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Female Genital Mutilation/Circumcision: Culture and Sexual Health in Igbo Women in Dallas-Fort Worth, Texas

Dorothy Ebere Ukoha
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Walden University
2015

Abstract

Female Genital Mutilation/Circumcision: Culture and Sexual Health in Igbo Women in

Dallas–Fort Worth, Texas

by

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MPH, Walden University, 2006

BSN, Wagner College, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Female genital mutilation (FGM) is practiced primarily in many African countries as well as some in Asia and the Arab Peninsula; however, it also takes place elsewhere around the globe among those who migrate from countries to which it is indigenous. This study was designed (a) to investigate the prevalence of FGM among the Igbo women in the Dallas–Fort Worth (DFW) area in Texas and (b) to understand the factors that support the continuation of the practice and the effects on women’s sexual health. Using a quantitative approach to examine a variety of social variables aligning with the ecological framework, survey data obtained from a sample of 139 Igbo women living in the DFW area were analyzed using a multivariate analysis. Results of the study demonstrated a decreasing prevalence of FGM from maternal incidence (46%), to second generation incidence (31.3%), and future intention for FGM (25%). Nearly half of the responding participants felt the practice was required by their religion, but over 65% felt the practice should be discontinued. Results supported a high incidence of dangerous complications to women’s sexual health with the continued practice of FGM. Significant social influences associated with future intention for FGM among the population were found at the micro- and exosystem ecological levels. The findings of this research provide important information on current prevalence and health effects of FGM in Igbo women living in the DFW area. Understanding the reasons behind the culture of FGM will assist public health professionals in designing appropriate culturally-specific intervention strategies that will help to eliminate inappropriate and unsafe practices associated with FGM.

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Dedication

This dissertation is gratefully dedicated to the following:

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Chapter 1: Introduction to the Study

An overview of released literature has revealed deficiencies in understanding and practical data around the relationship between female genital mutilation (FGM), culture, and women's reproductive health in Igbo land Nigeria (Chuku, 2005). The United Nations has recognized FGM as a human privileges breach. Insufficient data on FGM marginalizes the problem; therefore, there is an urgent need for research data to understand the full impact of FGM at all levels, from grassroots organizations to parliament (World Health Organization [WHO], 2012).

People have practiced FGM consistently throughout history. Although its origins as a practice are unclear, it was recorded in Ancient Egypt as early as the first century (Kiragu, 1995). The practice is often considered to be an integral part of African tradition and culture (Gibbs, 1965). FGM entails the cutting or other removal or injury of parts of the female external genitalia for nontherapeutic reasons (WHO, 2012).

In an effort to make a departure from the more mild connotations of the word *circumcision* and highlight the physical and psychological harm associated with FGM, the term *female circumcision* has gradually come to be replaced with FGM or female genital cutting (Kiragu, 1995). FGM occurs across the globe, with different forms being practiced in many African countries as well as some in Asia and the Arab Peninsula. It also takes place in Europe, Australia, and North America among those who migrate from countries to which it is indigenous (Dorkenoo & Elworthy, 1992; Hosken, 1993; Toubia, 1993). There has been additional evidence to suggest that the practice may once have

been indigenous to Western countries as well (Hosken, 1993; Lightfoot-Klein, 1989; WHO, 2006).

Estimates placed the number of women suspected to have been subjected to FGM between 100 and 132 million (United Nations Children's Emergency Fund [UNICEF], 2001). This number grows every year, because as many as 2 million more women are circumcised per year (Hosken 1993; Toubia, 1993; UNICEF, 2001) and 6,000 every day (fgmnetwork.org, 2013). People in Africa have practiced the most circumcisions, with 50 million who have experienced FGM; the Near East, Australia, South America, and Asia have also contributed to this global phenomenon (Rushwan, 2004). Often considered a cosmetic and social necessity, the procedure is generally performed on young girls during or before puberty, sometimes as early as 3 days old (Assad, 2009; Ogunmode, 2009; Ragheb et al. 2009; WHO, 2009). FGM is postponed in some African regions until the woman becomes pregnant (Akpabio, 2010; Owunmi, 2010). This is based on the ungrounded assumption that contact with the clitoris during the birth will be fatal to the baby. In some cultures, FGM is also performed posthumously (Penawou, 1980).

Studies have indicated a particularly high rate of female circumcision in Nigeria. Over 50% of Nigerian women are estimated to have been circumcised (Inter-African Committee [IAC] Nigeria, 1997). Some of these studies include those of Owunmi (2010) and Myers et al. (2010) among the Urhobos of Delta State; Myers et al. (2006) among Ishan and Bini of Edo State; Adeneye (2005) in Abeokuta of Ogun State; Olafimihan (2003) in Ibadan of Oyo State and Ilorin of Kwara State; Akpabio (2005) in Oyi in Anambra State and Ibibio in Akwa Ibom State; Ofikwu-Abba (2003) among the Idoma

speaking people of Benue State and various studies by IAC (Nigeria) at different times in Adamawa, Borno, Jigawa, Kaduna, Lagos, Plateau and Rivers states among others.

These studies have demonstrated apathy amongst those who performed the procedures. Although people have defended the practice with many cultural justifications, it is generally intended to use decreased female sexual pleasure as a means of controlling female sexual activity in and out of marriage (Nnorom Chinyere, 2003). Circumcision has not been proven to be a deterrent to promiscuity; it has in fact been proven that FGM carries serious physical and psychological consequences that extend both to and beyond sexual health (Nnorom Chinyere, 2003).

The primary reason for the continuation of the practice is the increase in pleasure that husbands will allegedly experience sexually with circumcised partners (WHO, 2010). Although the global community has made a concerted effort to condemn circumcision, countries such as Nigeria have sustained the practice and routinely subject girls and women to the procedure across many different religions and cultures (WHO, 2010). This study was designed to investigate the prevalence of FGM among the Igbo women in the Dallas–Fort Worth (DFW) area in Texas, the factors that support the continuation of the practice, and the sexual health effects of FGM on this population of women.

What is FGM?

FGM, also known as female genital cutting and female circumcision, was defined by the WHO (2013a) as "all procedures that involve partial or total removal of the external female genitalia or other injury to the female genital organs for non-medical reasons" (para. 1). FGM is practiced as a cultural ritual by ethnic groups in 27 countries

in sub-Saharan and Northeast Africa, and to a lesser extent in Asia, the Middle East, and within immigrant communities elsewhere (WHO, 2013a). It is typically carried out on girls aged birth to young adults, with or without anesthesia, by a traditional circumciser using a knife, razor, or scissors.

The practice involves one or more of several procedures, which vary according to the ethnic group. They include removal of all or part of the clitoris and clitoral hood; all or part of the clitoris and inner labia; and in its most severe form (infibulations) all or part of the inner and outer labia and the fusion of the wound (2013a). In this last procedure, which the WHO (2013a) called Type III FGM, a small hole is left for the passage of urine and menstrual blood, and the wound is opened up for intercourse and childbirth. The health effects depend on the procedure, but can include recurrent infections, chronic pain, infertility, epidermoid cysts, and complications during childbirth and fatal bleeding (WHO, 2013). The complications include painful sexual activity (Berg, Rigmor, & Denisona, 2013). In addition, fatal bleeding, acute urinary retention, urinary infection, wound infection, septicemia, tetanus, and transmission of hepatitis or HIV if instruments are non-sterile or reused (Abdulcadira, Margairaz, Boulvain, & Irion, 2011). Because records of FGM have been kept sporadically and unreliably, the rates of fatality and other complications associated with the procedure are unknown (UNICEF, 2005).

An estimated 125 million women and girls in Africa and the Middle East have been circumcised (United Nations [UN], 2013). In Nigeria, the estimate ranges between 1 to 10 million (Nigeria Census, 2010). Nigeria is one of the largest countries in Africa, with an estimated population of about over 100 million. The country is multicultural,

inhabited with different ethnic and religious practices, all with different cultural activities and influences. Nigeria is made up of three large ethnic groups—the Hausa-Fulani, Yoruba, and Igbo—who represent 70% of the population (UN, 2013). Another 10% is comprised of several other groups numbering more than 1 million members each, including the Kanuri, Tiv, and Ibibio. More than 300 smaller ethnic groups account for the remaining 20% of the population. Igbo's are predominantly Christians and inhabit the south-eastern part of the country. Most of the cultural values must have been inherited from Israel according to oral tradition (UN, 2013).

The specific types of female mutilation practiced in different parts of the world are rooted in gender inequality, ideas about purity, modesty and aesthetics, and attempts to control women's sexuality (WHO, 2013b). It is supported by both women and men in countries that practice it, particularly by the women, who see it as a source of honor and authority, and an essential part of raising a daughter well (WHO, 2013b). According to UNICEF (2001), the reasons for FGM perpetuation include hygiene, social acceptance, marriageability, preservation of virginity/reduction of female sexual desire, male sexual pleasure, and religious requirement. Additionally, many have cited a correlation between infibulation and increased sexual pleasure for men (Mackie & LeJeune, 2008).

The most common defense for FGM is the preservation of monogamy and virginity (WHO, 2008). The conspicuous nature of the infibulation and the intense pain of sexual interactions for circumcised women generally prohibits infidelity (WHO, 2008). Consequently, uncircumcised women are highly sexualized; according to philosopher

Nussbaum (as cited in Mackie & LeJeune, 2008), the practice presupposes women to be "whorish and childish".

A concerted global effort to end FGM began in the 1970s and eventually resulted in action by the UN to formally declare the intent to eradicate the practice at all costs. It has been made illegal in most of the key countries in which the threat is prominent and across the rest of the world; however, legislation regarding FGM is poorly enforced (Essén & Johnsdotter, 2004). Opposition to the movement includes the anthropological perspective that eradicating FGM would constitute issuing a moral imperative akin to cultural imperialism (Essén & Johnsdotter, 2004). According to Silverman (as cited in Essén & Johnsdotter, 2004), female circumcision is a center of major moral controversy in the field of anthropology, as it raises questions about pluralism and multiculturalism in the context of colonial history and postcolonial society.

Background of the Study

FGM is defined by the partial or total removal of or injury to external female genitalia for reasons unrelated to the woman's medical or therapeutic health. The WHO (1995) estimated that 100 to 140 million African women have been subjected to FGM; additionally, as many as 3 million young girls undergo FGM every year.

Intertwined cultural, social, and religious traditions globally perpetuate the practice of FGM. Despite a passionate global campaign against this practice (Elwood, 2005; WHO, 2008), several African, middle Eastern, and southern-Eastern Asian cultures continue to use this cruel practice. According to the WHO (2008), each year, more than 3,000,000 girls experience genital mutilation worldwide. FGM impacts women

medically, psychologically, and psychosexually, which often can culminate in damaging a woman's esteem and self-worth, resulting in marital and relational problems in families (Baron & Denmark, 2006; Bikoo, 2007). While some empirical investigations have explored the effects of FGM (WHO, 1997, 2008), most of these studies have taken an individual approach to studying the psychological, emotional, and medical consequences.

Types of FGM

Although one might consider FGM as one targeted procedure, there are in actuality multiple variations of this practice. The variations of this practice are important to this particular study, as research has shown that the more severe forms of FGM, such as infibulations, led to increased medical complications (Litorp, 2008; Refaat, Dandash, El Defrawi, & Eyada, 2001; WHO 2008), and consequently more relational problems, such as limited arousal, a low sexual libido, fear of painful intercourse, and decreased satisfaction (Alsibiani & Rouzi, 2008). The WHO (2008) has classified and defined four distinct types of FGM, or FGM classifications:

- Type I: Excision of the prepuce with or without excision of part, or all, of the clitoris.
- Type II: Excision of the clitoris with partial or total excision of part or all of the labia minora.
- TYPE III: Excision of part or all of the external genitalia and stitching/narrowing of the vaginal opening (infibulations).
- Type IV: Unclassified – includes applying corrosive substances for narrowing the vagina, cauterizing, pricking, piercing, incising, stretching,

scraping or other harming procedures performed on the clitoris and/or labia (WHO, 2008).

Reasons Behind the Practice of FGM

There are several reasons cited for the continued practice of FGM. These are most frequently cited as tradition, culture, and religious beliefs (Mackie & LeJeune, 2008). The first reason given is hygiene; the external female genitals are thought to be dirty, and their removal is believed to ensure cleanliness (Mackie & LeJeune, 2008). Second is the pursuance of aesthetic appeal; it is believed that the similarities between the clitoris and the male penis make the female genitals aesthetically repulsive; a smooth surface is preferred (Mackie & LeJeune, 2008). Third, FGM is believed to prevent stillbirths in initial pregnancies; consequently, uncircumcised women are believed to kill their newborn babies due to contact with the head of their clitoris. Because of this belief, some cultures perform circumcisions on uncircumcised women even during their labor (Mackie & LeJeune, 2008).

Additional reasons are centered on the concept of womanhood and marriageability. Another reason given for FGM is need for the social acceptance that the perceived coming of age ritual offers the women who undergo it. FGM is considered to prevent promiscuity; if the clitoris and other sensitive tissue are eliminated, then this will result in a decrease in female sexual desire, giving the female incentive to remain a virgin and to remain monogamous once she is married. As a result, many believe FGM provides for increase in a woman's marriageability due to the increased likelihood of the woman's virginity that circumcision offers. In addition, FGM is cited to provide enhancement of

fertility, although there is no evidence to support this belief. Lastly, FGM is cited to support increased male sexual pleasure; the manufactured size of the vaginal orifice, in conjunction with the elimination of female orgasm as a feasible priority in sexual activity, allows the husband to dominate the sexual encounter and engage purely for his own gratification.

The Procedure

The WHO (2008) classified FGM into four categories. The debate surrounding the moral implications of FGM is such that even the terminology, including the word *mutilating*, is contested. The procedure itself is usually performed by a traditional circumciser without any medical qualifications (Nour, 2008). The practice is commonly performed without anesthesia and using crude tools such as razor blades or shards of glass (Abdulcadira et al., 2011). Rock salt, soil, twigs, or barks are all typical instruments in an FGM procedure, which culminates in the binding of the girl's legs. Despite the painful nature of the practice, it is generally treated as a ceremony and involves the presence of family and friends (El-Shawarby & Rymer, 2008). The event is presented similarly to a party, and the atmosphere is consequently festive. The practitioner is usually rewarded with money and presents for performing the procedure (El-Shawarby & Rymer, 2008).

Complications

The rate of immediate mortality was noted in 15% of girls and an overall mortality related to FGM has been reported as one woman every 10 minutes (El-Shawarby & Rymer, 2008). Although all types of FGM are associated with health

problems, women and girls who undergo Type III and IV FGM procedures are the most likely suffer major complications, which can include both acute and long-term gynecological and obstetric complications (El-Shawarby & Rymer, 2008).

Acute Complications

In terms of acute complications associated with FGM, the most common include severe pain and bleeding as a result of the procedure often being performed in the home by a traditional birth attendant or family member, often without anesthesia. Other common complications of FGM include infection, such as tetanus and septicemia; shock; severe pain causing urine retention and mechanical obstruction of the urine due to the procedure; urethral, vaginal, perineal, or rectal damage; and incontinence, both urinary and fecal (El-Shawarby & Rymer, 2008).

Long-term and Gynecological Complications

Commonly reported long-term and gynecological complications can include formation of keloid and paraclitoral cysts; sexual dysfunction; haematocolpos; recurrent urinary tract infections; urinary incontinence; pelvic inflammatory disease; transmission of blood-borne infections resulting from the lack of sterilization of instruments; infertility; genital fistulae; and psychological complications (El-Shawarby & Rymer, 2008). In Igbo land, FGM is commonly known as “ibi-ukwu,” translated in Igbo language to mean cutting of clitoris. Many reasons abound as to why this practice is performed. For the Igbos, the age of the practice is not constant and varies from village to village—for example, in some villages, it is performed very early after birth, while some villages will delay it until puberty (National Association of Nigeria Nurses & Midwifery, 1992).

The operation is always performed by elder women who are known in the villages; sometimes these women are not trained nor do they have any medical or health background, further complicating the practice of women's humiliation (National Association of Nigeria Nurses & Midwifery, 1992).

Obstetric Complications

Statistically, women and girls who have undergone FGM are more likely to report suffering from obstetric complications compared to women and girls who have not undergone FGM (El-Shawarby & Rymer, 2008). The first large-scale study on FGM was conducted as part of a WHO collaborative and included participants in six African countries and involved more than 28,000 women who had experienced FGM (El-Shawarby & Rymer, 2008). Results from this study indicated that pregnancy and delivery of infants born to these women were more likely to be complicated with prolonged labor and delivery, high rates of cesarean births, stillbirths, early infant death (neonatal death), low birth weight, increased incidence of the need to resuscitate the infant, and extended maternal hospital stay (El-Shawarby & Rymer, 2008).

There is a need for continued research on the effects of FGM and the specific factors behind the perpetuation of this practice despite a global campaign to end the practice (Elwood, 2005, WHO, 2008). The known medical, psychological, and psychosexual impacts of FGM, as well as the resultant damage to a woman's esteem and self-worth, and marital and relational problems in families (Baron & Denmark, 2006; Bikoo, 2007) support the need for this study comparing the sexual health effects of FGM

to non-FGM Igbo women in Texas and the variety of social factors supporting perpetuation of this practice.

Problem Statement

More than 30 million girls are at risk of being subjected to FGM over the next decade (WHO, 2013). FGM, also known as female genital circumcision, comprises all procedures involving total or partial removal of the external female genitalia or other injury to the female genital organs for cultural or nontherapeutic reasons (WHO, 2013). The practice is most prevalent in Africa, where researchers have estimated that more than 140 million girls and women have been subjected to some form of FGM and each year at least 2 million girls undergo the procedure (WHO, 2013). The practice is found across socioeconomic classes and among many ethnic and cultural groups in Africa. Muslims, Christians, and followers of indigenous African religions practice FGM (Obermeyer, 2009; Toubia, 2010).

Immediate and long-term complications have been reported in women who have undergone all types of FGM (Jones, Diop, Askew, & Kabore, 2006; Koso-Thomas, 2009; Shell-Duncan & Herlund, 2000). The likelihood of experiencing long-term obstetric, gynecological, and genital-urinary tract problems increases with the severity of genital cutting (Jones et al., 2006; Shell-Duncan, 2012). The complications of FGM on sexual health include shock, experiencing severe pain, hemorrhage, tetanus infection, retention of urine, and open sores on and injury to the genital region and nearby genital tissue. Long-term consequences can include recurrent bladder and urinary tract infections, cysts,

infertility, painful sexual intercourse, an increased risk of childbirth complications and newborn deaths (Chuku, 2005; Uchem, 2001).

This study investigated the prevalence of FGM among the Igbo women in the DFW area in Texas, and sexual health within the framework of the WHO's (2013) definition of health. In addition, the study was designed to explore the relationships between the variables under investigation. Accordingly, health is defined as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. Reproductive health, or sexual health/hygiene, addresses the reproductive processes, functions, and system at all stages of life (WHO, 2013).

Purpose of the Study

Specifically, this research compared FGM versus non-FGM groups of Igbo women residing in DFW, Texas to determine the sexual health effects of FGM and the factors behind the perpetuation of this practice. In addition, the study was designed to help improve the quality of health of these women and decrease the practice of FGM. Finally, understanding the reasons behind the culture of FGM will assist public health professionals in designing appropriate culturally specific intervention strategies that will eliminate inappropriate and unsafe practices associated with FGM. The outcomes of this empirical investigation could contribute globally by providing information on the negative impact of this practice on girls and women. Accordingly, this knowledge can help accelerate the eradication of this practice. Secondly, this study is critical to family life educators because it enlightens these professionals on the practice and impact of FGM.

The purpose of this study was to explore the prevalence and health effects of the cultural practice of FGM on women's sexual health among the Igbo women living in the United States. To examine this, a convenience sample was drawn from the population of Nigerian women living in Igbo areas in DFW who were between 21 to 55 years old. This research provides important information on current health effects of FGM in Igbo women from Nigeria living in the DFW area of Texas.

Nature of Study

This research used a quantitative analysis approach. The primary objective of this study was to explore the practice of FGM, to identify its prevalence in the Igbo population in the DFW area, and to understand the effects of this cultural practice on the sexual health of the Igbo women of Nigeria living in metropolitan DFW. A sample was drawn from the Igbo women population living in the DFW area. Participants were asked to complete an anonymous survey, which included multiple choice demographic questions and Likert scaled questions and responses.

The quantitative survey was analyzed using descriptive statistics, correlations, and multivariate regression. Using a variety of social ecological variables aligning with the ecological framework (Bronfenbrenner, 1979), the collected data were analyzed using a multivariate analysis to reveal potential significant variables associated with prevalence of FGM among the population of Igbo women in DFW, Texas, and the associated health effects of FGM found among this population. In this dissertation, I used the ecological framework to explain the role of social and cultural variables on the practice of FGM in Igbo women in DFW area.

Research Questions

1. How prevalent is FGM among the Igbo women in the DFW metropolitan area in Texas?
2. What variable and/or combination of variables at various ecological levels contribute to continued FGM perpetuation?
3. What are the consequences of FGM to women's sexual health?

Theoretical Foundation

The use of a theoretical foundation for the study helps to support connections, shape ideas, and draw conclusions related to human behavior (Krieger, 2001). This study used the ecological framework (Bronfenbrenner, 1979) to explore sexual health effects of FGM in Nigerian Igbo women residing in DFW. Research questions focused on FGM prevalence and the associated variables of sexual activity, pregnancy, child birth, stillbirth, culture, religion, and individual demographics. Understanding the context surrounding the practice of FGM may assist in the development of policies shaped within the existing social and cultural context that may serve to minimize and prevent FGM in the DFW area.

The ecological framework model can historically be traced back to Hippocrates in 463 BCE, who advised searching the environment when seeking answers for human behaviors and illnesses (Douglas, Goode, Houck, & Wang, 2011). In this case, I sought to understand why FGM has continued to be practiced today. The ecological framework (Bronfenbrenner, 1979) conceptualizes the various relationships between humans and their environment. Hippocrates (as cited in Douglas et al., 2011) advised that

environmental influences and relationships with human beings may be responsible for illness and poor health.

In 1868, Haeckel (as cited by Naess, 1989) used the term *ecology* in reference to the interdependence between an organism and its natural environment. Conventionally, ecology has been defined as “the interdisciplinary scientific study of the living conditions of organisms in interaction with each other and with the surroundings, organic as well as inorganic” (Naess, 1989, p. 36).

Ungar (2002) expanded upon this definition, explaining that an individual is “constantly creating, restructuring, and adapting to the environment as the environment is affecting them” (p. 486). In the 1960s and 1970s, combining the systems theory with the ecological approach, the term *environment* was further broken down into social variables within the interactive process that had variable levels of influence depending on level of connectedness with the individual and related stress (Hawley, 1950). Dissimilar to common behavioral and psychological theories, the ecological-based theory maintained a focus on interrelations between system levels and stressors such that all levels and elements within the ecosystem have a role, providing balance to the system (Hawley, 1950).

The ecological framework can be used to examine multiple relationships between a variety of social variables (or influences) within the environment and individual or collective health. In addition, *social ecology* is the term used to describe the study of individuals within the environment and the factors that influence both self and others (Hawley, 1950). The social ecological model, also known as the ecological framework, is

focused on the relationships and interactions between levels of influence, such as individual, relationship, community, and societal level factors (Centers for Disease Control and Prevention, 2010). For this study, I examined the interplay and relationships between personal or individual factors, community/societal factors, and the prevalence of FGM. Through a multivariate analysis, the study examined if an omnibus variables model could be used to predict why FGM continues to be practiced. As such, I used this theory as a lens to interpret the quantitative data.

Definition of Terms

Culture: The attitudes, feelings, values, and behavior that characterize and inform society as a whole or any social group within it (e.g., Ibo culture).

Demographics: The statistical data of a population, especially those showing average age, income, education, etc.

Female genital mutilation (FGM): Female genital cutting is a harmful practice involving full or partial removal of a girl's external genitals.

Igbo: The Igbo people are a nation caught inside of southeastern Nigeria. They speak Igbo, which includes various Ibo language and dialects. Ibo people are one of the largest ethnic groups in Africa.

Mutilation: To cause severe damage to the body of a person.

Religion: A set of beliefs concerning the cause, nature, and purpose of the universe, especially when considered as the creation of a superhuman agency or agencies, usually involving devotional and ritual observances, and often containing a moral code governing the conduct of human affairs.

Tribe: Any aggregate of people united by ties of descent from a common ancestor, community of customs and traditions, adherence to the same leaders.

Basic Assumptions and Limitations

For this study, it was assumed that the prevalence and practice of FGM has remained generally higher among the Igbo women in Nigeria than the Igbo women residing in DFW. This could be related to many social, historical, economic, and environmental factors. In conducting the study, data were collected via an anonymous self-report survey. Participants' responses to the survey questions were assumed to be honest and correct to the best of their knowledge. Several limitations and delimitations might have affected the analysis of data and the reported results in this study.

Limitations

As is typical when conducting a study with human participants, there were several limitations of this study, which include the following.

- The possibility for unidentified variables that could affect the study results as confounding variables may exist and therefore may represent a limitation of the study.
- Due to the location of recruitment of participants from the DFW area, the population of Igbo women between the ages 21 to 55 may have been limited, which could skew the results of the study. To attempt to offset this limitation multiple recruitment methods were used, such as flyers in schools and women's health clinics, snowball sampling, and word of mouth, to support reaching as many of the Igbo population as possible in the DFW area.

- It is noted that a representative target sample of both circumcised and uncircumcised Nigerian Igbo women in DFW may not have been obtained in the DFW area, thereby limiting generalizability of the study. As such, the results of the study may not be generalizable to major urban cities in the United States.

Delimitations

The study was limited to an examination of data related to the 21- to 55-year-old age group, which has been shown in the literature to include the predominance of FGM risk and incidence.

- The study was limited to participants residing in the metropolitan DFW area of Texas.
- The research was limited to the specific demographic and social variables defined in this study.
- This study was not designed to explore cause and effect relationships; the scope of this study was limited to prevalence and relationships between the specific variables.

Significance of the Study and Positive Social Change

This study supports critical social change by increasing awareness of the role and various levels of influence of personal demographic, cultural, and social environmental factors on women's sexual health. Given the socioeconomic changes in Nigeria over the last 10 years, the examination of social-ecological influences through use of the ecological framework is essential to address the issue of FGM among this population.

The results of this study, based on data obtained from the DFW area, within which exists a diverse population of Nigerian Igbo women living in a major metropolplex, may be valuable to similar cities in the United States and around the globe, supporting a possible reduction or even elimination of FGM.

Current knowledge of study variables may support greater understanding of the context by which FGM continues to spread in populations, particularly among urban Nigerian Igbo women populations. The Institute of Medicine (2003) recognized the significance of understanding the role of individual, interpersonal, and organizational factors, community population, and public policy on health, recognizing both physical environment and personal responsibility as the forces that influence health.

Understanding the prevalence of FGM among Igbo women populations in DFW, Texas, especially from an ecological point of view, adds to the body of knowledge as to why FGM practice may be higher among certain demographics. Significantly, the results obtained from this study may serve to support or to influence polices relating to the functional prevention of FGM.

Summary

Introduction to the study, operational definitions, theoretical approach, limitation and delimitations, assumptions, and the nature and significance of this study were discussed in Chapter 1. Research questions were also described. Reasons and rationales that motivated the study and the choice of DFW as the study location were enumerated and justly detailed. The findings from this study may help public health professionals in

formulating preventive strategies toward eliminating FGM in the Igbo women of Nigeria in the DFW area and possibly inform preventative strategies around the globe.

Chapter 2 provided a review and discussion of the current research and literature related to FGM and the continued practice globally. Specific interest was given to prevalence and associated factors supporting the continued practice of FGM in urban areas. The literature review informs the current research direction and purpose.

Chapter 2: Literature Review

Introduction

This chapter provides a review of the relevant literature to this study on FGM. Rates of FGM remain high in areas such as Africa and parts of the Middle East, where it is traditionally practiced. Cultural influences and social pressures contribute to its perpetuation have far reaching impacts, extending even women who have left those areas, compelling them to continue the practice. For those women who live through the procedure, consequences on physical, mental, and especially sexual health are significant, drastically affecting their lives. This study reviewed research on the current geographic and legal limitations of FGM, the primary influences on the decision to partake in FGM, and the different levels of consequences that follow female circumcision procedures.

Literature Search Strategy

This review included a full and comprehensive search of online literature databases, library databases, peer-reviewed articles, Centers for Disease Control and Prevention database, the State of Texas Health Resources, and U.S. Census database. PubMed, and Medline Plus, Ingenta, ProQuest and EBSCO search engines were utilized. Search terms were *female genital mutilation*, *FGM*, and *female circumcision*; these terms were also used in combination with *Nigeria*, *Igbo people*, *global prevalence*, *associated factors*, *catalysts*, *consequences*, *health consequences*, *sexual health consequences* and *psychological consequences*. Publications of literature reviewed were published between the year 1991 to the present, with a focus on the most current research published in the last 5 years, 2009 to 2014.

An Overview of FGM

The practice of FGM constitutes partial or total removal of the external female genitalia or injury to the external female genitals for nontherapeutic reasons. The practice of FGM and type of procedure used vary by ethnic group. The health effects resulting from FGM also vary according to the severity of the procedure performed, but can include recurrent infections, chronic pain, infertility, epidermoid cysts, painful sexual activity, acute urinary retention, urinary infection, complications during childbirth, fatal bleeding, wound infection, septicemia, tetanus, and transmission of hepatitis or HIV if instruments are nonsterile or reused and (Abdulcadira et al., 2011; Berg et al., 2013; WHO, 2013). Precise estimates on the number of deaths resulting from FGM are not known; as few records are kept, complications may not be recognized, and fatalities are rarely reported (UNICEF, 2005).

The WHO (2008) has classified and defined four distinct types of FGM. These FGM classifications include (a) Type I: excision of the prepuce with or without excision of part, or all, of the clitoris; (b) Type II: excision of the clitoris with partial or total excision of part or all of the labia minora; (c) Type III: excision of part or all of the external genitalia and stitching/narrowing of the vaginal opening (infibulations); and (d) Type IV: unclassified, which includes applying corrosive substances for narrowing the vagina, cauterizing, pricking, piercing, incising, stretching, scraping or other harming procedures performed on the clitoris and/or labia (WHO, 2008).

The common reasons offered by participants in prior research in support of FGM perpetuation include hygiene, social acceptance, marriageability, preservation of virginity

and reduction of female sexual desire, male sexual pleasure, and religious requirements (Mackie & LeJeune, 2008; UNICEF, 2013). Despite the severe health risks associated with FGM, legal prohibition, and global campaigns against the practice, cultural, social, and religious influences continue to perpetuate the practice globally (Elwood, 2005; WHO, 2008).

Current statistics indicated that more than 3 million girls experience genital mutilation worldwide each year and that between 100 to 140 million girls and women in Africa and the Middle East have undergone FGM (WHO, 2008). In Nigeria, as one of the largest African countries (estimated population of over 100 million), the estimated number of women and girls affected ranges between 1 to 10 million (Nigeria Census, 2010). Nigeria is primarily represented by three large ethnic groups, the largest of which is the Igbo, which represents 70% of the population (UN, 2013). Igbos are predominantly Christians and inhabit the south-eastern part of the country, with cultural values likely stemming from Israel according to oral tradition (UN, 2013).

FGM in the Igbo Population

Although rates of FGM in Nigeria had begun a gradual decline in the several years prior to 2000 (UNHCR, 2000), as of 2014 it was still frequent in as many as 45% of Igbo women of marriageable age (National Population Commission [NPC, Nigeria] and ICF International, 2014). Due to its large population, Nigeria has remained one of the leading countries in FGM practice and has contributed, by some estimates, to almost a quarter of the total population of circumcised girls and women in the world (Okeke, Anyaehie, & Ezenyeaku, 2012). The practice of FGM is most common in the southern

areas of Nigeria and becomes statistically less common further north (Adegoke, 2005; UNICEF, 2011). Five out of six of Nigeria's largest ethnic groups actively practice FGM (Online Nigeria, 2005). The practice is still clearly prevalent among the Igbo people; many continue to argue for the values of tradition and chastity as a defense for continued practice (Boukari, 2011; Online Nigeria, 2005). Specific to the Igbo people who practice circumcision is a belief that women left without being circumcised are consorted by spirit husbands or demons that create unnatural sexual desires; they also share the more widespread beliefs that FGM prevents childbirth pains and allows for the safe delivery of children (Nnachi, 2007).

Consequences of FGM

Health Consequences

The practice of FGM, regardless of the process used, results in a number of serious health complications. The trauma of the procedure induces intense pain that often results in clinical shock (WHO, 2000). During and immediately following the procedure, the girls or women subjected are likely to faint and experience severe bleeding (Rose, 2010). In many cases, girls with particularly intense bleeding and hemorrhaging have died as a result of the practice (Ndiaye, Diongue, Faye, Ouedraogo, & Tal Dia, 2010; Rasheed, Abd-Ellah, & Yousef, 2011). Among those who survive the procedure, many are likely to experience severe hemorrhaging and damage to the surrounding organs (Nnorom Chinyere, 2003; Rose, 2010).

In the initial period post procedure, the individual often experiences moderate to extreme difficulty urinating and menstruating, particularly in the case of infibulation

procedures due to the substantially constricted vaginal opening (Mackie, 1996). Even simple tasks such as sitting or urinating prove difficult after the procedures (Teufel & Dorfler, 2013). During the first week following the procedure, urinary retention is a common result of the girls resisting the urge to urinate due to experiences of painful urination; this can persist beyond the initial recovery period and may even last for years (Amin, Rasheed, & Salem, 2013; Teufel & Dorfler, 2013). A frequent byproduct of this phenomenon is urinary tract infections (UTIs) and other related concerns (Benjet, 2010; Gilbert et al, 2013; Iavazzo et al, 2013; Modupe-Thomas, 1999). Other common short-term complications of FGM include anemia, genital ulcerations, vaginal inflammations and other inflammations or injuries to the surrounding areas (Benjet, 2010; Nnorom Chinyere, 2003; Rose, 2010; Utz-Billing & Kentenich, 2008; WHO, 2014).

Long-term effects are equally devastating and often constitute or contribute to causes of death in circumcised women. A recent study on the obstetric costs of FGM estimated that circumcised women suffered a loss of between 1 to 3 months of their lives on average due to their circumcision procedures (Bishai et al., 2008). Abnormal growths are common in the years after the procedure, including dermoid cysts, tumors in the connective tissue, and the formation of keloid scars (Akpuaka, 1991; Modupe-Thomas, 1995; Nnorom Chinyere, 2003; Okeke et al, 2012). The aforementioned UTIs are a recurring trend in victims of FGM and persist often long into the lives of circumcised women (Ball, 2008; Teufel & Dorfler, 2013).

Risk of Infection

The procedures for FGM generally entail the removal of what is considered to be the “undesirable genitalia” of a woman or girl using surgical instruments, knives, or crude objects such as shards of glass, thorns, or other sharp implements (Rose, 2010). In certain procedures, including what the WHO (2014) has titled Type IV FGM, corrosive substances are also introduced to the vaginal area.

Because the circumcision ceremonies are typically performed on multiple girls at a time, the circumcising tools are often used on all girls present without sterilization (Osifo, 2009; Rose, 2010; Utz-Billing & Kentenich, 2008). This results in a high risk of both infections such as tetanus or *E. coli* and sexually transmitted diseases such as HIV (Abdulcadira et al., 2011; Ladjali, Rattray, & Walder, 1993; Rose, 2010). In countries where FGM is common, as many as 60% of the cases of HIV are found in women (Abdulcadira et al., 2011). The risk of sexually transmitted diseases (STDs) is present not only at the time of circumcision, but as a consequence later in married life; circumcised women face a huge risk of husband infidelity even in areas where polygamy is not practiced (Chika, 2012; Dorkenoo, 1992; Rose, 2010) due to diminishing sexuality that follows chronically painful sex (Abdulcadira et al., 2011; Berg et al., 2010; Rose, 2010). As their husbands then choose to have sex with other nonmarried women, they are often exposed further to STDs and HIV (Chika, 2012; Morrone, Calcaterra, & Franco, 2011).

Pregnancy Complications

Although FGM is routinely performed under the belief that the procedures will increase the likelihood and safety of child-bearing, infertility is a frequent complication

arising from female circumcision (Ali, 2012; Kay, Idrissa, & Hampton, 2014; Khaled, 2012; Nnorom Chinyere, 2003; Okeke et al., 2012; Rose, 2010). Both because of internal trauma caused by the procedure itself (Akpuaka, 1991; Odoi, 2005; Okeke et al, 2012; Rose, 2010) and the lack of arousal and increased stress during sexual activity (Defrawi, Lofty, Dandesh, Refaat & Eyada, 2011; Nnorom Chinyere, 2003), pregnancy is significantly less likely to occur. The pelvic infections and inflammatory pelvic diseases common in circumcised women present obstacles both to effective conception, which is difficult when blockages to the fallopian tubes occur (Moges, 2009), and difficulties during birth such as prolonged, delayed and/or obstructed labor (Ahmed & Abushamah, 2012; Kay et al., 2014; Rose, 2010).

Emotional Consequences

Women who have undergone FGM experience serious, long-lasting emotional and psychological damage. The event is clinically traumatic for most of the women who experience it, and as such, many exhibit symptoms of posttraumatic stress (Behrendt & Moritz, 2005; Rose, 2010; Suardi, Mishkin, & Henderson, 2010; Vloeberghs, van der Kwaak, Knipscheer, & van den Muijsenbergh, 2012; Whitehorn, Ayonrinde, & Maingay, 2002). Victims have reported nightmares of the ceremonies and subsequently difficulties sleeping that can contribute to further complications (Rose, 2010; Suardi et al., 2010). As is typical with posttraumatic stress, these women reported experiencing intrusive memories and flashbacks of the event that persisted throughout their daily lives (Rose, 2010; Vloeberghs et al., 2012; Whitehorn et al., 2010).

Many reported a feeling of emptiness or incompleteness as a result of losing their sex organs (Nnorom Chinyere, 2003). These feelings can contribute to a number of psychological concerns and conditions, including anxiety and depression; high rates of each are typical in victims of FGM (Abdulcadira et al., 2011; Benjet, 2010; Berg et al., 2010; Knipscheer, van Middendorp, & Kleber, 2011; Mukoro, 2002; Nnorom Chinyere, 2003; Rose, 2010). The accompanying anxiety manifests itself in fears of related experiences. Sex is feared because of strong associations with pain, and severe fear of and stress related to childbirth that can impact delivery (Abdulcadira et al., 2011; Benjet, 2010; Berg et al., 2010; Nnorom Chinyere, 2003; Rose, 2010). This is consistent with the pattern of avoidant behaviors present in women traumatized from their circumcisions, a pattern that often manifests in other outlets such as substance abuse (Knipscheer et al., 2011). It also provides an obstacle for women seeking medical care, as circumcised women are substantially less likely to seek out medical care and particularly obstetric care (Kay et al., 2014; Utz-Billing & Kentenich, 2008).

Sexual Health Consequences

Sexual intercourse after FGM is often very painful to the point of its classification as dyspareunia (Brady, 1999; Defrawi et al., 2001; Utz-Billing & Kentenich, 2008). Due to the removal of the clitoris and other female sex organs key to arousal, effective natural lubrication is incredibly difficult to achieve and delayed if at all, and anorgasmia is typical (Akpuaka, 1991; Defrawi et al., 2001; Nelson-Porter, 2014; Okeke et al, 2012; Rose, 2010; Windle, Kamanu, Anyanwu, & Ehiri, 2009). Chronic pain during sex is also caused by a number of related factors, including the cysts and abscesses that typically

develop in the genital area as well as tissue damage, infection, and an increased likelihood of bleeding and tearing during intercourse (Berggren, Gottvall, Isman, Bergström, & Ekeus, 2013).

Circumcised women generally experience a decrease in their overall sex drive and either habitually avoid intercourse with their husbands or tolerate extremely uncomfortable and unsatisfying sexual experiences (Defrawi et al., 2001). In both cases, a fear of sex frequently develops (Abdulcadira et al., 2011; Benjet, 2010; Berg et al., 2010; Rose, 2010). This fear is also contributed to by an increased awareness during intercourse of the feeling that “something is missing” in the experience (Johansen, 2007, p. 286).

Social Consequences

Compliance with FGM in practicing areas can result in an increase in what can be considered social capital for the women involved (Moges, 2009; Norman, Hemmings, Hussein, & Otoo-Oyortey, 2009; Okeke et al., 2012; Rose, 2010). Acceptance and respect in the community are often benefits of the perceived initiation into adulthood; girls who undergo the procedure are considered to be “true women” and are considered to have enhanced social value to their families and larger communities (Moges, 2009; Norman et al., 2009; Okeke et al., 2012). This value is often literal, as it translates to a higher bridal price than would have been paid to the families otherwise (Moges, 2009; Smith, 1995). Marriage is often a social outcome of circumcision; the practice signals to the community that the women are of marriageable age and ready to remain faithful to their husbands, and as such a newly circumcised woman will often be visited by potential suitors and

prepared for marriage soon after the procedure is finished (Dorkenoo, 1992; Moges, 2009; Mukoro, 2002; Rose, 2010).

Although marriage is often subsequent to FGM, divorce rates within those marriages are also common (Kaplan et al., 2013; Sharfi, Elmegeboul, & Abdella, 2013). Complications with sexual health and the common lack of libido among circumcised women contribute to passivity during or avoidance of sexual intercourse (Abdulcadira et al., 2011; Berg et al., 2010). As a result, many men choose to leave their wives or pursue adulterous relationships (Chika, 2012). This brings shame and ostracization to both the woman involved and her family (Moges, 2009; Rose, 2010).

Factors Supporting the Continuation of FGM

Familial Factors

The decision to circumcise is most often left to the mothers, grandmothers or other female family members or leaders in the community, as girls are most often subjected to FGM either as infants or as young children before they reach what is considered to be a marriageable age, (Khan, 2007; Mackie, 1996; Moges, 2009; Okeke et al., 2012; Rose, 2010). Because of the opportunities for social growth that are available to families who circumcise their daughters, many of the family leaders and influential women with whom the decision rests ultimately choose to continue the FGM tradition for the good of the family (Khan, 2007). These influences on a familial level impact both the decision of the parents to circumcise and the decision of the daughters to comply, as they seek the parental approval and consequent attention that FGM often entails (Moges, 2009; Sieverding, 2014). Girls are approved of and rewarded for participating in the

process, even receiving special gifts from their parents to celebrate the occasion (Moges, 2009; Rose, 2010).

Conversely, families who choose not to enforce circumcision are often outcast with the women involved (Moges, 2009; Mudege, Egondi, Beguy, & Zulu, 2012, Nnorom Chinyere, 2003). Former Kenyan President Jomo Kenyatta (as cited in Moges, 2009) made his position on FGM clear when he was quoted as saying “No proper Gikuyu would dream of marrying a girl who has not been circumcised, and vice versa. It is a taboo for a Gikuyu man or woman to have sexual relations with someone who has not undergone this operation” (p. 12). In the Kenyan tradition that Kenyatta spoke of, a purification ceremony is necessary following such relations that often involves ritual vomiting (Moges, 2009), demonstrating the intense degree of social stigma that accompanies failure to circumcise.

Economic Benefit

Economic considerations impact the decision to circumcise on both a familial and a personal level. Families of the young women, particularly parents, are highly motivated to encourage or even enforce the procedure in order to gain the social capital and economic benefits that accompany FGM (Mackie, 1996; Moges, 2009; Mudege et al., 2012). Families are ultimately very involved in the marriages of their children in areas where FGM is practiced.

Because “bride prices” or variations on the concept of a dowry are present in marriages throughout areas such as Nigeria and Somalia, they are considered in the decision to circumcise a daughter as a way of facilitating marriage, as a transaction

(Coyne & Mathers, 2009). Bride prices increase with female circumcision both because it is thought to ensure virginity by curtailing promiscuity, eliminating the benefits of extramarital sex for the woman (Coyne & Mathers, 2009; Moges, 2009), and because sexual intercourse with a circumcised woman is thought to bring more pleasure for the man (Berg et al., 2010; Dorkenoo, 1992; Nnorom Chinyere, 2003) making vaginal intercourse more preferable without the option of a clitoral orgasm (Dorkenoo, 1992; Rose, 2010). In addition, the marriage becomes more desirable because the woman, as a commodity, becomes more valuable in the eyes of the society (Mackie, 1996; Coyne & Mathers, 2009).

This commoditization of the women is especially significant because the economic and financial motivations for the continued practice of FGM rely heavily on the system of males “profiting” by acquiring women (Mackie, 1996; Coyne & Mathers, 2009). Using FGM as a means of sexual control allows men to advance their “socio-biological imperative” to have biological children and be assured of their paternity and their wives’ fidelity (Coyne & Mathers, 2009, p. 6).

Financial motivations also exist for women in this paradigm. Despite the recent push towards the “medicalization” of FGM in an effort to combat Western influences (Khan, 2007; Sieverding, 2014), the majority of FGM rituals are performed either by traditional circumcisers in the community or by midwives and other birth attendants (Bjalkander, 2012; Moges, 2009; Sieverding, 2014). One study suggested that as little as 2% of circumcision procedures are performed by doctors or certified medical professionals, whereas the traditional circumcisers conduct 37% of the rituals (Nnorom

Chinyere, 2003). Seeking to protect their job security and respective statuses in the community, the circumcisers are generally the most vocal advocates of the continuation of FGM (Ladjali, 1993; Nnorom Chinyere, 2003; Sieverding, 2014).

Even the women who are circumcised may decide to do so of their own accord due to the economic security offered by a marriage (Elmusharaf, 2013; Moges, 2009). Choosing to get married guarantees steady income and a pension when appropriate, and few other options exist for women in many FGM-practicing societies (Elmusharaf, 2013; Moges, 2009).

Social Influences

Benefits of marriage extend beyond economic convenience and actually translate to social acceptance. According to Moges (2009), “For most African women as well as other Third World women, marriage is not an option but a must for survival” (p. 4). Indeed, marriage is the only way to guarantee a woman the security of continued reliance on existing social structure. Married women are respected, whereas unmarried women are shunned and unable to rely on other members of the community for support (Mudege et al., 2012). In this way, marriage is a mechanism of survival and a significant reason why FGM continues to exist despite the problems it can cause; the social conditions surrounding marriage remain unaltered, and respecting them is ultimately necessary (Mudege et al., 2012).

Before even marriage is considered, there are considerable social benefits to circumcising that influence decision-making. Both among the Igbo people and in the majority of FGM-practicing countries, the process is considered to be a rite of passage for

a woman that is crucial to the formation of her identity (Mukoro, 2002; Moges, 2009). In the wake of the spreading of Western culture and the threat it presents to more traditional cultural values in areas that observe FGM rituals, it is considered crucial to maintain the integrity of the tribal identity (Johnsdotter, 2009; Moges, 2009). Women describe FGM as having a particular tribal or cultural significance and maintaining a spiritual connection between the woman and her tribe or community (Johnsdotter, 2009).

The process is described as a coming of age and signifies a departure from childhood and the woman's debut as an adult, including the social payoff that this entails (Mackie, 1996; Moges, 2009, Okeke et al., 2012). Circumcision can seem desirable to women who feel pressure to adhere to tribal customs and participate in a revered tradition. Moges (2009) explained, "Group initiation rites create a sort of club to which uncircumcised ones are not accepted. . . In some communities, like in Sierra Leone, it is a secret society that one joins only through [under]going the initiation rite," (p. 3). Inclusion is therefore a primary motivation for girls experiencing FGM to embrace the experience.

Social capital is to be gained also by pleasing the local circumcisers, who tend to be influential members of the community due to the respect with which their position endows them (Ali, 2012). The circumcisers tend to occupy other influential roles in the community and are often present for important rituals and events (Ali, 2012; Khan, 2007). As such, there is significant pressure to please them and comply with their wishes, rather than insulting them by refusing to comply with the traditions (Ali, 2012).

Conversely, failure to be circumcised can result in social stigmatization and even expulsion from the community. Name-calling, peer harassment and social rejection are common after effects when a woman reaches marriageable age and forgoes circumcision (Moges, 2009; Rose, 2010). Sex outside of marriage for an uncircumcised woman is particularly problematic; either the woman or both participants in non-marital relations undergo a “detrribalization” and are forced by members of their community to divorce (Moges, 2009, p. 4).

Cultural Beliefs

Belief of uncleanness. Underlying the practice of FGM are many cultural misconceptions about female genitalia, including the pervasive belief that the clitoris and labia are naturally unclean and susceptible to disease (Dorkenoo, 1992; Kepe, 2010; Moges, 2009; Norman et al., 2009; Rose, 2010; Zabus, 2010). Particularly in Egypt and Somalia, the alleged dirtiness of the organs is taught as part of local religious doctrine (Dorkenoo, 1992). It is also believed that the female ejaculate present during arousal is unclean (Abdulcadira et al, 2011; Moges, 2009; Zabus, 2010). Both men and women are taught from a young age that vaginas emit unpleasant odors when they are not modified by genital mutilation, and as a result the odor is complained about when circumcision is not performed (Dorkenoo, 1992; Nelson-Porter, 2014; Nnorom Chinyere, 2003).

Women are taught, particularly in rural areas where their illiteracy makes them dependent on local interpretations of religious doctrines (Ladjali, 1993; Rose, 2010), that the uncleanness of the allegedly diseased female sex organs can even result in such serious complications as vaginal cancer (Nnachi, 2007; Nnorom Chinyere, 2003).

Because of these myths, many women feel compelled to allow FGM so as to cleanse themselves of what are considered the dirty aspects of their anatomy (Abdulcadira et al., 2011; Dorkenoo, 1992; Kepe, 2010; Moges, 2009; Rose, 2010; Zabus, 2010). Women who have undergone the procedure describe a desire to feel clean and to be rid of filth, and to be more presentable to their future husbands (Dorkenoo, 1992; Rose, 2010). Due to the omnipresence of this belief, women who do not submit to FGM are often made outcasts and publicly shamed for failing to live up to the expected standards of hygiene (Moges, 2009; Nnachi, 2007; Okeke et al., 2012).

Preservation of femininity. The removal of the clitoris is considered in many cultures to be a vital way of preserving femininity (Dorkenoo, 1992; Groeneveld, 2013; Modupe-Thomas, 1995; Rose, 2010). Similarly to the ancient Chinese tradition of foot-binding (Mackie, 1996), the size and smoothness of a woman's circumcised genitals is considered in many cultures to be quintessentially feminine and even aesthetically beautiful (Bennett, 2012; Groeneveld, 2013; Nnorom Chinyere, 2003; Rose, 2010).

By eschewing femininity in favor of masculinity in the eyes of their respective societies, women facing the prospect of circumcision are often thought to be lesbians due to the belief that the uninhibited sexual desire leads to inevitable masturbation, lesbianism, and indiscriminate sexual activity (Morrone et al, 2011; Nnorom Chinyere, 2003). In Ethiopia, many believe that an uncircumcised clitoris will grow until it “dangles between the woman's legs” and bears resemblance to the size and shape of a man's penis (Dorkenoo, 1992, p. 35). Not only is this considered undesirable and reviled as a hideous

mutation, it is feared by men to be a rival sex organ to a penis, and is therefore, perceived as threatening to men (Dorkenoo, 1992; Moges, 2009; WHO, 2011).

Perceived danger of the clitoris. Possibly as a result of this perceived threat, the clitoris is referred to in many FGM-practicing areas as being dangerous and even deadly (Dorkenoo, 1992; Nnorom Chinyere, 2003; Rose, 2010). Burkinabe culture, in particular, teaches that the secretions of the clitoris are poisons that can cause sickness, death and impotency in any man who comes into contact with it (Dorkenoo, 1992). Although FGM often results in infertility, it is frequently performed as a cure for infertility because of the belief that the secretions of the labia and clitoris are toxic to sperm (Modupe-Thomas, 1995).

There also exist cultural superstitions that the clitoris will result in the death of the baby; women are often taught that a baby whose head touches the clitoris during childbirth will be stillborn due to its poison, and additionally that the poison will infiltrate the breast milk and cause the baby to die even if it survives the passage (Dorkenoo, 1992; Nnorom Chinyere, 2003; Rose, 2010). The instilled fear that their genitals will in some way harm or kill their children motivates many women to perform the procedure even in adulthood. It also provides motivation due to the likelihood that the mother will be shamed by her community for failing to properly care for her child in the eyes of her peers (Moges, 2009).

Religious Justification

Although the exact historical origins of FGM appear widespread and unclear, it is evident that the practice predates both Islam and Christianity and is therefore not a direct

product of either religion (El-Damanhory, 2013; Feldman-Jacobs & Clifton, 2010; Moges, 2009). The United States Office of Women's Health (2012) clarified that there are no existing texts in any major religions that directly or substantially support FGM. However, since particular sects of Christianity, Islam, Judaism and Animism (Abdulcadira et al., 2011) have used their religions to advocate the practice by professing female circumcision to be a requirement of the respective faiths, it is widely accepted as a justification for and influences the prevalence of FGM in many countries (Elmusharaf, 2013; Okeke et al., 2012).

Many women report seeing FGM as an essential aspect of their religions. Twenty-two percent of women interviewed in a 2012 study by Okeke et al. identified religion as a primary motivation for FGM, and Allag, Abboud, Mansour, Zanardi, and Quéreux (2001) received the response in their study that "A girl who is not excised is considered as a bad Muslim" (p. 2).

Influence of Legality

FGM has long been considered a human rights violation by much of the world, and global efforts have increasingly focused on its termination. The UN has made an official sanction against FGM declaring it a human rights violation (UN, 2010) and following suit, most countries with either indigenous peoples practicing FGM or immigrants seeking to practice FGM have taken a negative legal stance against it (Center for Reproductive Rights, 2009). Eighteen countries in Africa alone have formally criminalized FGM, including countries such as Egypt, Mali, and Sudan (Center for

Reproductive Rights, 2009), which have the highest estimated rates of FGM (WHO, 2012).

Despite these actions by the international community, the legality of FGM has had relatively little influence on its continued practice (Ako & Akweongo, 2009). The laws are nominal only and virtually obsolete without the social support necessary to enforce them (Ako & Akweongo, 2009). As explained in Nnorom Chinyere's (2003) analysis, "For any meaningful headway to be made in its eradication, custodians of customs and traditions must be carried along" (p. 7). With public opinion very much against more progressive legislation against female circumcision (Toubia, 1997), legality commands very little influence in the decision to circumcise.

Social Ecological Framework

As noted in the first chapter, the social ecological framework, or simply the ecological framework (Bronfrenbrenner, 1979), was used in this study to underpin understanding of the variety of factors influencing the practice of FGM to include cultures, families, individuals, and community influences. The framework is used to understand the interactions between the different levels of social systems that can serve to restrain or promote individual behaviors (DiClemente, Salazar, & Rosenthal, 2005).

This present study used the ecological framework to explore sexual health effects of FGM in Nigerian Igbo women residing in DFW. The research questions of the study maintained a focus on FGM prevalence and the associated variables of sexual activity, pregnancy, child birth, stillbirth, culture, religion, and individual demographics. The ecological framework is used to support greater understating of the social context within

which FGM occurs, which in turn will help to develop and formulate socially and culturally appropriate policies and strategies to minimize, control, and prevent FGM in the DFW area.

The ecological framework was developed by Bronfenbrenner, (1979) as a means of defining human ecology and development through social and environmental interactions. Within this framework, Bronfenbrenner identified four system levels: microsystem, mesosystem, exosystem, and macrosystem. The microsystem encompasses the various roles and individual characteristics of the single person (DiClemente, Salazar, & Rosenthal, 2005). The mesosystem involves the settings within which that individual person interacts, and the exosystem involves settings in which the individual does not interact, but the settings still influence the individual's development (DiClemente et al., 2005). Finally, cultural values and larger societal factors that influence the individual's behaviors make up the Macrosystem (DiClemente, Salazar, & Rosenthal, 2005).

Microsystem

The microsystem, the first level system in the ecological framework, is the most basic level system, as it refers to the immediate environment of the individual. Included in this level of influence are family members as well as other individuals who are in the direct environment. The microsystem level has the largest impact on the individual because it encompasses influence from those closest to the individual, such as parents, siblings, friends, teachers, school, church, and other important activities. At the most basic level, the microsystem pertains to individual characteristics, roles, activities, and interpersonal relationships in a given setting. Relating the microsystem level influence to

the present study, an individual may encounter pressure to continue the practice of FGM from parents and other family members, friends in the community, as well as individual level influences in terms of personal beliefs (see Figure 1).

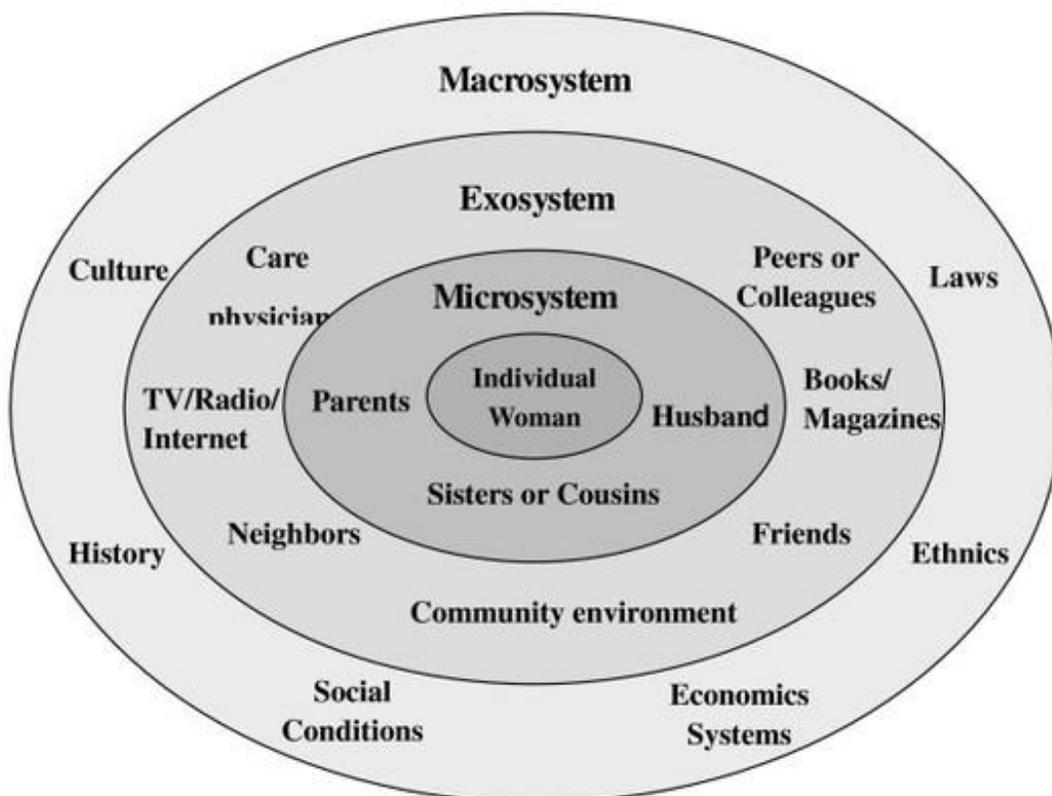


Figure 1. The ecological framework adapted to illustrate possible social influences on Igbo women living in the United States.

The mesosystem refers to the level interactions between multiple microsystem and the interrelations between systems. For example, the mesosystem reflects the influence of spousal relationships on parent-child interactions (Bronfenbrenner, 1979). The mesosystem serves to define group relations within and across various settings. Such mesosystem level interactions can involve environment such as schools, churches, and social networks. Peer and family social influences are strong on the mesosystem

(Bronfenbrenner, 1979). Mesosystem helps to construct the context within which individuals enact their decisions (DiClemente et al., 2005). For the present study, meso system levels of influence supporting or contradicting the practice of FGM might include spouse, the parent-child interaction, school interactions, church interactions, and other social and cultural group interactions in the community (see Figure 1).

Exosystem

Community level influences on individuals make up the exosystem (Gregson, 2001). This level may be defined by geographical structure (cities/towns, neighborhoods, States). Exosystem influences include settings that affect the individual and influence the individual activities within that setting (Bronfenbrenner, 1979). It is important to remember that affects and influences move freely between levels and that factors interrelated with the individual and the community, therefore, exosystem factors are interrelated with the individual and the community. That is, exosystem level influences affect indirectly, such as family interactions (e.g., parent loss of employment) the micro and mesosystem levels (i.e., family interactions). Exosystem interactions that may influence FGM practice may include neighborhood interactions with the family, peer interactions and discussions at school, other social interactions, and possibly family economic needs and socioeconomic status (see Figure 1).

Macrosystem

The macrosystem, according to Bronfenbrenner (1979), is defined in terms of not only geographical, ideological, or emotional influences, but also culturally attached influences within the ecological systems. Influences at this macrosystem level affect

family and individual functioning through large scope influences such as political, cultural, economic, and social influences. In this way, the macrosystem serves to describe the culture in which individuals live; these cultural contexts include socioeconomic status, poverty, and race/ethnicity. According to Bronfenbrenner, macrosystems often influence the individual lifestyle. In the case of FGM, macro level influences may include culture and ethnic background, family history of FGM, local laws concerning the practice and legality of FGM, social norms in the community and culture, and economic systems that may include the concept of economic exchanges associated with marriage. Figure 1 provides an illustration of the levels of influence of the ecological framework. Between and within these levels is a bi-directional flow of influence (Bronfenbrenner, 1979).

Other researchers have incorporated the social ecological framework to support research efforts related to intervention strategies. More specifically, researchers investigating and seeking to address violence against women have demonstrated the applicability of the framework (Campbell, Dworkin, & Cabral, 2009; Heise, 1998; Logie, Alaggia, & Rwigema, 2014). These prior researchers provide support for the use of the ecological framework in the present study on factors influencing the prevalence and continuation of FGM practices.

Logie et al. (2014) examined sexual violence against lesbian, bisexual, and queer women and the factors associated with having experienced lifetime sexual assault. Over 400 women participated in the cross-sectional survey. The author's found an association between a positive history of sexual assault and several negative health outcomes (i.e., increased STIs, depression, and decreased perceptions of health) including higher rates of

STIs and depression, and lower self-rated health. From the results, the authors asserted that various individual level, social level, and structural level factors are associated with having experienced sexual assault. Logie et al. (2014) expressed the value of the social ecological framework in underpinning the community-based interventions toward addressing sexual stigma and violence.

Similarly, Heise (1998) attempted to build a theory of understanding the origins of gender-based violence through the conceptualization of this type of violence using the ecological approach. As such, using the ecological framework, the author was able to conceptualize abuse as a multifaceted phenomenon, rooted in interaction among the different levels of social and cultural factors, and identify predictive factors associated with abuse at the different social ecological levels through a meta-analysis of cross-cultural research in the field. The study provides strong evidence for an integrated approach to addressing gender-based abuse.

In a study using the ecological framework, Campbell et al. (2009) examined the multisystemic factors that impact mental health outcomes among sexual assault survivors. The authors found the mental health outcomes of this population to be significantly affected by (a) individual level factors of sociodemographic and genetic factors; (b) assault characteristics; (c) microsystem level factors of informal support from family and friends; (d) meso/exo level factors of legal, medical, and rape crisis center assistance; (e) macro system factors associated with societal rape myths; and (f) chronosystem factors of revictimization and history of prior victimization).

Schensul (2009) presented the benefits of utilization of multilevel intervention strategies for intervention to support desired change, termed multilevel dynamic systems intervention science (MDSIS). Using the ecological framework, and therefore identifying and incorporating different levels of social influence (macro [policy and regulatory institutions], meso [organizations and agencies], and micro [individuals, families, and friends]), the author promoted the MDSIS approach suggesting that change toward a specific goal is more effectively accomplished when supported across the different levels of the social system. Accordingly, a MDSIS intervention is a community level intervention, involving the whole community in partnerships toward supporting the goal.

Summary

This literature review has provided clear evidence of the consequences of the practice of FGM, yet the perpetuation of the practices continues. Various levels of social and cultural influence are noted to affect the continued practice of FGM in geographic areas and cultural groups, such as the Igbo; however, understanding of the continued practice and consequences among women who reside beyond the geographic boundaries of strong social influence remains lacking. Review of the literature discussed in this chapter demonstrates a need for further research examining the prevalence of circumcised women and their perceived motivation to undergo FGM in the US and other countries in which FGM is not generally socially practiced.

The literature remains lacking in knowledge of the specific consequences to sexual health that this unique demographic faces as well as the unique social influences experienced by these individuals living outside their traditional, social contexts. The

findings of the research literature reviewed in Chapter 2 constitute a comprehensive outlook at FGM as a whole and its prevalence worldwide, in addition to the existing speculations on the physical, psychological, sexual and social impacts of FGM on the women who receive it and their motivations for doing so. Chapter 3 provides details on the methodology and chosen research design for the study to support an exploration of FGM practices in the United States and the variety of social influences impacting this practice in the United States through incorporation of the Ecological Framework toward addressing this research gap.

Chapter 3: Research Method

Introduction

The purpose of this study was to explore the prevalence and health effects of the cultural practice of FGM on women's sexual health among the Igbo women living in the United States. The study was designed to address three research questions with regard to (a) the prevalence of FGM among Ibo women in the DFW metropolitan area in Texas, (b) the identification of variables and combinations of variables at different ecological levels that contribute to FGM perpetuation, and (c) identification of the health consequences of FGM to this population of women. To achieve this goal, a quantitative study design was employed.

A quantitative methodology was appropriate for the purpose of this study, as the study was designed to quantitatively evaluate relationships between variables (social variables associated with the different ecological levels and prevalence of FGM) and to identify the health consequences and experiences of FGM among a population of Igbo women in DFW area of Texas. Study results revealed social and environmental factors that perpetuated the practice of FGM and revealed information and understanding of the experiences and health consequences of Igbo women who experienced FGM and lived in the United States. The results of the study may be generalizable to other similar ethnic populations in the United States, contributing a greater understanding of the social factors perpetuating FGM practice in the United States and other countries.

Qualitative research has a focus on the detail and depth of information received from a relatively small population, which provides a rich and detailed understanding,

whereas quantitative research provides the ability to form broad generalizations for a specific population (Patton, 2002). Incorporation of a quantitative method was appropriate for the study because the relationship between variables was examined. Quantitative research provides the researcher with the ability to compare variables with one another in order to determine whether there are relationships between the variables or differences attributed to the variables (Cozby, 2007). In contrast, qualitative research is the exploration of multiple meanings, socially, and historically constructed, of individual experiences in order to develop a theory or pattern (Creswell, 2007, 2009). With its focus on the importance of the participant's perspective and how it informs the personal meaning held by the participant (Creswell, 2009), the qualitative method was deemed not as appropriate as the quantitative method to address the goals of this study.

This study was designed to quantitatively explore the impact of FGM by understanding and generalizing the relationships between the variety of social variables within the different ecological levels and the prevalence and continuation of FGM practice and health consequences. Therefore, a quantitative method approach was appropriate for the study.

Population and Sampling

A sample was drawn from the Igbo women population living in the DFW metropolitan area of Texas, in the United States. The DFW metropolitan area has the largest Igbo (Nigerian) population in the nation (DFW International Community Alliance, 2014; Sanchez & Weiss-Amush, 2003). The population of the Igbos in DFW is about 30,000, and the female Igbo population numbers approximately 13,000. Most are

well educated, having fled Nigeria due to political instability (DFW International Community Alliance, 2014; Sanchez & Weiss-Amush, 2003). The educational level of the population is high with 93.3% having at least a high school education, and 62.2% having a bachelor's degree or higher (DFW International Community Alliance, 2014). The average family income level is \$74,766 annually (DFW International Community Alliance, 2014).

The research study incorporated a convenience sample of Igbo women living in the DFW area, who were recruited from several Nigeria Igbo community meetings in the DFW metropolitan area. Participants must have been at least 18 years of age to participate voluntarily in the study. Participants were asked to complete an anonymous survey, which included multiple choice and Likert scaled questions and responses. Sample size determination was based on a G*Power analysis (Faul, Erdfelder, Lang, & Buchner, 2007) of the proposed statistical tests.

Using a G*Power analysis, the two-tailed bivariate normal correlations required a sample of 138; a multiple regression *t* test produced a required sample size of 60. However, a conservative estimate for a multiple regression analysis sample size calculation estimated a necessary sample size of 15 participants for every predictor variable to obtain valid results (Hair, Black, Babin, Anderson, & Tatham, 2007), providing a suggested sample of 90 for six predictor variables including the demographic variables of age, income, and education level. Thus, to provide a valid result, a participant sample of at least 138 was sought.

Source of Data

Data were collected from a single survey instrument that was administered via an online survey tool, surveymonkey.com. The survey incorporated several demographic questions (Section 1), as well as questions related specifically to prevalence of FGM and social influences according to the ecological framework (Section 2). These questions comprising the second section of the survey were taken from the USAID Demographic and Health Survey, Female Genital Cutting Module (USAID, 2012). The third section of the survey was in the form of multiple choice questions designed by me as the researcher to support obtaining specific health consequences experienced and experiences of social influences according to the ecological framework (Section 3).

The USAID Demographic and Health Survey, including the Female Genital Cutting Module (USAID, 2012), which was incorporated into this survey, is a valid and reliable instrument that has been used in demographic and health survey research in countries around the globe. Between 1984 and 2011, over 250 nationally representative household-based surveys have been completed under the DHS program in 90 countries. The module is designed for women between the ages of 15 and 49 (USAID, 2012).

Variables

The variables of interest included a dependent variable of FGM prevalence, as well as independent variables of individual history of FGM (individual level), influence of husband, parents, sister, or cousin (microsystem level), physician, neighbors, community, friends, peers and colleagues, and books and media (exosystem), and culture and history, law, and social norms (macrosystem). In addition, demographic variables of

age, education, and socioeconomic status were gathered to account for variety of demographics.

Pilot Study

Pilot testing was conducted to ensure that the statements and questions used in the survey were clear and accurately asking what was intended to be asked. The pilot study was conducted after Institutional Review Board (IRB) approval. Pilot study participants were recruited from a single community association meeting. A small sample of five participants participated in the pilot study. The primary purpose of the pilot study was to support the reliability and validity of the survey, particularly as it pertained to the researcher-developed demographic, health consequences, and social influence questions. Participants in the pilot study were asked to take the survey. After completion of the survey, they were asked several additional questions with regard to the clarity of understanding and ease of execution of the survey questions. Adjustments to the survey were not necessary, based on the results of this pilot study. These data obtained from the pilot study participants were not included in the data for the primary study.

Data Collection

Data collection for the study was initiated only after IRB approval and after conducting the pilot study. Participants were recruited for the online survey from several Nigerian Igbo community association meetings in the DFW metropolitan area that were held on a weekly basis. At the meetings, flyers and information were passed out to potential participants (18 years of age and older) in attendance. The flyers had information on how to access the online survey. The survey was developed and

administered through the online survey tool, surveymonkey.com, allowing participants to remain anonymous.

Interested individuals logged onto the survey monkey website using the information provided on the flyer. They were directed to a consent form to read and review. Before providing electronic consent, participants were asked to confirm their age, gender, and ethnicity to ensure meeting the inclusion criteria of the study. After providing electronic consent, participants were directed to the survey instrument. No personal identifiable information was collected and the survey remained anonymous. It was expected that the survey would take approximately 20 to 30 minutes to complete. The survey data were stored during the data collection on the secure, encrypted, password-protected survey monkey site. Once the data collection phase was complete, I downloaded the database file containing the results for analysis.

Data Analysis

The quantitative survey data were analyzed using descriptive statistics, correlations, and multivariate, logistic regression. Descriptive statistics were used to report the incidence of FGM and the associated health effects of FGM found among this population. Using a variety of social ecological variables aligning with the ecological framework, the collected data were analyzed using correlation and multivariate analysis to reveal potential significant variables associated with incidence of FGM among the population of Igbo women in DFW, Texas, and the continuation of the practice to the next generation. In this dissertation, I used the ecological framework to explain the role of social and cultural variables on the practice of FGM in Igbo women in DFW area. The

data collected were used to calculate scores for microsystem, exosystem, and macrosystem variables to be used in a logistic regression toward identifying ecological social levels related to the incidence and continued practice of FGM. Individual variables within each level were also evaluated for correlation with FGM practice.

The logistic regression model was used to address the second research question, to evaluate the predictive relationship between various independent variables against a bivariate outcome variable of incidence (experienced FGM or not). The logistic regression allowed me to build and interpret a predictive model to better understand the relationships between the variables (Kutner, Nachtsheim, & Neter, 2004). The outcome variable representing incidence among the sample was binary (*yes/no*) in nature. The model was used three times for three different outcome variables (maternal FGM, second generation FGM [daughter], and future intention of FGM).

The logistic regression model was used to identify the relationship between the independent variables associated with the ecological social levels and the incidence of FGM and likely continuation of FGM. A hierarchical model was used to isolate the effects of demographic variables from that of the social variables. The outcome enabled the identification of variables that contribute significantly to the predictability of incidence of FGM and continuation of FGM practice among this sample population. The goal of logistic regression is to identify the best fitting model to describe the relationship between the dichotomous outcome variables (incidence of FGM, continuation of FGM, and future intent to continue FGM practice) and the set of defined independent

(predictor) variables. All statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS).

Protection of Human Subjects

Protection of human subjects is a key concern of a researcher. Participation in the study was completely voluntary and participants remained anonymous. Participants responded to a flyer posted at public Igbo community association meetings, calling for voluntary participation in the study. The flyer contained the study information and website address to visit if interested in taking the anonymous survey. Upon loading the web address, participants were asked questions pertaining to inclusion criteria and asked to review the consent form. After checking the consent box on the consent form, participants were directed to proceed to the survey instrument. Participants remained anonymous and the survey did not collect any personal identifiable information. Data were stored on the password-protected and encrypted site until the survey was closed and I downloaded the data to a password-protected personal computer.

All data, field notes, and related research materials were maintained in a locked cabinet with restricted access. The voluntary participants were informed that this was a dissertation research project. Data were collected anonymously and, therefore, no personal identifiable information was connected to the data collected and stored. The appropriate IRB approvals were obtained from Walden University prior to initiating the pilot study or the data collection.

Summary

This chapter contains a description of the quantitative methodology for the study. The sampling approach and sample size were presented along with details on the protections in place for the inclusion of human subjects in the research. In addition, the data collection and analysis procedures were outlined to support addressing the research questions of the study. In Chapter 4, I present the results of the data analysis.

Chapter 4: Results

The purpose of this study was to explore the prevalence and health effects of the cultural practice of FGM on women's sexual health among the Igbo women living in the United States. To achieve this goal, the study included a convenience sample of 139 Nigerian women living in Igbo areas in the DFW metropolitan area. This research will provide important information on current health effects of FGM in Igbo women from Nigeria living in the DFW area of Texas. Participants were asked to complete an anonymous survey, which included multiple choice demographic questions and Likert scaled questions and responses. Using a quantitative analysis approach, the primary objective of this study was to explore the practice of FGM, to identify its prevalence in the Igbo population in the DFW area, and to understand the effects of this cultural practice on the sexual health of the Igbo women of Nigeria living in the DFW metropolitan area.

Description of the Sample

The sample for this study included a total of 139 participants who represented women of Igbo ethnicity living in the DFW metropolitan area in Texas. Demographic data were collected on the sample to provide descriptive statistics of the sample population. These included the highest level of education achieved by the participants, the level of income per year for each participant, and the age of participants. The mean age of participants was 40.26 (SD = 9.88) years with a minimum of age of 19 years and a maximum age of 55 years. Table 1 provides the frequency statistics for the education and income variables.

Table 1

Frequency Statistics for Education Level and Income Level of Participants (n = 139)

Response Type	Response Percent	Response Count
Highest Education Level		
Did not finish High School	2.9%	4
High School Diploma or equivalent	0.7%	1
Some college	15.8%	22
Bachelor's Degree	42.4%	59
Master's Degree	28.8%	40
Doctoral (PhD) or Professional (JD, MD, etc.) Degree	9.4%	13
Income Level		
Less than \$25,000 per year	5.8%	8
\$25,000 - \$35,000 per year	12.2%	17
\$35,001 - \$50,000 per year	39.6%	55
\$50,001 - \$75,000 per year	28.8%	40
\$75,001 - \$100,000 per year	9.4%	13
> \$100,000 per year	4.3%	6

RQ1: How prevalent is FGM among the Igbo women in the DFW metropolitan area in Texas?

The first research question asked about the prevalence of FGM among the population of Igbo women in the DFW metropolitan area in Texas. To address this research question, descriptive statistics of the related survey responses are given. This information was collected in the survey instrument for maternal FGM incidence (experiences of participants), second generation FGM (experiences of participants'

daughters), and intent for FGM in future (intent to have daughter[s] undergo FGM in future).

Maternal FGM Prevalence in the Sample

Among the respondent population for this survey and included in this study ($n = 139$), a total of 133 had heard of female circumcision (95.7%) and nearly half of the sample, a total of 64 (46%), had themselves had their genitals cut. Table 2 provides the results.

Table 2

Prevalence and Knowledge of FGM (n = 139)

Response Type	Response Percent	Response Count
Heard of FGM/ female circumcision		
No	4.3%	6
Yes	95.7%	133
Have had genitals cut / experienced FGM		
No	54.0%	75
Yes	46.0%	64

Additional descriptive statistics were provided in terms of the type of FGM reported among the sample. Although some self-report inconsistencies were evident, of the respondents who had experienced FGM ($n = 64$), a total of 54 (84.4%) had flesh removed, 32 (50.8%) reported that the genital area was just nicked, and 31 (48.4%) reported having the genital area sewn closed. The full results are given in Table 3.

Table 3

Frequency of Type of FGM among Participants

Response Type	Response Percent	Response Count
Flesh Removed		
No	9.4%	6
Yes	84.4%	54
Don't know	6.3%	4
Total		64
Genital area just nicked		
No	33.3%	21
Yes	50.8%	32
Don't know	15.9%	10
Total		63
Genital area sewn closed		
Yes	48.4%	31
No	37.5%	24
Don't know	14.1%	9
Total		64

Of the reported incidence of FGM among the sample, the participants were asked who performed the FGM. This question was answered by all 64 participants who had indicated experience of FGM. A total of 43.8% were done by a traditional circumcisor, 29.7% by a traditional birth attendant, and only 10.9% by a professional doctor, and 6.3% by a professional trained nurse or midwife. Table 4 illustrates these results.

Table 4

Reported Person who Performed FGM on Participant (n = 64)

Response Type	Response Percent	Response Count
Traditional Circumcisor	43.8%	28
Traditional birth attendant	29.7%	19
Professional doctor	10.9%	7
Professional trained nurse or midwife	6.3%	4
Don't know	7.8%	5
Other traditional or other professional (please specify)	1.6%	1

Second Generation FGM Prevalence

Participants who had daughters were asked if their daughters have had FGM. Results indicated that among the 68 participants who reportedly had daughters in the sample, 67 responded to the question, and 21 daughters were reported to have experienced FGM. Table 5 illustrates these results for second generation FGM among this sample.

Table 5

Prevalence of Second Generation FGM among the Sample

Response Type	Response Percent	Response Count
No	67.6%	46
Yes	33.3%	23

The type of FGM reported among the second generation included that nearly 70% had flesh removed, 50% reported just being nicked, and 52% reported having their genital area sewn closed. Table 6 illustrates these results.

Table 6

Frequency of Type of FGM among Second Generation

Response Type	Response Percent	Response Count
Flesh Removed		
No	26.1%	6
Yes	69.6%	16
Don't know	4.3%	1
Total Responses		23
Genital area just nicked		
No	40.9%	9
Yes	50.0%	11
Don't know	9.1%	2
Total Responses		22
Genital area sewn closed		
Yes	43.5%	10
No	52.2%	12
Don't know	4.3%	1
Total Responses		23

Of the reported incidence of FGM among the second generation sample, the participants were asked who performed the FGM. This question was answered by all 23 participants who had indicated second generational experience of FGM. A total of 17.4% were done by a traditional circumcisor, 43.5% by a traditional birth attendant, 17.4% by a professional doctor, and 21.7% by a professional trained nurse or midwife. Table 7 illustrates these results.

Table 7

Reported Person who Performed FGM on Participant (n = 23)

Response Type	Response Percent	Response Count
Traditional Circumcisor	17.4%	4
Traditional birth attendant	43.5%	10
Professional doctor	17.4%	4
Professional trained nurse or midwife	21.7%	5
Don't know	0.0%	0
Other traditional or other professional (please specify)	0.0%	0

Intent of Future FGM

Finally, in addressing the first research question, the participants who reportedly had daughters ($n = 68$) were asked if they intended to have FGM done to any of their daughters in the future. Among the sample, a total of 25% reported that they had such intention for FGM and 75% denied the intention for future FGM. Table 8 provides these results.

Table 8

Prevalence of Future Intention of Second Generation FGM among the Sample (n = 68)

Response Type	Response Percent	Response Count
No	75.0%	51
Yes	25.0%	17

To further understand the intention for FGM, participants were asked if they believed the practice of FGM is required by their religion, whether the practice should be continued or discontinued, and whether they believed men want this practice to be

continued or discontinued. The frequency statistics are given in Table 9, highlighting that nearly half of the responding participants felt the practice is required by their religion, but that over 65% felt the practice should be discontinued, and 44% felt that men believe the practice should be discontinued.

Table 9

Beliefs of Continuation of the Practice of FGM

Response Type	Response Percent	Response Count
Practice required by religion		
No	42.6%	55
Yes	46.5%	60
Don't know	10.9%	14
Total Responses		129
Believe practice should be continued/discontinued		
Continued	18.1%	25
Discontinued	65.2%	90
Depends	14.5%	20
Don't know	2.2%	3
Total Responses		138
Believe men want the practice to be continued/discontinued		
Continued	35.0%	48
Discontinued	43.8%	60
Depends	9.5%	13
Don't know	11.7%	16
Total Responses		137

Summary of Results for Research Question 1

Prevalence of FGM among the sample was examined in the form of maternal FGM incidence (experiences of participants), second generation FGM (experiences of participants' daughters), and intent for FGM in future (intent to have daughter(s) undergo FGM in future). In terms of knowledge and incidence of FGM among the sample, a total of 133 of the 139 participants had heard of female circumcision (95.7%) and nearly half of the sample, a total of 64 (46%), had themselves experienced FGM. Of the respondents who had experienced FGM (n = 64), a total of 54 (84.4%) had flesh removed, 32 (50.8%) reported that the genital area was just nicked, and 31 (48.4%) reported having the genital area sewn closed. Among the maternal FGM sample, there was a prevalence of the use of a traditional circumcisor (43.8%) or a traditional birth attendant (29.7%), with only 10.9% by a professional doctor, and 6.3% by a professional trained nurse or midwife.

In contrast, among second generation reports of FGM, with an incidence of 31.3%, there was a lower frequency of the use of the traditional circumcisor (17.4%), but a higher incidence of use of a traditional birth attendant (43.5%) and professional doctor (17.4%) or professional trained nurse or midwife (21.7%). The type of FGM reported among the second generation included that nearly 70% had flesh removed, 50% reported just being nicked, and 52% reported having their genital area sewn closed.

In terms of future intention for FGM, among the sample, a total of 25% reported that they had such intention for FGM and 75% denied the intention for future FGM. To further understand the intention for FGM, participants were asked if they believed the practice of FGM is required by their religion, whether the practice should be continued or

discontinued, and whether they believed men want this practice to be continued or discontinued. The frequency statistics supported that nearly half of the responding participants felt the practice is required by their religion, but that over 65% felt the practice should be discontinued, and 44% felt that men believe the practice should be discontinued.

RQ2: What are the consequences of FGM to women's sexual health?

The second research question asked about the consequences of FGM to women's sexual health. This question was addressed using descriptive statistics related to the participant survey responses indicating complications reported by participants after their daughter's FGM, the perceived benefits to girls who undergo FGM, the perceived benefits to girls who do not undergo FGM, and whether or not the participant believed FGM is a means of preventing a girl from having sex before marriage. The responses to these survey questions highlight issues related to women's sexual health.

For the first of these questions, related to complications reported from the FGM of the second generation (participant daughters), only the participants who had daughters who had experienced FGM could respond. However, this was the most relevant question to this research question, indicating complications reported after FGM. The question was answered by a total of 23 participants. A total of 20 participants reported swelling in the genital area (87%), 16 reported difficulty passing urine (70%), 15 reported excessive bleeding (65%), and 9 reported infection or a wound that did not heal properly (39%). Only 2 participants reported no complications (8.7%). Table 10 provides these results.

Table 10

Reported Complications of Daughter's FGM (n = 23)

Response Type	Response Percent	Response Count
No	8.7%	2
Yes, swelling in the genital area	87.0%	20
Yes, difficulty passing urine or urine retention	69.6%	16
Yes, Excessive bleeding	65.2%	15
Yes, infection or wound that did not heal properly	39.1%	9

The second survey response related to perceptions of women's health among the survey population was the question as to the perceived benefits of FGM to girls themselves. In responding to this question, participants provided insight into their perceptions of benefits of FGM to sexual health. That is, rather than actual demonstrated benefits, these responses represent the participant perceptions only. A total of 138 participants responded to the question. Table 11 provides the results, highlighting that 46.4% felt the girls receive no benefits from FGM, 36% felt the girls receive social acceptance as a benefit, and 35% believed the girls have better marriage prospects.

Table 11

Perceived Benefits for Girls with FGM (n = 138)

Response Type	Response Percent	Response Count
No benefits	46.4%	64
Social acceptance	37.0%	51
Better marriage prospects	34.8%	48
Preserve virginity/ prevent premarital sex	29.0%	40
Religious approval	26.1%	36
Cleanliness/hygiene	21.0%	29
More sexual pleasure for the man	18.1%	25
Other (please specify)	4.3%	6

The third survey response related to perceptions of women's health among the survey population was the question as to the perceived benefits related to *not* having FGM. As with the last question, the responses indicate participant perceptions of benefits and not actual, demonstrated benefits. Table 12 illustrates the results, highlighting perceived benefits of fewer medical problems (38%), more sexual pleasure for her (38%), and avoidance of pain (34%). A total of 44 participants out of 137 who responded to this question felt there were no benefits to not having FGM.

Table 12

Perceived Benefits for Girls Not Having FGM (n = 137)

Response Type	Response Percent	Response Count
Fewer medical problems	38.0%	52
Avoiding pain	33.6%	46
More sexual pleasure for her	38.0%	52
More sexual pleasure for the man	26.3%	36
Follows religion	16.8%	23
No benefits	32.1%	44
Other (please specify)	6.6%	9

The final question related to perceptions of effects on women's sexual health asked participants for their beliefs with regard to FGM as a means of preventing premarital sex or having no effect on premarital sex. A total of 131 participants responded to the question with 65% believing that FGM has no effect on premarital sex. Table 13 illustrates these results.

Table 13

Perceptions of FGM as a Prevention of Premarital Sex or No Effect (n = 131)

Response Type	Response Percent	Response Count
Prevent sex	27.5%	36
No effect	64.9%	85
Don't know	7.6%	10

Summary of Research Question 2 Results

Reported complications for second generation FGM among a total of 23 respondents included 20 participants who reported swelling in the genital area (87%), 16 who reported difficulty passing urine (70%), 15 who reported excessive bleeding (65%), 9 who reported infection or a wound that did not heal properly (39%), and only 2 who reported no complications (8.7%). These findings indicate high percentages of reported and dangerous complications to women's sexual health given the practice of FGM.

Although nearly half the participants reported no perceived benefits of FGM, perceptions of benefits among the sample included social acceptance (37%), better marriage prospects (35%), preservation of virginity/prevention of premarital sex (29%), religious approval (26%), cleanliness/hygiene (21%), and greater sexual pleasure for the man (18%). It is noted that most of these perceived benefits relate to social concerns, rather than women's sexual health. In terms of benefits of not undergoing FGM, participants reported perceptions of fewer medical problems (38%), more sexual pleasure for her (38%), avoidance of pain (34%), and more sexual pleasure for the man (26%). The perceived benefits of not undergoing FGM do support women's sexual health.

RQ3: What variable and/or combination of variables at various ecological levels contribute to continued FGM perpetuation?

To address the third research question, combinations of descriptive and inferential statistics were used. Descriptive statistics were used to demonstrate participant responses rating the perceived social influence on a scale of 0 (Does not influence my opinion of

FGM at all) to 5 (Very strongly influences my opinion of FGM). Table 14 provides the results.

Table 14

Participant Ratings of Individual, Organizational, Community, Cultural, and Religious Influences on Beliefs Regarding FGM

Answer Options	Does not influence my opinion of FGM at all	Slightly influences my opinion of FGM	Somewhat influences my opinion of FGM	Moderately influences my opinion of FGM	Strongly influence s my opinion of FGM	Very strongly influences my opinion of FGM	Rating Average
Husbands	34	42	19	7	11	24	1.93
Parents	17	40	14	14	19	31	2.53
Siblings	18	37	13	17	21	28	2.52
Cousins	20	33	13	19	23	27	2.54
Peers	18	34	15	18	19	31	2.59
Neighbors	20	31	17	21	18	29	2.54
Friends	14	33	18	22	16	30	2.62
Colleagues	17	29	19	23	15	31	2.62
Physician or healthcare provider	23	35	17	18	15	25	2.32
Community	17	28	16	23	18	31	2.68
Books, media	19	38	17	21	17	23	2.36
Religion	10	14	21	25	25	40	3.19
Culture	11	13	22	24	27	39	3.18
History / Social Norms	15	40	20	19	17	23	2.39

To examine the social influences on the three different outcomes, whether the participants in this study experienced FGM personally (maternal FGM), whether their daughters (if any) had experienced FGM (second generation FGM), and whether there

was intent to experience future daughters to FGM (future intention of FGM), binary logistic regression was conducted, entering variables in a hierarchical fashion to control for the demographic variables of age, income, and education level. Predictor variables were combined to create variables of micro-level influences, exo-level influences, and macro-level influences. The micro-level influence variable was generated as a sum of the rating scores for husbands, parents, siblings, and cousins. The exo-level influence variable was generated as a sum of the rating scores for peers, neighbors, colleagues, friends, health care providers, community, and books and media. Lastly, the macro-level influence was calculated as a sum of ratings for history/social norms, culture, and religion.

Outliers were defined as cases that have a studentized residual of ± 2.0 or larger. The data were screened for outliers with none detected that would affect the classification accuracy of the results by greater than 2%. In addition, multicollinearity in logistic regression is detected by examining the standard errors for the b coefficients such that a standard error larger than 2.0 would indicate an issue with multicollinearity between independent variables. For the first two logistic regression analyses (Maternal FGM outcome and Second generation FGM outcome), because none of the standard errors for the independent variables were greater than 2 in the logistic regressions, there was no evidence of multicollinearity. However, in the third logistic regression (Future intention for FGM), multicollinearity was evident in the individual level variable (maternal prevalence of FGM) and therefore, this variable was not included in the analysis for the third regression.

Binary Logistic Regression using Outcome Variable of Maternal FGM

The first logistic regression used the outcome variable defined as maternal FGM, which represented the prevalence of the participants having experienced FGM personally. A hierarchical binary logistic regression was used, entering the variables in two blocks to control for the demographic variables of age, education level, and income level. In the hierarchical logistic regression, data were examined to identify a relationship between the dependent variable and combination of independent variables entered after the control variables have been taken into account, which is based on the statistical significance of the block chi-square for the second block of variables in which the predictor independent variables were included (see Table 15).

Table 15

Omnibus Test of Model Coefficients for Maternal FGM

		Chi-square	df	Sig.
Step 1	Step	5.722	3	.126
	Block	5.722	3	.126
	Model	24.776	6	.000

In this analysis, the probability of the block chi-square was less than or equal to the alpha of 0.05 ($\chi^2(3, N = 115) = 5.722, p < .126$). The null hypothesis that there is no difference between the model with only the control variables versus the model with the predictor independent variables was not rejected and significance of the model was therefore based on the significance of block 1 variables (control variables). The results for individual relationships with the dependent variable were then examined.

Among the control variables of education level, income level, and age, only the age variable demonstrated a significant impact on the model. The probability of the Wald statistic for the control independent variable of age ($\chi^2(1, N = 115) = 13.36, p = .000$) was greater than the level of significance of .05. The null hypothesis that the b coefficient for the age variable was equal to zero was rejected. Age demonstrated a significant impact on the odds that survey respondents had experienced FGM. From the value of $\text{Exp}(B)$, the analysis supports the relationship that 'For each unit increase in age, survey respondents were 1.103 times as likely to have experienced FGM. However, the probability of the Wald statistic values for the remaining control independent variables of education ($\chi^2(1, N = 115) = 2.091, p = .148$) and income ($\chi^2(1, N = 115) = 2.239, p = .135$) were not greater than the level of significance of .05. The null hypothesis that the b coefficient for education and income was equal to zero was not rejected. Therefore, the variables of education level and income level did not demonstrate a significant impact on the odds that survey respondents had experienced FGM.

Among the predictor variables of micro, exo, and macro level influences, none of the variables demonstrated significant predictability in the model. The probability of the Wald statistic for the predictor independent variables of micro-level influence ($\chi^2(1, N = 115) = .685, p = .408$), exo-level influence ($\chi^2(1, N = 115) = .351, p = .553$), and macro-level influence ($\chi^2(1, N = 115) = .1254, p = .263$), were not greater than the level of significance of .05. The null hypothesis that the b coefficient for micro, exo, and macro level influencers was equal to zero was not rejected, suggesting that micro, exo, and

macro level influencers did not have a significant impact on the odds that survey respondents had experienced FGM.

Table 16 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors. Employing a .05 criterion of statistical significance, the age variable was the only variable demonstrating a significant effect. The odds ratio for age indicates that when holding all other variables constant, for each unit increase in age, the participant is 1.1 times more likely to have experienced FGM.

Table 16

Logistic Regression Predicting Maternal FGM

Predictor	B	Wald χ^2	p	Odds Ratio
Age	.098	13.36	.000	1.103
Education level	-.456	2.091	.148	.634
Income level	.440	2.239	.135	1.553
Micro Influences	.062	.685	.408	1.064
Exo Influences	-.033	.351	.553	.967
Macro Influences	.112	1.254	.263	1.118

From the classification table, it is noted that the overall success rate of prediction increased from 52.2% in block 0 (no predictors entered) to 68.7% in block 1 (adding the control variables) to 63.5% in block 2 (adding the predictor variables), further supporting the significance of age as a predictor and supporting the significance of the model.

Binary Logistic Regression using Outcome Variable of Second Generation FGM

The second logistic regression used the outcome variable defined as second generation FGM, which represented the prevalence of FGM among the daughters of the

participants. The sample size for this analysis was reduced to a total of 54 participants who had at least one daughter. Again, a hierarchical binary logistic regression was used, entering the variables in two blocks to control for the demographic variables of age, education level, and income level. For this analysis, maternal FGM was added as an individual predictor to the micro-level influence, exo-level influence, and macro-level influence predictor variables. To support the use of the hierarchical logistic regression, data were examined to identify a relationship between the dependent variable and combination of independent variables entered after the control variables have been taken into account, based on the statistical significance of the block chi-square for the second block of variables in which the predictor independent variables were included (see Table 17).

Table 17

Omnibus Test of Model Coefficients for Second Generation FGM

		Chi-square	df	Sig.
Step 1	Step	13.251	4	.010
	Block	13.251	4	.010
	Model	15.577	7	.029

In this analysis, the probability of the block chi-square was less than or equal to the alpha of 0.05 ($\chi^2(4, N = 54) = 13.251, p = .01$). The null hypothesis that there is no difference between the model with only the control variables versus the model with the predictor independent variables was rejected with the significance of the model. The existence of the hierarchical relationship between the predictor independent variables and the dependent variable was supported. Having satisfied the criteria for the hierarchical

relationship, the results for individual relationships with the dependent variable were examined.

Among the control variables of education level, income level, and age, none of the variables demonstrated a significant impact on the model. The probability of the Wald statistic values for the control independent variables of age ($\chi^2(1, N = 54) = 1.34, p = .247$), education ($\chi^2(1, N = 54) = .016, p = .901$), and income ($\chi^2(1, N = 54) = .000, p = .986$) were not greater than the level of significance of .05. The null hypothesis that the b coefficient for age, education, and income was equal to zero was not rejected. Therefore, the control variables did not demonstrate a significant impact on the odds of second generation FGM reported among the survey respondents.

Similarly, among the predictor variables of individual, micro, exo, and macro level influences, none of the variables demonstrated significant predictability in the model. The probability of the Wald statistic for the predictor independent variables of individual (personally having experienced FGM) ($\chi^2(1, N = 54) = 2.677, p = .102$), micro-level influence ($\chi^2(1, N = 54) = 1.543, p = .214$), exo-level influence ($\chi^2(1, N = 54) = 1.999, p = .157$), and macro-level influence ($\chi^2(1, N = 54) = .379, p = .538$), were not greater than the level of significance of .05. The null hypothesis that the b coefficient for micro, exo, and macro level influencers was equal to zero was not rejected, suggesting that individual, micro, exo, and macro level influencers did not have a significant impact on the odds that survey respondents reported second generation FGM. Table 18 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors. Employing a .05 criterion of statistical significance, none of the predictor variables

demonstrated a significant effect, despite the significance of the model ($p = .029$). This may have been the result of the small sample size for this group in which the participants reported on their daughters experiences and therefore, must have had at least one daughter.

Table 18

Logistic Regression Predicting Maternal FGM

Predictor	B	Wald χ^2	p	Odds Ratio
Age	.058	1.340	.247	1.060
Education level	-.064	.016	.901	.938
Income level	-.009	.000	.986	.991
Individual influence	1.454	2.677	.102	4.281
Micro Influences	-.173	1.543	.214	.841
Exo Influences	.136	1.999	.157	1.146
Macro Influences	.103	.379	.538	1.109

From the classification table, it is noted that the overall success rate of prediction increased from 68.5% in block 0 (no predictors entered) to 72.2% in block 1 (adding the control variables) to 74.1% in block 2 (adding the predictor variables), supporting the hierarchical progression and the significance of the model ($p = .029$).

Binary Logistic Regression using Outcome Variable of Future Intention of FGM

The third logistic regression used the outcome variable defined as further intention of FGM, which represented the prevalence of the response of participants that they intend to have FGM done in the future to their daughter(s). The sample size for this analysis was again reduced to a total of 54 participants. The hierarchical binary logistic regression was used, entering the variables in two blocks to control for the demographic

variables. Predictor variables included micro-level influence, exo-level influence, and macro-level influences, but did not include maternal FGM (individual level influence) due to issues of multicollinearity. As with the previous analyses, to support the use of the hierarchical logistic regression, data were examined to identify a relationship between the dependent variable and combination of independent variables entered after the control variables have been taken into account, based on the statistical significance of the block chi-square for the second block of variables in which the predictor independent variables were included (see Table 19).

Table 19

Omnibus Test of Model Coefficients for Second Generation FGM

		Chi-square	df	Sig.
Step 1	Step	14.071	3	.003
	Block	14.071	3	.003
	Model	19.921	6	.003

In this analysis, the probability of the block chi-square was less than or equal to the alpha of 0.05 ($\chi^2(3, N = 54) = 14.071, p = .003$). The null hypothesis that there is no difference between the model with only the control variables versus the model with the predictor independent variables was rejected with the significance of the model ($p = .003$). The existence of the hierarchical relationship between the predictor independent variables and the dependent variable was supported. Having satisfied the criteria for the hierarchical relationship, the results for individual relationships with the dependent variable were examined.

Among the control variables of education level, income level, and age, none of the variables demonstrated a significant impact on the model. The probability of the Wald statistic values for the control independent variables of age ($\chi^2(1, N = 54) = .975, p = .324$), education ($\chi^2(1, N = 54) = .688, p = .407$), and income ($\chi^2(1, N = 54) = .212, p = .645$) were not greater than the level of significance of .05. The null hypothesis that the b coefficient for age, education, and income was equal to zero was not rejected. Therefore, the control variables did not demonstrate a significant impact on the odds of second generation FGM reported among the survey respondents.

Among the predictor variables of micro, exo, and macro level influences, both exo-level and micro-level influences demonstrated a significant impact on the model ($p < .05$). The probability of the Wald statistic for the predictor independent variables of exo-level influence ($\chi^2(1, N = 54) = 5.944, p = .015$) and micro-level influence ($\chi^2(1, N = 54) = 4.947, p = .026$) were significant, rejecting the null hypothesis that the b coefficient for the exo-level and micro-level influence variables were equal to zero. Thus, the exo-level influence variable and the micro-level influence variable demonstrated a significant impact on the odds that survey respondents reported future intention for FGM. From the value of $\text{Exp}(B)$, the analysis supports the relationship that 'For each unit increase in exo-level influence score, survey respondents were 22.419 times as likely to report future intention for FGM and for each unit increase in micro-level influence score, survey respondents were .107 times as likely to report future intention for FGM.

The probability of the Wald statistic for the predictor independent variable of macro-level influence ($\chi^2(1, N = 54) = .551, p = .458$) was not greater than the level of

significance of .05. Thus, the null hypothesis that the b coefficient for individual and macro level influencers was equal to zero was not rejected, suggesting that macro level influences did not have a significant impact on the odds that survey respondents had intentions for future FGM.

Table 20 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors. Employing a .05 criterion of statistical significance, the micro- and exo-level influence variables were the only variables demonstrating significant effects. The odds ratio for the exo-level influence variable indicates that when holding all other variables constant, for each unit increase in exo-level score, the participant is 22.4 times more likely to report future intention for FGM. The odds ratio for the micro-level influence variable indicates that when holding all other variables constant, for each unit increase in micro-level score, the participant is .107 times more likely to report future intention for FGM.

Table 20

Logistic Regression Predicting Maternal FGM

Predictor	B	Wald χ^2	p	Odds Ratio
Age	.053	.975	.324	1.054
Education level	-.463	.688	.407	.629
Income level	-.269	.212	.645	.764
Micro Influences	-2.234	4.947	.026	.107
Exo Influences	3.110	5.944	.015	22.419
Macro Influences	-.467	.551	.458	.627

From the classification table, it is noted that the overall success rate of prediction increased from 74.1% in block 0 (no predictors entered) to 75.9% in block 2 (adding both the control and the predictor variables), further supporting the significance of the micro- and exo-level influence variables as a predictors and supporting the significance of the model ($p < .005$).

Summary of Binary Logistic Regressions

In summary, a total of three binary logistic regressions were conducted. A binary logistic regression analysis was employed to predict the probability prevalence of maternal FGM (that a participant had experienced FGM) based on demographic and social variables. The predictor variables included the demographic variables of age, education, and income, and social influence variables of micro-level influences, exo-level influences, and macro-level influences. A test of the full model versus a model with intercept only was statistically significant, $\chi^2(6, N = 115) = 24.77, p < .001$. The model was able correctly to classify 62% of those who had experienced FGM and 65% of those who did not, for an overall success rate of 63.5%. However, it is noted that due to the significant effect of the demographic variable of age, the model based on inclusion of the control variables only demonstrated higher predictability, correctly classifying 74.5% of those who had experienced FGM and 63.3% who had not, for an overall success rate of 68.7%. However, the age variable was the only variable demonstrating a significant effect. The odds ratio for age indicates that when holding all other variables constant, for each unit increase in age, the participant is 1.1 times more likely to have experienced FGM.

A second binary logistic regression analysis was also employed to predict the probability prevalence of second generation FGM (that a participant reported a daughter's FGM) based on demographic and social variables. Using the same control demographic variables of age, education, and income, and adding social influence variables of individual-level influence (maternal FGM), micro-level influences, exo-level influences, and macro-level influences. A test of the full model versus a model with intercept only was statistically significant, $\chi^2(7, N = 54) = 15.577, p = .029$. The model was able correctly to classify 47.1% of those who had reported their daughter's experience of FGM and 86.5% of those who did not, for an overall success rate of 74.1%. However, no significant effects of the predictor or control variables were noted, despite model significance. This may have been the result of the reduced sample size in which participants had to have reported having a daughter.

A third binary logistic regression analysis was employed to predict the probability prevalence of future intention for FGM (that a participant reported the intention for FGM for their daughter in the future) based on demographic and social variables. The predictor variables included the same demographic variables of age, education, and income, and social influence variables of micro-level influences, exo-level influences, and macro-level influences, but did not include maternal FGM (individual-level influence) due to issue of multicollinearity. A test of the full model versus a model with intercept only was statistically significant, $\chi^2(6, N = 54) = 19.921, p = .003$. The model was able correctly to classify 42.9% of those who had reported intention for future FGM and 87.5% of those who did not, for an overall success rate of 75.9%. Significant effects were noted for the

social predictor variables of micro-level and exo-level influences. The odds ratio for the exo-level influence indicated that when holding all other variables constant, for each unit increase in exo-level score, the participant was 22.42 times more likely to have future intention for FGM and for each unit increase in micro-level score, the participant was .107 times more likely to have future intention for FGM. Micro level influences included husband, parents, siblings, and cousins; exo-level influences included peers, neighbors, colleagues, friends, health care providers, community, and books and media; and macro-level influencers included historical/social norms, culture, and religion.

Summary

The purpose of this study was to explore the prevalence and health effects of the cultural practice of FGM on women's sexual health among the Igbo women living in the United States. Data were obtained from a convenience sample of 139 Nigerian women living in Igbo areas in the DFW metropolitan area who were asked to complete an anonymous survey. The analysis used a quantitative approach, which included the use of descriptive statistics and binary logistic regression analysis to answer the research questions of the study.

The results for the first research question revealed a prevalence of FGM among the sample in terms of maternal FGM incidence, second generation FGM, and intent for FGM in future. Incidence of maternal FGM among the sample was 46%, with 84.4% having had flesh removed, 50.8% reporting that the genital area was just nicked, and 48.4% reporting having the genital area sewn closed. Among the maternal FGM sample, there was a prevalence of the use of a traditional circumcisor (43.8%) or a traditional

birth attendant (29.7%), with only 10.9% by a professional doctor, and 6.3% by a professional trained nurse or midwife. Second generation incidence of FGM was 31.3%, with a lower frequency of the use of the traditional circumcisor (17.4%), but a higher incidence of use of a traditional birth attendant (43.5%) and professional doctor (17.4%) or professional trained nurse or midwife (21.7%). The type of FGM reported among the second generation included that nearly 70% had flesh removed, 50% reported just being nicked, and 52% reported having their genital area sewn closed. In terms of future intention for FGM, among the sample, a total of 25% reported that they had such intention for FGM and 75% denied the intention for future FGM. Frequency statistics supported that nearly half of the responding participants felt the practice is required by their religion, but that over 65% felt the practice should be discontinued, and 44% felt that men believe the practice should be discontinued.

Results for the second research question indicated complications for second generation FGM that included swelling in the genital area (87%), difficulty passing urine (70%), excessive bleeding (65%), and infection or a wound that did not heal properly (39%), supporting high incidence dangerous complications to women's sexual health given the practice of FGM. Although nearly half the participants reported no perceived benefits of FGM, perceptions of benefits among the sample included social acceptance (37%), better marriage prospects (35%), preservation of virginity/prevention of premarital sex (29%), religious approval (26%), cleanliness/hygiene (21%), and greater sexual pleasure for the man (18%). Reported perceptions of benefits of not undergoing FGM included fewer medical problems (38%), more sexual pleasure for her (38%),

avoidance of pain (34%), and more sexual pleasure for the man (26%). The perceived benefits of not undergoing FGM supported women's sexual health.

Addressing the third research question, a total of three binary logistic regressions were employed to predict the probability prevalence of maternal FGM, second generation FGM, and future intent for FGM based on demographic and social variables. The predictor variables included the demographic variables of age, education, and income, and social influence variables of micro-level influences, exo-level influences, and macro-level influences. All three models demonstrated statistical significance. The model for maternal FGM was significantly affected by the demographic variable of age, which demonstrated an odds ratio of 1.1. The model for second generation FGM, although significant, did not suggest significance effects of any specific predictor variable in the analysis. The model for future intention of FGM was significant and demonstrated significant effects of the social predictor variables of micro-level and exo-level influences, with odds ratios of 22.42 for the exo-level influence and .107 for the micro-level influences. Micro level influences included husband, parents, siblings, and cousins; exo-level influences included peers, neighbors, colleagues, friends, health care providers, community, and books and media; and macro-level influencers included historical/social norms, culture, and religion.

Chapter 5: Discussion, Conclusions, and Recommendations

FGM occurs across the globe, with different forms being practiced primarily in many African countries as well as some in Asia and the Arab Peninsula; however, it also takes place in Europe, Australia, and North America among those who migrate from countries to which it is indigenous (Dorkenoo & Elworthy, 1992; Hosken, 1993; Toubia, 1993), with a particularly high rate of female circumcision in Nigeria (over 50% of Nigerian women have been estimated to have been circumcised [IAC Nigeria, 1997]). FGM carries serious physical and psychological consequences that extend both to and beyond sexual health (Nnorom Chinyere, 2003). Although the global community has made a concerted effort to condemn circumcision, countries such as Nigeria have sustained the practice and routinely subject girls and women to the procedure across many different religions and cultures (WHO, 2010).

This study was designed to investigate the prevalence of FGM among the Igbo women in the DFW area in Texas and to understand the factors that support the continuation of the practice and the effects on women's sexual health of the Igbo women of Nigeria living in the DFW metropolitan area. To accomplish this purpose, a convenience sample of 139 Nigerian women living in Igbo areas in the DFW metropolitan area, who were between 21 to 55 years old, were asked to complete an anonymous survey. Using a quantitative analysis approach, to examine a variety of social ecological variables aligning with the ecological framework, the collected data were analyzed using a multivariate analysis to reveal significant variables associated with prevalence of FGM among the population of Igbo women in DFW, Texas, and the

associated health effects of FGM found among this population. Thus, the findings of this research, through use of the ecological framework to explain the role of social and cultural variables on the practice of FGM among this population, provides important information on current health effects of FGM in Igbo women from Nigeria living in the DFW area of Texas.

Results of the study demonstrated maternal FGM prevalence among the sample population of 46%, with second generation incidence at 31.3% and future intention for FGM at 25%. Nearly half of the responding participants felt the practice is required by their religion, but over 65% felt the practice should be discontinued, and 44% felt that men believe the practice should be discontinued as well. In terms of the associated health effects of FGM, results supported a high incidence of dangerous complications to women's sexual health with the continued practice of FGM among this population. Reported complications included swelling in the genital area (87%), difficulty passing urine (70%), excessive bleeding (65%), and infection or a wound that did not heal properly (39%). Nearly half the participants reported no perceived benefits of FGM; however, among those who reported benefits, these included perceptions of social acceptance (37%), better marriage prospects (35%), preservation of virginity/prevention of premarital sex (29%), religious approval (26%), cleanliness/hygiene (21%), and greater sexual pleasure for the man (18%). In contrast, reported perceptions of benefits of not undergoing FGM included fewer medical problems (38%), more sexual pleasure for her (38%), avoidance of pain (34%), and more sexual pleasure for the man (26%). Finally, through binary logistic regression, results indicated significant social effects

associated with future intention for FGM among the population of micro- and exo-level influences, which included husband, parents, siblings, and cousins (micro) and peers, neighbors, colleagues, friends, health care providers, community, and books and media (exo).

In this final chapter, I offer an interpretation of the results of the study, explained and discussed in relation to the research questions of the study and the previous literature. The implications of the findings and recommendations for action are also discussed. Recommendations based on the findings support social change through increased awareness and a possible reduction or elimination of FGM among this high-risk population. Recommendations can serve to support or influence policies relating to prevention. Finally, recommendations for future research are discussed to support continued advancement of knowledge and understanding toward achieving continued positive social change.

Interpretation of the Findings

The results of the analysis of data resulting from responses of the sample of Nigerian women living in Igbo areas in the DFW metropolitan area provide insight into the effect of the different ecological influences on prevalence and future intention of FGM in this population. Results are discussed according to the associated research question of the study and related back to the existing literature on the topic.

Research Question 1

The first research question was as follows: How prevalent is FGM among the Igbo women in the DFW metropolitan area in Texas? The results of the study revealed a

prevalence of FGM among the sample in terms of maternal FGM incidence, second generation FGM, and intent for FGM in future. Incidence of maternal FGM among the sample was 46%. Of those who had reported personally experiencing FGM (maternal FGM), 84.4% reported having had flesh removed, 50.8% reported that the genital area was just nicked, and 48.4% reported having the genital area sewn closed. Among the maternal FGM sample, there was a prevalence of the use of a traditional circumcisor (43.8%) or a traditional birth attendant (29.7%), with only 10.9% being circumcised by a professional doctor and 6.3% by a professional trained nurse or midwife.

Second generation incidence of FGM was 31.3%. In terms of the type of FGM reported among the second generation, nearly 70% had flesh removed, 50% reported just being nicked, and 52% reported having their genital area sewn closed. Second generation FGM demonstrated a lower frequency of the use of the traditional circumciser (17.4%), but a higher incidence of use of a traditional birth attendant (43.5%) and professional doctor (17.4%) or professional trained nurse or midwife (21.7%). This reduction in the use of the traditional circumciser or traditional birth attendant toward the use of a professional doctor or nurse/midwife among the second generation FGM is noted as possibly related to decreased social pressures from living in Western geographic location as opposed to a more traditional setting. Prior researchers discussed the importance of the role of the local traditional circumcisors, who demonstrate influential social status in the community (Ali, 2012; Yoder & Khan, 2007), creating social pressure to comply with traditions (Ali, 2012). Because the process is described as a coming of age and signifies a departure from childhood and the woman's debut as an adult, including the social payoff

that this entails (Mackie, 1996; Moges, 2009, Okeke et al., 2012), FGM/circumcision can seem desirable to women who feel pressure to adhere to tribal customs and participate in a revered tradition.

In all, nearly half of the responding participants felt FGM was required by their religion. However, the United States Office of Women's Health (2012) clarified that there are no existing texts in any major religions that directly or substantially support FGM. Despite this, prior research supported this finding, suggesting that religion is widely accepted as a justification for and influences the prevalence of FGM in many countries (Elmusharaf, 2013; Okeke et al., 2012). For this population living within Western culture, which threatens more traditional cultural values, research suggested that it is considered critical to maintain the integrity of tribal identity (Johnsdotter, 2009; Moges, 2009), which is significant when one considers prior research that supported that women describe FGM as having a particular tribal or cultural significance toward maintaining a spiritual connection between the woman and her tribe or community (Johnsdotter, 2009).

Among the sample, a total of 25% reported that they held an intention for FGM for their daughter(s) in the future, with 75% denying the intention for future FGM. This result highlights improvement from the prevalence of maternal FGM reported from this sample (46%). In addition, over 65% of the participants in this study felt the practice should be discontinued. It is, therefore, critical to identify the key social influences among this population that support or limit intention to continue the practice. These results are discussed under the third research question.

Research Question 2

The second research question was as follows: What are the consequences of FGM to women's sexual health? Study results indicated a high incidence of dangerous complications to women's sexual health for second generation FGM to include swelling in the genital area (87%), difficulty passing urine (70%), excessive bleeding (65%), and infection or a wound that did not heal properly (39%). This finding was consistent with prior research highlighting the dangerous complications associated with FGM, including severe bleeding/hemorrhaging (Ndiaye et al., 2010; Nnorom Chinyere, 2003; Rasheed et al., 2011; Rose, 2010; WHO, 2000), difficulties urinating and/or menstruating (Amin et al., 2013; Mackie, 1996; Teufel & Dorfler, 2013), urinary tract infections and other related concerns (Benjet, 2010; Gilbert et al, 2013; Iavazzo et al, 2013; Modupe-Thomas, 1999), high general risk of both infections such as tetanus or E. coli and sexually transmitted diseases such as HIV (Abdulcadira et al., 2011; Ladjali et al., 1993; Rose, 2010), abnormal growths including dermoid cysts, tumors in the connective tissue and the formation of keyloid scars (Akpuaka, 1991; Modupe-Thomas, 1995; Nnorom Chinyere, 2003; Okeke et al, 2012), as well as other common short-term complications of FGM include anemia, genital ulcerations, vaginal inflammations, and other inflammations or injuries to the surrounding areas (Benjet, 2010; Nnorom Chinyere, 2003; Rose, 2010; Utz-Billing & Kentenich, 2008; WHO, 2014).

Despite these significant, negative health risks, prevalence, as seen in the results for the first research question, demonstrated that nearly half of the maternal sample and over 31% of the second generation had experienced FGM, and 25% still held the

intention for FGM in the future. From the literature, five out of six of Nigeria's largest ethnic groups actively practice FGM, including a clear prevalence among the Igbo people, who cite tradition and chastity to defend continued practice (Boukari, 2011; Online Nigeria, 2005). Specific to the Igbo people who practice circumcision is a belief that women left without being circumcised are consorted by spirit husbands or demons that create unnatural sexual desires; they also share the more widespread beliefs that FGM prevents childbirth pains and allows for the safe delivery of children (Nnachi, 2007). Data from this study indicated that, despite living in the United States, roughly half the participants reported perceived benefits of FGM, which were primarily social and cultural in nature. Specifically, these perceived benefits included social acceptance (37%), better marriage prospects (35%), preservation of virginity/prevention of premarital sex (29%), religious approval (26%), cleanliness/hygiene (21%), and greater sexual pleasure for the man (18%).

These results support prior research that compliance with FGM in practicing areas can result in an increase in what can be considered social capital for the women involved (Moges, 2009; Norman et al., 2009; Okeke et al., 2012; Rose, 2010) and that acceptance and respect in the community are often benefits of the perceived initiation into adulthood. Girls who undergo the procedure are considered to be "true women" and considered to have enhanced social value to their families and larger communities (Moges, 2009; Norman et al., 2009; Okeke et al., 2012). In addition, misconceptions related to uncleanness of the female genitalia, as noted by prior researchers (Dorkenoo, 1992;

Kepe, 2010; Moges, 2009; Norman et al., 2009; Rose, 2010; Zabus, 2010), were also supported in these findings, with the 21% reported in this study.

In contrast, reported perceptions of benefits of not undergoing FGM focused on benefits to women's sexual health, which included fewer medical problems (38%), more sexual pleasure for her (38%), avoidance of pain (34%), as well as greater sexual pleasure for the man (26%). These results aligned with evidence that details painful sexual intercourse after FGM (Brady, 1999; Defrawi, 2011; Utz-Billing & Kentenich, 2008), anorgasmia due to removal of the clitoris and other female sex organs key to arousal, lack of effective natural lubrication (Akpuaka, 1981; Defrawi, 2011, Nelson-Porter, 2014; Okeke et al, 2012; Rose, 2010; Windle et al., 2009). Research has also suggested that chronic pain during sex is also caused by a number of related factors, including the cysts and abscesses that typically develop in the genital area as well as tissue damage, infection, and an increased likelihood of bleeding and tearing during intercourse (Berggren et al., 2013).

Research Question 3

The third research question was as follows: What variable and/or combination of variables at various ecological levels contribute to continued FGM perpetuation? Using predictor variables based on the ecological framework, the probability of prevalence of maternal FGM, second generation FGM, and future intent for FGM were examined according to demographic variables and social influence variables (micro, exo, and macro-level). All three models demonstrated statistical significance. The model for maternal FGM was significantly affected by the demographic variable of age (odds ratio

of 1.1). The model for second generation FGM, although significant, did not suggest significance effects of any specific predictor variable in the analysis. The lack of significant variables in this case may have been the result of the small sample size for this group, as the participants had to have had at least one daughter to be included.

Finally, and perhaps most informative and significant of the results to this study, the model for future intention of FGM was significant and demonstrated significant effects of the social predictor variables of micro-level and exo-level influence (odds ratios of .107 and 22.42, respectively). These findings highlighted the importance of micro and exo-level influencers. The result at the micro level aligned with previous research that suggested because of the opportunities for social growth that are available to families who circumcise their daughters within more traditional value settings, many of the family leaders and influential women with whom the decision rests within the micro-level spectrum ultimately choose to continue the FGM tradition for the good of the family (Khan, 2007). These influences on a familial level can impact both the decision of the parents to circumcise and the decision of the daughters to comply, as they seek the parental approval and consequent attention that FGM often entails (Moges, 2009; Sieverding, 2014).

In particular, the influence of the exo-level (peers, neighbors, colleagues, friends, health care providers, community, and books and media) demonstrated a high odds ratio, indicating a strong influence on the continuation or discontinuation of FGM practices, outside high FGM prevalent geographic locations, as seen in this sample population from the DFW metropolitan area. This was evident in this result despite the relatively small

sample size for this analysis (reduced to a total of 54 participants reporting a second generation). The significant level of influence at this exo level can serve to explain the decreased prevalence in the second generation (31.3%) and even lower intention for FGM in the future for the second generation (25%), as non-Igbo and other Western community and media influences may affect the rates for this population. This finding is key to understanding how social influence can affect positive change toward continued reduction and potential elimination of the practice through health care providers, community level programs, and media and print. The lack of significance of the macro-level variable is noted, given participant perception and relatively high ratings as well as prior research suggesting the impact of religious, cultural, and social norms. Again, this lack of result may be due to limitations of sample size.

Limitations of the Study

There were several conditions that served to limit the results of this study. The study was limited in scope to an examination of factors contributing to FGM. The ecological levels of influence used in this study were limited to specific demographic variables of age, education level, and income level; the micro-level variable (consisting of the perceived influence of husband, parents, siblings, and cousins); the exo-level variable (consisting of the perceived influence of peers, neighbors, colleagues, friends, health care providers, community, and books and media); and the macro-level variable (consisting of historical/social norms, culture, and religion). Other levels of influence or variables may also have a significant effect on the occurrence of, but were beyond the scope of this study.

The most significant limitation of the study was the limited sample size, particularly for the second generation binary logistic regression analyses, where the sample was reduced to 54 participants who had at least one daughter. The study was limited by the possibility of confounding variables not included in the analysis. The study was further limited by data being collected from an anonymous self-report survey, for which the responses were presumed honest and accurate.

The study was delimited to data collected from a single geographic area (DFW) and In addition, the study was delimited to key variables of interest under each ecological level, unable to be inclusive of all potential influencers at each level, limiting influencers to those mentioned previously. This study was not designed to explore cause and affect relationships; the scope of this study was limited to prevalence and relationships between the specific variables. These delimitations may limit the generalizability of the study.

Recommendations for Action and Implications for Social Change

From the results of this study, recommendations for action are made to support a potential reduction and/or elimination of FGM practices both generally and for the specified population in the DFW metropolitan area. The significance of micro and exo level influences highlights areas of interest in supporting education and awareness of the serious, negative impacts on women's sexual health of FGM. Understanding cultural influences affecting micro-level factors (i.e., how family members' attitudes, beliefs, and perceptions affect critical decision making processes related to the value placed on FGM), as well as exo-level influences of the larger community can help to build

awareness programs geared toward dispelling misconceptions, while highlighting health realities.

Given the significant level of influence at the exo level influencers (peers, neighbors, colleagues, friends, health care providers, community, and books and media), which may serve to explain the decreased prevalence in the second generation and even lower intention for FGM in the future for the second generation, actions involving community and media influences such as community awareness, and media and print resources may affect a decrease in the rates of continued FGM for this population and others globally. Because of the close relationship between the practice of FGM and social influences, it is critical to identify and understand how to use social influences to affect positive social change toward elimination of FGM, rather than perpetuation. Findings of this study support health education through health care providers, community level programs, and media and print as exo-level influences.

Recommendations for Future Research

Several suggestions for further investigation can be offered related to the findings of this study. Most apparent to the results of this study is the need for continued investigation into the intention for continued practice of FGM for second generation immigrant populations. Further research using a larger sample size, multiple geographic areas, and additional influencing variables would allow for a more comprehensive understanding of the impact of the non-native and perhaps non-traditional or Western influences. Potential interactions between ecological level variables could have affected

the results of this study, suggesting the need to examine the influences of specific variables, rather than levels on the ecological spectrum.

Given the significant results related to exo-level influences, research on the effectiveness and influence of social media, print propaganda, and awareness attempts for this population would prove useful in determining effective strategies to continue to reduce prevalence in second and future generations. A qualitative study, in which the women are interviewed to gain a more in-depth understanding of the impact of community, and perhaps Western influences could highlight areas of influence otherwise not uncovered when examining an immigrant population. Also, a similar study conducted over several geographic, even global, locations, rather than a single geographic area, would support a more geographically diverse sample with different immigrant nation values, which could potentially identify more universally strong influencing variables. These recommendations for further research would serve to contribute to our understanding of the factors influencing perpetuation of FGM, particularly among immigrant populations, and the potential to affect positive change toward a significant reduction in FGM prevalence on a global scale.

Conclusion

Intertwined cultural, social and religious traditions globally perpetuate the practice of FGM, despite a passionate global campaign against this practice (Elwood, 2005; WHO, 2008), especially due to severe immediate and long term complications that have been reported in women who have undergone all types of FGM (Jones et al., 2006; Koso-Thomas, 2009; Shell-Duncan & Herlund, 2000). FGM impacts women medically,

psychologically, and psychosexually, which often can culminate in severely damaging a woman's overall health, as well as self-esteem and self-worth (Baron & Denmark, 2006; Bikoo, 2007). While some empirical investigations have explored the effects of FGM (WHO, 1997, 2008), most of these studies have taken an individual approach to studying the psychological, emotional, and medical consequences.

The purpose of this study was to explore the prevalence and health effects of the cultural practice of FGM on women's sexual health among the Igbo women living in the United States and to understand the variety of social influences at various ecological levels that contribute to continued FGM perpetuation. Using the ecological framework to reveal significant social and demographic influences on the continued practice of FGM within a population of Igbo women living in the DFW metropolitan area allowed for examination of an immigrant population of an ethnic group with a high prevalence of FGM, living in a less traditional environment. These circumstances suggest the importance of the removal of certain social environmental and/or cultural or religious factors as well as the addition of diverse value systems.

Specifically, this study compared FGM versus non-FGM groups of Igbo women residing in DFW, Texas and to determine the sexual health effects of FGM and the factors behind the perpetuation of this practice. Findings highlight the importance of micro and exo-level influencers on intent for FGM in the future (i.e., continued practice). In particular, the influence of the exo-level (peers, neighbors, colleagues, friends, health care providers, community, and books and media) demonstrated a strong influence on the continuation or discontinuation of FGM practices, outside high FGM prevalent

geographic locations, such as this. The study was designed to help improve the quality of health of these women and decrease the practice of FGM. Understanding the reasons behind the culture of FGM can be used to assist public health professionals in designing appropriate culturally specific intervention and awareness strategies that will eliminate inappropriate and unsafe practices associated with FGM.

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Appendix B: Consent Form

CONSENT FORM

You are invited to take part in a research study of Female Genital Cutting or Circumcision (FC) among the Igbo/Nigerian population in greater Dallas/Fort Worth, Texas. The study will look at the current situation, beliefs, and factors affecting personal beliefs with regard to female genital circumcision, including personal, social, and environmental influences. You are being asked to participate in the study because you are over the age of 18, are an Igbo/Nigerian woman, and live in the greater Dallas/Fort Worth area. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Dorothy Ebere Ukoha, who is a doctoral student at Walden University.

Procedures:

If you agree to be in this study, you will be asked to:

- Complete an anonymous online survey
- The survey should take about 15-20 minutes to complete.

Survey questions may be very sensitive. The following are examples of questions on the survey to understand the highly sensitive nature of this study:

- Have you yourself ever been circumcised?
- At that time, was any flesh removed from the genital area?
- Was the genital area just nicked without removing any flesh?
- Was your genital area sewn closed?

Voluntary Nature of the Study:

Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one at the Nigerian Community Centers will know whether or not you have taken the survey, nor will they treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during the study. If you feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal.

Risks and Benefits of Being in the Study:

Although an anonymous survey minimizes the risks by not collecting participant identification information, all studies carry risks to their participants. For this study, it is possible you could experience emotional difficulties by reviewing environmental and social circumstances surrounding potential female genital cutting, if you have encountered FC. In addition, emotional unrest, however minimal, could present after answering the questions.

Although there are no direct benefits to the participants in this study, the findings of the study will contribute to knowledge of female genital cutting among the Igbo populations outside of Nigeria, particularly in urban settings in the United States.

Compensation:

There is no compensation for participating in the study.

Confidentiality:

Any information you provide will be kept anonymous. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not obtain your name or anything else that could identify you in any reports of the study.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via telephone: xx or email: xx

Should you experience any distress or become upset upon taking the survey, the following contact is available for free/low cost services; for further assistance and information contact: Dallas County Public Health # xx.

If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is xx, extension xx or you can call United Way of Metropolitan Dallas at xx if you experience any anxiety as a result of taking this survey. Walden University's approval number for this study is **03-17-15-0097101** and it expires on **March 16, 2016**.

You can print a copy of this form to keep, if desired, by clicking the print button below.

[Click here to print Consent Form](#)

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By [clicking here](#) or on the link below, I am agreeing to the terms described above.

[Click here to go to the survey](#)

Appendix C: Female Genital Cutting Online Survey

SECTION I: DEMOGRAPHIC SURVEY

Please answer the following questions to the best of your ability. This survey will not ask for your name or any other personal identifiable information. Your answers will remain completely anonymous.

Thank you very much in advance.

#	Question	Possible Responses
Q1	What is your age?	AGE IN YEARS
Q2	What is your sex/gender?	FEMALE MALE
Q3	Is your ethnic background Igbo/Nigerian?	YES NO
Q4	Please enter your zip code of residence	ZIP CODE
Q5	What is your highest level of education attained?	DID NOT FINISH HIGH SCHOOL HIGH SCHOOL DIPLOMA OR EQUIVALENT SOME COLLEGE BACHELOR'S DEGREE MASTER'S DEGREE DOCTORAL DEGREE
Q6	Which best describes your annual family income?	LESS THAN \$25,000 PER YEAR \$25,000 - \$35,000 PER YEAR \$35,001 – \$50,000 PER YEAR \$50,001 - \$75,000 PER YEAR \$75,001 - \$100,000 PER YEAR > \$100,000 PER YEAR

SECTION II: FEMALE GENITAL CUTTING/CIRCUMCISION SURVEY

Please answer the following personal questions related to female genital cutting/circumcision (FC) to the best of your ability. You do not need to know what female circumcision is. You are reminded that you may discontinue at any time and without consequence. Should any questions cause you to feel uncomfortable in any way, you may skip that question.

#	Question	Responses	Directions Given
Q1	Have you ever heard of female circumcision?	YES NO	If yes, skip to Q3
Q2	In a number of countries, there is a practice in which a girl may	YES NO	If no, go to end of survey

	have part of her genitals cut. Have you ever heard about this practice?		
Q3	Have you yourself ever had your genitals cut?	YES NO	If no, skip to Q9
Q4	Now I would like to ask you what was done to you at this time. Was any flesh removed from the genital area?	YES NO DON'T KNOW	If yes, skip to Q6
Q5	Was the genital area just nicked without removing any flesh?	YES NO DON'T KNOW	
Q6	Was your genital area sewn closed?	YES NO DON'T KNOW	
Q7	Approximately how old were you when this occurred?	AGE IN YEARS _____ DURING INFANCY: Yes / No DON'T KNOW _____	
Q8	Who cut (or nicked) the genitals?	TRADITIONAL: Traditional "Circumciser" Traditional birth attendant Other Traditional (SPECIFY) PROFESSIONAL Doctor Trained Nurse/Midwife Other Health Professional (SPECIFY) DON'T KNOW _____	
Q9	Do you have any daughters?	YES NO	If no, Skip to Q18
Q10	Have any of your daughters had her genitals cut? If yes, how many	YES NO Number daughters circumcised	If no, Skip to Q17
Q11	Now I would like to ask you what was done to your daughter (most recent circumcision) at that time: Was any flesh removed from her genital area?	YES NO DON'T KNOW	If yes, Skip to Q13
Q12	Was her genital area just nicked without removing any flesh?	YES NO DON'T KNOW	
Q13	Was her genital area sewn closed?	YES NO	

		DON'T KNOW	
Q14	Approximately how old was this daughter when this occurred?	AGE IN YEARS DURING INFANCY DON'T KNOW	
Q15	Who cut (nicked) the genitals	TRADITIONAL: Traditional "Circumciser" Traditional birth attendant Other Traditional (SPECIFY) PROFESSIONAL Doctor Trained Nurse/Midwife Other Health Professional (SPECIFY) DON'T KNOW _____	
Q16	At the time of the genitals were cut or afterwards, did this daughter have any of the following: Excessive bleeding? Difficulty in passing urine or urine retention? Swelling in the genital area? Infection in the genital area? / Wound that did not heal properly?	YES NO DON'T KNOW EXCESSIVE BLEEDING DIF. IN PASSING URINE/URINE RETENTION SWELLING INFECTION/NOT HEAL PROPERLY.....	
Q17	Do you intend to have this genital cutting done to any of your daughters in the future?	YES NO DON'T KNOW	
Q18	What benefits do girls themselves get if they undergo this genital cutting?	CLEANLINESS/HYGIENE SOCIAL ACCEPTANCE BETTER MARRIAGE PROSPECTS PRESERVE VIRGINITY/PREVENT PREMARITAL SEX MORE SEXUAL PLEASURE FOR THE MAN RELIGIOUS APPROVAL OTHER (SPECIFY) NO BENEFITS	
Q19	What benefits do girls themselves get if they do not undergo this genital cutting?	FEWER MEDICAL PROBLEMS AVOIDING PAIN MORE SEXUAL PLEASURE FOR HER MORE SEXUAL PLEASURE FOR THE MAN FOLLOWS RELIGION OTHER (SPECIFY) NO BENEFITS	
Q20	Would you say that this practice is a way to prevent a girl from having sex before marriage or does have no effect on premarital sex?	PREVENT SEX NO EFFECT DON'T KNOW	

Q21	Do you believe that this practice is required by your religion?	YES NO DON'T KNOW	
Q22	Do you think that this practice should be continued, or should it be discontinued?	CONTINUED DISCONTINUED DEPENDS DON'T KNOW	
Q23	Do you think that men want this practice to be continued, or discontinued?	CONTINUED DISCONTINUED DEPENDS I DON'T KNOW	

SECTION III: SOCIAL INFLUENCES SURVEY

Please rate the following individual, organizational, community, cultural, and religious influences on your beliefs regarding female genital cutting/circumcision (FC) according to the following scale:

0 → 1 → 2 → 3 → 4 → 5
 Does not Slightly Somewhat Moderately Strongly Very Strongly
 influence my influences my influences my influences my influences my influences my
 opinion of FC at opinion of FC opinion of FC opinion of FC opinion of FC opinion of FC
 all

	0	1	2	3	4	5
Husband						
Parents						
Siblings						
Cousins						
Peers						
Neighbors						
Friends						
Colleagues						
Physician or healthcare provider						
Community						
Books/media						
Religion						
Culture						
History/social norms						

Curriculum Vitae

Dorothy Ebere Ukoha, BSN, MPH, PhD**Summary**

Great patient care, research and medical records review knowledge, combined with outstanding leadership acumen, analytical and creative solving skills, obtained from diversified institutions. Academically balanced, with a Bachelor of Science in Nursing, Master of Public Health, Doctor of Philosophy in Public Health Epidemiology (PhD) and an indispensable knowledge of the healthcare industry.

Education:

2009-2015 Walden University	
Doctor of Philosophy in Public Health	
Epidemiology (PhD)	Minneapolis, MN
2004-2006 Walden University	Minneapolis, MN
Master of Public Health (MPH)	
1994-1999 Wagner College	Staten Island, NY
Bachelor of Science in Nursing (BSN)	

Current Work Experience:

2009-Present BCP Health Care Incorporated, Dallas, TX
Administrator/Director

- Systematize and directs the running of the agency, supervising and educating staff members on various topics on the in service module.
- Quality assessment/performance improvement.
- Implement the agency's policies as mandated by the Board of Governors.
- Manage the organization's administrative functions on day to day basis.
- Implement effective budgeting and accounting system.
- Supervise and evaluate client Satisfaction Survey Report on all clients served.

Research papers: PhD Dissertation topic: Female Genital Mutilation/Circumcision: Culture and Sexual Health in Igbo Women in Dallas –Fort Worth, Texas.

- **Member:** American Public Health Association (APHA).