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Demographic, Behavioral, and Cultural Factors on Chlamydia Trachomatis Infection

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Abstract

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MA, University of Phoenix 2005

BS, University of Phoenix 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Chlamydia trachomatis is a sexually transmitted disease, and its incidence has been increasing in recent years in the U.S. population. Certain demographic factors have been identified as posing an increased risk to acquire this disease. The purpose of this mixed-methods research was to examine how population demographics (quantitative section) and cultural and behavioral factors (qualitative section) affect risk for contracting chlamydia trachomatis in the Miami-Dade, Florida area. The theory of reasoned behavior was the theoretical framework of the study. The quantitative component used secondary data from Jackson Health System (2012- 2018) pertaining to 333 Miami-Dade young adult individuals with incidents of chlamydia trachomatis by gender, ethnicity, and race. For the qualitative component, 13 health care providers were interviewed using purposeful sampling, and the qualitative data were transcribed verbatim and analyzed thematically. Quantitatively, proportion of sample data was compared to national data using *z* statistics. Chlamydia cases were more often in the Black versus White group and Hispanics versus non-Hispanics group in Miami-Dade area compared to the similar national proportions (z=4.9, p<0.0001, and z=6.4, p<0.0001, respectively). Qualitatively, health care providers reported a significant lack of education and awareness on the infection, especially in young populations in the Miami-Dade area. Social change can be achieved by using findings of this research to develop more effective public health initiatives regarding the spread of chlamydia trachomatis in the Black and Hispanic population as well as with health care providers.

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Dedication

I would like to dedicate my dissertation to my niece Maula Asley Dunkley who helped me throughout the entire process with her knowledge of technology. I am also extremely grateful to DR Romana Rochester, Annmarie St James, Doreen Waite, Hannah Walker Johnson and Asoneth Watt for their love and support. May this doctoral journey pave the way and inspire them.

My parents, who are resting in peace, instilled in me the value of education. They taught me that only the best is good enough, and made me the strong person I am today.

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I dedicate this manuscript to God Almighty, the creator, my strong pillar, my source of inspiration, wisdom, knowledge, and understanding. He has been the source of my strength throughout this dissertation process, and on His wings only have I soared. For this I can say “I can do all things through Christ who strengthens me” (Philippians 4:13New King James Version (NKJV).

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Let me be thankful, grateful and sing praises: Praise ye the Lord. O give thanks unto the Lord; for he is good: for his mercy endureth forever (Psalm 107:1 (CJB).

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Chapter 1: Introduction

Introduction

Chlamydia trachomatis is one of four bacterial species in the genus chlamydia (Ryan & Ray, 2004). Its symptoms are typically mild and almost indistinguishable from those of gonorrhea infections in most patients (Malhotra, Sood, Mukherjee, Muralidhar, & Bala, 2013). Chlamydia trachomatis is a sexually transmitted disease (STD) that can affect anyone who is sexually active (Centers for Disease Control and Prevention [CDC], 2016a). It is a common STD, and its incidence has been increasing in recent years, making it a significant target for researchers who wish to reduce the health risk of this disease (CDC, 2012).

From the 1999 to 2009, chlamydia was prevalent nationwide at the rate of 6.8% among teenagers (CDC, 2011). In 2012, 1.4 million infections were reported. The National Health and Nutrition Examination Survey (NHANES, year) indicated that an estimated 1.8 million persons aged 14-39 years in the United States have a genital chlamydial infection, with non-Hispanic Blacks accounting for the majority of these cases. Non-Hispanic Blacks are seven times more likely to contract the infection than non-Hispanic Whites (Torrone, Papp, & Weinstock, 2014). Chlamydia trachomatis is widespread throughout the United States, but there are areas where this disease is more concentrated, with the greatest incidence among females 16-18 years of age (CDC, 2012).

In Florida, the rate of chlamydia is 419 per 100,000 (author, year). In 2013, the reported incidence of chlamydia among Black women in the United States was 5.8 times the rate of White women (1,491.7 and 258.5 per 100,000 females, respectively), and 8

times higher for Black males than for White males (771.1 and 99.4 cases per 100,000 males, respectively; CDC, 2013). These numbers reflect a decrease in reported cases in Blacks of 5.2% (author, year). The reported cases were highest for both males and females, in the age group 15-19 years and 20-24 years (author, year).

Although 2013 statistics reflected a decrease in reported cases of chlamydia, young women still have limited knowledge about the disease. They are unaware of the prevalence, symptoms, consequences, and testing procedures of chlamydia (National Chlamydia Coalition, 2011). Many young adults are not concerned about a disease that does not have a prominent external symptom (National Chlamydia Coalition, 2011). Some scholars, however, have indicated that Black women have a higher knowledge and understanding of chlamydia compared to White women, possibly because this is the racial/ethnic group most affected by chlamydia (National Chlamydia Coalition, 2011). The number of cases of chlamydia in the Miami-Dade area is on the rise. In 2006, there were 200 cases of chlamydia per 100,000 persons (author, year). In 2013, that number rose to 400 cases per 100,000 (Safer STD Testing, 2016a).

Background

Chlamydia trachomatis is a gram-negative bacterium that is nonspore forming, but whose ovoid bodies act in a similar manner to spores when they are released into a human host (CDC, 2016b). Three human variants of the genus exist, each of which causes a different set of symptoms. Serovars Ab, B., Ba, and C cause an eye infection, which can lead to eventual blindness (author, year). Serovars D-K cause urinary tract infections, pelvic inflammatory disease, neonatal pneumonia, ectopic pregnancy, and neonatal conjunctivitis (author, year). Serovars L1, L2, and L3 cause lymphogranuloma

venereum (Fredlund, Falk, Jurstrand, & Unemo, 2004). One of the most unique characteristics of chlamydia trachomatis is that DNA can be exchanged between the various strains, including other chlamydia species, which means that it can mutate into a new strain readily (Harris et al., 2012; Ortiz, Angevine, Kim, Watkins, & DeMars, 2000). The most common presentation of symptoms is in the form of genitourinary, pulmonary, and ocular symptoms, but many persons with chlamydia trachomatis are asymptomatic (Mishori, McClaskey, & Winkleprins, 2012). This lack of symptoms makes the disease difficult to detect and control from a public health standpoint because people do not seek treatment or diagnosis due to a lack of apparent symptoms in the early stages of the disease. The behavioral component of the disease makes it difficult to control from a public health standpoint. Many people who are infected with chlamydia trachomatis are not aware of it and have no symptoms. In many cases, the symptoms are so mild that they are ignored until they become problematic for the affected individuals. The carriers of chlamydia may not disclose to their partners that they are having symptoms because they are not aware they have the disease, which places their sexual partner at risk for contracting the disease through unprotected sex. Chlamydia trachomatis one of the most neglected diseases in terms of individual awareness and actions related to preventing the transmission of the disease. The key to controlling the disease is to raise public awareness that results in behavioral changes regarding chlamydia and its spread through sexual intercourse.

Sexually active populations are the most at risk for contracting and transmitting chlamydia trachomatis. Therefore, preventive efforts need to target populations that are likely to have sexual interactions with a number of different sexual partners. Chlamydia

trachomatis is treatable with antibiotics including azithromycin, ofloxacin, and erythromycin, depending on the site of the infection (Malhotra et al., 2013). The existence of treatment makes public health officials interested in identifying higher risk populations so that they can be tested and treated for the disease. By providing public health organizations with the proper public education directed towards higher risk populations, it is possible to control chlamydia and its association with birth defects, blindness, and increased risk of developing permanent damage to reproductive organs in women. Chlamydia is treatable, and it is possible to prevent its spread, but only if the person who has the disease gets diagnosed and treated while refraining from having sex with others until he or she has been deemed disease-free by his or her physician.

Scholars have examined the influence of ethnicity and age on the infection incidence of chlamydia trachomatis (Leon et al., 2009). The CDC (2011) also supported the significance of ethnicity and age on disease rates. The incidence of chlamydia trachomatis is increasing, which raises concerns over the spread of the disease and the potential serious side effects it causes (Wisconsin, 2010). I approached the control of chlamydia trachomatis from a public health perspective by identifying factors of at-risk populations by using the demographics of the Miami, Florida area, and examining how gender, socioeconomic status, ethnicity, and age affect the spread of chlamydia in this population. This information can be used in the development of programs to control the spread of chlamydia in at-risk populations.

Problem Statement

Certain demographic factors, including gender, ethnicity, race, and age, have been identified as posing an increased risk to acquire chlamydia trachomatis disease (CDC,

2011). Public health officials should use this information to create a change in behavior within at-risk populations to reduce the incidence of chlamydia trachomatis. Knowledge of corollary elements between the prevalence of the disease and certain risk factors such as gender, socioeconomic status, ethnicity, and age can be used to design a control program that would reduce disease incidence among the target population (Preda, Buzducea, Lazar, Grigoras, & Busza, 2012). Cultural factors such as family environment and culturally based expectations regarding sexual behavior come into play when researchers consider gender roles, ethnicity, and age groups that influence the effectiveness of health care policies and programs to reduce STDs such as chlamydia trachomatis (Kolchick, Shaffer, Forhand, & Miller 2001).

Other cultural and behavioral factors that I investigated concern risk factors to acquire STDs and chlamydia in particular, including the number sexual partners in the last 3 months, condom use during sexual intercourse, people's perception of sexual related activities (premarital and extramarital sex), marital status (married and unmarried), sexuality and gender stereotypes constructed by religion, beliefs about promiscuity, and socially risky behavior (homosexuality, drinking alcohol, and drug use). This study yielded qualitative data on the cultural and behavioral factors affecting chlamydia infections. Another risk factor for the genitourinary infection includes demographic location. Most of the people in Dade County prefer to live in the urban areas. I used the study of Ryan and Ray (2014) to examine how population demographics affect the ability to deliver effective health care policies and educational programs for the control of chlamydia trachomatis in the Miami, Florida area, with the goal of understanding how population demographics affect the ability to develop effective

measures for reducing the disease incidence. I also examined cultural and behavioral that affect chlamydia trachomatis rates.

The purpose of this ethnographic, mixed-methods research was to examine how population, cultural, and behavioral factors affect the risk for contracting chlamydia trachomatis in the Miami, Florida area, as compared to other areas of the United States. The Miami area was chosen for the study due to its unique demographic characteristics, including a high number of ethnically diverse members of the population, particularly Hispanics and Blacks (United States Census Bureau, 2016). I examined the effects of gender, socioeconomic status, age, ethnicity, race, cultural and behavioral factors (ie., sexual promiscuity and the use of condoms during sex) on the potential to develop chlamydia trachomatis by using Miami's demographic mix.

Significance of the Study

This research can be significant because I examined demographic, cultural, and behavioral factors that may influence the effectiveness of health care policies and programs for the control of chlamydia trachomatis, as well as other STDs (ie., HIV, gonorrhea, and syphilis). The findings of this research can be used to develop more effective public health initiatives regarding the spread of STDs, due to its connection with human sexual behavior. The focus of the study was on determining which factors involving gender, ethnicity, and age are most significant in determining risk for the development of chlamydia trachomatis in an individual and the behaviors that lead to the development of the disease. Understanding these factors can help to determine how demographic factors affect risk for chlamydia trachomatis and other STDs. This study can play a role in helping design future public awareness programs, effective health care

policies, and ways to modify the sexual behavior of at-risk groups to reduce their risk for contracting the disease. It will help form the basis of future programs for the control and eradication of chlamydia trachomatis and other STDs, which will take into account gender, socioeconomic status, ethnic, and age-related factors. The generally increasing prevalence rate of chlamydia trachomatis may be due to an increased screening or increasing rates of infections (CDC, 2011). Etiological and risk factors responsible for such infection, therefore, need evaluation on a timely basis, and the regional health care policies may need to be altered accordingly.

The present research can be significant for both the city's general population and the health care policy makers because it would establish a basis for making informed health care policies for a healthier population. Its identification of factors that affect prevalence of the infection in Miami and the relative significance of each factor will help create precise policies to address the infections. The identification of the factors will also create public awareness of the need for self-initiated behavioral change. Therefore, this study can provide a basis for the infection's prevention and treatment policies and social control measures.

Social Change Implications

Social change is defined as a transition over a period of time in social constructs manifested in cultural practices and behaviors within a society. Social factors play a role in finding solutions to certain problems. Chlamydia trachomatis infection is a STD. Sexual behavior is a factor in the infection's incidence, prevalence, and the potential role that sexual behavior can play in managing the infection. In this study, I sought to establish a relationship between the occurrence of the infection and sexual behavior-

related factors, age, ethnicity, cultural factors, socioeconomic, and behavioral factors, with the aim of forming a basis for behavioral change initiatives. Changing people's sexual behavior as a strategy for preventing and managing chlamydia trachomatis infection in Miami forms the social change aspect of my research. Identifying a significant relationship between the infection's occurrence and sexual behavior across age and ethnicity can influence health care decisions and social initiatives towards responsible sexual behavior in the city. This study can have a long-term effect on morality and facilitate prevention and management of other sexually transmitted infections.

Identification of culture and risky sexual behavior is likely to create awareness among the target population and influence their behavior to lower their susceptibility to the infection. The results may motivate society-based organizations and the macro society to educate youths on strategies for ensuring safer behaviors and cultivating ethics regarding sexual issues. Policy makers and stakeholders in health care sectors are also likely to change their approach from medicine-based strategies to social initiatives in managing chlamydia trachomatis infection among the target population, and by extension, in managing other sexually transmitted infections in the society (Rudestam & Newton, 2007).

Theoretical Framework

The theoretical framework for the study was based on the concept that sexual behavior is an action that the person chooses and that this action represents a rational behavior on the part of the person. He or she can choose to have sexual interaction with anyone or a number of partners and to use protection, such as condoms, that can protect

from being exposed to STDs such as chlamydia trachomatis. The study used the theory of reasoned behavior (Azjen & Fishbeins, 1985) as a framework for developing behavioral change in order to improve a person's health through social intervention.

The theory of reasoned behavior is used to establish a relationship between behaviors and health status and to provide a basis for motivating a person to change his or her health-related behavior. Establishing patterns of sexual behavior based on gender, ethnicity, and age could affect social behavior among the target group in order to reduce the prevalence of a target disease within that group (Edlin & Golanty, 2009). I used the theory to explore health-related behaviors using the lens of gender, socioeconomic status, ethnicity, and age-related cultural context to understand how to develop programs that will have the greatest effect on changing the rational behavior of persons within these groups. The theory of reasoned behavior was used to examine the reasons for the spread of the disease within the given population demographic groups and to make recommendations as to the development of programs to help control the spread of the disease through the development of public health initiatives.

Conceptual Framework

The qualitative component of the mixed-methods study was grounded by ethnography, with aspects of phenomenology. The ethnography-based approach was appropriate for this study because of the emphasis on social interactions, behaviors, and perceptions within a particular group (Reeves, Kuper, & Hodges, 2008). With phenomenology, I explored what and how something is experienced by a population group and as individuals. The experiences are then universally grouped based on reported experiences (Creswell, 2012). For this study, in-depth interviews of health care providers

of the Miami-Dade area were conducted to gain insight on the role of demographics in the development of chlamydia trachomatis infection, as well as of perceived barriers to treatment seeking and treatment adherence for this disease. When conducting ethnography, it is important to engage in cultural immersion to gain a better understanding of the demographic and other ethnic/racial factors related to the disease under study.

Research Questions

In order to understand the research problem and its impact on the chosen population, the following research questions guided the study:

Quantitative Research Question

1. Is there significant differences in the demographic distribution of chlamydia trachomatis according to gender, socioeconomic status, race, ethnicity, and age in the Miami area compared to the rest of the United States?

Hypotheses

$H_0$1: The demographic distribution of chlamydia trachomatis will not differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

H_a1: The demographic distribution of chlamydia trachomatis will differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

Qualitative Research Questions

2. What cultural and behavioral factors, besides demographics, affect the onset of chlamydia trachomatis, according to the insights of health care providers of the Miami-Dade area?
3. What is the level of awareness of chlamydia trachomatis among the entire population (at-risk and not at-risk) according to the insights of health care providers of the Miami-Dade area?
4. What is the level of awareness of chlamydia trachomatis among health care providers, according to the insights of health care providers of the Miami-Dade area?

Nature of the Study

In this study, I used a mixed methodology approach. To explore RQ1, secondary data were gathered from reliable sources on the prevalence of chlamydia trachomatis by gender, socioeconomic status, ethnicity, and age. The independent variable was the geographic location (Miami versus rest of the United States), the dependent variable was chlamydia trachomatis occurrence; the mediating variables were gender, socioeconomic status, ethnicity, race, and age The RQ2, 3, and 4 were addressed using primary qualitative data collected through a survey administered to health care providers of the Miami-Dade area, Florida. This research method allowed me to tie secondary statistical data to societal perceptions on the research topic and to explore how the secondary data collected relates to real-world attitudes and behaviors.

Definitions

Behavioral factors: For the purpose of this study, this term includes risk factors to acquire chlamydia trachomatis and STDs in general, which are related to individual

behaviors, such as age of first intercourse, number and type of partners, contraceptive use, substance abuse, and history of pregnancy (Navaro et al., 2002).

Chlamydia trachomatis: A bacterial disease that is transmitted through sexual contact and can cause serious complications such as blindness and reproductive difficulties (CDC, 2016a).

Cultural factors: For the purpose of this study, this term includes risk factors to acquire chlamydia trachomatis and STDs in general, which are culturally related based on ethnicity.

Sexually transmitted disease (STD): A disease that is transmitted through unprotected sexual intercourse (CDC, 2016a).

Unprotected sexual intercourse: Sexual intercourse without the use of a condom to prevent the exchange of bodily fluids (Marin, Tschann, Gomez, & Kegeles, 2013).

Possible Types and Sources of Information or Data

Primary qualitative and secondary data information sources were used to explore the research questions and hypotheses in this study. This resulted in a two-part research study that ties secondary information and demographic data to real-world results obtained through primary data collection. Secondary data sets were obtained from the Jackson Health System (JHS) in Florida and CDC (please see Chapter 3). I collected primary data through the use of a qualitative survey that helped to examine participants' perceptions of the relationship between the potential for contracting a chlamydia trachomatis infection and age, gender, ethnicity, race, cultural, and behavioral factors (ie., culture health related behavior, risky sexual behavior, and substance abuse). This information can help to fill

the gap between the perceptions of the general public and their knowledge about chlamydia and general population behaviors regarding the disease.

Assumptions

Assumptions are the aspects of the study that the researcher believes to be true (Bloomberg & Volpe, 2012; O'Leary, 2013). I assumed that during the qualitative interviews with general population and health care providers, they answered completely and honestly. Prior to collecting data, I also assumed that the study sample was as representative as possible with respect to the current problem.

Another assumption was that the sources of secondary information were reliable. Secondary information was derived from government sources, peer-reviewed articles, and health agencies. Therefore, it was assumed that these sources were credible in terms of the information presented. It was assumed that these agencies had internal methods to test the validity and reliability of the data that they provide.

Limitations

Limitations are the constraints that exist because of the methodology chosen by the researcher (Bloomberg & Volpe, 2012; O'Leary, 2013). Possible limitations to this dissertation included the respondents providing inaccurate information in the surveys, especially with respect to participants' history regarding the infection and social behavior. Cultural factors might prohibit them from giving honest answers in this respect. Statistical methods were used for validation where possible. Before the survey, I provided an explanation of the importance of the study and the honesty of their answers to alleviate this problem. In addition, study participants were assured that their answers will be kept strictly confidential, which also helped to obtain more honest answers.

One of the study's limitations was time, as this was not a longitudinal study. The study did not reveal the influence that time may have on the chlamydia trachomatis infections, and no incidence of the disease was estimated, only prevalence. To overcome this limitation, secondary data of a period of 6 years were requested and analyzed. Another study limitation was that the findings will not be generalized but limited to Dade County, Miami.

Summary

In this chapter, I examined the reason for the study, its importance to the affected risk groups for contracting chlamydia trachomatis, and the significance of the disease in relation to the development of serious complications. The chapter included an overview of the two-part research methodology and the necessity for conducting research using these two separate components. Finally, the chapter contained the research questions and hypotheses and a discussion of the study's significance in terms of future prevention of the spread of chlamydia trachomatis and its connection to cultural factors that are inherent in gender, ethnicity, race, and age demographics.

The remainder of the study will be divided into four subsequent chapters. Chapter 2 will consist of a literature review. Therein, I will use academic and government sources to explore how the population of Miami, Florida, compares with that of the entire United States in regards to prevalence of chlamydia trachomatis. I will further explore the theoretical foundation of the study using the theory of reasoned behavior and its connection to health-related behavioral changes. The chapter includes an examination of the cultural and behavioral factors involved in the transmission of chlamydia trachomatis

and other STDs and an overview of academic research on public health programs and their success in affecting trends in the transmission of STDs.

Chapter 3 contains an overview of the research methodology, as well is the rationale behind it. I will examine the reason for using a two-part methodology to explore the research questions and provide a detailed explanation on both parts of the research study. Chapter 4 will comprise the results of the study including the data collected from secondary sources and the primary data collected using a survey strategy. In Chapter 5, I will present the results of both quantitative and qualitative analysis and examine how this information can be used to develop strategies by public health entities to help curb the transmission of this disease and to prevent the serious side effects that can be associated with it. The chapter concludes with recommendations on developing effective public health strategies to achieve the desired behavioral changes.

Chapter 2: Literature Review

In this chapter, I will examine existing literature on the demographics of Miami, Florida, and how demographics affect the transmission of chlamydia trachomatis. The chapter includes a description of the theory of reasoned behavior and its relation to the research topic. I will further explain how this theory can help resolve the problems associated with the cultural factors associated with ethnicity and age and the transmission of chlamydia trachomatis. To develop an effective strategy to fight the disease, I will also examine public health efforts and their success in lowering the incidence of all types of STDs as well as behavioral and other individual factors involved in the transmission of chlamydia.

Information for the literature review was derived from peer-reviewed academic sources and other reliable sources of information such as the CDC, public health agencies, and other government resources. Information from these organizations was considered reliable as long as they were publicly funded. Information from privately funded entities was also considered, but it was also be explored for potential bias as concerns those entities' stated business and mission. In the next section, the population of Miami, Florida will be studied and compared to national population demographics as they relate to chlamydia trachomatous. Searches in PubMed, Google Scholar, and the Walden Library provided academic sources, a majority of which are from 2010 to present. The literature review also includes older works of theoretical and seminal works dating back to 1980. The search terms included the following: *chlamydia trachomatis, chlamydia, sexually transmitted disease, STD,* and *STD prevention, chlamydia age, chlamydia race*, and *chlamydia sexual behaviors*.

Population of the Miami, Florida Area

The first task of this study was to gain an understanding of the population demographics of the Miami, Florida area. The most important demographic categories for the purposes of this study were ethnicity and age. These demographics are the basis for cultural factors that may have an influence on sexual behaviors in regards to the number of sexual partners and safe sex practices, such as using a condom (Mays & Cochran, 1988).

Miami is the fourth largest metropolitan area in the United States and is also known as one of the most diverse in terms of ethnicity (Sesin, 2014). The total population of the Miami-Dade area as of 2016 consisted of 2,712,952 people, which means that Miami makes up nearly 13% of the total population of the state of Florida, consisting of 20,299,288 citizens (Claritas, 2016). Different data sources report different statistics for the population's ethnicity and age. The divergences mainly have to do with the areas that are covered in the statistics. For instance, one evaluation of the Miami-Dade area reports that 66% of the population is of Hispanic origin (Claritas, 2016), which is slightly lower than the 77% reported by Session (2014). The geographic area included in the count has an impact on the reported results. However, even accounting for the differences in various data sources, Miami still has a larger Hispanic population than other ethnic groups.

As of 2015, the U.S. Census Bureau (2016) reported 66.8% of the people of the Miami-Dade County area to be Hispanic. Those who reported themselves as Caucasian or White origin, and not of mixed Hispanic or Latino origin, comprise 14.4% of the population (United States Census Bureau, 2016). Nearly 18.7% reported themselves to be

Black or African American (United States Census Bureau, 2016). Those of American-Indian, Alaskan native, Asian, and Hawaiian descendants accounted for the remainder of the population (United States Census Bureau, 2016).

One of the most prominent features of Miami's population is its Latino community. Latinos in Miami, Florida, feel a sense of community, not only with people from their own country but also from the whole Latino community. Miami's unique demographics make it different from other communities in the United States: nearly 70% of Miami's population is Hispanic, which makes it one of the largest Hispanic communities in the United States (Sesin, 2014). Nearly 54% of the entire population of the city is Cuban, making this the largest ethnic group. Thirteen percent of Hispanics in the Miami-Dade area are Puerto Rican, Mexican, and from Dominican Republic (Sesin, 2014). The other 32% are from countries in Central and South America such as Colombia, El Salvador, Guatemala, Nicaragua, Honduras, Brazil, and Venezuela (Sesin, 2014). Whites are a minority there rather than a majority as they are in the rest of the United States.

The prevalence of Hispanics in Miami creates a unique cultural situation. Hispanic culture dominates the population. The behaviors associated with contracting chlamydia trachomatis are similar to those responsible for contracting any other STD such as AIDS, syphilis, or gonorrhea; these behaviors include having sexual intercourse without a condom or having multiple sexual partners (Marin et al., 2013). Understanding cultural factors involving such behavior in the Hispanic community will help to understand what to expect in the study.

Although the focus of this study was on chlamydia, historical studies on other STDs can help me to understand the disease and transmission vectors associated with any other STDs and the cultural constructs surrounding it. For instance, although many perceived AIDS to be a homosexual disease, women who lived in geographic areas with a high prevalence of the disease who were economically depressed had a significantly increased risk of contracting the disease (Mays & Cochran, 1988). In addition, the perception that they were not at risk increased their risk of contracting the disease because they did not take precautions to prevent it based on their false perceptions (Mays & Cochran, 1988). There are cultural biases surrounding STDs and there is a need to understand perceptions of disease transmission vectors to develop effective strategies for changing risky behaviors regarding STDs.

According to the Florida Department of Health, rates of STDs, including chlamydia and syphilis, have nearly doubled since 2006 in the Miami-Dade area (as cited in Disare, 2014). There are approximately 400 cases of chlamydia per 100,000 residents in the Miami area as of 2013 (Disare, 2014). However, Miami-Dade County has a slightly lower rate of chlamydia when compared to the state of Florida at 419 cases per 100,000 residents (Disare, 2014). Rates among citizens under the age of 25 have decreased by nearly 8 percentage points, but this age group is still more likely to contract chlamydia than any other age group (Disare, 2014). This age group accounts for nearly 56% of all chlamydia cases (Disare, 2014). Among the STDs, chlamydia is the main driver of the statistics and the fastest growing disease.

These numbers are of concern due to their potential long-term harmful effects on the population under the age of 25. Health officials in the Miami-Dade area have been

questioning the reasons for the rise of STDs in this category. Health officials speculate that a lack of information and understanding about the disease are to blame for the increase in its prevalence (Disare, 2014). Teens are particularly at risk for chlamydia. Teens can be tested for STDs in Florida without notifying parents, which should lessen their fear of being punished or chastised for sexual behavior. However, health officials speculate that teens are not aware of their ability to do this, nor are they aware of the seriousness of chlamydia due to its lack of symptoms, particularly in the early stages (Disare, 2014). Authorities are speculating that a lack of knowledge is the main problem with this demographic group, but, in this study, I contended that even if the teens are aware of chlamydia and its dangers, they still make decisions to have unprotected sex and spread the disease. The aim of this research was to demonstrate that making teens aware of the dangers will not necessarily prevent them from having unprotected sex. The teens must feel personally connected to the message for it to be effective.

National Population Demographics and STDs

To place the results of this study in perspective, it is important to understand how the cultural specifics of the Miami-Dade area fit into national demographic studies. More than half of all people will experience some type of STD during their lifetime (Koutsky, 1997). Although these statistics are almost 2 decades old, STDs remain a significant health risk in the United States. The CDC estimated that there are 19.7 million new sexually transmitted infections each year in the United States (as cited in Satterwhite et al., 2013). The largest infected demographic group in terms of age comprised both men and women between the ages of 15 and 24 years old (Satterwhite et al., 2013). Every year, it is estimated that one in four teens contracts an STD (Alan Gutmacher Institute,

1994). For chlamydia, it is estimated that there are 3 million new cases each year among adolescents and young adults (Weinstock, Berman, & Cates, 2004). These estimates may be higher in some communities.

One factor that affects estimates of overall STDs in the United States is that the number of STDs required to be reported to state health departments and the CDC is large; only gonorrhea, syphilis, chlamydia, Hepatitis A, and Hepatitis B are reported. Therefore, the impact of these individual diseases is known, but not in relation to how they affect overall estimates of STDs. Another parameter that complicates statistics on STDs is that one person could have more than one STD at the same time. Statistics do not account for this factor.

An additional complicating factor in the detection of chlamydia is that nearly two thirds of all women believe that doctors routinely screen for the disease (American Social Health Association, 2005); however, only 30% of all women under the age of 25 with commercial health care plans are routinely screened by their physicians (National Committee for Quality Assurance, 2004). Among female Medicare recipients under the age of 25, only 45% were screened for chlamydia by their physicians (National Committee for Quality Assurance, 2004). There are potentially more cases of chlamydia trichomatis that are not being reported in the statistics. Women who are not screened and do not know they have the disease are not being treated. This not only places them at greater risk for health complications as a result of chlamydia, but it increases the danger of spreading the disease to others through sexual behavior. Figure 1 shows…

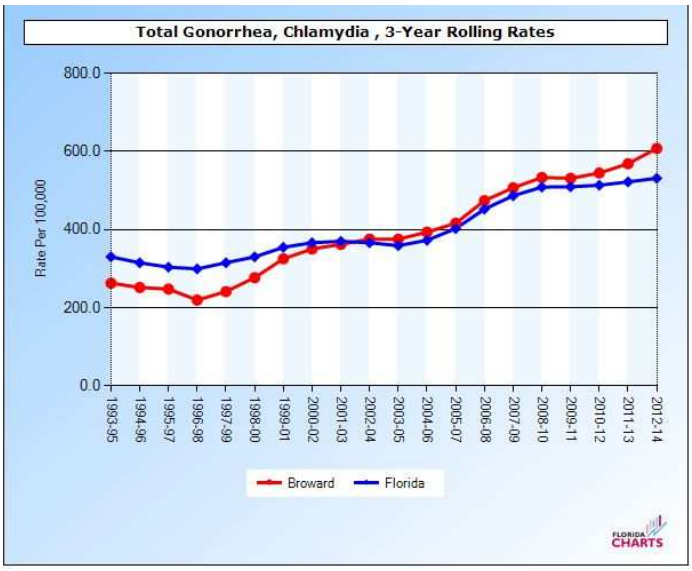

Figure 1. Chlamydia and syphilis rates, Broward. Reprinted from *Safer STD Testing* (2016a).

Figure 1 combines chlamydia and gonorrhea rates in Broward County and in the entire state of Florida. The rates of these diseases have been rising steadily, with Broward County surpassing the state of Florida in 2013. The current educational programs and efforts to decrease the disease are not having a measurable effect on lowering disease rates. Rates continue to climb despite educational and public health efforts. Figure 2 shows….

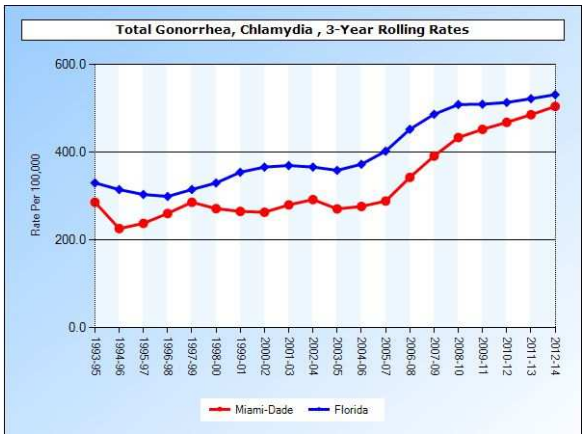

Figure 2. Chlamydia and gonorrhea rates, Miami-Dade (Safer STD Testing, 2016b).

Figure 2 demonstrates combined gonorrhea and chlamydia rates in the Miami-Dade County area. The rates of these diseases have followed national trends more closely than in Broward County, Florida, and they continue to rise at a rate slightly below the national average. According to the differences between Broward County and Miami-Dade County, cultural, demographic, and social issues may play a role in local differences in STD rates. Public health programs that target at-risk populations must consider these factors in order to be effective. The differences in rates in these two counties support the need for further study of factors that contribute to local differences in rises in STD rates. Although Figure 2 signals positive news for the Miami-Dade area, which remains below national levels, the rising trend highlights the need for action.

The county statistics underscore the importance of this study to bring to light the underlying causes for the behavioral changes that need to be made within the population. The rise in STD levels throughout the nation and on a county level indicates that current educational programs are ineffective both on the national and the local level.

One of the potential complications of untreated chlamydia is the development of pelvic inflammatory disease, which can cause infertility by damaging the fallopian tubes. This type of tubal damage is implicated in close to 15% of all U.S. women who are diagnosed as infertile (author, year). Women who regularly use condoms were 60% less likely to become infertile than those who did not use condoms (Ness et al., 2004). The use of condoms is an effective protection against the acquisition of STDs, including chlamydia and a number of others (Crosby, DiClemente, Wingood, Lang, & Harrington, 2003; Holmes, Levine, & Weaver, 2004; Shlay, McClung, Patnaik, & Doublas, 2004). Promoting condom use and avoiding unprotected sex may have an impact on reducing incidences of STDs such as chlamydia on a national level. They would also play a role in the reduction of STDs in the target population of the Miami-Dade area.

National statistics indicate that STDs are significant health risks that carry the potential for serious complications. Furthermore, youth and adolescents were found to be at a higher risk of contracting STDs and represent a special risk group on a nationwide basis, which supports the need for this study (author, year). Promoting the use of condoms and avoiding unprotected sex can play a role in reducing the risk for contracting STDs among at-risk populations.

Culture and Health-Related Behavior

The Miami area is unique and differs from the demographics on a national basis. Compared to other counties, the Miami-Dade area has unique characteristics that must be considered in the development of effective health management programs answers to the spread of chlamydia. The current programs do not decrease the rate of chlamydia and other STDs (Disare, 2014). However, is has not been determined what characteristics of

the population contribute to the continuous rise in STDs in the area. Finding an answer to this problem will help to develop culturally and demographically appropriate health care initiatives and educational programs that impact STD rates.

Cultural and demographic differences are a potential challenge in the development of effective educational programs about STDs. The high population of Hispanic and Blacks may affect promiscuity and condom use, which places them in a different risk group from overall national statistics. Hispanic women reported lower numbers of sexual partners than other groups (Marin et al., 1993). However, condom use was low among all ethnic groups and even lower among Hispanic women who spoke Spanish as their native language (Marin et al., 1993). Hispanic women had poor attitudes toward condom use, but they were less likely than non-Hispanic Whites to believe that they could avoid contracting HIV through unprotected sexual activity (Marin et al., 1993). Marin et al. (1993) demonstrated cultural variance in attitudes and behaviors that are known to prevent contracting HIV and other STDs such as chlamydia trachomatis.

Schwartz et al. (2014) explored immigrants who come to the United States who engage in riskier behaviors health-wise as they become more acculturated to U.S. culture. However, Schwartz et al. indicated that contrary to the immigrant paradox, young males of Hispanic origin who identified with U.S. culture engaged in less heavy drinking, had fewer sexual partners, and had less frequent unprotected sex. However, this study did not account for the differences in family income.

Gender and race have been implicated in infection rates for chlamydia and gonorrhea within community-based populations (Dembo, Childs, Belenko, Schmeidler, & Warham, 2009). Certain ethnic groups were found to be at higher risk for contracting

STDs than the average population. For instance, Blacks have an infection rate of chlamydia that is 8.6 times higher than that of the White population (CDC, 2007). The Hispanic population has 2.9 times the infection rate compared to the White population (CDC, 2007). Persons aged 15 to 24 comprise about 25% of the sexually active population, but they account for approximately half of all STD cases (CDC, 2007).

One population that is affected at nearly twice the rate of other populations comprises youths incarcerated in the juvenile justice system (Belenko, Dembo, Rollie, Childs, & Salvatore, 2009). Therefore, this group is a critical concern in terms of risky sexually active behavior. Certain cultural factors can increase the risk of contracting chlamydia in addition to demographic characteristics, such as ethnicity and age. Certain cultural populations within ethnic and age groups have an increased risk for unprotected sexual activity that can lead to the development of a STD such as chlamydia (author, year). Culture beyond ethnicity and age is a factor in contracting chlamydia. Within the statistics are implications for the use of condoms and promiscuous sexual activity as the basis for higher rates among this population.

Several social factors appear to be linked with risky sexual behaviors. These include socioeconomic status, educational level, a poor family environment, sexual victimization, and cultural expectations (Kolchick et al., 2001). Criminal involvement, substance abuse, and age were also found to be risk factors. Furthermore, older juvenile offenders were more likely to test positive for STDs than younger ones, but this relationship was found to be inconsistent (Risser, Risser, Getter, Brandstetter, & Cromwell, 2001; Robertson, Thomas, Lawrence, & Pack, 2005). In a population of male incarcerated youth, those between the ages of 15- to 19-years-old were more likely to test

positive for chlamydia and gonorrhea than those between 10 and 14 (Mertz, Voigt, Hutchins, & Levine, 2002). However, those between the ages of 10 to 14 were more likely to test positive for gonorrhea, but less likely to test positive for chlamydia than those in the 15 to 19 age group (Kahn et al., 2005).

Although a group of incarcerated youths represents possibly the highest risk group in terms of risky health behavior leading to contracting chlamydia, they also demonstrate the effects of this risky behavior on population demographics. Consequently, to understand how to change risky health behaviors unconnected to chlamydia, we have to learn how to neutralize or reduce many of the surrounding factors related to risky sexual behavior. Although previous studies are inconclusive regarding which age poses the most risk for sexual behaviors leading to chlamydia, they all suggest that age is indeed a factor. Therefore, age was included as a variable in this study. I stopped reviewing here due to time constraints. Please go through the rest of your section and look for the patterns I pointed out to you. I will now look at Chapter 3.

Substance use and its connection to the development of an STD infection are also topics that need to be addressed from a public health standpoint. Numerous studies confirm that those who use substances prior to sexual activity are more likely to test positive for STDs, compared to non-substance users (Crosby et al., 2007; Morris et al., 2005; Oh et al., 1998; Robertson et al., 2005). Evidence supports the use of substances prior to sexual activity is a factor in the development of chlamydia another sexually transmitted diseases. I will not examine substance abuse as a factor in perceptions about chlamydia, but it is suspected that some of the participants may be substance users, which could affect their perception of their likelihood of contracting an STD. However,

regardless of whether a participant abuses substances or consumes them before sexual activity, it is assumed that this will not affect the ability to separate perceptions according to ethnicity and race in the sample participants. The prevailing cultural perceptions are expected to be overriding factors in terms of what are considered normal sexual behaviors for certain ethnic groups and age ranges.

Researchers examined young adults between the ages of 18 to 24 years old attending a health center at a university in the United States; their findings supported inconsistent condom use in youth within this age range (Thomas, Yaranda, Delmida, & Kleinert, 2014). Nearly 74% of the study participants were females. Perhaps one of the most significant findings of the study was the inconsistency of reasons for the use of condoms and the need for consistent interventions to predict the development of STD infections. The researchers concluded that more information is needed on cultural and geographic risks in the use of condoms and the prevention of STDs (Thomas et al., 2014). This study will help to fill the gap in understanding cultural and geographic risks associated with the development of chlamydia. Using the Miami-Dade area of Florida will help to illustrate how the geographic scope and the area's unique ethnic mix affect the risk of contracting the disease.

Datiotis, Sifakis, Pleck, Astone, and Sonenstein (2011) examined a group of men for chlamydia, STDs, and high-risk sexual behaviors controlling for socioeconomic factors and age. The sample included men between the ages of 20 and 24 years old. Researchers found that both African-American and Latino men had a higher risk for developing chlamydia and for maintaining high-risk behaviors over time. They also found that the same group of men were likely to increase their high-risk sexual behaviors

over time, raising their risk for both additional contracting STDs and spreading the infection to others (Datiotis et al., 2011). The researchers concluded that ethnicity and culture played a role in engaging in high-risk sexual behaviors, which led to the development of chlamydia and other STDs. This and other studies support that 15 to 24-year-olds remain the group of highest risk for STDs (Eng & Butler, 1997; Miller et al., 2004). Therefore, ethnicity and age will be considered as risk factors for the development of chlamydia in this study.

In this section, I examined the cultural and demographic risk factors for the development of chlamydia and other sexually transmittable diseases. The literature review supports the use of ethnicity and age as variables in this study in studying populations who are at increased risk for risky sexual behaviors leading to the development of STDs. Numerous researchers have shown strong correlations between ethnicity and certain age groups in terms of risky sexual behavior, which were also associated with positive tests for chlamydia. Further, not only are these targeted populations at risk for the development of chlamydia, but they do indeed develop the infection. Therefore, it is necessary to develop new strategies for reducing risky behaviors in targeted groups according to ethnicity and age. The goal of this study is to determine how to develop a public program to reduce the incidence of chlamydia in the Miami-Dade County area. Understanding which groups are at increased risk will help identify the target population for the study and the program that will ultimately result from it. The research will also concern the question of how to support the population in making the needed changes to reduce their risk. The next section will examine the Theory of Reasoned Behavior and its use in managing health-related behavioral changes.

Theory of Reasoned Behavior and Health Behavioral Change

The Theory of Reasoned Behavior is one of the seminal works that underlies modern theories of persuasion and motivation Martin Fishbein and Icek Ajzen developed it in 1967 (Ajzen & Madden, 1986) from studies on the interaction between attitude and behavior (Figure 3). The basis of the theory is that a person's decision to engage in a certain behavior is determined by the outcome they expect as a result of the behavior (Gilmore et al., 2002). The theory states that the intention to perform the behavior precedes the actual behavior (Ajzen & Madden, 1986). This means that no one performs an action without first thinking about it, even if he or she does not ponder it at length. The individual thinks about what he or she expects to gain from the actions and then decides to perform or not to perform the action accordingly. The theory also states that the stronger the intention, the more likely the person will be to do the action (Ajzen & Madden, 1986). The obvious motivation for having sex without a condom is one of sensation and hedonism.

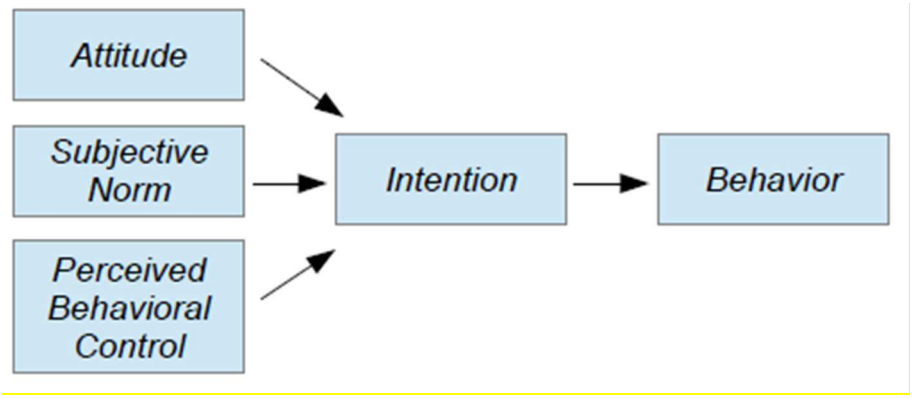

*Figure 3.*Theories of Behavior Change.http://www.alcoholedguide.org/Subheadings/Theories%20of%20Behavior%20Change

When one applies the Theory of Reasoned Behavior to risky behaviors for contracting STDs, most people engage in such behaviors expecting to receive pleasurable sensations, which is the ultimate driving factor for engaging in the behavior for both parties. In many cases, the risk of developing an STD is not foremost in the person's mind. He or she may not feel that the risk is high for contracting an STD. There are too many reasons for this to consider in this study. However, some causes of perceived lower risk for contracting STDs include trusting one's partner, lack of knowledge about STDs, or perhaps lowered inhibitions from using substances such as alcohol or drugs. The goal of the study is to find a way to change sexually risky behavior. In order to do this, the risk of developing an STD must be introduced into the person's expectations as a potential outcome for engaging in the risky sexual behavior.

Psychology of Health-Related Behavior

The Theory of Reasoned Behavior was one of the first to connect attitudes with behavior. However, it is only one in a group of similar theories that now form the foundation of modern behavioral psychology. One of these models is the health belief model, which arose as a result of studies into why people do not utilize services such as immunization and screening (Becker, 1974). According to this theory, a particular behavior is based on a set of perceived benefits and advantages to the behavior, as opposed to perceived obstacles or barriers to performing it and the likely outcome of performing the behavior. This theory can be applied to condom use during sexual

activity. Performing the activity without a condom will have the perceived benefit of increased sensation, and it may also have some social benefits as well. Performing the activity with the use of a condom has the perceived disadvantage of reducing sensation, and there may be barriers to using a condom, such as not having one immediately available. The risk of developing an STD is a disadvantage of having sex without a condom, but it will only affect the behavior if the person intending to perform the behavior thinks about it first and believes he or she is at risk by performing the activity.

Self-efficacy theory developed from Bandura's social cognitive theory also comes into play in understanding behavior. This theory reduces behavior to the perceived self-efficacy of the person to be formed the behavior, and the outcome that they expect from performing the behavior (Bandura, 1986). This is a sub-theory of Social Cognitive Theory, which considers the social advantages and disadvantages of performing a behavior (Bandura, 1997). According to this theory, the person will weigh the positive and adverse outcomes of performing the behavior. In order to change an individual's behavior regarding the utilization of a condom during sex, the perceived negative outcome of not using it must outweigh the perceived advantages of using one. Once again, if the person does not think about the risks, he or she will not take them into account while making the decision. In some cases, self-efficacy theory may come into play, particularly in the ability of a person to resist the temptation to have sex unprotected. Alcohol or other substances can lower inhibitions and undermine a person's ability to resist performing a behavior he or she knows will have a potentially harmful outcome. People may also feel that they are not able to overcome the temptation. In order

to resist the temptation, they must feel that they have the ability and perceived need to do so.

These theories have the common factor that they consider behavior to be the result of reasoned actions. They place different emphasis on the relative importance of variables, but they all consider human action to be the result of careful thought, even if the emphasis is placed on immediate gratification. Many social and personal factors, such as attitudes about condom use, can influence the benefits and consequences perceived by an individual. Therefore, the success of any program to reduce risky sexual behavior resides in its ability to increase the perceived risk of performing the risky behavior as compared to the immediate sensations of it. If the individual contracts chlamydia as a result of unprotected sex, it may lead to some inconvenience if he or she is treated immediately. However, if the symptoms are not treated immediately and severe complications develop, then the person may feel he or she has miscalculated the risk earlier. In order to reduce the risk of engaging in unprotected sexual activities, or activities with multiple partners, the risk must be emphasized in relation to the amount of impact they would have on the person's life if they were to come to pass The risks have to become a consideration in the individual's mind in order for him or her to avoid the risky behavior. Therefore, any programs aiming to reduce the incidence of STDs need to focus on emphasizing the dangers of risky sexual behavior, especially for target populations.

Public Health Programs and STDs

Even though the goal of this study is the identification of at-risk groups in terms of ethnicity, age, behavioral, cultural, and other individual factors that affect the

transmission of chlamydia trachomatis, the data will also contribute to developing an effective program to reduce risky sexual behavior in the target group. Finding ways to develop effective interventions will be an outcome of the study once target groups are identified. Therefore, it is necessary to discuss some effective behavior modification strategies so that they can be applied to the at-risk group identified in the study.

Despite national efforts to decrease the risk of sexually transmitted diseases in adolescence, rates remain high in this group. One effective program, which provided relevant information about sexually transmitted diseases and how to prevent them, used Facebook as a platform for spreading the information. This technique proved successful in assuring that teens had at least a minimal level of accurate information about STDs. The success of the program was measured using a skills test to evaluate the competency of the adolescents after participating in the program (Yager & O'Keefe, 2012). Consequently, social networking may prove to be a means to deliver the message about the effective reduction of the risk of STDs.

The fact that more efficient methods need to be developed is highlighted by evidence that HIV remains an epidemic even after 30 years of research and intervention (Hoppel, 2012). Currently, programs for the prevention of HIV are similar to practices to reduce chlamydia and any other STD. Even though massive awareness programs have been launched, high rates of new incidences of HIV continue to be a part of the global, national, and local health perspectives. These statistics support the need for more effective methods to reduce all forms of STDs and reduce sexually risky behavior among at-risk populations.

Cultural and Behavioral Factors

In order to develop effective public health programs to address the spread of chlamydia, it is essential to consider decision-making processes regarding sexual behaviors. In the following studies, scholars examined the decision-making processes, behavioral, and cultural factors that affect decisions regarding sexual behavior. These studies are related to research questions 3.4.

A study in which respondents were asked to respond to a sexual encounter found that high and low-risk individuals processed information differently (Patel, Yoskowitz, & Kaufman, 2007). The cues as to how they would respond to the situation were related to their emotional processing of the goal of immediate pleasure, versus different thought patterns that were more closely rooted in weighing risks and benefits in the long term. Patel et al. (2007) suggested that interventions need to be tailored for different ways of processing information and that a one size fits all approach will not work. This finding, that individuals processed information and risks differently, may explain why previous efforts to reduce sexually risky behavior have not worked.

East, Jackson, O'Brien, and Peters (2010) found that social norms play a significant role in condom negotiation by women. They discovered that women did not normally initiate conversations about condoms, but left it to the male to bring up the topic – a factor that may prove to be a barrier in conducting effective programs designed to increase the use of condoms during sexual activity. A systematic review of current interventions including educational programs designed to limit high-risk sexual activity among adolescents found that the results were mixed in their effectiveness to curb the behavior (Picot et al., 2012). Picot et al. (2012) concluded that more information is

needed about how adolescents make decisions about sexual behavior in order to develop effective interventions that target this group. For instance, the interventions need to be based on information about how attitudes towards condom use and abstinence develop.

Knowledge of the General Population and Behavior

Teenage sexual behaviors have both short-term and long-term consequences in many different risk domains. Interventions that focus on various domains of risk may be the most effective in controlling risky sexual behaviors in adolescents (Scott et al., 2011). Alcohol use and partner type were also found to be factors of risky sexual behavior among teens (Brown, 2007). Therefore, these factors should be included in effective intervention strategies. Trieu, Bratton, and Marshak (2011) found that groups of community college students who chose to be tested for HIV because they felt they were at risk were also at higher risk for unwanted pregnancies, emergency contraception, and other risks associated with unsafe sexual practices. One of the most surprising studies regarding knowledge and sexually risky behavior was conducted in the UK. In this study, the level of knowledge about STDs and safe sexual practices were measured using a questionnaire. It was found that a high degree of knowledge about STDs did not necessarily lead to lower participation in risky sexual activities (Jones & Haynes, 2006). This finding suggests that even increasing a population's knowledge about sexually risky activities may not have an effect on the target population.

This section of the literature review leaves many more questions than answers. Many programs designed to reduce risky sexual behavior depend on providing knowledge about the risks. They are based on the assumption that the target population is not aware of the risk and that if they knew about the risk, they would take the appropriate

actions to avoid them. However, this group of studies demonstrated that there is more to the equation than simply knowing about the risk. The person has to have the perception that he or she may be affected by those risks if he or she partakes in the behavior. The above-mentioned studies also suggest that a multifaceted approach may be necessary to make certain that the message is received by people who process information in different ways.

Summary

In this literature review, I examined many factors that affect sexually risky behavior and that might the development of a sexually transmitted disease due to a person's own sexual behavior. Many scholars emphasized the role that ethnicity and age play in condom use, as well as cultural, behavioral, and other individual factors. Researchers have also shown that certain ethnic groups are at an increased risk for the development of STDs and that persons below the age of 25 are also at greater risk. However, some studies yielded mixed results regarding the role of younger age during the adolescent years. Gender was also found to be a factor in age-related patterns regarding condom use.

Studies on ethnicity and age support the need for further information in this area. There was sufficient information found in the literature review to indicate that ethnicity and age may play a role in chlamydia rates in the Miami-Dade County area. I will utilize the information obtained in the literature review to better understand the role that ethnicity and age play in chlamydia rates in the Miami-Dade County area. The literature review supports the need for including the variables of age and ethnicity in the study, even though studies on different populations yielded mixed results. The aim of the study

was to show how ethnicity and age affect the sexual behavior in the Miami-Dade County area.

A comparison of STD rates in the Miami-Dade County area and other counties against national statistics indicates that local differences play a factor in the types of programs that would be effective for controlling the rise of STDs. However, these statistics do not provide information on why current educational programs are ineffective for controlling behaviors leading to the spread of chlamydia and other STDs. This upward trend of disease rates highlights the urgency in finding effective ways to monitor the spread of chlamydia and other STDs. Furthermore, the spread of the disease shows that current educational programs are ineffective in getting the message across to the right population about the dangers of unprotected sex.

Researchers found that other factors could have an influence on engaging in sexually risky behavior. Family culture, social factors, socioeconomic status, and a number of other individual factors impact the willingness of youth to engage in risky sexual behavior. The researcher will address these factors in the qualitative portion of this study The demographic factors used in the study included ethnic and age information to identify a target population for the intervention.

The literature on what constitutes an effective intervention was mixed in regards to the success of different strategies. Researchers found that a number of social and cultural factors including gender norms had an effect on condom negotiation prior to sexual activity. Women were found to be less likely to negotiate condom use than men, and they depended on men to take control of the conversation regarding that topic. Perhaps the most interesting finding in the literature was that the level of educational

knowledge about sexually transmitted disease did not have an effect on avoiding risky health behavior regarding sexual activity. The literature review demonstrates a significant gap in the literature regarding effective interventions. It appears that it will take something more than simply providing knowledge about the risks to formulate a strategy that will have an impact on reducing sexually risky behavior in the target population. The next chapter includes a discussion of the study's methodology.

Chapter 3: Methodology

Introduction

This study included data regarding demographic factors, gender, socioeconomic status, race, ethnicity, and age that may increase the risk of developing chlamydia trachomatis (CDC, 2013). The data included behavioral factors regarding the participation in sexual behaviors that increase risk for contracting chlamydia. It also included individual factors on willingness to follow medical advice against having unprotected sex. Population demographics such as gender, ethnicity, socioeconomic status, and age relate to incidences of chlamydia trachomatis (CDC, 2011). The objective of the study was to determine if demographic, behavioral, and medical advice predict the likelihood of acquiring a diagnosis of chlamydia trachomatis. The results of this study can provide information that can be used to implement population-based health initiatives designed to reduce chlamydia trachomatis in the Miami-Dade County area. This mixed-methods research was a combination of quantitative and qualitative methods to examine the problem of how to encourage change in at-risk populations in the study area. This chapter includes details of the setting, population and methods that I used to explore the research questions and hypotheses.

Setting

The setting for this study was Miami-Dade County, Florida. Population demographics in the Miami-Dade area are unique, which provides an opportunity to explore cultural factors such as having multiple sexual partners or failing to use condoms during sexual intercourse (Torrone et al., 2014). Discovering the unique characteristics that put the Miami-Dade population at risk for the spread of chlamydia may provide

information that is applicable to similar populations in other areas of the country. The demographic characteristics of the Miami-Dade area and its cultural similarities to other locations throughout the United States were the main reasons for choosing it as the setting of the study.

Research Questions

To understand the research problem and its impact on the chosen population, the following research questions guided the present research study:

Quantitative Research Question and Hypothesis

1. Is there significant difference in the demographic distribution of chlamydia trachomatis according to gender, socioeconomic status, race, ethnicity, and age in the Miami area compared to the rest of the United States?

$H_0$1: The demographic distribution of chlamydia trachomatis will not differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

H_a1: The demographic distribution of chlamydia trachomatis will differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

Qualitative Research Questions

2. What cultural and behavioral factors affect the onset of chlamydia trachomatis, according to the insights of health care providers of the Miami-Dade area?
3. What is the level of awareness of chlamydia trachomatis among the entire population (at-risk and not at-risk) according to the insights of health care of the Miami-Dade area?

4. What is the level of awareness of chlamydia trachomatis among health care providers, according to the insights of health care providers of the Miami-Dade area?

Research Design and Rationale

I investigated four research questions and hypotheses. I answered one research question using quantitative methodology, and the remaining three research questions using qualitative methodology. In the first quantitative and inferential research question, I examined potential differences in the demographic distribution of chlamydia trachomatis in the Miami-Dade area compared to the rest of the United States by gender, socioeconomic status, ethnicity, race, and age. In the first qualitative question, I addressed the cultural and behavioral factors that affect the spread of chlamydia. In the second qualitative research question, I addressed the level of awareness of chlamydia among the general population in Miami-Dade. In the third qualitative question, I addressed the level of awareness of chlamydia among health care providers in Miami-Dade. All qualitative RQs were addressed according to the insights (qualitative interviews) of health care providers of the Miami-Dade area

I selected this design for the study because chlamydia trachomatis is a preventable disease if people avoid certain behaviors involving sexual intercourse (Kolchick et al., 2001). For example, the choice to limit sexual partners or use condoms during sexual intercourse helps prevent the spread of the disease and reduces the number of people who contract chlamydia. Understanding factors that lead to behaviors that increase the spread of chlamydia will help public health officials and private health entities develop effective programs to reduce behaviors that lead to this disease. Changing behaviors may decrease

the number of new chlamydia trachomatis cases in the Miami Dade area. The affordances of a mixed-methods research design helped to determine which interventions are most effective in reducing the spread of chlamydia in the future.

I chose a mixed-methodology approach for this study based on the type of data I collected to answer the research questions. A mixed-methodology researchers relies on the ability to collect a variety of information types from a number of sources and to triangulate this information so that it leads to a single set of conclusions (Creswell, 2003). I then made recommendations based on those conclusions. This research used statistical information from a number of authoritative sources (please see below more detailed information) in combination with a qualitative research survey of different stakeholders. I divided the research into a quantitative portion and a qualitative portion based on the theory of reasoned behavior (Ajzen, 1985). According to the theory of reasoned behavior, a person will take actions based on preexisting attitudes and beliefs towards an issue, in this case, risky sexual behavior that risks contracting chlamydia. In addition to demographic data and behavioral or cultural factors that influence the distribution of chlamydia trachomatis, I used the research questions to address the level of knowledge and awareness of chlamydia trachomatis in the general population, among health care providers, and among local health care organizations. These research questions formed the guiding principles of the development of the mixed-methodology approach to the research topic.

For the quantitative research question, secondary data were analyzed (please see below for more details). For the qualitative questions, insights of health care providers of the Miami-Dade area were used. The purpose of the research methodology was to

examine the research questions and to explore the research hypotheses in a way that provides insights for real-world situations. In this study, I first had to gain an understanding of the research problem to facilitate effective recommendations for the reduction of chlamydia trachomatis in the Miami-Dade area. I gathered information from different sources and stakeholders. Each of these sources of information provided different perspectives and levels of expertise in the research topic. I triangulated these data to determine the reasons behind the increasing rates of chlamydia trachomatis and other STDs in the Miami area and to develop recommendations that may reduce incidences of chlamydia trachomatis and other STDs related to risky sexual behavior.

The investigation to understand the topic of this study was complex and required the use of quantitative and qualitative methods to explore the potential effect of demographic, cultural, and behavioral factors on chlamydia trachomatis disease. Quantitative studies involve experimental designs in which researchers apply a certain treatment to a representative sample population (Creswell, 2003). This study did not involve the application of an intervention or treatment to a sample population group. This represents another type of nonexperimental quantitative design (Creswell, 2003). I conducted a nonexperimental quantitative analysis of the demographic data in this study. Researchers can quickly analyze quantitative data, but quantitative research does not provide in-depth perspectives of the topic (Creswell, 2003).

One of the disadvantages of this study was that I had no control over data collection by secondary sources such as county health authorities and government agencies like the CDC. These agencies use different methods to define populations and sources from which to collect data. This may have affected the ability to compare sources

in the quantitative portion of the study. However, the data sources were reliable and authoritative. I researched how the sources of information are similar and different in their definitions and data collection methods to understand any effects that these differences might have on the conclusions of the study.

The quantitative data only show some of the culturally specific behaviors of people in the Miami-Dade area that affect increasing rates of chlamydia trachomatis and other STDs. For this reason. I also used qualitative research methods to provide a more in-depth perspective on ways to alleviate the problem, applying ethnography. Ethnography involves full immersion in the culture under study to understand daily life events and behaviors, family dynamics, and social interactions in order to enhance the researcher's ability to analyze these events and perceptions in detail (Robson, 2011).Qualitative data sources include personal narratives, case studies, and interviews that provide information that can be applied to real-world circumstances (Creswell, 2003). A mixed-methodology researcher collects quantitative and qualitative data concurrently to transform the data and provide a unique perspective (Creswell, 2003). In this study, the theory of reasoned behavior was a lens to examine quantitative and qualitative sources of data.

This research was both a concurrent and transformative mixed-methodology study. Concurrent data included the demographic data found in the quantitative portion of the study and the qualitative data from the interviews. Using the concurrent mixed-methodology approach, one set of data is typically nested inside the other (Creswell, 2003). In this case, I nested qualitative data inside quantitative data to provide a context

in which to analyze the quantitative data to define what is happening in terms of chlamydia trachomatis rates and to explore the reasons behind these trends.

The determining factor in research method selection is the type of data needed to answer the research questions. The first research question required data on chlamydia in the Miami-Dade area and the rest of the United States. These data contextualized the Miami-Dade area in the context of the larger population of the United States and identified characteristics that make the Miami-Dade area and the United States similar and different in terms of factors that influence the spread of chlamydia. The quantitative portion of the study required exploration of the problem to establish the scope and significance of interventions that might arise from the research.

Quantitative Data

The research question of the study involved an examination of data regarding chlamydia rates in the Miami-Dade area and United States. State and individual level data were obtained from the Jackson Health System (JHS) in Miami-Dade area (http://jacksonhealth.org/home.asp). JHS is a nonprofit academic medical system offering care to individuals residing in the area, regardless of their ability to pay. This system consists of hospitals, medical centers, urgent and primary and specialty care centers, long-term care nursing facilities, and a team of corrections health services clinics. National level statistics and statistics for the Miami area were obtained from the CDC 2017 Sexually Transmitted Diseases Surveillance (https://www.cdc.gov/std/stats17/chlamydia.htm, publicly available data).

The Miami-Dade area has a highly ethnic population with a high number of Black and Hispanic residents; statistics support that chlamydia and other STDs are prevalent in

this population (Torrone et al., 2014). The highly ethnic population of the Miami-Dade area supports examination of cultural factors that influence behaviors leading to the transmission of chlamydia and other STDs. Many members of this population fall into high-risk categories for the transmission of STDs. Information obtained in the quantitative portion of the study aided in the understanding of cultural barriers to education regarding ways to contain the spread of chlamydia.

Qualitative Data

For the qualitative portion of this research, I examined whether there was a perceived knowledge gap between the general public and health care service providers in terms of behaviors that prevent the spread of chlamydia or a gap between the message sent during interventions and the behaviors of the general public in terms of chlamydia prevention. The purpose of the qualitative section of this study was to provide information as to gaps in the knowledge to reduce the spread of chlamydia in the future. The qualitative portion of the study involved interviews with health care personnel and health care public service providers to understand their observations/experience regarding chlamydia in the general population that they serve.

Both the quantitative and qualitative portions of this research were necessary to develop effective programs to reduce the spread of chlamydia in the Miami-Dade area. In the qualitative portion of the study, I examined the general knowledge level of physicians and other health care professionals to assess general population knowledge and behaviors. If health care professionals do not have accurate information about chlamydia and its prevention, or if they do not adequately provide this information to their patients, then researchers must develop new protocols to reduce chlamydia rates.

The inclusion of the quantitative data contextualized the qualitative data and provided a baseline to measure the success of future programs. Due to the importance of both sections of the research, a mixed-methodology approach was most appropriate for this research topic.

Role of the Researcher

The role of the researcher was to design the study, collect the data, and interpret the results. I remained impartial and took precautions to avoid introducing personal thoughts and feelings into the research process. I acted as a third party when analyzing the data and was not personally tied to the outcome. The role of the researcher in this study was that of an observer. I collected and interpreted data but was not an active participant in the study as a subject.

The sample of the quantitative portion of the study were 2012-2018 chlamydia cases in young adults. The data were available from a reliable source (JHS). I had no relationships with this organization. In the qualitative portion of the study, the available sample population was smaller. There were a limited number of physicians and health care providers in the area. It is possible that I might have met some of these professionals, but not in any capacity that would affect the results of the study. I did not have a supervisory or subordinate relationship with any participants in either the quantitative or qualitative portions of the study. I had no power over the answers provided by participants in either the quantitative or the qualitative portions of the study.

There are no known ethical issues that exist regarding the relationship of the researcher to the study participants in a mixed-methodology approach. I remained a third party observer in the study to avoid any sources of bias that may harm the ability to fairly

interpret the results. I had no sources of bias in relation to relationships with the study participants.

Methodology

Participant Selection Logic

Regarding the quantitative component of the study, the data were secondary; therefore, there was no need to recruit any participants. Regarding the qualitative component, the sample included health care providers found through an Internet search and the phonebook.

The quantitative portion of the study involved finding the most credible secondary data sources of information on chlamydia statistics in Miami-Dade and the United States. I selected secondary data sources based on the reliability and validity of data. I used JHS (2012-2018) and CDC (2017) data to gather information on chlamydia according to gender, socioeconomic status, ethnicity, race, and age. Many organizations may use different criteria to report chlamydia rates. I had no control over the sampling techniques or methods used by data sources in this study. As these were secondary data, I used all of the available cases in the provided datasets; therefore, no sample size calculation was needed. In any case, post hoc power analysis was conducted to see if there was adequate statistical validity of the obtained sample.

For the qualitative portion of the study, I used purposeful and nonprobabilistic sampling, where individuals were selected based upon proximity and availability following Walden's Institutional Review Board (IRB) approval, in order to select physicians and health care providers of the Miami-Dade area. I identified health care provider participants through the Internet and health care organizations. I asked providers

to participate regardless of the size of the organization or any other factor. To select sample participants for this portion of the study, I compiled an initial list of potential participants and then randomly called providers on the list until obtaining a sufficient sample. Some providers chose not to participate in the survey due to time constraints or other factors beyond my control. In this case, I chose another potential participant from the list and continue calling until obtaining the appropriate number.

I used a convenience sample of 13 participants for the qualitative portion of the study involving physicians and health care providers according to the principle of saturation of data. I stopped reviewing here due to time constraints. Please go through the rest of your chapter and look for the patterns I pointed out to you. I will now look at Chapter 4.

The physician population includes 62,000 physicians who practice in the Miami-Dade area (Florida Health, 2014). I only contacted primary care physicians, because many specialists would not be term pertinent to the disease studied in this research study. Primary care physicians make up approximately 32.7% of the total workforce; 14,391 primary care physicians practice in the state of Florida (Florida Health, 2014). Broward County has a density of between 19.2 and 30.9 primary care physicians (Florida Health, 2014). Physicians are more highly concentrated in populated areas.

Instrumentation. The quantitative portion of the study involved collection of secondary data from reliable and authoritative sources. The data sources included researching credible sources of information on chlamydia in the Miami-Dade area and the United States, such as JHS and CDC. Instrumentation for the qualitative portion of the study will consisted of an interview protocol developed by the researcher. The instrument

investigates participants' knowledge levels about chlamydia and their professional opinion about chlamydia in the general population. The qualitative interview guide (Appendix 1) for the health care providers includes open ended questions about how to reduce chlamydia rates.

I developed the qualitative interview for this study. The research method in this study will provide a comprehensive view of chlamydia-related cultural trends. The reason for this comprehensive view is to reduce chlamydia rates in the future. This requires the collection of more general types of information than previous studies on the research topic.

Quantitative component. I used secondary data from the JHS and CDC to gain information about incidents of chlamydia trachomatis by gender, socioeconomic status, ethnicity, and age. Data sources for the quantitative portion of the study included secondary sources in print and on the Internet. The quantitative portion of this study was different from an intervention study in which the researcher manipulates variables in a sample population. This study was historical data collected from authoritative sources. I limited the research to information available from organizations that track chlamydia rates according to demographic categories. I did not manipulate the data in any way other than to gather and compare data from different sources.

Qualitative component. The stakeholder groups includes healthcare providers and staff responsible for administering programs to help control the spread of sexually transmitted diseases. The qualitative data provided a personal perspective from different viewpoints about the reasons behind trends in chlamydia trachomatis rates and other STDs. I collected qualitative data using both closed- and open-ended survey questions

(Appendix 1). Healthcare providers were over the age of 18, both males and females, various ethnicities, and had at least a moderate income due to their employment.

I contacted potential participants until saturation of the data was achieved. The data collection period of the study lasted approximately one moth. I collected questionnaires and then code them for thematic analysis of the open-ended questions.

Data Analysis Plan

Quantitative data. The results of the quantitative data nested within the context of the information gathered from the qualitative survey contextualize the quantitative data in regard to the geographic location of the study. I analyzed findings from the qualitative and quantitative portions of the study through the lens of the theory of reasoned behavior to gain a deeper understanding of how behaviors influence chlamydia trachomatis rates By viewing these data through the theory of reasoned behavior, I gained a better perspective of which behaviors are the most important to target in future programs to reduce disease rates.

I analyzed data from closed-ended questions from secondary data using frequency distribution and other statistical methods appropriate to the question and type of data (descriptive statistics). Descriptive statistics were presented for all the variables of the study: gender, socioeconomic status, race, ethnicity, age, chlamydia trachomatis cases. Then bivariate analysis (*z*- test as the data were categorical/proportions) was applied to test the potential association between the IV (area of interest; Miami vs. rest of US) and the DV (chlamydia trachomatis cases), adjusted for the mediating variables (gender, socioeconomic status, race, ethnicity, and age). This information is summarized in Table 1 below. I analyzed data gathered from open-ended questions using a categorical analysis

to determine which answers appear most frequently in each of the samples I interpreted the data through the theory of reasoned behavior to develop an overall perspective of how various sources of data in the study relate to each other.

Table 1

Research Question, Variables, and Statistical Test

Research question	Variables	Statistical tests
RQ1	-Area of interest; Miami vs. rest of US (IV), -Chlamydia trachomatis cases- ICD9 codes 079.98 and 079.88 (DV) -Gender, socioeconomic status, race, ethnicity, and age (MV)	*z*-test for sample proportions analysis

Qualitative data. I coded data from open-ended questions for thematic content. Thematic analysis was selected while it is a widely used approach for detecting, analyzing and reporting themes within qualitative data (Braun & Clarke, 2006). The six phases of analysis were the following: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and finally producing a scholarly report of the analysis (Braun & Clarke, 2006). Potential categories for the themes of the data included different types of sexual activities that contribute to chlamydia, educational programs and practices to inform patients and the public about the risks of chlamydia, or other topics that reveal themselves during data analysis. Ethnographic approach was also used to identify the related to culture/race codes and themes. This approach was applied by combining and in depth analyzing the qualitative

responses related to the role that culture may play to acquire STDs (Robson, 2011). After thematically categorizing this data, I used frequency distribution to determine which categories represent the greatest number of answers, and present the results graphically so that the most frequent answers will be apparent to the reader.

Threats to Validity

Both quantitative and qualitative portions of the study are subject to certain threats to validity. Sample bias is a threat to validity in the quantitative portion of the study. I utilized convenience sampling techniques in the selection of the healthcare providers and physicians from the available population. However, there are a limited number of healthcare professionals in the area. The main threat to validity in the qualitative portion is researcher bias. I was aware of potential bias and critically examine the results for the potential of bias.

Another potential threat to the validity of the study was differences in the data sources for the quantitative portion of the study. I did not have access to complete information because it does not exist or I do not have permission to access it. Organizations did not provide information about how they collected data or the parameters that the data describes. This required additional effort, such as calling the organization to determine how they collected data. This possible lack of information about data collection represents a threat to the validity of the current research study. The ability to draw conclusions in the study depends on the ability to obtain complete and valid data from quality sources. Using historical data poses certain threats to the validity of the quantitative portion of the study.

Issues of Trustworthiness

The mixed methodology approach of this research study involved the triangulation of data sources to provide a comprehensive overview of the problem of chlamydia in the Miami-Dade area. I compared different sources of data that address different areas of the research topic and relate to the central issue of how to reduce chlamydia rates in the Miami-Dade area. The research problem is multifaceted and requires a multifaceted approach to gain appropriate information to draw conclusions. This multifaceted approach improves the trustworthiness of the conclusions that are drawn.

Another issue that affects the trustworthiness of this study is the accuracy and honesty of the answers provided by participants in the qualitative portion of the study. I assume that participants provided honest answers on the questionnaire, particularly because I ensured that their answers will remain confidential. Assuring participants that their answers remain confidential made it more likely that they will were willing to engage in full disclosure, which is an important part of the integrity and trustworthiness of the research study.

Ethical Procedures

The subject of this study involves private information about professional, personal thoughts and behaviors. This is particularly a concern for the qualitative component of the study. I assured participants that information will only be used in aggregate and that no personally identifying information will be made publicly available. This is due to the highly sensitive nature of the information in the study. This study was compliant with the requirements of the Walden IRB and the secondary data organizations guidelines.

Summary

The complexity of the research questions requires collection of data from a variety of sources. The types of data in this research study necessitate a mixed methodology approach, combining data in relation to the research questions. The goal of the research is to provide appropriate recommendations for programs that result in behavioral changes in the general population. The goal is to develop programs that will lower rates of risky sexual behaviors connected to chlamydia trachomatis and other STDs. In order to resolve this issue, the researcher must understand the trends and also what motivates people to engage in these risky behaviors.

Through this mixed methods research methodology, I gathered various types of information needed to explore reasons for continued risky sexual behavior. I also explored the gap in knowledge that exists between healthcare professionals, county level healthcare organizations, and the general population. This research may provide information about the gaps that exist regarding education on STDs and the behaviors that drive rising disease rates. Based on the results of this study, I will make recommendations that target the motivational factors behind rising STD rates and provide healthcare professionals with new information to combat diseases.

Chapter 4: Results of the Study

Introduction

The purpose of this ethnographic, mixed-methods study was to examine how population demographics and cultural and behavioral factors affect the risk for contracting chlamydia trachomatis in the Miami, Florida area, as compared to other areas of the United States. This area was chosen because its unique demographic characteristics, including a high number of ethnically diverse members of the population, particularly Hispanics and Blacks (United States Census Bureau, 2016).

This chapter includes the analyses and results of both quantitative (demographic) data and qualitative (cultural and behavioral factors) data obtained with interviews of health care providers. I also present evidence of trustworthiness in the data as defined by Lincoln and Guba (1985).

Demographics of the Samples and Data Collection Information

Quantitative Data

The quantitative portion of the study involved secondary data from the JHS (Jan 2012- May 2018) pertaining to Miami-Dade young adult individuals with incidents of chlamydia trachomatis (ICD9 codes 079.98 and 079.88) according to gender, ethnicity, race, and age. Socioeconomic status was not included in the received data, and this is reported as limitation of the study (please see chapter 5 limitations section). The quantitative sample consisted of 333 individuals, aged 18-25 years (mean: 21.3, *SD*:1.9); 64.9% females and 35.1% males; 34.2% of Hispanic origin and 61.9% of non-Hispanic origin. The demographic characteristics of the sample are presented in Table 2 below.

The chlamydia proportions in this population will be compared to the correspondent U.S. chlamydia proportions by demographic factors (please see below).

Table 2

Demographic Characteristics of the Quantitative Sample (N=333)

Variable	Category	*n*	%
Gender	Males	117	35.1
	Females	216	64.9
Age	18-21	166	49.9
	22-25	167	50.1
Race	White	118	35.4
	Black	199	59.8
	Multiple	8	2.4
	Other/Unknown	8	2.4
Ethnicity	Hispanic	114	34.2
	Non-Hispanic	206	61.9
	Unknown	13	3.9

Qualitative Data

For the qualitative portion of the study, I used purposeful sampling, where individuals were selected based upon proximity and availability following Walden's IRB approval (# 09-20-18-0173719), in order to select health care providers of the Miami-Dade area. The setting for the study was in Miami-Dade County, Florida. With a unique population, I hoped to obtain as much information about the factors that affect risk for contracting chlamydia trachomatis. I identified physicians and health care providers through the Internet and health care organizations. An initial list of potential participants was compiled, and I randomly contacted providers on the list until obtaining a sufficient sample for data analysis. Subsequently, I conducted another round of participation

selection until data saturation was achieved. Primary data through the use of surveys containing the participants' demographics were collected. The actual interviews were later conducted in a small private room accessible to all participants that I commissioned for the study. An interview protocol containing open-ended questions guided me, ensuring that all topics and needed information were obtained. All interviews were recorded using an audio-recorder and were later transcribed for analysis purposes. If there were disruptions or sudden interruptions, I repeated the questions for the participants to clarify their responses accordingly. All participants interviewed were oriented and informed beforehand about the purpose and overall goal of the study. The participants were also aware of the scope of their participation where the health care providers were guaranteed of the confidentiality of their identity as well as their freedom to withdraw once they felt the need or desire to do so. I ensured that the participants were comfortable and confident during the one-on-one interviews to maximize the opportunity and gain as much data to address the qualitative research questions. Interviews with the 13 participants were analyzed using a qualitative thematic analysis, with the assistance of NVivo12 by QSR for a more systematic coding and tabulation of themes. Thematic analysis was selected because it is a widely used approach for detecting, analyzing, and reporting themes within qualitative data (Braun & Clark, 2006).

The qualitative sample consisted of 13 participants, aged 36-68 years: nine females and four males. Most of the participants were medical doctors (MD) and registered nurses (RN). The demographic characteristics of the sample are presented in Table 3 below:

Table 3

Demographic Characteristics of the Qualitative Sample (N=13)

Variable	Category	*n*	%
Gender	Males	4	30.8
	Females	9	69.2
Age	36-50	8	61.5
	51-68	5	38.5
Profession	Medical Doctor	6	46.2
	Registered Nurse	5	38.5
	Nurse Practitioner	2	15.3

The principle of saturation was applied to determine the final sample size. This approach allows stopping new participant recruitment when the last interviews bring no new insight or information; 13 health care providers were included in the qualitative section. The interviews took place in private places, such as a private office of the participant, and lasted for 45 minutes to 1 hour. I audiotaped and transcribed all interviews verbatim. All interviews were conducted during September and October of 2018,

Data Analysis

Quantitative Research Question and Results

Is there significant difference in the demographic distribution of chlamydia trachomatis according to gender, socioeconomic status, race, ethnicity, and age in the Miami area compared to the rest of the United States?

$H_0$1: The demographic distribution of chlamydia trachomatis will not differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

H_a1: The demographic distribution of chlamydia trachomatis will differ according to gender, socioeconomic status, race, ethnicity, and age between the Miami area and the rest of the United States.

The outcome variable was the chlamydia trachomatis 2012-2018 cases in Miami-Dade area, and I compared the chlamydia cases proportions to the US 2017 national chlamydia cases proportions (CDC, 2017) by gender, race, ethnicity, and age, using the 2-sample *z*-test to compare two sample proportions. All reported probability values (*p*-values) were compared to a significant level of 5% and the analysis of coded data was carried out using SPSS software version 25.0.

According to the obtained results (Table 4), chlamydia distribution was about the same by gender and 20-25 age group between rest of the U.S. and Miami-Dade area. On the other hand, chlamydia cases were more often in the Black versus White groups and Hispanics vs. Non-Hispanics groups in Miami-Dade area compared to the similar national proportions (z=4.9, p<0.0001, and z=6.4, p<0.0001, respectively). Therefore, the null hypothesis for the quantitative RQ was rejected, because there is significant difference in chlamydia cases by race and ethnicity between Miami-Dade area and the national mean.

Table 4

Comparison of Chlamydia Case Proportions by Gender, age, Race, and Ethnicity Between Miami-Dade Area and National Rates

Chlamydia Cases Proportion	Sample Proportion (SP)	95% CI for SP	*z* value	*p* value
Males vs. Females				
Miami-Dade	0.54	0.44-0.64	0.1	NS
US	0.53	0.43-0.63		
Age 20-25				
Miami-Dade	0.03	0.004-0.06	0.1	NS
US	0.028	0.003-0.06		
Whites vs. Blacks				
Miami-Dade	0.59	0.49-0.68	4.9	<0.0001
US	0.25	0.16-0.33		
Hispanics vs. Non Hispanics				
Miami-Dade	0.55	0.45-0.65	6.4	<0.0001
US	0.12	0.06-0.18		

Qualitative Research Questions and Results

1. What cultural and behavioral factors affect the onset of chlamydia trachomatis, according to the insights of health care providers of the Miami-Dade area?
2. What is the level of awareness of chlamydia trachomatis among the entire population (at-risk and not at-risk) according to the insights of health care providers of the Miami-Dade area?
3. What is the level of awareness of chlamydia trachomatis among health care providers, according to the insights of health care providers of the Miami-Dade area?

The major themes of the study are the themes with the higher number of references from the responses of the participants, and these themes were considered to be the most significant findings per research question. Minor themes were also discussed, and they received fewer references than the major themes. Lastly, subthemes were also incorporated to expound on and discuss the major and minor themes in detail as needed.

In the first qualitative research question of the study, I explored the cultural and behavioral factors besides demographics that affect the onset of chlamydia trachomatis, according to the insights of health care providers of the Miami-Dade area. From the thematic analysis of the 13 interviews, one major theme, two minor themes, and five subthemes were uncovered (Table 5). The majority of the participants reported the lack of education and awareness on the infection mainly because of the lack of symptoms and early signs and the lack of proper discussions and conversations. Additionally, important factors discovered were having a more open society and culture and low or poor economic status. Table 5 contains the display of the themes addressing the second research question of the study.

Table 5

Display of Themes Addressing Research Question 2

Themes	Number of References *(n=13)*	Percentage of References *(n=13)*
Lack of education and awareness on the infection **Lack of symptoms and early signs* **Lack of proper discussions and conversations on the infection*	9	69%
Having a more open society and culture **Prevalence of risky relationships (meeting online etc., multiple partners, non-use of contraceptives)* **Early exposure to sexual activities and promiscuity*	7	54%
Low or poor economic status **Accessibility of resources*	3	23%

*Note: *Subthemes*

Major Theme 1: Lack of education and awareness on the infection. The first major theme of the study discussed the lack of education and awareness, further increasing the prevalence and occurrence of the infection within the community. Nine of the 13 participants also highlighted how the lack of symptoms and early signs as well as the lack of proper discussions and conversations on the infection continue to negatively affect the onset of chlamydia trachomatis.

Participant 1 believed that there was a lack of knowledge and awareness of the different types of STDs. In addition, the symptoms, effects, and prevention remain to be limited as well: Participant 1 stated, “Lack of education concerning sexually transmitted infections and how it affects the body…. Yes, chlamydia is on the rise due to lack of awareness.” Participant 2 added how the people, in general, continue to be unaware of the seriousness and gravity if the infection, saying: “In our practice, we are seeing more chlamydia positive cultures. It is my opinion that also this is true in Dade county. Most likely this is due to a lack of awareness of the significance of chlamydia.” Participant 4 noted that the rates of the infection continue to grow due to the undersupplied knowledge as well as the improper target audience of awareness campaigns, stating: “The rates are increasing in Miami Dade because: Education on the topic continues to be deficient and not targeted to these young group.” Participant 5 echoed, “Chlamydia rates are more than likely increasing in Miami Dade county because of the lack of educational awareness related to this STD.” Finally, Participant 8 highlighted how the chlamydia rates continue to loom due to the lack of awareness drives especially when compared to the other types of STDs: “Chlamydia rates are increasing in Miami Dade county because there is not much Advertising or public resources on chlamydia compared to other STDs.” I stopped reviewing here due to time constraints. Please go through the rest of your chapter and look for the patterns I pointed out to you. I will now look at Chapter 5.

Subtheme 1: Lack of symptoms and early signs. The first subtheme that emerged was the factor of lack of education and awareness, stemming from the lack of symptoms and early signs of the infection. For the four of the participants, they identified that the general population is usually unaware as the infection is known to be asymptomatic and

even tagged as a “silent disease.” Participant 3 simply tagged the awareness of the infection as: “*Low because it's asymptomatic*”. Participant 4 explained how the awareness of the population varies as most individuals prioritize pregnancy prevention and disease prevention per se. In addition, chlamydia remains to be unfamiliar as it is not readily identifiable and visible.

The level of knowledge varies greatly. Most are concerned about pregnancy prevention and will adopt practices such as “pull out “oral sex only. STDs such as chlamydia are usually not a priority since it is not tangible and readily visible.

Participant 5 again highlighted how the infection is termed as a “silent disease”, making most of the population unmindful of the early signs and prevention: “*Most in the general population are unaware of the symptoms of chlamydia. Many are also unaware that they may not have any symptoms at all related to this disease. It is also known as a “silent” disease*.” Lastly, Participant 6 described how some parts of the population remain unaware of the infection due to their mindset. There are individuals who believe they are immune to the diseases and infections, remaining to be ill-informed even contracting the disease.

For the young adults chlamydia and other STD may mean an uncomfortable vaginal discharge and for some they have heard of the term PID and pain but not relate to it , the knowledge is patchy as it roots from their belief that “*nothing like this will happen to them and they are immune*”, they have heard about STD but they do not know about the asymptomatic infections, the silent infections, and its long-term sequelae.

Subtheme 2: Lack of proper discussions and conversations on the infection. Another subtheme that followed is the lack of proper discussions and even conversations on the

infection, especially those targeting the vulnerable population or the young adults. For one participant, there are clinicians and health providers who feel uncomfortable when discussing and speaking about the infection to such a young group of individuals. Participant 4 simply commented: "*Most Clinicians do not feel comfortable discussing such matters of young adults*."

Minor Theme 1: Having a more open society and culture. The first minor theme that emerged is the presence of a more open society and culture. For the seven participants, the prevalence of risky relationships (meeting online etc., multiple partners, non-use of contraceptives) and early exposure to sexual activities and promiscuity increase the likelihood of contracting chlamydia. The participants explained how the population, especially the younger members of the society are more vulnerable given there open and broadmindedness.

Subtheme 1: Prevalence of risky relationships (meeting online etc., multiple partners, non-use of contraceptives). The first subtheme is the prevalence of risky and dangerous relationships among the individuals in society today. The participants explained how the individuals today have become bolder and daring when it comes to relationships. Participant 4 stated that there are cultural stigmas when using contraceptives. In addition, women may be seen differently when accessing basic sexual protection. The majority of young population in the area is aware that it is sexually transmitted but not necessarily that they are at risk. Condom use is random both by choice and also due to economic constrictions. In some barrier protection is seen as "bad girl" choice (culture stigmas). Participant 6 provided the different behaviors and attitudes

of the general population towards sex. For this participant, it has become so much easier for people to come into relationships and even commit connecting only for sexual purposes. Participants reported that the rates are increasing in all age groups "*especially the 40+ of the more liberal thinking and the increased rates of divorce or late marriages, multiple sexual partners is more tolerated and accepted as mode of life also nowadays it is easier to meet people online and dating /chat apps and connect sexually only and this has become a huge burden since it increased the risky behavior and rates of STD with it*".

Additionally, Participant 9 echoed how: "*More patients are having more casual sex with multiple partners without the use of a condom*". Participant 10 then noted that patients, especially those from the younger age group are unaware of the consequences of their lack of sexual protection and openness to engage in different sexual activities: "*Increasing, especially among the younger population who do not use protection. They are becoming more sexually active at an earlier age*". Further, Participant 11 touched on the promiscuity of the younger population in the Miami Dade area: "*The lack of the use of condoms promiscuity at an earlier age. It has increased in Miami Dade in comparison to the rest of the state for the lack of understanding the disease and the promiscuity of teenagers*". Finally, Participant 12 simply commented how chlamydia is "*increasing because of unsafe practices".*

Subtheme 2: Early exposure to sexual activities and promiscuity. The second emerging subtheme is the factor of the early exposure of individuals to sexual activities and promiscuity. For Participants 4, 5, and 12, the young adults' very early experiences of sexual activities increase the likelihood of getting chlamydia. Participant 4 simply

stated that Chlamydia is now getting more common due to the: "*Lowering of cultural and social barriers to more sexual activity at an earlier age*." Participant 5 added how the infection does not discriminate and anyone is at risk of contracting the disease, saying: "*Chlamydia can affect anyone in the general population and is non-discriminatory. As a healthcare provider, I have had patients affected with Chlamydia from every age group and socio-economic status. Young adults, primarily females are at risk and are not necessarily promiscuous with multi-sexual partners*".

Meanwhile, Participant 12 added that promiscuity of the individuals is indeed a factor: "*Yes. Promiscuity."*

Minor Theme 2: Low or poor economic status. The second minor theme that followed is the low or poor economic status of the people. Three of the 13 health providers indicated the economic status as a factor of the continued rise of the chlamydia infection. One Subtheme that emerged was the effect of the status on the accessibility of the resources. Participant 3 responded to how people from the lower economic class usually do not have the means to access and afford contraceptives, saying: "*Low because poor people generally can't afford a condom*." Participant 4 added: "*Access to care is limited*." Lastly, Participant 8 again highlighted how the rates continue to advance due to individuals in Miami Dade area's lack of access to the proper resources to combat the infection, saying: "*Chlamydia rates are increasing in Miami Dade county because there is not much Advertising or public resources on chlamydia compared to other STDs."*

The second research question explored the level of awareness of chlamydia trachomatis among the entire population (at-risk and not at-risk) according to the insights

of health care providers of the Miami-Dade area. This research question focused on the level of knowledge and awareness of the overall population. From the thematic analysis, one major theme, one minor theme, and two subthemes were established. The majority of the health care providers and representatives identified the presence of low awareness on the seriousness of the infection in general. This low awareness can be credited to the lack of knowledge on the symptoms and signs and the presence of misconceptions on the infection. Further, another minor theme (shared by fewer participants) was the presence of awareness and basic information on prevention. Table 6 contains the display of the themes addressing the third research question.

Table 6

Display of Themes Addressing Research Question 3

Themes	Number of References *(n=13)*	Percentage of References *(n=13)*
Low awareness on the seriousness of the infection in general **Lack of knowledge on the symptoms and signs* **Presence of misconceptions on the infection*	12	92%
Presence of awareness and basic information on prevention **Lack of action and willingness to prevent the infection*	4	31%

*Note: *Subthemes*

Major Theme 2: Low awareness on the seriousness of the infection in general.

The second major theme of the study is the low awareness on the seriousness of the infection. Twelve of the 13 participants admitted how individuals who remain unaffected of the infection do not seem concerned about the possibility of contracting the

disease. Participant 1 shared that as a silent infection, individuals have become indifferent and refuse to take action to know more and prevent the disease, saying: "*They know it's an infection their lack of response to sexually transmitted action conveys either indifference or lack of knowledge… Low (awareness)… Very little, chlamydia is known as the silent infection… Very little knowledge about the symptoms.*" Participant 2 added how there are individuals who have never heard of Chlamydia and remain to be unaware unless they have contracted the infection already. Similarly, knowledge of the different prevention practices remains low and is not given much attention when compared to the other types of STDs: "*Unfortunately, the level of awareness in women between the ages of 18-25yrs for chlamydia is not very good. When we explain to the patient that the chlamydia culture is positive they are surprised and some of them have not even heard of chlamydia. The level of awareness and knowledge of how to prevent chlamydia is low. Patients do not know about measures to try to prevent chlamydia and this is something that should be dealt with at a much younger age…. In my experience young adults are not informed about the symptoms of Chlamydia and are not as concerned about this STD. There is a lack of knowledge in this area."*

Meanwhile, Participant 3 provided another insight where the current discussion of the issue should hopefully increase the awareness of a greater audience: "*Low because most people don't know why they have it… I feel good that they take the issue seriously so we can lower the incidence of newborn blindness.*" Participant 12 simply commented: "*Minimal… Not much thought is given before occurrence, unless previously discussed among peers there is very little knowledge re the prevention of the disease.*" Lastly,

Participant 13 also highlighted from her years of medical experience: "*In the population I treat, they do not understand the seriousness of having Chlamydia*."

Subtheme 1: Lack of knowledge on the symptoms and signs. The first subtheme is the lack of knowledge of the symptoms and signs of the infection. Participants discussed how there is low awareness given that the disease as asymptomatic. Participant 3 simply commented: "*Low because it's asymptomatic*." Participant 4 added how Chlamydia knowledge remains low due to the lack of tangible and physical symptoms: "*STD's such as chlamydia are usually not a priority since it is not tangible and readily visible*." Participant 5 thoroughly explained how chlamydia remains to be an unknown infection or disease where the majority of the younger population they have treated do not have any idea or knowledge about the disease. The participant described how patients would be "shocked" upon hearing their diagnosis. In addition, the lack of conversations and campaigns about the disease is another cause of the low awareness and knowledge of the members of the Miami Dade community: "*As a former middle and high school nurse and among the general adult population, most are unaware of how chlamydia is transmitted and prevented. For the most part, many of my patients stated that they were unaware that they had Chlamydia since they never experienced any signs or symptoms while having this STD. For the most part, they were shocked when they were given this diagnosis. Based on my professional experience, most patients are unaware that chlamydia is a serious health issue in the Miami Dade County area. In addition to them not knowing what this disease actually is even though they may have heard of it at some point during their lifetime. Most individuals are not familiar with this STD, especially since most of the marketing that we*

see on television and social media are related to AIDS or Herpes awareness. Therefore, most are not aware of how to prevent the contracting of this disease. The level of awareness is minimal, unlike HIV. Most people will tell you that you would need to use a condom or abstain from sex to prevent/eliminate transmission."

Similarly, Participant 8 had the same experience as Participant 5, sharing: "*In my experience young adults are not informed enough about the symptoms of chlamydia and are not as concerned about this STD. There definitely is a lack of knowledge in this area*." Consequently, Participant 9 noted how the level of awareness remains low, to the point that individuals are only enlightened once they have already contracted the disease:

Finally, Participant 10 discussed how the general population, especially the young adults do not find Chlamydia as a serious and pressing issue. With this lack of knowledge, both the symptoms and prevention practices are heavily affected as well: "*They are not aware especially the young adults. They do not consider it to be a serious issue. Unlike other STDs example HIV, syphilis and gonorrhea. Because they are unaware they do not understand the prevention like other STDs. They are ignorant towards the symptoms*".

Subtheme 2: Presence of misconceptions on the infection. The second subtheme that emerged is the presence of misconceptions on the infection. For the participant, individuals have their own notions and beliefs about the symptoms and prevention of the infection. Participant 4 explained that the level of knowledge still remains inadequate to combat the infection: "*The majority is aware that it is sexually transmitted but not necessarily that they are at risk. Condom use is random both by choice and also due to economic constrictions. In some barrier protection is seen as*

"bad girl" choice (culture stigmas). Perceive that chlamydia will occur only if they have multiple sexual partners at once… Level of knowledge is minimal and incomplete."

Minor Theme 1: Presence of awareness and basic information on prevention. The first minor theme of the study is the presence of awareness and basic information on the prevention of the infection. This theme was shared by four of the 13 participants, highlighting how there are members of the general population who have basic knowledge about the infection; especially on the most common prevention practices. Participant 9 provided an example, saying: "*They do understand the condoms are the first line of defense against transmitted sexual diseases. The knowledge is high for prevention.*"

Subtheme 1: Lack of action and willingness to prevent the infection. One subtheme that emerged is the lack of action and willingness to prevent the infection. Participant 6 explained how the materials and resources are now more readily available to assist and inform the general population about the infection. However, the key issue is the willingness of the people to act upon and prevent the infection from actually spreading "*I could be very biased since I ran a private clinic and the majority of the clientele where university employees and students, but even said that more than 40% did not practice safe sex, also given the young age polygamous sexual activity was more prevalent, most are aware of STD s and mode of transmission majority do not practice safe sex and more importantly they have multiple short commitments (sexual partners) and hence increase their risk*".

Participant 7 simply added: "*Good level of awareness… Most are aware know it's an STD but generally do not understand sequelae… In my opinion, most know it's an STD and have a general idea on prevention*." Finally, Participant 8 stated how people

have heard of the infection but their reactions are not as responsive and proactive as compared to the other types of STDs: "*Most patients have heard of it but didn't really put much thought into it compared to HIV or herpes or syphilis etc*."

The final qualitative research question explored the level of awareness of chlamydia trachomatis among healthcare providers, according to the insights of health care providers of the Miami-Dade area. The thematic analysis of the 13 interview transcripts led to the formation of two thematic categories to better discuss the perceptions and experiences of the participants. The thematic categories consist of the awareness of the prevalence and prevention of chlamydia. In total, three major themes, two minor themes, and 13 subthemes. Table 7contains the breakdown of the themes addressing the fourth research question.

Table 7

Display of Themes Addressing Research Question 4

Thematic Category	Themes	Number of References *(n=13)*	Percentage of References *(n=13)*
Thematic Category A: Awareness on the Prevalence of Chlamydia	High level of awareness on the prevalence of the infection **Transmission is mainly through sexual activities* **Prevalent in all groups, ages, and classes especially with risky behaviors* **Prevalent in young adults* **Prevalent in low socioeconomic and gay communities*	13	100%

	**Transmission through vaginal birth*		
Thematic Category B: Awareness on Prevention of Chlamydia	Practicing safe sexual practices **Practicing abstinence* **Use of contraceptives such as condoms* **Practicing and promoting monogamous relationships*	13	100%
	Focusing increased education and awareness **Early education in schools, public institutions, and at home* **Education campaigns maximizing media and other forms of technology* **Education targeting the healthcare providers*	13	100%
	Having increased access to medical or health resources **Undergoing routine tests and checkups* **Availability of contraception*	5	38%
	Promoting a non-judgmental culture and society	1	8%

*Note: *Subthemes*

Thematic Category A: Awareness on the Prevalence of Chlamydia. The first thematic category of the fourth research question contains the findings on the awareness of the health providers s on the prevalence of Chlamydia. One major theme with five subthemes was uncovered. All participants demonstrated a high level of awareness on

the prevalence of the infection. More specifically, the following information and prevalence facts were established: (1) transmission is mainly through sexual activities; (2) prevalent in all groups, ages, and classes especially with risky behaviors; (3) prevalent in young adults; (4) prevalent in low socioeconomic and gay communities; and (5) transmission through vaginal birth.

Major Theme 3: High level of awareness on the prevalence of the infection. All interviewed participants indicated a high level of awareness on the prevalence of the infection. They shared how chlamydia is mainly transmitted through sexual activities and does not discriminate; affecting all ages and classes. Meanwhile, participants highlighted that young adults are heavily affected by the infection as well as those in low socioeconomic status and gay communities. Another factor was the transmission through vaginal birth. Each factor should be discussed in detail below.

Subtheme 1: Transmission is mainly through sexual activities. The first subtheme is the transmission of the infection through different sexual activities and practices. All 13 participants identified that chlamydia is transmitted "sexually", and through "sexual and oral intercourse." Further, Participant 5 touched on the effect of having unprotected sex as well as transmission through vaginal childbirth: "*The most common way is chlamydia is transmitted is during unprotected sex. It can also be transmitted by a mother to her baby during vaginal childbirth.*"

Subtheme 2: Prevalent in all groups, ages, and classes especially with risky behaviors. The second subtheme that followed is the finding that the infection affects all groups, classes, and ages; especially those who are sexually active and risky behaviors. Participants 1, 2, and 3 reported that the infection: "*Affects all*

groups." Further, Participant 7 added that "*Chlamydia affects all demographic group.*" Meanwhile, the rest of the participants shared how chlamydia affects all individuals, especially those with risky behaviors and the young adults who have a very limited knowledge and information about the infections and diseases they might acquire from performing various sexual activities. Participant 4 expressed the different sexual practices deemed as risky for the general population. In addition, the openness of the individuals today with regard to their relationships heavily impact the onset of the infection.

Additionally, Participant 5 commented on how: "*Risky health behaviors occur in all demographic and socioeconomic status. Many of my patients with this diagnosis come from all walks of life and are from all age groups.*" Participant 6 echoed how he has observed dangerous behaviors from the community members of Miami Dade County: "In my opinion, I see risky behaviors in all areas of Miami Dade County." Lastly, Participants 8 and 9 highlighted that all demographic areas are affected. However, those with risky behaviors and from the younger groups must be given more attention.

Subtheme 3: Prevalent in young adults. The third subtheme that emerged is the finding that Chlamydia affects and is more prevalent in young adults. For Participant 9, 12, and 13 this infection is heavily predominant in the younger age group. Participant 9 explained that: "*All demographics are at risk but the younger population are at greater risk*." Participant 12 also echoed: "*All groups are at risk. Especially the young adults*."

Subtheme 4: Prevalent in low socioeconomic and gay communities. The fourth subtheme is the prevalence of Chlamydia in low socioeconomic and gay communities. For Participant 10, two factors and groups may have higher chlamydia

rates than the others. Participant 10 stated: "*No, but it is more prevalent in the socioeconomic and the gay communities.*"

Thematic Category B: Awareness on Prevention of Chlamydia. The second thematic category contains the discussion of the participants' awareness of the prevention of Chlamydia. For all the 13 participants, two very significant prevention methods were revealed:(1) practicing safe sexual practices; and (2c focusing on increased education and awareness. Meanwhile, two other minor themes with fewer references were (1) having increased access to medical or health resources and the (2) promotion of a non-judgmental culture and society.

Major Theme 4: Practicing safe sexual practices. The fourth major theme of the study discussed the practice of safe sexual practices. In particular, safe sex practices pertained to (1) abstinence, (2) use of contraception, and (3) a sustenance of or commitment to having a monogamous relationship. Participants 1 and 4 simply commented during the interviews that the key to preventing chlamydia is through "safe sexual practices (prevention)."

Subtheme 1: Practicing abstinence. The first subtheme that emerged is the practice of abstinence as shared by eight of the 13 participants. Participants 1, 3, 6, 7, 8, 10, 11, and 12 all connected the need to practice abstinence; if not, the participants also suggested the use of strictly using contraceptives such as condoms.

Subtheme 2: Use of contraceptives such as condoms. The second subtheme that emerged is the use of contraceptives such as condoms. Again, eight of the 13 participants shared this subtheme. Participant 2 shared that safe sex can be practiced with the use of contraception as well as avoiding being in multiple relationships with different

sexual partners: "*Routine gynecological care on a yearly basis also safe sex practices with contraception as well as avoiding multiple sexual partners.*" Meanwhile, Participants 3, 9 11, 12, and 13 simply commented and highlighted the importance of: "*Condoms, abstinence*." Participant 5 then added that: "*The most widely accepted way of preventing Chlamydia transmission is to promote safe sex with latex condoms*." Lastly, Participant 6 echoed the other practices deemed safe and effective in preventing the Chlamydia infection, saying: "*Safe sex, condoms, monogamous relations, abstinence, coupled with knowledge, and non-judgmental support system*."

Subtheme 3: Practicing and promoting monogamous relationships. The final subtheme is the practice and promotion of maintaining monogamous relationships. For the three participants, Participants 6, 9, and 12, it is vital to avoid having multiple sex partners. Participant 12 highlighted the significance of: "*Safe sex. Use of condoms and monogamous relationship.*"

Major Theme 5: Focusing increased education and awareness. The final major theme of the study is the focus on the increased education and awareness of the population, both those who are at-risk and not at-risk. All 13 participants found the need for the following: (1) early education in schools, public institutions, and at home; (2) education campaigns maximizing media and other forms of technology; and (3) education targeting the healthcare providers. Each subtheme will be discussed in detail below.

Subtheme 1: Early education in schools, public institutions, and at home. The first subtheme is the need for early education on chlamydia's symptoms and prevention, which can be conducted in schools, public institutions, and at home. Eleven

of the 13 participants indicated this subtheme. Participant 1 stated how education must start at home and be continued in the schools with young adults and those at risk of contracting chlamydia: "*More several educations in schools… More parental awareness and education. Safe sex practices*." Participant 5 also shared that education must be implemented and applied in schools and other public institutions. By doing so, awareness will increase and transmission should be prevented in the future. Participant 6 recommended that education will prevent the looming rates of Chlamydia infection and transmission: "*Guidance not only for the students but their parents must be provided as well. In addition, education will help reduce stigma and develop a non-judgmental culture; open in discussing the infection and disease*"

Meanwhile, Participant 7 again touched on the education on safe sex practices which can be achieved by collaborating with the families and the other community members: "*Safe sex practices. Patient education, family education at an early age. This can be done at healthcare providers office/clinic*." Participant 8 furthered the need to increase the available education on the disease which can be done in schools and other information tools and resources: "*Increase in education for all age groups. The use of billboards advertising. Information should be readily available in schools. Frequent education would be the best strategy to reduce the transmission of chlamydia in Miami Dade County*." Lastly, Participant 9 echoed the significance of: "*Educating teenagers, sex education in low-income communities and referral services for counseling*."

Subtheme 2: Education campaigns maximizing media and other forms of technology. Another subtheme is the need for education campaigns by using the media and other forms of technology. As shared by five of the 13 participants, it is also helpful

to spread facts and information about the disease through the most common forms of media today. Participant 1 commented that safe sex practice can be taught through campaigns in social media, which is heavily accessed by the younger generation: "*Safe sex practice. Need to visualize social media more.*" Meanwhile, Participant 4 echoed the need for a more targeted education and information drive: "*Targeted education that touches on the current practices of the population (Not videos made from the 1930's*."

Subtheme 3: Education targeting the healthcare providers. The final subtheme suggested the need to educate the health providers along with the patients. Participant 4 suggested the importance of desensitizing the health care providers and representatives themselves as the key informants and assistants who can guide those in need of information about the disease. The participant emphasized: "*Education and desensitization of health care providers on current sexual practices*."

Minor Theme 1: Having increased access to medical or health resources. The first minor theme under the second thematic category is the increased access to medical and other health resources. For the five of the 13 participants, they found that health awareness is also vital in preventing the transmission of chlamydia. These participants suggested undergoing routine tests and checkups and the availability of contraception.

Subtheme 1: Undergoing routine tests and checkups. The first subtheme that emerged is the recommendation of the health providers for the concerned population to undergo routine tests and check-ups. This is to ensure that the infection is prevented or discovered at an early stage. Participant 2 identified the need for a periodic gynecological care, saying: "*Routine gynecological care on a yearly basis also safe sex practices with contraception as well as avoiding multiple sexual partners*." Participant 4

added that affected patients and their partners must be given pre and post medical attention: "*Testing and treatment of those affected and their partners with adherence to post-treatment testing*."

Subtheme 2: Availability of contraception. Another subtheme that emerged is the availability of contraception. This is especially vital for those community members who have limited means and resources. Participants 4 and 12 shared that contraceptives must be available, without fees and even judgments. Participant 4 stated: "*Readily available barrier contraception without fees or judgment.*" Further, Participant 12 shared: "*Education beginning in school at an early age. Distribution of condoms and group discussions and distribution of flyers with relevant information".*

Evidence of Trustworthiness

As far as the quantitative component of this study is concerned, the received dataset and the CDC published data are reliable and standardized data, and construct as well as content validity have been already confirmed.

Regarding the qualitative results, trustworthiness was assured with Lincoln and Guba's (1985) framework. Lincoln and Guba (1985) suggested four criteria for data trustworthiness, including the following: credibility, transferability, dependability, and confirmability. According to Polit and Beck (2013), credibility denotes the researcher's "confidence in the truth of the data and the interpretations of them" (p. 492). In order to ensure the truthfulness of the interview content, the researcher conducted member-checks with all the 13 participants. Each interview transcript, as well as the analysis containing

the interpretations, was electronically sent to the participants. Participants were given the opportunity to modify or change their responses as requested.

The second criterion or the transferability of the study was achieved with the complete presentation and discussion of the methodology or the data gathering and analysis processes (Moon, Brewer, Januchowski-Hartley, Adams & Blackman, 2016). The presentation will allow other and future researchers to apply the study in another research setting or context. Another criterion was the dependability of the study.

Brown and Rogers (2002) defined dependability as the "consistency of the results, or the degree to which data can be trusted" (p. 242). A journal was then kept in order to record all research processes, decisions, and steps conducted upon completion of the study. Furthermore, the participants' review of their responses and interpretations increased the consistency of the results.

The final criterion is the confirmability of the study. Polit and Beck (2013) explained this standard as the formation of data that directly and precisely represent the participants' actual perceptions and experiences. The researcher then presented all finalized themes along with the verbatim responses of the participants as pieces of evidence on how the themes were formed or founded.

Summary

The fourth chapter of the study contained the findings from both the quantitative (demographic) and qualitative (cultural and behavioral) analyses of the research data. The purpose of this ethnographic mixed methods research was to examine how population demographics, and cultural and behavioral, factors affect risk for contracting

chlamydia trachomatis in the Miami, Florida area, as compared to other areas of the United States.

Regarding the quantitative component, chlamydia distribution was about the same by gender and 20-25 age group between rest of the US and Miami-Dade area. On the other hand, chlamydia cases were more often in the Black vs. White group and Hispanics vs. Non-Hispanics group in Miami-Dade area compared to the similar national proportions (z=4.9, p<0.0001, and z=6.4, p<0.0001, respectively).

In the qualitative portion, the thematic analysis of the 13 interview transcripts led to the discovery of five major themes, five minor themes, and 20 subthemes. The themes from the qualitative component all pertain to the second to fourth research questions of the study. Specifically, the researcher found that the overall population is faced with the lack of education and awareness on the infection due to the lack of symptoms and early signs and the lack of proper discussions and conversations on the infection. Additionally, the general population was deemed to have a low awareness of the seriousness of the infection. There were reports with regard to the lack of knowledge on the symptoms and signs and the presence of misconceptions on the infection. Finally, the health care providers and representatives displayed a high level of awareness on the prevalence of the infection during the interviews. Importantly, they highlighted how: (1) Chlamydia's transmission is mainly through sexual activities; (2) Chlamydia is prevalent in all groups, ages, and classes especially with risky behaviors; (3) Chlamydia is prevalent in young adults and (4) in low socioeconomic and gay communities; and (5) can also be transmitted through vaginal birth. All participants then highlighted how the disease can be prevented by practicing safe sexual practices through (1) abstinence, (2) use of

contraceptives such as condoms; and (3) practicing and promoting monogamous relationships. Importantly, all participants suggested that the focus must be shifted to an increased education and awareness through (1) early education in schools, public institutions, and at home; (2) education campaigns maximizing media and other forms of technology; and (3) education targeting the healthcare providers. In the next section, the findings will be discussed in relation to the literature. The researcher's recommendations, study implications, and conclusions will be presented as well.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

Chlamydia trachomatis remains a common STD, and its incidence has been increasing in recent years in several regions of the United States and among different population groups. The purpose of this ethnographic, mixed-methods research was to examine how population demographics and cultural and behavioral factors affect risk for contracting chlamydia trachomatis in the Miami, Florida area, as compared to other areas of the United States. Secondary quantitative data from JHS and qualitative primary data from health care providers in Florida were used to address the research questions of this study. In this chapter, the key findings of the study are presented and interpreted, recommendations are suggested, and the social change implications as well as main conclusions of the study are provided.

Key Findings

The quantitative results of the study revealed that chlamydia trichomatis infection occured more often in Blacks and Hispanics residing in Miami-Dade area, compared to the same groups living in the United States. Also, based on the qualitative results of the study, I found that the overall population is faced with the lack of education and awareness on the infection due to the lack of symptoms and early signs and the lack of proper discussions and conversations on the infection. Additionally, the general population was deemed to have a low awareness of the seriousness of the infection. There were reports with regard to the lack of knowledge on the symptoms and signs and the presence of misconceptions on the infection. Finally, the health care providers displayed a high level of awareness on the prevalence of the infection during the interviews.

Interpretation of the Findings

After the analysis of the secondary quantitative data, I found that race (Blacks) and ethnicity (Hispanics) played a role in chlamydia trachomatis occurrence in Miami-Dade area. Schwartz et al. (2014) explored immigrants who come to the United States and who engage in riskier behaviors health-wise as they become more acculturated to U.S. culture. Gender and race have been implicated in infection rates for chlamydia and gonorrhea within community-based populations (Dembo et al., 2009). Certain ethnic groups were found to be at higher risk for contracting STDs than the average population. Non-Hispanic Blacks are seven times more likely to contract the infection than non-Hispanic Whites (Torrone et al., 2014), and condom use was lower among Hispanic women who spoke Spanish as their native language (Marin et al., 1993). Marin et al. (1993) demonstrated cultural variance in attitudes and behaviors that are known to prevent contracting HIV and other STDs such as chlamydia trachomatis, such as beliefs that they could avoid contracting HIV through unprotected sexual activity. Finally, Blacks and Hispanics have a higher infection rate of chlamydia than that of the White population (CDC, 2017).

According to the qualitative results of this study, the majority of the participants reported a lack of education and awareness on the infection, mainly because of the lack of symptoms and early signs and the inadequate discussions and conversations with health care providers. By providing public health organizations with the tools for providing appropriate public education directed towards higher risk populations, it is possible to control chlamydia infection and its health consequences, such as birth defects, blindness, and increased risk of developing permanent damage to reproductive organs in women.

Additionally, in this study it was detected that a more open society and culture and low or poor economic status in populations of Miami-Dade area can contribute to the increase of chlamydia infection. Several social factors appear to be linked with risky sexual behaviors. These include socioeconomic status, educational level, a poor family environment, sexual victimization, and cultural expectations (Kolchick et al., 2001). Some of the participants also noted that the prevalence of risky relationships (meeting online etc., multiple partners, nonuse of contraceptives) and early exposure to sexual activities and promiscuity increased the likelihood of contracting chlamydia. Further, the early exposure of individuals to sexual activities and promiscuity also increased the risk of contracting chlamydia.

Low or poor economic status plays a role in contracting the disease. For example, in a population of male incarcerated youth, those between the ages of 15 to 19-years-old were more likely to test positive for chlamydia and gonorrhea than those between 10 and 14 (Mertz et al., 2002). However, those between the ages of 10 to 14 were more likely to test positive for gonorrhea, but less likely to test positive for chlamydia than those in the 15 to 19 age group (Kahn et al., 2005).

In the third research question, I explored the level of awareness of chlamydia trachomatis among the entire population (at-risk and not at-risk) according to the insights of health care providers of the Miami-Dade area. The majority of the participants identified the presence of low awareness on the seriousness of the infection. This low awareness can be attributed to the lack of knowledge on the symptoms and signs and the presence of misconceptions on the infection, as well as to the lack of basic information on prevention this disease.

Participants discussed how there was low awareness of chlamydia given that the disease as asymptomatic. In addition, the lack of conversations and campaigns about the disease is another cause of the low awareness and knowledge of the members of the Miami-Dade community. More efficient methods need to be developed as HIV remains an epidemic even after 30 years of research and intervention (Hoppel, 2012). Currently, programs for the prevention of HIV are similar to practices to reduce chlamydia and any other STD. Although massive awareness programs have been launched, high rates of new incidences of HIV continue to be a part of the global, national, and local health perspectives.

Misconceptions about the disease also had an effect as individuals have their own notions and beliefs about the symptoms and prevention of the infection. The health officials who are involved in the management of STDs speculate that teens are not aware of their ability to do this, nor are they aware of the seriousness of chlamydia due to its lack of symptoms, particularly in the early stages (Disare, 2014). The participants highlighted how there are members of the general population who have basic knowledge about the infection. However, the key issue is the willingness of the people to act upon and prevent the infection from spreading.

In the final research question, I explored the level of awareness of chlamydia trachomatis among health care providers in the Miami-Dade area. All participants reported that sexually active populations are the most at risk for contracting and transmitting chlamydia trachomatis. Therefore, preventive efforts need to target populations that are likely to have sexual interactions with a number of different sexual partners. Chlamydia trachomatis is treatable disease with antibiotics including

azithromycin, ofloxacin, and erythromycin, depending on the site of the infection (Malhotra et al., 2013).

Cultural and demographic differences are a potential challenge in the development of effective educational programs about STDs. The results of the study showed the importance of education and the prevention of misconceptions when it comes to safe practice of sex. Hispanic women had poor attitudes toward condom use, but they were less likely than non-Hispanic Whites to believe that they could avoid contracting HIV through unprotected sexual activity (Marin et al., 2013). Marin et al. (2013) demonstrated cultural variance in attitudes and behaviors that are known to prevent contracting HIV and other STDs such as chlamydia trachomatis. Therefore, it must be instilled in the parties the importance of making sure that the spread of STDs will be prevented. The staff of health care agencies should be able to focus and target the age groups that are extremely sexually active.

All participants demonstrated a high level of awareness on the prevalence of the infection. The following information and prevalence facts were established: (a) transmission is mainly through sexual activities; (b) prevalent in all groups, ages, and classes especially with risky behaviors; (c) prevalent in young adults; (d) prevalent in low socioeconomic and gay communities; and (e) transmission through vaginal birth. The incidence of chlamydia trachomatis is increasing, which raises concerns over the spread of the disease and the potential serious side effects it causes (Wisconsin, 2010). More than half of all people will experience some type of STD during their lifetime (CDC, 2017). The focus of health care agencies should be on the general population and also on the population that is also already affected by STDs.

According to the qualitative results of the study, there were two significant prevention methods: (a) practicing safe sexual practices and (b) focusing on increased education and awareness. Two other minor themes with fewer references were (a) having increased access to medical or health resources and the (b) promotion of a nonjudgmental culture and society. Substance use and its connection to the development of an STD infection are also topics that need to be addressed from a public health standpoint. Those who use substances prior to sexual activity are more likely to test positive for STDs, compared to nonsubstance users (Crosby et al., 2007). The prevention of substance abuse can also lead to fewer incidence of STDs if all the decisions made by parties to a sexual intercourse are well-thought of.

Promoting condom use and avoiding unprotected sex may have a significant impact on reducing incidences of STDs such as chlamydia at a national level (Ness et al., 2004). They would also play a role in the reduction of STDs in the target population of the Miami-Dade area. Being able to promote protected sex can help in preventing the spread of STDs (Holmes et al., 2004). Youth and adolescents were at a higher risk of contracting STDs and represent a special risk group on a nationwide basis. Based on these data, it should be emphasized that preventive strategies will also work to ensure that the future of the society is secured.

The final major theme of the study was the focus on the increased education and awareness of the population, both those who are at-risk and not at-risk. More information is needed on cultural and geographic risks in the use of condoms and the prevention of STDs (Thomas et al., 2014). There is inconsistent condom use in youth within this age range (Thomas et al., 2014). The parties who engage in sexual intercourse, especially the

females, will have to focus on practicing safety during sexual intercourse. I stopped reviewing here. Please go through the rest of your chapter and look for the patterns I pointed out to you. I will now look at your referenes.

Since this was a mixed methods study, a theoretical as well as a conceptual framework was used to formulate the RQs and interpret the findings. More specifically, in this study the Theory of Reasoned Behavior (Azjen & Fishbeins, 1985) was the applied theoretical framework. According to this theory, establishing patterns of sexual behavior based on gender, ethnicity, and age could potentially affect social behavior among the target group in order to reduce the prevalence of a target disease within that group (Edlin & Golanty, 2009). This theory was confirmed by the results of this study, since specific racial/ethnic groups (Hispanics and Black) appeared to be more prone to acquire chlamydia trachomatis, most probably due to their risky sexual behaviors, such as limited use of condom, multiple partners, etc. This theory suggests that most people engage in such behaviors expecting to receive pleasurable sensations, which is the ultimate driving factor for engaging in the behavior for both parties. In many cases, the risk of developing a STD is not foremost in the person's mind and he or she may not feel that the risk is high for contracting a STD. Therefore, this theory can be used to plan and implement educational programs focused on these population groups, to modify their sexual behavior and thus to improve their quality of life. Further, for the qualitative component of the study, in-depth interviews of health care providers of the Miami-Dade area revealed that overall population is faced with the lack of education and awareness on the infection due to the lack of symptoms and early signs and the lack of proper discussions and conversations on the infection. Additionally, the general population was

deemed to have a low awareness of the seriousness of the infection. These qualitative data are also in accordance with Theory of Reasoned Behavior, which highlights the importance of knowledge and awareness of a health risk in order to be able to take the appropriate preventive measures to avoid it.

Limitations of the Study

One of the limitations of this study pertains to the possibility that the respondents provided inaccurate information in the surveys, especially with respect to participants' history regarding the infection and social behavior. Cultural factors and background of the participants might have also prohibited them from giving honest answers in this respect. To balance this limitation, the research used statistical method for validation where possible. Before the qualitative interviews, I provided an explanation of the importance of the study and the honesty of their answers to alleviate this problem. This explanation was expected to have increased the determination of the participants to answer the questions as accurately as possible. In addition, the participants of the study were likewise assured that their answers will be kept strictly confidential, which also helped to obtain more honest answers.

Another study limitation was that this study was not a longitudinal study. The study did not focus on the influence that time may have on the chlamydia trachomatis infections and no incidence of the disease was estimated, only prevalence. To overcome this limitation, secondary data of a period of six years if available, was requested and analyzed. In addition, socioeconomic status was not included in the dataset received by the JHS, therefore no comparisons were made with the rest of US regarding this factor. Further, according to Walden University's IRB guidelines, generalization of the findings

can only be done to populations with similar characteristics. Therefore, generalizations of the results of this study should be done with caution.

Recommendations

Several social factors appear to be linked with risky sexual behaviors. Future research may consider specialized research questions that will actually discuss and tackle these different factors such as one that is specifically focused to socioeconomic status or the educational level of the stakeholders. Criminal involvement, substance abuse, and age were also found to be risk factors. Future research can focus on the effects of substance abuse and criminal involvement to the risk of getting sexually transmitted disease.

The primary goal of this study was the identification of at-risk groups in terms of ethnicity, age, behavioral, and culturalthat affect the transmission of chlamydia trachomatis. The result of the study was expected to also contribute to developing an effective program to reduce risky sexual behavior in the target group. Finding ways to develop effective interventions will be an outcome of the study once target groups are identified. Future research may focus on the actual effects of interventions that are set in place to make sure that sexually transmitted diseases are actually managed.

Methodically, future research may employ just one method such as a simply quantitative study or a simply qualitative study. This will allow the results of the study to be a product of a single research method. Further, future research may also deal with the perspectives of the participants who have already acquired sexually transmitted diseases. This may be contributory to the literature and may actually help the population who are already affected with sexually transmitted diseases. Further, getting firsthand lived

experience from participants who are already suffering from the disease will help the government agencies to create more policies that directly impact and help the individuals.

Implications

The findings of this study can be used to develop more effective public health initiatives regarding the spread of sexually transmitted diseases, due to its connection with unregulated and unsafe human sexual behavior. The study determined demographic and cultural factors, such as race, ethnicity and age, as the most significant in determining risk for the development of chlamydia trachomatis in an individual, and the behaviors that lead to development of the disease. The results of this study can play a significant role in helping design future public awareness programs, effective healthcare policies, and ways to modify the sexual behavior of at-risk groups to reduce their risk for contracting the disease.

It bears noting that the proper identification of significance of culture and risky sexual behavior is likely to create awareness among the target population and will help them to decide and make better choices. Further, the results of the study can influence the behavior of affected individuals in order to lower their susceptibility to the infection. Also society-based organizations and the macro society can be motivated to educate youths on strategies and ways for ensuring safer behaviors and cultivating ethics regarding sexual issues. Policy makers and stakeholders in health care sectors who are involved in making regulations are also likely to change their approach from medicine-based strategies to social initiatives in managing chlamydia trachomatis infection among the target population, and by extension, in managing other sexually transmitted infections in the society to ensure that the health of different stakeholders is always prioritized.

The results of the study highlighted the significance of sexual behavior as one of the major factors in the infection's spread, and the potential role that sexual behavior can play in managing the infection. Therefore, different stakeholders and people will be able to monitor and push for safer sexual behaviors. It can be said that changing the sexual behavior of individuals can be an effective strategy for preventing and managing chlamydia trachomatis infection in Miami. Further, being able to identify the significant relationship between the infection's occurrence and sexual behavior across age and ethnicity will influence health care decisions and social initiatives towards responsible sexual behavior in the city. Finally, further research is needed to more in depth understand the combinations of risk factors regarding this disease, especially since socioeconomic status was not investigated in the quantitative component of this study.

Conclusion

There are many factors that affect sexually risky behavior and the development of STDs in general and chlamydia trachomatis in particular. Many scholars emphasized the role that race, ethnicity and age play in condom use and other preventive measures of STDs, and this study confirmed this role. This study also highlighted the ethnic and cultural characteristics of the population in Miami-Dade area and how these can contribute to the spread of trachomatis infection. The results of this study can promote social change by helping design future public awareness programs, effective healthcare policies, and ways to modify the sexual behavior of at-risk groups, especially adolescents and young adults, to reduce their risk for contracting this disease.

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Appendix A: Field Guide for Health Care providers.

The qualitative portion of the study addresses research questions 2-4. The interviews were semi-structured and the following interview questions were used to guide the interview process.

1. In your professional experience, do you see any characteristics of the general population,, that appear to be related to the onset of Chlamydia trachomatis? (RQ2)
2. What is the level of awareness of Chlamydia trachomatis among the general population? (RQ3)
3. According to your professional experience, how do you feel that patients consider Chlamydia trachomatis to be a serious issue in the Miami-Dade area? (RQ3)
4. According to your professional experience, what do you feel the level of knowledge is in the general population about how to prevent chlamydia? (RQ3)
5. According to professional experience, what do you feel the level of knowledge in the general population about the symptoms of chlamydia? (RQ3)
6. Do you feel that chlamydia rates are increasing or declining in the Miami-Dade area, and why? (RQ2)
7. What is the most common way Chlamydia trachomatis is transmitted? (RQ4)

8. What are the most widely accepted ways of preventing Chlamydia trachomatis transmission in the general public? (RQ4)
9. Is Chlamydia trachomatis a disease that only affects certain demographic groups?

   (RQ4)
10. In your professional opinion, what do you feel could be done to help reduce the transmission of Chlamydia trachomatis in the Miami-Dade area, taking into consideration individual factors which may affect the onset of this disease? (RQ2)