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Knowledge, Beliefs, and Perceptions About Tuberculosis Among Haitian Immigrants and Haitian Americans Living in Miami-Dade County, Florida

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Abstract

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MS, Florida International University, 2006

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Dissertation Submitted in Partial Fulfillment

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Abstract

Tuberculosis (TB) kills 1.7 million people each year, and 1/3rd of the world's population is estimated to have latent TB. It was once the deadliest disease in the United States but is now relatively rare and, if treated properly, it is curable. Migrants from TB-endemic countries, such as Haiti, are one source of TB transmission to the US, and the prevalence of TB remains high and is increasing in Little Haiti, Florida. Data on the knowledge and perceptions of Haitian immigrants and Haitian Americans about TB is inadequate. The purpose of this qualitative research was to study the TB-related knowledge, beliefs, and perceptions of Haitian Americans and Haitian immigrants living in Miami, FL. The health belief model formed the theoretical framework of this study. Thirty male and female Haitian American and Haitian immigrants were interviewed. Phenomenological research was used, and open coding was conducted to analyze the data. Results showed that a large majority of the participants in this sample were knowledgeable about the nature of TB – its spread, symptoms, seriousness, and how to get information about it, but many were concerned about the social stigma attached to having the disease. Recommendations include the development of outreach, education and prevention programs through doctors and other health care professionals, as well as religious and community leaders, in order to increase awareness of the disease, enhance access to treatment, minimize stigma and reduce the incidence of the disease.

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Chapter 1: Introduction

There are approximately 33 million foreign-born people living in the United States, of which 2.9 million live in Florida (FDOH, 2008). Half of the cases that develop in the United States are from people from other countries (UF, 2008). In Miami-Dade County, the prevalence of TB is highest at 72% among foreign born, which is nine times that of people who are born in the United States (UF, 2008).

In this qualitative research, I studied Haitian immigrants and Haitian Americans living in Miami-Dade County, Florida to discover their knowledge, beliefs, and perceptions about tuberculosis (TB).

Background

Mycobacterium tuberculosis is the agent that is responsible for tuberculosis (Center for Disease Control and Prevention, 2007). This bacterium normally invades the lungs, but is also capable of invading other organs in the body such as kidneys or the brain (CDC, 2007). According to Furlow (2010), 1.7 million people die of TB each year. Although TB was once the most deadly disease in the United States, it is now curable if treated properly (CDC, 2007). In addition, people who are near by may inhale the bacteria of the exposed person, and possibly become infected (CDC, 2007). Everyone exposed to the bacteria may not always have symptoms of TB. Some people exposed to the bacteria will acquire latent TB infection (LTBI). These people are asymptomatic, which means that they may not experience the usual symptoms of TB and they can still spread the disease to other people. Vaccinations for people with LTBI stop the development of any symptoms in the future (CDC, 2007). People who have HIV infection are at greater risk for contracting TB (Ringold, 2008).

Multidrug-Resistant Tuberculosis (MDR TB) is also a very serious problem. It is hard to treat and control in the United States and in other countries, it is very costly to treat (CDC, 2007). People with MDR TB have a greater chance of dying than those with drug-susceptible TB (CDC, 2007).

Over time, TB has been known by numerous names. The ancient Greeks called it *phthisis*, the Romans *tabes*, the Hindus *rajay akshma,* the Victorians *consumption,* But only one name means wasting*,* and that is the current name of TB (Nelson, 2007).

TB is caused by *tubercle bacilli*. When a group of mycobacteria are genetically grouped together it is called a *Mycobacteria tuberculosis complex*. Tubercle bacilli are slow-growing mycobacteria. The collective groups include: Mycobateria tuberculosis (M. tuberculosis), *Mycobateria africanum (*M. africanum), *Mycobateria canettii* (M. canettii), *Mycobateria bovis* (M. bovis), and *Mycobateria microti* (M. microti). Some are human pathogens (e.g., M. tuberculosis, M. africanum, M. canettii). M. bovis can cause illness in some animals and in humans. M. microti is usually found in rodents but has also been found in llamas, ferrets, cats, and, rarely, in humans (Nelson, 2007).

French physician Rene Theophile Hyacinthe Laennec (1781-1826), inventor of the stethoscope, understood the pathology and pathogenesis of TB according to his descriptions of pulmonary lesions in patients who died of TB. Laennec wrote a book whose title was translated as *A Treatise on the Diseases of the Chest and Mediate Auscultation* (Schluger, 2005). In 1868, French physician Jean-Antoine Villemin published *Etudes sur la Tuberculosis.* According to Schluger (2005), Villemin did not identify the cause of TB, but, he reported that TB was communicable and established the nature of infection of TB. Robert Koch published *Berliner*

Klinische Wochenschrift on April 10, 1882. Koch developed staining techniques for M. tuberculosis and developed a culture media in which to grow the organism; in addition, he showed the mode of transmission for TB, reported on the importance of isolation for patients with TB, and proved that M. tuberculosis caused TB (Schluger, 2005).

In 1908 French scientists Albert Calmette and Camille Guerin engineered a vaccine against TB, which they called Bacille Calmette Guerin (BCG). According to Wyss (2007), the drug was first administratered in 1921; millions of innoculations followed, However, the drug is not used in the United States because it cannot prevent pulmonary TB in adults Wyss (2007).

Problem Statement

In the Little Haiti area of Miami, the prevalence of TB remains high and the rate is increasing (Saint-Jean, 2005). This area has the lowest employment rate, the lowest literacy rate, and the lowest life expectancy in the United States (Saint-Jean, 2005). Because of noncompliance with treatment due to cultural and linguistic factors, lifestyle differences, homelessness, and substance a`buse, the number of people living with TB in Miami-Dade will increase (FDOH, 2008).

According to the Florida Department of Health (DOH, 2006), reported that there has been an increase in foreign-born (FB) TB cases since 1993 in the United States, which has been the major contributing factor to the increase in TB mortality (DOH, 2006). In 1994, 15% (65/430) of cases were from countries where TB is endemic (DOH, 2006). At that time, half of the cases that developed in the United States were from people from other countries (DOH, 2006). In 2007, the rate of TB was nine times higher among FB people than among people who were born in the

United States (UF, 2008). These statistics show that there may be some lack of knowledge and education of how TB is spread.

There is also a lack in TB research in regards to the development of new drugs and vaccines that are more effective for patients with Multi-Drug Resistant (MDR) TB. The reasons for this are trifold. First, the research lacks sufficient global funding (Schwartzman, 2005). The Directly Observed Treatment Short (DOTS) courses were put into practice by the World Health Organization to reduce the incidence and prevalence of TB where there is a high incidence of the disease. However, because of inadequate funding, the program was not implemented (Schwartzman, 2005). Likewise the Global Fund to Fight against AIDS, Tuberculosis, and Malaria suffered budgetary challenges in 2008-2009 when a $10 billion pledge from the Global Fund was reduced to $5 billion (Furlow, 2010). The United States' commitment of $2.7 billion to the Global Fund was reduced to $1 billion because of the financial sector bailout (Furlow, 2010).

Second, there is also a lack of TB research into new drugs and vaccines that are more effective against Multi-Drug Resistant (MDR) TB. In 2010, 3.4% of new cases globally were (MDR) TB and 2.1% of these cases were in the Americas (Ocheretina, 2012). In 2002 6% of patients with TB in Port-au-Prince, Haiti had MDR-TB (Ocheretina, 2012).

A third reason for a lack of adequate research about cultural practices and beliefs that may be contributing to TB related health problems in Haiti is Haiti's lower socioeconomic class belief in the religious practice called Voodoo, which started in Africa. Voodoo priests called Hougans conduct ceremonies in which the people worship the invisible world (Coreil, 2001; Desrosiers & Fleurose, 2002). Some patients do not take TB medication because of their

Voodoo beliefs (Farmer, 2000). This lack of knowledge of cultural practices and beliefs may be contributing to TB-related health problems in Haiti.

Purpose of Study

This was a study of knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrants in Miami-Dade County, Florida. Hundreds of immigrants come to South Florida to look for a better life. If they have TB and do not know it, they risk their lives and their lives of others.

Haiti has the highest per capita TB burden in the Caribbean and Latin America combined (USAID, 2009). In 2010, Haiti's incidence of TB was 230 cases per 100,000 people (World Bank, 2012). Data collected in 2010 by the US Census Bureau indicated that approximately 881,488 individuals originating from Haiti reside in the United States (U.S. Census Bureau, 2012). These statistics are important because Haitians like any other population in the United States, interact with the broader community and, if Haitians are not aware or educated of what TB is or its sign and symptoms, the general public at greater risk for TB.

The purpose of the study is to provide data that can be used to develop culturally appropriate materials on TB issues in 3 languages: English, Spanish, and French Creole. By educating the Haitian population on the importance of TB can protect the community and reduce the healthcare cost. Topics will focus on TB basics, adherence to medication, and facts about the TB vaccinations. An effective way to convey messages to the community about TB is through lay health workers. They usually have the same cultural and language background as the community; they understand the religion, health, socioeconomic status (SES), fears, and stigmas

of the community; and they are concerned about the community's health and well-being (CDC, 2011). Their training should focus on risk factors, diagnosis, and treatment.

Nature of the Study

To learn about the knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrants in the Little Haiti area of Miami, I used an exploratory, phenomenological study. Participants were purposefully selected, primary data were collected through face-to-face interviews, and the data were then analyzed and interpreted. With this approach I could develop a degree of detail.

Quantitative research was not be used for this study because it would not provide the detailed narrative required for a prevention program. Trochim (2008) described mixed method research as the use of both qualitative and quantitative research to achieve their benefit. Quantitative data is one dimensional and comprised of responses that represent a conceptual category that is determined before the data is collected. I agree that using qualitative codes are multidimensional because they provide understanding into a host of consistent conceptual themes during the analysis process (Bazeley 2004).

Chapter three describes the methodology utilized in this study. Collecting, analyzing and interpreting the data will utilize qualitative methodology. Chapter three will also demonstrate that primary data will be collected through face-to-face interviews with subjects who will be purposefully selected. This study determined the knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrant.

Theoretical Framework

I used the health belief model (HBM) as the theoretical framework for this study. It was developed in 1950 by social psychologists in the U.S. Public Health Service to explain why some people did not want to participate in programs that prevented or detect diseases for example, screening for TB (Rimer, 2005). Hochbaum and Rosenstock (1960) were the first to use the HBM. The HBM has been one of the most widely used and best-known models in education and health behavior. According to Ilongo (2004) and Glanz (2002), it has been used to study many health behaviors, attitudes, and beliefs in many populations and under various conditions. For example, high rates of MDR TB are due, in part, to strong cultural beliefs about the disease. The HBM provides a strategic framework designed for both short-term and long-term behavior change (Rimer, 2005). The elements of the HBM are:

1) perceived susceptibility, a person believes that they are susceptible to the condition;

2) perceived severity, a person understands the seriousness of the condition;

3) perceived benefits, a person believes that if they take action they can reduce the severity of the condition;

4) perceived barriers, the person must be convinced that their action will be effective in reducing the severity of the condition (i.e., cost does not outweigh the benefit);

5) cues to action, internal or external triggers that affect the readiness of the person to act; and

6) self-efficacy, the person's ability to take the required action.

Researchers have found several factors that are responsible for high rates of MDR TB in countries, for instance strong cultural beliefs about TB (Ilongo, 2004). Glanz (2002) stated that the HBM could be very useful in a multicultural setting to understand health behaviors.

Definition of Terms

Active Tuberculosis: TB bacteria become active if the immune system cannot stop them from growing. The active bacteria begin to multiply in the body and cause active TB disease. The bacteria attack the body and destroy tissue (CDC, 2010).

Asymptomatic infection: an infection where the patient does not show symptoms (Choffnes, 2011).

Directly Observed Therapy Short course (*DOTS*): is the internationally recommended compliance strategy for TB control that has been recognized as a highly efficient and cost-effective strategy, where a health worker goes to the patient's house to supervise the patient with each dose of medication (WHO, 2006).

Haitians: Immigrants from Haiti who come to the United States to look for a better life and opportunities (Ogbu & Simons, 1998).

Immigrants: Immigration and National Act defined immigrants as any alien who is not a nonimmigrant and who intends to stay in the United States permanently (USCIS, n.d.).

Extra pulmonary: affect other sites of the body expcept the lungs. Syptoms varies depending on which organ is involved (Nelson, 2007).

Incidence rate: The number of new cases of a disease during a specific period divided by the number of people in a given population where the case occurred (Choffnes, 2011).

Knowledge: Information leading to understanding or for taking informed action (Glanz, 2002).

Molecular epidemiology: A field of epidemiology that uses biomarkers to establish exposure-disease associations (Friis, 2004).

Primary pulmonary: Tuberculosis in the lungs. Cough is a major characteristic (Nelson, 2007).

Prevalence rate: The number of existing or old cases of a disease in a population at a specific period of time despite when the illness occurred, divided by the population who is at risk of having the illness at the point in time halfway through the period in which they occurred (Choffnes, 2011).

Tuberculosis: is a disease caused by bacteria called Mycobacterium tuberculosis. This bacterium normally invades the lungs, but is also capable to invading other organs in the body such as kidneys or the brain (CDC, 2007). TB can be fatal if it is not treated appropriately.

Transmission: The spread of an infectious agent from one person to another. The likelihood of transmission is directly related to the duration and intensity of exposure to Mycobacterium tuberculosis.

Latent TB infection (LTBI): a state in which the bacteria of TB are alive but remain inactive in the body. People with LTBI do not carry any symptoms, may not feel sick, are not able to spread the TB bacteria to other people, and they have a TB test that is usually positive. They may develop active TB disease if they do not receive treatment for latent TB infection (CDC, 2010).

Multidrug-Resistant Tuberculosis (MDR TB): TB that is active and is resistant to the first line of TB drugs Isoniazid (INH) and Rifampin (RIF) (CDC, 2010).

Mycobacterium tuberculosis: the bacteria that cause latent tuberculosis (LTBI) and active TB disease.

Assumptions, Limitations and Delimitations

Assumptions

The first assumption was that participants had their own cultural beliefs about how TB is transmitted and how it can be cured. To mitigate this assumption, I was considerate of participants' cultural perspectives and beliefs. The second assumption is that participants may not be truthful with their answers due to fear of stigmatization. I dealt with the second assumption by assuring participants that their data will be held confidential. Participants signed a confidentiality form before the interview process.

I made the participants feel secure and comfortable by not judging their beliefs. Their anonymity and confidentiality will be preserved, and participants will be allowed to withdraw from the study at any time without suffering any consequences.

Limitations

Cultural differences, limited health literacy, and language barriers are major limitations that could affect the outcome of the study because of the strong stigma that is associated with TB.

I chose the Little Haiti area of Florida for three reasons: (a) it has the highest rates of TB in Miami-Dade County; (b) I had worked with this community as a wellness coach and I have

done health screenings in which I advised participants to adopt healthy habits; (c) I have friends and extended family members of Haitian descent.

Scope and Delimitation

Only Haitian - Americans and Haitian immigrants in the Little Haiti are included. Other nationalities are excluded from the study because, according to the Miami-Dade County Health Department (2009), people living in Little Haiti have the highest rate of TB in Miami, Florida. In 2007, 72% of cases of TB morbidity is worse among the foreign-born, and that among the foreign-born, Haitians have the greatest morbidity (Miami-Dade Health Department, 2009). This information is valuable and allows more depth of understanding about the target group. Additionally, I did not use telephone interviews or surveys, because the participants might not understand, either due to a language barrier or lack of medical knowledge.

Significance of the Study

In the hope that the findings in the study will be used to develop culturally sensitive TB prevention programs and interventions. Implementing prevention programs and interventions will help remove the cultural barrier between healthcare professionals and the Haitian population as well as expand their knowledge of Haitian American and Haitian immigrants. The findings will also add to the scholarly literature on knowledge of TB among Haitian Americans and Haitian immigrants.

The majority of the Haitian community is Catholic, with a smaller portion practicing other religions (Desrosiers, 2002). Given that some Haitians believe that illnesses are caused by supernatural powers, physicians treating illness in the community can consult with religious figures and spiritual healers when treating illness in the community about folk remedies and

treatments to determine if they can be used or integrated into the medical regimen (Nicolas, 2006). Providers can also consult with families to gain an understanding of how they conceptualize illness and their various treatment options (Desrosiers, 2002).

Summary

Chapter 1 provided an overview of the study and background related to the lack of knowledge and beliefs about TB among Haitian Americans and Haitian immigrants. This chapter also provided a statement of the problem, definition of terms, assumptions, limitations, and delimitations of the study; as well as the significance of the study.

In Chapter 2 I will provide a review of the literature related to TB in among Haitian Americans and Haitian immigrants, and their knowledge and beliefs about the disease; it will also cover these topics: the history, epidemiology, prevention, and control of the disease; access to healthcare, and a brief review of theories.

Chapter 2: Review of Literature

Introduction

Chapter 1 provided an overview of the study and background related to the lack of knowledge and beliefs about TB among Haitian Americans and Haitian immigrants. In Miami-Dade County, the prevalence of TB is highest among the foreign born, at 72% (FDOH, 2007). The rate is nine times that of people who are born in the United States (UF, 2008).

Chapter 1 also provided a statement of the problem, definition of terms, assumptions, limitations, and delimitations of the study; as well as the significance of the study

In Chapter 2 I review the literature on TB in Haitian Americans and Haitian immigrants, and their knowledge and beliefs about the disease. I also address (a) the history, epidemiology, knowledge, beliefs, and stigma of TB; (b) the theories bearing on understanding this situation; and, (c) access to healthcare for people of Haitian descent.

Research Strategy

To identify relevant scholarly literature, I used the following databases: Google Scholar, EBSCO database included CINAHL, Medline, NCBI and Nursing. ProQuest database included PubMed, Science Direct, and Allied Health Source. The CDC website was especially helpful. The following keywords were used: *tuberculosis, foreign-born, knowledge, refugees, screening, Haitians, Haitian, immigrants, attitudes, cultural, beliefs, stigmas, Miami-Dade County, Haiti, Little Haiti, Florida, United States, vaccines, latent, infection, Multidrug-Resistant, Mycobacterium tuberculosis, transmission,* and *prevention*.

General Information About TB

According to the CDC (2011), TB is the deadliest disease in the world. In 2007, one third of the world's population was infected with the disease and in 2010, 9 million people contracted it. In 2010,1.4 million deaths were associated with TB (CDC, 2011). The cause of TB is M. tuberculosis, a bacterium that generally attacks the lungs, but can also attack the kidney, spine or brain. When a person with active TB coughs, sneezes, or releases sputum, TB is spread throughout the air from person to person. Anyone who breathes in these bacteria may become infected (CDC, 2010).

To detect TB, a skin test is performed. It usually takes 2-10 weeks to develop a postive reaction to the skin test. If a TB comes back negative there will not be a reaction. If a person with TB does not have any symptoms, she is said to have *latent* TB (Wyss, 2007).
Several factors increase the prevalence of exposure to TB: population, overcrowding, living conditions, cultural practices and poverty. The World Health Organization (2011) has stated that poverty is both a cause and consequence of TB. Poverty is linked to the spread of TB through poor hygiene, overcrowded living conditions, and poor home ventilation (Furlow, 2010). While poverty is correlated with exposure to the disease, it is difficult to tell the true risk of exposure because poverty and crowding go hand in hand (Nelson, 2007). TB is associated with poverty in Haiti. Since the colonial period, TB in Haiti has been the leading cause of death.

There are approximately 233,881 Haitian descents living in Florida, according to the 2000 Census, but other sources estimate the size of the population to be from 500,000 to 1,000,000 (Saint-Jean, 2005). Most of this population lives in Miami-Dade County in the area called Little Haiti (Saint-Jean, 2005). The ZIP codes in Little Haiti are 33127, 33137, 33138,

and 33150. This area currently has one of the lowest employment rates, lowest literacy rates, and life expectancy in the country (Saint-Jean, 2005). Most Haitians come to this country because they are fleeing the dire sociopolitical conditions of their country.

Table 1 represents TB cases by ZIP codes in the area of Little Haiti (Miami-Dade Health Department, 2009). Appendix A displays the incidence of TB in a Miami-Dade County map with ZIP code in 2009.

Table 1

TB Cases by ZIP Codes in Little Haiti 2009

Zip Codes	Number of TB cases
33127	7
33137	4
33138	6
33150	6
Total	23

Source: Miami-Dade County Department of Health TB Control.

TB in the United States

In the United States, new TB cases decreased by 5% to 7% each year from 1992 to 2002 (CDC, 2011). However, the total number of TB cases only dropped 1.4% from 2002 to 2003. There was a 56.7% decline from 1992 to 2008 in the 50 states and the District of Columbia (DC). In 2009, 1,545 cases of TB were reported; in 2010, 11,181 cases of TB were reported in the United States (CDC, 2011). The greatest number of TB cases among all U.S.-born racial and ethnic groups were non-Hispanic Blacks, whose rate was seven times greater than non-Hispanic

Whites (MMWR, 2011). CDC (2012) reported that in 2010, there were 2,652 reported cases of TB in non-Hispanic Blacks in the United States.

TB in Foreign Born Population in the United States

TB cases from the FB population increased in industrialized countries, which created barriers for immigrants to receive the appropriate quality of care. These barriers include social stigmatization, language barriers, cultural barriers, lack of health insurance, lack of knowledge of how to get around in the healthcare system, and poverty (Gardam, 2009). These issues negatively impact patients and their willingness to access care, disclose their illness, and their willingness to comply with treatment or therapy (Gardam, 2009).

From 1993 to 2004, the number of TB cases among FB people who lived in the United States increased by 5%. The percentage of TB cases that reported in FB people also increased from 29-54%. Cain (2007) stated that the United States has three strategies for controlling and eliminating TB in the United States:

1. To detect and treat patients, who have TB,
2. To investigate contacts of TB cases and treat those individuals for TB or LTBI, and
3. Target tuberculin skin test or other assays for M. tuberculosis to people who are at greater risk for TB and administer LTBI treatment to the people who are infected (Cain, 2007).

These strategies have been effective in controlling TB in the United States, but have not been as effective in the FB population. TB is typically transmitted by a recent transmission that has been ongoing in the community or from dormant LTBI that has been activated (Cain, 2007). FB people make up most of the patients treated for LTBI in the United States. This is why it is

very important that healthcare professionals understand immigrants' knowledge, attitudes, and beliefs about TB (Colson, 2010).

Currently the control and elimination strategies of TB in the United States include the detection and treatment of asymptomatic LTBI to stop the development of active TB. Approximately 300,000 patients received treatment for LTBI in the United States. Patients must complete the full regimen of treatment for 6-9 months. LTBI treatment rates of completion are 18% to 65% (Colson, 2010). This may be the reason why the approach for disrupting ongoing community TB transmission had little impact on TB among FB people, and emphasizes the importance of dealing with LTBI in FB people. Table 2 displays the country of origin of FB persons reported with TB in the United States in 2015 (CDC, 2016)

Table 2

Countries of Birth Among Foreign-Born Persons Reported with TB, United States, 2015

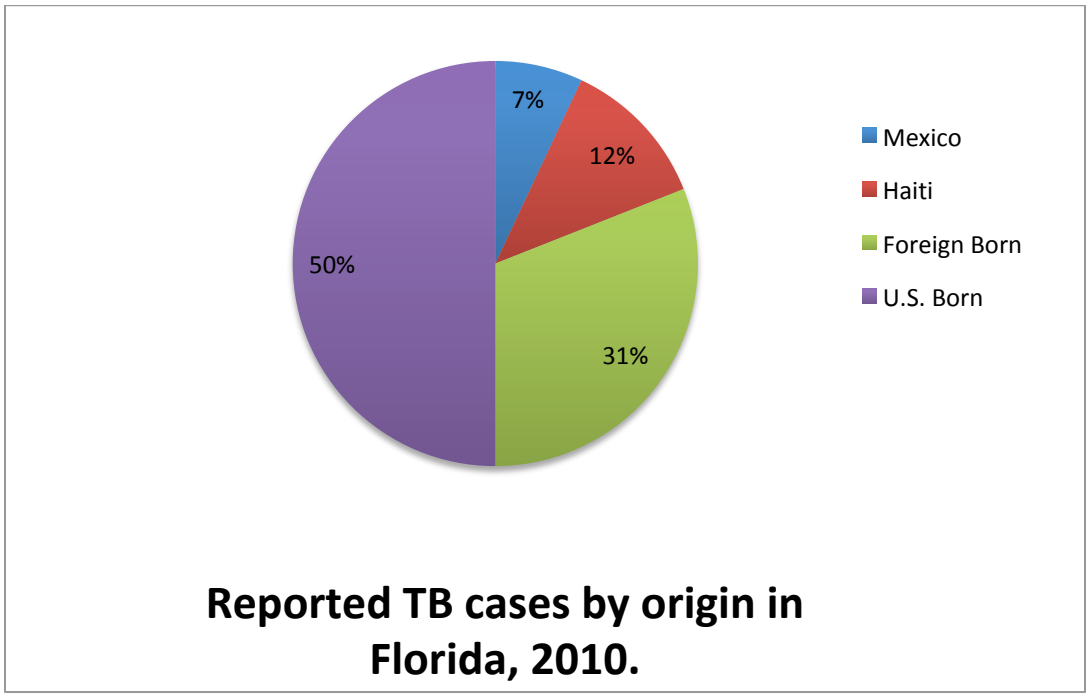
Country	Percentage
Other countries	38%
Mexico	20%
Philippines	13%
India	9%
Viet Nam	8%
Haiti	2%
China	7%
Guatemala	3%

Source: Center for Disease Control and Prevention (2007).

TB Cases in Florida

Approximately 400,000 immigrants and an estimated 50,000 to 70,000 refugees come to the U.S. each year (Liu, 2009). Officials at The Division of Disease Control, Bureau of TB and Refugee Health reported that in 2010 there were 835 TB cases in the state of Florida. This is a 2% increase since 2009. The TB case rate stayed the same in 2010 at 4.4 per 100,000 population (DOH, 2011). Figure 1 shows that out of the 835 reported TB cases, 50% were individuals who were FB and 50% were individuals who were U.S. born. Haitians comprised 12% out of the 50% FB population. Haitians and Mexicans were the top two FB categories in FL in 2010 with the highest cases of TB (DOH, 2011).

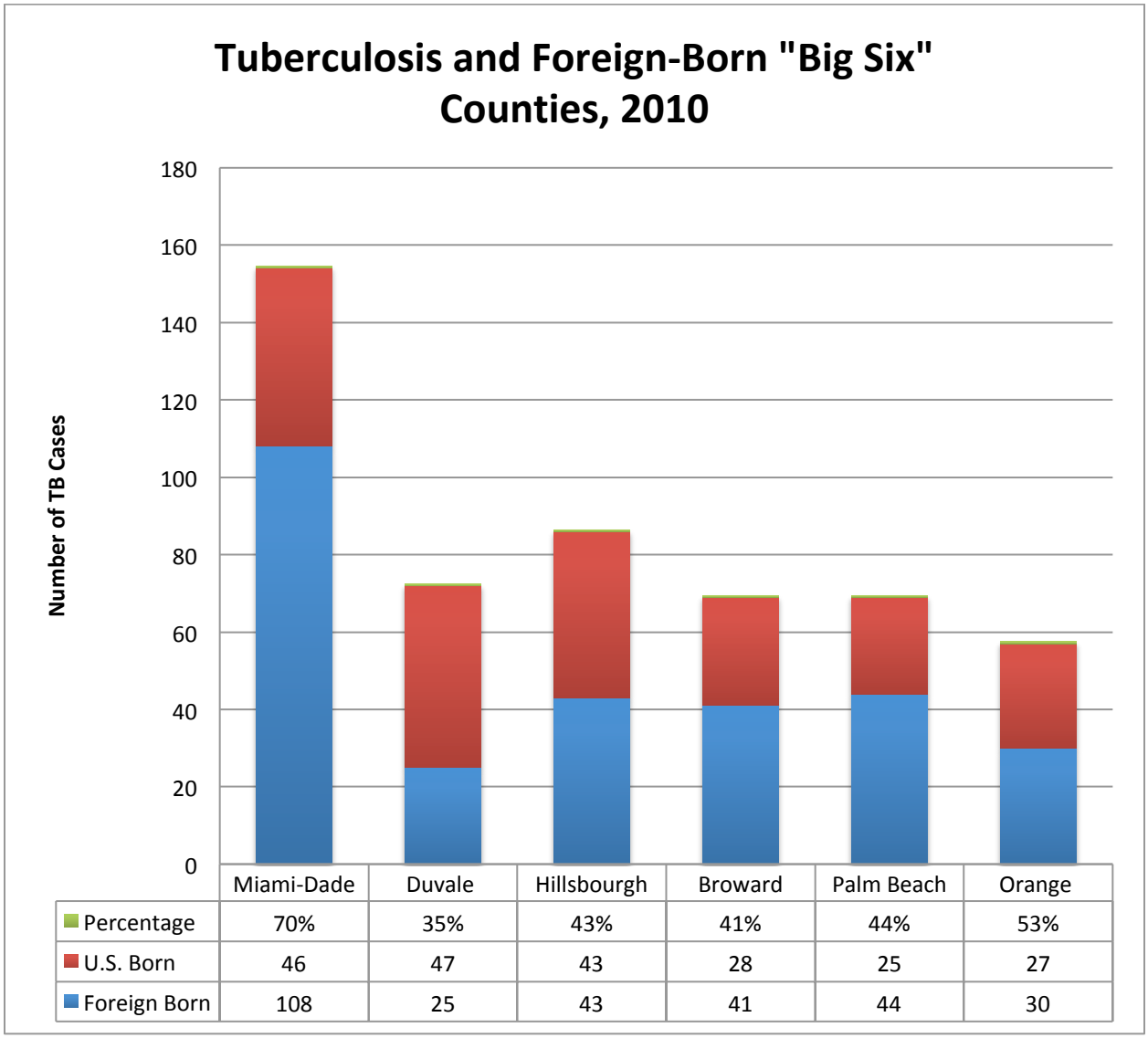
Figure 1. Percentage distribution of foreign-born persons in Florida, 2010.



Source: Florida Department of Health (2011).

Figure 2 shows that the Florida counties with the highest percentage of FB TB cases in 2010 were: Miami-Dade 70% (*n* = 154 cases), Duval 35% (*n* = 72 cases), Hillsborough 50% (*n* = 43 cases), Broward 59% (*n* = 69 cases), and Orange County 53% (*n* = 57 cases) (DOH, 2011).

Figure 2. Foreign-born TB in Florida counties in 2010.



Source: Florida Department of Health (2010).

Prevention and Control for TB

Screening for TB

The purpose for screening refugees for TB is to test people for LTBI or TB disease and then carefully plan treatment and control in a timely manner. Those who test positive will be treated according to the U.S. standard of care and reported to authorities, such as the local health and state health departments (CDC, 2010). TB is not be frequently encountered during the domestic refugee medical screening evaluation; however, if it is identified it may represent primary pulmonary or extrapulmonary disease. Most patients who have TB usually show mimimum symptoms of the disease or may even be asymptomatic, especially children. If there are symptoms they may be ignored or denied due to cultural issues or fear.

Immigrants who come to the United States should have their predeparture medical records and medical history reviewed. This information is relevant in identifying a person at risk for TB or LTBI (CDC, 2010). Treatment for TB is given by the public health department and a medical expert. Patients receiving TB therapy are under DOTS course (CDC, 2010). DOTS is an international control strategy that has been highly efficient and cost effective. DOTS helps to ensure that the correct drugs are taken at the correct time and the full regimen is completed (WHO, 2006).

Vaccines and Treatment for TB

BCG is a vaccination that is given for TB disease, although it is not used in the United States. BCG does not always protect from TB. In other countries, BCG is administered to babies and children where TB has a high incidence (CDC, 2011). Seventy six percent of children are vaccinated in other countries (Sander, 2007). There is insufficient data to show

whether the BCG vaccine strain causes the best immune response in people (Ritz, 2012). BCG can also cause a false positive TB skin test (CDC, 2011).

Several years ago, therapy was necessary for TB to kill the tubercle bacilli, to prevent drug resistance, and to decrease the chance of spreading the disease (Zhang, 2007). Today DOTS is the standard therapy for TB. This treatment therapy takes about 6 to 9 months to complete (Zhang, 2007). According to Furlow (2010), antibiotic agents used to treat TB have two lines of agents. The first-line agents, which Furlow defined as the "gold standard", includes: isoniazid, rifampin, rifapentine, and ethambutol. The first line of agents is losing its efficacy for MDR TB. The second-line agents are not as effective and patients suffer serious side effects from them. These medications include amikacin, ethionamide, cycloserine, capreomycin, levofloxacin, and moxifloxacin (Furlow, 2010). In the United States, there is a need for quicker diagnosis and better treatment strategies for MDR TB and drug-resistant strains of TB (Inge, 2008).

Haiti

The Republic of Haiti is located in the Caribbean on the western part of Hispaniola, which is the second largest island in the Greater Antilles (Brown, 2010). The majority of the people speak the official language of Haiti, which is Haitian-Creole, the other 10% speak French (FCO, 2011). Haiti is the poorest country in the Western hemisphere, 80% of the population live below the poverty line. Many Haitians migrate to the Dominican Republic or sail to other countries that are close by (CIA, 2012).

Throughout the history of Haiti there has been a long battle of political turnoil and violence. Haiti became the first Black republic to declare its independence in 1804 (CIA, 2012).

Haiti has the highest per capita TB burden in the Caribbean and Latin America combined (USAID, 2009). In 2010, officials at the World Bank stated that the incidence of TB in Haiti was 230:100,000 people (World Bank, 2012). According to data collected in 2010 by the Census, approximately 881,488 individuals originating from Haiti reside in the United States (U.S. Census Bureau, 2012). In 2010 the average number of people who left Haiti to come to the United States, who have legal permanent residenency, is 22,582 (U.S. Census Bureau, 2012).

Lack of Knowledge of TB

Researchers have shown that adults lack knowledge of TB and share many misconceptions about how it is transmitted. For instance, Kirtland, Lopez-De Fede, and Harris (2006) conducted a quantitative study using 31,326 adults (i.e., 18 and older) randomly selected to respond to a computer-assisted personal interview. The interview consisted of a questionnaire that contained questions about AIDS knowledge and attitudes and included six questions about perceived risk and knowledge of TB. The response rate of the sample was 72.5% Kirtland (2006). Kirtland (2006) reported that 66.8% of the sample had little or no knowledge of TB. Another study yielded results of persons between the ages of 18-24 years, alcohol abusers, those with less than a 12th grade education, Hispanics or males, were less knowledgeable about the transmission of TB. Also persons between the ages of 18-44 years, smokers, HIV-tested, lacking insurance, substances abusers, the homeless, and those who are incarcerated have little or no knowledge about TB (Marks, Deluca, &Walton, 2008). Other races and ethnicities in the study were Blacks, Hispanics and Whites or other (Asian and American Indian/Alaska Natives) (Marks, Deluca, &Walton, 2008).

FB individuals make up a large proportion of people who are being treated for TB in the United States (Colson, 2010). Lack of knowledge about TB is very clear in populations where there are language barriers. Some people who come to the United States may not speak English; they only speak the language of the country of origin (Nyamathi, 2004). Marks, Deluca, and Walton (2008) showed that 28% of FB people from Mexico, Central America, and the Caribbean said that TB is curable. On the other hand, Ailinger, Armstrong, Nguyen, and Lasus (2004) reported that 66% of Latino immigrants were not knowledgeable about TB. Additionally, Colson et al. (2010) reported that there were significant differences between FB and U.S.-born participants. They found that 94% of U.S.-born and 82% of FB participants knew that TB could be transmitted in crowded areas such as jails and shelters. An astounding 38% of U.S.-born vs. 17.4% of FB participants said that TB could not be transmitted by sharing dishes or toothbrushes with people who had tested postive for TB. In the same study, 67.1% of FB versus 46.4% of U.S.-born participants were more likely to know that an undocumented person needing TB treatment could not be deported. U.S.-born participants were more likely to worry about spreading TB disease to other people and cared about what their family and friends thought about their treatment. Conversely, FB participants in the same study felt that they were protected against TB (Colson, 2010).

Attitudes, Beliefs, Stigmas, and the Prevention of TB among Haitians

Haitian local beliefs about the causes of TB include rapid chilling of the body, physical or psychological stress, and sorcery. Supernatural engagement may be suspected if someone has ongoing symptoms of a cold but does not know where it came from (Coreil et al., 2004).

People have a variety of opinions about how one may transmitt TB. Some feel that the illness is not that serious and others feel that TB is dangerous and very severe. While some feel that TB is not that serious in the United States, in Haiti it is a bigger problem(Coreil et al., 2004).

Haitians are very sensitive when they discuss TB and HIV because they feel that they are being singled out. This is because of the stigma that they have towards these diseases based on of the media hype about Hatians having AIDS (Coreil et al., 2004). They also feel angry when they are asked to be tested for TB. Like TB, HIV is also thought to have a supernatural etiology (Coreil et al., 2004). Haitians say *Mize mennen parespe,* meaning if you show that you are suffering then people will lose respect for you (Michel, 2008).

Courtwright (2010) noted that a stigma is where a certain trait or characteristic of a person or group is recognized as something that is undesirable or lacking value. Studies have shown that lack of knowledge about the transmission of TB may have an effect on the stigma of the disease. The stigma of TB is also assocated with malnutrition, poverty, low socioeconomic status, and being FB (Courtwright, 2010). Van Brakel (2006) found that local beliefs about the transmission of TB were derived from negative attitudes about others. Throughout the years, societal attitudes and behavior toward individuals with TB have been infused with shame, rejection, discrimination, and neglect. Recently, there was a correlation between TB and immigrants from endemic countries like Haiti. Because of this correlation between being FB and having TB, immigrants have been blamed for the spread of TB (Coreil et al., 2010). When Haitian immigrants arrive in Miami-Dade County, some are quarantined at hospitals, Krome Detention Centers, and in other public facilities. These preventative steps contribute to the

perception that Haitians are an at-risk group; therefore, this contributes to the stigma (Dzidzienyo, 2005).

Access to Healthcare

It is important to address the cultural barriers as they affect the service delivery outcomes in minorities and immigrants in the United States (Nicolas, 2006). Access to health care is related to the quality of health care received, how long a person lives a healthy life, and the presence or absence of health disparities (Freeman, 2006).

There have been several attempts to eliminate disparities in health in the U.S., and multiple studies have shown that race/ethnicity is a major factor in this (Freeman, 2006).

Taylor (2003) stated that the medical care system is not as familiar with the cultural outlook of some patient groups compared to others. The role of interpersonal processes, which include manifestations of bias and cultural competence, could be a major factor in providing health care to racial and ethnic minorities. Determinants of these occurences may be an indication of patients', physicians', and the health care system's cultural competence (Johnson, 2004).

The maltreatment that Haitian immigrants receive is worse than other immigrant groups because of their triple miniority status of being: (a) FB, (b) Black, and (c) Creole speaking (Saint-Jean, 2005). According to Saint-Jean (2005), Haitians have the lowest rates of insurance coverage: 41% had private health insurance, 12% had government insurance, and 48% were uninsured.

Methods of Prevention Studies onTB Knowledge and Attitudes

Prior researchers who assessed TB knowledge and attitudes utilized numerous methods. A majority of the studies that were found during the literature review were quantitative and used different types of survey methods. Most methodologies involved non-experimental designs. This design cannot predict causal relationships. However, this type of design is used to study naturally-occurring variation in the independent and dependent variables without any intervention being manipulated. Kirtland et al. (2006) utilized questionnaires to obtain information about knowledge and perceived risk of TB in adults. Questionnaires measure behaviors and opinions. A limitation of questionnaires is that the participants may not be truthful with their answers (Kirtland, 2006).

Wieland et al. (2011) utilized a survey method as well, but I also performed a skin test for TB to determine the efficacy of community-based participatory research with voluntary TB screening among the immigrant population. Ilongo (2004) conducted a similar study of the beliefs in Harlem Hospital Center in Manhatan, New York with patients who were admitted into the hospital who showed one or more signs or symptoms of TB before being hospitalized. The participants had a positive smear or culture for TB.

In an experimental study, Porco (2006) offered therapy for LTBI to infected participants to test the increased yield of domestic evaluation and starting and completion rates of the therapy with isoniazid (INH).

Colson et al. (2010) administered pretest/posttest surveys to understand their populations' knowledge, attitudes, and beliefs about TB. Pretest/posttest survey design allows researchers to

analyze how effective an intervention is. Other researchers (e.g., Brewin, 2006; Hansel, 2004) utilized qualitative measures to recognize and explain existing variables and their relationships.

Brewin (2006) recruited 53 immigrants in east London. They were then screened for TB in three settings: a social service center for asylum seekers, a hospital clinic for new entrants, and a primary care setting. I found that screening for TB was highly accepted by the recipients. Recipients also felt socially responsible for being screened for TB.

Hansel (2004) used four focus groups with TB patients in Baltimore City and the patients' health care providers to investigate the patients' quality of life. Patients were audio taped during the interview by a physician and a nurse. The researcher's findings were that TB and TB treatment of the patients' QOL has short and long- term consequences.

Theoretical Framework Used in Previous Studies

A majority of the studies on this topic used the HBM, social cognitive theory, or the theory of planned behavior. The theory that will be used in this research study is the HBM. The HBM is a theory that can be used to observe the beliefs and knowledge of Haitian Americans and Haitian immigrants about preventative health behavior. This model was developed in the 1950s to clarify the reason why people did not take part in early prevention behaviors to detect diseases (Medicine, 2001). Several researchers examined the efficacy of the HBM in muticultural settings. Several researchers examined the understanding of health behaviors in several cultures while others utilized the model in the multicultural setting for interventions and for examing preventative health behaviors (Glanz, 2002). Several researchers utilized the HBM. Tang et al. (2000) examined cancer screening among Chinese and Asian American women. They found that cultural issues varied according to age and specific ethnicity within cultures. Kirtland

(2006) examined the correlation between race, religious differences, and TB. I found that knowing someone with TB or having a lot or some knowledge of the disease was strongly associated with the perceived risk in all regions of the nation. Miller and Champion (1997) found that African American women have a higher level of cancer fatality than White women.

Rosenstock (1960) stated that a certain set of beliefs are necessary before any action can occur. For anyone to take action for a potential health problem the person must feel threatened by the health problem, as well as see more than one course of action to decrease the severity of the problem. Table 3 presents a description of how HBM relates to the acceptability of TB among immigrants.

Table 3

Health Behavior Model Applied to Knowledge and Belief About TB

Concepts	Descriptions	Application
Perceived Susceptibility	Belief about the chances that someone will contract the disease	If I live in an area where TB is rampant and there are people who I know have it then there is a good chance that I could get it too
Perceived Severity	The belief of the severity of the disease	If I don't get screened how will I know that I have TB
Perceived Benefits	The belief of taking the action will be beneficial to health	If I get tested for TB then I increase my knowledge of the disease
Perceived Barriers	The belief of the cost of the advised action	The cost of getting tested. Will the procedure be painful
Cues to Action	Strategies activated for readiness	The diagnosis of TB in a family member or friend
Self-Efficacy	The confidence to take action	I'm ready to go to the health clinic to get screened or test for TB

The six components of the HBM were used as a base for a questionnaire to assess the knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrants in Miami-Dade County, Florida

Perceived susceptibility and perceived severity are based on the knowledge of TB and the outcome. For a person to take action and be tested for TB, the person needs to have a belief that he or she is susceptible to TB and that having TB may have severe consequences in his or her life (Creswell, 2009). Being tested for TB will benefit the reduction of susceptibility of TB.

Summary

Chapter 2 provided a review of the literature related to TB in Haitian Americans and Haitian immigrants, and their knowledge and beliefs about the disease. This chapter gave general information about TB in the United States and Haiti, prevention and control of the disease, the history, epidemiology, access to healthcare and a brief review of theories.

More comprehensive and extensive research will help determine the extent of the Haitians' knowledge regarding TB. Haitian immigrants may lack knowledge of how TB is transmitted. Beliefs about the severity of the disease may influence the consequences. It is important to examine Haitians' knowledge and beliefs about TB to understand their backgroud by collecting data from interviews and thematically analyzing the data. This information will assist health care professionals and religious figures with reagrd to how to inform the community about TB and will result empowering the population and education of the health resources available to treat the disease. Chapter 3 will discuss the qualitative methodology research design and approach, the sample and population, informed consent, and ethical procedures. Chapters 4 and 5 will provide the results, conclusions, and research recommendations.

Chapter 3: Research Method

Introduction

Chapter 2 summarized the literature on the history, epidemiology, knowledge, beliefs, and stigma of TB. Also it addressed the theoretical framework of this study.

In Chapter 3 I present the methodology I used to discover the knowledge, beliefs, and perceptions about TB held by Haitian Americans and Haitian immigrants living in Little Haiti, a part of Miami-Dade County, Florida. In this section, I will also address how the research design is an appropriate result from the problem statement by employing qualitative methods of data collection. The study is aimed at making theoretical and empirical contributions to better understand the participants' understanding of TB. Phenomenological research emphasizes people's experiences by thoroughly describing what they percieve, feel, remember and discuss. Information from this research was obtained by interviews.

Role of Researcher

My work experience in the health care field provided exposure with a diversity of cultures including the Haitian population. From January 2007-2010, I performed the role as a Community Health Care Worker. This role required me go out into the field to look for Medicaid patients who did not have telephone access to enroll them into a free disease management program through the State of Florida and Medicaid. From 2006-2007, I worked as a program coordinator. This duty entailed traveling to unemployment offices and community centers with a Haitian Creole and Spanish interpreter to educate minority women about how to correctly perform breast self examinations to decrease risk for breast cancer.

Participants

I recruited candidates in a Catholic church in the community. I met with the priest to determine a date and time that would be suitable to interview some of the congregants. Two weeks before I started the study, I made an announcement in the church explaining the study and asking for volunteers.

Qualitative methodology research design was used for this reserch. Patton (2002) stated that qualitative research focuses in depth on small samples. Participants were chosen through purposeful sampling in order to identify those who could provide the in-depth data needed (Patton, 2002) and to maximize variation. I selected 30 male and female Haitian Americans and Haitian immigrants who spoke English and/or Haitian Creole in Miami-Dade County, Florida to discover their knowledge, beliefs, and perceptions about tuberculosis.

Research Methods

Research Design

I also used phenomenological research because it emphasized the experience of the individual. Phenomenological research is a strategy where I explore the subjects' viewpoint or experience to develop patterns over a prolonged period along with the researchers' point of view. Phenomenological study was used because of the need to discover the knowledge and belief of the Haitian culture. Creswell (2009) indicated phenomenological research is a qualitative strategy where I identify the essence of the human experience. In 1954, Ulrich Sonnemann coined the term *phenomenography.* Phenomenography is a qualitative approach of personal experience and how the subjects view the world (Patton, 2002).

Using a qualitative methodology allowed me to utilize distinct philosophical assumptions, analysis approaches, and methods of data collection, analysis, and interpretation (Creswell, 2009). A qualitative research approach allowed an in-depth inquiry that focused attention to detail and context. Strauss and Corbin (1998) stated that qualitative research produces findings that are not arrived at a statistical procedure or other quantification means.

Quantitative research is described as a means for testing objective theories by examining the relationship among variables. Instruments can measure these variables, typically, so that numbered data can be analyzed using statistical procedures (Creswell, 2009). Quantitative research is also used to answer questions about relationships among measured variable with the purpose of explaining, predicting, and controlling phenomena (Leedy & Ormond, 2001). Quantitative research was not be used in this study because this method limits the ability to probe participants' responses. Mixed method research is explained by Trochim and Donnelly (2008) as involving both qualitative and quantitative research to achieve the advantages of each and mitigate their weaknesses. Creswell (2009) defined mixed method research as the combining of qualitative and quantitative approaches. I will not use mixed method research.

There are other approaches of qualitative method to conduct studies. Ethnography is where I study cultural groups over a prolonged period in the subjects' natural setting. This type of approach is not appropriate for this research due to the long amount of time that is required to complete ethnography. Case studies use programs, events, or other activities of one or more subjects and involve I collecting detailed information over a period of time (Creswell, 2009). Grounded theory is the constant comparison of data and theoretical sampling to maximize what is similar or different about the information.

Population and Sampling

Creswell (2003) asserted that 20 to 30 participants are sufficient in a qualitative study; this amount does not produce a large amount of data for analysis, which is the reason why the research only interviewed 30 participants. Little Haiti was chosen because this area has one of the highest rates of TB and highest number of Haitian immigrants and Haitian Americans in Miami-Dade County.

Ethical Procedures

The best way to protect the participants' interest and well-being is to protect their identity (Babbie, 2004). This research involved the utilization of human participants. Permission from places of worship where the study took place was also be obtained. Participation was on a voluntary basis and participants will be able to withdraw at any time, for any reason. I gave the particpants her contact information in case of additional questions or concerns. All participants signed a consent form before taking part in the interview process to protect their rights. The interpreter and I reviewed this process with the participants and answered any questions about information on the consent form. All completed questionnaires are kept private and confidential from all outside sources. After 5 years all documents will be shredded and destroyed. I refrained from placing names, addresses, or date of birth on any of the forms and the participants' responses were coded. This also helped protect the particpants' confidentiality. Hardcopies of interview questions and transcribing notes are kept in a locked file cabinet in the researcher's residence. Electronic transcripts are placed on the researchers computer and password protected.

Standardized open-ended questions were asked during the interview. Measures that were taken to assure that the ethical protection of participants were adequate. Data were stored in a

secure place and consent forms and transcripts were properly shredded upon completion of the data analysis. I am only able to identify the participants. Documents did not have participants' personal information (i.e., names, age, address, and birthdays).

Data Collection – Instruments

I developed a semi-structured questionnaire from the HBM (Appendix B) for my in-depth interview of participants with regard to their views about TB, which in turn may be expressed through their belief or knowledge. Questions were asked in a systematic and consistent manner. The interview questions were written at a seventh grade level to yield an acceptable level of comprehension among participants. Probing questions were asked if I felt that the participant is unclear or inconsistent with their answers. Babbie (2009) defined probing as a technique in interview to get a complete answer to a question by the respondent. A pilot study was conducted with five participants who was not a part of the total sample to determine how long the interview may last as well as the clarity, structure, wording, and content validity of the instrument. The pilot study can provide the basis for anticipating the nature of the study and determine the themes that may be most important (Krathwohl, 2005). The completion time for English-speaking participants ranged from 5 to 7 minutes. For Creole-speaking participants who required assistance from the Creole translator completing their questionnaire in 7 to 10 minutes. There were not any questions that were not worded clearly. Therefore, the outcomes of the pilot study from the questionnaire were reliable and valid. The questionnaire did not need to be altered in any way. The same questionnaire that was used for the pilot study was used for actual study.

Data Collection Technique

Data collection took place over a month long period in several Haitian Catholic churches located in Little Haiti in Miami-Dade, Florida. The churches were chosen for this study because priest and other religious figures tend to be respected. Religious counselors help people change negative thoughts, beliefs, and behaviors that are self-destructive (Koenig, 2012). Participants were asked 13 questions. Depending what questions were asked, probing questions was used to make sure that participants were interpreting questions the way they were intended.

After the church service had concluded, I provided a brief introduction and discussed the study. I then asked interested people to talk directly to me after the sermon. The study was conducted in a room to ensure the comfort and privacy of the subjects. I established a working relationship by dressing casually in slacks, business causal blouse, and closed toe shoes. This helped the participants to feel relaxed and comfortable rather than being intimidated by someone in a business suit. Babbie (2009) stated that the interviewers should dress similar to the people they are going to be interviewing.

Data Organization Techniques

Before beginning the interview, I introduced myself along with the interpreter to the participants and explained the study. I then offered the participants water and healthy snacks. I explained the study. The participants signed a consent form. I audio recorded each interview. The participants had the right to refuse the audio recording if they were not comfortable.

My interview kit contained a notebook for logging information and taking notes. Patton (2002) stated that using a tape recorder does not eliminate the need to take notes. However, it

does allow the interviewer to focus and concentrate on taking strategic notes rather than to try to write everything down that the participants are saying.

Data Analysis

Open coding, was used to analyze the data. Miles and Huberman (1994) described coding as tags or labels assigning segments of data into meaningful analytical units to the descriptive or inferential information collected during a study. According to Babbie (2009), open coding is the logical starting point and is used for data that can be placed into categories. Transcribed data from the tape recorder was read and re-read by me until similarities and differences are noticed. These similarities and differences were put into categories and coded. I used open coding to find causal relationships between categories.

Use of an Interpreter

A Haitian-Creole interpreter, who is a nurse and has worked with TB and the Haitian population, was available to assist me for there are participants who did not speak or read English. The interpreter read the questions to the participants. Many Haitians who migrate may not speak or read English. The interpreter has many years of experience interviewing participants for research in Spanish and Haitian Creole. The interpreter signed a consent form agreeing to keep the participants' information confidential. Although the interpreter has interviewing experience, I gave a systematic demonstration of how the interviewing process should unfold.

Debriefing

At the completion of the study, I asked the participants if they have any questions. In addition, I asked them about their reactions or feelings about the study and whether they felt odd or confused. I gave a brief summary of past research about TB. Lastly, I thanked the

participants and provide them with contact information if they want to learn about the results of the study.

Reliability and Validity

In quantitative research, the reliability of an instrument is established by demonstrating that it yields the same results each time that it is applied repeatedly to the same object, whilst validity is established by demonstrating that the instrument actually measures what it purports to measure (Babbie, 2009). In qualitative research, reliability means being consistent and reliable (Trochim and Donnelly, 2008; Creswell, 2009) while validity refers to the strength of the data. I ensured the reliability of my study by following two of the steps provided by Creswell, which include (a) checking transcripts to make sure that there are not any mistakes in the transcriptions process and (b) frequently checking that there is not a drift in the definition of codes or a shift in the codes while coding. To increase the validity of my data, I used Member Checking.

Summary

Chapter 3 described the qualitative methodology research design and approach, the sample and population, informed consent, and ethical procedures. Data was gathered through interviews. Data was analyzed inductively by developing themes about the knowledge and beliefs of Haitains living in Little Haiti in Miami-Dade Florida. Phenomenology was used since this method is best to gather information about the participants' perceptions, beliefs, and knowledge of TB. It is important for me to ensure that all of the participants were comfortable and acknowledged complete confidentiality in order for the interview to unfold naturally, thereby allowing the participants to fully disclose their beliefs and knowledge about tuberculosis.

Using open-ended questions allowed the participants to reveal their knowledge and beliefs. The results are presented in Chapter 4.

Chapter 4:Results

Analytic Approach

The purpose of this research was to study Haitian Americans and Haitian immigrants living in Miami-Dade County, Florida, to discover their knowledge, beliefs, and perceptions about TB. I interviewed 15 male and 15 female Haitian American and Haitian immigrant participants who spoke English and/or Haitian Creole. Each interview was considered individually in the analysis. Common themes that addressed the research question were identified in the data.

Data Analysis

The process of data analysis involves "making sense out of text and data and preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the date, representing the data, and making an interpretation of the larger meaning of the data" (Creswell, 2009). I used a list here to clearly show the standard steps.

- analysis of the interviews,
- coding of the data,
- looked for patterns, themes and
- further analysis as responses and patterns emerged.

I sought to describe the beliefs and subjective experiences of the participants. First, I read the transcript of each interview, analyzed it, and then used open coding (with NVivo 10 software) —a brainstorming technique) to "open up the data to all potentials and possibilities contained within them" (Corbin & Strauss, 2008). The data analysis process included the following these steps:

1. Review all interview transcripts notes.
2. Import the data into NVivo.
3. Code the raw data in NVivo using open coding.
4. Define the properties of the dominant responses.
5. Create categories that represent responses to find causal relationships between categories.

Using this process, I identified 31 primary themes and divided them into five categories. The findings for each category are summarized in the research findings and quotations from the interviews were used to illustrate the responses.

Results

Perceptions of What TB Is

The first category of results was related to perceptions of what TB is. Table 4 shows the primary responses and the frequency with which the responses appeared. This is followed by the themes arising from these responses.

Table 4

Responses and frequency of responses for perceptions of what TB is

Responses	Number of interviewees giving this response	Percentage Frequency
It is a disease	15	50.0
It is contagious	10	33.3
It is a sickness or illness	5	16.7
Don't know what TB is	3	10.0
TB is treatable	1	3.0

Theme 1. Over half the respondents knew that TB is a disease. When asked, "What is tuberculosis", half the respondents said that *It is a disease*. e.g., when asked, Participant 1 said, "Contagious disease." Participant 11 said, "A disease that makes you skinny." Participant 12 indicated, "It's a human disease" and Participant 13 stated, "Lung disease." Participant 15 mentioned that TB is "A disease that can give you handicap." Participant 26 said that TB is "An airborne disease." Participant 29 expressed that TB is "an infectious disease that affects the lungs." Participant 3 stated that it is "a disease that makes you cough, sometimes you cough blood." In a final example of this response, Participant 30 said, "TB is some sort of disease."

An additional five respondents replied that TB is a sickness or illness, though they were unclear on the nature of the illness. For example, Participant 15 stated that TB was "the fever." Participant 17 and Participant 23 both indicated that TB "is a cold." Participant 19 indicated TB was "A deficiency. Anemic." In a final example, Participant 8 said, "Its contagious sickness."

Theme 2. About a third knew that TB is a contagious disease. Many of these respondents knew that TB is contagious. For example, Participant 13 said, "It's contagious," and Participant 24 said, "Caused by contact with an infected person." Participant 25 explained, "You catch it when you live with someone who has it in the same house. It is contagious." Similarly, Participant 27 indicated, "In my country when someone gets in contact with some you catch it and it causes you to not to breathe." Finally, Participant 9 stated, "When they have it's contagious."

Theme 3. Very few did not know what TB is. Only three respondents said they did not know what TB is. When asked what is tuberculosis, Participant 2, Participant 6, and Participant 7 stated, "I don't know."

Theme 4. Only one person out of 30 volunteered that TB is treatable. A final theme for this question refers to the minority perception that TB is treatable. It was mentioned only one time in one interview. Participant 26 stated, “It is a disease that can be treated.”

Knowledge about the Causes of TB

The next category of results was related to knowledge about the causes of TB. The nine primary results related to this category are summarized in this section. As reflected in Table 5, the primary results were *TB is caused by malnutrition and lifestyle, TB is caused by bacteria, don't know what causes TB, unsanitary conditions cause TB, a virus causes TB, God causes TB*, and *insects cause TB*. Table 5 also shows the frequency of respondents reporting these results.

Table 5

Responses and frequency of responses for knowledge about the causes of TB

Responses	Number of interviewees giving this response	Percentage Frequency
TB is caused by malnutrition	10	33.3
TB is caused by microbes	8	26.6
Don't know what causes TB	6	20.0
Unsanitary conditions cause TB	3	10.0
A virus causes TB	2	06.6
God causes TB	1	03.0
Insects cause TB	1	03.0

Theme 5. Many believed that TB is caused by malnutrition. The most frequently occurring theme for this category was *TB is caused by diet and lifestyle*. This was stated in 10 interviews. For example, five participant (#14, 16, 4, 7 and 25) responded “malnutrition,” while

Participant 3 answered “not enough food, malnutrition;” participant 22 stated “malnutrition gives weakness,” and participant 27 referenced that TB is caused “when you don’t eat well” and added “Most people in the community feel that it is the belief.” This theme could also be represented, as “TB is widely understood as being associated with malnutrition.”

Theme 6. Many volunteered that TB is transmitted by microbes. This was mentioned by eight participants (#13, 20, 21, 24, and 15) who said TB is caused by “a microbe” or “bacteria.” In addition, participant 15 volunteered that “you need to take antibiotics to cure it.” Participant 29 said that TB is caused by “a bacteria that causes you to cough a lot.” In addition three participants reported that TB is caused by a virus causes TB. Finally, one respondent reported that flies or insects cause TB, a response that could suggest the present of a microbial agent.

Theme 7. A few stated that unsanitary conditions cause TB. This was mentioned by three respondents. Participant 14 indicated that “Maybe unsanitary places” cause TB. Participant 16 stated that “unsanitary” causes TB. Participant 4 said, “Dirty places can give you TB.” Given that unsanitary conditions and pathological microbes occur together, themes 6 and 7 may be conflated.

Theme 8. About 20% had no idea of what causes TB. *Don't know what causes TB* was mentioned by six participants (# 11, 12, 14, 17, 29, and 6).

Theme 9. Only one participant stated that TB is caused by God. This was suggested by two respondents. Participant 2 said that God causes TB and that “God can give all diseases.” Participant 2 also said “God can do everything.”

Knowledge about What the Symptoms of TB Are

The next categories of results were related participants' perceived knowledge of what the symptoms of TB are. The nine primary results related to this category are summarized in this section. Table 6, results were *cough or wheezing, fever, no appetite or malnourishment, spitting and coughing blood, lung problems, sweating, don't know what the symptoms are, weakness*, and *skin problems*. Table 6 also shows the frequency of respondents reporting these results.

Table 6

Responses and Frequency of Responses for Knowledge about What the Symptoms of TB Are

Responses	Number of interviewees giving this response	Percentage Frequency
Cough or wheezing	23	76.6
Fever	14	46.6
No appetite, malnourishment	8	26.6
Spitting and coughing blood	4	13.3
Lung problems	4	13.3
Sweating	3	10.0
Don't know what symptoms are	2	06.6
Weakness	1	03.3
Skin problems	1	03.3

Theme 10. Most respondents recognize coughing or wheezing as syptoms of TB. The most frequently occurring response for this category was *cough or wheezing*. 76.6% of respondent knew that coughing and wheezing is a symptom of TB. One participant (20) added, "When you have it you cough a lot it is dangerous."

Theme 11. Almost half of this sample volunteered that TB causes fever. The next most common response for this category was *fever*. Almost half (46.6%) of the respondent knew that having a fever is a symptom of TB.

Theme 12. A small number recognized a lack of appetite as a symptom of TB.

Theme 13. Very few respondents recognized other symptoms of TB. For example four mentioned spitting and coughing blood, four stated that TB is a lung problem, three mentioned, "sweating" as a symptom, one reported feeling weak as a symptom of TB, one mentioned an irritation on the skin", and two responded that they didn't know the symptoms.

Source of Respondents' Information about TB

The nine primary responses in this category are summarized in Table 7, along with the frequency with which the response appeared.

Table 7

Responses and Frequency of Responses for Source of Knowledge about TB

Responses	Number of interviewees giving this response	Percentage Frequency
From clinics, hospitals, doctors	18	60.0
From personal experience	9	30.0
From studying or school	4	13.3

From the Internet	4	13.3
From the Haitian community	4	13.3
From the media	2	06.6
From other people	2	06.6
From the health department	1	03.3
From Pastors	1	03.3

Theme 14. The primary source of information about TB were clinics and doctors.

60% of respondent received their knowledge about TB from clinics, hospitals or doctors. Nine respondents mentioned that they received their information from a hospital; seven said, "the doctor's office," and one stated, "I work in the health system. I get it [TB knowledge] there." Participant 26, indicated knowledge about TB comes from "The health department in Florida."

Theme 15. Some respondents got their information from personal experience.

Participant 14 indicated that his knowledge about TB was from his brother having TB. Participant 18 said, "My grandma died with it." Participant 19 said, "I know someone who had it." Participant 20 indicated TB knowledge came from "my aunt." Participant 22 said information about TB was from when "she [a relative was in isolation." Participant 28 knew what she knew "Because I seen it before." In regard to knowledge about B Participant 3 indicated, "I saw it in Haiti." Participant 5 had knowledge about TB because "I work in the health system." In a final example of this theme, Participant 8 stated she had TB knowledge because "I lived it. I know people who were malnourished."

Theme 16. Other sources were school, Internet, community and the media. Responses included, "Because I study studied about it." "From my studies, education and learning." "Because we study it in school in Haiti." "Somebody from the community." "Because in Haiti that's what people have." "I go to the hospital to visit to talk to patients and they tell me." "I hear it [about TB] from people." "Most people in the community feel that it is the belief." "Because I lived in Haiti in the community. Participant 1said that he obtained TB knowledge from "the media." Participant 27 indicated her TB knowledge came from "the radio." Participant 12 who indicated knowledge about TB comes from a "community Leader or pastor."

Beliefs about TB and Connections to Others with TB

The next category of results was related to participants' beliefs and connections to others with TB. The three primary results related to this research question are summarized in this section. Table 8: *doctors diagnose TB*, *connections to anyone with TB*, and *beliefs about TB vary*. Table 8 also shows the frequency of respondents reporting these results.

Table 8

Responses and Frequency of Responses for Beliefs about TB and Connections to Others with TB

Responses	Number of interviewees giving this response	Percentage Frequency
Doctors diagnose TB	16	53.3
Connections to anyone with TB	14	46.6
Don't know anyone with TB	16	53.3
Do know someone with TB	4	13.3

Theme 17. Most respondents indicated that doctors diagnose TB. The most frequently occurring theme for this category was *Doctors diagnose TB*. This theme refers to the perception that doctors are the ones who diagnose TB. Fourteen participants indicated that doctors are the ones who diagnose TB. Participant 23 explained diagnoses by a doctor in the following manner, "Because when the silver turns white on your mouth you have it. Someone tells me that is true like the doctor." Participant 24 states the diagnosis of TB involves, "Doctors, chest X-rays, positive PPD test."

Theme 18. Most respondents had connections to someone with TB. Sixteen participants indicated that they knew someone who had TB. 14 participants said, "*No, I don't know anyone with TB."*

Theme 19. The final theme for this category refers to variations in participants' beliefs about TB. The theme was evident in four interviews. This variation can be seen in the following quotes. Participant 10 said, "You can't work when you have TB." Participant 11 explained, "Yes, you can die [from TB]." Participant 13stated, "It can kill you. It's contagious." Finally, Participant 14 indicated, "nowadays it [TB] is rare."

Evidence of Quality

The interview questions selected were to seek information about how much the population knew about TB. Five themes surfaced from the interviews and transcripts. I used Check Transcripts to make sure that there were not any mistakes in the transcriptions (Creswell, 2009). I also checked to make sure there were not any drifts in the definitions or shifts in the codes during the process of coding. Member Checking was also used to determine the accuracy of the qualitative findings (Creswell, 2009). This was done after I asked the participants the

questions from the interview I went over the questions and the answers with the participants to make sure that everything was accurate. All hard copies of the transcript and cassettes from the recorder of the interview are locked in a file cabinet at home in my desk for protection.

Summary

In this chapter, I reported on the knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrants living in Miami-Dade County, Florida. These data were achieved through interviews and a questionnaire. Data were gathered from 30 participants in two churches in Little Haiti. Phenomenological research was used to emphasize the participants experiences by capturing and describing how people experience, perceive, feel about TB.

The following themes were identified from the data:

Perceptions of What TB Is

Theme 1. Over half the respondents knew that TB is a disease.

Theme 2. About a third knew that TB is a contagious disease.

Theme 3. Very few did not know what TB is.

Theme 4. Only one person out of 30 volunteered that TB is treatable.

Knowledge about the Causes of TB

Theme 5. Many believed that TB is caused by malnutrition.

Theme 6. Many volunteered that TB is transmitted by microbes.

Theme 7. A few stated that unsanitary conditions cause TB.

Theme 8. About 20% had no idea of what causes TB.

Theme 9. Only one participant stated that TB is caused by God.

Knowledge about What the Symptoms of TB Are

Theme 10. Most respondents recognize coughing or wheezing as syptoms of TB**.**

Theme 11. Almost half of this sample volunteered that TB causes fever.

Theme 12. A small number recognized a lack of appetite as a symptom of TB.

Theme 13. Very few respondents recognized other symptoms of TB.

Source of Respondents' Information about TB

Theme 14. The primary source of information about TB was clinics and doctors.

Theme 15. Some respondents got their information from personal experience.

Theme 16. Other sources were school, the Internet, community and the media.

Beliefs about TB and Connections to Others with TB

Theme 17. Most respondents indicated that doctors diagnose TB.

Theme 18. Most respondents have connections to anyone with TB.

Chapter 5 will provide an interpretation of the results, as well as my conclusions and recommendations.

Chapter 5: Discussions, Recommendations and Conclusions

Introduction

The purpose of this study was to determine the knowledge, beliefs, and perceptions about TB among Haitian Americans and Haitian immigrants. Little Haiti is home to the highest number of Haitian immigrants and Haitian Americans in Miami-Dade County and it has one the highest rates of TB, the lowest employment rate, literacy rate, and the lowest life expectancy in the United States (Saint-Jean, 2005). According to Coreil (2010) In Haiti, TB has remained the leading cause death dating back to the colonial times and is associated with povery.

I used purposeful sampling to recruit 30 male and female Haitian American and Haitian immigrants between the ages of 25 and 55 years of age. Standardized open-ended questions were used during the interviews and open coding was used to analyze the data. I gained access to participants in 2 churches in Little Haiti. Purposeful sampling was used to maximize variation and to identify participants who provided the information needed for in-depth data collection.

The findings were organized into 5 categories of themes: a perception of what TB is, what the causes of TB are, what the symptoms of TB are, where their TB knowledge comes from, their beliefs about and connections to others with TB.

In chapter 5, I present my interpretation of the findings, the limitations of the study, recommendations for action, implications for social change and the conclusion.

Interpretations of Findings

The primary research question was to determine the knowledge, beliefs, and perceptions about TB among Haitian immigrants and Haitian Americans living in Miami-Dade Florida. The

findings revealed multiple perceptions. In Chapter 2, I mentioned that lack of knowledge about TB is very clear in populations where there are language barriers and where adults lack knowledge of TB and share many misconceptions about how it is transmitted (Colson, 2010). However, in this study, over 70% of the participants spoke only Creole and yet they were knowledgeable about TB. Most of my interviewees knew that TB is caused by a disease; one third said that it was contagious, and only 3 didn't know. This is a very important finding because it appears to contradict the literature so far.

These findings were congruent with a study by Michael (2008), which showed that Haitians do not like to be tested for TB because of the media hype and the stigmatization of the disease. My research found that Haitians know what TB is but, if Michael is correct, they do not like to be tested because of the stigma that is attached to having the disease. On World Health Day, March 24, 2004, the Bureau of Tuberculosis and Immigrant Health sent out a press release that announced that there was an increase in TB cases state wide in Florida from 2003 to 2004. The statement said that most of the new diagnosed cases were among "foreign-born" people. A follow-up interview by another media source revealed that Haitians made up more than half of the TB cases in the foreign-born group. The next day another National Public Radio station reported that TB rates were rising in Florida because of Haitian immigration to the state. It is media statement like these that create a negative stereotype of Haitians in the United States (Coreil, 2010). Because of the stigma of being diagnosed with TB, Haitians are not getting tested which could result in delayed care, prolonged transmissions risk, poor treatment adherence and increased risk of disability and drug resistance. For stigma can delay presentation of health

services, prolong transmission risk, poor treatment adherence and increased risk of disability and drug resistance (Coreil, 2010).

The implication of this is that Haitians needs to be educated about the importance of getting tested and self-care. According to Heijnders (2006), people dealing with the pressure of stigma attached to certain health conditions feel guilt and shame, and therefore tend to isolate themselves (Heijnders, 2006). These issues must be taken into consideration when teaching self-care and the need to seek out medical care.

It is important for people to know the causes of TB, because this can prevent the disease from spreading into the community. In my study, the frequency of responses for knowledge about the cause of TB showed that 10 interviewees believed TB is caused by malnutrition and lifestyle, 8 said that TB is caused by bacteria, 6 said that unsanitary conditions cause TB, 2 said that a virus cause TB and 1 said that God causes TB and lastly, 1 said that insects cause TB. The participants' responses correspond with several studies Washington Department of Health (2009) stated that TB is caused by M. tuberculosis, which is a bacterium that attacks the lungs and other parts of the body such as the kidney, spine, or the brain. Nelson (2007) stated that factors such as population, population density, living conditions and cultural practices are associated with the prevalence of TB exposure. Furlow (2010) stated that poverty is linked to the spread of TB through poor hygiene and overcrowding living conditions.

Frequency of responses of knowledge about what the symptoms of TB showed that 23 interviewees mentioned that coughing and wheezing is a symptom of TB, 14 fever, 8 no appetite or malnourishment, 4 said that spitting and coughing blood, 4 said lung problems, 3 sweating, 2 didn't know what the symptoms are, 1 said weakness and 1 said skin problems. CDC (2016)

states that symptoms of TB disease is a cough that last over 3 weeks, chest pain, coughing blood or sputum, weakness, fatigue, weight loss, loss of appetite, chills, fever and sweating at night. The participants of this research clearly have the knowledge about the symptoms of TB. Kirtland (2006) states that the knowledge of a cure for TB may be related to increased attentiveness to symptoms, increased perception of severity, and seeking health care.

Responses for where TB knowledge comes from showed that 18 interviewees mentioned that their knowledge came from clinics, hospitals or doctors, 9 said from personal experience, 4 from studying or school, 4 from the internet, 4 from the Haitian community, 2 from the media, 2 from other people, 1 from the health department and 1 said from their pastor. This information shows that a majority of the participants receive their knowledge of TB through the clinics, hospitals and doctors. This is not congruent of what Nyamathi (2004) claimed. According to his research a lack of knowledge about TB is more likely in populations where there are language barriers. Some people who come to the United States may not speak English; they only speak the language of the country of origin. Although a majority of participants in this research have health education knowledge of TB it is pertinent for the community leaders, pastors and spiritual leaders to have to proper knowledge and education of TB from healthcare providers.

Information about TB was mostly obtained from the diagnosing doctor who saw the connection to the person they knew had TB. Though almost half the interviewees-reported that they didn't know anyone with TB, most said that they knew someone with TB.

Belief about TB varied (You can die from TB, You can't work if you have TB, It can kill you, it's contagious, now a days it is rare). 24 participants stated that diagnosis for TB involves test such as chest x-rays, and PPD. People identified as high risk of exposure to TB are those

with close contact with persons known or suspected to have TB, including foreign persons from areas where TB is common, residents and employees of high-risk congregate setting, and health care workers who serve high-risk clients (Wyss, 2007).

This study found that the participants are knowledgeable about the spread, symptoms of TB and know how to get information about TB. The population has a clear understanding that TB is a serious disease, however, because they are knowledgeable about how the spread and the symptoms of TB justifies the negative stereotype because they do not want to get treat. For this reason the community needs to be more compassionate with their fear of the consequences of being know to have TB.

Theoretical Considerations

The Health Belief Model was developed to clarify the reason why people did not take part in early prevention behaviors to detect disease; it addresses an individual's perceptions of the threat posed by a health problem (susceptibility, severity), and of the factors that influence decisions to act (challenges, benefits, cues to actions and self-efficacy) (Glanz, 1997). In this study five of these factors were considered:

(a) Perceived Susceptibility, do they believe that they are susceptible to the condition? In this study, the participants in fact did believe that they are susceptible to the condition. In the Frequency of Responses for Knowledge about the Causes of TB; participants mentioned that TB is caused by lifestyle, microbes and bacteria, the way you eat, you need to take antibiotics to cure it, it is caused by a bacteria that causes you to cough a lot, unsanitary and/or dirty places, virus and it cause by a virus or pneumonia.

(b) Perceived Severity, how severe do they think the illness is? Here, the participants knew the severity of TB. Themes and Definitions for Perceptions of What TB showed that that

participants mentioned that it is a contagious disease, it a lung disease, it makes you handicap, its an airborne disease, an infectious disease that affects the lungs and its a disease that makes you cough, sometimes you cough blood.

(c) Perceived Benefits, what do they think are the benefits they can obtain through preventative action? Frequency of Responses for where knowledge comes from shows that participants mentioned that they get their knowledge about TB from clinics, hospitals, or doctors; one participant said that she gets her information from the health center where she works. Another said free clinic or medical center. Others said personal experience, studying at school, from the Internet, the Haitian community center, health departments and community leaders and pastors.

(d) Perceived Barriers, how costly do they perceive the barriers to obtaining the assistance? There is great fear among patients about disclosing their illness to others because of the stigma that is attached to the disease (Coreil, 2001).

(e) Self-Efficacy, are people actually able to disclose their condition? Although they are aware of the risk of TB, most do not want any of their friend or family members to know if they were to be diagnosed with a disease. This can potentially cause poor management of TB if they do have it.

The HBM helped me come to answer my research questions by providing a bridge framework between the individual's perspectives about their health and wells as others, helped to understand the negative consequences of attitudes and beliefs of the participants and lastly, it provided an understanding of how to improve community engagement for prevention of TB.

Implications for Social Change

The purpose of this study was to determine the knowledge, beliefs, and perception about TB among Haitian immigrants and Haitian Americans who reside in Miami-Dade County, Florida. The results suggest that TB could be reduced by culturally appropriate education and support programs aimed at health care providers, individuals who have TB, and members of the community who are at risk. Intervention strategies at the community level should aim at reducing stigma by increasing the knowledge, attitudes and behaviors of those who have, or are at risk of developing TB. This in turn will increase self-concept; improve self-esteem, coping skills, and empowerment

Recommendation for Action

Few studies have examined the knowledge, beliefs, and perception about tuberculosis (TB) among Haitian immigrants and Haitian Americans who reside in Miami-Dade County, Florida. The findings from the results of this study revealed that most of the participants have the basic knowledge of what TB is, and how it spreads. However, based on existing literature I have identify several areas where recommendation can be made regarding TB such as educating the community, healthcare professionals and the healthcare system.

Educational strategies can be in Haitian Creole and French such as presentations, discussions, simulations, CD's, DVD's. Information that will be given will be about cause of the condition as well as the modes of transmission and treatment.

Recommendation for Further Study

Much work needs to be done in the Haitian community in Little Haiti regarding TB. A good place to start is for the community to gain trust of healthcare professionals. The significant finding of this study was most of the participants knew what TB was, what the symptoms are and where to find information about TB. A question that can be asked to the community for future studies is "Do you know anyone who has taken any medications and finished the entire regime?" By asking this question it will show if people are following through with the procedure of medications adherence.

Limitations

The only other factor that I saw as a limitation was that only churches in were used for the study. This may be why there was no mention by any of the participants during the interview about Voodoo being a cause of TB. In a church setting, it may have been uncomfortable to talk about this belief system, which many in this population feel is true.

Reflection of researcher

In the beginning of this dissertation, I read several articles that mentioned that the Haitian community in Miami-Dade Florida was very uneducated and really did not know what TB is. This gave me a preconceived bias about this community's beliefs and perceptions. Given that the stigma attached to TB has been so severe in this community in the past, I felt that no one had the knowledge base about the disease. While at the first church for the first interviews, I noticed a different pattern of knowledge while I was asking the question to the participants. They knew the basics of the disease and they were very confident with their answers they gave. At the second

church, I was again expecting that the participants were not going to have the knowledge base demonstrated at the first church. Again, the participants demonstrated a basic knowledge of TB.

Conclusion

The rise of TB is well established in the literature. According to FOH (2016), 639 TB cases were reported in Florida and 116 of those cases were in Miami-Dade County. Currently, Haitians have the highest prevalence of TB in Miami-Dade County (FOH, 2016).

The result of this study show that Haitian immigrants to the US are knowledgeable about the causes, spread and symptoms of TB, and how to get information about the disease. This population understands that TB is a serious disease. The most important theme of my study were that over half the respondents knew that TB is a disease, about a third knew that TB is a contagious disease, very few people didn't know what TB is, the primary source of information about TB is were clinic and doctors and most respondents recognize coughing or wheezing as symptoms of TB. The implications of these themes are that most Haitians tend to know how TB is spread and what symptoms to look for. However, having TB is a stigma with this community that prevents people coming forward for treatment. Therefore, education is needed, so that primary prevention and early treatment can be introduced.

This study highlights the important role played by religious leaders in the Haitian community, and suggests that these leaders should be educated on TB, or have healthcare professionals come into the church to speak on health education for the congregation and the community. Health education should explain what TB is, how it spreads, signs and symptoms, and different types of TB, TB risk factors and how to prevent it.

Positive social change can be addressed by dealing with the stigma that is based on TB. This can be achieved by having continuing education classes for healthcare providers on culturally sensitivity that can help with developing and implementing education tools. This initiative will allow healthcare providers to overcome the barriers that are affecting the Haitian community in Miami-Dade Florid

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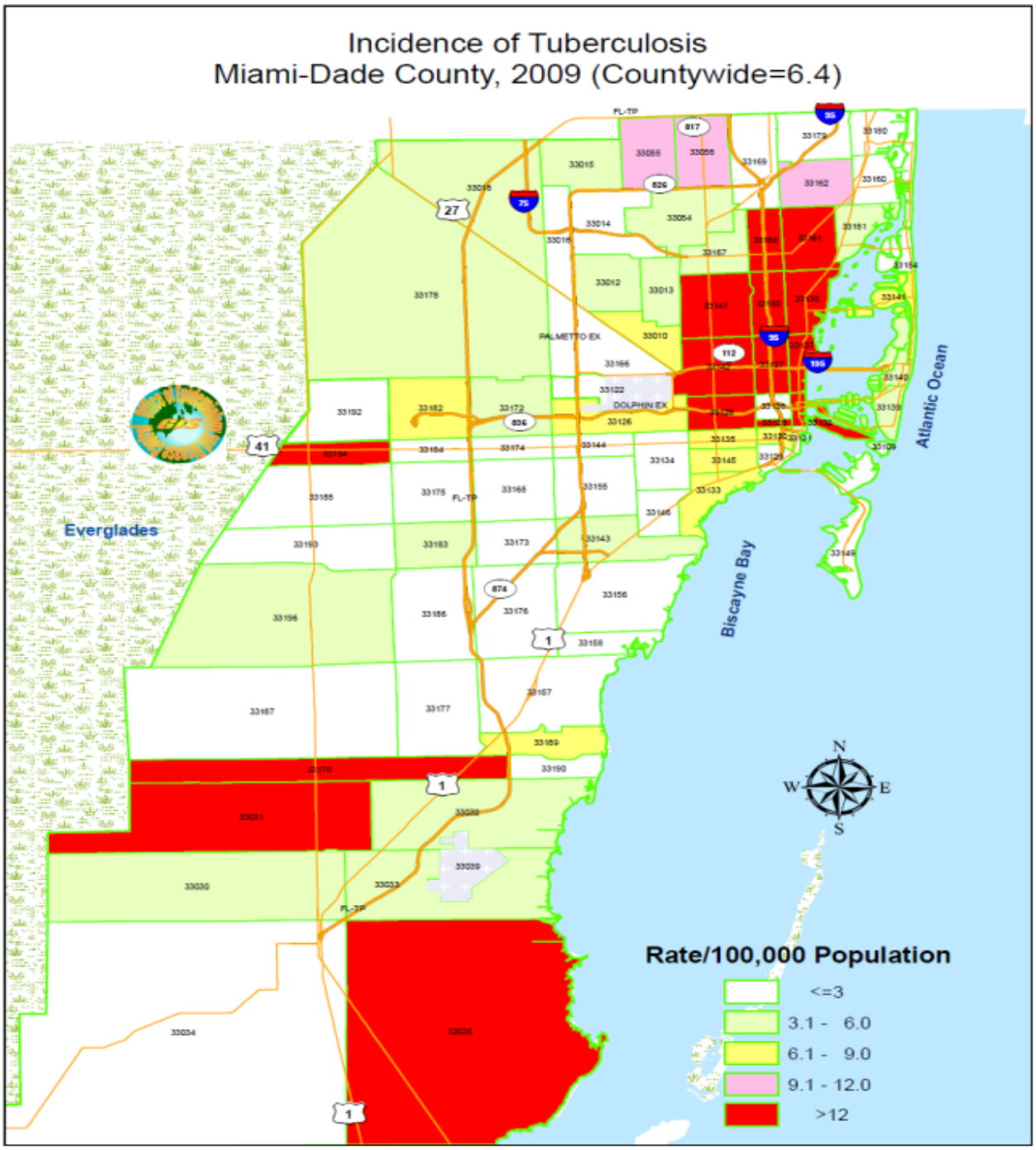
Appendix A. Map of the Incidence of TB in Miami Dade County by ZIP codes



Source: Miami-Dade County Department of Health TB Control.

Appendix B: Questions to be asked in English and Kreyol

1. What is tuberculosis? /Kisa tibèkilosis ye?

2. Could you tell me more about your thinking on that? / Ou ta ka pale'm plis de panse ou sou sa?

3. What is the cause of tuberculosis? / Kisa ki la kóz tibèkilosis?

4. Why do you think that belief is true? / Pouki sa ou panse sa ou di a vre?

5. What symptoms do people with tuberculosis have? /Ki sintóm moun ki gen maladi sa genyen?

6. Why do you think that belief is true? / Pouki sa ou panse sa ou di a vre?

7. Do you know anyone who has or ever had tuberculosis? / Eske ou konnen yon moun ki fè maladi saa ou byen kite fè li?

8. Who gave the person that you know a diagnosis of tuberculosis? / Ki moun ke te bay moun nan dyagnostik tibèkilosis la?

9. What were their symptoms? / Kisa Ki te sentòm yo?

10. Where do you get information about tuberculosis? / Ki kote ou kap pran infòmasyon sou maladi tibèkilosis

11. How long have you been living in the United States? / Depi konbyen tan wap viv ozetazini?

12. Were you born in Haiti or in the United States? / Kote ou te fet; Ayiti ou byen Etazini?

13. What is your age? / Ki laj ou?