The influence of fatalism on health beliefs in Diabetic Patients in Khartoum

A Comparison between Copts and Muslims

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Abstract

Background: Fatalistic beliefs are very common in the Middle East and North Africa region. The most dominant religion in the region and in Sudan in particular is Islam, however, Christianity is also widespread. In Sudan particularly, Islam is the dominant religion with a Christian minority. Of this group, Coptic Christians, who are Orthodox Christians, have the strongest presence in Sudanese society. Both religions are fatalistic in the sense that they both believe in God, and that some external events are out of their control. This line of line of thinking has been deemed to hinder health promotion and increase hopelessness. Many studies have related negative health behavior and the lack of adherence to fatalistic beliefs. Other studies suggest that fatalistic beliefs are an indicator to negligence.

Diabetes is widespread in Sudan, with an estimation of 3.4% prevalence rate. The major health requirement for diabetic patients is lifestyle change, since diabetes per se is for the most part a lifestyle disorder along with other factors such as hereditary and gestational in pregnant women. It thus becomes logically viable to study the influence of fatalistic beliefs on the lifestyle changes that diabetic patients made to explore if fatalistic beliefs are a barrier as studies have suggested. Furthermore, studying fatalistic beliefs in both Christianity and Islam, allows for a more focused study of fatalism, and not fatalism within a specific religion.

Objectives: The objectives of this research was to explore how the belief in fatalism influences health beliefs in diabetic patients and to compare the differences in fatalistic beliefs between Coptic and Muslim diabetics in Khartoum. The study was concerned with three main questions; 1) What fatalistic beliefs do Coptic and Muslim diabetics in Khartoum have? 2) How do those fatalistic beliefs influence their health beliefs? 3) How do those beliefs influence their health behavior?

Theoretical Framework: There are two main guiding theories in this study. The main theory is salutogenesis where the understanding of fatalism and its influence on diabetics is explored. The theory provides a cause of health perspective rather than the cause of illness focus by exploring the generalized resistance resources (GRRs), and the sense of coherence (SOC) of individuals. The supporting theory to understand how beliefs influence behavior was explored using the health belief model.

Methods: To understand the lived experiences of this religious concept, a phenomenological approach was taken. Data were collected from the State of Khartoum by in depth interviews. Three groups were identified and interviewed. Those groups were; 1) a diabetic group, 2) a medical group, and 3) a religious scholar/cleric group. The groups themselves were divided into Coptic and Muslim. Each group had one Cleric, one medical doctor, and five diabetics. However, only three Coptic diabetics were allocated for the diabetics' interviews. A research assistant was present at all the interviews for cross-reference. An audio recorder was used in seven of the 12 interviews. The recordings were translated and transcribed. The data were analyzed using directive content analysis, where concepts from the data were grouped into themes according to the research questions. Before commencement of the data collection, permission from the Norwegian Social Science Data Services (NSD) was obtained. No ethical clearance was required from Sudan for this study. Informed consent was obtained from all the participants before the interviews.

Results and Discussion: The religious meaning of fatalism according to my participants was the notion that all events, including health and illness are God driven, however, not all illness is from God, and they believed that illnesses can be a result of individual choices. Furthermore, health is considered a blessing that individuals should protect, and illness as a result of many factors, such as behavioral and genetic, and should be utilized to teach patience. Fatalism as a religious concept does not render people powerless. Both the Coptic and Muslim participants did not feel that their health is not in their control. On the contrary, they believed that they are responsible for their health and well-being. Fatalistic beliefs to them meant to accept what is not in your control, as well as making the right choices, or the healthy choices in illness. The belief in God and that God will not give people something that they cannot handle was expressed, which puts more emphasis on the choices they make and their responsibility towards their health. The concept of health being out of their control was not evident for most of my participants, neither were any feelings of hopelessness. Health behavior and adherence issues were attributed to demographic and sociopsychological variables rather than religious beliefs or fatalistic beliefs.

Conclusion: Three main findings are noted here. First, fatalism as a religious concept does not render individuals hopeless and disempowered. The Coptic and Muslim understanding of fatalism is similar in that they both specify the necessity of individual choice and free will.

Second, fatalism as a religious concept helps people cope with their illness for the attribution of God's presence in their lives and the belief that God does not give people what they cannot handle. The latter in particular is an empowering concept and can be utilized to promote health. In addition to that, this line of thinking strengthens individual's sense of coherence and does not label individuals with their disorder, instead making the individual a complete person with a stressor such as diabetes. Third, behavioral outcomes are related to factors such as demographic and sociopsychological variables, and not directly linked to fatalistic beliefs.

1 Introduction

1.1 Background

Religious beliefs have an influence on health beliefs. In spite of this, in realm of health today the influence of religion on health beliefs is not widely accepted. There is hardly room for anything that is not supported by hard evidence and scientific facts. This positivistic view is what contributed to the strides in health and sciences in the last decades and surely will lead to more advances. It is most unfortunate though that the strict belief in empirical evidence for anything to be deemed worthy as scientific, has held back on the religious views of normal, lay people who are the purpose of those studies to begin with.

Although the psychology of religion has been unpopular in the Anglophone world of science since the 1930s, it is on the verge of revival, if it has not started already. However Richards (2011) argues that its revival is minimal and occurs only within the circle of those interested in the psychology of religion. The reason for its revival is the understandable influence of religious beliefs on health beliefs and ultimately on human behavior.

Fatalism is defined as "the view in which divine foreknowledge is incompatible logically with any openness to the future, particularly the kind of openness resulting from the free will of human beings" (Kvanvig, 1992, p. 91). This definition to fatalism understandably can create somewhat of a challenge for health care personnel who are trying to treat patients that hold such a view. If individuals believe that they do not have claim and control over their lives, the challenge then comes when health professionals try to convince people that their behavior contributes greatly to their health. This is in essence a problem for health promotion practitioners where individuals are encouraged to have an empowered position when it comes to their own health.

In his article "Self-efficacy: Toward a Unifying Theory of Behavioral Change", Bandura (1977) clearly explains how people are more likely to change their behavior if they feel competent and in control of their lives. More so, self-efficacy can be a determinant of behavioral change sustainability in case of obstacles and aversive experiences. The more an individual has a perceived sense of control, the more likely they are to succeed in change, whatever that change

maybe. That being said, it becomes important to explore how the belief in fatalism can direct human behavior especially with diabetes, a disorder that is influenced and influences the lifestyles of individuals affected.

Health behavior is defined as "any activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behavior is objectively effective towards that end"(WHO, 1998, p. 8). Individuals who have a world view of fatalism as defined above, tend to have health beliefs that project less effective health behaviors (Ahmed, 2003). It is understandable that it renders them powerless, and can make them perceive their health situation as victimization. Understanding those beliefs and what they mean to them is the first step in formulating educated programs to counter their feelings of passiveness, if any are held.

1.2 Context

Diabetes has now become a global epidemic with prevalence rates rising much more than it did decades ago. In 2008 a study on the prevalence of diabetes noted that the age-standardized adult diabetes prevalence was 9.8% in men and 9.2% in women (Danaei et al., 2011). The study recorded almost no change in east and southeast Asia and central and eastern Europe. According to the study, Oceania had the largest rise with 15.5% for men and 15.9% for women. Danaei et al. noted that diabetes prevalence for south Asia, Latin America and the Caribbean, central Asia, north Africa, and the Middle East were also high. Regions with the lowest prevalence were sub-Saharan Africa, east and southeast Asia and high income Asia-Pacific. In high income regions, western Europe had the lowest rise per decade, while north America had the highest rise per decade (Danaei et al., 2011).

According to the WHO (1999) Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications, there are two types of diabetes. Type I, which "encompasses the majority of cases which are primarily due to pancreatic islet beta-cell destruction and are prone to ketoacidosis" (p. 11). The other is type II which "includes the common major form of diabetes which results from defect(s) in insulin secretion, almost always with a major contribution from insulin resistance" (p. 11).

Since diabetes is a lifestyle induced disorder in many of the cases (Chawla et al., 2013), in order to control it people affected with diabetes need to exercise control on their diet, and comply with medical recommendations from the health care personnel. However, according to Bos et al (2013) 45% of those who were diagnosed diabetic in Sudan had poor control due to non-compliance with diet and drugs as well as the lack of education. Please note that these data dates back to 1995 and newest data on Diabetes in Sudan dates back to 1998. However, as Gill et al. noted that in sub-Saharan Africa, an increased migration from rural to urban has contributed to a rise in the prevalence of diabetes in the region, he goes on to say that, "this migration is inevitably associated with a shift in lifestyle from a relatively healthy traditional pattern, to the urban scenario of increased food quantity and reduced quality, low levels of exercise, smoking and increased alcohol availability" (Gill, Mbanya, Ramaiya, & Tesfaye, 2008, p. 8). The urban picture in Sudan has witnessed many changes with regards to lifestyle, especially dietary changes. The increased intake of high-fat and high-energy foods along with a decrease in physical activity is bound to cause obesity (Zimmet, Alberti, & Shaw, 2001). Nowadays, fast food and carbohydrate rich food has become cheaply available in Sudan, leading to an increase in obesity. In a study conducted on school children in Khartoum, the overweight and obesity rate was found at 28.5% and 5.6% respectively (Salman, Kirk, & DeBoer, 2011), increasing the necessity and urgency for more research on the lifestyle changes and their effect on health and programs targeting this group.

According to Elbagir (1996), the crude prevalence of diabetes in Sudan is 3.4% (men, 3.5%; women, 3.4%), however a systematic review published in 2013 by Manouk Bos and Charles Agyemang cites the prevalence in rural Sudan at 2.6% (2013). Unfortunately, the papers used for the Sudanese data dated back to 1991, 1993, 1995 and 1998. Newer epidemiological data on diabetes was not found. On any level, the data available shows that the prevalence of complications due to diabetes is 22% and obesity among women was at 45% (Bos & Agyemang, 2013), an alarming percentage for a problem of which we have no current knowledge of the situation.

1.3 Problem Statement

It is believed that people with fatalistic beliefs are less likely to think they can have control over their health. This may lead to noncompliance with medical treatment or negligence towards their health. Understanding the held beliefs of Coptic Christian diabetics and Muslim Sunni diabetics about their own condition, is a step towards improving perceptions of health beliefs and their effect on health behavior.

1.4 Aims & Objectives

The aim of this research was to explore how fatalism influences health beliefs in diabetic patients in Khartoum. The aim is not diabetes as a disorder per se, it is related to how the belief in fatalism influences people's perception about health and illness.

The second aim of this research was to compare the differences and similarities in fatalistic beliefs between Muslims and Orthodox Christians in order to highlight them, and to explore what they imply.

1.5 Research Questions

- How do Muslims and Copts understand fatalism?
- How do Muslims and Copts respond to fatalistic beliefs?
- How does fatalism affect diabetics' life experiences?
- How does fatalism give meaning to the diabetic's condition?
- How does fatalism help diabetics cope with their condition?

This study is concerned with the belief in fatalism and its influence on the health beliefs of diabetics in Khartoum. In this study, I explore how fatalism affects the health of diabetics in Khartoum by looking into their understandings of health and their belief in fatalism. The reason for studying both the Coptic and Muslim beliefs is an attempt at understanding how religious beliefs in general affect health beliefs, and not how any one particular religion affects health beliefs.

1.6 Thesis Structure

The thesis is divided into five chapters, each concerned with a specific task. Chapter one is the introduction where I introduce the thesis and give the reader an overview of what is to come. Chapter two is the Literature Review and Theoretical framework, where I present the reader with the relevant literature on the subject as well as identify the gaps. The Theoretical framework is the lens through which my data were analyzed. Chapter three is the Methodology section, where I describe my participants as well as the procedures I used to collect my data and how they were analyzed. In Chapter four, I present the reader with my findings and in Chapter five, I discuss those findings and provide the reader with my conclusions.

2 Literature Review and Theoretical Framework

In order to get a clear picture about disease and how it's perceived by individuals, one should take a closer look at the psychosocial factors that determine the health beliefs of a particular community or society. The more culturally diverse a society, the more complex the picture becomes. Nonetheless, members of a society, more or less, share similar attributes. It is worth looking into those similarities, and differences, if one is to create a comprehensive understanding of the underlying aspects that shape the health beliefs of such a society.

Sudan, like many countries in the Middle East and North Africa region, is predominantly a Muslim society, with a Christian minority (Abusharaf, 1997). Both groups are governed by their own distinctive cultures and faiths.

2.1.1 Religion and Health

According to the Pew Research Center's report on Global Religious Landscape (Pew Research Center, 2012), approximately 84% of the world's inhabitants believe in some form of religion. Although many believe in religion, globally some do not, nonetheless they still find solace in practices like yoga and meditation to combat stress and live a more spiritual lifestyle, regardless of whether they believe in any particular religion or not. "Moreover, studies have clearly shown that many patients consider religion to be very important and would like their physicians to discuss religious issues with them"(Lee, 2005, p. 444). This clearly shows a gap between the health care community and their patients, a gap that should and needs to be addressed and bridged.

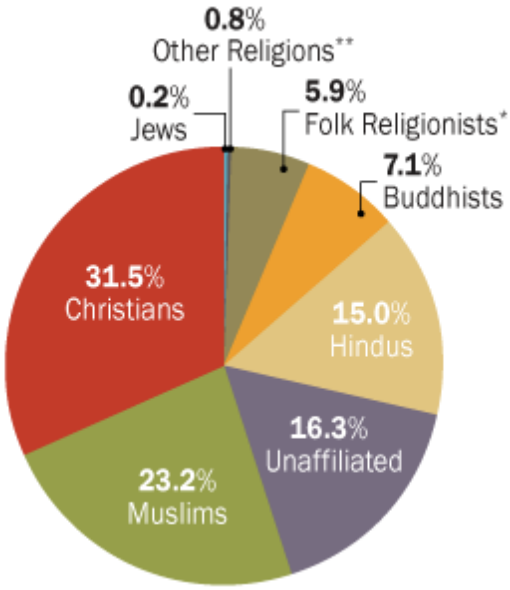


Figure 1: Retrieved from "Global Religious Diversity: Half of the Most Religiously Diverse Countries are in Asia-Pacific Region" (Pew Research Center, 2014)

Religious beliefs can have a strong influence on health beliefs and hence, health behavior. They can act as facilitators to better health behavior, or can become a barrier. If individuals believe that illness comes from God as a test to their patience, then their health management can become a form of worship. Individuals accept their illness, but realize they are not helpless for God is on their side.

A Swedish study related to religious and cultural aspects of health in women of different origins living in Sweden noted that cultural and religious factors are essential in understanding the context for self-care and care-seeking behavior and that the cultural differences are related to religious beliefs. Hjelm et al. explain, "the influence of religion as a social order is important to consider irrespective of whether a person is a believer or not" (Hjelm, Bard, Nyberg, & Apelqvist, 2003, p. 642). This explains what is considered common knowledge now that religion and culture are intertwined. Furthermore, one can also deduct that culture can influence religion and vice versa.

A study conducted in the United Arab Emirates, Campbell (2011, p. 12) found that among elderly city dwellers who are all Muslim, "the participants in this sample also believed that health had intrinsic worth and an additional representation of 'health as value' emerge". The belief that health is value is essentially a health promotion concept, and therefore religion is of great significance and should be studied and examined within the health promotion arena. The perception of health as value goes in line with Antonovsky's health/illness continuum and to perceive health as value may contribute to a strong sense of coherence. Then where does fatalism play a role?

2.1.2 Fatalism, Determinism and Free will

Fatalism is not to be confused with determinism, and it usually brings up the question of free will. In the theological point of view, fatalism is defined as "a religious concept, which attributes all life events to the will of God or supernatural powers" (Ahmed 2003, p. 227). This could render individuals powerless over their conditions. It is understandable how physicians can be very frustrated with such beliefs if they render their patients passive and powerless toward their health. Ahmed (2003) explained in his review that the belief in fatalism can contribute to the lack of disease self-management which in turn explains why diabetic patients show poor self-control and management that they are necessarily looked after. This understandably, will eventually deteriorate the health of the diabetic individual. Astonishingly, and although people's fatalistic beliefs permit them to be passive towards their health, the belief in 'Kafara' or the 'eraser of sins', as Ahmed puts it, gives disease a whole different meaning to disease.

Viewing disease as an eraser of sins gives meaning to the disorder that people readily understand and can accept, hence health and religion here become intertwined. People would usually seek religious guidance by paying a visit to the witch doctor, or herbalist, for a concocted potion that has been recited on with religious verses. One prominent figure in the world of alternative medicine in the Arab world today is Dr. Mohamed el Hashimi. He even has his own television channel. The channel's name is "Al Haqiqa TV", which is Arabic for "The truth". In addition to presenting his Center, the channel goes a long way explaining what they do, and countless testimonies are aired almost every day by people claiming to have been cured. In a video about his accomplishments, it was claimed that Al Hashimi (Youtube, 2010) managed to cure, not just treat, some forms of cancer, diabetes, skin disease, heart disease and migraines just to name a few. This too can add to the frustration of medical doctors, since a majority of the patients who start the treatments of Al Hashimi and herbalists like him, stop adhering to the medical treatments.

Although many studies associate fatalistic beliefs with poor disease self-management and portray negative connotations to it (Niederdeppe & Levy, 2007) (Chavez, Hubbell, Mishra, & Valdez, 1996), other research suggest that it is not so much the concept of fatalism that is causing the problem but how it is defined in literature. In a commentary on

> *"in some studies on fatalism and cancer screening, Latinos hold fatalistic beliefs, but the definition of fatalism varies greatly across studies Overall, research on fatalism among Latinos is hampered by numerous methodologic and conceptual problems. These center on four broad limitations: 1) reliance on single-item measures; 2) a lack of established and reliable scales; 3) limited evidence of the validity of existing measures; and 4) use of scales that may tap distinct fatalism constructs*" (Abraído-Lanza et al., 2007, pp. 3-4).

This suggests that fatalism needs to be clearly defined, not by the literature but by the participants themselves as is done in my research to truly understand its connotation.

2.1.3 Determinism & Free Will

Defining determinism is within itself a very challenging task. There are many forms of determinism and much philosophical debate concerning what it really means. To avoid

swimming in the deep waters of this complex philosophical concept, I will simplify by defining determinism according to Peter Van Inwagen. He not only wrote a complete thesis on the subject, but refrained from making judgment on whether determinism is valid or not, leaving it to the reader to judge for themselves. Inwagen (1975) argues that determinism can be understood as A causes B, and since B is determined by A, then B will only exist because of A. It is determined by A. Simply put, if I continuously have carbohydrate rich meals, then I'm likely to become diabetic. However, and as overly simplistic as it may seem, it entails a whole lot of philosophical debate and is a direct attempt at ostracizing the concept of free will. More so, this definition of determinism does not take into account predictability of events.

If events are unpredictable, it is difficult to say that they will always have the same effect on what those events are causing. According to MacIntyre's (1957) explanation in the conflict of determinism and free will, if I continuously consume carbohydrate rich meals and do not develop diabetes does that mean that carbohydrates do not cause diabetes? Or if I continuously consume carbohydrate rich meals, but I exercise regularly, will I still become diabetic? The concept of determinism seems to overlook human behavior in its direct and simplistic sense leaving little room for the concept of free will. Are individuals able to change the outcome of events or are they bound to it? Or is the concept of free will a philosophical fallacy as Nietzsche noted in his famous book "Beyond Good and Evil" (1989) However, if I do not have the luxury of free will, then how can I be held accountable for anything I do? Or is everything I do a matter of years of psychological conditioning as is taught to be the foundation of behavioral psychology? Furthermore, if individuals are willing to undergo behavioral therapy for behavioral conditions, be it the recommendation of their therapist or not, is not that per se an exercise of free will? More so, in the fatalistic mind, aren't behavioral conditions their fate to begin with?

Fatalism is not much concerned with how A influenced B, as much as it's concerned with why it influenced it. Those who believe in fatalism give meaning to their condition by understanding it from a broader concept that is not usually concerned with causes. Events are inevitable and therefore what they cause are inevitable. To the fatalists, the result of what those events cause is what they give a religious meaning to, such as diabetes or any other illness, and accordingly they make sense of their condition. Furthermore, fatalism and free will do not seem to contradict each other in the opinion of the fatalist. For example, if I become diabetic due to

genetic causes [*determinism*], then it is my fate to become diabetic [*fatalism*]. However, what I choose to do with it is my choice [*free will*].

2.1.4 Psychology of Religion

> *"At the same time Psychology has forever writhed in a cleft stick between its logos-like scientific aspirations and the centrality of mythos to its own subject matter—which is in turn the very thing which is producing it. The cliché that Psychology in general has replaced (or wants to replace) religion is, we will see, quite misleading. What is truer perhaps is that western societies at large have wanted it to do so" (Richard 2011, p. 10).*

Why is its revival necessary then? In a review published in 2009, Harold G Koenig explains that despite of research that found that religion and spirituality have a negative effect on patients by the display of unhealthy forms of religiosity, "systematic research published in the mental health literature to date does not support the argument that religious involvement usually has adverse effects on mental health" (Koenig 2009, p. 289). He goes on to say that religion and spirituality helps people seek refuge from discomfort and gives them hope. Religion also gives meaning to their condition and therefore acts as a source of resistance and coping mechanism. In the preface of the book "Man's search for meaning", the Gordon Allport describes meaninglessness as a condition that the mind finds difficult to tolerate. He goes on quoting Victor Frankl saying he was fond of quoting Nietzsche's, "he who has a *why* to live, can bear with almost any *how*" (Frankl, 1984, p. 12). Whilst the "meaning" Frankl discusses can be anything from a memory to a talent to be fulfilled, religion can be a great source for meaning, and suffering can be tolerated by the meaning we give to life.

2.1.5 Coptic Christians and Muslim Sunnis in Sudan

According to a review on the Copts (Verney, 1995), there are less than 200,000 members of the Coptic Community residing in Sudan. The reason for the numbers being so small is due to the encouraged migration that the Sudanese government imposed on them. Since the coup d'état in 1989, Sudan has been governed by the National Islamic Front (NIF). The new regime, made it very clear to the Christian Copts that they were not welcome, and that if they will stay in Sudan,

they will be given second citizenry rights according to the Shari'a law that the NIF operates under.

Since the NIF seized power according to Hailu (2007), they showed how powerfully oppressive they were. This was not only a problem for the Coptic Sudanese, but even the Muslims. Religious freedom is lost when politicians believe that their views alone are valid, and therefore, Muslims had to behave in a manner that the ruling elite now approve of as proper religious behavior.

This forced Islamization became a source of frustration for the Muslim community which makes up the majority of the Sudanese people. Islam developed in Sudan over the years and intermingled with the culture of the Sudanese people which contributed to the religious tolerance in the country. "Islam spread into the area where old civilizations as the kingdoms of Nubia built sophisticated institutions not by conquest but by traders and mystic groups such as the Sufis and Tariqs. The progress of Islam in the Sudan was thus unhurried, requiring many centuries and developing a tolerant variant of the culture" (Hailu, 2007, p. 4). Unfortunately, the evolution of the culture of politics in Sudan has changed the picture drastically, since the NIF's first project was what they called "social re-engineering".

2.1.6 The Diabetes Epidemic

According to the WHO, diabetes mellitus is "a metabolic disorder of multiple aetiology characterized by chronic hyperglycaemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects win insulin secretion, insulin action or both" (WHO, 1999, p. 2). It is estimated that 347 million adults live with diabetes (Danaei et al., 2011), and this number is said to increase much more between 2010 to 2030. A projection of diabetes globally estimated that by 2030 the number of adults with diabetes will be 439 million resulting in a 7.7% increase (Shaw, Sicree, & Zimmet, 2010). In a projection in global mortality, diabetes mellitus is ranked number 7 in the leading causes of death by 2030, putting the percentage at 3.0% of total death worldwide (Mathers & Loncar, 2006). These alarming numbers certainly make diabetes a global epidemic and a "dreadful lifestyle disorder of the 21st century" (Chawla et al., 2013, p. 1).

There are many reasons why that could be so. Zimmet et al. (2001) noted that one of the reasons why diabetes and other non-communicable diseases have shown an increase is the public health community's concern was with the elimination of communicable diseases, allowing today's generations to live longer. The increase, and therefore the epidemic, is widespread across both developed and developing countries alike, and is a threat to their economies particularly the developing countries (Hu, 2011).

2.1.7 Diabetes in Sudan

The Eastern Mediterranean region has the highest recorded prevalence of diabetes in the world (WHO., 2006). Sudan has had a long history of diabetes recording back to ancient Pharaonic Egypt where northern Sudan belonged to, and where the first records of diabetes were found. According to Ahmed (2001) a papyrus dating back to (1550 BC) "described a wasting disease with polyuria and polydipsia" (Ahmed, Hussein, & Kheir, 2001, p. 324), making it the oldest diabetes record in history.

Finding recent data on diabetes in Sudan has proved challenging. The Sudanese ministry of health puts the prevalence at 1% (FMoH., 2007), although data were recorded before the referendum of 2010 and South Sudan was likely included. A more recent report from the WHO puts the number at 2% of annual mortality (WHO, 2010) but states that the data has a high degree of uncertainty since it is not based on the Sudanese national mortality data. Another report puts diabetes in Sudan at 1,667,000 individuals in 2011, and predicts an increase to reach 3,166,000 by 2030 (Whiting, Guariguata, Weil, & Shaw, 2011). Another study estimates diabetes prevalence to be between 3.4% and 10.4%, with the latter figure coming from communities in north Sudan (Abdelgadir, Shebeika, Eltom, Berne, & Wikblad, 2009). However, all the available data on the prevalence of diabetes are outdated and do not consider the rising increase in obesity and urbanization that has been taking place.

Diabetes is predominantly a lifestyle induced disorder according to Kolb (2010), which makes it a problem in Sudan. The perceptions of the Sudanese society about affluence and attractiveness make weight gain and obesity not only accepted, but desirable. People in general do not have the tendency to exercise resulting in a lifestyle that predisposes people to diabetes.

“Consequently, diabetes is now one of the major health problems in Sudan resulting in 10% of all hospital admissions and mortality” (Ahmed, Hussein, & Kheir, 2001, p. 325).

As for diabetes specialized centers and programs implemented in Sudan, only private clinics and centers are available. Elrayah-Eliadarous noted that the diabetes care delivery system is integrated within the overall national healthcare structure and “that there are no specialized units for diabetes care in primary care centers” (Elrayah-Eliadarous, 2007). In addition to that, governmental clinics and hospitals suffer greatly from the lack of resources. According to Elrayah-Eliadarous (2007), basic health service coverage in Sudan is low. She further notes that there are disparities in the regional and urban-rural availability of health resources and services. Furthermore, she argues that, “the current health facility population ratio of one health center for every 34,000 of the population in the North is below the acceptable level” (Elrayah-Eliadarous, 2007, p. 20). It is thus understandable, that 10% of hospital admissions and mortality are due to diabetes.

2.1.8 Diabetes and Islam

Many individuals are influenced by traditional beliefs, myths and misconceptions regarding the causes, symptoms and care of diabetes mellitus and continue to seek alternative measures for curing their condition (WHO, 2006, p. 12).

In Islam, there are five pillars that all Muslims believe in. Those pillars are: 1. the "Shahada": the belief that there is no god but God and that Muhammad is his last Prophet; 2. conducting the five daily prayers; 3. paying alms to the needy; 4. fasting during the month of Ramadan; 5. a pilgrimage to Mecca at least once in one's lifetime if possible (El-Azayem, 1994, p. 42). Of the five pillars, three of the practices (prayers, Ramadan fasting and Islamic pilgrimage) can, at times, affect adversely the management of diabetes mellitus. A severe foot infection can occur as a result of callus that are formed from local pressure due to the performance of the Islamic prayers (Ahmed, 1999).

Ramadan fasting (RF) is another of the five Islamic pillars that can have adverse effects on diabetic patients. In a review written about diabetes in Sudan, Ahmed noted that “healthy

adult Muslims are required to fast from dawn to sunset for one month each year. Theoretically, the sick Muslims, including those with diabetes, are not required to fast, but some diabetic Muslims, by virtue of their strong religious faith, insist on fasting"(Ahmed, Hussein, & Kheir, 2001, p. 326). For diabetics, fasting and the break of fast that usually include fat and carbohydrate rich foods and drinks can cause "wide extreme swings of blood glucose. In spite of this, we sometimes find such patients insisting on fasting. They should be firmly warned of the expected harm of RF. A liaison with a religious man may be necessary" (Ahmed, 1999, p. 96).

As of the performance of Hajj, which is the Islamic pilgrim (IP), "the pilgrims tend to concentrate on the IP rituals and neglect their antidiabetic treatment. For the same reason they neglect early treatment of infections (which are common in this holy season). Therefore, there is a real risk of developing diabetic ketoacidosis" (Ahmed, 1999, p. 97) .

2.1.9 Orthodox Christianity and Diabetes

The Coptic Christians in Egypt and most likely in Sudan as well, believe that they are the ancient race and descendants of the Pharaohs. The word Copt itself is derived from the Greek word for Egypt [Aiguptos] which is believed to be the ancient Egyptian name of the city of Memphis which was [Hwt-ka-Ptah] (Henderson, 2005). In Sudan, followers of the Egyptian church can be found in the cities of Dongala, Atbara, Wad Medani, Port Sudan, Al-Obeid and Khartoum (Verney, 1995). Nonetheless, the Copts will always be the Egyptian descendants of the Pharaohs, and therefore their ties to Egypt have never really been severed. It is therefore viable, in the case of lack of data on Coptic Sudanese, to use data on Coptic Egyptians when it comes to their faith since they share one faith, one church and one Pope.

A study on the effect of fasting on the Coptic diabetics in Cairo found that results defer among subjects due to age, gender and diet. According to Morcos, Seoudi, Kamel, and Youssef (2013), "the four major fasting periods are: Christmas (40 days, with sea food), lent (48 days, without sea food), apostles' fast (varies from 15 to 49 days without sea food) and assumption (15 days, with sea food)" (p. 376). This makes fasting season for the Copts at 118 to 152 days a year. Other articles and my interview with Father Salib suggest that fasting goes for around 260 days a

year, during which their diet consists of cereals, legumes, vegetables, green leafy vegetables and fruits.

Although Copts are not supposed to fast if they are diabetic, as their Muslim counterparts, many Copts choose to do so anyway.

2.1.10 Diabetes and Women

A gender specific condition in diabetes is gestational diabetes. Gestational diabetes is defined as "a state of carbohydrate intolerance resulting in hyperglycaemia of variable severity, with onset or first recognition during pregnancy. It does not exclude the possibility that the glucose intolerance may antedate pregnancy but has previously gone unrecognized" (WHO., 2006, p. 20). Women most at risk of gestational diabetes are in advanced maternal age, have a higher body mass index, have a family history of diabetes, have a past history of diabetes, or had a baby with one of the known complications of gestational diabetes, have had a spontaneous abortion, have high blood pressure and vulvovaginal candidiasis (T Mardi & Lutfi, 2012).

Problems facing women with diabetes in Sudan are not only health related but also cultural. Cultural issues burden women in Sudan mainly due to socio-economic reasons where women are attributed a lower social class than that of men. "Women, who, compared to men, are at increased risk of a number of the consequences of diabetes, are less likely to receive adequate care and attention from either their family members or healthcare providers" (Ahmed, 2006, p. 3). Some Sudanese women would hide their illness from their husbands as to not seem unfit, and therefore not give them a reason to seek another wife since polygamy is allowed in Islamic societies. It is the tradition in Sudanese society that women are the one's responsible for the household like most patriarchal societies since "the dominance of norms and values of the Sudanese society that assume for the female the major role of the family daily life activities including child care, cooking and home caring; the contribution of the male partner in such activities is almost absent even when she is ill" (Ahmed, Hussein, Kheir, & Ahmed, 2001, p. 115), therefore the current situation of gender segregation of duties adds to the burden of women even in illness. In addition to the married women, unmarried women worry that they may not get married due to their condition.

A study on the impact of diabetes mellitus in Sudanese women reported that diabetes is more common among females than in males; females have worse metabolic control than males; the majority of the cases of brittle diabetes (hard to control type 1 diabetes) are in females. The study also noted that plumpness is desired in Sudanese society, therefore women would make an effort to gain weight (Ahmed, Hussein, Kheir, et al., 2001).

2.1.11 Health beliefs' influence on health behavior

Some beliefs are considered disruptive as some are considered positive coping mechanisms if employed well. Explaining why attitudes towards religion in psychiatry have changed in the past 2 decades, Koenig argues that it has been driven by scientific research and that it is clear by the evidence that "religious influences need not always be pathological, but can actually represent resources for health and well-being" (Koenig, 2009, p. 284; TG Mardi & Lutfi, 2013). A study showed that there is a positive relation between glycemic control and religiosity among Muslims and Christians. In one study, those who had higher religiosity among a Muslim population displayed significantly higher glycemic control and church-going religions had better glycemic control compared to those of other religions (How, Ming, & Chin, 2011).

The amount of evidence is accumulating as many more people are paying attention to this problem. However, many still shy from it because of previously held assumptions that religion cannot be studied scientifically. However, qualitative studies are much needed to decipher the hidden mechanism of religious and spiritual beliefs on health and wellbeing.

The belief that religion has no place in the academic arena is one of the many reasons why religion and spirituality have been under researched. Miller and Thoresen (2003) explain that two of the main reasons why this has been so was for the assumption that spirituality cannot be studies scientifically, and that spirituality should not be studied scientifically. However, as Hall et al stated in their article, "these assumptions are erroneous and that the area is a prime one for developing and conducting quality research projects. Of course, researchers must maintain objectivity while delving into one of the most important areas of people's lives and belief systems" (Hall, Dixon, & Mauzey, 2004, p. 504). Objectivity here is of crucial importance as well as the most challenging for the researcher, especially within the qualitative research

discipline, since the researcher's role and their understanding plays a role in the interpretation of data. Nonetheless, the need is real and should be addressed.

2.2 Theoretical Framework

2.2.1 Salutogenesis

In its full definition, the Ottawa Charter defines health promotion as,

"the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment" (WHO, 1986, p. 1).

From its inception, the field of health promotion has been introducing new ways of looking at and into health. The Ottawa Charter, the fiscal document on health promotion put forth a guiding set of principles and practices in order to facilitate for practitioners this transition from the pathogenic theorem to a more health focused, health promoting theorem. Antonovsky "was intrigued by the question why some people, regardless of major stressful situations and severe hardships, stay healthy while others do not" (Eriksson & Lindström, 2008, p. 191). His studies in the subject led him to introduce the concept of sense of coherence in the 1970s and the salutogenic theory was formed. This thesis is conducted using the salutogenic approach. Through the salutogenic lens, the influence of fatalism on Muslim and Coptic diabetics' health beliefs was explored. Through it also, I examined the meaning fatalism has and gives to Muslim and Coptic diabetics in Khartoum.

The term Salutogenesis itself is derived from the Latin word "Salus", which means health, and the Greek word "genesis", which means origin (Dictionary, 2013). As explained by Antonovsky, the theory implies that health should be viewed as a continuum, rather than pathogenic, "that is disease causing aspects of health"(Green, 2010, p. 12). He explains that the "human system is inherently flawed, subject to unavoidable entropic processes and unavoidable final death"(Campbell, 2011, p. 2).

The salutogenic paradigm reconceptualizes health and separates it from the more traditional "pathogenic medical model". It puts the meaning of health into scrutiny and is perceived to be influenced by several non-entropic variables, such as psychological and socio-cultural factors. Antonovsky argues that individuals have a bank of resources that they can collect from when they are passing through stress. These resources can be anything from a person's property, the social network or government facilities. These resources help us move "toward the health pole of the health ease/dis-ease continuum", (Antonovsky, 1996, p. 15), or the "Health in the River of Life" (Lindström & Eriksson, 2010, p. 15). In its simplest sense, the salutogenic perspective focuses on the lives of individuals and their perceptions. It is the focus on what health means to individuals and how it affects their quality of life. Two of the key concepts that make up the salutogenic framework are the sense of coherence (SOC), and the generalized resistance resources (GRR).

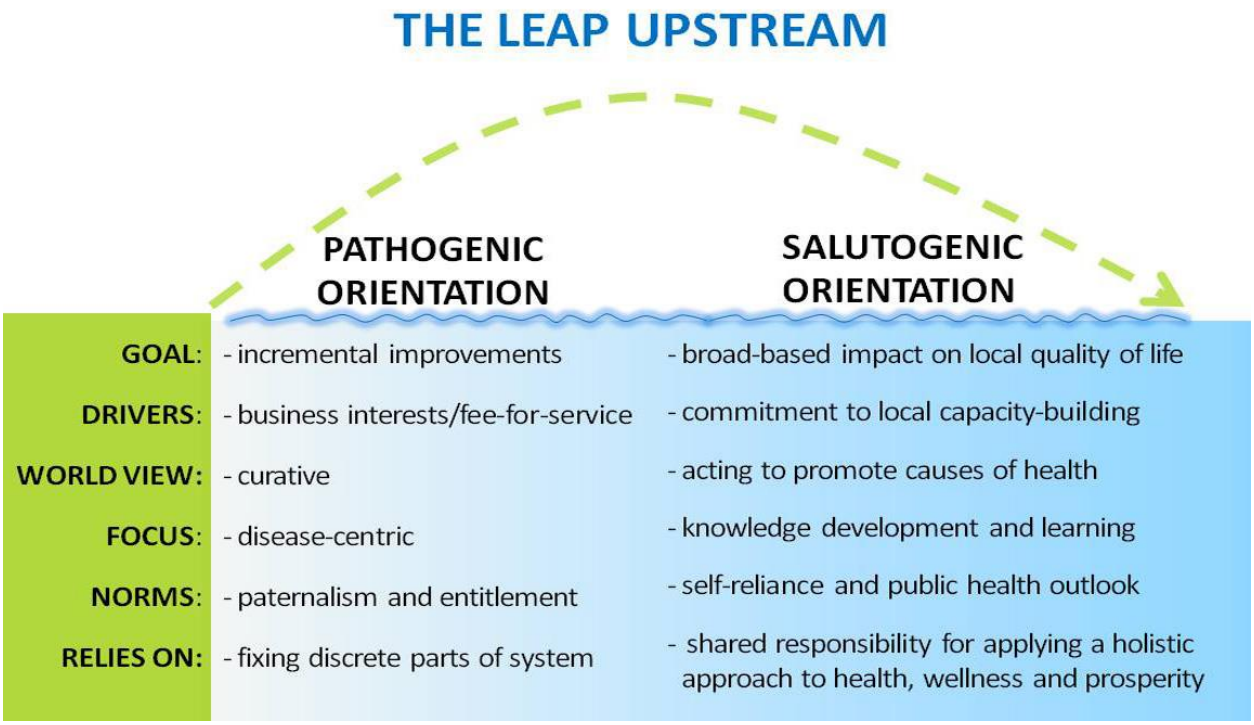


Figure 2: Retrieved from: http://farrowpartnership.wordpress.com/2011/10/27/the-future-of-health/

The theory suggests that our understandings and perceptions of the world are created through our experiences and the GRRs. Our GRRs and the environment shape the way we understand things, thus give meaning to them accordingly. According to Lindström and Eriksson

(2010), at least four of the GRRs should be at one's disposal for the development of a strong SOC, "meaningful activities, existential thoughts, contact with one's inner feelings, and social relations" (p. 20). It is the interaction of the person with his/her living context, and not only the personal attributes that one possesses and who they can utilize them in a functional, health promoting manner.

Meaning gives us a sense of coherence (SOC), which in turn determines how we maintain health and prevent the breakdown of it (Wolff, 1999). The SOC is how we view the world in general. Our world view is composed of three components; comprehensibility, manageability and meaningfulness. Comprehensibility refers to the understanding that things happen in a logical and predictable manner. Manageability refers to the skills and abilities that individuals have to manage with the tasks in their lives. Meaningfulness refers to the belief that things have meaning and happen for a reason. Meaningfulness is of great importance to salutogenesis and my research in particular, since without the belief that there is meaning in life, a person's motivation to maintain health or prevent could be decreased.

The way individuals view stress and cope with it is largely due to their SOC. The SOC gives individuals the comprehensibility, meaning and manageability to cope with stressors. According to Wolff (1999, p. 182), "A positive outcome of an encounter with a stressor (e.g., neutral or salutary health effects) is primarily dependent on the successful management of the stressor and the presence of a strong SOC". If a stressor is believed to be manageable and individuals have the ability to comprehend the underlying aspects of stress, they are more likely to have better health outcomes.

The belief in fatalism is widespread in both the Muslim and Coptic communities in Khartoum. However, it is the understanding of fatalism that makes either the Muslim or the Coptic diabetics either passive or motivated to adhere to their treatment. Since fatalists believe that everything is caused by the will of God, or the Supernatural, individuals are not entirely in control of their lives. However, it could also be a coping resource for the patient believing that God will not put something in their way if they were unable to manage it. Furthermore, the belief in God per se is salutogenic in nature, since it not only provides the foundation for the believer's

life meaning, it also gives her/him a sense of comfort that God is omnipresent and is at the side of the individual. Explaining what comprises a strong sense of coherence, Antonovsky noted that,

> *"what gives one a sense of meaningfulness; which type or style of resource one thinks is appropriate to apply to a given problem; in whose hands the resources are, as longs as they are in the hands of someone 'on my side' (e.g. God, a friend); how much information one thinks one needs to comprehend – the substantive answers to these questions may vary greatly from culture to culture, from situation to situation." (Antonovsky, 1996, p. 15).*

The salutogenic framework examines the whole individual, and considers disease a stressor in the person's life where health is seen as the norm and disease an atrophy. Disease does not define the individual, rather it is considered a component in the person's life that they can work with.

2.2.2 Health Belief Model

Unlike the salutogenic theory that focuses on health, what and how it is created within individuals, communities and societies, the health belief model focuses on illness and how different variables indicate what influences people to behave in the manner in which they do. As opposing to each other as those two frameworks may be, it was necessary for me to explain why my participants behave in the manner that they do. Where salutogenesis will be used to analyze and discuss how my participants cope with their illness, the health belief model will be used to explain their behavior.

As you can see in the figure below, demographic and sociopsychological variables are modifying factors that influence individuals' perceptions about health. The perceived threat of the illness is also a contributing factor to whether or not individuals are likely to take action. As we will see later, health behaviors are a byproduct of health beliefs, which are within themselves a combination of attitudes, knowledge and perceptions.

Figure 3.

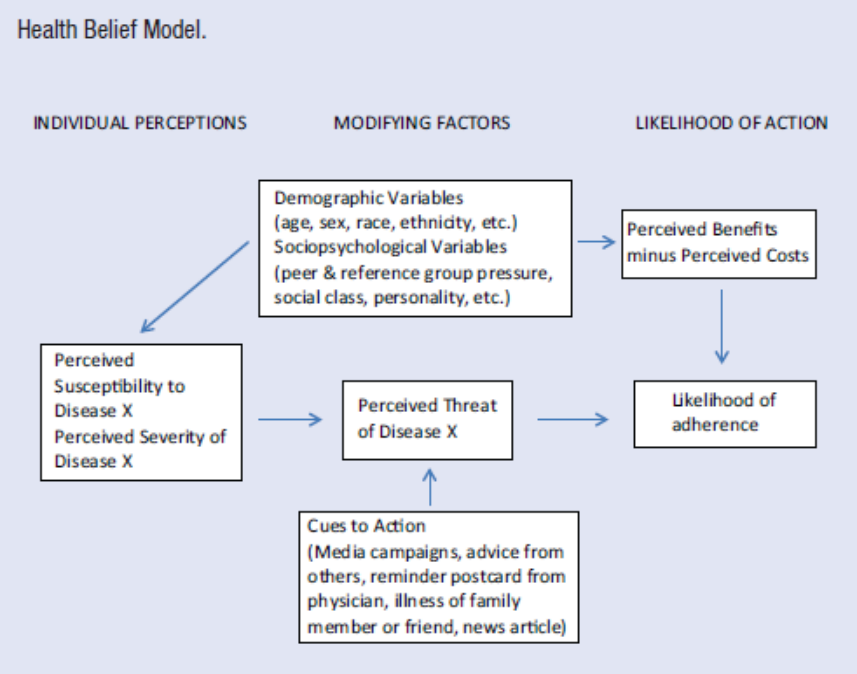


Figure excerpted from the original formulation of the HBM (Linke, Robinson, & Pekmezi, 2014)

According to I. M. Rosenstock (1974), several factors motivate people to take action regarding their health. Those factors are that 1) they should believe they are susceptible to illness, 2) that their lives would be affected, in one way or another, at least moderately or severely, 3) that the action taken would benefit them by reducing their susceptibility to the condition and it's the severity of the condition in case the conditioned occurred. In other words, if individuals believe that they are likely to become diabetic, and depending on how severe they perceive diabetes to be, they are likely to take action, provided that they perceive it as a threat and that the cost/benefit of action will save them trouble in the future. Other modifying factors that give the individuals an extra nudge to action are the demographic variable, such as age, sex, ethnicity etc., and sociopsychological variables such as peer pressure, family, support groups, etc. Other external variables such as campaigns, the media, and articles that are of relevance to the illness can motivate individuals to take action.

3 Methods

3.1 Research Design

This research is designed to study the lived experiences and perceptions of a phenomenon. This study focuses on the religious beliefs pertaining to health behavior, therefore a phenomenological approach is best suited for this purpose. According to Creswell, "understanding the lived experiences marks the phenomenology as a philosophy as well as a method, and the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meaning."(2009, p. 13). As a researcher, it is important that I set my own experiences aside as to learn as much as possible, from my research subjects about their lived experiences, how their understanding of fatalism plays a role in their everyday life dealing with diabetes.

3.2 Study Site

The study was held in Khartoum, the capital of Sudan. Khartoum itself is divided into three states separated by the river Nile and joined by bridges. Those states are Khartoum, Khartoum North (or Bahri), and Omdurman. In the past decades, Khartoum has seen an influx of people coming from all over Sudan. Before the separation of Southern Sudan, all the different tribes of Sudan were represented in Khartoum for the simple reason of marginalization. Sudan has suffered greatly in the last few decades due to war, political failure, economic sanctions and all in all governmental corruption and abuse. All the Sudanese people suffered alike, however none had it worse than the rural areas, thus the mass migration to the urban areas of which Khartoum had the largest share. Due to that, Khartoum represents the major part of the population.

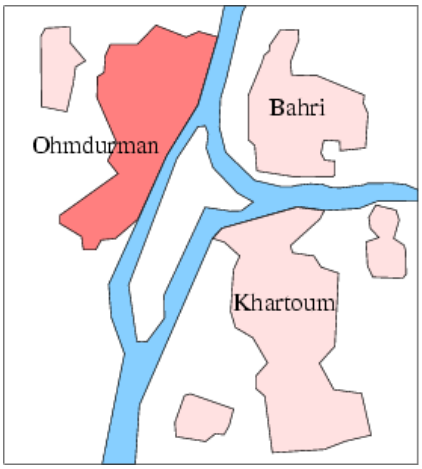


Figure 4. Map of Khartoum, Wikimedia.org, retrieved March 2014

Another reason why Khartoum was the likely choice for this study is that a large Coptic community lives in all the different states of Khartoum. The largest Coptic community as well as churches is in Khartoum.

3.3 Participants

To choose my participants I used purposeful sampling. I had three different groups of participants according to the subject matter at focus. Since this is a comparison between the Coptic and Muslim fatalistic beliefs and how it influences their health behavior, my inclusion criteria were Coptic and Muslim diabetics, Internal Medicine Physicians, a Coptic Priest and an Islamic scholar in Khartoum. Excluded were those who were not diabetic and those who were neither Muslim nor Coptic Christian.

3.3.1 Diabetics Participants

I intended to interview five Muslim and five Coptic diabetics, however due to some challenges related to the month of Ramadan, which was when the data collection was to take place, I only managed to interview five Muslim diabetics and three Copts. All my Coptic participants were male between the ages of 45 and 68, as for my Muslim participants, only one was male at the age of 65. The rest of the Muslim participants were female, two of whom were 20 and 22 at the time of the interviews. The other two participants were 48 and 66 years of age. A gender balance was not intended, however, some interesting findings related to gender power relations was evident, and therefore discussed later on in the Empirical and Discussion chapter. The participants answered my questions as to what fatalistic beliefs they have, what they understand fatalism to be, and how it influences their health behavior.

3.3.2 Internal Medical Physicians

I interviewed a Coptic Internal Medicine Physician, and a Muslim Internal Medicine Physician to gain insight into how they view their patients' beliefs influence their health behavior. Both were male. For the interview guide please refer to the appendix page 95.

3.3.3 Clergy Men

I interviewed a Coptic Priest and an Islamic scholar. These interviews were directed to help me understand what fatalism means in both beliefs. The interviews also helped me assess the similarities and disparities of fatalism in both religions as well as well as how fatalism contributes to health in the religious sense. For the interview guide refer to the appendix page 96.

3.3.4 Research Assistant

I only had one research assistant who was Muslim, as opposed to two research assistants that I originally planned to have, one of whom was supposed to be Coptic. The Coptic assistant was to assist with my interviews with the Copts. Unfortunately, the Coptic assistant could not be there for the interviews due to work responsibilities, and neither could she assist me with finding another Coptic assistant. However, I did not feel there was much trouble for my Coptic participants with the Muslim assistant being there during the interviews, therefore I chose to recruit only the Muslim assistant for all the interviews. This added validity to my data. Having one research assistant present at all the interviews rather than two, allowed me to cross reference with my assistant for the accuracy of the data, something that could have been lost if I had two assistants.

3.3.5 Recruitment

I recruited the three Coptic diabetics through snowballing. My gatekeeper for some of the diabetics and the Internal Medical Physician was the Priest that I had interviewed. I recruited the Muslim diabetics through a gatekeeper who is an acquaintance of mine, and then snowballed my sample. I have an acquaintance that I asked to recommend an Internal Medical Physician to participate. As for the Islamic scholar, I recruited one that I personally know since his religious beliefs and understanding I hold with high regard. This is very critical for my study for many reasons. In Islam, the understanding of the scholar to religion is predominantly influenced by their religious education, as with most religions. Having a scholar who will remain objective and explain to me what fatalism is and how it influences people's lives and behavior was my main target for this study. The Islamic scholar I chose to interview for this study therefore had to be someone I trust will remain objective and explain things to me in a logical and detached manner.

As for the Priest, I recruited him through the Coptic who was intended to be my research assistant. However, the high Priest that I had intended to interview could not be present for the interview at the day of the interview, so I chose to interview another Priest who was very kind to accept being interviewed instead. It is also worth noting that the Priest I interviewed has a medical background and was an Anesthetist before he dedicated himself completely to the church.

As you can see, what was intended and planned had to be changed due to circumstances and challenges that presented themselves. One major contributor to all these changes was the fact that the first month of data collection was the holy month of Ramadan. Ramadan is the month of fasting for the Muslims in the world. Unfortunately, it is also a dead month in the most of the Muslim world, and Sudan is no exception. It is a dead month in the sense that people do not work much, and therefore, it was difficult to interview people. Everyone I asked told me to come back after the month was over. This delay to begin with my data collection posed a challenge to interview all the five Copts that I had intended to interview due to the lack of time, and also because I could not find two more Copts who would agree to be interviewed.

Table 1: Overview of Study Participants

	Male	**Female**
Coptic Priest	1	
Islamic Scholar	1	
Coptic Diabetics	3	
Muslim Diabetics	1	4
Coptic MD	1	
Muslim MD	1	

3.5 Data Collection

For my data collection, I conducted individual interviews with each participant. I chose individual interviews because it gives me "control over the line of questioning" (Creswell, 2009, p. 170). Individual interviews give the participant enough confidentiality and privacy to speak freely without worrying about being judged. Since this is an interview related to religious beliefs, individual interviews give people a chance to voice their true opinions no matter how unpopular those beliefs can be. Focus group discussions could have been somewhat restricting in this case.

3.5.1 Individual Interviews

For my interviews, I employed the assistance of one research assistant for all interviews. Since the interviews took place in Sudan, it was best to conduct the interviews on the same day

as I have introduced the research project to the participants and given them the informed consent; please refer to the appendix pages 103, 105 and 107. This is more suited to the Sudanese context, since it is not in the Sudanese culture to have a planned and structured program for the day. Furthermore, having an assistant with me for the interviews helped me tremendously, especially since five of the participants were not comfortable with the use of an audio recorder. In one case, the audio recorder did not record the interview, and so an additional telephone interview was requested and kindly given.

For the Coptic group, I began by interviewing the Priest. This gave me more insight into the religious understanding of fatalism and how it can affect people's health beliefs. Another reason for interviewing the Priest first, is that I asked the Priest for assistance on guiding me to Copts who are diabetics. For the interview guide please refer to the appendix page 96.

Interviewing the Internal Medical Physician gave me insight into the health behavior that is associated with fatalistic health beliefs. For the interview guide please see appendix page 95.

3.5.2 Audio Recorder

In most of the interviews, I was given permission to and able to use an audio recorder to free me from recording the interview by hand, this allowed me to be more attentive and focus on what was being communicated with my participants. The recordings were later transcribed and translated. Since my participants' first language is Arabic, all the interviews were conducted in Arabic and later translated to English. However, not all participants accepted having the interviews audio recorded. Five of my participants did not feel comfortable with an audio recorder so it was not used. In this case I wrote down the points by hand and had my research assistant to cross reference with at the end of each interview. However, my research assistant was not present for the telephone interview.

3.5.3 Interview Locations

The location for the interviews with the Coptic Internal Medicine Physician was his clinic, and for the Muslim Internal Medicine Physician, it was more convenient in a quiet and somewhat private coffee shop. As for the Priest, the interview took place at a Church, however

for the Muslim clergy it was more convenient for him at his home. All the Muslim diabetics were interviewed in their homes, for that was more convenient for them. As for the Coptic diabetics, one was interviewed in a church, and two were interviewed in their offices. Since my participants chose the interview locations, I felt they were comfortable and more able to talk freely.

3.6 Data Management

After each interview, I placed the informed consent in a folder and placed that folder in a locker I had in my room. I was the only one who had access to the room. I used the audio recorder and transcribed the interviews into my personal computer which had a personal password that no one could access. After I finished transcribing, I deleted the files from my audio recorder and stored the files on my personal computer for future reference if needed. All the transcripts have been anonymized, however, once I no longer need the files or the transcripts they will be deleted.

3.6.1 Data Analysis

According to Creswell (2009) in his book Research Design, the best procedure to use for data analysis during or after the interview is analysis of significant statements, generation of meaning units, and the development of essence description. Figure 5 illustrates the process of my data description, analysis and interpretation. The process took the following steps:

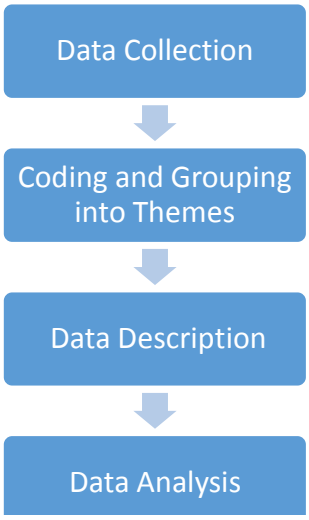


Figure 5: Coding process

1. Collecting my data through in-depth interviewing of participants from three different groups to learn as much as possible about; Fate and what it means religiously from clergy, to the lay person from diabetic participants, and how, if valid, it manifests in health care.
2. Grouping themes into codes and grouping those themes into basic codes, organizing themes and global themes. The themes were organized according to the research objectives and research questions.

3. The data were described in order to answer those research questions forming sections in the empirical chapter. The sections were on fatalism, health beliefs, culture, and health behavior. Each section was the result of data collected and grouped, compared and contrasted as to give as rich an account of what has been recorded as possible. The points of view of all the participants was taken into account and described to give each a voice in chapter.
4. Reflecting on what the data meant, I interpreted the data by reflecting, critically analyzing, comparing and contrasting on the meaning of the evidence and cross-reference with the literature available.

Following those steps, I was able to get meaningful answers to my research questions. Coded tables are attached in the appendix pages 97-100.

3.7 Trustworthiness

In scientific research trustworthiness of the data, findings and the interpretation of those findings poses somewhat of a challenge for the qualitative researcher. One of the main challenges is deciding whether the researcher's interpretation of the data is credible. Schwandt, Lincoln, and Guba (2007), argue that the scientific community find qualitative interpretation has no value and the scientific community stress the importance of evidence for the conclusions of the study to be validated and add to the growing scientific body of knowledge. However evidence, or what comprises to be evidence is within itself an interpretation. This, on the other hand is not to say that all interpretation is subjective.

Schwandt et al. (2007) explain that the investigator cannot be detached from the subject s/he may be studying for there are social circumstances that they have learned from as being part of the world they are studying. This adds to the knowledge, or at least relative understanding of the study subject. More so, they add that since interpretations are made within the context of the beliefs and practices of the study subjects, "it follows that interpretations are, in an important sense, infused with political and ethical implications related to matters of power and authority. In other words, interpretation is not simply an individual cognitive act but a social and political practice"(Schwandt et al., 2007, p. 12).

Nonetheless, in order for researchers to successfully defend their interpretations, they should, "appeal to criteria of both trustworthiness and authenticity" (Schwandt et al., 2007, p. 14). While I can defend the validity and reliability of my findings, I will refrain from claiming the generalizability of my conclusions for several reasons that I will discuss in the generalizability section below.

3.7.1 Validity

"Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Golafshani, 2003, p. 600). Since qualitative researchers employ philosophical arguments and critically analyze the contents of their data, the concept of research validity, reliability and generalizability become void and do not apply. According to Creswell, validity in qualitative research is, "that the researcher checks for accuracy of the findings by employing certain procedures"(Creswell, 2009, p. 190). This simply means that the researcher should be able to assert that the findings of the analyzed data are true. There are however, some obstacles that I faced with this regard, the Coptic community in Sudan is a minority and, therefore is under researched. This made it difficult for me to find preliminary data to support my research questions. However, this per se is strength, since by researching the Coptic community I will be filling a gap that currently exists in the academic arena. However, to maximize the validity of my data, I triangulated my data by collecting from several sources. For seven of my participants, I obtained permission to audio record the interviews. I also employed a research assistant that allowed for cross reference of the data to check for accuracy at the end of the interviews.

Interviewing the Priest, and a Coptic Internal Medicine Physician in addition to the diabetic patients gave me three perspectives on the subject matter. I was able to understand the religious perspective of health and illness and how fatalism influenced them, as well as understand the lay perspectives of the Coptic diabetics in relation to those religious teachings and how they apply in their lives. Furthermore, the Coptic Internal Medicine Physician highlighted the actual health behavior and practices of his patients. All those factors contributed to the triangulation of my data by the use of an audio recorder, a research assistant and the individual interviews. The same data collection procedure was used with the Muslim group.

3.7.2 Reliability

According to Kvale et al, reliability "pertains to the consistency and trustworthiness of the research findings"(Kvale & Brinkmann, 2009, p. 245). In quantitative research this may be relevant, however not in qualitative research. Given that this is a study to investigate the influence of fatalism on health beliefs, and due to the fact that those are religious beliefs that govern the entire study, it is somewhat difficult to ascertain how this study can be repeated to gather the same results. This is for several reasons. Faith means different things to different people. Fatalism could mean different things to different people. And since I am comparing two faiths, my findings will more or less be a general idea of what fatalism means to some, and how it influences their health beliefs with regards to diabetes. However, I used the same interview guides for all diabetic patients, clergy men and the medical doctors, which increases the reliability of my findings. The fact that I was the consistent factor in all the interviews also increases reliability.

On the other hand, more measures were taken to maximize reliability. In my interview with Dr Omer, the audio recorder did not record, so I managed to arrange a telephone interview as to check for clarity on some of the data and took that opportunity to confirm the accuracy of my written data which adds to the consistency and trustworthiness of the data.

Additional measures were taken when I realized some discrepancies in the responses of one of my participants. And since checking for reliability according to Lincoln and Guba (2004), is "the process of continuous, informal testing of information by soliciting reactions of participants to the investigator's reconstruction of what he or she has been told or otherwise found out and to the constructions offered by other participants or sources"(p. 19), it was imperative at times to do so during the interviews. Since I had known one of the respondent personally, some of their responses did not seem accurate, therefore I needed to probe the respondent to get an accurate account of the events. Another situation where this occurred was during an interview with OM, who preferred to have his daughter present at the interview. Again some discrepancies in the responses were called out that required some probing questions for accuracy. However, the discrepancies were only evident when behavioral questions were asked. Questions pertaining to beliefs, ideologies and world views are challenging to question, since

they are personal manifestations of a person's world philosophy. In this case, their responses were recorded verbatim.

3.7.3 Generalizability

According to Kvale et al, generalizability is defined as "the extent that findings in one situation can be transferred to other situations"(Kvale & Brinkmann, 2009, p. 324). They go on to explain though, that heterogeneity and individual uniqueness of the human race can be employed to attain universal knowledge, however, not to be generalized, but how they are perceived within a specific context. The movement from generalizability to contextualization of findings is more fitting to my research study.

The understanding of faith in general and fatalism in particular, is very individual and immensely value laden. However general, beliefs are experienced differently and understood differently. The intention of this study is to generalize analytically. Since I am comparing two belief systems, analytical generalizability, according to Kvale et al "is based on the analysis of similarities and differences of the two situations"(2009, p. 262), and therefore more fitting to my research. In addition to that, the limited number of my participants, especially the Coptic participants, makes generalizability somewhat challenging, however, it can provide insight to the phenomenon.

More so, the lack of literature on Copts in Sudan makes it more challenging to generalize, however, this study can be used for later empirical studies concerned with religious beliefs in health, and for an overview of the relation between the beliefs of the Copts and health. Another gap that this study covered was the comparison and contrast between the Copts and Muslims living in Khartoum. To my knowledge, this has not been studied before, and therefore adds to the existing body of literature.

3.8 Researcher's role

Since this research is about religious beliefs, as I had anticipated, some of my participants were trying to prove the superiority of their religion rather than stay objective and express their true understanding of fatalism and their health beliefs. However, I had expected that this will be

the case with the Copts rather than with the Muslim participants, the reason for this is that I belong to a different faith, and to them, it is an opportunity to teach me about their religion and put their religion in a favorable light. However, most of my Coptic diabetic participants were more objective with their responses and even gave me Islamic explanations to express their points. Most of the Muslim diabetics however, were a little more subjective with their responses.

As I have reflected on my role in the study, I believed that I needed to be very careful addressing the questions in my interviews especially with the Copts. Since I am a Muslim, I am well aware that the Copts may be a little skeptical as to my true intentions for making this study. Since the Copts are a minority group in Sudan, it is easy to feel discriminated against and marginalized. I have encountered problems locating material with regards to Coptic Sudanese. This gap could be a result of this marginalization, however, it specifies the need for such a study. What I encountered was quiet different. As much as it was difficult to allocate Coptic diabetics to interview, the interviews themselves were very smooth and none of my previously held fears that they would be suspicious towards my intentions were encountered. This may be due to the fact that I was referred to them by a Priest, and therefore, they were more accepting and trusting.

I believe that my own upbringing and life experiences helped me minimize the religious bias when it comes to faith. I have been raised in a home of a theological epistemologist. Free thought and acceptance of the other was always regarded as high moral values in my household growing up. At the age of ten, I used to have Jehovah's Witness come and give me lessons about their faith. I was educated in Christian Orthodox schools growing up, and my close friends ranged from Atheists, to Buddhists, Jews, and Hindus. I believe my personal experiences helped me remain objective and minimized researcher's bias. However, my personal experience did manifest in my data analysis as you will see in the discussion chapter.

Finally, I believe that my education and my gender also had an influence. I believe that my Master student status, especially coming from a foreign university, made my participants more trusting of my competence. And although most of my respondents were older men, I did feel their respect. Furthermore, I believe that due to my working experience in Sudan, working with people from different backgrounds and ages helped me remain professional.

3.8.1 Possible Influence

According to Biggam (2008), researcher's bias is very difficult to completely avoid since one's own interpretation of data is influenced by one's own, "prejudices, experiences, and personal baggage"(p. 100). There have been areas where I believe my person may have influenced the participants in areas that I believe may have been to the advantage of the study. Those areas affected were with the Islamic scholar and the Coptic Priest.

As I had mentioned earlier, the Islamic scholar is someone I personally know, and I chose him specifically because I share a lot of his beliefs. He was a student of my late father's school of religious thought, and therefore, what he believes and understands can be somewhat different from what a lot of Muslim scholars believe. However, he is Sunni Muslim like all the diabetic patients I interviewed. My influence here came to be since he knows I understand what he is talking about, therefore, he went into deep philosophical explanations that he knew I would understand. I believe that it would have been very different if someone else came to him without the background that he knows I have in religious philosophical understanding, since my assistant did not understand most of what was being discussed. I later had to explain to my assistant what was communicated. Please note that the views of the Islamic scholar are not a "new form of Islam", it's just a different way of analyzing concepts that shed's light and gives logical meaning, rather than subjective meaning that many scholars focus on.

Another area I believe my person might have influenced the respondent was with the Priest. Before giving me an appointment for the interview, the Priest wanted to know a little about what the research was about. At the meeting I had mentioned that I lived in Cyprus for three years. Greek Cyprus is an Orthodox Christian country and the Copts share their beliefs. The fact that I was educated in a Christian school in Cyprus, I believe, made the Priest more trusting towards me than if I had not had any form of Christian understanding. This familiarity that I had with Christianity, and especially Orthodox Christianity, was very appreciated by the Priest and he was very generous with his time and knowledge. He also assisted me tirelessly to find diabetic patients and the Medical doctor for my study, in addition to providing me with a Bible to assist me with all the verses that he had mentioned during the interview.

3.9 Ethical Clearance and Informed Consent

In addition to my research proposal, I had sent the interview guidelines and informed consent letters to the Norwegian Social Science Data Services (NSD) for ethical clearance. Upon granting me the approval, I was able to begin with the interviews and data collection. No ethical clearance was required from Sudan for there is no social sciences ethics board for research in Sudan at the time of the data collection for this study. For the NSD letter please refer to the appendix page 101.

Informed consent was given before the commencement of any interview. The participants were all informed with the purpose of the interview and information on the research was given before the beginning of the interview. All my participants understood the explanation of the research topic and agreed to take part in the interviews. In the explanation of the research topic, I informed each of my participants of their rights to confidentiality and that each of them would be anonymous with the exception to my research assistant who was present at the interviews, and my research supervisor who was to assist me with the research. However, the cultural structure in Sudan made this a bit of a challenge. Please refer to the appendix pages 101-102 for the explanation letter and informed consent form.

The cultural make up of Sudanese society in general is a very collective one. The majority of people in Sudan have no understanding, and therefore, hardly any respect for confidentiality. Some of my participants did not feel the need to be interviewed in a private area so they could speak freely. In a few cases, my respondent had a family member present that they did not feel the need should leave the room. Others were impatient with the reading of the explanation that I gave them before the interviews, and therefore I had to do it verbally most of the time. One of the participants noted after the interview that she felt a little afraid of the questions since I made it clear to her that all that she will say to me will remain confidential. Another respondent laughed while I was telling him about his right to confidentiality saying that, “this is Sudan, what confidentiality?” , he went further by saying how this is a very Western concept that we do not hold at so much value.

To some of the participants that asked me about confidentiality, I had to explain that their anonymity would provide them with the safety to speak freely without any fear of being identified. I believe that for some, this made them feel a little reassured and more confident to speak freely, however the majority had no concern for the matter, and felt that it was a foreign concept.

Although confidentiality and anonymizing my data was a foreign concept to my participants, I did not waive it, giving each of my participants a pseudonym.

As for the Cleric, Islamic scholar and Internal Medicine Physicians, anonymity was not provided, for their contribution was made as experts in their field, and therefore, their names were going to provide validity to the research. They were all informed of this and they all agreed to be interviewed waiving their rights to anonymity for the benefit of the study. For the informed consent of clerics and medical physicians please refer to the appendix pages 105 and107.

4 Empirical Chapter

In this section, I present the data available from the interviews conducted. I begin by introducing the religious beliefs of my participants both through their own understandings and the actual religious teachings from Clergymen who the experts in the topics discussed. From there I will illustrate what health beliefs they have, what religion says about health and illness and what the experiences of the Internal Medical physicians are with regards to their patients. I then present how culture affects people's understanding and beliefs, and how gender roles are affected due to those influences. I conclude this section by presenting the data on what actual health behavior of my participants.

4.1 Religion and Health

4.1.1 Christianity, Islam and Health

This study is concerned with fatalism and its effect on people's understandings of health and how it influences their health behavior. To get an understanding of what fatalism is in both Islam and Orthodox Christianity, I interviewed the Clergymen to help me get a picture about what religion says with regards to this topic.

In my interview with Father Salib, he noted that the Bible refers to health as the responsibility of people. The body is referred to as a temple and therefore taking care of it is part of worshipping God. He went on to quote the Bible saying, *"If anyone defiles the temple of God, God will destroy him. For the temple of God is holy, which temple you are"* 1 Corinthians 3:17. The body here is described as a temple, *"a temple is a place of worship, and therefore you should not destroy your temple"*. The Priest went on to explain that the Bible says *"For no one ever hated his own flesh, but nourishes and cherishes it, just as the Lord does the church"* Ephesians 5:29. This analogy of the church as a place of worship emphasizes that the body needs to be taken care of as a means of worship.

Father Salib went on to explain that in Christianity, people's bodies are not to be considered solely theirs, but an entity that belongs to God and therefore we will be questioned, on Judgment day of what we have done with them. Therefore taking care of our bodies comes as both a responsibility and a form of worship. He explains, *"He (referring to God), is going to ask us about what we have done with it (meaning our bodies)"*. Since our bodies are our responsibility, we need to take care of it by what nutrition we choose, bathing for hygiene,

clothing for warmth and protection, and of course medication in event of illness. By this, Christianity does not only make taking care of ones' health a responsibility, but also a personal duty, for our bodies do not belong to us, but to the Lord.

The picture is not very different in Islam, according to Zein el Abdein, it is our duty to take care of our bodies, however he takes it a step further and notes that in addition to that, taking care of one's environment and psychological health are crucial to the health of individuals. He explains that health in the Quran is universal, not only individual. The story of the Prophet Saleh in the Quran came to explain the need for sustainability and the need to manage resources. He emphasized the connection between people and their environment, and between the environment and health saying that they cannot be ignored. He went on to say:

> *"Humans are the children of the universe, our hair is the plant, our tears and blood are water, our bones are stones and rocks and our psychological makeup is made up of an unseen universe and can be described as the software in our computers. That is why psychological problems and magic and so on influence man when man is not in sync with his/her universe. As if people are a miniature universe and therefore they are affected by it and react to it as it is affected by us and reacts to us. Our psychological makeup is what leads the body and our health choices".*

The Quran and Islam in general refer to health in the physical, functional sense. It refers to the functions of the physiological and the psychological. It was referred to as a blessing and that man started off in the best of physical status, *"we have certainly created man in the best of stature"* 95:4 Sourat Al Tin. This is not to be confused with the stature as image, here the stature refers to the way man was, without deficiencies and diseases. Good health is considered within those circumstances which were described as best.

It is clear from what Father Salib and Zein el Abdein say that health is held at high regard in both religions, and that both consider taking care of health to be part of people's duties. In Christianity, we are taught to take care of our bodies and not defile it, and in Islam to even take care of our environment and our psychological wellbeing in order to sustain health for us and generations to come.

4.1.2 Fatalism

Fatalism was mainly referred to as a common belief in Islam however, and not Christianity. Nonetheless, the picture that was painted by both Clergymen was very different, and the common belief in fatalism among diabetics supports their arguments. So what is fate and what fatalistic views do diabetics from each religion have?

It seemed to me that the concept of fate in Christianity and Islam were somewhat different, however, what I have come to realize is that they both attribute fate to something external and out of peoples' control. Father Salib explains, *"Fate is external temptation. Events like your place of birth, your parents, who your father is and so on. Here is where fate comes into play"*. Therefore, fate is considered to be the events and circumstances that an individual has no hand in or control over. Nonetheless, he goes on to say that, *"that doesn't mean that you do not have control over what you do"*, meaning you are responsible for your actions and that your circumstances do not take away your freedom of choice. He explains, *"How can you be judged if you are not free to make your own choices? Fate in the way it is understood, other than what is external is against God's justice"*. By that the Father Salib means that we have freedom of choice to do what we choose with what has been given to us. Somewhat like how to play a game of cards with the cards you are given.

He went on to explain that if it is in ones' fate to be genetically predisposed to diabetes, one should be cautious and refrain from whatever can causes diabetes. Furthermore, if one then develops diabetes, then it is one's fate for they have no control over it. Nonetheless, it is still one's responsibility to take care of their health, to take their medication, change their diet and exercise.

The Islamic explanation of fate according to Zein el Abdein was not so different. He explained that fate is the sequence of events leading to something, meaning, it is what you have been provided with and it all depends on your choices. He went on to explain that the literal meaning of fate is of the events leading to something saying:

> *"Fate in the Quran is the sequence of events that lead to something, like an accident or illness. Fate is the end result of decisions. However, God exists with his actions, He conditions events as He wills, meaning that he is here to answer prayers and help you*

along the way. But the main issue here is your freedom to choose what you do, and therefore, your fate is based on your own decisions and actions".

To explain the Islamic concept of fate, Zein el Abdein went about explaining the duality of the human psyche. He explained that it is our psychological make-up that makes us free, and therefore, the belief in ultimate fatalism, where man has no choice, is not valid. Referring to Surat Al Shams verses 1-10 he explains this duality:

"By the sun and its brightness,
And [by] the moon when it follows it,
And [by] the day when it displays it,
And [by] the night when it covers it,
And [by] the sky and He who constructed it,
And [by] the earth and He who spread it,
And [by] the soul and He who proportioned it,
And inspired it [with discernment of] its wickedness and its righteousness,
He has succeeded who purifies it,
And he has failed who instills it [with corruption]." [1]

He explains that the sun and the moon refer to the masculine and feminine in human nature. Day and night refer to the differences and the opposites in human nature, however they still complement each other. He continues saying *"And [by] the sky and He who constructed it, And [by] the earth and He who spread it"* from this duality in the universe then God said *"And [by] the soul and He who proportioned it"*. He explains that man is a product of this universal reaction and so is his psyche, but since the psyche is made up and is the byproduct of this duality, it needs to be free. Freedom, however, he explains is not to be confused with todays' modern ideology of individual freedom to do as I wish according to my desires. He explains that there are natural laws that govern the universe and so there is for man. The Quranic principle of freedom is related to the choices and decisions that one makes according to those laws that

[1] Please note that Quranic translations take away a lot of the meaning and therefore should be read with caution. I inserted the verses that Islamic scholar Zein el Abdein explained to make it easier for the reader to follow through without confusion. Nonetheless, I will refrain from using Quranic translations in the future.

govern the universe. The emphasis is on maintaining the universal harmony that man is an intrinsic part of and therefore should be governed by in return.

Freedom of choice is highly emphasized in both Christianity and Islam, leading me to think that we are held accountable for our choices and decisions. Without freedom of choice we cannot be held accountable for our actions and therefore cannot be judged. In a sense, we are both guided and guiding our lives with what we are given, which is our fate, but are responsible for our decisions and behaviors, which are our choices. The argument that fate is what governs people's lives becomes invalid in both religions. This seems to be the common understanding of diabetics too.

In my interviews with diabetics, both the Christians and the Muslims, the idea that their diabetes is their fate but they are still responsible for their health is emphasized throughout. GC noted that *"some illnesses are your fate, and you have no hand in it. Sometimes illness can be a road to heaven, and some priests want illness upon themselves".* By saying that some illnesses are your fate, he is acknowledging the fact that not all illnesses are your fate, supporting the Father Salib's argument that it is an external temptation. GC's argument that some priests wish illness upon themselves also supports the Father Salib's argument that it is a temptation that leads to patience.

Father Salib explains, "Illness on the other hand is described as a temptation and a trial". He explained that disease is a trial quoting the Bible, *"My brethren, count it all joy when you fall into various trials, Knowing that the testing of your faith produces patience"* James 1:2-3. Verse 3 here comes to explain verse 2, where the Lord said, that trials should be counted as joyous because they produce patience and strengthen one's faith. Some disease can come as a product of temptation. The Lord says:

> *"Blessed is the man who endures temptation; for when he has been approved, he will receive the crown of life which the Lord has promised to those who love Him. Let no one say when he is tempted, "I am tempted by God'; for God cannot be tempted by evil, nor does He Himself tempt anyone. But each one is tempted when he is drawn away by his own desires and enticed" James 1:12-14".*

Father Salib explained that there are two types of temptations; internal and external. Internal temptations come from us, our desires and will, on the other hand, external temptation is what we have no hand in and therefore no control over, such as where one is born and one's parents. However, that does not mean that we do not have a choice with what we do with external temptations. He explains, *"It is a sin to succumb to the plate of spaghetti if I'm diabetic, because I'm submitting to my desires and against my health".*

Similarly when I asked my Muslim participants about what they understood fatalism to be, one respondent ZM, said *"God gives you an ailment in your body, then that's God's will. But if you took care of yourself then you will be healthy."* It is clear from this response that ZM does believe that she is responsible for her own health and choices in general, and that fate can play a part in her life, however, her life is under her control. AM went further and noted that *"in a Muslim's life, religion is in everything. Illness is part of going astray. Going astray is taking sugar when I am diabetic"*. Here again she explained her condition, and accepted it as God's will, however, she was well aware that she is still responsible and that her life and health are within her control. This is also supported by Dr Omer, the Muslim physician in my interview with him.

Dr Omer said referring to his patients that *"they are religious people most of them and they believe in God deeply and they believe in fate"*. However, that been said, he believes his patients still come to him for treatment because they also believe that *"people should use reason and move forward"*. He goes on to say that illness is from this world just as is their bodies, therefore they should seek worldly treatments for worldly ailments. Dr Makram however, the Coptic physician is not as optimistic about his patients.

When Dr Makram spoke about his patients, he was referring to all, Muslim and Coptic diabetics. He said, *"Sudanese patients exaggerate their belief in fate. They are not careful with their diet, and when he starts getting complications, they believe that that is their fate. But that is not fate, it's what they have done to themselves"*. So when I asked him about what his Coptic patients believed, he said *"they believe that everything happens to them because God allows it. God doesn't cause harm to people but can allow it, like He can allow them to get sick. Even die".*

It is clear here that Dr Omer and Dr Makram do not see eye to eye when it comes to their patients attitudes towards health and illness. However, it is clear that they also understand fate as explained by both Father Salib and Zein el Abdein. They both acknowledge that even though illnesses can be one's fate, one is still responsible to get treatment and take care of their health. It is also clear that the patients themselves think this way and believe they are responsible for their own health. This evidence leads to the conclusion that fatalism as explained by both religions is commonly understood by people, even if some choose to become passive and neglect their health, as in the case of the patients that Dr Makram referred to.

4.2 Health Beliefs

4.2.1 Diabetics' views on Health

Having presented what the participants say with regards to religion and health and people's responsibility with regards to it, and what diabetics themselves admit to having a responsibility towards their health, it is important to look at what diabetics believe health to be. It is also important to take into consideration the views of medical doctors to examine where those beliefs come from.

In this study Muslim diabetics, as well as Christian diabetics believe that both health and illness are from God, however they do believe that some illnesses can be caused by human behavior such as smoking. When asked about what health means to them, all my Muslim participants except one JM2, said that health is *"all that God brings".* That is not to say that the other participants do not believe that health is from God, but no one attributed all to God like JM2 did. As you will find, when I ask them about where they think health comes from, all said that it comes from God. However, when it comes to their understanding of what health is most of them explained it to deal with productivity and physical ability.

As OM noted when asked what health meant to him, *"someone is fit in his life, no pain or headaches or other problems"*. ZM also attributed health to physical functioning saying, *"health is when the person is able to function fully so he can do all his work and prayers and cooking of healthy meals"*. It is clear that all the participants, with the exception of JM2, relate health to the level of productivity. As for the source of health, AM said, *"physical health comes from nourishing the body by diet. Psychological health is through the Quran"*. Here again we see psychological health being emphasized, and the nourishment for psychological health comes

from the Quran, meaning reciting the verses of the Quran and seeking refuge in religion. Christian diabetics did not make that link between the physical and the psychological, however they all mentioned the importance of religion in health.

One of my Coptic participants CP, when asked why they managed to cope so well with the disorder said, *"He (God) said don't be afraid and don't let your heart worry, then we should have faith that God will help through anything"*. It was clear to me that he has a lot of faith in what he was saying. It is also true for the other participants. It seems that they are all religious and their beliefs are the anchors that help them cope. As SC puts it, *"If people had a strong belief in God, they will not be affected with anything in life"*. He went on to explain that beliefs are very important, not only to him, but for everyone, since people need comfort and God is a great source for that comfort. From this it is clear that their beliefs give them strength and help them cope. Although the Coptic participants did not make a clear link between religion and psychological health, it is clear that they lean on religion and God for coping, hence the psychological effects of religion are clear.

4.2.2 Medical Doctors and Diabetic's views on Health

It was interesting to learn from the medical doctors about the health views of their patients. Although doctors do not usually have a discussion with their patients about what they believe health to be, they can see from their patients behavior and health practices what those believes may be. Both Islam and Christianity have similar aspects when combining the physical and the metaphysical, although the practices themselves are different, they spring from a strong belief in the metaphysical and how it can cross over to the physical to create health.

In Orthodox Christianity, Dr Makram explained that a lot of his patients believe in the intercession of Saints and Holy men, whether alive or deceased. He explains that the Copts believe that intercession[2] is as important as the medical treatment they get. When I asked Dr Makram whether he believes that his Coptic patients believe they have control over their health or not with regards to intercession, he said, *"they don't believe 100% in treatment and that this*

[2] As explained by Dr Makram, intercession is "the requesting /praying to holy men, whether alive or deceased, for help and asking that they, the holy men, beseech God to heal them".

should be supported by intercession". This belief is very common according to Dr Makram with not less than 80% of his Coptic patients having those beliefs, he went on to say:

> *"Not less than 80% believe so. Even if the doctor asked him to take some medication, they always go to a man of God to ask if they should take the medications or if I ask them to take some drastic tests they usually go to a man of God first and ask if they should go on with it. And in the case of operation, and if the man of God told them not to do it, they probably will not. The interference of the men of God in treatment is something that is very prevalent between the Copts."*

This belief in holy intercession by Saints or holy men is also very common in Islam, however, with a Muslim flavor. According to Dr Omer, *"it is better now, but in the old days, especially those in the rural areas, people went to the witchdoctor[3] for everything. Now people are more aware and the witchdoctors themselves refer them to medical doctors"*. Witchdoctors usually treat by reciting verses from the Quran to dispel evil eyes or bad spirits, but there are those who also perform magic and spells and can prescribe medication and treatment for almost anything. Although witch medicine is not Islamic, it has become suited to Islam by incorporating Quranic verses and religious texts. Dr Omer goes on to explain however, that the picture has been changed over the years, he explains that people are more aware now, *"people are religious and they believe that all things are coming from God, but they still understand that there are things for God, things for the witchdoctor and there are things for the doctor"*. Meaning that witchdoctors still deal a lot with treatment, however, they are well aware now of the medical field and they work parallel to it.

The reason for this change is that many campaigns and workshops were done by psychiatrists and neurologists to educate the witchdoctors about certain disorders that are psychological and neurological in nature. This was done to help the witchdoctors recognize what medical conditions can be like so that they can identify symptoms, understand the need for medical treatment, and work in correspondence to the medical field. This paved the way for other medical branches. Witchdoctors currently will recommend that the patient seeks medical

[3] In Islam, witchdoctors are referred to as Sheikhs, since most Muslims believe that what is given to them is supported by religious texts. However, a more suitable term to use for them would be witchdoctors. Sheikh is usually a term that is given to given to religious scholars.

attention if they realize that the ailment is medical and needs medical attention. Dr. Omer explains:

> *"The reason for this working is that the medical doctors didn't stop the witchdoctors from working, they simply told them that they needed to work together, so in fact the witchdoctors were still giving out their herbal medicines and their other concoctions in addition to the pharmaceutical medications that we doctors give".*

It is due to the awareness of the witchdoctors now that they are cooperating with the medical doctors to help people. However, like the Christians many Muslims believe in the abilities of those witchdoctors to heal them physically by also utilizing the unseen metaphysical world of spirits, in addition to and in support of the herbal medicine and concoctions that they provide.

4.2.3 Diabetic patients views on Illness

CP, one of my Coptic participants used the story of the prophet Job to explain the virtue of patience in both religions. It is worth noting that another Coptic respondent, GC used the same story to explain this. CP explained patience as follows:

> *"We consider it a trial from God (illness). Everything happens to man by permission from God. So illness is a trial. And trial in our religion is either to make the man better in the sense is that man's path is not the right path, and God wants to wake him up from this path. Or if he is in the right path it can be a trial to test his patience, because in the end those who are patient will be rewarded. In our book and also in Islam, the best example of patience was described in the story of the Prophet Job. His test was very difficult although he was a righteous man".*

The reason they both used the story of the Prophet Job as an example was to emphasize that illness can happen to the righteous and that it is not a punishment. According to GC, *"God used the story of Job both in Christianity and Islam to show that anyone can be afflicted with an illness, and it doesn't mean that God is punishing you"*. He went on to explain that *"He (God) gave it to Job because he knew that Job will be able to handle it and not loose his faith".* It is clear from the comments of CP and GC that they do believe illness comes from God, however, they understand that they have a hand in some illnesses and realize that they are responsible for

their own wellbeing. GC explicitly said that by saying that illness is *"also from God, but God doesn't give you what you are not able to handle"*, meaning that even if you are ill, you are responsible for your own wellbeing, furthermore, it suggests that you are able to cope with it since God gave it to. This per se is an added reassurance that you can handle it. CP said that God,

> *"allows it, but sometimes I can be the reason. It's true that you have inherited it, then God has allowed it to happen, but some illnesses I bring to myself. If I'm a smoker then I developed lung problems, do you believe that it was allowed by God"*.

Here CP admits his role in his own health and the responsibility of his actions towards his health. We find the same with the Muslim participants, they acknowledge that illness is from God, however, they believe that they are in control of their health and believe that they should be responsible for their treatment.

When asked where they believe illness comes from, all the Muslim participants as their Christian counterparts said that it is from God. However, they are all aware that they are responsible for their own treatment and healing. AM noted that, *"illness can come from the culture of man"*, meaning that some illnesses can develop from the harmful practices of people, such as food, child marriage and pregnancies. These are harmful practices that are common in Sudan. So the idea of illness being solely from God is not seen here, and many acknowledge that behavior leads to health. ZM also acknowledges behavioral association with health by saying, *"if a person neglects his health and treatment and food and drinks then they will get ill"*. Here illness is attributed to the negligence of people as well as food and drink. ZM highlights that food and drinks are directly responsible for our health saying, *"healthy food and healthy drinks is the dynamo of the heart and the body"*. It is worth noting however, that one of the Coptic participants, GC, denies food and drinks having anything to do with health saying:

> *"health is a blessing from God but we need to take care of it if it's going to last. It doesn't come from food and water. There are many people suffering and poor without but they are healthy, and others very rich and they are sick. Health is a blessing that we need to protect".*

This is not to say that he does not believe that food and water play a role in health, but he believes that being ill is God's will, and if God allows it to happen you will get ill even if you are eating and drinking well.

Nonetheless, it is clear that most of the participants attribute health and illness to their own behavior and acknowledge that one's actions can lead to either health or illness and none of them believe that illness is a punishment from God. In fact, most of the Copts consider it to be a trial that God puts you through to help you learn something from it or gets you closer to him. However, the experience that the medical doctors have with their patients paints another picture.

4.2.4 Medical Doctors and Diabetic's views on Illness

Both Dr Omer and Dr Makram, point to two factors when referring to their patients awareness and understanding of health and illness; knowledge and education. They both say that their patient's views on illness vary according to the patient themselves. When asked about how the majority of his Coptic diabetic patients viewed health and illness, Dr Makram replied:

> *"these understandings depend from one person to another based on education. Those who are more educated have different opinions, but those who are less educated and less aware of medical and global health networks believe that health is measured by weight. The more over weight they are the healthier. And that's probably more prevalent among the Copts".*

However, weight, as a measurement for illness is prevalent among most Sudanese. In fact, if you see someone put on some weight, your comment to them would likely be, your health improved. This is applies to all Sudanese, not only the Copts.

When asked the same question, Dr Omer said that *"people started getting educated and knowledgeable health wise, and know that there are illness from air, the environment and water. They developed with the rest of the world"*. This means that people no longer attribute illness to magic and the evil eye as they used to decades ago. He attributes this awareness to different factors, mainly exposure and the media among other things. He went on to explain that:

> *"people know that there are genetic and environmental problems that cause disorders. They started to know all these things now, not like before. Before there were a few people who were diagnosed and now there are many and people started to know about diabetes.*

There are so many things that affected their understanding like the media. It changed the way people think".

This knowledge about diabetes due to exposure is concurred by Dr Makram. He explains that people now are very used to diabetes that they can suspect it if they experience some of the symptoms. He noted that *"they see other members of the family that are diabetic and they live their lives. And they can, with management, avoid complications"*. Diabetes is now very common in Sudan that people are more likely to suspect diabetes on their own and test in the lab without any medical recommendations. This is due to the fact that a lot families in Sudan have at least one person in the family who is diabetic.

4.3 Cultural Influences

4.3.1 Cultural influences on Medical treatment

The Coptic community is originally Egyptian, however, they have lived in Sudan for over a century now. This may have contributed to them becoming culturalized by the Sudanese community that they have chosen to live amongst. However, their Coptic traditions and culture is still prevalent and strong within the community specifically because the Coptic community is a minority and therefore they are a tight knit community that is held together by faith and culture.

Dr Makram noted that *"the Sudanese Copts have been in Sudan for at least 50 years and the majority has been here for around 100 years in Khartoum. To the extent that the Pope of the Egyptian Coptic church visited Sudan a 100 years ago and built the first Coptic church in 1910"*. So although they are from a different country, they have been in Sudan for a while and consider themselves Sudanese now. However, due to religious reasons, the Copts hardly intermarried with the Sudanese community, but they have become part of it nonetheless. Dr Makram goes on to explain that, *"that's to tell you that the understandings of the Copts are close to the understanding of the Sudanese culture in about 70%. That is just an estimate, I cannot say that is a statistical figure. So it's no surprise that they have similar beliefs and understandings".* Those beliefs and understandings manifest in their health beliefs as well. As I had mentioned earlier, weight is considered a sign of health, a belief that is very prevalent in Sudan.

Dr Makram explains, *"a minority of the Copts and the educated know that they shouldn't eat a lot of carbohydrates, sugar and salts and that is what's right. But the majority believe that health is in being overweight"*. This focus on food, especially carbohydrate rich food is prevalent

in the Sudanese culture. Dr Omer mentioned that he encountered problems in this regard with his patients. He said that, *"some of them don't listen, they say they can't go without sugar and they are the difficult ones because they cause themselves complications later, but most of them understand that they need to make those changes and they usually do"*. However, that has not been the case for Dr Makram. His experience with his patients is that they usually do not adhere to the diet change because they do not want to stop eating sugars and carbohydrates.

In his experience with his patients, Dr Makram usually tells his patients to change their diet for 3 months and then come back for more testing before he starts them on medication. However, he says that the majority of them fail to change their diet and hence he starts them on medication. He explains, *"in Sudan, the most difficult for the patient is the diet. Sudanese people love sugar more than food"*. Problems with patients adhering to their recommended diet change is also expressed by Dr Omer, however, his difficulty was mainly experience from older women. He explains, *"the only problem we encounter is with older women. They are usually a little difficult to handle because they don't change their lifestyles much"*. It is also worth noting that Sudanese people are not very active. So neither the diet nor the exercise routine changes much after they are diagnosed with diabetes. Unfortunately, this leads to many complications later on in life, and many take it lightly, as we will see from the diabetic participants themselves.

4.3.2 Cultural influences on health control

It was important to include this section because the Sudanese diet is one that is very high in carbohydrates and Sudanese people in general are very fond of sugar. However, only one of my participants made a direct comment on Sudanese cultural foods such as Kisra, which is Sudanese bread that is very much like a Crepe. Kisra is used to dip the food in and is very high in carbohydrates. Since Kisra is as thin as a Crepe, Sudanese people and diabetics especially do not take into account at how dangerous it is for diabetics. More so, an individual would normally consume more than one piece in a meal. One of my participants commented relating to Kisra laughingly*, "it's all carbohydrates but that's our national food. Kisra and Assida… everyone in Sudan eats Kkisra and Assida"*. Assida is an araby-style, oversized dumpling that is used to eat with savory foods. It is very high in energy and very rich in carbohydrates.

Another challenge for the diabetics in Sudan is not only the quality of food but the quantity. Again it was only one of the participants who mentioned this, OM, but I believe that it

speaks volumes about the actual food culture in Sudan. Sudanese people eat together like most cultures in the world, but we took from the Arab culture of "food in abundance". OM described it accurately saying that, *"we eat with our eyes"*. He went on to say:

> *"our culture teaches us to be generous with our food, and so we make food in abundance especially when we have guests. We always have varieties and usually eat from every single dish that is put on the table. Sometimes even when you are full, you push yourself to eat a little more so you would have eaten from all the dishes on the table. We eat with our eyes, and we are not conscious about the quantity".*

It is obvious that the Sudanese culture poses a threat to the diet changes required for diabetics. Although many people now are aware of diabetes and know that they need to make diet changes, it is very difficult for them. A lot of them attribute it to social propriety. OM explained that health is *"not out of our control, but it is out of our make up as a culture. Our social life makes it hard for us to take care of our health. If I visit someone and they offer me Pepsi or something what can I say"*. When I asked him if he could just decline saying he was diabetic, his response was that they would find him something else to drink, and by that he has troubled his hosts and how important it is to be a light guest when you visit people.

This cultural challenge however, was not considered a problem for the Coptic diabetics. All of them mentioned that they had a problem stopping sugar at first, but that they managed to make the necessary changes and adapt to their condition. It is evident that my Coptic participants, even though they are very much part of the Sudanese community, managed to prioritize their health and adhere to the changes that were required. CP noted that, *"the biggest challenge for me was to get rid of sugar in drinks. That was my only challenge, but in about 15 days I was able to adapt"*. From this we can conclude that my Coptic participants show more self-restraint than the Muslim participants. GC explained, *"my body is under my control and not the other way round"*.

As you can see, this is a very different picture than the medical doctors have portrayed. Dr Makram criticized the Coptic diabetics for not showing any self-restraint, and Dr Omer said that there are some difficulties but most of his patients adhere to the treatment and change their diet. However, the Coptic diabetics that I had interviewed all showed self-restraint, and the Muslim diabetics on the other hand showed little self-restraint.

4.3.3 Cultural Influences and Women

The cultural influences on gender was very evident and kept presenting itself more strongly during the course of my interviews. However, this was only the case with my male participants rather than the women. With the exception of SC, all the male participants, both Muslim and Coptic expressed the support of their families. They emphasized that their wives were the ones who were responsible of the kitchen in the household and therefore were the ones responsible to prepare the meals for the family. Since the male participants were all married, they all had their wives to take care of their meals, and therefore, it was their wives who made the necessary adjustments for their husbands' condition. Referring to this OM noted that, "they hardly make dessert now and anything that is high in carbohydrates", referring to the women in his family.

CP also referred to his wife's responsibility for his meals saying that she is the one who prepares his meals for him. He noted that *"she makes sure I eat properly"*, illustrating that she makes his food according to his health requirements. This was also expressed by GC whose support wasn't only from his wife, but comes from the whole family. To him, his condition and diet change came to benefit his family saying, *"the good thing is that my condition made my family more health conscious. My wife and children are now as health conscious and aware of their diet as I am. This is the greatest support"*. GC expressed his gratitude in the sense that his family benefited from the health benefits of the diet change that was necessary for his condition, as did OM, however, in OM's words, his gratitude was more for his family's support rather than the health benefits. He noted that, *"they have been very supportive. Now they have cut down on the carbohydrates too so they can help me"*. OM's daughter, who was present at the interview mentioned that her father was not putting enough effort to change his diet saying, *"he is not watching out, we're taking care of him more than he is taking care of himself. We're doing the watching out for him"*.

The evidence that the male participants have the support of their wives and family to deal with their condition was overwhelming, however, the situation was quite different for the female participants.

As mentioned above, the males have the support of their family, since it's the women who prepare the meals in Sudan. However, the women show poor self-restraint as compared to

their male counterparts. When asked if she had changed her diet AM said that she has not and mentioned that she has only cut down on the sugar with food, however, she prefers to self-medicate with cinnamon. When asked about when she was diagnosed with diabetes she said:

> *"I get diabetes in each pregnancy except for one of my children. The last pregnancy, my blood sugar was very high, I treated myself with cinnamon which reduced the level of blood sugar rapidly and I needed to take sugar to balance it. The last pregnancy was the one that made it stick. I became permanently diabetic since. That was 6 years ago".*

ZM also prefers to self-medicate with herbs. To her, herbs and reciting the Quran can be medication enough, that she could stop taking her medication altogether. She explained, *"I'm normal, and when I feel I'm good and that my diabetes has gone, I stop taking my medication"*. Note that by saying that her diabetes is gone, she is referring to a feeling rather than an actual physical examination to determine whether she is or is not diabetic. Please note that ZM is not ignorant with regards to diabetes and the required health adjustments. In her own words she said, *"when a person eats well, his blood is good and his nerves are good and he should move and exercise and walk. Those who are diabetic need to walk and those who have high blood pressure should walk".* This demonstrates that she knows what she needs to do whether or not she follows through with it.

As for the two Juvenile diabetic participants, they said that their adjustment was not all that difficult since they both take insulin, and with insulin their diet regimen is not as strict as those who are on other medication. When I asked JM1 if she changed her diet when she became diabetic she said, *"not really, I take my insulin and eat whatever I want".* However, JM1 is the only one in the Muslim group who is conscious about her health and is the only one who does any type of vigorous exercise regularly.

Nonetheless, as far as diet change is concerned and family support, the support shown to the male participants is not evident with the female participants. On any level, and as mentioned earlier, meal preparation is the responsibility of the females in Sudan, and that should give them an empowered position to choose what they should eat and what their family should eat. As OM noted, *"we men usually come home and eat anything the women made that day. The good ones don't complain much"*. Although it is true that Sudan is a patriarchal society, women can choose

to eat what they like, more so if their health requires it. I conclude this section using OM's words, *"I can't force people to eat what I eat"*.

4.4 Health Behavior

The disparities between what the medical doctors say and what the patients say may be explained in the health behavior of the patients. Needless to say, the health behavior of the patients is the product of their health beliefs.

4.4.1 Testing

With regards to testing for diabetes, all my Coptic participants noted that they went to test on their own. They were not referred by a doctor except for GC who said he was encouraged by a friend of his who was a medical doctor. He said that his circumstances at the time when he started feeling the symptoms were demanding. He lost weight and needed to urinate frequently. It was when he went for a medical check-up according to his friend's recommendation that he discovered he was diabetic. However, the other two Coptic participants, SC and CP recognized the symptoms on their own and decided to go to a lab to test for diabetes without reference. When asked about this SC commented, *"We are a family of eleven and we're all diabetic".* This familiarity with the disorder may have contributed to the decision that many take to test for diabetes in the lab instead of going to a Doctor.

The Muslim diabetics are also choosing to go directly to the medical lab to test for diabetes instead of going to the doctor first. This is the case with all the patients except for two young diabetics JM1 and JM2. They were taken to the doctor by their parents when they were children. Both were type I diabetics and they were referred to the lab for tests by their doctors. JM1 remembers, *"I lost a lot of weight and I used to go to the bathroom a lot, so my parents took me to the doctor and found that I was diabetic. That was 12 years ago when I was 9 years old"*. JM2 had a similar experience to her sister. However, the rest of the adult participants said they went to the lab to test first. This tells me that diabetes has become very common in Sudan and that people have become increasingly aware of it and its symptoms.

OM commented, *"I needed to urinate frequently so I checked and found it to be very high, so they asked me to come again fasting this time for another check-up. I went the next day and found it to be still very high".* This familiarity with diabetes also influences people's reactions.

4.4.2 Reactions

It is worth noting that many of the participants whether Copts or Muslims said that their reaction to learn they are diabetic did not affect them much. Some even went to say that they were expecting it. However, two participants had the opposite reaction and were devastated to learn of their disorder. This was the case with the GC and AM. However, their reaction came as a result of their circumstances and experience with the disorder rather than the perceived severity of the disorder. GC said, *"I was shocked of course and upset too. I had just lost a lot of money and now my health"*. He attributes his disorder to his life circumstances and his situation at the time of his diagnosis, which may have also contributed to his shock and anger. In AM's situation, it was her experience with her mother's condition that contributed to her reaction. She said, *"My initial reaction was complete shock and I did not know how in the world I will stop taking sugar. I was not shocked that I was diabetic, I was shocked that I can't take sugar any more. I believe that diabetes is hunger. I learned this from my mother"*.

On the other hand, the reaction to the diagnosis was not as severe. One of the Coptic participants SC dealt with the diagnosis very objectively. He explained that he doesn't consider diabetes to be a disorder rather a deficiency, *"you have a deficiency in something and you balance it with diet. Or you stimulate it with medication"*.

With the exception of AM, the rest of the Muslim participants said they had similar reactions. OM's reaction to the diagnosis was that, *"it was normal, I'm not a young person, I am a little old. And if diabetes will affect you, like your sight and things like that, it will happen after a while not now, according to my knowledge about diabetes. So I was not worried and it didn't affect me much"*.

When I asked JM1 and JM2 about their reaction they both noted that it did not affect them. JM1 said, "it didn't affect me much. I was young so I didn't understand much". JM2 had a similar experience and noted that, *"it didn't affect me much. I was young and saw my sister before me. It was normal"*. From this, it is evident that being diagnosed diabetic for my participants did not have severe consequences on most of the Coptic and the Muslim participants alike. This may have contributed to their coping with the disorder.

4.4.3 Coping

Most of the participants coped well, especially the two juvenile Muslim participants. The other Muslim participants also said that they coped well except for AM. She had a very different experience. She said that she was shocked to learn of her diagnosis, but also attributes her lack of coping well in the beginning to the health care system's lack of support. She says, *"in our country we are not given any information except that we have diabetes and no culture of how to deal with diabetes is in the health care system. I was left to educate myself on my own"*.

The Coptic participants also coped well. Although GC had a difficult time reacting to his diagnosis in the beginning, he said that it all subsided after a while. The other participants seem to have coped well with their diagnosis and their disorder. CP noted, *"I had to cope, it was inevitable to become diabetic. And since it was my luck in life (to become diabetic), I had to work with it"*. He believes that it was inevitable for him to become diabetic because his mother is diabetic, therefore he was expecting to become diabetic. We find this expectation in another respondent, SC, where he said, *"I was not affected at all because I expected to be diabetic. I expected diabetes will come at any time. I was 40 when I got it and its normal after 40. It was not a problem"*.

> When asked why he managed to cope so well with the disorder, CP responded:
> *"the promises of God that he gives you in the Holy book, tells you that all is for the benefit of man. Some people believe in that promise and some don't. One of those promises is "don't fear". So that tells you that you shouldn't be afraid of anything. Since He said "don't be afraid and don't let your heart worry", then we should have faith that God will help through anything".*

It was clear to me that he has a lot of faith in what he was saying. It is also true for the other Coptic participants. It is evident from the data that my participants are all religious and that they rely on their religious believes for comfort. We find the same reaction with the Muslim participants.

4.4.4 Diet Change

When it comes to health behavior, I find that none of my Muslim participants are really putting an effort to change their health behavior towards a healthier one for their condition

although most of them say otherwise. When asked if they had made some adjustment to their diet and exercise regimen, they all say that they have, however when I ask them specific questions regarding that, they either make excuses or make an argument as to why it is not good to quit sugar.

One case where this is evident is when I asked OM if he had made any changes with regards to his diet, he said *"of course I'm a little more moderate in the intake than before, but not so much"*. However, his daughter, who was present at the time of the interview protested that he's not watching out and that they are the ones (meaning his family) are looking out for his wellbeing more than he is. When confronted with that he explained,

> *"its difficult. In the morning we have tea with milk and sugar coated dumplings usually, but now in Sudan, people have breakfast and lunch late, so even the time of food we eat is late. And now we sleep a lot more. We eat and sleep. We don't follow the religious teachings that we should eat and move"*.

The same was true for ZM, she first said that she "reduced the carbohydrates and meat", but since I know her personally, I asked her some probing question relating to her intake of sugar. She then insisted that it was not good for the diabetics to quit sugar saying *"by God it doesn't do anything to me! I never started shaking or got light headed or had a fever. I eat my desserts and I take my herbs".* The Coptic diabetics, on the other hand, said that they have made the necessary changes.

All the Coptic participants said that it was not much of a hassle to change their diet. SC noted, *"my diet changed, I decreased the amount of bread and also the type of bread in the beginning. But now I eat white bread since I take insulin. But then I used to eat less bread and I stopped sugar".* GC said that he managed to change his diet, but he sure was going to miss the sugar. He was laughing at himself for having weakness towards sugar, but seemed pleased that he managed to quit. *"My biggest problem was Pepsi and Basboosa*[4]*, but people adapt and I was able to adapt"*.

[4] An Arabic dessert made from course semolina and coconut, then covered in syrup.

It is clear that there is a difference between the Muslims and Copts with regards to behavior, where the Copts are clearly showing much more self-restraint than the Muslim diabetics. We find the same with regards to physical exercise.

4.4.5 Exercise Change

Exercise was not an issue for all the Coptic participants. GC noted that due to his reaction in the beginning when he first learned about the diagnosis, he was a little obsessed with exercise. He said, *"I walked for an hour everyday".* SC, more so, mentioned that he was very sporty when he was younger. He is 83 years of age at the time of the interview, but he mentioned that he previously used to play tennis and participated in marathons. He said*, "I was very sporty. I used to play tennis and I used to walk a lot. In England we once walked from 9 in the evening until 3 in the afternoon continuously"*. He went on to say, *"But now I stopped tennis, because running and so it is not for my age any more"*.

As for the Muslim diabetics, they all agree that diabetics should do some form of exercise and they agree that there are benefits to exercise. However, none of them do any kind of vigorous exercise except for JM1 who swims regularly. OM on the other hand said, *"it's very important, personally I'm lazy when it comes to exercise, but it's very important. Some of my doctor friends tell me to walk. And when I do I always feel better. Even the frequency of urinating is longer when I walk a while"*.

ZM does some work around the house and her garden and mentioned that she sometimes takes long walks, however, it is not regular. While they do acknowledge the benefits of exercise, most of them do not have an exercise routine that they follow. So here again, we see that the Muslim diabetics and the Coptic diabetics are very different when it comes to the lifestyle changes that they have made in accordance to their condition.

4.5 Conclusion

It is evident from the data available that religion plays a pivotal role in the lives of my participants. Both the Coptic and Muslim participants have a strong belief in God, and according to them, His presence in their lives is cornerstone. However, the evidence also shows that although they believe in the metaphysical, they do believe that they are have the sole responsibility towards their health and wellbeing. The level of commitment shows variations though especially when it comes to the gender role and the Muslim participants with regards to

their actual health behavior. This may be due to several factor that I discuss in the discussion chapter.

5 Discussion Chapter

If we were to give a concise overview of what health promotion as a field is trying to accomplish from the Ottawa charter to the present day, we can say that health as a human right to all, is the tool that societies need to use for development and the individual responsibility of people. Moreover, it is the responsibility of communities to enable its people to reach their full potential and allow for a good quality of life to be lived and shared by all. In its definition, health promotion is "the process of enabling people to increase control over, and to improve, their health" (WHO, 1986, p. 1). So, when it comes to fatalism, it can be seen as the opposite of what health promoters are trying to accomplish within their field. Fatalism "has been examined as an inhibitor to participation in health promotion programs and health care utilization. Based on previous research, a person with fatalistic beliefs perceives health as being beyond one's control and instead dependent on chance, luck, fate, or God" (Franklin et al., 2007, p. 564). However, it is not in the case for my participants.

The abundance of literature on the negative effects of fatalistic beliefs on health have been widely accepted in the scientific community. Much research can be found to link fatalistic beliefs to negative health practices or negligence (Niederdeppe & Levy, 2007; Straughan & Seow, 1998; Walker et al., 2012). The notion that fatalism as a religious concept is also abundant in the literature (Acevedo, 2008; Dohrenwend, 1959; Kvanvig, 1992; Nietzsche, 1989), however, this is mainly due to the perception of fatalism as a concept that removes control from people and puts it in the hands of an invisible deity.

However, their argument was based on whether or not they have fatalistic beliefs and whether or not they believe that their conditions were fateful events that they had no control over (Hjelm et al., 2003; Straughan & Seow, 1998). In this case, then yes, most fatalist participants would agree that they have no control over fatalistic events, such as disease. More so, fatalism was considered a dependent variable in most of those studies where fatalism of a specific disorder was studied, such as cancer fatalism, and did not take fatalism as a religious concept and world view with in itself.

A systematic review of the literature on the relevance of fatalism in Latinas' cancer screening behavior reported a number of problematic areas in the literature available. According to the authors Espinosa de los Monteros and Gallo (2011), most of the studies adopted a cross-sectional design, which limits conclusions about causation. This type of design can conclude prematurely, that if the belief of fatalism is present, then it is likely that the health outcome is negative due to the prevalence of fatalistic/negative health outcome ratio. Espinosa de los Monteros and Gallo also reported that "while all studies measured fatalism, the operationalization and measurement of the construct varied across studies" (2011, p. 312) leading me to question how it was concluded that fatalism negatively affects health especially since the difference of the cultural understanding and religious understanding of fatalism was not assessed. More so, Espinosa de los Monteros and Gallo (2011) discussed that,

> *"most of the studies to date have adopted cross-sectional designs that limit conclusions regarding directionality. Therefore, one cannot rule out the possibility that the observed associations between fatalism and cancer screening maybe better accounted for by the influence of participants' behavior (i.e., underutilization of cancer screening services) on their beliefs about the importance of early detection"* (p. 316).

In my study, half of my participants do not adhere to their medical recommendations, especially when it comes to diet control and physical activity, despite that they all have fatalistic beliefs. Therefore, if fatalistic beliefs were a predictive factor for negative health behavior would not at least the majority of my participants have negative health behavior? What is interesting to note here is that none of my participants used the word fate to explain why they became diabetic. The word fate was not used unless to explain one of the reasons why people get ill, but not why *they* became diabetic, with the exception of JM2. While they all believe that God is the giver of health and illness, they acknowledged that it could be genetic, or behavioral, or even due to age. The meaning of fatalism in literature, and the use of fatalism as a negatively contributing factor to health is not corroborated by my data.

Fatalism is a religious concept and cultural factors influence religious beliefs, thus we have the disparities in religious understandings. Therefore it is essential in the case of studying a religious phenomenon that one should consider the cultural context of the participants involved,

since cultural variables act as behavioral indicators stronger than religious beliefs. However, the belief that God is on the side of the individual, and furthermore, that God will not give an individual what they cannot handle is a religious concept that helps individuals cope and make sense of their world. This concept strengthened the sense of coherence of my participants and enabled them to cope better with their disorder. More so, fatalistic beliefs per se are independent of their behavioral outcomes, not due to the belief that health is out of the control of the individuals, but due to other independent variables such as demographic and sociopsychological variables such as age, gender and culture. This is evident in both the Coptic and Muslim participants.

5.1 Fatalistic Beliefs

With regards to fatalistic beliefs, all my participants, both Coptic and Muslim diabetics explained that fate is an external locus of control, meaning things that are out of the person's control. However they all pointed out that although fate is out of one's control, one is still responsible for their own behavior. This belief was shared by all my participants except one Muslim Juvenile diabetic, JM2, which I will later come to at the course of this section.

At the beginning of this research, I had anticipated to find disparities in the meaning, and therefore differences in the belief in fatalism between the Christian Orthodox and the Muslim faiths, however, I came to realize through my data and further reading in the subject that this is not true. In both Orthodox Christianity and Islam alike, fate means more or less the same thing, making a difference in semantics rather than the meaning itself. The belief in fatalism itself is widespread in both faiths. However, as I have also come to realize by my evidence and the literature available, that fatalism in Islam does not put people solely under the control of God without their behavior being an integral factor in what they choose to do in any given situation.

So exactly what does fatalism imply? According to Kabasakal et al. (2001), fate is perceived to be a negative factor that influences societies' future orientation. They explain that fate is not only widespread in Islamic societies, but is strongly rooted in them. They further explain,

"the concept of fate in Islam involves acceptance of all deeds that occurred in the past or that will occur in the future as prearranged and perhaps within God's preordaining. On the other hand, there are many verses in the Koran that explain the importance of a human being's responsibility and choice of his/her actions"(p. 484).

This definition is strongly supported by the evidence of my data. Only one of my participants believes she has no control over her life. A belief that is not shared by any of my remaining participants. Hence, it is not fatalistic beliefs per se that puts individuals at risk of being passive towards their health, but their own individual understanding of it, as was the case for my participants. Why is it, then, that fatalism in Islam is usually perceived as a negative concept?

Acevedo (2008) argues that there are many factors that led scholars studying fatalism to believe so. One of those factors is the word Islam itself suggests, or rather means submission. Another factor was how the, fanatical Islamic scholars', as he puts it, explain fatalism to be completely out of people's control. One factor that is of relevance to my study particularly is how Christian fatalism and Islamic fatalism have been portrayed to mean very different things. He explains:

"Christian fatalism has generally been associated with a subtle and more rational notion of predestination while Islam has been characterized as fostering an extreme form of predestination that sways the theology towards fatalism" (p. 1717).

While all my participants believe that all things are attributed to God, they do believe in their own freedom of choice. It is understandable how the previous definition renders individuals powerless over their conditions. Unfortunately, it is the widespread understanding of fatalism. Nonetheless, this understanding of fatalism was not shared by any other participant I had interviewed with the exception of JM2, either Muslim or Coptic. It is thus reasonable that this understanding of fatalism can lead patients to lose the strong motivation required to care for diabetes. However, this definition is neither what Christianity nor Islam teaches and defines fatalism to be.

In Islam, fatalism as explained by Zein el Abdein is a sequence of events leading to an outcome. This simply put, is the end result of our choices or paths we choose to take and the end result of our choices is what our fate is. This is in contrast to the popular belief that fatalism renders people powerless, as mentioned by Acevedo (2008) that "[i]t has become a commonplace that Islam is a fatalistic religion which teaches that everything is determined in advance and that man is unable to do anything about it" (p. 1712). This argument, according to Zein el Abdein's explanation to the Quranic concept of fatalism is invalid.

This concept of fatalism is not solely shared by Muslim theologians, but is commonly understood by people as explained by most of the Muslim participants. All of the Muslim participants except JM2, believe that fatalism is an external locus of control, or something that is from God, however, they believe that their actions determine the outcome of their health behavior. This implies that their development of diabetes may or may not be an infliction from God, and that it could be due to their lifestyle choices and health behaviors. It is evident to me that they believe in their freedom of choice and hold themselves responsible for their own health and health outcomes. This concept of freedom of choice and responsibility towards one's health is corroborated by Dr Omer.

Dr Omer presumes that while his patients believe in God, and most of them are religious, they also understand that there are illnesses of this world. By "illnesses of this world" he means that his patients can differentiate between the physical, which is of this world, and the metaphysical, which is the unseen world or the unknown. His presumptions however are just that, presumptions. While medical doctors can tell us so much about their patients from their health practices, one should be careful assuming they have intimate knowledge about their patients world view. However, that been said, what is interesting to note here is that he believes his patients believe in fate, yet understand that there is the "physical" realm that needs their attention. In short, what this implies is that even if his patients believe in the metaphysical, they still understand that the physical or natural world is governed by laws of nature that should be respected, in this case, his patients' adherence to treatment. As we will see, this belief is very similar to what Christianity teaches about fatalism as well as the fatalistic beliefs that Christians have.

Father Salib explained that in Orthodox Christianity illness is viewed as a temptation and a trial. He explained that disease is a trial by quoting the Holy Bible, "My brethren, count it all joy when you fall into various trials, Knowing that the testing of your faith produces patience" James 1:2-3 (*Holy Bible*, 1990). Verse 3 here comes to explain verse 2, where the Lord said, that trials should be counted as joyous because they produce patience and strengthen our faith. Some disease can come as a product of temptation. The Lord says:

> *"Blessed is the man who endures temptation; for when he has been approved, he will receive the crown of life which the Lord has promised to those who love Him. Let no one say when he is tempted, 'I am tempted by God'; for God cannot be tempted by evil, nor does He Himself tempt anyone. But each one is tempted when he is drawn away by his own desires and enticed" James 1:12-14 (Holy Bible, 1990).*

This verse also clearly suggests and explains that people have freedom of choice, and therefore can chose to draw away from their desires in time of temptation. Father Salib went on to explain that there are two types of temptation, internal and external. It is worth noting here that this belief in fatalism as being an external locus of control is emphasized. Fate is considered to be what is external, and what is internal is our choices. Therefore, being diabetic and eating a carbohydrate rich meal is one's choice and therefore an internal temptation, whereas becoming diabetic due to hereditary causes is an external temptation. However, and although one does not have a hand in it and no control over it, one is still responsible for their treatment and their wellbeing. More so, God called the human body his temple. "If anyone defiles the temple of God, God will destroy him. For the temple of God is holy, which temple you are" 1 Corinthians 3:17 (*Holy Bible*, 1990). As we will see later at the end of this section, it all has to do with the *meaning* of illness.

While the Holy scriptures are clear about the role of fatalism, it is evident that there could be disparities in their interpretations and therefore different practices. However, one thing is clear, fatalism does not uphold people's negligence, on the contrary, it comes with the added responsibility towards one's choices and behavior. As mentioned previously, one of my Muslim participants does not share this belief that is otherwise prevalent among other participants. JM2

believes that her diabetes is from God and that there is nothing she can do about it. One possible explanation is that her ideology was socialized by her life experiences and world view that are not necessarily Islamic in nature. In his article Islamic Fatalism and the Clash of Civilization (2008), Acevedo cited Lockwood saying:

> *"[T]here is after all an important difference between fatalistic beliefs that stem from the individual's realization that he is personally in the grip of circumstances over which he has no control and fatalistic beliefs that are the result of his socialization into an ideology that provides a comprehensive account of why circumstances are beyond his (or anyone else's) control"(p. 1714)* .

This could explain why JM2, unlike all the other participants, has a sense of hopelessness with regards to her condition. It could also be due to her age since she is a Juvenile diabetic and was 19 years of age at the time of the interview. On any level, since all the other participants did not share her passive reaction and did acknowledge their responsibility, it is fair to say that fatalism as a concept does not justify negligence nor loss of control. On the contrary, fatalism comes with the added responsibility and freedom of choice.

5.2 Cultural Influences

"Health and illness are culturally constructed experiences" (Ypinazar & Margolis, 2006, p. 773). It is very difficult to explain why people do the things they do without reflecting on the culture of those individuals. This becomes more accentuated when you are examining the differences and similarities between two faiths. While the two groups of my study, the Copts and Muslims are both Sudanese, it is important to note that the Copts are originally Egyptian, and their culture is somewhat different from the rest of the Muslim community, even if they have lived in Sudan for more than a century. We still find disparities and differences in the culture of the Copts and the rest of the Sudanese community, and this is probably one of the explanations for the disparities in the adopted health behavior and adjustment that each group of participants made for their condition. According to Landrine et al.

> *"The major contribution of anthropology to knowledge of health-related schemas is the demonstration that the health beliefs of professionals and laypersons alike are structured*

and informed by a cultural context from which they cannot be separated and without which they cannot be fully understood" (1992, p. 1).

This was very evident during the course of the interviews with both Dr Omer and Dr Makram. Dr Omer spoke much about his Muslim patients and their association of the witchdoctors with health and medicine. Dr Makram explained the influence of the men of God in the treatment of his patients and the belief in Holy intercession. Both concepts are two sides of the same coin in the sense that both rely on the belief of the metaphysical and its ability to influence the physical.

Another similarity, although not as accentuated is the role of women in the diet of their diabetic husbands. The reason it was not emphasized is because during the course of the study I did not intend to study the gender differences, however the subject presented itself during the course of the interview with some of my male participants. While all the Copts I had interviewed were male, only one of the Muslim participants was male. Two of the Coptic participants referred to their wives when talking about their diet and the diet changes that they made for their condition, and the Muslim respondent also made that remark. In Sudan like most patriarchal societies, women are usually responsible for the meals. And while men are usually the breadwinners, they are the ones who are served more and their needs are met over all else in the household. While this is a positive factor for the male diabetics, it could pose a barrier to the female diabetics. While female diabetics are responsible for the meals, they usually prepare meals that would suit the taste of their family members often neglecting their own health requirements. According to a study conducted by Ahmed, Hussein, Kheir, et al. (2001) on the impact of diabetes mellitus on Sudanese women, they found that Sudanese women are at a disempowered position when it comes to domestic gender roles even in the presence of an illness. Women are still responsible for the family daily life activities and her illness does not exempt her from her role, nor does it suffice that she be helped by the husband. If help was recruited it is mainly from the woman's family.

Though there is not much evidence in my data to support this for my female participants, since I did not direct any questions related to the issue to them during the course of the

interviews. However we do find that with the exception of JM1, all the female participants do not show much self-restraint especially when it comes to their diet, nor do they have a regular exercise routine. JM1 is the positive deviance in my Muslim group. She is also the positive deviance in comparison to her sister. Both JM1 and JM2 live in the same household, they both share the same belief in fatalism, and they both have been diagnosed with diabetes as children. Yet JM1 has positive health behavior and JM2 does not. Furthermore, JM1 believes that she is in control of her health and JM2 does not. This suggests that factors, other than the belief in fatalism contribute to the negligence of health in the Muslim group.

ZM is one such case, where she is not only negligent with her diet, but rationalizes why it is alright to eat whatever she wants by arguing that eating sweets and carbohydrates has not done her any harm. The issue of diet change was a major difference between the Copts' and the Muslims' health behavior.

All the Coptic participants had little problem, if any changing their diet and adhering to their treatment in contrast to their Muslim counterparts although they all believe in fatalism. Only one of the Copts referred to a slight difficulty in quitting "basboosa", a dessert, and Pepsi, however said that he adjusted quickly. The Muslim participants on the other hand are not as strict about their diet as the Copts. OM, the only male Muslim respondent noted that the problem with the Sudanese culture is social responsibilities that can sometimes come before one's health, where if one was offered a beverage while visiting they are obliged, by social propriety and politeness to accept the beverage even if they are diabetic. From the interviews that I had with the Copts, this leniency with their diet was not evident, on the contrary, it was evident that the Copts are not lenient with their health over social propriety. One reason why that is so can be due to a perceived sense of control that seems to be more evident among the Copts than among the Muslims. However, it is difficult to draw conclusions since the sample size was small. On any level, this leads us to their health beliefs.

5.3 Health Beliefs

Now that we have established that both religions are fatalistic, what fatalism is and what it implies, it is important to examine the other beliefs that contribute mainly to the health of individuals, namely their health beliefs.

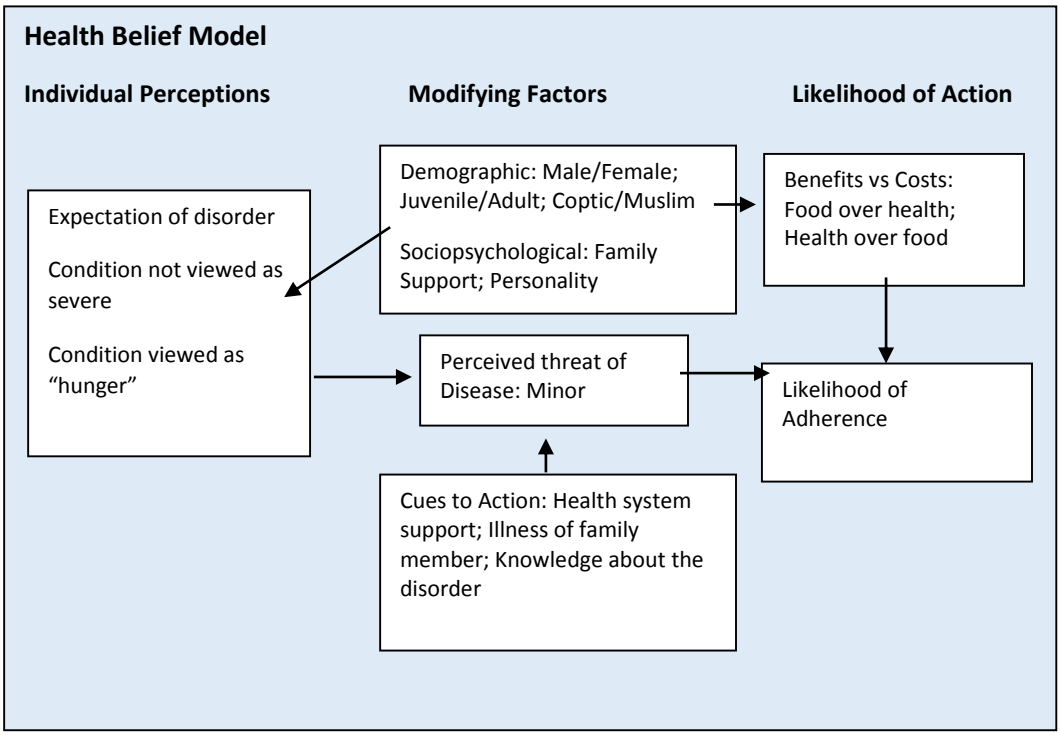
A meta-analysis on the effect of health beliefs, disease severity and adherence found that there is a statistically significant association between adherence and the perceived severity of disease (DiMatteo, Haskard, & Williams, 2007). This suggests that my participants' adherence related problems are associated with their perception that diabetes is a "normal" disorder. Furthermore, health beliefs of individuals are created by many factors including attitudes, knowledge and perceptions. Individual experiences and day to day interactions create those beliefs as do ideological concepts that have been internalized and became part of the individual's culture and world view. However, ideology is a minor contributor to the beliefs that people have about health. Other factors that influence health beliefs are the perceived susceptibility to disease, as well as the perceived severity of the disease and personal attributes such as sense of coherence and generalized resistance resources. The latter are the main contributors to my participants' health beliefs.

In the early 1950s the Health Belief Model was developed to understand the causes of failure for patients to accept preventive measures in medicine (Janz, 1984). "The Health Belief Model was originally formulated to explain (preventive) health behavior" (I. Rosenstock, 1974, p. 356) . Although all my participants believed that health and illness are from God, all except one acknowledged that they are in control of their lives and that they are responsible for their treatment and wellbeing. Their own behavior is indicative of their health beliefs, namely their perceived susceptibility and perceived severity of the disease. As SC puts it *"diabetes is not an illness, it is a deficiency"*. The disease itself is not viewed by my participants as severe and life altering, although diabetes is a lifestyle disorder in most cases. The two juvenile diabetic participants also believe that their disorder is "normal" and JM1 has adopted positive coping mechanisms for her condition by exercising and watching her diet, while the other, JM2, took a more negligent attitude due to this "normality" of the disease. By normal here, I do not intent to

minimize the severity of the disorder rather I am explaining their attitude towards the disorder and their perceived severity of it.

Other contributing factors to the health beliefs of my participants, namely the perceived susceptibility also explains why most of my participants chose to test for diabetes themselves without first going to the doctor for referral. Diabetes has become so prevalent in Sudan that in 1996, 3.4% of the population was accounted for according to Awad M. Ahmed (2006). This can explain why people in Sudan are now very knowledgeable about diabetes that they identify the symptoms on their own without the help of medical doctors. Many of my participants had a member of the family who was diabetic and some were even expecting it. CP, one of my Coptic diabetics believed that he was going to become diabetic and was expecting it saying that *"it was inevitable to become diabetic"*, since his mother was diabetic. This expectation may have led to his acceptance and quick adjustment to the disorder. However, MA, a Muslim diabetic did not have the same reaction when she realized she was diabetic. Although MA's mother was diabetic, she was shocked to learn of her disorder. It is evident however, that her reaction was due to her personal experience with her mother's disorder, which was very negative. In her opinion, diabetes is a "hunger" disorder, and therefore very severe. The figure below explains the different predictive variables of health behavior.

Figure 6: Adapted from the Health Belief Model



As illustrated in figure 6, the individual perceptions of my participants, bearing in mind the modifying factors of those perceptions can lead to the understanding of why people choose to behave in one way and not the other. Namely, why they would adhere to their recommended health regimen. As shown in the figure above, the expectation of my participants to become diabetic may have caused a sense of normalcy to the disorder, such in the case of CP and SC, where CP's mother was diabetic, and all the siblings of SC were diabetic. This expectation created a sense of normalcy and therefore not viewed as severe. On the other hand, we find that the view of the condition as a "hunger disorder" as AM believes it to be, created for her a sense of urgency.

The implications that diabetes had on AM's mother gave her a different experience from the rest of the participants. In her situation, the sociopsychological factors that formed her perception of diabetes led her to perceive the disorder as severe. That and the added stressor of the lack health care support that she received from the medical staff where she was tested and diagnosed. She explained, *"In our country we are not told any facts except that we have diabetes and no culture on how to deal with diabetes in the health care system. I was left to educate myself on my own. I also had my mother's experience with diabetes to take into account*". Although Sudan's Federal Ministry of Health planned to reduce the prevalence of noncommunicable diseases in its 5 year strategic plan of 2007 (FMoH., 2007), no diabetes specialized centers are available in primary care yet (Elrayah-Eliadarous, 2007).

On the other hand, we find a very different experience with the disorder in the case of SC. To him, in addition to his expectation to become diabetic, his view of diabetes minimizes the perceived severity of it. His view of diabetes as a "deficiency" rather than a disorder also highlights the sense of normalcy of it. What is interesting here is that although SC believes his condition to be normal, he adheres to treatment, while on the other hand AM's views on diabetes are somewhat severe nonetheless she does not adhere to treatment. This may be due to demographic and personality factors, with special emphasis on personality factors. A good example of this is the disparities we find between the two sisters I mentioned earlier.

5.4 Health Behavior

As I had discussed earlier in this section, the health behavior of the Coptic and the Muslim diabetics are in contrast to each other. Not only that, each group, the Coptic's and the Muslim's health behavior are in contrast to what the doctors said about them. The Coptic group's health behavior is more disciplined towards their treatment and lifestyle change, unlike Dr Makram's experience with his patients. The Muslim group's health behavior is more negligent towards their treatment and lifestyle change, unlike Dr Omer's experience with his patients. Only one respondent in the Muslim group, JM1, is active and is careful about her diet and exercise. The rest of the Muslim group do not have a routine of any form of exercise and do not watch their diet. Contrary to the Coptic group where we find that they are all careful about their diet and two of them had an exercise routine.

As mentioned before, my participants' fatalistic beliefs do not influence their health beliefs. And as I previously discussed, their health beliefs are influenced by their individual factors, such as how severe they believe their disorder is, and other modifying factors such as perceived threat of the disease, demographic variables and sociopsychological variables.

It was evident from my data that all my participants, with the exception of AM, believed that the disorder is mild. And as mentioned earlier, SC went further and views it as a deficiency that he can regulate. AM's reaction to the disorder is mainly influenced by her mother's experience with diabetes, so it is sociopsychological factors rather than her beliefs that is the main contributor to her negative perception of diabetes. The rest of the Muslim group view diabetes as a "mild disorder" that can be regulated and controlled. However, only one of them is controlling it by diet and exercise. The Coptic group, on the other hand, also believes that diabetes is a mild disorder and we find that they are all actively controlling it by diet and exercise. Since their perception of the disorder is mild, their behavior towards their treatment is not as enforced for the Muslim group as it is for the Coptic group.

Demographic variables such as age and sex of the participants play a part in their adhering to their treatment. Only one in the Muslim group, OM, is an adult male, and his diet is regulated by his family. The rest of the Muslim participants are female and only one of them

JM1, a juvenile diabetic, is active with exercise and watches her diet. Even her sister JM2, who is only two years younger is not as careful in her diet and does not exercise. The Coptic group, on the other hand is all men and all adults. Their diet is also regulated by their wives, but they are disciplined within themselves and are not lenient with their diets when away from home. Unlike OM, who is lenient with his diet when out visiting, the Coptic group does not compromise with their diet. CP said, *"I have a meal plan for the week and I commit to it"*, where in OM's case, he would accept soft drinks and sweets if offered when out visiting. He explained, *"it is not out of our control, but it is out of our make up as a culture. Our social life makes it hard for us to take care of our health. If I visit someone and they offer me Pepsi or something what can I say?"* Thus is it evident from OM that cultural variables are the determinants of health behavior.

When it comes to social pressure and personality, it seems that personality plays a major role in the adherence to medical recommendation. Social pressure was only evident with OM, who believes that it is important to maintain social propriety and politeness and takes whatever is given to him when visiting. None of the other participants mentioned social pressure, but it is likely that the female participants would have felt some kind of pressure to make meals that are suitable to the taste of their family causing them to disregard their own health requirements. As it is the cultural norm in Sudan for women to put the needs of their family first (Ahmed, 2006).

While the Health Belief Model and others that are directed at understanding and studying human behavior, we should be careful assuming that they explain human behavior per se. They are the best tools that one can utilize to get a general understanding of behavior, however, due to the complexity of human nature, they are somewhat simplistic. According to Graham (2012), "these psychological variables, though they are of interest, provide a very incomplete account of human failure to choose healthy behavior" (p. 451). Unlike the salutogenic theory, those models try to explain human behavior by dissecting the individual and putting them in categories of social, psychological, environmental and economics etc. It would be much more insightful however, as Antonovsky explained to "focus on salutary rather than risk factors, and always to see the entire person (or collective) rather than the disease (or disease rate) and the collaborator"(1996, p. 18).

5.5 Limitations

I had encountered some limitations during the course of this study. One of which is that I have intended to interview five Coptic diabetics, but could only interview three instead. This was due to a problem in time scarcity because of the month of Ramadan in Sudan as well as difficulties I had encountered recruiting participants. The three participants I interviewed in addition to the Coptic medical doctor were a recommendation from Father Salib whom I interviewed for this study. I believe that the few Coptic diabetics I had interviewed gave me good insight into their fatalistic beliefs and how they influence their health beliefs and health behavior, but I cannot rule out the fact that my evidence would have been stronger with two more participants.

The number of participants within itself was another limitation. The Coptic group was too small to make any valid generalizability in addition to the lack of female Coptic participants. As for the Muslim group, the male to female ratio also affects generalizability, since there was only one male respondent, therefore the male voice in the Muslim group is not as accentuated as the female.

Another limitation is that all the Coptic participants were males. Although I had not accounted for the gender differences at the time of the study preparations, I now believe that my evidence would have been stronger to determine whether adherence to medical recommendations are stronger in the Copts in general or just within the male group. The gender difference limitation of this study was very much felt during the course of the interviews with the male participants, where I had realized it and started asking questions relating to those differences, however, I did not do the same with my female participants. As I had mentioned earlier in this section, women in a patriarchal society such as Sudan, tend to put their needs second to their families'. Investigating the difference could have showed me whether the females I had interviewed, which were all female, were actually neglecting their diet due to their families, or whether it was personal negligence.

One more limitation which I personally struggled with, was finding a translation for the Quranic verses that portray the meaning given by Zein el Abdein. The meanings and the

interpretations of the Quran have ever been debated and still are debated, therefore, that it is difficult to find a translation that all scholars approve of, least of all scholars like Zein el Abdein who does not believe in the translation of the Quran and stresses that it should be analyzed rather than translated, this can be supported by his statement, “the Arab who can read the Quran is not judged [by God] as the foreigner who cannot read Arabic and needs a translation. It’s not the same”. For that reason I refrained from adding any translations to the verses he had mentioned during the course of the interview and chose to explain them instead.

6 Conclusion

The aim of this study was to explore how fatalistic beliefs influence health beliefs. Therefore a comparison between the beliefs of Coptic and Muslim diabetics in Khartoum was necessary to explore how fatalism as a religious concept influences health beliefs, and not how a specific religion pertains to those beliefs. Based on my findings and the literature available, fatalism as a religious concept does not render people powerless and does not exempt people from their responsibility towards their health. Thus, the argument that individuals who share fatalistic beliefs tend not to have control over their health behavior and outcomes is contrasted by my data. Fatalism is not in conflict with health promotion principles, on the contrary, individuals who have fatalistic beliefs can be in control of their health and believe in their responsibility towards their health and lives in general.

There are three main findings in my study. First, that fatalism as a religious concept does not render individuals powerless. Both Islam and Orthodox Christianity specify the importance for individuals' responsibility of their behavior and make positive health behavior a need in the spiritual person's life. This belief is corroborated by the diabetic participants and the Medical doctors. In essence, the religious understanding of fatalism can be utilized by health promoters to help motivate people to improve their health. Second, fatalism as a religious concept helps individuals cope with their illness, and in doing so, their illness becomes a stressor rather than an identity, which in turn is a salutogenic concept. Findings from my data shows that fatalism provides two concepts; 1) that God is present in people's lives, which in turn is a GRR; 2) God will not give you what you cannot handle, which helps them feel competent and able to control their situation. Therefore, the religious meaning of fatalism, and how it is understood by people can be an empowering concept.

The third finding is that behavioral outcomes are not directly related to fatalistic beliefs. Other variables that are directly related to behavioral outcomes are related to demographic and sociopsychological variables such as age, culture, gender and social support. However, due to the small number of diabetic participants, this conclusion cannot be generalized. Nonetheless, it does add to the growing literature that supports the positive relation between fatalism and health, given that it is understood in its original form.

6.1 Recommendations

Due to the fact that most data is found in journal articles that require payment, it is challenging to access data for research leaving Sudanese academics with what they call "information apartheid". It is only through foreign institutions that Sudanese academics can access or publish their work. If health promotion philosophy and practice is to be applied in Sudan and other disadvantaged countries, the sharing of knowledge and the participation of Sudanese academics is important.

Another recommendation is the use of fatalistic beliefs in health related programs in societies that hold them, and not refrain from them for thinking they are in contrast to health promotion principles. To the contrary, religious beliefs where they apply, can empower individuals and motivate them especially with regard to chronic disorders as a coping mechanism.

Women directed programs need to be addressed with regards to diabetes specifically, however, this area is a prime one for improving. Women in Sudan are less empowered than their male counterparts, and many studies suggest that they are more affected by disease than men.

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Appendices

Interview Guides

Interview Guidelines for Muslim and Coptic Diabetics in Khartoum

- Information about the Diagnosis:
  - When have you been diagnosed with diabetes?
  - What urged you to test for diabetes?
  - How did you respond to the diagnosis
  - Has it changed your lifestyle? If so, how?
  - How have you coped with diabetes then? (emotionally, spiritually, physically, etc..)
  - How are you coping with diabetes now? (as above)

- Health Beliefs
  - What does health mean to you?
  - What does illness mean to you?
  - Where do you believe health comes from?
  - Where do you believe illness comes from?
  - Do you believe we are in control of our health? Please explain.
  - Do you feel in control of your health? Please explain.
  - Do you feel capable of changing the outcome of your health? Becoming better?
  - How do you feel about your condition now? (fate, will of God, a test from God, punishment, etc..)

- Health Behavior
  - Has diabetes changed your lifestyle?
  - What changes did you make to adjust to diabetes?
  - What beliefs influenced those changes?
  - Do you face difficulties in making the necessary health behavior changes?

  a. If yes, what are those difficulties and what causes them?
  b. If no, what helped you make the necessary changes?

  - Is there anything else that you would like to add that I did not mention?

Interview Guidelines for Muslim and Coptic Medical Doctors

- Information about the Diagnosis:
  - How do patients respond when you refer them to test for diabetes?
  - How do they respond to the diagnosis?

- Health Beliefs
  - How do your patients view health?
  - How do they view illness?
  - Do you believe their views are a source of resistance or stress?
  - Do you feel your patients are in control of their health?
    a. If yes, how?
    b. If no, why?
  - Do you feel they are capable of changing the outcome of their health?
  - What do you believe influences their health beliefs?
  - How do you believe they feel about their condition? (fate, will of God, a test from God, punishment, etc..)

- Health Behavior
  - What do you recommend your diabetic patients do?
  - How do your patients adhere to the health regimen that you recommend?
  - What in your opinion motivates your patients to change their health behavior?
  - Do you face any difficulties with some patients? If so, what is most likely to be the cause of those difficulties?
  - What do you believe influences your patients' health behavior?
  - Do you believe those influences are sources of resistance or stress? Please explain?
  - How many, among your patients do you feel are coping well with diabetes? (many, few, about half…etc)?
  - What do you believe is the main reason for that adjustment?
  - Is there anything else that you would like to add that I did not mention?

Interview Guidelines for Priests and Sheikhs

- Health Beliefs
  - How does the Quran/Bible refer to health?
  - How does the Quran/Bible refer to illness?
  - What is the meaning of health in religion?
  - What is the meaning of illness in religion?
  - Do you believe that religion can be a source of stress or resistance in health?

  a. If it is a source of resistance, how?

  - Can people's understanding of religious beliefs with regards to health be a stressor? How?
  - Can people's understanding for religious beliefs with regard to health be a source of resistance? How?
  - What is the way to health in the religious context?
  - Do people have control over their health in the religious context?
  - How does fate play a role in the context of health and illness?
  - How do you view the influence of fate on health and illness in the religious context?
  - Do you believe people's understanding of fate when it comes to health and illness to be accurate? How?
  - Is there anything else that I have not asked that you believe I should have?

Coding Tables

1. Coptic Priest

Codes/Basic Themes	Organizing Themes	Global Themes
The Bible and Health	Religion and Health	Health and Illness in Religion
The Bible and Illness	Religion and Illness	
Religion as a source of stress or resistance	Religion as comforter	
Fate	Religious Meaning of Fate	Fatalism
Copts' Understanding of Religious Concept of Health People's Understanding of Fate People's control over Health	People's understanding	Common Beliefs

2. Islamic Scholar

Codes/Basic Themes	Organizing Themes	Global Themes
The Quran and Health	Religion and Health	Health and Illness in Religion
The Quran and Illness	Religion and Illness	
Religion as a source of stress or resistance	Religion as Comforter	
Fate	Religious meaning of Fate	Fatalism
People's understanding of Fate	People's understanding of Fate	Common Belief

3. Coptic Medical Doctor

Basic themes	Organizing themes	Global themes
Testing Knowledge about disorder	Health Care	Diabetes and Diabetics
Patients' reactions Adherence	Patients	

Coptic community Coptic Objectivity Culture	Culture's Role	Culture
Education Knowledge	Awareness	Health Beliefs and Understandings
Hope in Treatment Control over health	Views on health	
Health behavior and religion Holy Intercession Religion as support Fasting	Religion and Health	Religious Views and Support
Role of men of God Men of God and personal experience	Men of God	
Understanding of fatalism Belief in fate	Fatalism	

4. Muslim Medical Doctor

Codes/Basic Themes	**Organizing Themes**	**Global Themes**
Testing Accessibility of treatment	Health Care	Diabetes and Diabetics
Culture Diabetes and Culture	Culture's Role	Culture
Religion in Health	Religion and Health	Religious Views and Support
Witchdoctors Medicine and witchdoctors	Sheikhs	

Awareness Knowledge Education Move Towards Modern Medicine Adherence	Awareness	Health Beliefs and Understandings
Reactions	Reactions	
Challenges to Treatment Challenging Patients	Challenges	

5. Coptic Diabetics

Codes/Basic Themes	**Organizing Themes**	**Global Themes**
Testing Reaction	Reaction	Health behavior
Obsession Coping	Coping	
Religion and Coping Diet change Exercise change	Lifestyle changes	
Sources of health Sources of illness Concept of health Concept of illness Concept of diabetes for diabetics	Understanding of Health and Illness	Health Beliefs
Support Challenges Health Control	Support Challenges	Cultural Influences
Religious beliefs and health Spirituality and illness Faith	Religion and Health	Religious Beliefs
Religion and Behavioral change	Religion and Behavior	

Miracles Intercession	Religious Beliefs	Understanding of Fatalism

6. Muslim Diabetics

Codes/Basic Themes	**Organizing Themes**	**Global Themes**
Testing Reaction Effect of diabetes	Reactions	Health Behavior
Health behavior Diet change Exercise change	Lifestyle changes	
Understanding of health Understanding of Illness Sources of health Sources of illness Control of health Control of diet	Understanding of Health and Illness	Health Beliefs
Culture and food Cultural challenges Culture and religion	Culture	Cultural Influences
Challenges Support	Challenges and Support	
Coping Psychological wellbeing	Coping	
Religious teachings Religion and health	Religion and Health	Religious beliefs
Belief in fatalism	Fatalism	Understanding of fatalism

Ethical Clearance

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TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 26.04.2013. Meldingen gjelder prosjektet:

34372	*The influence of fatalism on health beliefs in diabetic patients in Khartoum: a comparison between Muslims and Coptics*
Behandlingsansvarlig	*Universitetet i Bergen, ved institusjonens øverste leder*
Daglig ansvarlig	*Marguerite Daniel*
Student	*Dana Hag Hamed*

Etter gjennomgang av opplysninger gitt i meldeskjemaet og øvrig dokumentasjon, finner vi at prosjektet ikke medfører meldeplikt eller konsesjonsplikt etter personopplysningslovens §§ 31 og 33.

Dersom prosjektopplegget endres i forhold til de opplysninger som ligger til grunn for vår vurdering, skal prosjektet meldes på nytt. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/meldeplikt/skjema.html.

Vedlagt følger vår begrunnelse for hvorfor prosjektet ikke er meldepliktig.

Vennlig hilsen

Vigdis Namtvedt Kvalheim

Anne-Mette Somby

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Explanation forms and Informed Consent:

Explanation of the study for Muslim and Coptic diabetics

This study is part of the thesis requirement of the Master of Philosophy in Health Promotion provided by the University of Bergen in Norway. The study is concerned with how diabetics view their conditions and what kind of health beliefs they have which may have an effect on health behavior. The interviews may not have a direct effect on the participants, however the study itself can serve as a backdrop for later interventions, research and programs directed at diabetics within Khartoum. If you choose to accept being interviewed, you will participate in an individual interview that may last up to an hour. There will be an assistant to help me with my interviews and they will not, in any way, be involved in the analysis or the interpretation of the data.

With the exception of the research advisor, the data and all identifying information about you will be confidential and guarded until they are of no more use, which is by the completion of the study. Any recordings used for the interviews will be used for references only, and after transcription will be destroyed. Therefore, all the existing data will be destroyed. No identifying information will be used in the research, and therefore, your identity will be anonymous and not possible to track. For extra measures to guard your confidentiality, the research assistant that will be present at the interview will also sign a confidentiality agreement stating that they should in no way or form give out information about the interviews and the identity of the interviewees.

The findings of the study will then be submitted to the University of Bergen and is likely to be published in a journal.

If you choose to participate, you should also be aware that you can refrain from answering the questions if you should so please. You could also choose to stop the interview at any time if it becomes inconvenient for you.

If you choose to participate, please read and sign the document below.

Thank you for your cooperation.

Dana Haj Hamad

Written Consent

I have read/understood the purpose of the study and am well aware of what it is about. I choose to participate in an interview that may last for an hour.

I am also well aware that if I participate, any identifying information will not be used so as to guard my identity. I understand that all information will be kept confidential with the exception of the study advisor and the research assistant, however, they too will not in any way or form give out information that may be identifying about me or what has been said in the interviews. In case of the use of an audio recorder, all recordings used in the interview will be destroyed upon transcription.

I am well aware that I can refrain from answering the questions if I should so please. I am also aware that I could choose to stop the interview at any time if it becomes inconvenient for me.

Name: _____

Signature: _____

Date: _____

Explanation of the study for Muslim and Coptic Internal Medicine Medical Doctors

This study is part of the thesis requirement of the Master of Philosophy in Health Promotion provided by the University of Bergen in Norway. The study is concerned with how diabetics view their conditions and what kind of health beliefs they have which may have an effect on health behavior. The interviews may not have a direct effect on the participants, however the study itself can serve as a backdrop for later interventions, research and programs directed at diabetics within Khartoum. If you choose to accept being interviewed, you will participate in an individual interview that may last up to an hour. There will be an assistant to help me with my interviews and they will not, in any way, be involved in the analysis or the interpretation of the data.

Since the interview is conducted with you as an expert in the field, confidentiality will not be ensured, and you may not be entirely anonymous in the research. For the validity of the research, your expertise will help shed light on the health beliefs of the community under study. If you choose not to be identified, extra measures could be taken to ensure your anonymity, however, that would not be for the benefit of the research. The findings of the study will then be submitted to the University of Bergen and is likely to be published in a journal.

If you choose to participate, you should also be aware that you can refrain from answering the questions if you should so please. You could also choose to stop the interview at any time if it becomes inconvenient for you.

If you choose to participate, please read and sign the document below.

Thank you for your cooperation.

Dana Haj Hamad

Written Consent

I have read/understood the purpose of the study and am well aware of what it is about. I choose to participate in an interview that may last for an hour.

I am also well aware that if I participate, identifying information will be used. As an expert in my field, the information I provide will help the study remain objective, and therefore, I am well aware that my identity will not be anonymous.

I am well aware that I can refrain from answering the questions if I should so please. I am also aware that I could choose to stop the interview at any time if it becomes inconvenient for me.

Name: _____

Signature: _____

Date: _____

Explanation of the study for Muslim and Coptic Clerics

This study is part of the thesis requirement of the Master of Philosophy in Health Promotion provided by the University of Bergen in Norway. The study is concerned with how diabetics view their conditions and what kind of health beliefs they have which may have an effect on health behavior. The interviews may not have a direct effect on the participants, however the study itself can serve as a backdrop for later interventions, research and programs directed at diabetics within Khartoum. If you choose to accept being interviewed, you will participate in an individual interview that may last up to an hour. There will be an assistant to help me with my interviews and they will not, in any way, be involved in the analysis or the interpretation of the data.

Since the interview is conducted with you as a man of God and your knowledge about the religious beliefs are crucial in the study, confidentiality will not be ensured, and you may not be entirely anonymous in the research. For the validity of the research, your knowledge will help shed light on the health beliefs of the community under study. If you choose not to be identified, extra measures could be taken to ensure your anonymity, however, that would not be for the benefit of the research. The findings of the study will then be submitted to the University of Bergen and is likely to be published in a journal.

If you choose to participate, you should also be aware that you can refrain from answering the questions if you should so please. You could also choose to stop the interview at any time if it becomes inconvenient for you.

If you choose to participate, please read and sign the document below.

Thank you for your cooperation.

Dana Haj Hamad

Written Consent

I have read/understood the purpose of the study and am well aware of what it is about. I choose to participate in an interview that may last for an hour.

I am also well aware that if I participate, identifying information will be used. As a knowledgeable man in religious beliefs, the information I provide will help the study remain objective, and therefore, I am well aware that my identity will not be anonymous.

I am well aware that I can refrain from answering the questions if I should so please. I am also aware that I could choose to stop the interview at any time if it becomes inconvenient for me.

Name: _____

Signature: _____

Date: _____