea realizar caminatas extensas, deberá lavarse muy bien la piel. No deja agua jabonosa entre los pliegues de los dedos.*

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