EXTENT OF HIV STIGMA AMONG HIV POSITIVE HEALTHCARE WORKERS: A MIXED METHODS APPROACH

by

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Presented to the Faculty of the Graduate School of

The University of Texas at Arlington in Partial Fulfillment

of the Requirements

for the Degree of

DOCTOR OF PHILOSOPHY IN NURSING

THE UNIVERSITY OF TEXAS AT ARLINGTON

December, 2012

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ACKNOWLEDGEMENTS

First, I would like to acknowledge the source of my strength, my God Almighty, through whom all things are possible. My heartfelt gratitude to my chair, mentor, and advisor Dr. Jennifer Gray, you have inspired me in more ways than you can ever imagine. My committee members Dr. Daisha Cipher and Dr. Eusebius Small, your valuable input and dedication to my success is deeply appreciated. To the nursing faculty and my peers at UTA, you made the pursuit for higher education, fun, fulfilling, and worth the while. My friends both far and near, your love and support kept me going. Lori Spies, Chantal Besa, and Assi Smith, blest be the tie that binds us together in love. To the entire Opollo family, you are the most precious blessing I have in this world. My beloved mother, Mrs. Joyce Opollo, you are an incredible source of strength. You have taught me resilience in the true meaning of the word. Thank you for praying for me each and every day. To my late father Mr. Phillip Opollo, thank you for inspiring great confidence in me! You were so proud of me even when I hadn't accomplished much! I can see your face beaming with such joy and pride. To my late brother Ken and late sister Nancy, I didn't expect both of you to leave this year! When you left, I didn't think I would have the strength to carry on but God's grace has been sufficient and I have made it to the finish line. I draw some comfort knowing that you are smiling down on me! Winnie, Bob, Leah, and Rachel, my terrific siblings! Thank you for cheering me on every step of the way. Sometimes you believed in me more than I believed in myself. To my dearest sister, best friend, and colleague Dr. Diana Alaka Opollo, you are an incredible source of inspiration! I can hardly wait to see what we accomplish together. We are destined for great things that much I know for sure!

November 20, 2012

ABSTRACT

EXTENT OF HIV STIGMA AMONG HIV POSITIVE HEALTHCARE WORKERS: A MIXED METHODS APPROACH

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Regardless of practice settings, healthcare workers (HCWs) in Sub-Saharan Africa are either infected or affected by HIV/AIDS. This mixed methods study measured the extent of HIV/AIDS stigma and the relationship between stigma and sociodemographic variables in a sample of 76 HIV positive HCWs. Qualitative aspects (n=20) explored how HIV positive HCWs manage personal health, stigma experiences in the workplace, and the HCWs role in reducing stigma in the workplace. Overall, HIV positive HCWs in this study experienced low stigma levels (Mean= 7.88, SD 12.90). Subscale means ranged from 0.09 (SD 0.28) for workplace stigma to 0.39 (SD 0.62) for verbal abuse. Stigma was negatively and significantly correlated with years of work experience (χ^2 6.97, df= 1, p = 0.01), annual salary (χ^2 4.02, = df= 1, p = 0.05), years living with HIV (χ^2 5.07, df = 1, p =0.02) and positively and significantly correlated with employment category (χ^2 9.32, = df= 1, p = 0.00). None of the sociodemographic variables were predictive of stigma in this sample. Two negative themes emerged *blame* and *lack of knowledge*. Five positive themes emerged related to stigma experiences: *living positively, optimism, empathy, support, and changes over time. Normalizing, leading by example* and *empowerment* were three themes that

emerged on ways of reducing stigma. Disclosing HIV status, awareness of an HIV/AIDS workplace policy, and having access to treatment, stigma reduction training, and workplace support groups may have contributed to the low stigma scores. Qualitative findings corroborated quantitative findings and corresponded to the six domains of the stigma instrument (HASI-P). Stigma reduction efforts should incorporate socioecological approaches; expand beyond the individual level and address interpersonal, institutional, community, and public policy levels of influence.

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CHAPTER 1

INTRODUCTION

Stigma related to the Human Immune-deficiency Virus/ Acquired Immune-deficiency Syndrome (HIV/AIDS) is a structural barrier that continues to hinder HIV/AIDS prevention, treatment, and stigma reduction interventions. If stigma persists, millions of people affected by HIV/AIDS are less likely to seek treatment and more likely to report poor health status and poor quality of life. Since HIV/AIDS stigma can affect all aspects of an individual's life including social, economic, physical, and psychological aspects, comprehensive frameworks that can guide stigma research and the development of stigma reduction interventions are needed. Further, understanding the relationship between HIV stigma and key socio-demographic factors is critical in informing tailored stigma reduction interventions. This chapter will include a discussion on the following: 1) Background and significance of HIV/AIDS and related stigma 2) Philosophical/Theoretical perspectives of the study 3) Development of framework for HIV/AIDS stigma, propositions, and assumptions 4) Purpose of the study and 4) Research questions.

1.1 Background and Significance of the Problem

HIV/AIDS is a major public health concern. According to the Joint United Nations AIDS Programme report [UNAIDS], 2010), an estimated 80% of the worlds' 33.5 million HIV/AIDS cases reside in Sub-Saharan Africa (SSA). The UNAIDS (2006) and the United Nations Department of Economic and Social Affairs [DESA], (2004) estimate that more than 50% of all hospital beds in most Sub-Saharan countries are occupied by HIV/AIDS patients. Nevertheless HIV/AIDS stigma remains the single most important barrier to accessing HIV/AIDS prevention and treatment services (Holzemer et al. 2007a; Mahajan et al. 2008; Sorsdahl, Mall, Stein, & Joska, 2011). Although the impact of HIV/AIDS is more pronounced in SSA, few studies have focused on the burden of HIV/AIDS among Africa's healthcare workforce (Greeff & Phetlhu, 2007;

Holzemer et al. 2007a; Kyakuwa, 2009; Uys et al. 2009a). There is a dearth of standardized and accurate statistics on the prevalence or impact of HIV among healthcare workers (HCWS) in Africa (Tawfik & Kinoti, 2006). In many African countries, HIV related death and illness is the leading cause of HCW attrition (Liese & Dussault, 2004; Tawfik & Kinoti, 2006). Regardless of practice settings, the HCW in SSA is inevitably either infected or affected by HIV/AIDS.

HCWs are the backbone of any health system (Dieleman et al. 2007a). According to the World Health Organization [WHO], 2007), Africa bears 25% of the global disease burden with only 1.3% of the global health workforce. This represents only 0.8 healthcare workers (HCWs) per 10,000 population. This inadequate distribution of HCWs coupled with resource constraints exacerbates Africa's existing health workforce crisis (DESA, 2004, Dieleman, 2007a, Tawfik & Kinoti, 2006). HIV/AIDS morbidity and mortality, absenteeism due to personal or relatives illness, and attrition related to employment change, are key factors that contribute to the decline of HCWs supply (Tawfik & Kinoti, 2006; DESA, 2004). Consequently, attaining the United Nations Millennium Development Goals (UNMDGs) target indicators of 2.5 HCWs per 10,000 population by 2015 remains a formidable challenge for most health systems in Africa (WHO, 2007). Losing HCWs to HIV/AIDS means the loss of manpower vital to maintaining social welfare, sustaining output, and generating economic growth (DESA, 2004, Tawfik & Kinoti, 2006)

HIV/AIDS impacts internal systems of an individual as well as family, community, businesses, workplaces and entire countries (Botes & Otto, 2003; Tawfik & Kinoti, 2006). Turan, Bukusi, Cohen, Sande and Miller, (2008) assessed the effects of HIV/AIDS on maternity care providers in Kisumu, Kenya. Adverse effects of the HIV/AIDS epidemic included: increased workload, burnout, fear of infection, confidentiality and disclosure concerns, stigma and discrimination and reduction in the number of healthcare providers (Turan et al. 2008). Like other African countries, HIV related death is the number one cause of healthcare personnel attrition in Kenya (Cheluget et al. 2004). If Kenya is to attain the UNMDGs, then the dire consequences of an HIV diagnosis on Kenya's health workforce including resultant HIV stigma must be halted.

The Kenya AIDS Indicator Survey (KAIS) conducted by the Ministry of Health in Kenya, [MoH, Kenya], 2008), estimated that more than 1.4million adults are living with HIV. Of this population, 70% live in rural areas. A large majority (84%) of HIV infected adults in Kenya do not know they are infected because they have never tested for HIV (MoH, Kenya 2008). The Kenya National Bureau of Statistics (KNBS, 2009) estimates Kenya's total population at 39 million people. Kisumu district (now Kisumu County) is located in Nyanza province, rural Kenya and has an estimated population of 970,000. Nyanza province has a population of 5.5 million people (KNBS, 2009) and has the highest HIV prevalence rate (15.3%), more than double the national prevalence of 7.4% (MoH,Kenya 2008).

The cost of absenteeism, provision of medical care, and replacing staff as a consequence of the effects of HIV/AIDS can have significant cost implications for employers (Tawfik & Kinoti, 2006). The fear of stigma from coworkers and supervisors is a major barrier to testing and accessing HIV related care (Holzemer et al., 2007a; Ulasi et al. 2009). Additionally, the lack of responsive workplace policies that discourage discrimination in the workplace is an added concern (Botes & Otto, 2003; Management Sciences of Health [MSH], 2004). As a first step, HCWs ought to know their HIV status. If HCWs do not know their HIV status, then they create a breeding ground for HIV prevalence. Despite the challenges in the workplace, the workplace environment offers opportunities to change attitudes, provide support for the HIV positive people, and raise disease awareness (Swartz, 2003). Therefore, research specific to the healthcare needs of HIV positive HCWs ought to be answered by members of this group.

This study reduced the knowledge gap surrounding this topic in several ways. The study was one of the first to quantitatively measure the extent of HIV stigma and the relationship between HIV stigma and key socio-demographic factors in a sample of HIV positive HCWs. By using a mixed methods approach, the study corroborated quantitative results with the qualitative findings of stigma experiences in an understudied population. The study findings can be used to

inform future development of stigma reduction interventions driven by subject experiences and recommendations, and complemented with theoretical and empirical evidence.

1.2 Philosophical & Theoretical Perspectives

Mixed methods studies ought to be informed by a theoretical orientation that supports the needs of a study (Creswell et al. 2010). This study was developed from a socioecological perspective. A mixed methods approach was deemed appropriate for describing, exploring, and explaining the extent of stigma among HCWs infected with HIV/AIDS. The qualitative component of the original study used a focused ethnographic approach also referred to as miniethnography or microethnography. This is the most commonly used method for ethnographic nursing studies. Such studies focus on a distinct problem within a specific context, in a small group of people (Knoblauch, 2005; Polit, Beck & Hungler, 2001; Roper & Shapira, 2000). These studies answer questions that are formulated before entry into the field (Roper & Shapira, 2000). Miniethnography takes a focused approach characterized by recording, group data sessions, short-term field visits, time and data analysis intensity, and emphasis on field observer role (Knoblauch, 2005).

1.3 Development of the Framework

1.3.1 HIV Stigma Defined

Goffman (1963) defined stigma as both a trait and an outcome. As a trait, stigma is a deeply discrediting attribute viewed negatively by society as a failing, shortcoming or handicap. As Goffman wrote,

> ..by definition, of course, we ("normals") believe the person with a stigma is not quite human. On this assumption we exercise varieties of discrimination, through which we effectively, if often unthinkingly reduce his life chances ….and impute a wide range of imperfections on the basis of the original (Goffman, 1963 p.5).

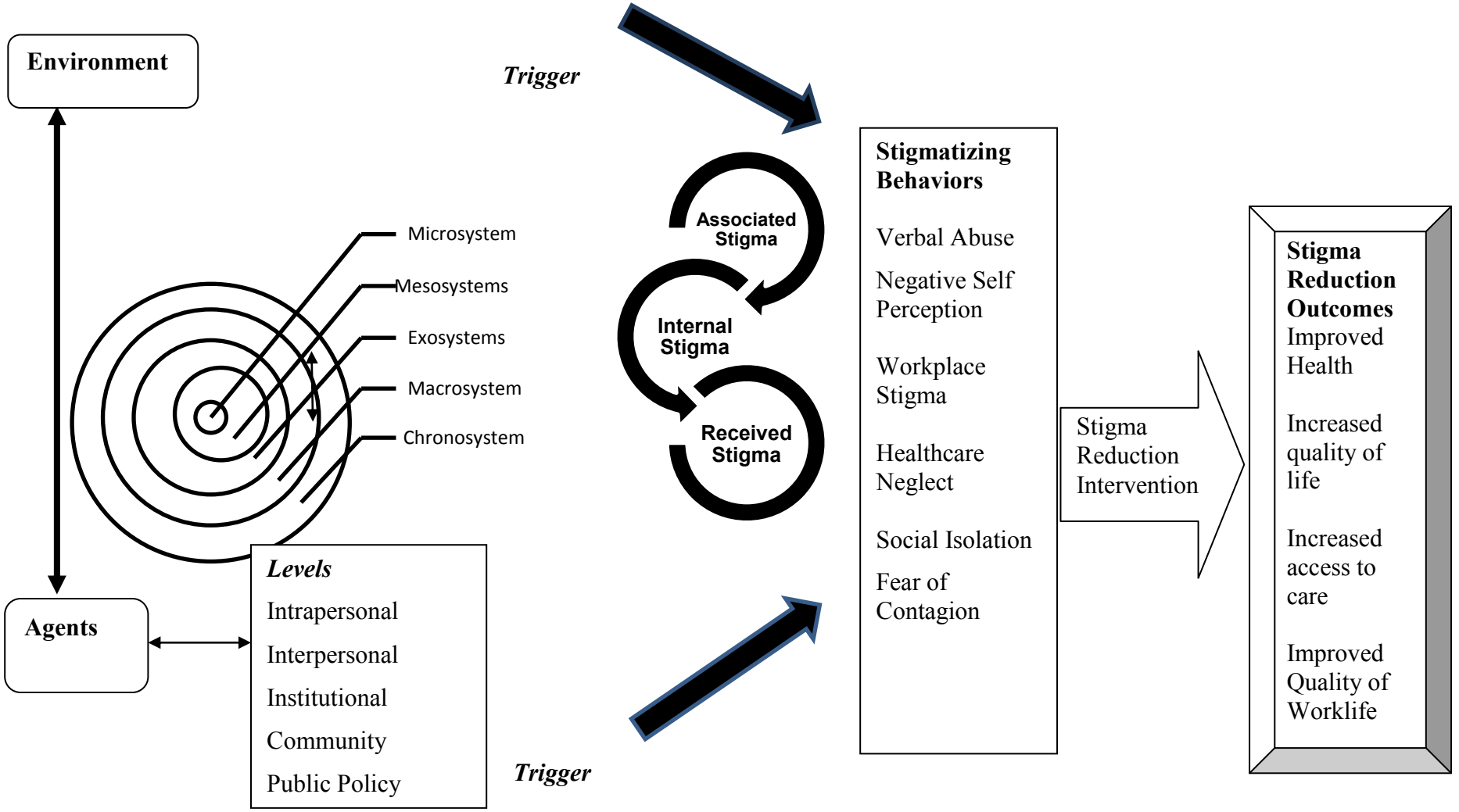
Link and Phelan (2001) added to this definition by proposing a sociological definition of stigma that includes structural aspects of stigma such as power, status loss, and discrimination.

Structural factors are broad forms of social construction including legal, political, and environmental factors that are either barriers, or facilitators to activities which people engage in (Shriver, Everett, & Morin, 2000). According to Coetzee, Kagee, and Vermeulen (2011), HIV stigma is a structural barrier since it prevents people living with AIDS (PLWAs) from disclosing their status to those within their social circles. HIV stigma remains a complex multifaceted concept that varies by cultural settings and across individual, interpersonal, and societal levels. Most studies on HIV stigma have used no common theoretical framework (Dieleman et al. 2007). Therefore, the proposed integrative framework for this study (Figure 1.1) is a fundamental step in representing the complex dynamics of factors affecting HCWs working in HIV/AIDS environments.

1.4 Opollo HIV/AIDS Socioecological Model

The Opollo HIV/AIDS Stigma Socioecological Model (Figure 1.1) is an integration of concepts that build on a conceptual model for HIV stigma by Holzemer et al. (2007a) and Bronfenbrenner's socioecological model (Bronfenbrenner, 1977). Holzemer's model is a primarily descriptive model that can be useful in informing stigma reduction interventions (Holzemer et al. 2007a). Specifically, Holzemer et al (2007a) suggest that each component of their conceptual model could become a target for stigma reduction intervention. Thus, theories are needed that can move stigma research beyond descriptive research to action research. Research and system changes to support PLWAs need to be grounded in theory that integrates both individual and wider societal responses to HIV/AIDS stigma. Given the complexity of HIV/AIDS as a major public health challenge particularly in Sub-Saharan Africa, innovative solutions designed from socioecological approaches are needed (Stokols, 1996).

Figure 2.1 Opollo HIV/AIDS Stigma Socioecological Model ©



Ecological perspectives can both explain health behavior and design related health promotion interventions (Eddy, Donahue, Webster, & Bjornstad, 2002). Thus, this theory was selected as it allows for integration of various theories and approaches (Edberg, 2007), goes beyond behavioral and environmental change strategies (Stokols, 1996) and might facilitate the development of comprehensive interventions that address multiple dimensions of HIV stigma that can improve health outcomes of those affected by HIV/AIDS (Hosek, Harper, Lemos, & Martinez, 2008; Jacobson, 2011; Stokols, 1996).

Holzemer et al. (2007a) developed the first conceptual model of HIV stigma in Africa. In this model, the researchers identified two components. Contextual factors are those factors that influence and affect stigma and the stigma process itself. This includes environment, healthcare system, and agents. The stigma process includes four dimensions: triggers of stigma, stigmatizing behaviors, types of stigma, and outcomes of stigma (Holzemer et al. 2007a). Meanwhile, Bronfenbrenner's theory is popularly used in the study of culturally diverse and vulnerable populations in medicine, public health, and urban policy settings (Best, Stokols, Green, Leischow, & Holmes 2003; Ickovics, White, Stasko, & Ghose, 2007; Mays et al. 2006). Bronfenbrenner's socioecological theory is essentially a systems theory that has its foundations in developmental/child psychology (Bronfenbrenner, 1977). Within this theory, human ecologic development exists in an interactive nested system characterized by roles, relationships, and norms (Bronfenbrenner, 1977; Hosek et al, 2008). *Norms* refer to the rules and procedures that facilitate adaptation to social environments (Latkin &Knowlton, 2005). According to Latkin and Knowlton (2005), minor deviations from norms can lead to major negative reactions from members within a social network. *Roles* refer to the engagement of participants within a setting as daughter, teacher, employee etc (Bronfenbrenner, 1977). *Relationships* refer to interactions with others including family, friends, and co-workers across different settings. *Setting* refers to a place with particular physical features in which participants engage in particular activities, in particular roles, for particular periods of time (Bronfenbrenner, 1977).There are five systems

within this theory: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. Levels of influence within all these systems include individual/intrapersonal; interpersonal, institutional/organizational; community; and societal/public policy levels (Bronfenbrenner 1977; 1986; 2005).

The contextual factors (environment, healthcare system, and agents) derived from Holzemer et al's (2007a) model and the systems and levels of influence derived from Bronfenbrenners' theory form the context of the HIV stigma process in Opollo's model. The first component of the model (environment and agents) captures the confluence of factors that can disrupt norms, relationships, and roles across the second component (systems and levels of influence). A trigger can be based on fact or suspicion. Holzemer et al define trigger as "any action that allows people to label themselves or others as HIV positive (Holzemer et al. 2007a). A trigger such as an HIV diagnosis or disclosure of HIV status can emanate from agents as well as the environment and cut across systems and levels of influence thereby activating the third component; the stigma process. The fourth component constitutes the different types of stigma; received and internal stigma (enacted stigma), or associated stigma. Holzemer et al. (2007a) defines these types of stigma as follows:

> Associated stigma: "incidents that describe stigma against people who work or associate with HIV/AIDS affected people"
>
> Received stigma: "all types of stigmatizing behavior towards a PLWA as experienced or described by themselves or others"
>
> Internal stigma: "all thoughts and behaviors stemming from the person's own negative perceptions about him or herself based on their HIV status" (Holzemer et al. 2007a, p 548).

The fifth component constitutes six stigmatizing behaviors of received and internal stigma (Table 1.1).

Table 1.1: Construct, Concepts, and Conceptual Definitions

Construct	Construct/Concept	Conceptual Definition
Received Stigma	Verbal Abuse (VA)	Verbal behavior intended to harm the PLWA (e.g ridicule, insults, blame)
	Workplace Stigma	Disallowing access to employment/work opportunities based on one's status
	Healthcare Neglect	In a healthcare setting (e.g hospital, clinic) offering a patient less care than is expected in the situation or than is given by others, or disallowing access to services based on one's HIV status
	Social Isolation	Deliberately limiting social contact with PLWA and/or breaking off relationships based on one's HIV status
	Fear of Contagion	Any behavior that shows fear of close or direct contact with the PLWA or things s/he has used for fear of being infected (e.g not wanting close proximity; not wanting to touch; not wanting to touch/share an object, not wanting to eat together
Internal stigma	Negative Self-Perception (NSP)	Negative evaluation of self-based on HIV status

The six elements in Table 1.1 operationalize the stigma process measured using the 33-item HIV/AIDS Stigma Instrument for People Living with AIDS (HASI-P) by Holzemer et al., (2007b). Whereas the HASI-P measures received stigma (items 1-28) and internalized stigma (items 29-33), it does not measure associated stigma. This current study will focus on received stigma and internal stigma. A subsequent tool the HIV/AIDS Stigma Instrument –Nurse (HASI-N) developed by Uys et al (2009a) consists of factors that measures two different aspects of HIV stigma: that perpetrated by nurses and that experienced by nurses (associated stigma).

Stigma can have deleterious effects. In the absence of stigma reduction interventions (component six), HCWs will continue to report poor health outcomes. (Greeff et al., 2008; Holzemer et al., 2007b; Kyakuwa, 2009; Makoae et al.2008; Vance & Denham, 2008). The seventh component of the framework captures positive outcomes that may result in the presence of effective stigma reduction interventions. In this study subjects provided key ideas for reducing stigma as well as their perspectives on the direct effects of HIV stigma in the workplace .The multidimensional and complex nature of the stigma process invites numerous possibilities for informing future comprehensive, multi-faceted stigma reduction interventions aimed at improving outcomes.

1.4.1 Theoretical & Philosophical Assumptions

Bronfenbrenner (1989) highlights three key assumptions in the socioecological model. The notion of reciprocity suggests that humans shape, and are shaped by their environment. This implies that interactions between individuals and environment go both ways. The environment is comprised of multiple settings "nested systems" or overlapping structures. This means that what happens in one system can potentially affect the other systems. In addition, multilevel approaches to assessments and interventions addressing individual and contextual factors are more effective than approaches that focus on a single level alone (Bronfenbrenner, 1989).

There are three key assumptions in using an ethnographic approach. These include the premise that participant observation and prolonged exposure in the study setting gives more insight into local meanings. The need to explain one's stance is yet another assumption. Therefore, the researcher must explicitly state frameworks and assumptions relevant to the study. Third, is the need for triangulation to enhance security and interpretation of data (Padgett, 2008). Since the subjects in this study were self-identified as HIV positive and were recruited from support groups for PLWAs it can be assumed that these subjects' perception of stigma is likely to be less pronounced. However, measuring the extent of stigma, exploring subject experiences, views on barriers to care, and role in reducing stigma could potentially encourage subject participation in advocacy efforts aimed at empowerment, collaboration, and creation of change in the workplace environment (Creswell & Clark, 2007).

In this study, the researcher 1) Explored the perceptions and stigma related experiences in a small sample of HIV positive healthcare workers: 2) Measured components of the Opollo HIV/AIDS stigma framework 3) Examined relationship between received stigma, internal stigma, and key socio-demographic variables and 4) Identified recommendations that can inform research, policy and practice aimed at stigma reduction.

1.5 Purpose Statement

The purpose of this mixed methods study was to 1) Describe the extent of HIV/AIDS related stigma in a sample of HIV positive HCWS 2) Explore the relationship between stigma and key sociodemographic variables 3)Explore HIV positive HCWs management of personal health, stigma experiences in the workplace, and the HCWs role in reducing stigma in the workplace. Understanding the extent of stigma from a socioecological perspective in this vulnerable population is critical in informing comprehensive stigma reduction interventions in the workplace.

1.6 Research Questions

1. To what extent does the HIV positive HCW experience stigma?
2. Is there a relationship between stigma and key sociodemographic variables?
3. Are sociodemographic variables predictive of stigma?
4. How does the HIV positive HCW manage personal health?
5. What is the HCWs experience with stigma in the workplace?
6. What is the HCWs role in reducing stigma?
7. Is there a link between quantitative findings, emerging qualitative themes, and the socioecological model?

1.7 Chapter Summary

In this chapter, the background and significance of HIV/AIDS related stigma; a major public health problem was highlighted. Key concepts, theoretical, and philosophical underpinnings that guided the development of the Opollo HIV/AIDS stigma socioecological model were discussed. The concepts, processes, and propositions within this framework need to be further developed. Although the proposed framework is general, comprehensive, and complex, it provides an expanded perspective that can facilitate closing the gap between research, policy, and practice aimed at improving health outcomes for HCWs infected and affected by HIV/AIDS in Sub-Saharan Africa.

CHAPTER 2

REVIEW OF LITERATURE

This chapter includes a review of literature on HIV related stigma as it affects healthcare workers. First, the term healthcare worker (HCW) is defined, and an overview of how HIV stigma has been measured, observed and operationalized is provided. The literature review was then organized into two broad categories exploring: 1) Socioecological context of HIV stigma 2) Impact of HIV related stigma on HCWs as stigmatized, stigmatizers, and de-stigmatizers. The chapter ends with a summary of existing scientific knowledge on the impact of HIV related stigma on HCWs. Gaps in existing knowledge are identified and linked to the purpose of the study.

2.1 Measurement of Stigma

Three broad dimensions exist in literature measuring HIV stigma (Nyblade, 2006). While stigma has been assessed in the general population (Kalichman et al. 2001; Herek, Capitanio & Wildman, 2002) other studies have assessed perceived stigma (Berger, Ferrans & Lashey, 2001) or experienced and internalized stigma with PLWAs (Berger et al. 2001, Sayles et al. 2008). There have also been studies that compare HIV stigma to stigma experienced in other diseases such as cancer (Fife & Wright, 2000) and psychiatric disorders (Link, Mirotznik & Cullen 1991). Berger's (1996) HIV Stigma Scale is considered the benchmark instrument in assessing HIV stigma in psychosocial studies of PLWAs (Rao, Pryor, Gaddist, & Mayer, 2008). According to Earnshaw and Chaudoir (2009) some HIV stigma measures can measure enacted, anticipated, and internalized stigma among those infected, while others can measure outcomes related to prejudice, stereotypes, and discrimination among those uninfected (Earnshaw & Chaudoir, 2009). Although the impact of HIV/AIDS is more pronounced in Africa, most stigma measures have been developed and tested in the Western context (Berger, 1995; Berger et al. 2001; Herek et al. 2002; Sayles et al. 2008). The HIV/AIDS Stigma Instrument-PLWA (HASI-P) designed by Holzemer et

al (2007a) is the first measure for AIDS related stigma for PLWAs in the African setting. As the first instrument developed and validated in the African context, the tool was deemed highly relevant for the current study. Stigma, whether it is received, internal, or associated can lead to poor health, decreased quality of life, denied access to care, violence, and poor quality of work life (Berger, 1995; Greeff et al., 2008; Holzemer et al., 2007b; Kyakuwa, 2009; Makoae et al., 2008; Vance & Denham, 2008).

2.2 Review of Literature

This literature review was aimed at exploring the socioecological context of stigma and the impact of HIV related stigma on healthcare workers (HCWs) in Sub-Saharan Africa (SSA). Databases searched for scientific literature included CINAHL, Medline, Academic Search Complete, and PsychInfo. Journals, bibliographies, and reference lists were hand searched for relevance to the topic of interest. Internet search engines including GoogleScholar, working papers, and reports from international organizations were included to supplement the search. Key search terms included a combination of words including HIV/AIDS, stigma, nurses, healthcare workers, Sub-Saharan Africa. Search was limited to articles published in English over the past 10 years. Although studies based in the United States were of interest in this review, the final analysis was focused on those studies with particular relevance to Africa and the developing world context.

2.2.1 Healthcare Workers Defined

The terms healthcare personnel, healthcare worker, healthcare professional, healthcare providers, and health worker are interchangeable terms that vary geographically and cross culturally. The WHO (2007) defines the term healthcare worker (HCW) as “all people engaged in the promotion, protection, or improvement of the health of the population.” Therefore, in essence this means that in addition to paid professionals, family members and unpaid caregivers or volunteers are part of the health workforce (WHO, 2007). HCWs play three significant roles in the complex interplay of stigma issues. They are stigmatized, stigmatizers, and de-stigmatizers

(Schulze, 2007). As opinion leaders in their communities and part of the middle class in Africa, HCWs are an excellent indicator for measuring community response to HIV/AIDS related stigma for various reasons (Uys et al. 2009b). HCWs are involved in the care of PLWAs, are perpetrators or observers of enacted stigma in healthcare settings, are either infected by HIV or are exposed to occupational hazards, and are strategically positioned to serve as agents for decreasing secrecy and HIV related stigma (Schulze, 2007; Uys et al. 2009b; Vance & Denham, 2008). To understand the impact of HIV related stigma on HCWs, it is important to examine HIV related stigma within the socioecological context

2.3 Socioecological Context and HIV related Stigma

HIV related stigma is contextualized within the key concepts of the socioecological theory: nested systems and levels of influence (Figure 1.1).

2.3.1 Nested Systems

Bronfenbrenner (1977; 1994) conceives the environment as a set of nested structures each inside the other like a set of Russian dolls. In this theory, each individual system is an integrated whole but then at the same time part of a larger system (Bronfenbrenner, 1977). The *microsystem* refers to the immediate setting containing the individual at a particular time (e.g family, school, peers). The *mesosystem* is a set of microsystems encompassing interrelations between two or more settings. It is also the norm-forming component in the system. This includes interactions among family, school, and peer groups. These interactions may occur in the workplace, healthcare setting, neighborhood, or church. The *exosystem*; an extension of the mesosystem, includes formal and informal social structures, does not include the developing person, but influences the development of the person. This system includes mass media, transportation, and informal social networks (Bronfenbrenner, 1977, 1994).

The *macrosystem* includes all the other levels plus environmental factors including cultural, social, economic, legal, and political systems (Holzemer et al. 2007a; Bronfenbrenner, 1979). It is distinct from other systems in that it refers not to the specific contexts affecting the life

of the developing person, but rather to the general prototypes existing in the culture or subculture that set the pattern for the structures and activities that occur at the concrete level (Bronfenbrenner, 1979). More recently, Bronfenbrenner proposed an additional system the *chronosystem*. This system assesses the influence of change and continuities on an individual's development over time. Chronosystem examines normative (entering school, puberty, marriage, and non-normative (death, divorce, chronic illness) transitions across the lifespan. It encompasses change in the characteristics of the individual, as well as change in the environment in which the individual resides. These transitions may indirectly affect family processes and human development Bronfenbrenner, 1986; Bronfenbrenner, 1994; Hosek et al.2008). In each system, there are overlapping levels of influence. These levels of influence have important implications for HIV/AIDS in general and resultant stigma in particular.

2.3.2 HIV/AID Stigma & Levels of Influence

At the *individual/ intrapersonal level*, HIV stigma can have negative social, physical, and psychological effects on an individual (Ickovicks et al. 2007; Singh, Chaudoir, Escobar, & Kalichman, 2011). Self-stigmatization by PLWAs as well as stigmatization by others can affect healthcare seeking behavior of PLWAs (Mbonu, Borner & De Vries, 2009; Patel et al. 2012). HIV diagnosis can be distressing, painful, and traumatic presenting psychological challenges such as fear, anxiety, uncertainty, and feelings of shame, guilt, and self-blame (Mello, Segurado & Malbergier, 2009). Stigma and the resultant stress, and discrimination may lead to despair, loneliness, social isolation, increased health problems, and reduced financial opportunities (Benevides-Pereira & Das-Neves Alves, 2007; Greeff et al. 2008; Orner, 2006). High stigma levels have been associated with increased depression; severity of HIV related symptoms, lower antiretroviral (ARV) adherence, and poor job satisfaction (Chirwa et al., 2009; Holzemer et al, 2007b; Wasti et al, 2012). HIV stigma may affect the socioeconomic welfare of the individual, lead to a loss of income, and reluctance to seek care in public sector, which may further drain family resources (Ickovics et al. 2007).

The individual's closest social circle can shape the individuals behavior and range of experience. At the *interpersonal level*, discriminatory behavior by health professionals such as refusal to care for HIV/AIDS patients can discourage HIV testing and health seeking behaviors which may further contribute to social distancing and social isolation (Reis et al. 2005; Sowell & Phillips, 2010). Additionally, associated stigma related to a person's association with PLWAs including family members, patients and co-workers can promote social isolation (Mitchell & Knowlton, 2009). Stigma towards PLWAs has been reported to be most common at *institutional/organizational levels*. For example stigma in the health care sector is illustrated by refusal of treatment and delays in treatment of PLWAs (Ickovics, 2007; Reis et al, 2005). Kyakuwa (2009) found that health professionals are less willing to seek HIV care from their places of employment. Consequently, they are also less likely to disclose their HIV status to a co-worker.

Community level influences include experiences and relationships with schools, workplaces and neighborhoods (Jacobson, 2011). For example prejudice, discrimination, and hostility related to HIV/AIDS stigma are common experiences among PLWAs (Ickovicks et al. 2007; Makoae et al., 2008). HIV related stigma and resultant discrimination isolates people and affects interactions with families and communities (Mbonu et al. 2009). Caretaking and HIV related illness may also contribute to absenteeism and increased healthcare costs for employers (Ickovicks et al. 2007). Finally*, public policy level* influences are macro level factors including economic and social policies that create or sustain gaps and tensions between groups of people. Discrimination related to disclosure of one's HIV status can also affect a person's educational, occupational, and financial opportunities (Greeff et al. 2008). HIV positive individuals may be denied treatment, or may experience delays in receiving treatment (Kyakuwa, 2009; Reis et al, 2005). Consequently, this may lead to further decline in health status and increased absenteeism, loss of earnings, and reduced earning potential (Ickovics et al. 2007). Stigma reduction efforts must begin with HCWs in healthcare settings (Uys et al. 2009b). Thus, this

review of literature seeks to examine the impact of HIV related stigma on HCWs as stigmatized, stigmatizers, and de-stigmatizers.

2.4 Healthcare Workers as Stigmatized

HCWs are often targets of stigma and discrimination (Schulze, 2007). HCWs can experience stigma in two ways; either by virtue of their own HIV infection through occupational exposure or individual risky behavior (DESA, 2004), or by association of caring for PLWAs (Holzemer et al. 2009). Few studies have specifically looked at HIV related experiences of the HIV positive HCW (Jones, 2002; Kyakuwa, 2009: Dieleman et al 2007a; 2007b). In a qualitative study in Uganda (n=6) by Kyakuwa (2009), two themes emerged: *perceived or real experiences in the workplace* and *coping with related stresses in the workplace*. HIV positive nurses in this study preferred to receive their antiretrovirals (ARVs) from other facilities other than their workplace. These nurses attributed this to the fear of stigma, fear of moral judgment, and threat to their honor and respect. The subjects also faced contradiction in norms that require patients to disclose their HIV status by giving testimonials. The nurses also felt that they could not live up to the disclosure norms (Kyakuwa, 2009). These findings are consistent with the metaphor that emerged in Jones (2002). In a sample of HIV positive nurses in the United States (n=9), Jones, described the experience of the HIV positive nurse as a *"double edged sword"* .Jones related this metaphor to a benefit that had a consequent disadvantage. While the nurses were excellent practitioners to their patients, nurses had to contend with the challenge of being a good patient and a good nurse to themselves (Jones, 2002). Six themes emerged in Jones (2009): *Becoming a patient, managing and being managed by the meds, coping with the meds, feeling lousy, negotiating the hassles and the cost,* and *living under a dark cloud* (Jones, 2002). Understanding how HCWs cope with their illness is important, as it can inform the development of effective coping strategies from initial diagnosis to chronic management of the disease.

To manage their HIV status and evade stigmatizing behaviors in the workplace, nurses in Kyakuwa's study employed mechanisms such as selective disclosure, selective interaction,

avoidance, and concealment. Since psychosocial support was lacking in the workplace, nurses held secretive, sporadic meetings in their homes and outside of the workplace. Nurses acknowledged engaging in self-prescription, and obtaining their ARVs at the end of the shift when other staff had left the clinic. Kyakuwa described this practice as dangerous in relation to complex chronic disease care. Grappling with their own burden of HIV infection also added to usual workload stresses (Kyakuwa, 2009). Whereas HCWs in Kyakuwa's study managed their HIV status in the workplace in a very secretive way Kyakuwa viewed this as a proactive approach. However, Kyakuwa suggested that the failure of HCWs to disclose HIV status in the workplace in fact perpetuated stigma and non-disclosure and led to missed instructive opportunities to challenge assumptions with colleagues at work. Additionally, it limited information that could be of consideration by administrators seeking to improve the wellbeing of HCWs in the workplace (Kyakuwa, 2009).

HIV/AIDS had a significant impact on health professionals morale (DESA, 2004), physical and emotional health of HCWs as well as the working conditions on Kenya and Zambia's health workforce (Dieleman, 2007a; Turan et al. 2008). Despite the cultural and wider societal stigma, and consistent with Kyakuwa (2009), HCWs in this study (n=82) preferred to access testing and treatment away from their places of employment. Dieleman (2007b) found that HIV positive staff in Uganda faced difficulties discussing HIV/AIDS with peers while many other HCWs feared to be tested. In this study, fear of infection, repercussions in the workplace, secrecy, silence, and stigma were significant barriers to disclosing HIV status and accessing care among HCWs (Dieleman, 2007b). The researchers attribute these negative outcomes to the lack of responsive workplace policies, and organizational support for HCWs to deal with HIV/AIDS. There is a need for support systems for the HIV positive nurse and managerial staff on how to deal with HIV/AIDS in the workplace. These systems ought to integrate both individual and structural concerns including assuring right to privacy and confidentiality (Jones, 2002; Dieleman 2007a; Dieleman 2007b; Kyakuwa, 2009)

There is a strong tendency to stereotype and label HIV/AIDS workers as being HIV positive (Haber, Roby, & High-George, 2011). Such labeling comes from coworkers, relatives and patients, and happens both within hospital departments and home based settings. Most studies on stigma among HCWs have explored stigma against people who work or associate with PLWAs (Chirwa et al. 2009; Delobelle et al. 2009; Haber et al. 2011; Holzemer et al. 2007b; Kohi et al.2010; Makoae et al. 2008; Singh et al. 2011). Such stigma by association is also referred to as courtesy stigma (Goffman, 1963), or secondary stigma (Bond et al. 2003). Associated stigma has been found to be a contributor to nurses' job dissatisfaction (Chirwa et al. 2008), and nurses intent to migrate to other countries, or leave the HIV/AIDS field (Delobelle et al 2009; Haber et al, 2011; Kohi et al, 2010). Stigma has also been linked to less social status, less respect within the community, as well as less pay and compensation in government health settings (Haber et al. 2011). Nurses and doctors were reported to experience less associated stigma than other AIDS worker groups (Haber et al. 2011). The negative consequences of stigma experienced at personal, interpersonal, organizational, and social levels compelled HCWs to migrate or abandon HIV/AIDS work (Haber et al. 2011). Low morale, high levels of stress, may lead to staff absenteeism, negative attitudes that may affect quality of services rendered to patients (DESA, 2004). Such findings have significant implications for research on stigma by association, recruitment, retention, and de-stigmatization strategies in the workplace (Haber et al. 2011; Kohi et al. 2010). While HCWs are victims of HIV stigma, regrettably they are also perpetrators of stigma (Andrewin & Chien, 2008; Reis et al. 2005; Schulze, 2007).

2.5 Healthcare Workers as Stigmatizers

Several studies have documented the secrecy, silence, and stigma perpetuated by HCWs (Dieleman et al. 2007a; Hossain & Kippax, 2009; Reis et al, 2005: Shisana et al. 2002). Stigma may be manifest in the form of rejection, fear of contagion, neglecting, pestering, labeling, negating, abusing, and gossiping in relation to the care seeking/caregiving process (Greeff & Phetlhu, 2007; Holzemer et al. 2007a; Uys et al. 2009). PLWAs have reported not being treated well, being chased away from clinics, and being neglected in soiled linens. Nurses have also acknowledged that sending an AIDS patient to the hospital was futile since the patient was likely to die anyway (Greeff & Phetlhu, 2007). Thus, stigma and discrimination can significantly impact a person's quality of life, quality of work life, and utilization of health services (Greeff & Phetlhu, 2007). PLWAs fear stigmatization and disclosing their HIV status due to confidentiality concerns and fear that HCWs would change their attitudes towards them (Greeff et al 2007; Greeff et al. 2008; Hossain & Kippax, 2011). Due to economic constraints subjects in Greeff et al., (2008) disclosed their HIV status to HCWs so as to access medical services. The advice, education, counseling, and information received from HCWs facilitated disclosure. In this study, nurses acknowledged that health professionals often had to disclose HIV status on behalf of the PLWA. PLWAs also preferred not to have HCWs visit them in their homes, as this could be conspicuous enough to reveal their HIV status to others. As such, PLWAS often times did not take full advantage of health services (Greeff et al. 2008). Naidoo et al., 2007) documented clear differences in the character and intensity of stigma as experienced by nurses and PLWAs in urban and rural settings. PLWAs from both urban and rural settings conveyed more incidents of received stigma than nurses (Naidoo et al. 2007). Naidoo et al. suggest that stigma interventions must be targeted and designed appropriately for different settings.

Holzemer et al. (2007b) found that the lowest level of stigma in a sample of 1477 PLWAs was for the healthcare neglect factor. This factor was aimed at measuring whether PLWAs received less care than expected based on HIV status. The low scores were attributed to the fact

that the respondents were mostly ambulatory, not requiring care and possibly may have had no contact with a healthcare setting three months prior to completing the survey. Such findings warrant further investigation and replication with different populations in different settings. In a repeated measure cohort study, Holzemer et al (2009) documented high levels of HIV stigma over time by both PLWAs and nurses in five African countries. Nurses reported fewer episodes of nurses stigmatizing patients but also reported an increase in events in nurses being stigmatized. Unlike PLWAs who reported a decrease in stigma levels over time, the nurses in this study reported high levels of experiencing HIV stigma events that increased over time. More research and targeted interventions are needed to tackle the issue of stigma by association (Holzemer et al. 2009).

There is the possibility that nurses may be unaware of HIV-related stigma, or how their negative attitudes may impact patient care (Vance & Denham, 2008). Few studies have explored HCW perceptions and experiences of stigmatizing behaviors (Smit, 2005, Reis et al, 2005). Nurses who witnessed other nurses stigmatizing patients because of HIV status reported a higher odds ratio of intent to migrate to other countries (Kohi et al. 2010). South African nurses linked feelings of anger and frustration to stigmatization related to caring for PLWAS (Smit, 2005). Despite the emotional and psychological stresses of caring for HIV patients, a majority of the nurses expressed empathy, compassion and an increased sense of fulfillment by providing the highest standard of nursing care. Smit (2005) asserts that understanding stresses and rewards experienced by nurses working in HIV/AIDS environments is critical in policy development. Further providing continuing education, support, resources for nurses in this field is integral.

Significant discriminatory behavior and attitudes towards PLWAs by HCWs have been documented (Reis et al. 2005; Machine, Ross, & McCurdy 2011; Uys et al. 2009b). Uys et al., (2009b) revealed negative attitudes by nurses towards PLWAs in five African countries. These attitudes led to fear of contagion, anger, and poor care. Stigma by association was found to be higher than experienced stigma. Although the level of nurses stigmatizing patients was not as

high, Uys et al. (2009b) assert that stigmatizing behavior remains widely present. In fact in this study (n= 1474), most nurses (67%) had not tested for HIV. In Sudan, HCWs regarded PLWAs as “living dead” signifying shunning or avoidance based on perceived journey toward death (Machine et al. 2011). In Nigeria Reis et al.,(2005) reported that most of the healthcare professionals in their study (90%) agreed that they should be informed of a patients' HIV status so they can protect themselves. Additionally, 40% of health professionals agreed that HIV infected health professionals should be banned from working in any healthcare setting that demands patient contact. Another 40% viewed treatment of HIV/AIDS opportunistic infections and HIV infected people as a waste of resources. Meanwhile 46% agreed that patient charts or beds should be labeled with HIV so that HCWs can know the patients status. Reis et al (2005) attributed these negative attitudes to inadequate education about HIV/AIDS and the lack of protective and treatment materials. Having established that HCWs can be both perpetrators and victims of stigma, according to Schulze (2007) the question becomes what is the role of health professionals in alleviating stigma?

2.6 Healthcare Workers as De-stigmatizers

Stigma is the main barrier to receiving AIDS treatment (Coetzee et al. 2011). HIV stigma reduction is thus a critical element in HIV/AIDS prevention, care and treatment (Nyblade, 2006; UNAIDS, 2010; Uys et al. 2009a). If health professionals fail to intervene and reduce stigma, patients will continue to report poor quality of life, poor life satisfaction, loss of control in life, decreased social interactivity, and decreased perceived health status (Greeff et al. 2010; DESA, 2004). Uys et al (2009a) posit that anti-stigma interventions must start with health facilities for two main reasons. Firstly, PLWAs depend on health facilities for health care as such; stigmatization may hinder health-seeking behaviors of PLWAs. Secondly, as opinion leaders in the community, HCWs must lead by example (Uys et al. 2009b).

In order for HCWS to confront HIV stigma they must overcome some barriers. Vance and Denham (2008) acknowledge that it can be a challenge for nurses to assume the role of

patient advocate while coping with angst and apprehension when caring for HIV patients. These authors posit that nurses must critically examine their personal values, beliefs and attitudes that might conflict with their professional responsibilities. Nurses are strategically placed to advocate for PLWAs and use interventions to decrease the secrecy and stigma associated with HIV/AIDS. For example nurses can get involved in activities in support groups, as well as mobilize communities to action, educate others, and dispel misconceptions that can decrease stigma related to HIV/AIDS (Uys et al, 2009a; Vance & Denham, 2008).

HIV related fears held by both clients and HCWs affects uptake of facility based delivery services (Turan et al. 2008ba; 2008b). A major fear for maternity care providers in Kisumu, Kenya was the risk of workplace exposure to HIV (Turan et al. 2008a; 2008b). HCWs in Kenya feared being labeled as promiscuous if they acquired HIV through occupational exposure. Meanwhile, clients whose HIV status was unknown during labor and delivery were targets of stigma and discriminatory practices (Turan et al. 2008b). Turan et al. (2008a) insist that structural interventions in the form of space, supplies and personal protective equipment can go a long way in reducing stigmatizing attitudes in the maternity care environment. Yet, this alone is not enough, Turan et al., (20008b) insists that there is a need for culturally sensitive training regarding consent, confidentiality and disclosure among maternity care providers.

Power broking and mobilization, stigma as a social construction, community and structural interventions, educating and training people, and historical context are key themes that emerged in a study by Waterman et al., (2007). In this study, home based care professionals in Kenya, called upon community leaders or those in positions of “power” to engage community members in stigma reduction activities. Challenging cultural norms, changing social construction of HIV/AIDS, and involving traditional healers to encourage PLWAs who do not respond to traditional medicine to seek medical attention were seen as key ways of challenging stigma in society (Waterman et al. 2007).

Uys et al., (2009a) combined three strategies for stigma reduction including sharing information, increasing contact with the affected group; and improving coping through empowerment. PLWAs in this study reported less stigma and increased self-esteem after the intervention. However, there was no reduction in stigma or increase in self-esteem and self-efficacy among the nurses although HIV testing behavior increased significantly from 79% to 93%. The authors concluded that the increased testing behavior was an indicator of empowerment. Although the researchers reported that HCW attitudes can be changed in a positive direction, fear of infection remained high. Additional experimental and interventional studies that test the effect and impact of stigma interventions are needed (Uys et al. 2009a)

Delobelle et al. (2009) insisted that programs aimed at de-stigmatizing HIV/AIDS in the workplace are urgently needed. Majority of subjects (87%) in the study by Reis et al. (2005) agreed that HCWs who engage in discriminatory practices should be educated and counseled. Providing continuous HIV/AIDS education through religious leaders, ensuring accessibility to ARVs, encouraging reproductive rights of PLWAs, training health workers on confidentiality issues when treating PLWAs, and investing in support programs for HIV-infected HCWs can further reduce stigma (Mbonu et al. 2009). Kyakuwa (2009) recommended the conduct of studies that explore empowerment-oriented strategies that involve stigmatized individuals in stigma reduction efforts. Kyakuwa (2009) suggests that involvement of stigmatized persons in anti-stigma campaigns is critical and a topic that needs to be further explored. Enhancing knowledge and seeking continuing HIV/AIDS education opportunities is critical in eradication of HIV/AIDS stigma (Holzemer et al. 2007a). Further strategies aimed at promoting the image of AIDS healthcare sector, equitable pay, and organizational support for HCWs are needed (Delobelle et al. 2009; Haber et al.2011).

In Sudan, voluntary counseling testing centers (VCTs) were perceived as barriers to seeking HIV/AIDS services (Machine et al.2011). Machine et al. suggest that VCTs should be de-labeled and integrated in health systems so as to diffuse HIV associated stigma and

strengthen the health support for those seeking service. The researchers posit that de-stigmatization could potentially enhance willingness to test for HIV. If HCWs want to champion change, they must challenge existing norms. Despite the expense and infringement on personal rights, respondents in the study by Machine et al. (2011) supported compulsory testing of entire populations as a means to confront stigmatization in VCTs. Coetzee et al.,(2011) recommended key strategies for addressing structural barriers such as: increased funding to health systems to employ more HCWs, promoting social awareness and support to reduce stigma, and creating conducive environments that enhance patient confidentiality. Nurses can form an integral role in collecting data and conducting research to inform policymakers on ways to alleviate these barriers. Nurses must be actively involved in research that can guide the development of relevant workplace interventions that promote job satisfaction. This includes advocating for training and education, workplace support programs, and responsive workplace policies. The health profession has a mandate to provide policymakers with relevant information on which interventions are successful, under which circumstances, and for which staff groups (Dieleman et al. 2007b).

2.7 Summary of Review of Literature

In summary, this literature review revealed striking failures in previous studies exploring HIV/AIDS stigma among HCWs. One such failure is that researchers have not documented the HIV status, prevalence, and impact of HIV stigma among HCWs (Makoae et al. 2008; Holzemer et al 2009; Singh et al.2011, Uys et al. 2009a). Most researchers have focused on stigma by association (Greeff et al. 2008; Holzemer et al. 2009). Consequently, the specific challenges and experiences of the HIV positive HCWs remains an understudied area of research. Of the studies exploring HIV related stigma among HCWs, majority used qualitative approaches (Greeff & Phetlhu, 2007; Greeff et al. 2008), few researchers have quantified the extent of stigma (Singh et al. 2011). For qualitative studies, most have used small sample sizes (Coetzee et al. 2011; Jones, 2002; Kyakuwa, 2009); and a few others have employed a mixed methods approach

(Delobelle et al. 2009; Haber et al. 2011; Uys et al. 2009). Few researchers have used specific theories or models to guide HIV stigma research and stigma reduction interventions (Dieleman, 2007a; 2007b; Holzemer et al. 2007b). Most of the studies were primarily descriptive, often stopping short of identifying or designing ways of reducing stigma (Holzemer et al. 2007b; Greeff & Phetlhu, 2007; Greeff et al. 2008). In summary, health professionals have missed opportunities to support HCWs affected by HIV/AIDS. It is imperative that research and system changes to support those affected by HIV/AIDS be grounded in theory, thus moving stigma research beyond descriptive research and towards action research. Effective stigma reduction interventions for HCWs ought to be driven by those affected by the disease; the HCWs themselves. This study adds to existing knowledge base by focusing attention on the plight of the HIV positive HCW, using a mixed methods approach, and applying the socioecological theory to guide recommendations for future stigma reduction interventions.

2.8 Chapter Summary

In summary this literature review represents a range of studies conducted in different countries, settings, and using different methodologies. With the exception of Holzemer et al (2007a; 2007b) none of the other studies employed an explicit theoretical or conceptual framework. Although a few of the studies had large samples, the convenience nature of sampling limits the generalizability of most of the study findings. Although the findings of this literature review cannot be generalized to Sub-Saharan Africa they document significant aspects of HIV-related stigma in the culturally diverse continent. Despite the significant impact of HIV/AIDS on Africa's health workforce few studies have explored the socio-demographic correlates of HIV/AIDS stigma and the impact of HIV stigma on the health profession. A clear gap identified is the lack of studies exploring the challenges and experiences of the HIV positive HCW. Consequently the correlates of stigma in this population are yet to be explored. Effective strategies aimed at reducing stigma in this vulnerable population must also be grounded in theory. A socioecological perspective provides a comprehensive approach that can explain the

causes of stigmatizing behavior, manifestations of stigma and impact of enacted stigma, while at the same time informing the design of related health promotion interventions in the workplace

CHAPTER 3

METHODS AND PROCEDURES

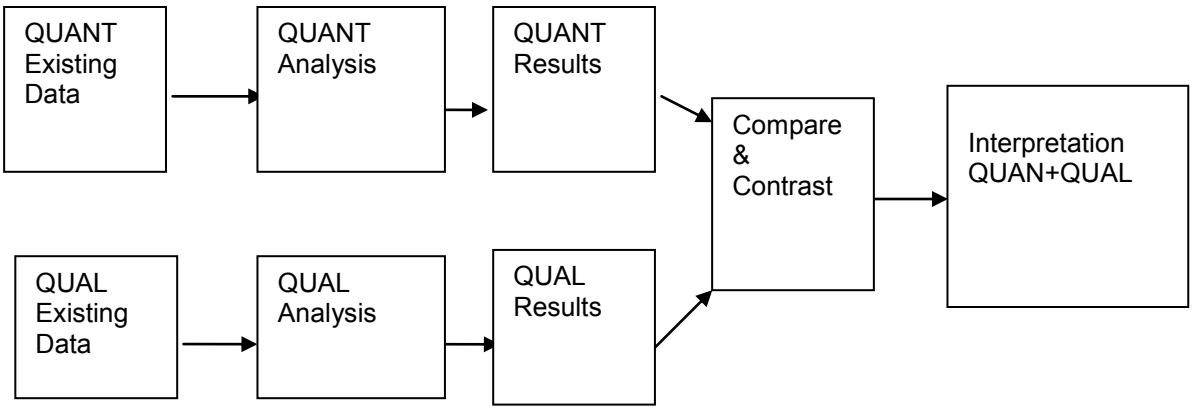
In this chapter, the research design, sample, setting, measurement methods, researcher match concerns, ethical considerations, data collection, data analyses procedures, and delimitations are discussed.

3.1 Methods and Procedures

3.1.1. Research Design

The data was collected using a mixed methods triangulation design (Figure 3.1).

Figure 3.1-Mixed Methods Triangulation Design



The study involved collection of qualitative data using in-depth guided interviews and a quantitative semi-structured HIV/AIDS Stigma Instrument (HASI-P). The HASI-P has six domains. The workplace stigma domain has only two items. The mixed methods approach was selected to allow for comparing quantitative findings or generate complementary findings (Creswell & Clark, 2007). The central question in the original study was: How does the HIV positive healthcare worker (HCW) perceive, experience, and manage stigma in the workplace environment? The original research questions guided a descriptive analysis of the data. Since

the study population is a hard to reach population, additional research questions were formulated for analysis and exploration of relationships. This eliminated feasibility and practical concerns related to time, money and travel to an international setting (Rubin & Babbie, 2008).

3.1.2 *Sample & Setting*

The target population was HIV positive healthcare workers (HCWs) working in Kisumu, District, Kenya. The sample in the original study included 76 self-identified, gainfully employed HIV positive HCWs who were working in rural clinic and hospital settings in Kisumu District, Kenya. The term HCWs refers to individuals engaged in the promotion, protection, or improvement of the health of the population (WHO, 2007). The sample included mainly nurses and community health workers. Others included nutritionist, pharmacist technician, physiotherapist, counselors, medical officers, community health workers, peer educators, emergency medical workers, laboratory technicians, medical records staff and ancillary support staff. Due to the anticipated difficulty in identifying and recruiting participants, recruitment strategies included snowballing and purposive sampling techniques. Direct clinic and hospital staff, as well as leaders of support groups for PLWAs were recruited to identify and enlist potential participants for the study. To be eligible for the study participants had to self-identify as HIV positive, be 18years or older, and speak and understand the English language. Due to cost, practical concerns, and the added complexity related to hiring translators and multilingual data collectors, non-English speakers were excluded from the study. Since males are often underrepresented in HIV related studies efforts were made to invite male subjects for the in-depth qualitative interviews. The study was conducted over a period of 2 months from May to July 2011 in Kisumu District and surrounding areas including Homa Bay, Ahero, Siaya and Rarieda. Subjects were interviewed in naturalistic settings including the subjects' place of employment or preferred setting, other institutional facilities, as well as the researcher's interview site.

3.1.3 Researcher Match Concerns

As a native of Kenya, I understood the traditions, values, family systems, socioeconomic issues, attitudes, and social policies of the country. Prior to traveling to Kisumu District, I attended a support group meeting for HIV positive HCWs in Nairobi, Kenya. This effort provided additional insight that helped guide discussions with study participants According to Rubin and Babbie (2008) speaking the language of the participants and being of same ethnicity may influence the degree of cultural competence as well as promote socially desirable responses. A limitation may have been that I was blinded to some cultural aspects because I shared the same ethnicity with most the respondents. In light of the fact that I reside in the United States, I could have been viewed as an outsider. I established rapport with the subjects by initially speaking in local dialect and engaging in dialogue about current and local news events. Asking good probing questions helped to uncover new knowledge. Additionally, I have extensive experience dialoguing and interacting with HCWs in HIV/AIDS environments in various African countries. Further, on a personal note, several of my relatives have died from HIV/AIDS. These experiences strengthened my resolve to seek ways to expand my vision, and my contribution to the global community hence my interest in studying the impact of the HIV/AIDS epidemic on the health profession in Sub-Saharan Africa.

3.2 Measurement Methods

To measure the extent of stigma in the original study, the quantitative approach included face-to-face semi-structured interviews using the 33-item HASI-P instrument. This measure was administered to all participants at the interval level of measurement. To explore perceptions and experiences of HIV stigma the qualitative approach included in-depth interviews using an interview guide with 8 open ended questions. These interviews were audio taped and transcribed verbatim. Both qualitative and quantitative data were collected, analyzed, and interpreted concurrently and with equal weight since both methods are equally important in addressing the research problem (Creswell & Clark, 2007). Information was gathered in 3 segments including

gathering of demographic data using a 21-item self-report questionnaire, completion of standardized measure related to stigma a semi structured interview, and a guided in-depth interview comprising of 8 open ended questions. Interviews lasted for 45 to 90 minutes. Stigma as defined by Goffman, 1963 and all related concepts, conceptual and operational definitions as defined by Holzemer et al. (2007a) are presented in Table 3.2.

Table 3.2 Conceptual and Operational Definitions

	Concept	Conceptual Definition	Operational Definition
HIV Stigma	HIV Stigma	Deeply discrediting attribute that reduces the bearer from a whole and usual person to a tainted, discounted one	33-Item HASI-P with 6 subscales
Internal Stigma	Negative Self Perception (NSP)	Negative evaluation of self, based on HIV status	NSP subscale 5 items (29,30,31,32,33)
Received Stigma	Verbal Abuse (VA)	Verbal behavior intended to harm the PLWA (e.g ridicule, insults, blame)	VA subscale 8 items (4,9,10,11,12,13,15,19)
	Workplace Stigma (WS)	Disallowing access to employment/work opportunities based on one's status	WS subscale 2 items (20,21)
	Healthcare Neglect (HN)	In a healthcare setting (e.g hospital, clinic) offering a patient less care than is expected in the situation or than is given by others, or disallowing access to services based on one's HIV status	HN subscale 7 items (22,23,24,25,26,27,28)
	Social Isolation(SI)	Deliberately limiting social contact with PLWA and/or breaking off relationships based on one's HIV status	SI subscale 5 items (7,8,16,17,18)
	Fear of Contagion (FC)	Any behavior that shows fear of close or direct contact with the PLWA or things s/he has used for fear of being infected (e.g not wanting close proximity; not wanting to touch; not wanting to touch/share an object, not wanting to eat together	FC subscale 6 items (1,2,3,5,6,14)

3.2.1 Scoring Method

A four point Likert-type scale was used to allow for variation in response. Questions assessed how often events may have happened to the respondent in the past three months. Response options were 0 = never, 1= once or twice, 2= several times, and 3= most of the time. The 33 item HASI-P instrument was scored by summing the scores (0-3) for each item and then

dividing by the number of items within each factor to obtain the mean score for each of the factors (Holzemer et al., 2007b). The total stigma mean score was the sum of all the items divided by the 33 items. Higher scores reflected greater perceived stigma. The instrument is freely available for research purposes. The work is licensed under a Creative Commons Attribution-Non Commercial –Share Alike 2.5 License (Appendix B).The sociodemographic variables assessed in this study and their levels of measurement are presented in Table 3.3

Table 3.3 Sociodemographic Variables & Levels of Measurement

Variable	Level of Measurement
1. Age	Nominal
2. Gender	Nominal
3. Marital Status	Nominal
4. Highest level of Education achieved	Nominal
5. Years of Work Experience	Nominal
6. Hours worked in a typical week	Nominal
7. Employment Rank	Nominal
8. Employment Setting	Nominal
9. Annual Salary	Nominal
10. Basic HIV stigma reduction training	Nominal
11. Current Workplace HIV stigma reduction training	Nominal
12. Caring for HIV patients	Nominal
13. Awareness of HIV workplace policy	Nominal
14. Access to workplace HIV support program	Nominal
15. Years living with HIV	Nominal
16. Taking ARVs	Nominal
17. Disclosure status	Nominal
18. Persons you have disclosed HIV status to	Nominal
19. Absence from work due to HIV infection	Nominal
20. Absence due to HIV infection a) In past month b) In past 6 months c) In past year	 Ordinal Ordinal Ordinal
21. Hospitalized due to HIV illness	Nominal
22. Hospitalized due to HIV infection a) In past month b) In past 6 months c) In past year	 Ordinal Ordinal Ordinal

3.2.2 Reliability & Validity

During pilot testing by the authors of the instrument, a Cronbach's alpha reliability estimate greater than 0.70 was obtained for all factor scores (Holzemer et al. 2007b). The

authors concluded that the HASI-P instrument had acceptable internal consistency reliability for each of the six subscales and total score. During validation of the instrument, internal consistency for the tool was 0.94 (Holzemer et al.2007b). The authors also concluded that the instrument was stable across the five African countries. Despite some differences across the countries, the focus group coding, interim factor analysis and final factor solutions revealed that core HIV/AIDS stigma is similar across countries (Holzemer et al. 2007b).

Holzemer et al., (2009) and Greeff et al., (2009) validated the HASI-P instrument in two different studies. Cronbach's alpha ranged from 0.93-0.96 indicating high internal consistency of the HASI-P. Sorsdahl et al. (2011) used the HASI-P but did not report the reliability or validity of the tool in their sample. With the exception of the 2 item workplace stigma subscale (Cronbach's alpha 0.08) the overall internal consistency for the total scale and the subscales in this study were comparable to Holzemer's (Table 3.4) Ideally Cronbach's alpha coefficient of a scale should be above 0.7 (De Vellis, 2003).The inter item correlation for the workplace stigma subscale was also extremely low 0.038. An optimal range for inter-item correlations is 0.2 to 0.4 (Briggs & Check, 1986).

Table 3.4: Instrument Reliability

Scale	No of Items	Internal Consistency in Holzemer's Study	Internal Consistency in Current Study
Total Scale	33	0.94	0.95
Verbal Abuse	8	0.89	0.92
Negative Self Perception	5	0.90	0.85
Healthcare Neglect	7	0.83	0.79
Social Isolation	5	0.89	0.89
Fear of Contagion	6	0.80	0.93
Workplace Stigma	2	0.76	0.08

Construct validity can be validated through a hypothesis testing approach (Lobiondo-Wood & Harper, 1998). Holzemer et al. (2007b) explored concurrent validity by testing hypotheses examining the association of each of the factor scale scores of the HASI-P instrument with 2 other instruments: The Revised Sign & Symptom Checklist for Persons with HIV Disease (SSC-HIVrev and the HIV/AIDS Targeted Quality of Life Instrument (HAT-QoL). The authors

concluded that the HASI-P instrument has adequate content and construct validity, and modest concurrent validity.

3.2.3. Research Procedures

Following Institutional Review Board (IRB) and ethics approval, informed consent was obtained from all subjects. The original study occurred in one phase with both the quantitative and qualitative methods implemented within the same timeframe and with equal weight. IRB exemption was obtained for the additional analyses. A study flow diagram is presented in Appendix A.

a) The researcher was responsible for collecting the data throughout the research process. First, the researcher introduced the purpose of the study to the subject. Informed consent was obtained from each participant and confidentiality and anonymity was assured (Appendix B)
b) Prior to and during data collection procedures were employed to encourage participation and minimize reactivity, researcher biases and respondent biases
c) Following informed consent, the researcher collected anonymous demographic information on key demographic variables (Appendix C)
d) Following completion of demographics survey the first 20 volunteers were interviewed in depth using a topic interview guide (Appendix D). These interviews were audio recorded. As data collection proceeded, the researcher focused on emerging theoretical concerns.
e) Subjects who volunteered for in depth interviews first completed the qualitative interviews followed by the semi-structured face-to-face interview using the HASI-P (Appendix E). Subjects who did not participate in the qualitative in depth interviews completed the demographic survey followed by the HASI-P instrument
f) Modest compensation in the sum of 1000Kshs/12USD was given to each participant at the end of the study

g) A flyer with relevant contact information and for distribution and recruiting other subjects was given to each participant at the end of the interview. (Appendix F)

h) Subjects were encouraged to contact the representatives outlined in the flyer if they had any questions and needed HIV/AIDS support group services including counseling and psychosocial support

3.3 Ethical Considerations

Permission to conduct the original study (Appendix G) and an exemption to conduct additional analyses (Appendix H) was obtained from the University of Texas at Arlington Institutional Review Board (UTA IRB). Local and government authorities including the Provincial Director of Medical Services in Kenya (Appendix I), the National Council of Science and Technology (NCST) (Appendix J), the Organization of Healthcare Workers against AIDS in Kenya (OHWAK) (Appendix K), and the IRB at Great Lakes University Kisumu (GLUK) (Appendix L). Informed consent was obtained from all study participants. Confidentiality was assured by assigning unique code numbers. All study materials remain locked in a secure place. Interviews were conducted in a private setting selected by the researcher in consultation with the subject. Subjects were reassured that they could stop the interview at any time if they experience distress during the interview process. Two subjects became emotional during the in-depth interviews. Subjects were offered a break and allowed to regain composure. Subjects who became upset were reminded that they did not have to finish. Subjects were assured of protection from harm and were informed of the availability of counseling and support services for participants in case of emotional distress or discomfort during the interview process. Contact information for representatives of the (OHWAK) who could link subjects to support services was available on the recruitment flyers. Each subject received modest compensation in the form of cash (Kshs 1000/ 12USD). This renumeration was needed because of the time and effort that the subjects were donating; time and effort that they could be spending gainfully employed.

3.4 Data Analyses

Quantitative data in the original study was scanned into a computer using teleform software. Data cleaning was achieved by examining the distribution of responses to each item in the data set. Missing data on the demographic forms was coded as 99 for all variables. Since the number of missing values for some descriptive variables was small (<4%) it is highly unlikely that this would alter study findings (Polit & Hungler, 1995). There were no missing data for the dependent variable (HASI-P score) since this instrument was a semi-structured face-to-face interview. Data were checked for outliers by examining a computer printout of frequency counts associated with every value for every variable and checking for undefined codes. Descriptive statistics (frequencies. percentages, means, and standard deviations) were computed using Statistical Packages for Social Sciences (SPSS version 19.0).

3.4.1 Power Analysis and Tests of Normality

Post hoc power analysis was conducted using G Power 3.1.5 test for logistic regression (Faul, Erdfelder, Buchner & Lang, 2007; 2009).Given an OR of 4.60 for the strongest predictor, an alpha of 0.05, sample size of 76 and squared multiple correlation of the model predictors of 0.08 for a two tailed test, the power achieved in this study was 0.40. Normality was assessed for the continuous variable total stigma score. The distribution was positively skewed (Skewness statistic 2.54, Kurtosis 6.625). The trimmed mean was much lower when compared to the original mean indicating that extreme scores strongly influenced the mean. Therefore, the extreme data points (cases 133, 135, 141, 142, 146) were assessed further. Slight changes were noted when the extreme cases were deleted. Due to the relatively small sample size, a decision was made to retain all cases in the final analysis. The Shapiro Wilk statistic was significant (0.000) suggesting violation of normality assumptions. An attempt was made to transform total stigma score by computing logarithm transformation (Pallant, 2011, Tabachnick & Fidell, 2007). Since most subjects had scores of 0 this process was not forthcoming. Therefore analogous non-parametric chi square analyses were computed. Stigma was therefore recoded into a binary variable (0 –

Never; 1 – Once or more). Where appropriate, categories for some demographic variables were collapsed and recoded into binary variables. For example since subjects indicated that the terms auxiliary nurse, staff nurse, and professional nursing sister were not mutually exclusive, this category was recoded as (nurse-0, and other -1). The "other" category included those who identified themselves as community health workers, lab technicians, counselors, and nutritionist among others.

3.4.2 Quantitative Analyses

The quantitative analyses were aimed at answering three questions:

1 To what extent do HIV positive healthcare workers in Kisumu District Kenya, experience received and internal stigma?

2 Is there a relationship between HIV stigma scores and key socio-demographic factors?

3 Are socio-demographic factors predictive of HIV stigma?

Percentages and frequencies were computed on key demographic variables. Descriptive statistics (mean, standard deviations, and percentages) were reported for the 33 stigma items and the stigma subscale scores. Cross tabulations were performed for nominal level data. Chi Square statistics were computed to explore the relationship between the binary variable stigma and nominal variables. The alpha level was set at 0.05. All significant variables were added to a standard logistic regression model. Logistic regression was performed to predict the dependent variable (HIV stigma) and the significant independent variables. Predictor variables (salary, work experience, employment rank, and years living with HIV) were checked for multicollinearity. All tolerance values were >0.1 indicating that the variables were not highly correlated with each other (Pallant, 2011). A summary of the parametric statistics and statistical assumptions is presented in Table 3:5.

Table 3.5 Statistical Tests and Assumptions

Statistical Tests	Purpose	Assumptions
Phi Coefficient	To determine strength of linear relationships between two binary variables	• Both variables dichotomous • Observations are independent • Observations are in the form of frequencies and not scores • Five counts in each category for each variable
Chi Square	To test whether or not two variables are independent of each other	• No assumptions about shape of distribution
Logistic Regression	To predict one variable from several other variables	• Dependent variable must be dichotomous • No linear relationship between dependent variable and independent variable • Dichotomous variables are also acceptable as independent variables • All variables (dependent and independent) need not be normally distributed • Larger samples needed than in linear regression

3.4.3 Qualitative Analyses

Qualitative analyses were aimed at further exploring and explaining the following questions

1. How does the HIV positive HCW manage personal health?
2. What is the HCWs experience with stigma in the workplace?
3. What is the healthcare workers role in reducing stigma?
4. Is there a link between quantitative findings, emerging qualitative themes, and the socioecological model?

The audio tapes of each interview in the original study were transcribed verbatim. The transcripts were reviewed by the researcher for accuracy by listening to the tapes while rereading the transcripts. The researcher generated a provisional start list of codes based on the list of research questions, and the key variables under study (Miles & Huberman, 1994). Some examples of start list codes include: managing health, stigma experiences, and reducing stigma.

Key phrases, words, and sentences were highlighted on each transcript. As data analysis progressed, these highlighted sections were developed into themes. The codes were revised and expanded as needed. Once codes were revised, the researcher grouped the codes into a set of negative and positive themes, drew conclusions, and summarized the qualitative findings. Thick descriptions (more insightful interpretations) (Padgett, 2008) were provided to illustrate emerging themes. Emerging themes were organized, and linked to the socioecological framework and six domains of the HASI-P instrument by Holzemer et al., (2007b). Through convergent triangulation, quantitative and qualitative data were merged and compared through discussion (Creswell & Clark, 2007).Coding reliability was ensured through extensive discussion with another researcher. To ensure reflexivity, the researcher ensured ongoing vigilance and examined biases throughout the course of the study. At the end of the study, the researcher evaluated the study findings for trustworthiness using Lincoln and Guba's (1985) criteria.

3.5 Delimitations

The questions in this study could have been asked of the general healthcare worker population. However, the plight of the HIV positive HCWs is an understudied topic. Therefore a key delimiting factor in this study was the eligibility criteria. The study was limited to HIV positive HCWs in a limited geographic setting in Kenya. Since this is a hard to reach population it was practical and feasible to recruit subjects who had disclosed their status and were members of a support groups for PLWAs. Learning about the experiences of these subjects shed light on the predicament of the HIV positive HCW who is yet to disclose their HIV status.

3.6 Chapter Summary

This chapter included a discussion on the research design, sample and sampling techniques, setting, data collection methods and procedures, ethical considerations, quantitative and qualitative data analyses procedures and study delimitations. The next two chapters will include study results, discussion of findings, and implications for nursing research, policy and practice.

CHAPTER 4

FINDINGS

In this chapter, the mixed methods findings of this study are reported. The chapter begins with a discussion of the sample characteristics. Quantitative and qualitative findings for each research question are then presented. The chapter ends with the integration of the mixed methods findings and a summary of key findings.

4.1 Sample Characteristics

Descriptive statistics were computed for the demographic variables and 33 stigma items using Statistical Packages for Social Sciences (SPSS version 19.0). Sample demographics are presented in Table 4.1. while work related characteristics are presented in Table 4.2. A total of 76 HIV positive healthcare workers (HCWs) participated in this study. Most subjects (45%) were between the ages of 41-50years. Most were female (84%) and widowed (49%). Sixty-eight subjects (90%) had attained either certificate or diploma level of education.

Table 4.1 Sample Demographics

Sample Demographics (N=76)	**Valid Percent (%)**
Age	
18-30	2.6
31-40	31.6
41-50	44.7
51-60	21.1
Gender	
Male	16.0
Female	84.0
Marital Status	
Single	5.3
Married	42.1
Separated	3.9
Widowed	48.7
Education Level	
Certificate	45.3
Diploma	45.3
Bachelors	1.3
Other	8.0

Table 4.2 Work Related Characteristics

Sample Demographics (N=76)	Valid Percent (%)
Employment Category	
Nurse	51.5
Community Health Worker/Other	48.5
Years of Work Experience	
0-5 years	10.8
6-10 years	16.2
11-15 years	21.6
>15 years	51.4
Hours worked in a Typical Week	
< 20hours	3.9
20-40hours	40.8
41-50hours	35.5
51-60hours	10.5
>60 hours	9.2
Employment Setting	
Medical Ward	11.8
Surgical Ward	9.2
Casualty Ward	6.6
Pediatric Ward	10.5
Maternity Ward	18.4
Outpatient	18.4
Administration	3.9
Other	21.0
Annual Income	
Less than USD 2500	36.8
More than USD 2500	59.2
Missing	3.9
Currently care for HIV patients	
Yes	97.4
No	2.6
Awareness of HIV/AIDS workplace policy in current workplace	
Yes	71.2
No	21.8
Support program for HIV positive employees in workplace	
Yes	80.3
No	19.7
Disclosed HIV Status to co-worker	
Yes	76.3
No	23.7
HIV/AIDS stigma reduction training during basic health training	
Yes	56.6
No	43.4
HIV/AIDS stigma reduction training in current workplace	
Yes	76.3
No	26.7

Since subjects had indicated that the terms auxiliary nurse, staff nurse, and professional nursing sister were not exclusive, this variable was recoded into two categories of nurse (52%), and community health workers/ other (58%).The latter category included subjects who identified themselves as administrators, lab technicians, pharmacy technicians, mentors, nutritionist, physiotherapist, peer educators, and counselors among others. Over half of the subjects (55%) worked more than 40 hours a week and had more than 15 years of work experience (51%). Twenty-eight subjects (37%) earned less than $2500 USD per year. Subjects worked in a variety of settings, with 18% working in maternity and outpatient settings and 21% working in other settings including the Intensive Care Unit and Theater Sterilization Unit. Almost all of the subjects (97%) reported caring for HIV/AIDS patients. Sixty-one subjects (80%) reported that there was a workplace support program for HIV positive employees in their places of employment. Similarly 80% of subjects were aware or familiar with an HIV/AIDS workplace policy. Whereas 43% reported that they had not received stigma reduction training in their basic health worker training, 76% of subjects had received stigma reduction training in their current places of employment. HIV related characteristics are reported in Table 4.3

Table 4.3 HIV Related Characteristics

HIV Related Characteristics (N=76)	Valid Percent (%)
Years Living with HIV/AIDS	
1-2 Years	2.6
3-5 Years	30.3
6-10Years	42.1
>10 Years	25.0
Currently taking ARVS	
Yes	90.8
No	9.2
Disclosed HIV Status	
Yes	98.7
No	1.3
Absent from work due to HIV infection in the past year	
Yes	55.3
No	44.7
Hospitalized due to HIV infection in the past year	
Yes	38.7
No	61.3

Twenty five percent of subjects had been living with HIV for greater than 10 years. Most subjects (91%) were receiving antiretroviral therapy (ARVs) and 99% had disclosed their HIV status to someone including husband (n=23), wife (n=12), children (n=45), friend (n=54) and religious leader (n=15). Of those who had disclosed their HIV status, the majority (58%) had also disclosed their status to a coworker. Most subjects (55%) acknowledged that they had been absent from work due to HIV related illness in the past year, and 39% of the subjects acknowledged that they had been hospitalized for HIV related illness in the past year.

4.2 Quantitative Results

Quantitative analyses were computed to answer the following three questions

1. To what extent does HIV stigma affect HIV positive HCWs in Kisumu District, Kenya?
2. Is there a relationship between HIV stigma and key socio-demographic factors?
3. Are sociodemographic factors predictive of HIV stigma?

4.2.1 Q1: To what extent does HIV stigma affect HIV positive HCWs in Kisumu District, Kenya?

Descriptive statistics for the overall stigma scale and the six subscales are reported in Table4.4

Table 4.4 Descriptive Statistics for Subscales (N=76)

Subscale	**Never n (%)**	**Once or More n (%)**	**Mean (SD)**
Workplace Stigma	68 (89.5)	8 (10.5)	0.09 (0.28)
Healthcare Neglect	60 (78.9)	16 (21.1)	0.10 (0.29)
Fear of Contagion	61 (80.3)	15 (19.7)	0.13 (0.48)
Social Isolation	55 (72.4)	21 (27.6)	0.28 (0.57)
Negative Self Perception	39 (51.3)	37 (48.7)	0.35 (0.56)
Verbal Abuse	33 (43.4)	43 (56.6)	0.39 (0.61)
Total Stigma	18 (23.7)	58(76.3)	7.88(12.90)

Overall, subjects in this study reported low HIV stigma scores. The total stigma scores for this sample ranged from 0-61 with a mean of 7.88 (SD 12.90). The mean values for the subscales ranged from 0.09 (SD 0.28) for workplace stigma to 0.39 (SD 0.62) for verbal abuse. Due to the lack of variation in stigma scores, stigma was recoded and analyzed as a binary variable (0-Never, 1-Once or More). Most HCWs reported higher levels of verbal abuse (57%)

and negative self-perception (49%), while fewer HCWs reported experiencing workplace stigma (11%) and healthcare neglect (21%).

Overall the mean scores of the instrument items were very low. Detailed results of each item are displayed in Table 4.5. Instrument item #27 “at the hospital I was left in a soiled bed” had the lowest stigmatization score (mean = 0.03; SD, 0.23). Instrument item #33 “I felt completely worthless” had the highest stigmatization score (mean = 0.54; SD 0.90). Whereas most of the subjects had not experienced any of the events listed in the HASI-P instrument in the preceding 3 months, 34% (n=26) reported having been mocked at least once or twice, 30% had been called bad names and blamed for their HIV status and 32% were ashamed of the disease and felt completely worthless.

Table 4.5: Descriptive Statistics for 33 Stigma Items

Descriptive Statistics for 33 Stigma Items (N=76)			
Item	**Never n (%)**	**Once or More, n (%)**	**Mean (SD)**
1. I was told to use my own eating utensils.	70 (92.1)	6 (7.9)	0.14 (0.53)
2. I was asked not to touch someone’s child.	73 (96.1)	3 (3.9)	0.08 (0.43)
3. I was made to drink last from the cup.	72 (94.7)	4 (5.3)	0.13(0.60)
4. Someone mocked me when I passed by.	50 (65.8)	26 (34.2)	0.46 (0.76)
5. I stopped eating with other people.	72 (94.7)	4 (5.3)	0.13(0.60)
6. I was asked to leave because I was coughing.	68 (89.5)	8 (10.5)	0.17(0.56)
7. Someone stopped being my friend.	59 (77.6)	17 (22.4)	0.33(0.70)
8. A friend would not chat with me.	66 (86.8)	10 (13.2)	0.20(0.59)
9. I was called bad names.	53 (69.7)	23 (30.3)	0.53(0.92)

Table 4.5 *Continued*

Descriptive Statistics for 33 Stigma Items (N=76)			
Item	**Never n (%)**	**Once or More, n (%)**	**Mean (SD)**
10. People sang offensive songs when I passed by.	63 (82.9)	13 (17.1)	0.34(0.83)
11. I was told that I have no future.	57 (75.0)	19 (25.0)	0.42(0.82)
12. Someone scolded me.	58 (76.3)	18 (23.7)	0.32(0.64)
13. tI was told that God is punishing me.	63 (82.9)	13 (17.1)	0.25(0.64)
14. I was made to eat alone.	71 (93.4)	5 (6.6)	0.14(0.61)
15. Someone insulted me.	57 (75.0)	19 (25.0)	0.37(0.73
16. People avoided me.	63 (82.9)	13 (17.1)	0.30(0.75)
17. People cut down visiting me.	63 (82.9)	13 (17.1)	0.30(0.75)
18. People ended their relationships with me.	63(82.9)	13 (17.1)	0.25(0.61)
19. I was blamed for my HIV status.	53 (69.7)	23 (30.3)	0.45(0.76)
20. Someone tried to get me fired from my job.	71 (93.4)	5 (6.6)	0.09(0.37)
21. My employer denied me opportunities.	72 (94.7)	4 (5.3)	0.08(0.39)
22. I was denied health care.	70 (92.1)	6 (7.9)	0.14(0.56)
23. I was refused treatment because I was told I was going to die anyway.	73 (96.1)	3 (3.9)	0.04(0.20)
24. I was discharged from the hospital while still needing care.	71 (93.4)	5 (6.6)	0.09(0.41)
25. I was shuttled around instead of being helped by a nurse.	68 (89.5)	8 (10.5)	0.13(0.41)
26. At the hospital/clinic, I was made to wait until last.	69 (90.8)	7 (9.2)	0.16(0.54)

Table 4.5 *Continued*

Descriptive Statistics for 33 Stigma Items (N=76)			
Item	**Never n (%)**	**Once or More, n (%)**	**Mean (SD)**
27. At the hospital, I was left in a soiled bed.	75 (98.7)	1 (1.3)	0.03(0.23)
28. In the hospital or clinic, my pain was ignored.	71 (93.4)	5 (6.6)	0.13(0.53)
29. I felt that I did not deserve to live.	62 (81.6)	14 (18.4)	0.28(0.69)
30. I felt ashamed of having this disease.	52 (68.4)	24 (31.6)	0.49(0.83)
31. I felt completely worthless.	52 (68.4)	24 (31.6)	0.54(0.90)
32. I felt that I brought a lot of trouble to my family.	62 (81.6)	14 (18.4)	0.26(0.62)
33. I felt that I am no longer a person	70 (92.1)	6 (7.9)	0.15(0.54)

4.2.2: Q2: Is there a relationship between HIV stigma and key sociodemographic factors?

Chi Square statistics and Phi coefficients were computed to explore the relationship and strength between the binary variable HIV stigma and nominal variables. The four significant findings are reported in Table 4.6.

Table 4.6: Chi Square Test Results (N=76)

	Value X^2	df	Phi Coefficient	Sig.(2 tailed)
Employment Category	9.32	1	0.35	0.00
Years of Work Experience	6.97	1	-0.31	0.01
Annual Salary	4.02	1	-0.24	0.05
Years Living with HIV	5.07	1	-0.26	0.02
*Correlation is significant at 0.05 level				

A moderate positive correlation was found between HIV stigma and employment category. A moderate negative correlation was found between HIV stigma and years of work experience meaning that as years of experience increased, stigma decreased. Weak negative

correlations were found between stigma and annual salary, and stigma and years living with HIV. This means that as both salary and years of living with HIV increased, stigma decreased. The four significant variables were then entered into a standard logistic regression model to assess whether these variables were predictive of HIV stigma.

4.2.3 Q3: Are Socio-demographic Factors Predictive of HIV Stigma?

Spearman Rho correlations between the independent variables ranged from 0.04 to 0.50, tolerance coefficients ranged from 0.71 to 0.95 and variance inflation factor (VIF) coefficients ranged from 1.06 to 1.41 thus ruling out multicollinearity. According to Pallant (2011) VIF values should be less than 10 and tolerance values should be less than 0.10. Multiple logistic regression was computed to assess the impact of relevant variables on the likelihood that subjects would report that they had experienced HIV stigma once or more times. There were 5 cases with missing values. Therefore, 71 cases were available for final analysis. The model contained four independent variables (years of work experience, employment rank, years living with HIV, and annual salary correlated with HIV stigma as the dependent variable The full model with all predictors was statistically significant, χ^2 (3, N=71) =16.23, p <0.05, indicating that the model was able to distinguish between subjects who reported stigma and no stigma. The model as a whole explained between 20.4% of the variance in stigma (Cox and Snell R square) and 30.6% (Nagelkerke R Square), and correctly classified 76.1% of cases.

Table 4.7 shows the adjusted and unadjusted, odds ratios and 95% confidence intervals for odds ratios for each of the predictors. The strongest predictor of reporting stigma was employment category (adjusted OR= 4.597; 95% CI 0.901-23.443).Although it initially appeared that work experience, employment category, and years living with HIV were significant predictors for stigma, further exploration with logistic regression indicated otherwise. None of the variables was predictive of stigma in this population. However, years of living with HIV approached significance with a p value of 0.05.

Table 4.7: Adjusted & Unadjusted Associations between Stigma & Significant Variables (N=71)

Predictor	**Unadjusted**				**Adjusted**			
			95% CI				**95% CI**	
	OR	*p*-value	Lower	Upper	OR	*p*-value	Lower	Upper
Years of Work Experience	0.21	0.01	1.41	16.45	3.44	0.08	0.90	13.50
Employment Category	6.89	0.01	1.80	26.43	4.60	0.07	0.90	23.44
Annual Salary	0.27	0.06	0.07	1.03	1.05	0.96	0.19	5.94
Years Living with HIV	0.20	0.04	0.04	0.91	0.18	0.05	0.03	1.01

4.3 Summary of Quantitative Findings

In summary, overall the stigma levels in this sample were very low. The negative self-perception and verbal abuse subscales had the highest means while healthcare neglect and workplace stigma had the lowest means. Significant associations were found between stigma and four demographic variables: annual salary, employment rank, years living with HIV and years of work experience. Following logistic regression, none of predictors made a statistically significant contribution to the model. Qualitative findings and subsequent triangulation of mixed methods findings are discussed in the next section.

4.4 Qualitative Findings

4.4.1 Qualitative Sample Characteristics

Of the 20 volunteers interviewed, four were males and sixteen were females. Thirteen of the subjects were nurses, eight were married, 10 were widowed, and 11 of the subjects were between the ages of 41-50 years. Most of the subjects in this subgroup had attained diploma level education and had more than fifteen years of work experience. At the time of this study, most participants had accepted their HIV status. Sixteen participants had received workplace stigma training, all s had disclosed their HIV status to someone, and all were caring for HIV

patients. Fourteen of the participants acknowledged the presence of a workplace support group for HIV positive HCWs. Only one of the participants was not receiving antiretroviral therapy. Subjects also reported that HIV was widely described in the community as the “slim disease”, “big disease” or “killer disease”. Those with HIV were also referred to as “skeletons”. Within the healthcare settings in the patient charts medical professionals, preferred to refer to HIV with acronyms such as ISS (immunosuppressed), ARC (AIDS Related Condition), 0-React (Sero-reactive). Qualitative analyses were aimed at enhancing richness of data obtained by quantitative methods. Subject responses to the following questions were explored:

1. How does the HIV positive HCW manage personal health?
2. What is the HCWs’ experience with stigma in the workplace?
3. What is the HCWs’ role in reducing stigma?
4. Is there a link between quantitative findings, emerging qualitative themes, and the socioecological model?

4.4.2 Codes & Themes

A list of codes was generated, categorized, and analyzed for themes. Selected codes and emerging themes are presented in Table 4.8

Table 4.8 Codes and Themes

	Codes		Themes
Managing Personal Health			
1	“Exercising” “ A bit of exercise” “Controlling my weight”		Living Positively
	“Taking a proper diet” “I eat fruits” “Balanced diet” “Take my medications” “Seek care promptly”		
	“Counseling” “Positive thinking” “I keep busy” “I practice safe sex” “Stress management”	“I engage in many activities ““ I use condoms” “ I use gloves” “Prevention with Positives”	

Table 4.8 *Continued*

Stigma Experiences		
2	"Other people's illness" "Your mistake" " Missing work too much" "People still blame somebody for getting HIV"	Blaming
3	"People did not understand" "Lack of knowledge" "Fear of unknown" "Lack of knowledge of status of person living with HIV" "Ignorance"	Lack of knowledge
4	"…there was a lot of stigma" "..at the beginning, there was a lot of stigma.." "not comfortable at first" "stigma is dying off"	Changes over time
5	"Friends, colleagues came together" "Shoulder to lean on" "Encouragement from my sister" "Formed a support group" "Joined a support group"	Support
6	"I know how they really feel" "We can walk together" "they need our love" "Feel what they feel" "I was also among them"	Empathy
7	"My future is bright" "Living for a reason" "HIV will not stop me from doing anything I want to do" "I have confidence"	Optimism
Reducing Stigma		
8	"It's just like any other sickness" "Taking it as normal" "Want to live a normal life" "I took it as a normal thing"	Normalizing
9	"They tell clients go and know your status yet they don't get tested" "Know your own status" "Lead by example" "Should not stigmatize others" "Get tested"	Leading by example
10	"We need to advocate, educate our people" "Get well informed" "Talk openly" "Sensitization" "Health messages" "Workshops and trainings" "reach out to others" "Prevention with Positives" "Workplace policy" "Public Speaking"	Empowerment

4.5 Description of Themes

Qualitative interviews yielded ten themes. Theme one *living positively* was a broad theme related to managing personal health. Six themes emerged on stigma experiences of subjects, and three themes emerged on ways of reducing stigma in the workplace. Through the use of triangulation, the themes were organized, and linked to the six domains of the stigma instrument along with the socioecological model. Emerging themes include: *blaming, changes over time, support, empathy, normalizing optimism* and *lack of knowledge.* Two of the themes (blaming and lack of knowledge) were categorized as negative themes while the rest were categorized as positive themes.

4.6: Q1 Managing Personal Health

4.6.1: Living Positively

Participants were asked how they managed their health in addition to "seeking care" and taking ARVs. Most of the participants had assumed a proactive approach. Participants felt that disclosing their HIV status to others was an important first step in managing their health. Once they had disclosed their status, they were enrolled in "HIV care" to access treatment.

> *"For one, my own health for the first time I knew my status, shared with my friends. I enrolled myself for care and have been going regularly and adhering to the drugs the way I have been told. And at the same time I disclosed to my children so that they can give me support and my friends so that whenever am ailing I can refer. And whenever I go for treatment, like last week there was free treatment at the provincial hospital they were checking people's kidneys, I was there to check my kidney. Though they were like you are normal the baselines are normal but I demanded no you must check my kidneys. I have been on ARVs for the past six years so I know ARVs can damage my kidney. So I am free to tell them this is my condition and I want to be treated" (Participant 100)*

Most participants accessed care at their places of employment. Almost all participants agreed that they adhered to their ARV regimen almost 100% of the time. Occasionally, they would forget or delay taking their medicine if they were busy at work.

"I take them every day. I don't miss. But sometimes you are somewhere else, at workplace like I am busy…..attending to somebody definitely I would be late with some five to ten minutes because I have to finish first then rush and take my drugs." (Participant 144)

Some participants also raised concern for other HIV positive healthcare workers such as doctors and administrators who did not access care.

"… the administration, I think they are still stigmatized even if they don't do it openly. Also the special cadres. like we have a few may be who are coming in our support group like clinicians and when they come and find us it is like, it is only for nurses, you would find in that meeting three quarters are nurses and maybe support staff. Other cadres are still afraid to come up. At the same time, our doctors accessing care is a big issue, so I think our administrators should also be sensitized. They should come up because HIV is affecting everybody across the board" (Participant 100)

Several participants also alluded to the fact that working night shift presented unique challenges for the HIV positive HCW.

"..with the dayshift I don't have any problems but the night shift really brings problems…on the night shift you are predisposed to having upper respiratory infections…..You will get yourself having pneumonia or having the colds, you are coughing, then with the mosquitos…(Participant 138)

You know like night duty, at times is a problem with my chest. So, I have to take care of that, you have to put on warm clothes …. (Participant 139)

Most participants were receiving first line treatment and several of them experienced common side effects such as fatigue, peripheral neuropathy, and abdominal swelling. Some of these side effects contributed to negative self-perception

"I had lipodistrophy, painful abdomen, I looked so funny…" (Participant 144)

"I was taking AZT my tissues were coming out…my tummy was becoming bigger" (Participant 100).

"I developed complications, I reacted to the drugs. I developed lactic acidosis…..they stopped all the drugs for one month…they started me on second line (Participant 113).

Although most of the participants were well versed with the importance of eating a balanced diet, they also acknowledged that eating a balanced diet on a regular basis was expensive. Relaxation, stress management, exercising, weight management, practicing safe sex, and adopting a positive mentality were identified as important ways of managing personal health. Most of the participants were not supportive of the use of traditional medicine in conjunction with ARVs.

Before we were started on ARVs, we were told mixing the two is not good…because we don't know the strength for traditional medicine so don't mix ARVs with traditional medicines (Participant 144)

"…but for traditional medicine, I am not for it. Even when somebody tells me he wants to remove me from ARVs, I would not agree…I don't accept that unless somebody comes out with very concrete research" (Participant 139)

By engaging in the various activities participants felt that they were enhancing their physical, emotional and psychological wellbeing.

4.7 Q2 Stigma Experiences

4.7.1 Blaming

When asked to describe their experiences living with HIV in the workplace *"blaming*" was a recurrent issue. Blame was viewed in two ways. There was blame coming from others e.g. co-workers. Participants felt that disclosing their status brought into question whether or not they could be relied upon to come to work.

"If you were sick, it was like that is your own problem. That is your own sickness, those sickness of yours and you are like ever on sick off" (Participant 100)

"It was like you are absenting yourself from work too much" (Participant 101)

Participants also reported self-blame that was often accompanied with feelings of shame and guilt. There was the underlying notion that the health worker was not supposed to have HIV.

"I would pretend it's not there. You want to be a nurse. You want to be a health worker but down inside me this thing was really eating me … I would blame myself…you know you really want to know where you went wrong, you wonder what is wrong with you that you really have to suffer through this thing (Participant 105)

At times participants felt that the blame also came from their employers

"If you go late, you are asked why are you late without knowing that maybe it was due to drugs that makes you tired" (Participant 137)

"Maybe according to my bosses, maybe they were seeing that most of the times I was absent due to my condition, but they understood that I was sick…"(Participant 151)

Blame therefore occurred across several levels, intrapersonal, interpersonal, and institutional.

4.7.2 Lack of Knowledge

Lack of knowledge and understanding of HIV related topics was a concern among HCWs. Contrary to public perception that HCWs are knowledgeable on the subject, some participants expressed that they too lacked the knowledge or were "ignorant." Participants expressed the need for ongoing education beyond basic health training.

"I think basically most of us like the health workers; we still need to be given a lot of information. For instance, you can assume that the nurses or even the doctors and the clinicians they know a lot about HIV. For me, I think it is something we need to revisit again and again (Participant 105)

"…..and then, these health workers they should not be assumed that they know. Like me for example I was a health worker. I have been a health worker for 13 years now. I never valued about HIV testing. I never got anybody telling me about HIV testing. I only had the basic knowledge that I had from college. I also knew that that one is for promiscuous people. Me, I was never promiscuous. So even I have two daughters can

you imagine they are also positive and they are taking drugs? Just because I was ignorant. I did not bother about anything, I was testing mothers during their pregnancy, giving them results, doing pre and posttest counseling, registering them to the PMTC clinic, and myself, I never did anything to myself. You see, now I made my children, they are all positive. They are living with HIV and are taking drugs…" (Participant 113)

The lack of knowledge was also attributed to moral judgment and the misconception that HIV/AIDS primarily affects promiscuous people.

4.7.3 Support

When asked about positive experiences in the workplace as a result of disclosing HIV status, most participants cited support from others as important in helping them cope with HIV in the workplace. Support was discussed in the context of leadership and management, as well as support from friends, family, and co-workers. Support came in the form of training, meeting space, meals and time allocated to attend support group meetings, For many participants, those in authority often made special arrangements to accommodate the HIV related health needs of the HCW

"Yeah like me we have a very good in charge. I don't do night duty because the cold affects me a lot…. Like on Friday will be my day of clinic, you don't line up if they know you are staff you just take your card and they will serve you very fast (Subject 104)

I can say with my senior in the office when I was critically ill with meningitis…they had to remove me from the pediatric ward where I was working and took me to a lighter ward which is the eye ward (Participant 106)

Participants referred to the free access to ARVs as well as the HIV workplace policy as indicative of institutional support. Such support prevented negative events such as discrimination or denial of opportunities in the workplace. Mixed feelings were expressed about some accommodations made by employers. Some participants felt that being deployed to less stressful departments like the theater sterilization unit (TSU) was a protective measure taken by employers to help the HIV

positive employee. Those who worked in the TSU primarily handled sterilization of equipment. For one participant, being transferred to this department was a good thing

"…. To me it was relief! There was much work but away from patients…most people who are there are HIV positive. Yeah in some way it looked like discrimination. To me, it was benefitting because it was away from patients…" (Participant 144)

For others, such deployment fueled stigma since those subjects who worked in this department were assumed to be HIV positive.

"…so sometimes you could be deployed somewhere and then an in charge could just comment that you are just bringing for me a sickling, so you see now, you would feel demoralized that now they are just bringing this person here and they used to put the sick bed people to work together. You know the sterilization unit so that is where they used to dump most of the sick people. Even me when I came, immediately I fell sick. After I came from the hospital, I was deployed in the TSU that is Theatre Sterilization Unit. So the people knew if you are working in the TSU, you are HIV positive but later when we discussed about it, when we were doing the sensitization, we raised the complaints and nowadays we are scattered everywhere so nobody may just come and pick and say that this one is HIV positive and is working here…" (Participant 113)

"…but the place where I was taken, so many people believed even up to now, people believe in that department those who are sick are the people being taken there… (Participant 138)

4.7.4 Empathy

Participants were asked to reflect on the way they treated their patients before they were diagnosed with HIV and after they were diagnosed with HIV. Majority of the participants felt that they did not stigmatize patients prior to knowing their HIV status. Most of them acknowledged that knowing their HIV status had influenced the care they give to their patients in a positive way. There were deep sentiments of empathy.

"*Now I know how they really feel (Participant 102)*

Having known my status and having known how much I can do to support myself, it is a driving force for me to make somebody else know that they can take care of themselves (Participant 101)

No, I have realized that with HIV we are all at risk. Those patients, if we discriminate against them, they need our love the way I also used to feel when I was in that state, down! I needed people, I needed love, so I like them and I really associate with them (Participant 103)

Empathy had to be felt from within. Once subjects accepted their own situation, they were able to empathize with others including their patients and co-workers.

"….the stigma is because the people who are with you do not know what you are suffering from and how they can assist you. If they know that they can be of help, I am sure they will…. "(Participant 101)

In order for others to empathize, it was important that the HIV positive HCWs disclose their status.

4.7.5 Changes over Time

Through attentive listening it became apparent that participants often made reference to higher levels of stigma that existed in the past, prior to disclosure of their HIV status, prior to starting ARV therapy or prior to implementation of HIV workplace policies and training. Participant responses suggest that there has been some evolution/change over time. These changes also occurred across different geographic settings. One of the participants who had been living with HIV since 1992 put it this way

"…in the year 1992 and during that time to be precise enough, there was a lot stigma. More so I relate it to the fact that there was no intervention that was available at that time. Therefore it made people kind of reserved with information…." (Subject 101)

Another participant who had been living with HIV since 2008 put it this way:

"….if I did not move from Kisii to Kisumu I could have been dead by now because, in Kisii there is really stigma but in Kisumu at least people are aware, people are exposed and you cannot even imagine that somebody is taking the drugs… they have been supporting us. Taking us to various trainings, and now like prevention with the positives, we have undergone that stigma reduction training. We have done home based care. The whole group we have also done public speaking…." (Participant 113).

"The first few years when I discovered I had HIV, there was a lot of stigma….in those years before the work policy was in place, it was not easy (Participant 100)

"..with time people have changed because they are seeing even the people with high standard or authority, everybody is almost affected. Again we are realizing the even those who are not infected they are affected. They have seen a brother, a sister dying so the stigma is dying off" (Participant 103)

Overall, the changes that had occurred were viewed as steps in the right direction.

4.7.6 Optimism

For most participants, the initial HIV diagnosis presented a bleak future. Some participants did not engage in saving for the future or pursuing higher education. Although some were already on second line treatment, most subjects remained optimistic and hopeful. Participants had some reassurance about the future based on the fact that many of them had been living with HIV for a long time and were already accessing treatment. They felt they could continue living and pursuing their goals.

"Basically, I see a bright future because you know my understanding before was that, that was just the end of the road. I have seen many many other people who have also been through the same same thing. They are outside there, and they have never died and I don't know why I was actually clinging on this and waiting for my death so it is like anybody will die. It is like everybody will die at one time we don't know when so I just have to move on just the same way the rest of the people are…" (Participant105)

"Very bright! I am seeing that my dreams unless there is an accident or tragedy but not HIV. HIV will not stop me from doing anything I want to do". (Participant 153)

Optimism also emanated from the support and encouragement that came from others including peers and administrators.

".. we share the problems that we have and then we try to solve each other's problems. That is how we have survived all along. Then the administration of the hospital is also supporting us. The administration is very happy because now that we started the group and it is strong, now people are not even sick so the output is high. We are now coming on duty. They are not sick. Like now for me, when I came, I had not even worked. I was very sick for many weeks. But now that I belong to the group, we are supporting each other. In fact the people who are working hard in the hospital are the people who are living positively because you know when you have undergone these things, you have been very sick with HIV. And you know you are HIV positive you try as much as possible to keep yourself ok so that you also reduce that stigma in you. So that people will not be saying that that one is admitted and it is obvious that one is positive. So most people who even go for sick offs are not even the HIV infected and the HIV infected people are always on duty so the administration is very happy…(Participant 113)

The sense of optimism was not just a personal thing; it was fueled across several levels of influence.

4.8 Q3 Reducing Stigma

Participants were asked to identify the role of the HCW in reducing stigma in the workplace. Three themes emerged: normalizing, leading by example, and empowerment.

4.8.1 Normalizing

Many of the participants expressed that they just wanted to be treated as "*normal*" or as one participant put it be "*accepted as human beings*" (Participant, 100). In some instances, they mentioned how others were shocked when they disclosed their HIV status, yet they looked normal. It was evident that they were expected to look differently

"I tell them me I am on ARVs but they believe you are lying …because they don't see me as if I am sick or the way they feel I should be. Maybe I should look a certain way.." (Participant, 102)

"I did not really look sick so they got shocked which also affected me in a way" (Participant 140)

"First I think nurses should take HIV as any other disease" (Participant, 100)

"I would rather encourage the nurses and health workers first and foremost get informed about HIV. You will know that HIV can be managed as any other illness (Participant 101)

"I just have to move on just the same way the rest of the people are…" (Participant, 105)

" I feel we should test just like the usual screening that we go through. HIV should also be part of it…." (Participant, 105)

But for others, the sentiment was different suggesting that the HIV positive HCW was "not normal" and ought to be treated differently

"….especially at night with us we need to rest because our body is weak. But, it is forcing us to work as any other person. So at night you work like any other person. In the morning, you will get very tired. You get weak. Somebody is seeing as if you are very sick. I think even if they can just say we work during the day short hours and then most of the time you rest then I think we can be somewhere (Participant, 137)

"…Well, with Kenyans of today, I don't think they are being so lenient to those who are having HIV/AIDS. Because we would like to have if at all the policy can say we work even half day, compared to those who are healthy. It can also be good for us because we are straining. I don't know what the government can do about that policy. It can really help us and then there is compensation. You know, sometimes the treatment is very expensive, we are glad they have given us the ARVs but it is not enough so as human beings we never get enough any way… (Participant, 139).

From these illustrations, it became clear that for normalization to occur, all factors but particularly socio-cultural factors across all levels of influence must be addressed.

4.8.2 Leading by Example

"Leading by example" was a sentiment shared by many of the participants. Participants felt that, in order to address stigma, HCWs must first get tested and know their status. This also meant that HCWs should not stigmatize others.

> *"…actually I don't know because they are my workmates, and they are also professionals, who also nurse the same patients, yet, the message they give the patients they are not doing themselves..." (Participant 106).*
>
> *"First, I think they should not be showing any bad attitude towards somebody. They have known their status at their work and you know they should also assist their colleagues in the work place who they know their status. By having HIV in the work place so that, they encourage them to come up and live positively with their status..." (Participant 114).*

On further probing, participants were asked their opinion on a policy that would require mandatory HIV testing for all healthcare workers. It was apparent that subjects had mixed feelings about this

> *"… I feel it is a good strategy; actually we should encourage all of us to know their status … because some of us wait until now you know the progression has gone so far. You know actually, we don't need to wait until it is that bad. I feel we should test just like the screenings, the usual screenings that we go through. HIV should also be part of it. They make it just a routine and you check your HIV status so that you can know how to help it before it is too late … (Participant 105)*

For another participant this issue was not as clear. There were sentiments of concern for confidentiality

> *"…I think if it is put as a policy, then that one should be one of the best ones. Maybe it should be a requirement, but given an option of how somebody can do it. Maybe you do it the way you feel it comfortable. But it should be a mandatory that you should know your status, because to some people they might not want the next person to know their status, but there should be something like that" (Participant 114)*

4.8.3 Empowerment

Most of the participants agreed that the key to reducing stigma lies in getting more training, gaining more knowledge, and empowerment. Knowledge and empowerment seemed to go hand in hand. Participants agreed that first the health workers themselves must "*be hungry for knowledge*" and be equipped with the correct information. Once this was in place, the HCWs would be better placed in educating others including patients, co-workers, and community at large. Participants also felt that organizations and government should invest in education and training opportunities for HCWs.

> *Ok, what I can just propose is just giving the health workers messages. You know, people just assume that the health workers know everything. They go train other people outside, maybe the chiefs, teachers, the other civil servants. They forget that the health workers also need the trainings. So, that is why very many health workers are suffering and you know people outside there, value health workers. They know that their life relies on the health workers. So if you again start saying that that health worker is sick, they will lose trust in you. So I think these organizations, even the government, should at least make some ways so that at least they start the trainings to the health workers so that, when they go outside, you know, that some of these people outside they are so much aware of HIV than the health workers themselves. And when they come to confront you, you know you look like a fool. They think that this person now what is happening to this person so they should just start from the grassroots (Participant 113)*

One participant made it clear that, although being denied opportunities in the workplace was no longer a common experience, it could still happen if one allowed it to happen.

> *"…when there is an opportunity for training, people would think that sometimes you don't deserve to go there. They would rather give it to someone else, but for me I am a fighter. I will not let my chance go… I have seen it happen. Basically it has not happened to me because I would not let it go. I know my right (Participant 105).*

4.9 Summary of Qualitative Findings

HIV positive HCWS in this study had both negative and positive experiences in the workplace. Negative themes related to these experiences included the issues of *blame* and the *lack of knowledge* which continue to fuel stigma. HCWs also had positive experiences that *included living positively, support, empathy, optimism, and changes over time*. To reduce the negative experiences, HCWs in this study felt that *normalizing HIV, leading by example, and empowerment* are key strategies for reducing stigma in the workplace.

4.9.1 Triangulation of Mixed Methods Findings

Triangulation seeks to obtain different but complementary data on the same topic to best understand a research problem (Creswell & Clark, 2007). Integration of data can take three approaches: merging, connecting, and embedding (Creswell et al. 2010). Merging was used in this study. According to Creswell et al. merging involves the combination of qualitative data in the form of texts or images with quantitative data in the form of numeric information. To facilitate triangulation of findings, Tashakori (2006) suggests that a researcher evaluate where quantitative and qualitative findings are congruent, divergent, or add insight to one another for each thematic area (Tashakori, 2006). Integrated results can be reported together in the form of a discussion and can be displayed in tables or figures as in Table 4.9 (Creswell et al. 2010).

Table 4.9 Triangulation of Mixed Methods Findings

HASI-P DOMAIN	Illustration	Qualitative Theme	Corroboration	**Link to Socioecological Theory**
Verbal Abuse (Mean=0.39)	*"Yes there are certain words that they use the big disease the disease where the crocodile has bitten you therefore there is no escape. It is easy to express in mother tongue in mother tongue it flows "nyang omaki apana buotha". There are so many, there are so many "ayaki" that means that it is something which is really eating you so it has been given so many names " (Subject 102)*	Blaming Lack of Knowledge	*Convergent* *Convergent*	Interpersonal Institutional Community/Societal
Negative Self-Perception (Mean =0.35)	*"….so after his death is when I started having the swelling abdomen people said the husband left him with pregnancy but when is this pregnancy being delivered even me I was ashamed I could not put on my clothes my abdomen was big and I said what is this and my hands were growing thin so I said what could this be every time I go to the clinic I would complain to them surely my abdomen is becoming big and am seeing my hands are growing thin veins were just protruding nobody could tell me it was the reaction of that drug …" (Subject 137)*	Living Positively Optimism	*Convergent* *Convergent*	Intrapersonal Interpersonal
Social Isolation (Mean= 0.28)	*"also like that time when my health had deteriorated so much they were not free with me. They could keep me off nobody comes near you, you are like isolated. But when I gained strength and body structure now am coping with them they are doing well" (Subject 103).*	Support Changes over time	*Convergent*	Intrapersonal Interpersonal Institutional Community/Societal Public policy

Table 4.9 *Continued*

Healthcare Neglect (Mean =0.10)	*"and you know sometimes when you are sick and you also have to be in good terms with your workmates your attitudes can also make your work mates also hate you. I would not say they have been bad to me except on treatment sometimes the hospitals has not managed to buy the drugs like when I had the viral infection"(Subject 106)*	Empathy Living Positively	*Convergent*	Interpersonal Institutional Community/Societal Public policy
Workplace Stigma (Mean =0.09)	"*there are certain managers once they learn about the status you find that somehow the way they look at you now it is a bit different. They feel this person could be dying soon. You feel they have some change of attitude a bit they have some discrimination to some extent although they don't want to show it but you can see" (Subject 102)*	Support Changes over time	Convergent	Interpersonal Institutional Community/Societal Public policy
HASI-P Overall Scale (Mean= 7.88)	*"then I also think that we should at least empower our people. Let us give them a lot of information. Especially the nurses and doctors need to be given the skills and knowledge. It is not that they know it all. We assume that we know it while we still have limitations somewhere. Then I think also in this area of stigma the nurses should really come out to be supportive to our patients we should not stigmatize them." (Subject, 105)*	Empowerment	Convergent	Intrapersonal Interpersonal Institutional Community/Societal Public policy
	Basically just like I started earlier I think all the nurses it is like we need to lead by example. Can we also know our status ourselves? Then if you can experience what these others are going through especially when they are taking that positive result or a negative result you know you will compare it with your feelings…" (Subject, 105)	Leading by example	Convergent	
	"I would rather encourage the nurses and health workers first and foremost get informed about HIV. You will know that HIV can be managed as any other illness (Subject 101)	Normalizing	Convergent	

Q4: 4.9.2 Is there a link between quantitative findings, emerging qualitative themes, and the socioecological model?

The ten themes discussed are not mutually exclusive but are inextricably linked. These themes were further linked to the six domains of the HASI-P and then interpreted from a socioecological lens (Table 4.9). Although the means for each of the subscales were very low, verbal abuse and negative self-perception had the highest means. Verbal abuse includes ridicule, insults, and blame aimed at the PLWA. Negative self-perception refers to negative evaluation of self, based on HIV status (Holzemer et al. 2007a). Both of these subscale domains can cut across the intrapersonal, interpersonal, institutional, and community/societal levels. At the *interpersonal* level, 30% of participants in this study had been blamed for their HIV status at least once (item 19). At the *intrapersonal* level, 32 % felt ashamed of having the disease (item 30) and felt completely worthless (item 31). The blame whether it was self-blame or blame from others was largely uninformed blame and could be partly attributed to a lack of knowledge as evidenced by some of the participants remarks. At *the community/societal level* "p*eople did not understand", there was also the "fear of unknown," "I never thought about testing myself".* Despite the feelings of shame and worthlessness, participants adopted a proactive approach (intrapersonal) to managing their health by *living positively*. Additionally, adopting a positive mindset fueled a sense of hope and *optimism*. "*HIV will not stop me from doing anything I want to do."* The themes blame and lack of knowledge are convergent with quantitative findings. Verbal abuse, although low, was still an issue for this population because of blame and lack of knowledge. Meanwhile negative self-perception remained low partly because participants were optimistic and living positively.

Social isolation (mean = 0.28) refers to limiting social contact or breaking off relationships because of HIV status (Holzemer et al. 2007a). Fear of contagion (mean =0.13) refers to fear of close or direct contact with the PLWA (Holzemer et al. 2007a). Twenty two percent of participants reported at the interpersonal level that "someone stopped being my friend" (item 7). Eleven percent of subjects reported "I was asked to leave because I was coughing"

(item 6). Qualitative comments added more insight. Such experiences happened in the context of early diagnosis of HIV status. For example, the issue of sharing teacups in the workplace (*institutional level*) was a common example illustrating the fear of contagion that fueled social isolation. Due to *changes over time*, sharing of teacups was no longer viewed as an issue. Participants felt that the support mechanisms at the *interpersonal* and *institutional* level including, sensitization efforts (institutional and community levels) had made a difference. This was evident in participant remarks "*friends, colleagues came together", "I got encouragement from my sister", "joined a support group".* Support and changes over time are two convergent themes that support the low social isolation scores in this population.

Healthcare neglect (mean = 0.10) refers to giving less than adequate care or denying care to PLWA due to HIV status (Holzemer et al. 2007a). Workplace stigma (mean = 0.09) refers to disallowing access to employment or work opportunities based on HIV status (Holzemer et al. 2007a). At the institutional level, only 11% of participants felt "shuttled around instead of being helped by a nurse" (item 25). As HIV positive HCWs, working in a healthcare setting, participants mentioned that quite often, they received preferential treatment. The fact that others were empathetic towards their needs also drove the participants to be empathetic and reach out to their coworkers.

> "*There is a positive response. Because, like on Friday will be my day of clinic. You don't line up if they know you are staff. Just take your card and they will serve you very fast." (Participant, 104)*
>
> *"…. or you see your colleague is ailing. It is better you move closer to her or him. I can see you have been unwell going for treatment but have you tested your HIV status. Some are very good and will open up, but some will remain in that denial. But you should not stop there, continue until the day that person can open up himself or herself" (Participant, 103)*

Meanwhile almost 95 % of the subjects did not experience any of the workplace stigma items. Most subjects had lived with HIV for more than five years (67%) and 51% had more than

15 years of work experience. Once they had disclosed their status, participants expressed that their co-workers and employers were generally supportive and positive in their response. Participants had taken a proactive approach to their health by *living positively*. Thus, both *empathy* and *living positively* were convergent themes that helped explain the extremely low healthcare neglect findings. Meanwhile support and changes over time help explain the low workplace stigma scores. Overall the HASI-P scores were low (mean = 7.88). The three themes on reducing stigma: *normalizing*, *leading by example*, and *empowerment* add meaning to the quantitative findings. It is possible that participants had already adopted these strategies in managing stigma in the workplace, hence the low overall scores. Socioecological perspectives can both explain health behavior and design related health promotion interventions (Eddy et al. 2002). Thus, any stigma reduction efforts must incorporate strategies that cut across all systems and levels of influence including intrapersonal, interpersonal, institutional, community/societal and public policy levels

4.9.3 Chapter Summary

In this chapter the mixed methods triangulation results of the study were presented. Links between the quantitative findings, emerging qualitative themes, and the socioecological theory are illustrated. Qualitative findings were used to corroborate quantitative findings. Overall stigma scores and subscale scores were low. Qualitative findings were generally consistent with quantitative findings, shedding light, providing clarification, and additional information.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

This chapter will include a discussion of the major quantitative and qualitative findings of the study. Strengths, limitations, and implications for nursing policy and practice are presented. Recommendations for stigma reduction interventions will be presented from a socioecological perspective. The chapter ends with specific recommendations for additional research.

5.1 Discussion of Quantitative Findings

The sociodemographic characteristics of this sample were typical of studies conducted in Africa (Holzemer et al. 2009a; Sorsdahl et al. 2010; Singh et al. 2011). Most subjects were female (84%) and were between the ages of 41 to 50 years (45%). The sample in this study, however, was not representative of the HCW population in Kenya. This sample was unique because it only included HIV positive HCWs from a specific geographic setting, majority of whom represented the *Luo* ethnic group. The Luo ethnicity represents 11% of the population in Kenya. Most subjects were recruited from workplace support groups for HIV positive HCWs.

Except for the workplace stigma subscale, the internal consistency for the total HASI-P instrument and the other five subscales (Table 3.4) were comparable to those of the original study (Holzemer et al. 2007b). The internal consistency for the overall scale in this study was high (0.95). It is possible that in this sample, the workplace stigma subscale was not reliable since most subjects in this study were already members of a support group in their workplace. Since the HASI-P is a newly developed tool, further evaluation of the two items that measure workplace stigma is recommended.

Overall, very low levels of stigma were measured in this study. Most of the subjects in this study (99%) had disclosed their HIV status to at least one other person, and 76% had disclosed to a co-worker (*interpersonal level*). There is little research available specific to

disclosure in the workplace setting. Disclosure has been linked to lower levels of stigma (Patel et al. 2012, Pearson et al., 2009). At the interpersonal level, stigma can hinder disclosure of HIV status in the workplace (*institutional level*). In their study, Sorsdahl et al (2011) argue that those who do not disclose HIV status are less likely to experience social isolation, fear of contagion, and verbal abuse as measured by HASI-P. Consequently, they are likely to report low stigma scores. Contrary to this, Coetzee et al. (2011) linked non-disclosure to higher levels of stigma, poor adherence to ARVs, and inability to form strong social networks (Coetzee et al. 2011). Subjects in this study suggested that their disclosure experiences whether to family members, co-workers, or friends were generally positive experiences met with positive reactions. Thus, it is possible that since these subjects were recruited from workplace support groups, their stigma levels were already low to begin with. From a socioecological perspective, it could be argued that if the subjects in this study had not accepted their HIV status (intrapersonal level), disclosed their status (interpersonal level) nor accessed treatment (institutional level), they would have been less likely to have formed the strong workplace support groups (Interpersonal level). Consequently, both internal and enacted stigma levels would have remained high.

Consistent with Sorsdahl et al., (2011) and Holzemer et al. (2009), the workplace stigma subscale (mean = 0.09) and healthcare neglect subscale (mean = 0.10) had the lowest mean values. Several explanations are offered for this. The fact that more than 90% of subjects did not experience the healthcare neglect items suggests that their healthcare needs were being met. Most subjects in this study did not require treatment for their own personal health in the preceding 3 months as measured by the HASI-P (Holzemer et al. 2009). Subjects in this study were ambulatory and generally appeared to be in good health. The verbal abuse subscale (mean= 0.39) and negative self-perception subscale (mean = 0.35) had the highest means. This suggests that internal stigma (while low) remains an issue for the HIV positive HCW. At the individual/intrapersonal level, HIV stigma can have negative social, physical, and psychological effects on an individual (Ickovicks et al. 2007). Both internal stigma as well as enacted stigma can hinder health-seeking behavior of PLWAs (Mbonu et al 2009). Therefore, as a first step, at

the *intrapersonal/individual* level, the HCW must personally decide to seek HIV testing, prevention, counseling, and support services. Once the HCW accepts their HIV status, they can begin to build interpersonal relations with their peers.

Consistent with findings in a study by Holzemer et al. (2007b), workplace stigma was almost non-existent in this study. Holzemer attributes the low workplace stigma scores in their study to the high levels of unemployment in their sample. The current study however included HCWs who were gainfully employed; most subjects worked 20-40 hours per week (41%) and 90% had a certificate level of education. Whereas 54% of subjects had received some form of stigma reduction training during their basic health training, 76% acknowledged that they were receiving stigma reduction training in their current places of employment. Thus it is likely that the education efforts, along with the workplace support programs, and access to ARVs in the workplace had positively influenced the HIV experiences of the subjects. Education both general and specific to HIV has been associated with lower stigma (Brown et al., 2003, Feyissa et al. 2012; Haber et al. 2011; Kalichman & Simbayi, 2004, Mahendra et al. 2006). Higher education has also been associated with lower levels of stigma (Andrewin & Chen, 2008; Maughan-Brown, 2006; Olapegba, 2010). At the institutional level, education and training should be aimed at strengthening communication, cognitive, behavioral, and self-help skills (Brown et al. 2003).

Seventy one percent of the subjects in this study were familiar with an HIV/AIDS workplace policy. Although workplace stigma was low in this study, a recent study by Sprague et al. (2011) found marked barriers to employment among PLWAS living in Kenya and Zambia. These barriers include discrimination in hiring, loss of promotions, and terminations due to HIV status. Feyissa et al. (2012) found that HCWs awareness of HIV/AIDS rules and regulations contributes to reduction of stigma and discrimination. Andrewin and Chien (2008) found an association between awareness of a policy on HIV testing and lower stigma scores for attitudes towards imposed measures such as mandatory HIV testing. Sprague et al. argue that HIV testing for employees should always be voluntary and never mandatory. In the current study, there were mixed qualitative responses on whether or not HIV testing should be mandatory for healthcare

workers. Whereas Sprague et al (2011) assert that HIV disclosure is not necessary for employment; further evaluation of HCW attitudes towards voluntary vs. mandatory HIV testing is warranted. Opt out testing refers to instances where employers use a plan by which all employees are tested unless an employee specifically declines the test. Proponents of opt out testing argue that this may decrease stigma by normalizing HIV testing and increasing uptake of treatment (Weiser et al. 2006; Wnica, 2006), opponents argue that routine testing on vulnerable populations raises ethical concerns related to privacy, voluntariness and impact of routine testing on vulnerable populations (Kippax, 2006). Pulerwitz et al., (2008) suggest that the topic of routine testing versus opt out testing is likely to intensify. O'Keeffe (2012) found that, although HIV/AIDS workplace policies were in place at most of the facilities in Kenya, HCWs were not always involved in their development. In addition, effective implementation was lacking (O'Keeffe, 2012)

The majority of subjects (80%) had access to a workplace support group and access to ARVs (91%) at their places of employment. Bemelmans et al. (2011) found that having a dedicated staff clinic combined with an HIV support group (institutional level) can successfully enhance uptake of essential HIV services among health staff including adherence to ARVs (Wasti et al ., 2012; Wolfe et al. 2008). Most of the subjects interviewed indicated that they adhered to their medications 100% of the time. In the absence of a workplace support system for HIV positive HCWs, HIV positive nurses remain in hiding (Dieleman et al. 2007a), or create support groups albeit in a secretive way (Kyakuwa, 2009). Unlike the nurses in the current study who mostly accessed care at their places of employment, nurses in Kyakuwa's study preferred to seek care away from their places of employment. Systems in the workplace can provide a supportive environment that promotes social interaction, alleviates stigma, and facilitates HIV/AIDS disclosure in the workplace (Greeff et al., 2008; Kyakuwa, 2009). Additionally, targeted workplace support interventions aimed at promoting HIV testing, HIV status disclosure, enhancing HIV/AIDS knowledge, influencing attitudes, behaviors, and strengthening self-concept skills are integral (Mays et al. 2006).

Forty two subjects (55%) reported being absent from work due to HIV infection in the past year, while 38% had been hospitalized for HIV related illness in the past year. Colbert et al. (2010) suggest that health status is associated with disease-related stigma. HIV related illness has a significant impact on health, quality of life, social support, and health worker absence from duty (Logie & Gadalla, 2009, Tawfik & Kinoti, 2006). Support group involvement was a key strategy in coping with HIV related stigma (Nyblade, 2003). Although stigma levels were low in this group, partly because participants had adopted healthy living styles, there is still great opportunity for employers to intervene more aggressively in the workplace (Colbert et al. 2010). Reducing stigmatizing attitudes and improving work environment (institutional level) may improve quality of health services (community/societal level) and ultimately the health and wellbeing of nurses and the patients they serve (Mbeba et al., 2011; Uebel, Nash & Avalos, 2007).

There were four significant findings. First, there was a moderate positive correlation between stigma and employment category. Nurses in this study were more likely to experience stigma than the other group which included lab technicians, administrators, physiotherapist among others. Holzemer et al. (2009) argue that nurses are an excellent index for monitoring levels of stigma in the community. This is because nurses are expected to have accurate knowledge of HIV, are in close contact with PLWAs, run a high risk of occupational transmission, and carry a significant burden of care (Holzemer et al. 2009). Haber et al. (2011) found an association between the type of AIDS workers and their perceptions of associated stigma. Nurses reported higher levels of stigma than other AIDS worker groups. Nurses and doctors perceived less associated stigma directed toward them (Haber et al. 2011). Although the current study did not measure associated stigma (stigma related to caring for PLWAs) there Haber et al. 2011) reported a high degree of stereotyping of HIV/AIDS workers as being positive themselves. Therefore, it is plausible that internal and enacted stigma may be experienced differently across different groups. No analysis was undertaken in this study to determine the relationship between employment categories and internal versus enacted stigma.

A moderate negative correlation was found between HIV stigma and years of work experience meaning that as years of experience increased, stigma decreased. Most of the subjects in the current study were caring for AIDS patients and had more than 15 years of work experience (51%). Mockiene et al. (2011) found that nurses with more work experience were more willing to care for PLWAs than nurses with shorter work history. It is plausible that the exposure to PLWAs in their work settings over a long period of time contributed to the low stigma levels. Contrary to this view, Worthington et al., (2008) found a negative association between number of years of work experience and nurses' willingness to care for PLWAs. Mockiene et al. (2011) posit that willingness to care for PLWAs is likely influenced by differences in educational backgrounds. Finally, a weak negative correlation was found between stigma and annual salary, meaning that as salary increased, stigma decreased. High stigma levels have consistently been negatively associated with income (Li et al., 2009, Logic & Gadalla, 2009) Sullivan et al. (2010) found that those with higher education, higher HIV knowledge, higher household wealth, and HIV knowledge, and who learn about HIV from professional sources were less likely to hold stigmatizing attitudes.

None of the sociodemographic predictors in this study made a statistically significant contribution to HIV stigma in the logistic regression model. The strongest predictor of reporting stigma was employment category which trended towards significance (OR =4.60; 95% CI 0.90-23.44).This indicates that nurses were four and a half times more likely to report higher levels of stigma than those in the other group, controlling for all other factors in the model. However, in this study, this may have been a spurious finding since subjects had indicated that the initial categories (auxiliary nurse, staff nurse and professional nursing sister) were not mutually exclusive. Additionally, the other category included community health workers and a diverse group of other health professionals. Hossain and Kippax (2011) reported that being a nurse, medical technician, support staff (HCW other than a doctor) was predictive of stigmatizing attitudes toward PLWAs in Bangladesh. Support staff displayed the highest stigmatizing attitudes followed by medical technicians, and nurses. Hossain and Kippax (2011) attribute this to the fact

that doctors spend minimal time with patients in resource poor settings Thus, it is likely that PLWAs experiences in some settings may be dominated by tainted, unsympathetic, unfriendly and inadequate care by support staff.

None of the variables in this study was predictive of stigma. Few studies have explicitly investigated the correlates of stigma (Andrewin & Chien, 2008; Patel et al. 2012; Sorsdahl et al. 2011). Factors associated with disclosure of HIV status include older age, socioeconomic status, long history of HIV diagnosis, marital status, education level, among others (Patel et al. 2012). Increased HIV disclosure has been associated with lower social stigma, Stigma has also been correlated with social isolation (Sowell & Phillips, 2010), lower quality of life, and significantly more depressive symptomatology (Bergeret al. 2001; Holzemer et al.2007a; Mitchell & Knolwton, 2009). Other factors that mediate stigma include cultural beliefs, access to ARVs, religion and gender (Mbonu et al. 2009). Given the low power achieved in this study (0.40), it is likely that the non-significant results can be attributed to the relatively small sample size Therefore, more rigorous studies with larger, heterogeneous samples are needed to explore the sociodemographic correlates of HIV stigma. Further analyses with more sophisticated statistical algorithms such as purposeful macro selection are warranted, as they can guide the retention of significant covariates as well as confounding ones Bursac et al. 2008).

5.2 Discussion of Qualitative Findings

There were two negative themes: blaming and lack of knowledge and eight positive themes. *Blaming* which can also be associated with a *lack of knowledge* was a recurrent theme in this study. Lack of training programs has been linked to high levels of stigmatizing attitudes among HCWs (Hossain & Kippax, 2011). Attitudes of blame/judgment towards PLWAs are well documented (Andrewin & Chien, 2008; Sullivan et al. 2010). The fact that HIV was still described using different terms at the community/societal level or in the health settings (institutional level) indicates that stigma remains an issue. When HCWs prefer to use acronyms such as ISS (immunosuppressed syndrome) and ARC (AIDS Related Condition) when referring to HIV in conversations or in patient charts within the health setting, they are in fact perpetrators of stigma (Schulze, 2007). Community stakeholders must be identified, trained, and sensitized to tackle the blame dimension of HIV stigma (Roura et al. 2009). Vance and Denham (2008) suggest that nurses may be unaware of their own attitudes and stigmatizing behaviors that may impact patient care. This unawareness is closely linked to a lack of knowledge or understanding across interpersonal, intrapersonal and community/societal levels. Nursing students who form the foundation of future nursing practice have been shown to display reluctance in caring for PLWAs (Pickles et al. 2009). Thus, evidence-based curricula are needed to help nursing students overcome negative attitudes (Pickles et al. 2009). Although subjects in this study had basic HIV/AIDS training, they had gained more knowledge once they joined support groups. These findings are consistent with Mabunda (2004) who found that membership in support groups was an effective way of educating people about HIV/AIDS. Chao et al (2010) found that increasing both general and specific knowledge related to HIV is associated with significant reductions in stigmatizing attitudes.

Five positive themes are discussed in the context of stigma experiences. *Empathy* was a recurrent theme in this study. Many of the subjects stated that knowing their HIV status made a difference in the quality of care they provided to their patients living with HIV/AIDS. The majority of subjects in this current study (97%) were involved in the care of HIV patients. Olapegba (2010)

found a significant relationship between knowledge, empathy, personal distress, and people's individual and collective attitudes and behaviors regarding HIV/AIDS stigmatization. High empathetic concerns have been linked to lower stigma levels (Olapegba, 2010). Consistent with these findings, (O'Keeffe, 2012; Smit, 2004) found that nurses caring for PLWAs experienced positive sentiments such as empathy and compassion. It can be posited that personal experience with HIV as well as exposure to PLWAs on a frequent basis may have enhanced empathetic concerns and thus led to the low stigma levels in this population. Brown et al. (2003) found that while empathy induction towards PLWAs has been shown to reduce stigma and increase positive attitudes in the United States, this approach has not been explored in the developing world context.

Subjects in this study adopted a proactive approach to *"Living Positively*." Liamputtong et al. (2012) situates self-care, acceptance of own faith, disclosure of HIV status, and joining AIDS support groups within the "living positively" discourse. In the current study, managing personal health included things such as accessing ARVs, disclosing HIV status, eating healthy, and joining support groups. These finding are consistent with Makoae et al. (2008) who identified different self-care strategies for coping with HIV stigma in five African countries. These included "seeing oneself as ok, hoping, keeping active, joining a support group, disclosing HIV status, helping others to cope with illness, educating others, acquiring knowledge among others. These findings are consistent with several themes of the current study; normalizing, optimism, living healthy, support, knowledge and empowerment, and empathy.

Support was yet another positive theme. Prior to accessing treatment and joining support groups participants reported that they were frequently "*sickling*" and "*missing work*." Managing health, however, goes beyond individual/personal responsibility. At the *interpersona*l level, the HCW must build relationships and engage with others in activities that promote health. At the *institutiona*l level, the HCW in this study benefited from access to treatment and support services available in the workplace environment. Accessibility to treatments services supports ability of individuals to work (MOH Malawi, 2009). Investing in workplace support systems that provide

access to ARVs, counseling, and wellness activities that promote emotional health is a worthwhile investment that can reduce attrition in the workplace (Tawfik & Kinoti, 2006; Vitols et al. 2007).

The HASI-P measure was designed to measure perceived stigma, create a baseline from which to measure changes in stigma over time, and track potential progress towards reducing stigma. From a socioecological perspective, the chronosystem assesses the influence of change and continuities on an individual's development over time. Transitions across the lifespan, for example, HIV diagnosis to HIV disclosure may indirectly affect family processes and human development (Bronfenbrenner, 1986; Hosek et al.2008). The theme "*changes over time"* suggests that significant progress has been made in the fight against stigma. Seventy one percent of subjects in this study were familiar with an HIV/AIDS workplace policy. Qualitative findings provided supplemental information. The changes that had occurred over time also occurred across different geographic contexts. Sprague et al. (2011) state that different regions may display greater awareness of or sensitization to HIV related stigma and discrimination (Sprague et al. 2011). Sprague et al. (2011) posit that it is possible that lower levels of discriminatory acts in one region could signify the existence of strong legal protections for those who are HIV seropositive. Kisumu district where this study was conducted has the highest HIV prevalence rate in Kenya. There have been extensive, concerted efforts to reduce stigma in this region. The low stigma levels in this sample may be partly attributable to workplace support programs, education efforts, as well as implementation of HIV/AIDS workplace policies.

With the positive changes that have occurred over time, along with *living positively,* it was not surprising that *optimism* was an emerging theme. Although 25% of subjects had been told at least once that they had no future (item 14), and 18% of the participants felt that they did not deserve to live (item 29), many remained optimistic about their future. This sense of optimism could be due to the fact that most of the subjects were already on ARVs and had been on ARVs for a long time. As such, they viewed themselves as "normal." In their study on the experiences of Thai women living with HIV, Liamputtong et al. (2012) found that a sense of optimism was a

result of living positively. Because of their sense of optimism, participants felt that they had an integral role to play in reducing stigma particularly in the workplace.

Normalizing, leading by example, knowledge and empowerment were three positive themes that emerged within the context of reducing stigma. Participants in this study felt strongly that in order for stigma to be eradicated, HIV/AIDS needed to be treated as any other medical condition. This also meant that the HIV positive HCW ought to be treated as any other employee. Assigning HIV positive HCWs to specific departments emerged as a potential threat to normalizing. A structural barrier can deter others from testing for HIV or disclosing HIV status in the workplace (Coetzee et al. 2011). Cameron (2007) suggests that normalization of HIV should occur in the presence of three things 1) access to ART treatment 2) explicit assurance that discrimination and ostracism will not be consequences of diagnosis and 3) security of confidentiality of HIV testing and outcome. Rather than citing HIV as an insurmountable barrier to the right to life and health, Vitoria (2009) argues that normalizing HIV offers great opportunity for reducing stigma. Subjects in Jones (2002) study focused on "normalizing" as an attempt to normalize medication-taking routines as part of daily living. Several researchers posit that if ARVs are readily accessible, then AIDS becomes a manageable chronic condition, rather than a fatal, sexually transmitted disease. Therefore, this should, in part erode the moral or social stigmatization related to HIV while normalizing the disease (Gausset et al, 2012; Roura et al. 2009)

Participants in this study felt that it was imperative that HCWs *"lead by example"* or serve as role models. This finding is consistent with Talashek et al. (2007). In their study, participants expressed willingness to be HIV prevention leaders and role models. Participants in Talashek's study identified barriers that prevent them from assuming this role. At the *individual* level, these barriers included hopelessness, stigmatizing attitudes, knowledge gaps and risky behaviors. At the *institutional* level, the barriers included the lack of essential supplies and equipment, staff shortage, overburdened health systems and lack of training (Talashek et al. 2007). Reluctance by HCWS to test for HIV can hinder their ability to serve as role models (Tarwireyi & Majoko,

2003). The concern raised for other cadres of health professionals such as doctors cannot be ignored. O'Keeffe (2012) found that doctors, dentists, pharmacists, and senior managers were reluctant to join support groups. O'Keeffe attributes this partly to the fact that these professions are generally dominated by men who may be reluctant to take part in group activities or concerned about losing social status. This is consistent with findings in Kako, Stevens, and Karani (2011) where women felt that support groups were most effective if held separately from men. Separate and targeted efforts for the different groups are recommended (Kako et al, 2011; O'Keeffe, 2012). Prior to joining support groups, participants in the current study indicated that they lacked knowledge in HIV/AIDS related topics. However, as noted earlier, this had changed with time and participants were now receiving education and training in their workplace settings. For many of them, the education opportunities enhanced their communication and public speaking skills. These are integral skills for leaders. Kako et al. (2011) found that attendance at support groups facilitated disclosure, empowered women to testify about their HIV experiences and gave a sense of liberation.

As a result of receiving more education and training opportunities, participants felt that by gaining more knowledge, they were *empowered (intrapersonal)*. They became more confident in discussing issues with others (interpersonal/community/societal levels) and challenging authority when necessary (institutional). Waterman et al. (2012) found that HCWs involved in home based care in Kenya often operated mostly at individual and community levels in their efforts to challenge stigma. Despite the challenges they encountered, they made an impact. Empowerment involves engaging PLWAs in activities that allow them to be proactive, doing something positive rather than being victims (Uys et al. 2009; UNAIDS, 2010). O'keeffe (2012) found that membership in support groups markedly improved professional knowledge and consequently enhanced subject perceptions on the quality of care they provided to their patients. It is doubly important that stigma reduction interventions involve PLWAs and cut across all levels of influence. Specific recommendations from a socioecological perspective are provided in section 5.2.3

5.2.1 Study Strengths & Limitations

This study had several limitations and the findings must be interpreted with caution. Convenience sampling and the relatively small sample size limits generalizability to other populations. The sample was drawn from a specific rural, geographic location, which is socioeconomically and culturally different from other parts of the country. Future studies should include samples that are more heterogeneous so that regional and cultural comparisons can be made. Most of the subjects in this study were recruited from support groups, were receiving ARVs, and had disclosed their HIV status to someone. These factors could have contributed to self-selection bias. It is possible that HCWs who experienced low levels of stigma were more willing to participate in the study. Despite the potential difficulty in recruiting HIV positive HCWs, future studies should include those who have not disclosed their status or are not on ARVs.

As with any study that involves self-report, social desirability bias was also a threat. Because subjects were recruited from support groups, subjects may have understated their stigma levels so as to give the impression that the support groups were effective. The 1000Kshs cash incentive may have influenced subject participation. However, this cash incentive was necessary to compensate subjects for time taken away from work. Although most participants in this study were female, this is typical of HIV related studies conducted in Africa. Future studies should encourage participation from male subjects. The study was limited to English speakers, but this posed minimal challenge to participants in this study since English is the official language in Kenya. Mixed methods studies can place additional burden on participants than single method approaches (Creswell et al. 2010). However this was mitigated by quantitative data being collected from a relatively short semi-structured interview. Most participants completed this segment in 20 minutes. Caution must be taken when interpreting and integrating mixed methods results where the quantitative sample and qualitative sample are unequal. However, unequal sample sizes are inherent in mixed methods designs (Creswell & Clark, 2007)

Despite these limitations, the study had notable strengths. This is one of the first studies to study HIV stigma in a unique, understudied population. Accessing the sample from workplace

support groups provided insight on the potential predicament for HIV positive HCW who have no access to support groups. Item response bias was minimized because the HASI-P is a face-to-face semi-structured instrument. Although the internal consistency for workplace stigma subscale was extremely low, the overall consistency of the instrument was high. The HASI-P is the first stigma tool developed and validated within the African context. The use of a specific theory as well as the mixed methods approach allowed further exploration of quantitative findings in an in-depth manner. Lincoln and Guba's (1985) principles were used to evaluate trustworthiness of this study. In this study *credibility* was achieved through triangulation, extensive reading and reflecting of transcribed interviews and listening to audio tapes, and prolonged engagement in the research field. *Transferability* was achieved by thick descriptions. *Dependability* was achieved through consultation with my mentor who verified the process of coding, interpretations, and conclusions drawn from the data. Finally, *confirmability* was achieved by the use of triangulation to facilitate deeper understanding.

5.2.2 Conclusion

In conclusion, international dissertation research can be an arduous, yet rewarding, task for a novice researcher. While integrating qualitative and quantitative results was complex, it allowed for rich interpretation of the stigma phenomenon in this unique sample. Since the HASI-P measures stigma at the individual level, using the socioecological theory allowed for a comprehensive and expanded look at HIV stigma in this sample. Although this sample was from a specific region not representative of the general population, it provided a unique opportunity to pay attention to an area that has not been explored. The workplace stigma subscale was not reliable in this sample (Cronbach alpha 0.08). This provides an opportunity for further evaluation of the workplace stigma items or development of tools that specifically measure workplace stigma. Overall, quantitative, and qualitative findings were congruent. Qualitative interviews provided insight to factors beyond the individual level and helped identify ways for reducing stigma. Indeed, HIV positive HCWs face unique challenges in the workplace, but significant progress has been made in mitigating some of these challenges. Most importantly, the HCWs in

this study felt they were strategically positioned to influence efforts to reduce stigma. The fact that HCWs in this study had assumed a proactive approach by choosing to live positively is encouraging. Empathy and optimism must be encouraged while attitudes that promote blame and ignorance must be discouraged. Workplace support systems, education and training efforts ought to be strengthened. This will empower HCWs to take leadership in the fight against HIV stigma. Leading by example, normalizing HIV, and empowering PLWAs are key strategies that can inform future targeted stigma reduction interventions. If health professionals fail to intervene and reduce stigma, PLWAs and health professionals affected by HIV/AIDS will continue to report poor quality of care, poor health outcomes and poor quality of working life.

5.2.3 Implications for Nursing Policy, & Practice

This study has significant implications for nursing policy and practice. HCWs have a mandate to design, implement, and evaluate stigma reduction interventions. Effective interventions must address individual, interpersonal, institutional, and community related factors that influence stigma. In alignment with the three themes that emerged on reducing stigma: *Normalizing, leading by example, and empowerment* specific recommendations for stigma reduction interventions are discussed from a socioecological perspective.

Normalization is closely linked to existence of effective treatment. Thus, it allows PLWAs to feel progressively re-integrated into productive and social life (Roura et al. 2009). This means that HIV testing ought to be routine and openly offered. Therefore, at the *intrapersonal/individual* level health professionals must critically examine their personal values, beliefs and attitudes that might conflict with their professional responsibilities. Since, client initiated testing is the predominant model of HIV testing in Sub- Saharan Africa (UNAIDS, 2004), as a first step the HCWs must seek HIV testing, prevention, counseling, and support services. HCWs must also understand how to protect self from acquiring HIV or spreading HIV. Strong *interpersonal* relationships with family, friends, and co-workers can foster health-seeking behavior. At the *interpersonal* level, peer support through one on one interaction or support group settings is one of the most effective strategies that can facilitate HIV status disclosure (Sowell & Phillips, 2010).

At the *institutional* level, targeted workplace support interventions such as buddy programs (Burrage & Demi, 2003) aimed at promoting HIV testing, HIV status disclosure, enhancing HIV/AIDS knowledge, influencing attitudes and behaviors, and strengthening self-concept skills are needed (Mays et al. 2006).

At the *community and public policy level* HCWs must challenge societal norms, myths, prejudices, and taboos and participate in media and advocacy campaigns. According to Latkin and Knowlton (2005) community interventions must be powerful and flexible to countervail *norms*. Mays et al., (2006) suggest that social networks including family, peer, and workplace support groups are critical in influencing social norms that affect health behavior. Strengthening the role of health professionals in the workplace as health educators and policymakers is critical. Pre service, in-service training and continuing education curricula focused on social and behavioral aspects of HIV/AIDS should be integrated in the workplace (Hossain & Kippax, 2011). This can facilitate both HIV positive and HIV negative health professionals to break the social norms of not discussing HIV in the workplace (Latkin & Knowlton, 2005). Sprague et al. (2011) recommend that sensitization and education efforts aimed at addressing HIV related stigma ought to be implemented across the worklife continuum: from job recruitment to departure. Understanding the role of culture and traditional practices is pivotal in fighting stigma (Waterman et al. 2007) Whereas most participants in this study were not supportive of the use of traditional medicine in conjunction with ARVs, there is a unique opportunity for HCWs to build coalitions in the community. Waterman et al. (2007) suggest that HCWs can liaise with traditional medicine providers to refer PLWAs who do not respond to traditional medicine to seek medical attention (Waterman et al. 2007).

When it comes to leading by example, at the *individual* level, the HCWS must first be willing to be a leader in the fight against HIV (Talashek et al. 2007). As a critical source of HIV/AIDS education, HCWs and health institutions are strategically placed to advocate for PLWAs and use interventions to decrease the secrecy and stigma associated with HIV/AIDS (Mays et al. 2004). This means that the HCW must overcome individual HCW barriers including

knowledge deficit, stigmatizing attitudes, reluctance to discuss HIV/AIDS and sexuality, as well as risky behaviors in their personal lives (Talashek et al. 2007). Education and training aimed at strengthening communication, cognitive, behavioral, and self-help skills are needed in the workplace (Brown et al. 2003). Further, at the *interpersonal*, and *community* levels, HCWs can get involved in activities within support groups, mobilize communities to action, educate others, and dispel misconceptions related to HIV/AIDS (Vance & Denham, 2008). As opinion leaders in the community, HCWs must take front line leadership by speaking against stigma and discrimination. *Public policy* and *Institutional/organizational* support in form of good physical, organizational, and management structures including financial and human resources in the workplace is likely to reduce the negative effects of HIV related stigma in the workplace. Physical structures including material resources, facilities such as counseling rooms and wellness centers will likely provide a healthy environment that can encourage openness and communication in the workplace (Greeff et al. 2008). Such efforts could reduce stress, stigma, discrimination, and depressive states in the workplace and consequently increase rates of disclosure, promote social interaction and improve the overall wellbeing of the health professional (Munjanja et al. 2005; Van Dyk, 2007).

At the *interpersona*l level, the HCW must gain additional knowledge and skills to boost self-confidence and self-esteem. HCWS who are knowledgeable, confident, and have good interpersonal skills are more likely to form strong interpersonal relationships with coworkers and other community groups including media groups. Building coalitions and influencing mass media can shift power structures while changing community norms (Mays et al. 2004). The media in conjunction with HCWs must also strive to enhance the image of the AIDS healthcare sector (Haber et al. 2011). At the *institutional* and *public policy* levels HCWS can advocate for responsive workplace polices that prohibit discrimination in the community and the workplace, support retention of HIV positive staff, ensure fair compensation, and seek to limit risk of HIV infections as well as increase staff awareness of HIV/AIDS (MSH, 2004). According to MSH (2004), processes geared towards strengthening human resources in the workplace environment

by ensuring adequate staffing, and planning for HIV/AIDS attrition, can increase job satisfaction. Additionally, allocating budgets for decent compensation and benefits can help improve the socio-economic welfare of the health professional affected by HIV/AIDS (MSH, 2004). Health professionals have a mandate to engage actively in advocacy efforts that promote the interest of the profession and the populations they serve. The findings in this study are limited to the population studied. However, any efforts to reduce stigma should encompass a broad socioecological perspective. Tentative recommendations that encompass the findings in this study, existing literature, and the socioecological theory are summarized in Table 5.0.

Table 5.0 Socioecological Recommendations for Nursing Policy & Practice

Theme	Level of Influence	Example of Stigma Reduction Strategy	Recommendation
Normalizing	Intrapersonal	Focused education and training on social and behavior change	• Examine personal values, beliefs and attitudes that conflict with professional responsibilities. • Promote health seeking behavior by getting tested for HIV
	Interpersonal	Peer/Buddy support programs	• Foster strong relationships with family, friends and co-workers to facilitate disclosure • Promote interaction between HIV positive HCWs and HCWs in general
	Institutional	Workplace support programs Wellness centers	• Provide HIV testing in conjunction with routine testing in the workplace • Promote sensitization and education efforts across work life continuum: from job recruitment to departure
	Community/Societal	Routine HIV testing Media Campaigns	• Challenge societal norms, myths, prejudices and taboos • Participate in media campaigns
	Public Policy	Professional Association Involvement	• Take a position in policy debates related to voluntary or mandatory HIV testing

Table 5.0 *Continued*

Leading by Example	Intrapersonal	Focused education on enhancing self-concept, communication & leadership skills	• Overcome individual barriers: knowledge deficit, stigmatizing behaviors and risky personal behaviors
	Interpersonal	Coalition building projects	• Engage in workplace support group activities
	Institutional	Leadership skills training programs	• Strengthen role of HCWs in the workplace as educators & leaders
	Community/Societal	Community focused campaigns	• Get leaders to be tested in public
	Public Policy	Disseminate professional practice models	• Raise awareness on health profession standards of practice
Empowerment	Intrapersonal	Education & training	• Gain additional knowledge and skills that boost self confidence
	Interpersonal	Peer support groups	• Foster social network formation & build social capital • Get involved in HIV/AIDS projects
	Institutional	Advocacy & sensitization campaigns	• Advocate for responsive workplace policies that prohibit discrimination in the workplace • Speak up against stigma and discrimination
	Community/Societal	Community based partnership projects	• Work closely with the media, & community partners to enhance the image of the AIDS healthcare sector • Involve PLWAs in the design, implementation & evaluation of HIV projects
	Public Policy	Policy committee projects	• Get involved in policy development, analysis, implementation & evaluation

5.2.4 Recommendations for Research

Several areas for further research were identified. Since this study was conducted in a rural setting with workplace support programs, research is needed to compare stigma in workplace environments that do not have a workplace support program for HIV positive employees and with those that have one. Such comparisons ought also to be made across rural versus urban settings. The low stigma scores in this sample suggest that workplace support systems are making an impact. Interventional studies are needed to investigate the effects of workplace support systems. For example, there have been studies conducted in the United States to examine the effect of inducing empathy towards PLWAs on reducing stigma and increasing positive attitudes. Such studies are warranted in the developing world context. Since HIV related stigma research has not focused on type of medical profession, research is needed to evaluate responses to stigma across different cadres beyond nurses and should include physicians, other health professionals, nursing students, and medical students. Many of the subjects in this study indicated that working night shift presented additional challenges to their health. No studies were found addressing HIV and circadian rhythm effects on the health status of HCWs in the African context. Research comparing the effects of shift work e.g. night shift versus dayshift on the health status of the HCW in high HIV prevalence areas is warranted. Research with policy implications exploring health professional attitudes towards mandatory vs. voluntary HIV testing for HCWs is needed.

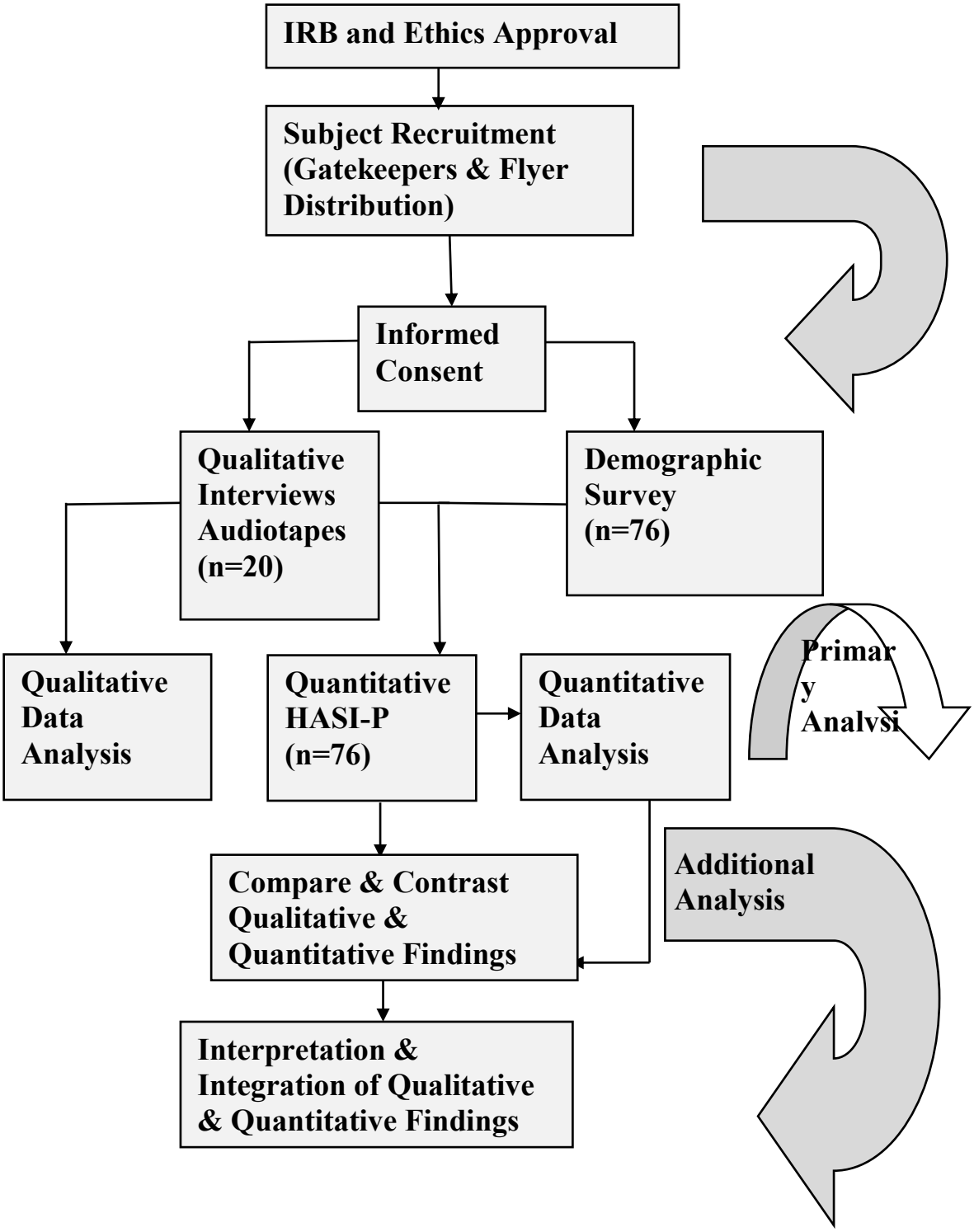
5.3 Chapter Summary

This chapter included a discussion of the key findings of this mixed methods study. Study limitations, conclusions, tentative recommendations, and implications for nursing policy and practice are presented from a socioecological perspective. The chapter concluded with specific recommendations for research that examines the impact of stigma on HCWs infected and affected by HIV/AIDS

APPENDIX A

STUDY FLOW CHART

Appendix A


IRB and Ethics Approval
Subject Recruitment (Gatekeepers & Flyer Distribution)
Informed Consent
Qualitative Interviews Audiotapes (n=20)
Demographic Survey (n=76)
Qualitative Data Analysis
Quantitative HASI-P (n=76)
Quantitative Data Analysis
Primar y Analysi
Compare & Contrast Qualitative & Quantitative Findings
Additional Analysis
Interpretation & Integration of Qualitative & Quantitative Findings

APPENDIX B

INFORMED CONSENT

Appendix B.

FEB 11 2011
APPROVED
FEB 10 2012
Institutional Review Board

INFORMED CONSENT

PRINCIPAL INVESTIGATOR NAME:
Jackline G. Opollo RN, MSN, MPH

TITLE OF PROJECT: Understanding the impact of HIV/AIDS Related Stigma on nurses and healthcare workers infected with HIV and working in Kisumu, District, Kenya: A Mixed Methods Pilot Study

INTRODUCTION
You are being asked to participate in a research study. Your participation is voluntary. Please ask questions if there is anything you do not understand.

PURPOSE
The purpose of this pilot research study is to examine HIV related stigma as it is perceived, experienced and managed by nurses infected with HIV/AIDS working in a rural setting in Kisumu District, Kenya. The study aims to explore the following:

1. The experience of the HIV positive nurse related to stigma outside the workplace
2. The experience of the HIV positive nurse related to stigma inside the workplace
3. What factors promote HIV related stigma outside the workplace environment?
4. What factors promote HIV related stigma in the workplace environment?
5. How do nurses manage HIV related stigma outside the workplace?
6. How do nurses manage HIV related stigma inside the workplace?
7. What is the nurses role in reducing stigma outside the workplace environment
8. What is the nurses' role in reducing stigma in the workplace environment?
9. Test the feasibility and usability of the HIV AIDS Stigma instrument for People Living With HIV/AIDS (HASI-P) for a larger study

Evaluating how HIV related stigma affects nursing practice in Sub-Saharan Africa can ultimately guide relevant workplace stigma reduction interventions aimed at health promotion, disease prevention, and treatment interventions for this vulnerable population. Further it can guide future development of a relevant workplace HIV stigma instrument.

DURATION
This study will include 80 HIV positive nurses and healthcare workers. Participants will be recruited through local support groups for People Living With HIV/AIDS in Kisumu District, Kenya. Participants will also be encouraged to identify other healthcare workers who are HIV positive who may be willing to participate in the study. Study recruitment and initiation will begin immediately upon IRB approval and end August 31st 2011. Each interview is expected to last for 2-3hours.

PROCEDURES
The procedures, which will involve you as a research subject, include:

1. You will be asked to participate in a 2-3 hour session examining HIV related stigma. The session will be conducted in three steps. You may choose not to answer any of the questions for any reason.
    a) Completion of an anonymous demographic survey identifiable by assigned unique code only

b) Completion of the 33-item semi-structured interview HIV/AIDS Stigma instrument for People Living with HIV/AIDS (HASI-P) identifiable by assigned unique code only
c) Participation in a private in depth interview exploring 8 key questions on your perceptions, experiences and management of HIV/AIDS stigma inside and outside the workplace. These interviews will be conducted in an agreeable convenient private setting selected by you and the researcher. The interviews will be audio taped and you will identify yourself by your assigned unique code. Only the researcher and study staff will have access to these tapes. The recording will help the researcher understand more about your experiences. The researcher will transcribe the information and the tapes will be destroyed at the end of the study.

POSSIBLE BENEFITS

You will get no direct benefit from participating in this study. However, by participating in this study you will help improve the knowledge of the impact of stigma to the healthcare profession. This knowledge may carry future benefit in guiding workplace interventions that can promote disease prevention, health promotion and treatment intervention for you or someone you know.

COMPENSATION

You will incur no financial obligations if you participate in this study.
The possible financial costs to you as a participant in this research study will include your time and minimal financial costs related to transportation to the interview setting. A modest compensation in the amount of 1000Kshs (U$ 12) of local telephone airtime will be provided to you to repay you for the time you spend with the researcher and the cost of coming to be in the study. You will receive this airtime whether you complete the study or choose to withdraw before it ends.

POSSIBLE RISKS/DISCOMFORTS

The possible risks and/or discomforts of your involvement may include emotional distress or discomfort associated with answering the interview questions. As a participant in the study you will be provided with a local resource guide for counseling and support services. You may stop the interview at anytime.

ALTERNATIVE PROCEDURES/TREATMENTS

Participation in the study is voluntary and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. There are NO alternative procedures/treatments available to you if you elect not to participate in the study.

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b) Completion of the 33-item semi-structured interview HIV/AIDS Stigma instrument for People Living with HIV/AIDS (HASI-P) identifiable by assigned unique code only
c) Participation in a private in depth interview exploring 8 key questions on your perceptions, experiences and management of HIV/AIDS stigma inside and outside the workplace. These interviews will be conducted in an agreeable convenient private setting selected by you and the researcher. The interviews will be audio taped and you will identify yourself by your assigned unique code. Only the researcher and study staff will have access to these tapes. The recording will help the researcher understand more about your experiences. The researcher will transcribe the information and the tapes will be destroyed at the end of the study.

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COMPENSATION

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POSSIBLE RISKS/DISCOMFORTS

The possible risks and/or discomforts of your involvement may include emotional distress or discomfort associated with answering the interview questions. As a participant in the study you will be provided with a local resource guide for counseling and support services. You may stop the interview at anytime.

ALTERNATIVE PROCEDURES/TREATMENTS

Participation in the study is voluntary and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. There are NO alternative procedures/treatments available to you if you elect not to participate in the study.

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FEB 10 2012

WITHDRAWAL FROM THE STUDY

Participation in this research experiment is voluntary. You may refuse to participate or quit at any time. If you quit or refuse to participate, the benefits (or treatment) to which you are otherwise entitled will not be affected. You may quit by simply stopping the interview and stating your refusal to participate. You will be told immediately if any of the results of the study should reasonably be expected to make you change your mind about staying in the study. You can also reach the researcher at 721-594945 anytime during the study.

NUMBER OF PARTICIPANTS: We expect a minimum of 10 participants and up to 80 participants to enroll in this study.

CONFIDENTIALITY:

Every attempt will be made to see that your study results are kept strictly confidential. A code number will be assigned. A copy of the records from this study will be stored in a locked cabinet at the University of Texas at Arlington, School of Nursing for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA IRB, the FDA (if applicable), and personnel particular to this research (individual or department) have access to the study records. Your records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above. If the research project is sponsored (e.g., receives funding from outside UT-Arlington) then Sigma Theta Tau International will also have the legal right to review your research records."

If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, then The University of Texas at Arlington will protect the confidentiality of those records to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

CONTACT FOR QUESTIONS:

If you have any questions, problems or research-related medical problems at any time, you may call (Jackline G. Opollo) at (719176522 or 733752413), or (Jennifer Gray) at (817-272-5295). You may also call the Chairman of the Institutional Review Board at 817/272-3723 for any questions you may have about your rights as a research subject. The researcher will also provide you with a local phone number

FEB 11 2011

CONSENT:

Signatures: *[Please include all of this bolded text:]*

APPROVED

FEB 10 2012

Institutional Review Board

APPENDIX C

DEMOGRAPHIC SURVEY

ID 190

Participant Demographic Survey

The University of Texas at Arlington
College of Nursing

Instructions: Please use a BLACK PEN for completing the survey. Do not use pencil.

Please shade circles like this: ●
Not like this: ⊠ ⊘

The purpose of this survey is to gather information about participants in this study. This information will help the researcher describe the characteristics of survey participants. This survey is **anonymous** and all responses will remain **confidential**. Please do not omit any questions. Please read each question and shade the circle that most closely represents your answer.

1. Age in years

O 18-30 O 31-40 O 41-50 O 51-60 O 61 or older

2. Gender

O Male O Female

3. Marital Status

O Single O Married O Separated O Divorced O Widowed O Living with someone but not married

4. Highest level of education achieved

O Certificate O Diploma O Bachelors Degree O Other _____

5. Years of work experience

O 0-5 years O 6-10 years O 11-15 years O Other _____

5b. Approximately how many hours do you work in a typical week?

O Less than 20 O 20-40 O 41-50 O 51-60 O More than 60

6. What is your current employment rank?

O Auxilary nurse O Staff nurse O Professional Nursing Sister O Community Health Worker O Other_____

7. Employment Setting

O Medical Ward O Maternity Ward
O Surgical Ward O Administration
O Casualty Ward O Other _____
O Pediatric Ward

8. Annual Salary

O Less than 100,000Kshs
O 100,000-200,000 Kshs
O 200,000-300,000 Kshs
O 300,000 or more Kshs

9. Did you receive HIV/AIDS stigma reduction training during your basic health worker training?

O Yes O No

10. Do you currently receive HIV/AIDS stigma reduction training in your workplace?

O Yes O No

Appendix A: Demographic survey 127
06/02/2011

Please turn over

8890001275

Instructions: Please use a BLACK PEN for completing the survey. Do not use pencil.

Please shade circles like this: ●
Not like this: ☒ ✓

11. Do you currently care for HIV/AIDS patients?

O Yes O No

12. Are you aware of an HIV/AIDS workplace policy in your current place of work ?

O Yes O No

13. Is there a workplace support program for HIV positive employees in your current place of work?

O Yes O No

14. How long have you been living with HIV/AIDS?

O Less than 1 year O 1-2 years O 3-5 years O 6-10 years O More than 10 Years

15. Are you currently taking antiretroviral medications?

O Yes O No

16. Have you disclosed your your HIV status to anyone?

O Yes O No

17. If you have disclosed your HIV status, to whom did you disclose? (**You may select more than one answer**)

O Husband O Wife O Children O Co-worker O Religious leader O Friend O Other_____

18. Have you ever been absent from work due to your HIV infection?

O Yes O No

19. If you answered yes to Q18 how many times have you been absent from work due to HIV infection?

19a. In the past month O Never O 1-2 times O 3-5 times O More than 5 times

19b. In the past 6 months O Never O 1-2 times O 3-5 times O More than 5 times

19c. In the past year O Never O 1-2 times O 3-5 times O More than 5 times

20. Have you ever been hospitalized for HIV related illness?

O Yes O No

21. If you answered yes to Q20 how many times have you been ~~absent from work~~ hospitalized due to HIV infection?

20a. In the past month O Never O 1-2 times O 3-5 times O More than 5 times

20b. In the past 6 months O Never O 1-2 times O 3-5 times O More than 5 times

20c. In the past year O Never O 1-2 times O 3-5 times O More than 5 times

Thank you for completing this survey

Appendix A: Demographic survey 127
06/02/2011

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APPENDIX D

QUALITATIVE INTERVIEW QUESTION GUIDE

Appendix D

The purpose of this interview is to explore your perspectives on how you experience and manage your HIV both inside and outside the workplace. All information obtained will be private and confidential. The interview will be tape recorded to allow the researcher to transcribe the interview at a later date. No one besides the researcher will have access to these tapes. Following transcription the tapes will be destroyed. You are encouraged to speak openly and honestly. If you don't understand a question, please let me know. You may stop the interview at any time. You will be asked to state your unique ID number at the beginning of the interview.

1. In your view what are the factors that promote HIV related stigma outside the workplace environment?

2. In your view what are the factors that promote HIV related stigma inside the workplace environment

3. What has been your personal experience with HIV related stigma inside and outside the workplace?

4. How do you manage your health?

5. What is your role as a nurse in reducing stigma outside the workplace environment?

6. What is your role as a nurse in reducing stigma in the workplace environment?

7. What are some specific strategies that can reduce stigma in the workplace?

8. Is there anything else you would like to talk about?

Additional comments;

APPENDIX E

HIV/AIDS STIGMA INSTRUMENT-PLWA (HASI-P)

I'm going to read a list of events that may have happened to you during the past three months. After I read each item, please tell me how often it happened to you because of your HIV status:				
In the past 3 months, how often did the following events happen because of your HIV status?	Never	Once or twice	Several times	Most of the time
1. I was told to use my own eating utensils.	?	?	?	?
2. I was asked not to touch someone's child.	?	?	?	?
3. I was made to drink last from the cup.	?	?	?	?
4. Someone mocked me when I passed by.	?	?	?	?
5. I stopped eating with other people.	?	?	?	?
6. I was asked to leave because I was coughing.	?	?	?	?
7. Someone stopped being my friend.	?	?	?	?
8. A friend would not chat with me.	?	?	?	?
9. I was called bad names.	?	?	?	?
10. People sang offensive songs when I passed by.	?	?	?	?
11. I was told that I have no future.	?	?	?	?
12. Someone scolded me.	?	?	?	?
13. I was told that God is punishing me.	?	?	?	?
14. I was made to eat alone.	?	?	?	?
15. Someone insulted me.	?	?	?	?
16. People avoided me.	?	?	?	?
17. People cut down visiting me.	?	?	?	?
18. People ended their relationships with me.	?	?	?	?

19. I was blamed for my HIV status.	?	?	?	?
20. Someone tried to get me fired from my job.	?	?	?	?
21. My employer denied me opportunities.	?	?	?	?
The next set of questions is about your experiences in the hospital or clinic.				
In the past 3 months, how often did the following events happen because of your HIV status?	Never	Once or twice	Several times	Most of the time
22. I was denied health care.	?	?	?	?
23. I was refused treatment because I was told I was going to die anyway.	?	?	?	?
24. I was discharged from the hospital while still needing care.	?	?	?	?
25. I was shuttled around instead of being helped by a nurse.	?	?	?	?
26. At the hospital/clinic, I was made to wait until last.	?	?	?	?
27. At the hospital, I was left in a soiled bed.	?	?	?	?
28. In the hospital or clinic, my pain was ignored.	?	?	?	?
These questions are about some of your thoughts or feelings.				
How often have you thought or felt this way during the past 3 months because of your HIV status?	Never	Once or twice	Several times	Most of the time
29. I felt that I did not deserve to live.	?	?	?	?
30. I felt ashamed of having this disease.	?	?	?	?
31. I felt completely worthless.	?	?	?	?
32. I felt that I brought a lot of trouble to my family.	?	?	?	?
33. I felt that I am no longer a person.	?	?	?	?

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Holzemer, W.L., Uys, L.R., Chirwa, M.L., Greeff, M., Makoae, L.N., Kohi, T.W., Dlamini, P.S., Stewart, A.L., Mullan, J., Phetlhu, R.D., Wantland, D. & Durrheim, K. (2007). Validation of the HIV/AIDS Stigma Instrument- PLWA (HASI-P). AIDS Care. 19(8): 1002-1012.

APPENDIX F

RECRUITMENT FLYER

Appendix F

Volunteers needed for an important nursing research study on HIV/AIDS Experiences in the Workplace

- *Are you a member of the Organization of Health Workers Against AIDS in Kenya (OHWAK)?*
- *Are you a nurse or healthcare worker over 18 years of age?*
- *Do you know a nurse or healthcare worker living positively with HIV?*
- *If you answered YES to any of these questions, YOU or someone you know may be eligible to participate in this study*

The Purpose *of this research study is to examine HIV related stigma as it is perceived, experienced, and managed by nurses and healthcare workers living with HIV and working in Kisumu District*

RISKS: You may experience emotional distress or discomfort associated with answering the interview questions. Sessions will last 2-3hours according to your availability.

BENEFITS: You will get no direct benefit from participating in this study. However, by participating in this study you will help improve the knowledge of the impact of stigma to the healthcare profession. You will receive local phone airtime for your time, effort and participation in the study

FOR MORE INFORMATION CONTACT:

OHWAK Representatives: Grace Sande **0733349685** *& Phyllis Kisabei* ***722321847***
Jackline G. Opollo RN, MSN, MPH, Principal Investigator: ***719176522 or 733752413***

This study has been approved by the Kenya National Council of Science & Technology. UTA & GLUK IRBs

University of Texas at Arlington, College of Nursing: IRB Protocol: 2011-0182

Great Lakes University Kisumu IRB Protocol **GERC/005/2011**

APPENDIX G

UTA IRB APPROVAL LETTER

February 15, 2011

THE UNIVERSITY OF TEXAS AT ARLINGTON

Jackline Opollo
Dr. Jennifer Gray
The University of Texas at Arlington
College of Nursing
Box 19407

Office of Research Administration
Box 19188
202 E. Border St., Suite 214
Arlington, Texas
76019-0188

T 817.272.3723
F 817.272.1111

http://www.uta.edu/research
Expertise at UT Arlington
http://www.uta.edu/expertise

EXPEDITED APPROVAL OF HUMAN SUBJECT RESEARCH

IRB No.: 2011-0182

TITLE: *Understanding the impact of HIV/AIDS Related Stigma on nurses and healthcare workers infected with HIV and working in Kisumu, District, Kenya: A Mixed Methods Pilot Study*

Effective Date: February 11, 2011
Expiration Date: February 10, 2012

Approved Number of Participants: 80 **(Do not exceed without prior IRB approval).**

The University of Texas Arlington Institutional Review Board (UTA IRB) has made the determination that this research protocol involving human subjects is eligible for expedited review in accordance with Title 45 CFR 46.110(a)-(b)(1), 63 FR 60364 and 63 FR 60353, category (6)(7). The IRB Chairman (or designee) approved this protocol effective February 11, 2011. IRB approval for the research shall continue until February 10, 2012

APPROVED NUMBER OF PARTICIPANTS:
This protocol has been approved for enrollment of a maximum of 80 participants and is not to exceed this number. If additional data are needed, the researcher must submit a modification request to increase the number of approved participants **before** the additional data are collected. Exceeding the number of approved participants is considered an issue of non-compliance and will result in the destruction of the data collected beyond the approval number and will be subject to deliberation set forth by the IRB.

INFORMED CONSENT DOCUMENT:
The IRB approved and stamped informed consent document (ICD) showing the approval and expiration date must be used when prospectively enrolling volunteer participants into the study. The use of a copy of any consent form on which the IRB-stamped approval and expiration dates are not visible, or are replaced by typescript or handwriting, is prohibited. The signed consent forms must be securely maintained on the UT Arlington campus for the duration of the study plus a minimum of three years after the completion of all study procedures (including data analysis). The complete study record is subject to inspection and/or audit during this time period by entities including but not limited to the UT Arlington IRB, Regulatory Services staff, OHRP, and by study sponsors (if the study is funded).

MODIFICATION TO AN APPROVED PROTOCOL:
Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB ***any*** proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate

BeAMaverick.tv

APPENDIX H

UTA IRB EXEMPTION LETTER

Office of Research Administration
Regulatory Services
817-272-3723
regulatoryservices@uta.edu
http://www.uta.edu/ra/oric/

Institutional Review Board
Notification of Exemption

September 07, 2012

Jackline g Opollo
Dr. Jennifer r Gray
College of Nursing
Box 19407

Protocol Number: 2012-0831

Protocol Title: Extent of HIV Stigma among HIV Positive Healthcare Workers: A Mixed Methods Approach
Type of Review: **Exemption Determination**

The UT Arlington Institutional Review Board (IRB) Chair, or designee, has reviewed the above referenced study and found that it qualified for exemption under the federal guidelines for the protection of human subjects as referenced at Title 45 Part 46.101(b) (4).You are therefore authorized to begin the research as of September 05, 2012.

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB ***any*** proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject." Please be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to the Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence.

All investigators and key personnel identified in the protocol must have documented Human Subject Protection (HSP) Training on file with this office. Completion certificates are valid for 2 years from completion date.

The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human subjects in research. Should you have questions, or need to report completion of study procedures, please contact Robin Dickey at 817-272-9329 or robind@uta.edu. You may also contact Regulatory Services at 817-272-3723 or regulatoryservices@uta.edu.

APPENDIX I

PROVINCIAL MEDICAL DIRECTOR APPROVAL LETTER

Appendix I

MINISTRY OF MEDICAL SERVICES

Telegrams: "PROV.(MED)"
Telephone: Kisumu 254-057 2020105
Fax: Kisumu 254-057-2023176
E mail: pdmsyanza@gmail.com
When replying please quote

PROVINCIAL MEDICAL HEADQUARTERS
NYANZA PROVINCE
P.O. BOX 721
KISUMU

Ref: DS. 26 VOL.I/ (36)

Jackline G. Opollo RN, MSN, MPH
9326 Emberglow Lane
Dallas, TX 75243
972-792-0434
jopollo@uta.edu
March, 15th 2011

Dear Jackline,

RE: PERMISSION TO CONDUCT RESEARCH IN KISUMU DISTRICT KENYA.

I wish to inform you that, having gone through your study related documents attached, your request to carry out a study entitled **"Understanding the impact of HIV/AIDS related stigma on nurses and healthcare workers infected with HIV and working in Kisumu District, Kenya"** from June 1st to August 31st 2011 **has been granted.** I have gone through the details and seen that the study is relevant to health sector because stigma is a key issue and that the suggested study site is also suitable because of high HIV/AIDS prevalence.

We therefore welcome you and hope that your findings will satisfy your objectives as well as benefit the sector as you work with those you will closely get involved with, including the management during and afterwards. We already work with Great Lakes University of Kisumu where you will be based and we are open to more net-working on knowledge sharing and translation. With the authority of this letter we assure you the necessary cooperation and assistance bf the managers of the institutions you may need to visit for the purpose of the study.

DR. LUSI J. O.
PROVINCIAL DIRECTOR OF MEDICAL SERVICES – NYANZA
ojwanglusi@yahoo.com Tel; +254-721713259

APPENDIX J

NATIONAL COUNCIL OF SCIENCE & TECHNOLOGY APPROVAL

Appendix J

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123,
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: NCST/RRI/12/1/MED-011/24/4

Date: 8th March 2011

Jackline Gloria Okello Opollo
University of Texas at Arlington
School of Nursing
USA

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on **"Understanding the impact of HIV/AIDS related stigma on nurses and healthcare workers infected with HIV and working in Kisumu District, Kenya: A mixed methods pilot study"** I am pleased to inform you that you have been authorized to undertake research **in Kisumu Districts** for a period ending ***31st December 2011.***

You are advised to report to **the Medical Superintendents in the selected Hospitals, the District Commissioners and the District Medical Officers, Kisumu Districts** before embarking on the research project.

On completion of the research, you are expected to submit **one hard copy and one soft copy** of the research report/thesis to our office.

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:
The Medical Superintendents
Selected Hospitals in Kisumu

The District Commissioners
Kisumu Districts

APPENDIX K

ORGANIZATION OF HEALTH CARE WORKERS AGAINST AIDS IN KENYA APPROVAL LETTER

Appendix K

Organization of Health Workers Against AIDS in Kenya

Date: 27th January 2011

The Organization of Health Workers Against AIDS in Kenya (OHWAK) would like to extend its support for the conduct of the research study titled:
Understanding the impact of HIV/AIDS Related Stigma on nurses and healthcare workers infected with HIV and working in Kisumu, District, Kenya: A Mixed Methods Pilot Study
Principal investigator: Ms. Jackline Opollo RN, MSN, MPH

OHWAK's mission is to advocate for all health workers living with or affected by HIV, helping to reduce stigma and discrimination, increase their visibility, and expand access to treatment, care, and support services. The network assists psychosocial support groups at local hospitals and has grown from an original core of 49 members to more than 300 from almost all regions of Kenya.

The primary purpose of this pilot study is to add to current knowledge base and generate new ideas by examining HIV related stigma as it is perceived, experienced, and managed by healthcare workers infected with HIV/AIDS working in rural settings in Kisumu District, Kenya. A secondary purpose of the study is to test the feasibility and usability of the HIV/AIDS Stigma Instrument for People Living with AIDS (HASI-P). We contend that understanding the experience of the HIV positive HCW in the workplace can ultimately guide the development of targeted stigma reduction interventions in the workplace. This effort can improve the quality of life of HCWs already infected with HIV/AIDS so they can improve the quality of care to the escalating numbers of HIV/AIDS patients in Kenya.

Upon IRB approval the network will support the conduct of the study by facilitating ethical recruitment of study participants within the HIV/AIDS support network in the Kisumu District area. Should you have any questions do not hesitate to contact me.

Best Regards

Phyllis Kisabei
Senior Nursing Officer in Charge, KNH CCC/VCT/PSC/ National Coordinator
Organization of Health Workers Against AIDS in Kenya

APPENDIX L

GREAT LAKES UNIVERSITY KISUMU, IRB APPROVAL LETTER

Appendix L

GREAT LAKES UNIVERSITY OF KISUMU
(GLUK)

P. O. Box: 2224-40100 KISUMU, Tel: 254-057-2023972,
Cell. 0722-683813
Email: academics@tichinafrica.org, vcoffice@gluk.ac.ke

Certificate of Approval of Research Protocol
GLUK Ethical Review Committee (GERC)
Ref: No. GERC/005/2011

To: Jackline G. Opollo (Principal Investigator) and Jennifer Gray (Co-Investigator)

Date: January 28, 2011

STUDY TITLE: **UNDERSTANDING THE IMPACT OF HIV/AIDS RELATED STIGMA ON NURSES AND HEALTHCARE WORKERS INFECTED WITH HIV AND WORKING IN KISUMU, DISTRICT, KENYA: A MIXED METHODS PILOT STUDY**

This is to inform you that your study protocol was assessed under expedited review for scientific validity, justification and relevance of purpose. On the foregoing, the proposal was unconditionally approved.

This approval grants you the permission to proceed with your investigation for the stipulated timetable to its logical end. Should you desire to continue with the investigation upon the expiry of the study period, be sure to apply for Annual Review Process.

Note – always quote the GERC reference in future correspondence and that all applications / re-submissions should reach the GERC Secretary two weeks before the next scheduled meeting. Ordinary meetings are held EVERY FIRST MONDAY of the month.

Thank you.

Sincerely,

Rev. Boniface Obondi

SECRETARY

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BIOGRAPHICAL INFORMATION

Jakki Opollo is a Nursing Administrative Officer at Parkland Health and Hospital System, Dallas, Texas. Her clinical expertise is in Cardiovascular Intensive Care. Opollo holds the degrees of Bachelor of Science in Nursing, Master of Science in Nursing Administration from the University of Texas at Arlington (UTA) and Master of Public Health Policy and Management from the University of North Texas Health Sciences Center (UNTHSC). Opollo has been the recipient of several leadership and scholastic awards. She is a member of Sigma Theta Tau International (STTI) Honor Society for Nurses. Opollo was named a regional finalist for Nursing Excellence in 2012, A DFW Great 100 Nurse in 2011, 2008 *UTA University Scholar* and the *2007 Employee of the Year* by the Dallas Fort Worth Hospital Council (DFWHC). Her devotion and promotion of human welfare earned her the highest honor awarded by HCA: *2006 HCA Frist Humanitarian Award.* Opollo is committed to community action geared towards protecting vulnerable populations globally. Her research interest area is centered on HIV/AIDS and nursing workforce policy development in Sub-Saharan Africa. She has served as a coordinator for the North Texas Africa Health Initiative. Her long-term career goal is to work for the World Health Organization influencing health policy and shaping health systems in developing nations. Born and raised in Kenya, Opollo is the seventh born in a family of eight. Opollo possesses a unique worldview and international experience that is highly desirable in today's increasingly global community. Her passion for the field of healthcare and its worldwide effects is exemplified by her extensive travels. Opollo's warmth and humility exemplifies her commitment to the care and improvement of human lives. Based on her determination, ambition, and potential, Opollo is set to become a force to reckon with in the global health arena.