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NURSES' EXPERIENCE WITH HIV STIGMA IN FIVE AFRICAN COUNTRIES

by

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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

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NURSES’ EXPERIENCE WITH HIV STIGMA IN FIVE AFRICAN COUNTRIES

Raymond E. Phillips

ABSTRACT

Background: While HIV-related stigma has become better understood since the beginning of the HIV/AIDS pandemic, it nevertheless remains a pervasive problem in the prevention and treatment of HIV and AIDS in Africa. Nurses are at the forefront of HIV service delivery, and in many African countries nurses constitute the majority of the health care workers. There is a need to consider the implications of HIV stigma for nurses, but there is a dearth of evidence on nurses’ experience with HIV stigma. The objective of this study was to explore the contributions of personal characteristics, job characteristics, and HIV/AIDS stigma on nurses’ quality of life.

Methods: The study was conducted on site at clinical facilities in five southern African countries (Lesotho, Malawi, South Africa, Swaziland and Tanzania). Using secondary analysis of time 1 data, 1,388 nurses were surveyed using a brief demographic survey, the Quality of Work Life survey, the Medical Outcome Study Short Form 36, and the HIV/AIDS Stigma Instrument (HASI-N). Factor analysis was used in the parent study in the development of the HASI-N to explore concepts, build theory, and/or confirm and test hypotheses about nurses stigmatizing patients and nurses being stigmatized. Multiple regression correlation analysis was used to study the relationship between the predictor variables and criterion variable. ANOVA was used to compare and evaluate the differences amongst the demographic variables.

Results: There is a significant negative correlation between stigma and job satisfaction, and there is significant correlation between years of nursing experience and stigma specifically for nurses stigmatizing patients. More stigma is reported if the nurse has a family member or relative...
who is HIV+. Nurses residing in peri-urban areas reported more stigma than those in urban or rural areas. Overall, the results show that both job satisfaction and nurses being stigmatized affect their physical health and mental health.

**Conclusions:** This study added new information demonstrating that HIV stigma experienced by nurses affects their mental health and slightly their physical health, and this may contribute to the nursing shortage in sub-Saharan Africa.
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CHAPTER I: THE STUDY PROBLEM

Introduction

HIV/AIDS is a leading cause of morbidity and mortality in sub-Saharan Africa. HIV Stigma is increasingly regarded as a key driver of the epidemic because of the role it plays in undermining the ability of individuals, families and societies to protect themselves from HIV and to provide assistance to those affected by AIDS (Dlamini, Kohi, Uys, et al., 2007; Ogden & Nyblade, 2005). Within the last 27 years, since the beginning of the AIDS epidemic, much progress has been made in delaying progression of the disease. However, this epidemic has not been ameliorated by time as indicated by Peter Piot, the Executive Director of UNAIDS (Piot, 2006). For people living with HIV and AIDS (PLHAs), HIV stigma remains a powerful barrier to HIV testing, disclosure of HIV status, access to antiretroviral (ARV) medication, and access to care services (Holzemer & Uys, 2004; Maughan-Brown, 2008). The ramifications of HIV and AIDS-related stigma are numerous within health care and contribute to isolation, rejection, physical and verbal abuse, and reluctance to seek treatment (Dlamini, et al., 2007). Fear of stigma and discrimination keeps people from learning their HIV status, and, if positive, from disclosing their status to others and accessing health services. Discriminating behavior by health care professionals has been well documented in the literature on a global scale, particularly within developing countries (Bleakley, et al., 2002; Fortenberry, McFarlane,; Holzemer & Uys, 2004; Kalichman & Simbayi, 2004; Kalichman, Simbayi, Jooste, et al., 2005; Lieber, Li, Wu, et al., 2006; Makoae, Greeff, Phetlhu, et al., 2008). Stigmatizing attitudes and discriminatory practices of family members and health care providers prevent those infected from receiving adequate treatment, care, and support (Heijnders & Van Der Meij, 2006; Li, Wu, Wu, et al., 2007a; Makoae et al., 2008). To start addressing HIV-related stigma in health care settings, researchers have made efforts to understand its multiple origins and various forms (Greeff,
What is HIV/AIDS-related stigma?

English usage of “stigma” dates back at least to the 1500s, according to the Oxford English Dictionary Online. The term is derived from Greek, denoting a mark made by a pointed instrument or brand. Stigmata is the plural of the Greek word stigma meaning a mark or brand that has been used for identification of an animal or slave. Historically, English usage of stigma/stigmata referred to marks resembling the wounds on the crucified body of Christ, said to have been supernaturally impressed on the bodies of certain saints and other devout persons. Although the religious stigmata conveyed saintliness, the term stigma has now assumed an unmitigated negative connotation. In modern society, stigma is a broad and multidimensional concept whose essence centers on the issue of deviance. In general, there is consensus in the stigma literature that stigma represents a construction of deviation from some ideal or expectation, whether the ideal is for correct sexual orientation or to be free of a disfiguring or fatal infectious disease. At its most basic level, stigma, from Goffman’s perspective, is a powerful discrediting and tainting social label that radically changes the way individuals view themselves and are viewed as persons. When individuals fail to meet normative expectations because of attributes that are different and/or undesirable, they are reduced from accepted people to discounted ones. Thus, the discrepancy between what is desired and what is actual, spoils the social identity, isolating the individual from self, as well as, societal acceptance (Goffman, 1963).
The Joint United Nations Program on HIV/AIDS (UNAIDS) describes HIV and AIDS-related stigma as a “process of devaluation” of people either living with or associated with HIV and AIDS (UNAIDS, 2007, p. 9). Herek (2002) defined stigma as “an enduring condition, status, or attribute that is negatively valued by society and whose possession consequently discredits and disadvantages an individual” (p. 595). Discrimination is distinguished from stigma as the behavior a person exhibits toward individuals belonging to a particular group (Herek, 2002). Regardless of the stigma, whether it is a physical or figurative mark, that mark is understood by the greater society to represent a negative characteristic, and condemns the person to shame.

Drawing from his work in psychiatric hospitals and among criminals and homosexuals, Sociologist Erving Goffman developed what has become the classic text on stigma (Goffman, 1963). Goffman conceptualized a stigma framework and defined stigma as an “attribute that is deeply discrediting” (p. 19). His theory is grounded in the concept of social identity that is based on establishing those who are “normal” from those who are different or “deviant” (p. 19), the stigmatized. Moreover, Goffman expounded on his definition of stigma as the identification that a social group creates of a person (or group of people) based on some physical, behavioral, or social trait perceived as being divergent from group norms (Goffman, 1963). As stigma places people at a substantial social disadvantage within society, it augments their susceptibility to risks and limits access to protective factors, potentially adding to their burden of disease or illness.

Stigma has been widely associated with disease and illness. Examples of stigmatizing illnesses include hepatitis C (Butt, Tsevat, Leonard, et al., 2008), Alzheimer’s disease (Werner & Heinik, 2008), mental illness (Verhaeghe, Bracke, & Bruynooghe, 2008), obesity (Wang, Brownell, & Wadden, 2004), epilepsy (Dilorio, Osborne Shafer, Letz, et al., 2003), sexually transmitted disease (Rusch, Shoveller, Burgess, et al., 2008), and to a large extent, HIV and
AIDS (Dlamini, et al., 2007; Holzemer & Uys, 2004; Holzemer, Uys, Makoae et al., 2007; Makoae et al., 2008). The literature on illness and stigma has included enhancements to Goffman’s original text, amendments on the themes that he first raised, and comprehensive descriptions of the impact that stigmatization can have on the lives of those who are affected by it.

Alonzo and Reynolds (1995) suggested that individuals with HIV and AIDS are particularly highly stigmatized because the disease of HIV and AIDS is: 1) associated with deviant behavior, including homosexuality; 2) viewed as the responsibility of the individual; 3) considered to be immoral; 4) perceived as contagious and threatening to the community; 5) associated with an unattractive form of death; and 6) plagued with misunderstanding and misinformation. Moreover, the authors propose that the person with HIV is often thought to be blameworthy for having been infected (with the exception of infants born with HIV), which is considered to be a character flaw as defined by the values of society.

While HIV and AIDS-related stigma has become better understood during the past 28 years since the first AIDS case was diagnosed, it nevertheless remains a pervasive problem. Various studies have established that both expressed (stigmatizing beliefs, attitudes and behavior) and/or received (covert or overt) HIV and AIDS-related stigma are widespread and occur in a variety of contexts, including the family, community, workplace, and the health care setting (Chakrapani, Newman, Shunmugam, et al., 2007; Greeff, et al., 2008; Tarakeshwar, Srikrishnan, Johnson, et al., 2007;).

Over the last decade, researchers have started to refine our understanding of the drivers of stigma (Campbell, Nair, Maimane et al., 2007; Holzemer et al., 2007), emphasizing the influence
of power differentials and socio-economic context rather than just conceiving of stigma as an
individual attribute. Drivers of HIV stigma seem to be a fear of death and disease, the availability
and relevance of AIDS-related information, the lack of social spaces to engage in dialogue about
HIV/AIDS, the link between HIV and AIDS, sexual moralities and the control of women and
young people, the lack of adequate HIV/AIDS management services, and the way in which
poverty shapes people’s reactions to HIV/AIDS, for although there are numerous factors in the
spread of HIV/AIDS, it is largely recognized as a disease of poverty, hitting hardest where
people are marginalized and suffering economic hardship.

Various typologies of stigma have emphasized the contextual nature of HIV stigma. The
Siyam’kela Project (2003) pointed out the relevance of “courtesy stigma”, which is directed at
the families or friends of PLHA. The Siyam’kela Project’s objective was to demonstrate how
HIV/AIDS-related stigma and discrimination could be reduced using careful analysis and
replicable interventions with a focus on the experience of HIV-related stigma in South Africa.
The project consisted of six aspects:

- A literature review to provide a theoretical understanding of stigma
- A qualitative explanation of stigma experiences and perspectives through focus
group discussions and key informant interviews across South Africa
- The development of indicators of internal and external stigma through this
  fieldwork and in consultation with experts in the field
- A media scan to contextualize and locate the fieldwork in a particular time and
  place
The documentation of promising practices which mitigate HIV/AIDS stigma

The development of guidelines to assist those who wish to develop interventions to impact positively on HIV/AIDS stigma

Within the context of the Project, Siyam’kela denotes a collective approach (PLHA, national government departments, and faith-based organizations) in working towards reducing HIV/AIDS-related stigma and discrimination.

However, Holzemer et al. (2007) labeled such “courtesy stigma” as “stigma by association” and showed that it also involved nurses and physicians working with PLHAs. Maughan-Brown (2006) added a category called “resource-based stigma” in which stigma takes the form of resentment at the allocation of limited resources to people living with HIV/AIDS. Maughan-Brown’s research scores dimensions of stigma against variables such as race, age, gender, level of education and religion. These results confirm earlier studies which suggest stigma is influenced by gender, population group, religion and education levels and indicate the relevance of using these variables to establish a better understanding of the determinants of stigma.

HIV stigma has previously been identified as one of the factors affecting access to testing, disclosure, treatment or support (e.g., Hutchinson & Mahlalela, 2006; Peltzer, Niang, Muula et al., 2007; Kalichman & Simbayi, 2003). Researchers have demonstrated that HIV stigma shows a negative relationship with levels of biomedical knowledge, trust in biomedicine, traditional beliefs and other social and economic characteristics (Kalichman & Simbayi, 2003; Kalichman & Simbayi, 2004; Kalichman, Simbayi, Cain, et al., 2006). Researchers from the Centre for Social Science Research (CSSR)’s Cape Area Panel Studies (CAPS) have explored
relationships between different kinds of stigma and class, religion and other socio-cultural and economic factors (Maughan-Brown, 2006). Cluver, Gardner, & Operario (2008) identified stigma as a risk factor in the psychosocial adjustment of children affected by HIV and AIDS. Pawlinski & Lallo (2001) and Kouyoumdjian, Meyers, & Mtshizana (2005) described a population characterized by low levels of disclosure and (Almeleh, 2006) described relatively late disclosure, which they hypothesized was linked to HIV stigma. Studies have reported that stigma seems to inhibit or delay access to HIV treatment and testing services and affects adherence (Mills, Nachega, Buchan, et al., 2006). New research on TB-related stigma in South Africa and Zambia has shown that it has a close relationship to HIV and AIDS-related stigma (Bond & Nyblade, 2006; Moller & Erstad, 2007).

**Statement of the Problem**

AIDS stigma and discrimination continue to affect people living with and affected by HIV disease and their health care providers, particularly in Southern Africa where the HIV infection rates are so significant. Stigma has become one of the greatest barriers to primary and secondary HIV/AIDS prevention and care. Fear of stigmatization impedes efforts to increase voluntary testing and counseling, as well as encourage treatment seeking, thus increasing suffering and shortening life (Holzemer & Uys, 2004). Various health care workers have surmised that unless stigma is suppressed, achievements with regard to prevention and care will never be realized (Uys, 2000).

In 2007 worldwide, the number of adults and children living with HIV was estimated at 33.2 million, including 2.5 million children, with 2.5 million new cases that year, and 2.1 million deaths (UNAIDS, 2007). HIV has become a leading cause of mortality worldwide and the main
cause of death in sub-Saharan Africa. Prevalence rates in the most heavily affected countries have reached levels that had previously been unthinkable (UNAIDS, 2008). In 2007, 35% of people with HIV/AIDS globally lived in southern Africa, which is also where 32% of AIDS deaths had occurred. In no part of the world has the pandemic had a more devastating effect (UNAIDS, 2008).

HIV/AIDS is impacting negatively on health systems both by increasing demand for health services and by reducing health workforce availability and performance. In many countries of sub-Saharan Africa, people with HIV-related illnesses occupy more than 50% of hospital beds and there is abundant evidence that health care workers are overwhelmed by the demand for care (Shisna, Hall, Maluleke, et al., 2002). The supply of nurses in many developing countries, as well as developed countries, has failed to keep pace with the increasing demand. Nurses are the central points of contact for clinical care of PLHA, and in light of severe physician shortages throughout the developing world, nurses have increasingly become the primary care providers for much of the population (WHO, 2008).

The global shortage of nurses is one of the biggest obstacles to achieving the UN Millennium Development Goals (MDGs) for improving the health and well being of the global population. The United Nations Millennium Development Goals aim to address many of the issues that public health advocates identify as important to improve global health. For example, the MDGs and target indicators relate to a range of factors that impact public health (poverty, basic services), as well as, health specific goals (HIV/AIDS and antiretroviral therapy). One recent estimate is that sub-Saharan African countries have a deficit of more than 600,000 nurses needed to meet the MDGs (ICN, 2004). According to the World Health Organization (WHO), the workforce crisis in the field of health is seriously affecting many countries’ abilities to fight
disease and improve health (WHO, 2008). Lack of nurses and high nurse turnover represent problems for nursing and healthcare in terms of cost, the ability to care for patients and the quality of care given (Clarke & Aiken, 2003; Rivers, Tsai, & Munchus, 2005).

The International Council of Nurses (2004) reports that the supply of nurses is failing to keep up with demand. Inadequate nursing staff levels lead to poor care outcomes and the situation of this predominantly female profession is adversely influenced by gender discrimination with nursing being undervalued or downgraded as women’s work and violence against women in many countries with nurses often taking the brunt because they are at the forefront of the direct delivery of care. A higher proportion of hours of nursing care provided by Registered Nurses (RN) are associated with better care for hospitalized patients (Needleman, Buerhaus, Mattke, et al., 2002) and better staffing has been positively associated with higher nurse assessed quality of care, and have important implications for patient safety and the hospital nurse shortage in sub-Saharan Africa (Aiken, Clarke, Sloane, et al., 2002).

With the advent of HIV/AIDS, nurse shortages have become more pronounced because the bed capacity in most healthcare facilities more than doubled, especially in developing countries. In addition, more nurses are becoming sick as a result of HIV/AIDS, which leaves fewer nurses to work longer hours and provide care to more than double the expected workload (Ehlers, 2006). Like the general population, nurses may become infected with HIV as a result of their personal sexual behavior. Nurses also face additional occupational risk from handling non-sterile injecting equipment or accidental exposure to blood or serum. The impact of HIV/AIDS is also a factor in increasing internal and international migration of health workers from sub-Saharan Africa, which in turn creates heavier workloads for the nurses who remain (ICN, 2004).
The international migration of health care workers – physicians, nurses, midwives, and pharmacists – leaves the world’s most impoverished countries with severe human resource shortages, seriously jeopardizing the achievement of the UN MDGs (WHO, 2004). Countries having the greatest difficulty in meeting the UN MDGs are faced with comprehensive deficits in their health workforce, seriously restricting their potential to respond equitably to even basic health needs (WHO, 2006). The international recruitment and migration of health professionals affecting national workforce supply is now a significant item on the political agenda (ICN, 2005).

More than in any other profession in society, health care workers are affected exponentially by the HIV/AIDS pandemic, because they are employed in providing care for people living with HIV and AIDS (PLHA). Nurses in particular are the group of health care workers who have continual and sustained contact with PLHA. Nurses also play an essential role in the ongoing battle against HIV and AIDS by providing testing, care, and treatment for PLHA. Moreover, nurses face significant occupational challenges such as work-related infection risks, increased demand for services, inefficiency in the HIV care financing system, and the lack of appropriate training for HIV and AIDS treatment (Ehlers, 2006). Although many studies have examined the effect of HIV and AIDS-related stigma on health care workers as a group, only one thus far has examined HIV-related stigma as perpetrated and experienced specifically by nurses (Makoae, et al., 2008). While this study examined this problem in five southern African countries, there is still a paucity of research that has examined the behavior of nurses toward people living with HIV infection, and the behavior nurses experience outside of healthcare settings based on their association with HIV care or people living with HIV infection.
Purpose of the Study

The purpose of this study was to explore the contributions of personal characteristics, job characteristics, and HIV/AIDS stigma on nurses’ quality of life (QOL). The unique contribution of this dissertation study will be to examine stigma and two dimensions of quality of life (physical health and mental health) within the context of job satisfaction. The overall aim of this study was to explore the contribution of stigma in relation to two dimensions of QOL (physical health and mental health) in a sample of 1,388 nurses. The theoretical framework for this study was based upon the conceptual model of HIV/AIDS stigma that conceptualizes quality of life as one of the negative outcomes from experiencing HIV/ADS stigma (Holzemer, Uys, Makoae, et al., 2007). A secondary analysis of data from 1,388 nurses in five African countries was utilized. HIV/AIDS stigma among nurses was measured by two factors, including Nurses Stigmatizing Patients and Nurses Being Stigmatized. Although the literature on QOL is expansive, investigators agree that there is no universal definition or measurement for QOL (Taylor, Gibson and Franck, 2008). Quality of life in this study was measured by two factors only, including Physical Health and Mental Health.

The background for this dissertation is a five-year study that was conducted on HIV/AIDS stigma in southern Africa with the goal of increasing knowledge about stigma and ultimately reducing it. The project, “Perceived AIDS Stigma: A Multinational African Study,” (R01 TW006395) utilized extensive interviews and focus groups to explore the experience of stigma for nurses and people living with HIV or AIDS. This study was funded by the Fogarty International Center, the National Institutes of Mental Health, and the Health Resources and Services Administration. It was a collaboration of nurse researchers from seven universities: National University of Lesotho; Kamuzu College of Nursing, University of Malawi; North-West
University, South Africa; University of Swaziland; Muhimbili University of Health and Allied Sciences, Tanzania; University of KwaZulu-Natal, South Africa; and University of California, San Francisco, United States.
CHAPTER 2

Literature Review

This selected literature review will focus on examining some of the key issues which are impacting the HIV/AIDS pandemic in sub-Saharan Africa, and how these same issues indirectly impact HIV stigma. This section will be divided into four major sections. The first section will focus on the nursing shortage within sub-Saharan Africa, and the key factors responsible for the nursing shortage. The second section discusses the reasons for the internal and international migration of nurses and some of the factors which can positively influence nursing migration dynamics. The third section, will focus on HIV/AIDS stigma interventions. The fourth section discusses the educational preparation of nurses and the role of nursing education within the HIV/AIDS pandemic.

Literature Review Methods

Computer-based searches of PubMed were used to identify published articles pertaining to global nursing shortage, migration of nurses, HIV stigma, AIDS stigma, HIV/AIDS-related stigma and educational preparation of nurses written in English. The geographical region of the studies were also identified. Following the PubMed search, the bibliographies of major articles were reviewed for further references not indexed in the search engine. This search yielded in excess of 2,100 publications, and selected articles which had been published within the last five years (with the exception of those which provided historical merit), pertained or related to research within southern and sub-Saharan Africa, had relevance to the organization of this dissertation.
Theoretical Framework

Holzemer, Uys, Makoae, et al. (2007) present a Conceptual Model of HIV/AIDS Stigma, whereby the stigma process is conceptualized to occur within three contextual factors: the environment, the healthcare system and the agent (Figure 1).

The composition of environmental factors include cultural, economic, political, legal and policy environment (Castro & Farmer, 2005). Policies and laws in the past have directly promoted HIV/AIDS stigma by denying HIV+ foreigners border entry or immigrant status, by legal deportation following the disclosure of HIV+ status, by implementing mandatory screening and testing for HIV, or by enforcing compulsory notification of AIDS records (Forsyth et al., 2008). It is these types of power relationships which may play a role in the response to people living with HIV/AIDS in the cultural, economic, legal and policy environments.

The healthcare system includes locations such as hospitals, clinics and home-based care areas and healthcare personnel such as physicians, nurses and other allied health professionals (pharmacists, psychologists, social workers, etc.) (Aujoulat et al., 2002). These locations are important within the conceptual model because they are considered to be primary areas in which stigma can be triggered and also where stigma can manifest. The literature is also replete with studies of healthcare personnel being the cause or source of stigmatization (Holzemer et al., 2007; Bird et al., 2007; Makoae et al., 2008).
The agents of stigma include individuals who may self-stigmatize, family members, coworkers and community members (Fife and Wright, 2000; Varas-Diaz et al., 2005).

The stigma process includes four dimensions: triggers, behaviors, types of stigma, and outcomes. Stigma triggers are any actions that allow people to label themselves or others as HIV+. Examples would include receiving an HIV diagnosis or disclosure of HIV status. Moreover, the mere suspicion of being HIV+ is sufficient to trigger stigma. These triggers lead to stigmatizing behaviors that harm, isolate, exclude or identify the person in a negative way. Examples of stigmatizing behaviors include blame, insult, avoidance, accusation and abuse.

These triggers and behaviors result in three types of stigma. Holzemer, Uys, Makoae et al. (2007) identified these three types of stigma from study data as: received, internal and associated. Received stigma denotes all types of stigmatizing behavior that is directed toward a
person living with HIV/AIDS, as experienced or described by themselves or others. It is comparable to the perspective of the “etic” description of the world, where others direct stigma-related remarks or actions to the person living with HIV/AIDS (Weiss et al., 1992). Sub-types of received stigma include the following: neglecting, fearing, contagion, avoiding, rejecting, labeling, pestering, negating, abusing and gossiping. Internal stigma is described as thoughts and behaviors stemming from the person’s negative self perceptions based on their HIV status. It is comparable to the “emic” perspective of stigma, or the person’s perceived or self interpreted view of stigma (Weiss et al., 1992). Sub-types of internal stigma are the following: perception of self, social withdrawal, self-exclusion and fear of disclosure. Associated stigma denotes instances of stigma that result from a person’s association or alliance with someone living with, working with or otherwise associated with people living with HIV/AIDS. This may include, for example, having a family member who is HIV+, or working with people who are HIV+.

The outcomes of stigma were grouped under the headings of general health, violence, poorer quality of work life and reduced access to care. The combination of both physical and mental health conceptualized quality of life as one of the negative outcomes from experiencing HIV/AIDS stigma.

**Nursing Shortage within sub-Saharan Africa**

Today, the global nurse shortage is unprecedented and affects health care delivery in every corner of the world. However, nursing shortages are not new, thus any discussion of shortage seems like an age-old dilemma. And although today’s shortage is in many ways the same, there are different dimensions to today’s shortage, which will require interventions from all sectors of society. Chiha & Link (2003) in their discussion of the link between nurse salaries
and labor supply noted that the most recent shortage of nurses, beginning in the mid to late 1990’s, differed from previous shortages because it was international in scope, and related to the impacts of health sector changes that have led to mandatory overtime, intentional short-staffing, and reductions in ancillary services. Van der Merwe (1999) described the history of how the shortages of white nurses in the public sector of South Africa were engineered by the higher pay offered to nurses in the private sector. Despite strict apartheid policy that dictated nurses and patients must be of the same race, economic policy ensured that black nurses would fill the numerous lower rungs of nursing even in white hospitals. A shortage of white nurses created the need for a large amount of nurses who would settle for lower pay and worse conditions of work.

During the 1990’s the issue of the impact of health reforms on health workers was examined under the rubric of ‘human resources for health’. Martinez & Martineau (1998) suggested that nurses have borne the worst part of health reforms in the developing world that have reduced health budgets while demanding quality reforms (e.g., reducing costs and increasing efficiency). They recommend that the role of Human Resources be intensified to repair and ameliorate the impacts to nurses by assuring four core functions:

- Ensuring that the health system obtains an adequate supply of staff to achieve its objectives within agreed budget constraints
- Optimizing productivity and quality of work of the workforce
- Setting pay levels and conditions of service; career structures; incentive systems; structuring, managing and harmonizing relations between employers and staff
- Producing appropriately skilled personnel for the labor market
Their call for ‘Human Resources for Health for the new millennium’ connected the need for strong workforces to meeting population health goals and contributed to an increase in the study of health workers in the developing world.

**Definition of Shortage**

Although there is no universally agreed upon definition for shortage, in the most basic sense the current global nursing shortage is simply a widespread and dangerous lack of skilled nurses who are needed to care for individual patients and the population as a whole (ICN, 2004).

At its most basic level, according to Buchan (2006), a shortage would be identified where an imbalance exists between the requirements for nursing skills (typically defined as a number of nurses) and the actual availability of nurses. Availability has to be qualified by noting that not all “available” nurses will actually be willing to work at a specific wage or package of work-related benefits. Thus, the search for solutions to the shortage has to focus on the motivation of nurses, and incentives to recruit and retain them, and encourage them to return to nursing, as well as focusing on the planning framework.

A study was conducted for the International Council of Nurses (ICN) from available data which was used to compare countries in the region in terms of nurse:physician ratios and supply per 100,000 of population. The following factors were identified as being responsible for the shortage of nurses in sub-Saharan Africa (Munjanka, Kibuka, & Dovlo, 2005):

- Migration of health workers from sub-Saharan Africa, largely to developed countries.
- A limited supply of new nurses and other health workers entering the sub-Saharan Africa workforce;
– Poor human resource management systems, which reflect inefficiencies of the public sector health systems;
– Attrition due to HIV/AIDS now thought to be affecting health workers in serious numbers;
– Limited career and professional opportunities resulting in frustration and the perception that health professions are undesirable.

An important difference in today’s shortage is a merging of both supply and demand factors which has created a volatile and complex situation. In past shortages, either an increasing demand or a decreasing supply was the main contributing factor. But today, both factors contribute equally and the supply of nurses is failing to keep pace with the demand (ICN, 2004).

The factors fueling the increased global demand are not new and include the following:

– New infectious diseases – such as HIV/AIDS – and reemerging ones, such as tuberculosis and malaria;
– An aging population: By 2050, there will be a greater number of older people than younger ones in the world;
– Globalization and a growing private sector; and high public trust in nurses, which has sparked increased demand for nurses as the primary entry point to health services.

Associated with increased demand is a decreased supply of nurses globally. The reasons for this are the following:

– Wage disparities and little involvement in decision making;
– Changes in health human resources approaches;
Unfavorable work environments that include excessive workloads, inadequate support staff, violence, stress, burnout

Nursing shortages and the dearth of health care personnel have been associated with a range of negative outcomes. These include: increased patient mortality (Aiken, et al., 2002; McKay & Crippen, 2008); adverse events (Kane, Lum, Cutler, et al., 2007); increased violence against staff (Bowers, Allan, Simpson, et al., 2007); increased nursing injury rates and negative patient outcomes (Charney & Schirmer, 2007); and increased infection rates which spread from one patient to another (Alonso-Echanove, Edwards, Richards, et al., 2003). Moreover, hospitals (within developed countries) with low nurse staffing levels tend to have higher rates of poor patient outcomes such as pneumonia, shock, cardiac arrest, and urinary tract infections, according to research funded by the Agency for Healthcare Research and Quality (AHRQ) and others (Stanton & Rutherford, 2004).

The global HIV/AIDS crisis is bringing new attention to the desperate shortages of health care workers in sub-Saharan Africa. The World Health Organization (WHO) estimated that Africa has just 3% of the global health workforce, but 25% of the disease burden (WHO, 2006). The WHO Department of Human Resources for Health has been collecting and compiling cross-nationally comparable data on health workers in all 193 WHO member states. The data referred to above is available in the Global Atlas of the Health Workforce, and is the main outcome of this effort. The methods of estimation used here reflect a framework for harmonizing the boundaries and constituency of the health workforce across contexts, and are dependent on the nature of the original data source. Trends in availability of nurses in some sub-Saharan African countries clearly show that the numbers are inadequate for the populations in these countries. The makeup of health care worker density (nurses, midwives, physicians) is approximately
1:1000 in Africa, with much lower ratios in the most indigent sub-Saharan African countries, and falls well below the suggested 2.5:1000 necessary to meet the MDGs (Munjanja, et al., 2005).

There is a growing body of evidence that shows how nursing shortages in sub-Saharan Africa are linked to the brain drain (which implies a loss to the source country of vital skills, professional knowledge, and management capacity) of skilled health care workers from the South to the North, and how this situation is exacerbated by HIV/AIDS (Lynch, Lethola, & Ford, 2008; Thupaygale-Tshweneagae, 2007; Zungu-Dirwayi, Shisana, Louw, et al., 2007). The AIDS pandemic dramatically increases the workload on already overtasked health care workers. Hospitals in many AIDS-burdened countries are literally overrun with patients who have HIV-related conditions, and occupy 70% to 80% of hospital beds (Lau & Muula, 2004). A study of admissions patterns in a rural hospital over a 12-year period in KwaZulu-Natal, South Africa showed a dramatic 275% increase in admissions and increase in mortality from 8% to 20%. This was accompanied by a decrease in average length of hospital stay by 28% (Reid, Dedicoat, Laloo, et al., 2005). The rise in medical admissions secondary to HIV infection places an increased burden of care on health care workers who are already beleaguered from psychological stress and fatigue (Umeh, Essien, Ezedinachi, et al., 2008). This is compounded by some health care workers themselves succumbing to HIV and the brain drain to emigration of skilled medical and nursing staff from Africa (Shisana, 2007).

**Current Attempts to Alleviate the Nursing Shortage**

The shortage of health care workers (particularly nurses) in sub-Saharan Africa is compounded by a high burden of infectious diseases; emigration of trained professionals; difficult working conditions and low motivation. In particular, the hardship of HIV/AIDS (e.g.,
HIV testing/counseling, antiretroviral therapy initiation, follow-up and management of opportunistic infections) has led to the concept of task shifting being increasingly promoted as a way of rapidly expanding human resource capacity. In HIV/AIDS care, the advent of antiretroviral treatment (ARV) and the humanitarian imperative to scale-up this treatment to thousands of people in Africa have further highlighted the gaps in human resources for health care. Task shifting, as defined by the WHO, is a process of delegation whereby tasks are moved, where appropriate, to less specialized health care workers. By reorganizing the workforce in this way, task shifting presents a viable solution for improving health care coverage by making more efficient use of the human resources already available and by quickly increasing capacity while training and retention programs are expanded (WHO, 2007).

The scaling-up of antiretroviral treatment (ART) throughout sub-Saharan Africa highlights the main opportunities and challenges posed by task shifting and proposes specific actions to tackle the challenges. The opportunities include: increasing access to life-saving treatment; improving the workforce skills mix and health system efficiency; enhancing the role of the community; cost advantages and reducing attrition and international ‘brain drain’. The challenges include: maintaining quality and safety; addressing professional and institutional resistance; sustaining motivation and performance and preventing deaths of health care workers from HIV/AIDS (Van Damme, Kober & Kegels, 2008; Zachariah, Van Engelgem, Massaquoi, et al., 2008).

Studies are underway to utilize task shifting as an overall strategy that includes tangible measures to increase, retain and sustain existing and new cadres of nurses, and provide evidence of successful ART interventions. Fairall, Bachmann, Zwarenstein, et al. (2008) are currently conducting a randomized controlled trial to determine whether primary care nurses, with suitable
training and managerial support, can initiate and continue to prescribe and monitor ART in the majority of ART-eligible adults in the Free State province of South Africa. Current South African guidelines recommend that only physicians should prescribe ART, even though most primary care is provided by nurses. Thus, a major barrier to accessing free government provided ART in South Africa is the shortage of suitably skilled health care workers. These researchers have developed an effective method of educational outreach to primary care nurses in South Africa.

The methods/design for this protocol is a pragmatic cluster randomized trial to evaluate the effectiveness of a complex intervention based on and supporting nurse-led ART for South African patients with HIV/AIDS, compared to current practice in which physicians are responsible for initiating ART and continuing prescribing. The researchers will randomly allocate 32 primary care clinics in the Free State province to nurse-led or physician-led ART. Two groups of patients aged 16 years and over will be included: a) 7,400 registering with the program with CD4 counts of 350 cells/mL (mainly to evaluate treatment initiation) and b) 4,900 already receiving ART (to evaluate ongoing treatment and monitoring). The primary outcomes will be time to death (in the first group) and viral suppression (in the second group). Patients’ survival, viral load and health status indicators will be measured at least six-monthly for at least one year and up to two years, using an existing province-wide clinical database linked to the national death register. The treatment program aims to improve outcomes, and there is equipoise as to whether patients in either arm would be at greater risk. The effects of the proposed research will be to randomly allocate implementation, and to provide training, managerial support and evaluation to ensure optimal implementation.
This trial builds on two randomized trials these same researchers carried out in the same setting between 2003 and 2007. The first, Practical Approach to Lung Health in South Africa (PALSA) trial, was a cluster randomized trial in the 40 largest primary care clinics in the Free State (Fairall, Zwarenstein, Bateman, et al., 2005). It evaluated a multifaceted method of educational outreach to clinic nurses based on syndromic algorithmic guidelines for integrated management of adult lung disease, building on a WHO initiative. It showed that the intervention was effective and cost effective in improving tuberculosis case detection and asthma treatment. The second, “PALSA PLUS”, cluster randomized trial evaluated the extension of the guideline and training to cover HIV/AIDS care in the 15 clinics then providing ART. It demonstrated effectiveness in increasing cotrimoxazole prophylaxis and tuberculosis case detection among HIV/AIDS patients, which led to its adoption as a provincial program. However, at that time only physicians could initiate ART. So, they simultaneously conducted a cohort study of all 14,267 patients enrolled on the HIV/AIDS program to the end of 2005 (Dougan, 2005). These studies have demonstrated the effectiveness of this educational method and guidelines for improving quality of primary nursing care provided by nurses, the research value of these program data, and the impact of their research on policy.

Shortages of health care personnel perpetuate continued shortages, and undermine the effectiveness of health systems and require health system solutions (Buchan & Calman, 2004). The increased workload and decreased morale for those who remain may lead to burnout, or otherwise reduce the quality of life for remaining health personnel (Makoae, et al., 2008). Either result provides them an incentive to either leave the profession, the public health sector, or the country. The challenge of internal and international migration of nurses is yet another issue
which profoundly affects the impact of HIV/AIDS and HIV stigma on the nursing workforce in sub-Saharan Africa.

**Causes of Internal and International Migration**

The global shortage of health care professionals is inextricably linked with an increase in internal and international migration of highly skilled health care personnel (Rosenkoetter & Nardi, 2007). Internal migration occurs when health professionals migrate from rural to urban areas, from public to private sector, or from nursing employment to no employment. This can be used as a stepping stone to international migration (Buchan & Calman, 2004). International migration occurs when health professionals temporarily or permanently settle abroad, mainly because of problems in their home country (e.g., high unemployment rates, poor working conditions and low salaries) (Buchan & Calman, 2004). The migration of highly skilled health care personnel from less-developed nations to industrialized nations is causing a huge disparity in which poor nations with the fewest nurses are losing them to wealthy countries with the most human resources (Pittman, Aiken, & Buchan, 2007). Nurses are the backbone of primary care services in developing countries, particularly in Africa, and constitute 45-60% of the entire health workforce (Munjanja, et al., 2005). The quandary of the situation is that sub-Saharan African countries with very low concentrations of nurses (ranging from 0.30 to 4.0 nurses per 1,000 population) are providing nurses to countries in other regions, which already have much better ratios of nurse to population (with densities from 7 to 15 nurses per 1,000) (WHO, 2006).

The health systems in parts of sub-Saharan Africa are historically poorly financed, and are currently in a state of crisis, due in part to nurse shortages (Pittman, et al., 2007). In Malawi, for example, there has been a 12% reduction in available nurses due to migration (Ross, Polsky,
& Sochalski, 2005). In 2000, approximately 500 nurses migrated from Ghana, twice the total number of nursing graduates for that same year (Awases, Gbary, Nyoni, et al., 2004). The recent increase in migration has affected the ability of nursing training programs to continue because of poor staffing levels (Dovlo, 2007). Nurse attrition within sub-Saharan Africa is also due to demise caused by infectious (i.e., HIV infection) and chronic diseases (Tawfik & Kinoti, 2003).

According to Mejia’s landmark study of physician and nurse migration in the late 1970s, migration is the result of the interplay of various forces at both ends of the migratory axis (Mejia, 1978). Mejia named the forces as “push” and “pull” factors. Both forces must be operating for migration to occur.

A number of factors push health care personnel to migrate, such as poor working conditions, low remuneration and lack of incentives, or insufficient availability of training and avenues for professional development. The primary factors pulling health care personnel to migrate are attractive salaries and benefits, better working environments, or improved quality of life for the worker and the family (Stilwell, Diallo, Zurn, et al., 2003). These push and pull factors are summarized in Table 2. Studies of the international migration of health care personnel typically distinguish between the countries that send health care personnel (the source country) and those that receive them (the destination country).

Table 1: Push and Pull Factors in International Nurse Migration

<table>
<thead>
<tr>
<th>Push factors</th>
<th>Pull Factors</th>
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<tbody>
<tr>
<td>Low pay (absolute and/or relative)</td>
<td>Higher pay (and opportunities for remittances)</td>
</tr>
<tr>
<td>Poor working conditions</td>
<td>Better working conditions</td>
</tr>
</tbody>
</table>
Lack or resources to work effectively | Better resourced health systems
---|---
Limited career opportunities | Career opportunities
Limited educational opportunities | Provision of post-basic education
Impact of HIV/AIDS | Aid work
Unstable work environment | Political stability
Economic instability | Travel opportunities

(Buchan, Parkin, & Sochalski, 2003, p. 21)

Developed countries are the primary destinations of most migrant health care personnel. Traditionally, Australia, Canada, the UK, and the US are the countries receiving the largest number of migrant health care personnel. The increasing migration of physicians and nurses from Africa to developed countries has accelerated fears of an African ‘brain drain’. However, empirical research on the causes and effects of this phenomenon have been inhibited by a lack of systematic data on the extent of African health care workers’ international migration. To that end, Clemens and Pettersson (2008) used destination-country census data to estimate the number of African-born physicians and professional nurses working abroad in a developed country circa 2000, and compare this to the stocks of these workers in each country of origin.

The results revealed that there were approximately 65,000 African-born physicians and 70,000 African-born professional nurses working overseas in a developed country in the year 2000. This represents approximately one fifth of African-born physicians in the world, and approximately one tenth of African-born professional nurses. The fraction of health professionals abroad varies tremendously across African countries, from 1% to over 70% in accord with the profession and country. Liberia has the highest number of professional nurses abroad, and Egypt
has the lowest number. These numbers are the first standardized, profession-specific measures of skilled professionals working in developed countries and trained in a large number of developing countries. This data does include those skilled professionals working outside of their profession.

**Why Healthcare Personnel Migrate**

Job satisfaction among nurses has long been recognized as a critical indicator of their performance and quality of patient care (Aiken, et al., 2002) and has been directly related to international migration (Rosenkoetter & Nardi, 2007). In addition, job satisfaction among nurses working with HIV and AIDS patients has also been well documented (Benevides-Pereira & Das Neves Alves, 2007), and is intensified by HIV stigma and the compounding burden of the HIV/AIDS epidemic.

Chirwa, Greeff, Kohi, et al. (2009) explored the demographic and social factors, including perceived HIV stigma, that influence job satisfaction in nurses from five African countries. A cross-sectional survey was conducted amongst nurses (n = 1,384) caring for patients living with HIV and AIDS in Lesotho, Malawi, South Africa, Swaziland, and Tanzania. The results revealed that the sub-scale, Personal Satisfaction, was the highest scored factor recorded by this sample from five countries within Africa and corresponds to the results reported by Traynor and Wade (1993) in the United Kingdom and Uys, Minnaar, Reid and colleagues (2004) in South Africa. Job satisfaction scores differed significantly among the five countries and these differences were consistent across all subscales. A hierarchical regression demonstrated that mental and physical health, marital status, education level, urban/rural setting, and perceived HIV stigma had significant influences on job satisfaction. Perceived HIV stigma was the strongest predictor of job dissatisfaction. This finding provides new information that might guide
interventions designed to improve nurse job satisfaction in Africa by directly addressing the concept of HIV stigma by association with the nurses.

In an attempt to measure the extent to which health care personnel in the hospital were satisfied with the tasks they performed and to identify factors associated with low motivation in the workplace, Leshabari, Muhondwa, Mwangu and colleagues (2008) conducted a cross-sectional study comprised of a sample of 448 hospital health care workers at the Muhimbili National Hospital in Tanzania. Stratified sampling was used to randomly select 20% of: physicians, nursing staff, auxiliary clinical workers and other administrative and support staff. Approximately 44% of the health personnel were female. The results revealed that almost half of both physicians and nurses were not satisfied with their jobs, as was the case for 67% of auxiliary clinical staff and 39% of supporting staff. This dissatisfaction was multi-factorial in origin. Amongst the contributing factors reported were low salary levels, the frequent unavailability of necessary equipment and consumables to ensure proper patient care, inadequate performance evaluation and feedback, poor communication channels in different organizational units and between workers and management, lack of participation in decision-making processes, and a general lack of concern for workers’ welfare by the hospital management.

The conclusions of this study were that many workers at all levels in the hospital were not satisfied with the tasks they performed due to a variety of factors. Based on the study findings, several recommendations were made including setting defined job criteria and description of tasks for all staff, improving availability and quality of working gear for the hospital, the introduction of a reward system commensurate with performance, improved communication at all levels, and introduction of measures to demonstrate concern for the workers’ welfare.
A major cause of the emigration of health care personnel from sub-Saharan Africa is the wage differential as mentioned previously. This is reinforced by a study of migration from sub-Saharan African countries by Hatton and Williamson (2001) that finds the two most important factors likely to fuel emigration are the real wage gaps between sending and receiving countries and, the demographic booms in the low-wage sending countries. On the basis of their results, the authors find that the situation in the region is similar to the one in Europe in the late nineteenth century which fuelled mass emigration.

Malawi has a recognized severe and long-standing problem with retention of nurses and midwives, and one of the primary reasons proposed for this loss is emigration of health care workers to other countries (Mackintosh, 2003). Mondiwa and Hauck (2007) conducted a qualitative study using purposive sampling with seven participants to explore Malawian midwives’ perception of occupational risk of HIV infection and the influence of these perceptions on their clinical practice. In summary, although the midwives worked in a climate perceived as high risk for HIV transmission, they felt they tried their best to care for the women under the circumstances. The major themes that emerged were exposure to blood and body fluids, limited resources, inconsistent hand washing practices, and insufficient managerial support. Finally, perception of risk impacted upon clinical practice as midwives described working in a climate of fear, refraining from touching their clients, losing interest in their profession, and improvising care practices to meet clinical requirements, for example, by using papers or a piece of cloth to hold the baby during birth.

Consistent with the above study in Malawi, Awases et al., (2004) studied the possible role of HIV/AIDS on staff attitudes in six African countries (Cameroon, Ghana, Senegal, South Africa, Uganda, and Zimbabwe) and found that over 50% of staff (range 53.6%-85.3%) worried
about contracting HIV through work-related injury. Since most health professionals do not report their intention to emigrate, it is difficult to establish with certainty the number of professionals emigrating from the continent. This study established that most professionals simply vacate their posts, resign or ask for leave without pay for an indefinite period.

As a means of assessing the impact of the out-migration of nurses on the health systems in sub-Saharan Africa, AcademyHealth (a professional society for health researchers and health policy analysts) commissioned a study to identify and review reports, documents and data relating to nursing workforce dynamics with the objective of analyzing, synthesizing, and presenting key information on nurse migration in the region. The study reviewed trends and the impact of nurse migration derived from previously published work by various groups including the Joint Learning Initiative on Human Resources for Health (JLI), the WHO Africa Region (AFRO) report on Migration, International Council of Nurses (ICN) Global Nursing Review Initiative, and reports to the High Level Forum (HLF) on the millennium development goals (MDGs) on the human resources crisis. The major findings revealed that the state of nursing practice in sub-Saharan Africa appears to have been impacted negatively by migration. Available (though inadequate) quantitative data on stocks and flows, qualitative information on migration issues and trends, and on the main strategies being employed in both source and recipient countries indicated that the problem is likely to grow over the next 5-10 years.

The papers reviewed have made recommendations and called on countries to initiate steps for developing and implementing health workforce plans, however, most of the studies recognized the urgent nature of the crisis and a need to attain quick goals. Extrapolating from these publications, a range of options were identified. Firstly, to urgently increase its workforce of trained health providers in sub-Saharan Africa, the potential to introduce new types of workers
was suggested. However, contrary to this approach, Holzemer (2008) suggests that governments, foundations, and donors urge the collective nursing leaders at the country level (particularly developing countries) to formulate and implement a coherent national plan to strengthen the nursing workforce and nursing education at all levels within the country. He continues within this editorial to pose some very cogent questions regarding the propensity/feasibility of enhancing the existing nursing capacity to provide much needed care (e.g., “why don’t governments and donor agencies see the potential of developing nursing education as a significant strategy to solve the emergency work force shortage?”) (Holzemer, 2008, p. 242).

Secondly, increasing supply without attention to retention will undermine investments in training. Actions to improve motivation and provide performance incentives especially in rural and periurban poor populations are essential. Thirdly, health workforce information systems must be improved to support policy and strategic planning. Fourthly, international arrangements are needed to manage the effects of trade agreements and the labor market on nurse migration from sub-Saharan Africa. And finally, there’s a need for appropriate investments in strategies and to find the evidence to back policies based on commonsense approaches and systematic monitoring and evaluation, coupled with improvements in health workforce management capacity at the national level. Thus, the conclusion from this study is that multiple actions are needed at various policy levels in both source and receiving countries to moderate negative effects of nurse migration in developing countries in Africa.

With respect to international agreements, financial restitution and skill recirculation through international partnerships may be a productive way to address the policy response to international health professional migration. Financial restitution is based on the premise that high income countries benefit significantly from health professional migration and should recompense
sending countries for what is perceived as subsidization of health professional workforces by
countries that can least afford the cost. For example Ghana lost about US$5,960,000 in tuition
costs alone when 61% of the graduates of one medical school migrated between 1986 and 1995
(Dovlo, 2003). The USA may have saved as much as US$26 billion in tuition costs from the
estimated 130,000 internationally educated medical graduates practicing there.

Today, there is a growing tendency to frame the migration of skilled Africans in terms of
the positive impacts of international mobility (Ogilvie, Mill, Astle, et al., 2007). The traditional
one-directional view of brain drain, negatively affecting one country while benefiting another, is
being replaced by the notion of brain circulation (a significant rate of return migration bringing
with it valuable skills and connections). Pressured by uncertain economic conditions at home,
highly skilled professionals have found the booming economies of Gabon, Botswana, Namibia,
and South Africa to be convenient alternatives to Europe, the U.S., and the Gulf. Their work in
these countries’ tertiary institutions, medical establishments, and the private sector created a
form of brain circulation (Adepọju, 2004).

Meleis (2003) advocates that nurse migration can have an empowering influence
economically, culturally and professionally on individual nurses, usually women, who migrate.
The potential for empowerment in a new country may positively impact nurses in the source
country through continued communication within transnational nursing networks after migration.
However, Connell, Zurn, Stilwell, and others (2007) report that return migration of highly skilled
health workers is quite limited in Africa, though the data are scarce. Thus, the benefits from the
enhanced valuable skills and connections, may be few. According to Kingma (2006), remittances
are sizable for migrants, though no studies in Africa presently differentiate the remittances of
health workers from those of other migrant groups. The evidence from other regions suggests
that the remittances of health workers substantially exceed training costs, benefit the private sector and do not contribute to greater equity, new training or improved health care provision which is a situation that may also be true in Africa (Connell & Brown, 2004).

**HIV/AIDS Stigma Interventions**

The objectives of this section are to describe both descriptive and intervention research aimed at decreasing HIV/AIDS stigma, summarize common characteristics and audiences, and identify which aspects of these interventions have proven successful. In addition, there will be a summary of lessons learned from designing, testing, implementing, measuring, evaluating programs to reduce HIV/AIDS stigma. A global perspective has been intentionally maintained, however, the majority of the studies reviewed in this paper are stigma-reduction initiatives in sub-Saharan Africa, because 60 percent of the burden of disease is in poor, less developed nations, and the imperative of international public health must be to search for, test, and implement strategies that reduce stigma in these countries.

Operating from the premise that relatively little is known about the extent to which health campaigns can play a constructive role in reducing HIV/AIDS-related stigma, Rimal and Creel (2008) conducted a study to determine whether a mass media-based intervention could be used to reduce HIV/AIDS-related stigma. This was done through the Malawi *Radio Diaries* program in which HIV-positive men and women openly discussed day-to-day events in their lives. The *Radio Diaries* program was designed and implemented by the Center for Communication Programs (CCP) at the Johns Hopkins University, and was created as part of a larger communication campaign to address HIV/AIDS in Malawi. Each of six participating radio stations produced a weekly episode of featuring two HV-positive diarists, one male and one
female, narrating stories in their own words about key issues and key events in their lives, such as interpersonal relationships, medical issues and experiences with the health services community, and coming to terms with their condition. The diarists were people who knew their status and were willing and able to talk about their situation openly. The diary segments were approximately 10 minutes long, and each radio station tailored the program to its needs by supplementing the diary segment with a call-in show, and expert panel, or additional segments on nutrition and AIDS.

The purpose of the program was to promote perceptions of similarity between HIV-positive individuals and members of the listening audience by depicting HIV-positive men and women as ordinary people who shared the same hopes and aspirations in life and battled the same day-to-day problems as most Malawians. The researchers adopted a social marketing perspective, and analyzed the various components of the *Radio Diaries* program in terms of three of the “Four P’s”: product (stigma reduction), place (radio), and promotion (the program itself). The fourth “p” (price) was not described, primarily because, unlike the situation in typical commercial marketing campaigns, the researchers did not have control in manipulating the price of the product in the overall marketing strategy.

Firstly, the important dimensions of stigma were investigated, and then the development of a model to test the demographic and psychosocial correlates of these dimensions. A midterm household survey was then used to determine the relationship between exposure to the *Radio Diaries* program and stigma. The data were analyzed using multivariate analyses and revealed that lower education and knowledge were associated with stronger beliefs that persons living with HIV should be isolated from others. Exposure to the *Radio Diaries* program did not have a main-effect on stigma, but there was a significant interaction between exposure and efficacy to
reduce number of partners such that there was little difference in stigma by exposure level for those with high efficacy. Thus, the results from this study provide preliminary evidence that, in a rural setting like Malawi, radio programs can be used to address stigma toward PLHA. The program which achieved approximately 60% exposure among the general audience, featured documentary stories from HIV+ individuals. The central strategy adopted by the program was to promote perceptions of similarity between the HIV+ diarists and their listeners. It appears that exposure to the Radio Diaries program was associated with lower levels of stigma.

The findings from this study revealed that social marketing-based campaigns to reduce stigma should focus on understanding two characteristics of their audience: their self-efficacy to use condoms and self-efficacy to reduce number of sexual partners, and their education. The same message is likely to have differential effects on stigma, depending on whether audience members perceive that they are able to take HIV prevention measures (more specifically, to use condoms) and whether they are well educated. Ergo, the major finding from this study was that the lowest levels of stigma were observed among those whose exposure to the program and self-efficacy to reduce their number of sexual partners were both high.

Limitations of this study are two-fold. The primary limitation of this study is that the observed associations are all preexisting correlations, and thus no assertions can be made regarding any causal direction in the pattern of findings. Another limitation of the study is the reliance on self-reports for all of the measures, which is an especially important one for this study because of the high level of social desirability associated with stigma.

Holzemer et al., (2007) developed a conceptual model of HIV/AIDS stigma from five African countries (Lesotho, Malawi, South Africa, Swaziland and Tanzania) to increase
understanding of HIV/AIDS stigma by 1) developing culturally appropriate measures of stigma as perceived by people living with HIV/AIDS and by nurses to test how stigma is related to quality of care and quality of work life, and 2) to pilot test a stigma reduction intervention.

A qualitative methodology was utilized to capture PLHA and nurses’ perceptions of stigma related events. A series of forty-three focus groups were held with PLHA and nurses in five African countries in 2004, and following the transcription and coding of the focus group recordings, the data were organized into a conceptual model of HIV/AIDS stigma. The results of the above data yielded two components: contextual factors (e.g., environment, healthcare system, agents) that influence and affect stigma, and the stigma process itself. The stigma process included four dimensions: triggers of stigma, stigmatizing behaviors, types of stigma, and the outcomes of stigma.

In summary, a conceptual model was created that delineates the dynamic nature of stigma as reported by the study participants. This model can be used to identify areas appropriate for the design and testing of stigma reduction interventions that have a goal of reducing the burden of HIV/AIDS stigma. However, there were at least a couple of limitations to this study: firstly, the data were collected from five different African countries which do not share a common language, culture, etc…, and thus may have a negative effect on generalizability. Secondly, the data describing the “etic” or outsider’s perspective of stigma was derived from nurses and volunteers rather than from the wider community, which may further limit the representativeness of the study findings. However, to the extent possible, the sample of participants were representative in terms of gender and whether they lived in an urban or rural area.
Cloete, Simbayi, Kalichman, et al. (2008) examined the stigma and discrimination experiences of men who have sex with men (MSM) living with HIV/AIDS in Cape Town, South Africa. This research was conducted to address the paucity of research examining this marginalized population, particularly within South Africa. Currently it is unknown how many people living with HIV in South Africa are MSM and there is even less known about the stigmatization and discrimination of HIV-positive MSM.

Convenience sampling was utilized to comprise the sample, and anonymous venue-based (where gay men congregate) surveys were collected from 92 HIV-positive MSM and 330 HIV-positive men who only reported sex with women (MSW). Internalized stigma as measured by the Internalized AIDS-Related Stigma Scale (IA-RSS) was high among all HIV-positive men who took part in the survey, with 56% of men reporting that they concealed their HIV status from others. HIV-positive MSM reported experiencing greater social isolation and discrimination resulting from being HIV-positive, including loss of housing or employment due to their HIV status, however these differences were not significant. Mental health interventions such as coping efficacy training targeted to address managing social stigma and reducing internalized stigma, as well as structural changes for protection against discrimination, are needed for HIV-positive South African MSM.

There were some limitations to this study in light of the methodology utilized. Purposive sampling is subject to selection biases. However, in order to obtain the sample of HIV-positive MSM, specific locations were targeted where MSM congregate, thus the sample characteristics were biased towards MSM congregating at these specific venues. Another limitation of the study was that there was no procedure in place to ensure that only PLHA complete the survey.
Greeff and Phetlhu (2007) conducted a qualitative study to explore and describe the meaning and effect of HIV/AIDS stigma for PLHA and nurses involved in their care in the North West Province of South Africa. This study was part of a five-year multinational African study on perceived AIDS stigma, and focuses on the South African data of the first phase of the research. Nine focus group discussions were held with 40 respondents to capture an “emic” (culture specific) view of PLHA and an “etic” (description of a behavior or belief as an observer, culturally neutral) view of nurses stigma and discrimination. Respondents were asked to relate incidents which they themselves observed as well as those that they themselves experienced in the community and in families. Respondents were also asked to define their own understanding of what stigma and discrimination meant. Three types of stigma were identified with nine dimensions of received stigma (neglecting, fearing contagion, avoiding, rejecting, labeling, pesterling, negating, abusing and gossiping) and four dimensions for internal stigma (perceptions of social self-withdrawal, self-exclusion and fear of disclosure). Two dimensions were identified for associated stigma (spouse/children/family and health care workers). Two additional themes, not related to types of stigma, were identified through an endeavor to understand the context of stigma: results of stigma, and disclosure.

The conclusions drawn from this study are three-fold: 1) the experience of stigma is both painful and extremely difficult for PLHA; 2) the experience of stigma is complex, with several types and dimensions of stigma which were yielded from the data; and 3) the process of stigmatization and discrimination has a tremendous effect on the person’s quality of life, quality of work life and the utilization of health care services.

Three recommendations for interventions were also proposed based in this study: 1) interventions should be planned and implemented to alleviate the impact of stigma on all the
various aspects of PLHA’s lives, and attention should be given to the types as well as all the dimensions of stigma; 2) it could be meaningful to develop and validate an instrument to measure the stigma experiences of both PLHA and nurses, including all the types and dimensions of stigma identified in this research; and 3) the findings of this research should be developed into a conceptual model of HIV/AIDS stigma. Of note, is that all three of these recommendations have been actualized via the five-year multinational African study on perceived AIDS stigma.

Wolfe, Weiser, Leiter, et al. (2008) assessed the impact of increased treatment access on HIV stigma in Botswana three years after the introduction of a national program of universal access to antiretroviral therapy (ART). The researchers conducted a cross-sectional study using a survey among a probability sample of 1,268 adults aged 18 to 49 years from the five districts of Botswana with the highest number of HIV-infected individuals in November and December of 2004, which had three aims: 1) to determine the prevalence and correlates of stigmatizing attitudes toward people living with HIV/AIDS; 2) to assess the prevalence and correlates of an alternative stigma measure (“anticipated HIV stigma,” i.e., the respondent’s expectation that he or she would be stigmatized for having HIV), which may be less influenced by social desirability bias than are stigmatizing attitudes towards those with HIV; and 3) to explore whether perceived access to ART (i.e., respondent indicates that ART is available near where he or she lives) is associated with stigmatizing attitudes toward HIV and anticipated HIV stigma.

The results revealed that overall, 38% of participants had at least one stigmatizing attitude; 23% would not buy food from a shopkeeper with HIV; and 5% would not care for a relative with HIV. Seventy percent reported at least one measure of anticipated stigma: 54% anticipated ostracism after testing positive for HIV, and 31% anticipated mistreatment at work.
Perceived access to antiretroviral therapy was strongly and independently associated with decreased odds of holding stigmatizing attitudes (adjusted odds ratio [AOR] = 0.42; 95% confidence interval [CI] = 0.24, 0.74) and of anticipated stigma (AOR = 0.09; 95% CI = 0.03, 0.30). The findings suggest that antiretroviral therapy access may be a factor in reducing HIV stigma. Nevertheless, the persistence of stigmatizing attitudes and significant anticipated stigma suggest that HIV stigma must be a target for ongoing intervention, thus the researchers should go back to reassess to determine if there is a change. Also of note, is that the impact of stigma as a barrier to treatment access in Botswana and elsewhere appears to be strongest among vulnerable segments of the population, including the poor, women, and ethnic minorities, who face ongoing, significant barriers to treatment even in the setting of a policy of universal treatment access (Hutchinson & Mahlalela, 2006; Ehiri et al., 2005). As a result, initiatives to decrease HIV stigma should be linked with measures to reach vulnerable populations as well as with legal reforms and other interventions to decrease discrimination and violence against women.

There were several limitations with this study: firstly, causality cannot be determined from the findings, because the study was cross-sectional, thus several potentially confounding initiatives introduced during the same period may have accounted for some decrease in HIV stigma. Secondly, the results may not be generalizable to the entire Botswana population, because the researchers did not interview individuals in the most remote areas of Botswana. Thirdly, self-report data can lead to misclassification and bias. In an attempt to reduce bias, the authors did not inform researchers and study participants of key hypotheses and they presented study aims to respondents in very general terms. To further maximize validity, they did not ask about HIV status, assured confidentiality and privacy, and presented survey items in a culturally sensitive, nonjudgmental manner. Fourthly, the stigma measures utilized within this study
captured only attitudes and beliefs, thus the authors were not able to assess actual discriminatory behaviors, which constitute an additional important component of stigma. And finally, the stigma measures were not specifically validated within the population, although they were adapted to the local cultural context.

Uys, Chirwa, Kohi, et al. (in press) conducted a study in five southern African countries to explore the results of an HIV stigma intervention in health care settings. The researchers used a case study approach for an intervention which involved three components (information, contact and empowerment). The intervention consisted of bringing together a team of approximately ten nurses and ten PLHA in each setting and facilitating a process in which they planned and implemented the stigma reduction intervention.

The results led to understanding and mutual support amongst nurses and PLHA and created an impetus within all the settings for continued engagement. PLHA involved in the intervention teams relayed less stigma and increased self-esteem. Nurses in the intervention teams and those in the settings presented no reduction in stigma or increases in self-esteem and self-efficacy, but their HIV testing behavior increased significantly.

Limitations of this study included the following: 1) five unique case studies were combined, which may have masked differences among the settings; 2) generalizability of the results was limited because of the small sample sizes, especially among the intervention team members; and 3) the sustainability over time was not tested, since all post-tests were done within a month of the intervention.

To conclude, the ubiquity of stigma and its persistence even in areas where HIV prevalence is high makes it an extraordinarily important yet difficult area of research. One would
expect stigma to decrease with increased visibility of HIV, but this is not the case in much of Africa. Given the fact that AIDS stigma introduces enormous barriers to public health programs, from the denial and silence to problems associated with disclosure, health-seeking behavior, and the breakdown of communication – it behooves the international public health community to begin to use more creativity in designing AIDS stigma reduction interventions and to implement them on a significant scale.

**Educational Preparation of Nurses and HIV Knowledge**

The educational preparation of nurses has been known to affect the attitudes of the nurse and the effectiveness of the care provided to PLHA (Bektas & Kulakac, 2007; Nawafleh, Francis, & Chapman, 2005). Negative attitudes towards PLHA can interfere with the quality of nursing care and can cause stress to nurses and patients alike (Oyeyemi, Oyeyemi, & Bello, 2008; Minnaar, 2005). There are many factors associated with negative HIV and AIDS-related attitudes, such as a dearth of education, fear of occupational exposure and death (Chen, Han, & Holzemer, 2004; Li, Wu, Wu, et al., 2007b).

The role of HIV/AIDS education in fighting the fear of casual contagion and negative attitudes has had varied reviews in the literature. Early on in the epidemic several researchers attribute a fear of infection primarily to a dearth of knowledge (Atchison, Beard, & Lester, 1990; Bell, Feldman, Grissom, et al., 1990; Hayward & Weissfeld, 1993) while some have substantiated a reduction in fears and attitudes by reason of AIDS education (O'Donnell & O'Donnell, 1987). Higher knowledge scores are not necessarily associated with less fearful attitudes (Curry, Johnson, & Ogden, 1990; Gerbert, Maguire, Bleecker, et al., 1991). Sometimes high fear scores may also correlate with higher knowledge scores (Feit, Melzer, Vermund, et al.,
1990), and this could be exacerbated if the information is vague or inconsistent with other sources of information (Curry, et al., 1990).

Operating from the premise, based on the literature, that the education of nurses is critical to the success of programs for individuals with HIV, Nyamathi, Vatsa, Khakha, et al. (2008) conducted a study from March to October, 2005 to determine the effects of a nurse-led train-the-trainer HIV education program on improving the HIV knowledge of nurses in a tertiary care public hospital in Delhi, India. A group of senior nurses (N = 10), were responsible for training a cohort of 10 nurses each, totaling a convenience sample of 100 nurses. The two-day training program included HIV epidemiology and etiology, infection control, psychosocial support, counseling, modes of transmission, natural history of the disease, symptoms of early and late disease, diagnostic testing, and legal and ethical issues. Quasi-experimental pretest and posttest scores were calculated using a self-administered structured questionnaire that measured HIV-related knowledge in terms of cognitive and transmission knowledge.

Two-sample $t$-tests, analysis of variance (ANOVA), and correlations were used to assess associations between selected sociodemographic factors (age, education, marital status, and clinical specialty) and changes over time in the questionnaire items, which included the cognitive AIDS subscale, the transmission subscale, and the overall AIDS knowledge score. Paired $t$-tests were used to determine if changes from pretest to posttest were significant.

Results showed that these nurses became significantly more knowledgeable about HIV as a result of the train-the-trainer program. And the conclusions indicate that more education about HIV is needed for nurses through training programs that focus on prevention of HIV transmission and the treatment of PLHA. Furthermore, it is also important to evaluate different
methods of education, or a combination of methods, to most efficiently transfer this knowledge. Finally, cost-effective analysis would also be important in terms of train-the-trainer modalities versus the more traditional models.

There were four limitations to this study: firstly, there was no control group to compare pre and post change for the HIV education program, thus the chance for error and bias cannot be ruled out. Secondly, this was single-center study, and the sample size was small. Thirdly, the sampling strategy used a convenience methodology, thus there is limited ability to generalize the results of this study. Fourthly, this study did not address the implications for HIV stigma. HIV stigma research studies in Maharashtra and elsewhere in India have identified significant levels of both overt and covert HIV stigma and discrimination by health care staff and physicians (Bharat, Aggleton, & Tyrer, 2001; Kermode, Holmes, Langkham et. al., 2005). Theses studies cited a dearth of knowledge among staff about HIV transmission, lack of understanding of confidentiality, and the need for universal precautions as predisposing factors for HIV stigma.

Recently, Pisal, Sutar, Sastry, et al. (2007) conducted a study that documents the process of developing and testing the impact of a short HIV/AIDS health education program for nurses designed to increase HIV knowledge and address specific fears to help reduce stigma and discrimination in a large government hospital in Pune, India. The study methodology included Phase 1, a qualitative assessment; Phase 2, development of a one-week training of trainers (TOT) to prepare trainers to educate nurses and a four-day educational program; and Phase 3, the actual training of nurses with the pretest and posttest evaluation of the educational program on nurses’ knowledge and attitudes as well as some post-training observations. A total of 21 master trainers underwent six days of training and began training of 552 hospital nurses in 2004-2005.
The results revealed changes in knowledge and attitudes of 371 trained nurses. Significant improvements were seen in nurses’ HIV/AIDS knowledge in all areas including care, treatment, and issues of confidentiality and consent. Fear of interaction with people living with AIDS was reduced significantly. Based on these results, this HIV/AIDS health education has proved very successful in increasing knowledge of nurses in this setting.

The authors suggest that three are several reasons for success in the increase in knowledge resulting from this HIV/AIDS health education. First, qualitative data methods were used to try to understand the basic needs of the nurses. This ensured that the HIV/AIDS health education covered information of direct relevance to nurses. Second, HIV/AIDS patients were used in the intervention to help put a “human face” on the problem. This included use of HIV-positive individuals from local activist organizations as well as from the community. Third, applicable information was provided on how to manage infectious patients in an extremely resource-poor hospital setting. There are two primary limitations of this study. First, nurses’ retention of this knowledge over time was not evaluated, and second, the impact of this knowledge on the reduction of stigma and discrimination in this population has not been objectively documented.

Uys, Chirwa, Kohi, et al. (in press) utilized a case study approach to explore the results of an HIV stigma intervention in five health care settings in five African countries (Lesotho, Malawi, South Africa, Swaziland and Tanzania). Their intervention involved bringing together a group of about ten nurses and ten PLHA in each setting and fostering a process in which they planned and implemented a stigma reduction intervention, involving both information giving and empowerment. The nurses (n = 134) completed a demographic questionnaire, the HIV/AIDS Stigma Instrument-Nurses (HASI-N), a self-efficacy scale and a self-esteem scale, both before
and after the intervention, and the group completed a similar set of instruments before and after the intervention, with the PLHA completing the HIV/AIDS Stigma Instrument for PLHA (HASI-P).

This study had three limitations. Firstly, five unique case studies were combined, which might have obscured differences between the settings. Secondly, the small sample sizes, especially of intervention team members, further limits the representativeness of the results. And thirdly, the sustainability over time was not tested, since the post-tests were done within a month of the intervention.

Nurses have important roles in HIV treatment and in the development and implementation of HIV/AIDS educational programs. Because of inadequate knowledge, negative attitudes, and consequent fear, care for patients with HIV/AIDS is often far less than optimal. It is essential that health care providers be properly informed so that they can improve the quality of care for patients who are HIV-infected (Uys, Holzemer, Chirwa, et al., 2009).

A major challenge in using the knowledge gained from the HIV/AIDS health education is the availability of adequate resources. To effectively, perform their jobs, health care providers must have access to adequate supplies of essential protective materials. It is likely that in many developing countries with little resources, the absence of appropriate medical supplies, lack of adequate protection, and insufficient knowledge about HIV/AIDS will continue to contribute to discriminatory behaviors toward people with HIV/AIDS.

**Nursing Shortage, HIV Stigma and Quality of Life**

Quality of life (QOL) has become a frequently used outcome in clinical and health policy settings. Efforts to measure quality of life have resulted in a number of instruments, ranging from
conceptually broad indices of well-being to disease-specific instruments designed to detect small but clinically relevant changes associated with particular conditions. Wilson and Cleary, (1995) developed a health-related quality of life conceptual model which proposed a classification scheme for different measures of health outcome and divided these outcomes into five levels: biological and physiological factors, symptoms, functioning, general health perceptions, and overall quality of life. In addition to classifying these outcome measures, the researchers proposed specific causal relationships between them that link traditional clinical variables to measures of health-related quality of life. Though there are many dimensions of QOL documented in the literature, this dissertation study is only examining two dimensions: physical health and mental health.

The contribution of nurses’ HIV stigma and QOL, particularly within the context of the HIV/AIDS pandemic in southern Africa, has not previously been explored, and this is what this dissertation study addresses. There is ample evidence in the literature for the negative impact of critical challenges such as the nursing shortage, migration of nurses internally and across international boundaries, and the impact of HIV/AIDS. HIV/AIDS has not only created extraordinary demands for health care in areas where health systems are already weak and overwhelmed, but it is also decimating the health workforce in sub-Saharan Africa. Nurses’ HIV stigma and QOL may potentially have very serious affects on the nursing shortage and nurses’ internal and international migration, however, empirical research on this issue has been hampered by lack of data. Questions abound regarding whether there is a relationship between nurses’ HIV stigma and QOL with the nursing shortage, and if so, how is this relationship impacting the nursing shortage? These questions remain unanswered, and in need of examination.
Summary

The Joint United Nations Program on HIV/AIDS (UNAIDS) reported that AIDS remains among the leading causes of death globally and the primary cause of death in Africa (UNAIDS, 2008). In 2007, an estimated 33.2 million people were living with HIV/AIDS worldwide (UNAIDS, 2007), and more than three quarters of all AIDS deaths globally in 2007 occurred in sub-Saharan Africa (UNAIDS, 2008).

In light of these startling statistics, another of the major challenges faced in Africa is the relative small number of health care workers (including nurses) per population as compared to other continents (ICN, 2004). Of paramount importance, Kohi, Portillo, Durrheim, et al., (in press) have recently demonstrated that a relationship exists between HIV stigma and the experiences of nurses working in Africa, and that HIV stigma vitally affects nurses’ decisions to leave their positions. Although the International Council of Nurses acknowledges that a global shortage of nurses exists, within this context, the comparative availability of nurses in terms of density per population is very low in Africa. Though the reasons for the shortages of nurses (both globally and within Africa) are multifactorial, chief among them is the indomitable migration of nurses to work in more developed countries.

In reality, these shortages of health care personnel have profound implications for the quality of care delivered. Stone, Clarke, Cimiotti, et al. (2004), commenting on nurses’ working conditions, identified staffing shortages, especially of nurses, as a major factor hindering hospitals’ ability to deal with rising infection.

The impact of the HIV/AIDS pandemic on the nursing workforce has been most pronounced in Africa, and has affected the development of health services very negatively. Apart
from an increased workload and high needs of acute care HIV patients, nurses and midwives have to cope with the direct effects of HIV on nursing and midwifery staff, such as increased illness and deaths. The impact of HIV/AIDS creates complex and self-reinforcing negative influences on the health workforce. Chirwa, Greeff, Kohi, et al., (in press) have recently demonstrated that job satisfaction over time, is strongly correlated with the association of HIV stigma. The heavy workloads in combination with HIV stigma fuels burnout and frustration, possibly leading to feelings of demoralization, an increase in the potential for recruits to select alternative career paths, and internal and international migration. Moreover, the anxiety of occupational exposure may be reducing nurses’ entry into the workforce, as well as, encouraging current nurses to leave. Burnout associated with workload and the intensity of care required is suspected to cause increased absenteeism, and infection among health workers has resulted in significant illness and deaths among the very people tasked with assisting the general population to fight the epidemic (ICN, 2004; Tawfik and Kinoti, 2003).

HIV/AIDS-related stigma affects self-esteem, mental health, access to care, providers’ willingness to treat people with HIV, violence, and HIV incidence. The main causes of stigma relate to incomplete knowledge, fears of death and disease, sexual norms and a lack of recognition of stigma. Insufficient and inaccurate knowledge combines with fears of death and disease to perpetuate beliefs in casual transmission and, thereby, avoidance of those with HIV. The knowledge that HIV can be transmitted sexually combines with an association of HIV with socially “improper” sex, such that people with HIV are stigmatized for their perceived immoral behavior. Finally, people often do not recognize that their words or actions are stigmatizing. Interventions to reduce stigma are therefore crucial for improving care, quality of life, and emotional health for people living with HIV and AIDS.
The problem of HIV stigma in Africa has been raised in related research: on barriers to VCT, treatment, care and adherence (Uys, Holzemer, Chirwa, et. al., 2009; Evans & Ndirangu, 2009); on quality of life (Greef, Uys, Wantland, et. al., in press; Buesh, Kelber, Stevens, & Park, 2008); and on social responses to HIV (Bhana, 2008; Greeff, Phetlhu, Makoae, et. al., 2008). However, there remains a paucity of published data which examines the unique association of HIV-related stigma within the scope of nursing practice (Uys, Holzemer, Chirwa, et. al., 2009; Holzemer & Uys, 2004).

To date, Uys, Holzemer, Chirwa, et al., (2009) are the exclusive researchers to have developed an instrument which specifically measures HIV-related stigma among nurses. Their aim was to develop and validate a linguistically and culturally appropriate measure of HIV/AIDS stigma for nurses in five countries. A sample of 1,388 nurses from all five countries (Lesotho, Malawi, South Africa, Swaziland, and Tanzania) completed a 19-item instrument, the HIV/AIDS Stigma Instrument – Nurse (HASI-N), comprised of two factors (nurses stigmatizing patients and nurses being stigmatized). The data extrapolated from this study will form the basis for this dissertation to characterize nurses’ experience with HIV stigma in five African countries.
CHAPTER 3

Methodology

This study is a secondary analysis of data from 1,388 nurses in five African countries (Lesotho, Malawi, South Africa, Swaziland and Tanzania). The following sections describe the methods used to answer the research questions posed by this dissertation study. The study questions are:

1. What is the relationship between personal characteristics (age, gender, living location, years of nursing experience, been tested for HIV, and family member/relative living with HIV) and HIV/AIDS stigma?

2. What is the relationship between work characteristics (type of unit, frequency of contact with HIV patients, and job satisfaction) and HIV/AIDS stigma?

3. What is the contribution of personal characteristics, work characteristics, and HIV stigma on nurses’ quality of life?

Design

This study utilizes secondary data analysis of time 1 data. The parent study was a five-year study that was conducted on HIV/AIDS stigma in Southern Africa with the goal of increasing knowledge about stigma and ultimately reducing it. The project, “Perceived AIDS Stigma: A Multinational African Study”, (R01 TW006395) utilized extensive interviews and focus groups to explore the experience of stigma for nurses and people living with HIV or AIDS. This study was supported by a grant from the National Institutes of Health’s Fogarty
Setting and Sample

The study was conducted on site at clinical facilities in five southern African countries (Lesotho, Malawi, South Africa, Swaziland and Tanzania). Nurses at all levels of position and preparation were invited to participate (n = 1,388). The participation in the study was done on a voluntary basis.

Protection of Human Subjects

Approval from the Institutional Review Boards from the University of California, San Francisco and the University of Natal was obtained for the original study in 2003. In addition, each country site coordinator received full Institutional Review Board approval from their respective institution in order to participate in this study. For the purpose of secondary data analysis in this study, exempt certification was granted through the University of California, San Francisco.

Instruments

1) Brief Demographic Survey: Data were collected on age, gender, level of education, and urban/rural living location. Nurses were asked if they had been tested for HIV, work setting, and contact with HIV/AIDS patients.

2) Job Satisfaction: This 25-item scale assesses four dimensions of organizational job satisfaction (pay, interaction, administration and status). Principal components factor analysis conducted on two independent samples of registered nurses (n = 496; n = 532) supported the factor structure.
Cronbach alpha’s for the subscales ranged from 0.76 to 0.88. Pearson correlation coefficients for the interrelationships among subscales and an estimate of alpha verified internal consistency. Hypothesis testing of theoretically predictable relationships supported construct validity. The items on the instrument were reviewed for their face validity for nurses working in Sub-Saharan Africa. Several items needed to be re-phrased because they focused primarily upon traditional, in-patient hospital nursing and were less relevant to nurses working in clinics. This instrument was reviewed by the participants for its linguistic and cultural relevancy (Sauter et al., 1997).

3) Medical Outcome Study Short Form 36: This form is a 36-item survey designed to be a generic measure that can be used with different populations to measure various components of quality of life in terms of short-term functional, physical and mental health and well-being (Ware & Sherbourne, 1992). It assesses eight health concepts: 1) physical functioning; 2) role limitations because of physical health problems; 3) bodily pain; 4) social functioning; 5) general mental health (psychological stress and psychological well-being); 6) role limitations because of emotional problems; 7) vitality (energy/fatigue); and 8) general health perceptions. Cronbach alphas ranged from .90 to .94 for the physical component score (PCS), and .85 to .90 for the mental component score (MCS) in 12 large studies (Ware & Kosinski, 2004). Summary scores for MCS and PCS quality of life were developed from algorithms provided by the authors (Ware, Kosinski, & Gandek, 2004). The reliability coefficients for the multi-item health scales ranged from 0.81 to 0.88. All correlations among the health measures were statistically significant ($P < 0.01$) and most were substantial in magnitude (Stewart, Hays, & Ware, 1988). Scores were transformed to a 0 to 100 scale, with 100 meaning greater health so that the scales could be compared. The PI of the parent study has used this instrument with over 700 HIV positive
persons and 200 caregivers in four countries in Southern Africa and the participants easily completed it.

4) HIV/AIDS Stigma Instrument – Nurse (HASI-N): This 19-item form is comprised of two factors which survey two different characteristics of HIV stigma (nurses stigmatizing patients and nurses being stigmatized) (Uys, Holzemer, Chirwa, et. al., 2009). Factor 1: Nurses Stigmatizing Patients is comprised of the first 10 items. This factor referred to actions describing the behavior of nurses toward people living with HIV infection, perceived as being based on the patients’ HIV status. The factor had a good internal consistency of the items to represent the factor (Nunnally & Bernstein, 1994). Factor 2: Nurses Being Stigmatized is comprised of the last nine items. This factor referred to behavior nurses experienced outside of healthcare settings based on their association with HIV care or people living with HIV infection. The factor had a cronbach alpha of 0.91, again indicating very good internal consistency of the items to represent the factor. The total score is a representation of the degree of HIV stigma either perpetrated by, or experienced by nurses throughout Africa. The psychometric evaluation of the two factors is robust with an overall Cronbach’s alpha reliability of 0.90. Content validity is based on the conceptual work from the focus groups and the factor analysis (Holzemer, Uys, Makoae, et al., 2007). Construct validity was addressed by testing two hypotheses:

- Hypothesis #1: Nurses reporting less stigma will report higher-related quality of life.
- Hypothesis #2: Nurses reporting less stigma will report higher job satisfaction.

These two hypotheses were tested by the respondents completing the validated Medical Outcomes Study Short Form 36 described above. And, these hypotheses were derived from the recurrent statements in the literature that HIV and AIDS is perceived as “a disease of shame” and
that in many areas of Africa it is still seen as a death sentence (Ehiri, Anyanwu, Donath, et. al., 2005). Concurrent validity was tested by comparing the level of stigma and job satisfaction. A significant negative correlation was found between stigma and job satisfaction (Uys, Holzemer, Chirwa, et. al., 2009).

The instrument was scored by summing the responses (0-3) for each item and then dividing by the number of items within each factor. Each scale score, therefore, ranges between 0 (never) and 3 (most of the time) so that the frequency may be compared between both factors. Higher scores are interpreted as reflecting greater levels of received or associated stigma.

**Data Analysis**

The data analysis was done by using the Statistical Package for the Social Sciences (SPSS) (Version 16.0). Descriptive statistics were performed to obtain a general description of the data. Logistic regression and analysis of variance (ANOVA) were used to study the relationship between the predictor variables (IV) and criterion variable (DV).

Factor analysis was used in the development of the HASI-N to explore concepts, build theory, and/or confirm and test hypotheses about nurses stigmatizing patients and nurses being stigmatized. It was also used to analyze multiple items and group them into a smaller number of variables according to common characteristics called factors.

Multiple regression analysis was used in this secondary data analysis to study the relationship between the predictor variables (IV): age, gender, country, marital status, education, work setting, frequency of contact with HIV/AIDS patients, etc., and the criterion variable (DV) HIV stigma.
ANOVA was used to find out if there was a significant difference in participants HIV stigma based on their age, gender, country, marital status, education, work setting, frequency of contact with HIV/AIDS patients, etc. ANOVA was used as a hypothesis testing procedure that simultaneously evaluated the significance of mean differences on a DV between the effects of two or more variables.

Advantages and Disadvantages of Secondary Data Review and Analysis

Advantages of using secondary data can allow for the analyses of social processes in what would otherwise be inaccessible settings. Secondary data analysis can be carried out rather quickly when compared to primary data gathering and analysis exercises. It also saves time and money since the work has already been done to collect the data. That lets the researcher avoid problems with the data collection process. Using an existing data set can also facilitate a comparison with other data samples and allow multiple sets of data to be combined. There is also the chance that other variables could be included, resulting in a more diverse sample than would have been feasible before (Magee, Lee, Giuliano, et al., 2006).

There are several things to take into consideration when conducting a secondary data analysis. Secondary analysis does not permit the progression from formulating a research question to designing methods to answer that question. It is also not feasible for a secondary data analysis to engage in the habitual process of making observations and developing concepts. These limitations hinder the ability of the researcher to focus on the original research question. Moreover, the person reviewing the secondary data can easily become overwhelmed by the volume of secondary data available, if selectivity is not exercised (Magee, et al., 2006). Finally,
it is not possible to add variables of interest to the investigation so that the existing data must be sufficient to answer the hypothesized study questions.
CHAPTER 4

Results

Following the discussion regarding the methodology proposed for this study, the data was introduced in SPSS (Statistical Package for the Social Sciences). This chapter will review the statistical findings of this study, divided in several sections: first an overview of the studied population will be presented through the descriptive statistics; then the chapter will conclude with the results of the Pearson Correlation, T-Tests, Analysis of Variance (ANOVA) and multiple regression.

The study included data collected from 1,388 nurses in five different southern African countries. Among the respondents 87.8% were female, and 12% were male. Subjects ranged in age from 19 years old to 67 years old. The sample of nurses is representative of the nurse population in the countries concerned. Most of the respondents (59.2%) were married and had not been tested for HIV (67.1%), and they had approximately 11 years of schooling resulting in a diploma in nursing education. The majority of the subjects worked in an inpatient hospital unit/ward (63%) and lived in an urban setting (71.1%). Approximately thirty-seven percent of the subjects responded that the unit/service where they worked was classified as an HIV/AIDS unit/service, while 32.9% said that their unit/service was not. The majority of the subjects reported daily contact with HIV/AIDS patients (63.6%), and 56.2% reported that they did not have a family member or relative who was HIV-positive. Table 4.1 summarizes the demographic characteristics for the sample of this study.
### Table 4.1: Demographic Data (N = 1,388)

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<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>%</th>
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<tr>
<td>Malawi</td>
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<td>South Africa</td>
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<tr>
<td>Tanzania</td>
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#### Demographic variables for all 5 countries

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<td>Years working as a nurse</td>
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#### Demographic variables for all 5 countries

<table>
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#### Highest post-school education (total)

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<tr>
<td>Diploma education</td>
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#### Marital Status

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<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never married</td>
<td>325</td>
<td>22</td>
</tr>
<tr>
<td>Married</td>
<td>873</td>
<td>59.2</td>
</tr>
<tr>
<td>Widowed</td>
<td>99</td>
<td>6.7</td>
</tr>
<tr>
<td>Divorced</td>
<td>65</td>
<td>4.4</td>
</tr>
<tr>
<td>Category</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------</td>
<td>----</td>
</tr>
<tr>
<td>Cohabitating</td>
<td>18</td>
<td>1.2</td>
</tr>
<tr>
<td>Missing</td>
<td>94</td>
<td>6.4</td>
</tr>
<tr>
<td><strong>Have had an HIV test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>464</td>
<td>31.5</td>
</tr>
<tr>
<td>No</td>
<td>989</td>
<td>67.1</td>
</tr>
<tr>
<td>Don’t know</td>
<td>5</td>
<td>0.3</td>
</tr>
<tr>
<td>Missing</td>
<td>16</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>How the nurses described where they live</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>1034</td>
<td>71.1</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>263</td>
<td>17.8</td>
</tr>
<tr>
<td>Rural</td>
<td>160</td>
<td>10.9</td>
</tr>
<tr>
<td>Missing</td>
<td>11</td>
<td>.7</td>
</tr>
<tr>
<td><strong>Unit/service where they work classified as an HIV/AIDS unit/service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>485</td>
<td>32.9</td>
</tr>
<tr>
<td>Yes</td>
<td>395</td>
<td>36.8</td>
</tr>
<tr>
<td>Missing</td>
<td>594</td>
<td>40.3</td>
</tr>
<tr>
<td><strong>Frequency of contact with HIV/AIDS patients</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>829</td>
<td>56.2</td>
</tr>
<tr>
<td>Yes</td>
<td>180</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>HIV member living in household</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>829</td>
<td>56.2</td>
</tr>
<tr>
<td>Yes</td>
<td>180</td>
<td>12.2</td>
</tr>
<tr>
<td>Missing</td>
<td>465</td>
<td>31.5</td>
</tr>
</tbody>
</table>
Descriptive statistics for the measures quality of life, job satisfaction, and nurse stigma were calculated (Table 4.2). The Quality of Life composite scores (Physical Component Measure [PCS] and Mental Component Summary [MCS]) and job satisfaction scores were correlated with the nurse stigma scores. There is a negative correlation with stigma and job satisfaction, and a positive correlation with the Physical Component Summary measure and the Mental Component Summary measure. Pearson correlations also revealed that the Quality of Life (Physical Component Summary) measure was not notably related either to Nurses Stigmatizing Patients. The correlations between the Mental Component Summary measure, job satisfaction and the nurse stigma scale were statistically significant, but the amount of explained variance between these variables was not significant.

Job satisfaction scores were correlated with the nurse stigma scores, and there are significant correlations between the two stigma subscales with the job satisfaction total score.

Table 4.2: Descriptive Statistics for HASI-N & Pearson Correlation (r)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>Total Job Satisfaction</th>
<th>Nurses Stigmatizing Patients</th>
<th>Nurses Being Stigmatized</th>
<th>PCS</th>
<th>MCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Job Satisfaction</td>
<td>86.7</td>
<td>23.8</td>
<td>1,384</td>
<td>1</td>
<td>-.269**</td>
<td>-.181**</td>
<td>.082**</td>
<td>.230**</td>
</tr>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>.3564</td>
<td>.5278</td>
<td>1,381</td>
<td>1</td>
<td>.361**</td>
<td>-.024</td>
<td>.164**</td>
<td></td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td>.5840</td>
<td>.6667</td>
<td>1,377</td>
<td>1</td>
<td>.081**</td>
<td>.129**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)
Study question #1: What is the relationship between personal characteristics (age, gender, living location, years of nursing experience, been tested for HIV, and family member/relative living with HIV) and HIV/AIDS stigma?

A T-Test was performed to compare the HIV stigma scores by gender (Table 4.3). Overall, females (Factor #1, Nurses Stigmatizing Patients [M = 0.37] and Factor #2, Nurses Being Stigmatized [M = 0.59]) scored a little more stigma than the males (Factor #1, Nurses Stigmatizing Patients [0.35] and Factor #2, Nurses Being Stigmatized [0.49]). This table also illustrates that for Nurses Being Stigmatized, female nurses were more likely to perceive that they were being stigmatized than male nurses. However, there is really no difference between male and female nurses in terms of Nurses Stigmatizing Patients.

Table 4.3 T-Test/Comparison by Gender of HIV Stigma Scores

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>0.37</td>
<td>0.53</td>
<td>1,212</td>
<td>0.35</td>
<td>0.49</td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td>0.59</td>
<td>0.68</td>
<td>1,208</td>
<td>0.49</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Pearson Correlation was conducted to describe the association of age, years of nurse experience and HIV stigma (Table 4.4). This table illustrates that there was no significant correlation between age and the stigma scores. The relationship between years of experience and Nurses Stigmatizing Patients was significant, however, there is a very small amount of shared variance. There was no significant relationship between Nurses Being Stigmatized and years of nurse experience. Also, there is a negative correlation between years of nurse experience, validating that the older a nurse is, the more years of experience the nurse typically has.
Table 4.4 Pearson Correlation (r)/Age and Years of Nurses Experience and HIV Stigma

<table>
<thead>
<tr>
<th></th>
<th>Nurses Stigmatizing Patients</th>
<th>Nurses Being Stigmatized</th>
<th>Age</th>
<th>Years of Nursing Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>1</td>
<td>.361**</td>
<td>-.005</td>
<td>-.055*</td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td></td>
<td></td>
<td>-.005</td>
<td>-.040</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Years of Nursing Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

A 1x3 ANOVA was performed to compare where nurses lived with HIV stigma (Table 4.5). Overall, Factor #1 (Nurses Stigmatizing Patients) was significant (p = 0.037). Nurses residing in the peri-urban area (around the urban city areas) reported significantly higher stigma scores on Nurses Stigmatizing Patients than did those living in either urban or rural areas. Because the main effect was significant, a Bon-Ferroni post-hoc comparison was performed which demonstrated a significant difference between the urban and the peri-urban areas.

Table 4.5 1x3 ANOVA/Comparison of where they live and HIV stigma

<table>
<thead>
<tr>
<th>Location</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>0.33</td>
<td>0.52</td>
<td>955</td>
<td>3.32</td>
<td>2,1367</td>
<td>0.037</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>0.43</td>
<td>0.54</td>
<td>259</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>0.36</td>
<td>0.48</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Likewise, another 1x3 ANOVA was performed to compare where nurse’s live with HIV stigma for Factor #2 (Nurses Being Stigmatized) (Table 4.6). Overall, Factor #2 was not significant (p = 0.398). There was no significant difference in where the nurses lived and HIV stigma.

Table 4.6 1x3 ANOVA/Comparison of where nurses live and HIV stigma

<table>
<thead>
<tr>
<th>Location</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>0.57</td>
<td>0.67</td>
<td>953</td>
<td>0.923</td>
<td>2,1363</td>
<td>0.398</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>0.63</td>
<td>0.67</td>
<td>259</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>0.57</td>
<td>0.62</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A T-Test was calculated to assess the relationship of nurses having had an HIV test and stigma (Table 4.7). This table illustrates that there is no significant difference in stigma scores for those nurses who had been HIV tested and those who had not been tested.

Table 4.7 Relationship between having an HIV test and stigma

<table>
<thead>
<tr>
<th></th>
<th>Had no HIV test</th>
<th>Had an HIV test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>0.37</td>
<td>0.54</td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td>0.60</td>
<td>0.66</td>
</tr>
</tbody>
</table>
In Table 4.8, a T-Test was performed to compare nurses who had an HIV+ family member with nurses who did not have an HIV+ family member, and HIV stigma. Nurses who reported having an HIV+ family member reported significantly higher scores on Nurses Stigmatizing Patients than did those who did not have a relative who was HIV+ (Mean of 0.40 compared to a Mean of 0.28). There were no differences between the two groups and Nurses Being Stigmatized.

Table 4.8  T-Test/Comparison of having an HIV+ family member and HIV stigma

<table>
<thead>
<tr>
<th></th>
<th>No HIV+ family member</th>
<th>HIV+ family member</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>0.28</td>
<td>0.49</td>
<td>525</td>
<td>0.40</td>
<td>0.55</td>
<td>833</td>
<td>13.7</td>
<td>1,356</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td>0.51</td>
<td>0.64</td>
<td>523</td>
<td>0.63</td>
<td>0.68</td>
<td>831</td>
<td>3.34</td>
<td>1,352</td>
<td>.068</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Study question #2: What is the relationship between work characteristics (type of unit, frequency of contact with HIV patients, and job satisfaction) and HIV/AIDS stigma?

A T-Test was utilized to compare nurses who worked on a unit that was specifically identified as an HIV unit with nurses who did not work on a unit that was specifically identified as being an HIV unit, and stigma scores (Table 4.9). There was no significant relationship between working on an HIV unit and reported stigma scores. This is most likely due to the fact that in this setting in Southern Africa, most of the patients are HIV patients, thus there is really no concept of a specifically identified HIV unit.
Table 4.9 T-Test/Comparison between working on an HIV unit and stigma scores

<table>
<thead>
<tr>
<th></th>
<th>Did not work on an HIV unit</th>
<th>Did work on an HIV unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nurses Stigmatizing Patients</td>
<td>0.39</td>
<td>0.50</td>
</tr>
<tr>
<td>Nurses Being Stigmatized</td>
<td>0.56</td>
<td>0.58</td>
</tr>
</tbody>
</table>

A 1x3 ANOVA was calculated to assess nurse’s frequency of contact with HIV/AIDS patients and HIV stigma (Table 4.10). There was no overall relationship among frequency of contact with HIV patients and nurse reported stigma for Factor #1 (Nurses Stigmatizing Patients).

Table 4.10 1x3 ANOVA/Comparison of frequency of contact with HIV/AIDS patients and HIV stigma

<table>
<thead>
<tr>
<th>Location</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>0.39</td>
<td>0.55</td>
<td>873</td>
<td>0.565</td>
<td>2,1045</td>
<td>0.569</td>
</tr>
<tr>
<td>Weekly</td>
<td>0.45</td>
<td>0.62</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td>0.42</td>
<td>0.48</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Another 1x3 ANOVA was performed for Factor #2 to assess nurse’s frequency of contact with HIV/AIDS patients and HIV stigma (Table 4.11). Again, no relationship was found among frequency of contact with HIV/AIDS patients and nurse reported stigma for Factor #2 (Nurses Being Stigmatized).
Table 4.11 1x3 ANOVA/Frequency of contact with HIV/AIDS patients

<table>
<thead>
<tr>
<th>Location</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>0.64</td>
<td>0.70</td>
<td>870</td>
<td>0.830</td>
<td>2,1040</td>
<td>0.436</td>
</tr>
<tr>
<td>Weekly</td>
<td>0.68</td>
<td>0.68</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td>0.75</td>
<td>0.76</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Study question #3: What is the contribution of personal characteristics, work characteristics, and HIV stigma on quality of life?

Separate hierarchical multiple regression analysis was conducted to construct a model of the predictors of Physical Health and QOL (Table 4.12). This table is a representation of only the significant dependent variables that entered the equation. Job satisfaction entered in the first model, and job satisfaction and Nurses Being Stigmatized entered in the second model. Although this table illustrates that both the first and second models are significant (p = < 0.005 and p = < 0.001 respectively), job satisfaction and Nurses Being Stigmatized combined account for only 1% of the variance (Adjusted $R^2 = 0.010$), thus job satisfaction and Nurses Being Stigmatized have very little relationship with Physical Health.

Table 4.12 MR/Stigma & Job Satisfaction as Predictors of Physical Health & QOL

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>Adj $R^2$</th>
<th>SE</th>
<th>$R^2$ Change</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.082</td>
<td>.006</td>
<td>8.14</td>
<td>.007</td>
<td>7.878</td>
<td>1,1161</td>
<td>&lt; 0.005</td>
</tr>
<tr>
<td>Job Satisfaction and Nurses Being Stigmatized</td>
<td>0.106</td>
<td>.010</td>
<td>8.12</td>
<td>.005</td>
<td>6.637</td>
<td>2,1160</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>
Another separate hierarchical multiple regression analysis was conducted to construct a model of the predictors of Mental Health and QOL (Table 4.13). As for the previous multiple regression table, this table is a representation of only the significant dependent variables that entered the equation. In the first model job satisfaction entered which was significant (p = < 0.000). In the second model job satisfaction and Nurses Being Stigmatized entered, and were both significant (p = < 0.000). And in the third model job satisfaction, Nurses Stigmatizing Patients and Nurses Being Stigmatized entered, which were also significant (p = < 0.000). Job satisfaction in the first model was correlated approximately 5% with mental health which is meaningful. Job satisfaction and Nurses Being Stigmatized in the second model was correlated approximately 6% with mental health, which again is meaningful. And finally in the third model job satisfaction, Nurses Stigmatizing Patients and Nurses Being Stigmatized all correlated roughly the same (6%) with mental health. Mental Health is relatively strongly related to job satisfaction, and with the addition of both stigma variables, they only added another 1% of the variance.
### Table 4.13 MR/Stigma & Job Satisfaction as Predictors of Mental Health & QOL

<table>
<thead>
<tr>
<th>Model Description</th>
<th>R</th>
<th>Adj R²</th>
<th>SE</th>
<th>R² Change</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>0.230</td>
<td>.052</td>
<td>8.56</td>
<td>.053</td>
<td>65.0</td>
<td>1,1161</td>
<td>&lt; 0.000</td>
</tr>
<tr>
<td>Job Satisfaction and Nurses Being Stigmatized</td>
<td>0.254</td>
<td>.063</td>
<td>8.51</td>
<td>.011</td>
<td>39.9</td>
<td>2,1160</td>
<td>&lt; 0.000</td>
</tr>
<tr>
<td>Job Satisfaction, Nurses Stigmatizing Patients &amp; Nurses Being Stigmatized</td>
<td>0.260</td>
<td>.065</td>
<td>8.50</td>
<td>.003</td>
<td>28.0</td>
<td>3, 1159</td>
<td>&lt; 0.000</td>
</tr>
</tbody>
</table>
CHAPTER 5

Discussion of Findings

This dissertation study is based on a secondary analysis of data from 1,388 nurses in five African countries. The purpose of the study was to explore the contributions of personal characteristics, job characteristics, and HIV/AIDS stigma on nurses’ quality of life. In addition, this study revealed the experiences of HIV stigma among nurses in five African countries. HIV/AIDS stigma among nurses was measured by two factors, including Nurses Stigmatizing Patients, and Nurses Being Stigmatized. Quality of life was measured by two factors, including Physical Health and Mental Health. The stigma scores are a representation of HIV stigma experienced and enacted by nurses in five African countries. To date, Uys et al. (2009) have published the only data which specifically examines the association of HIV stigma within the scope of nursing practice. Overall, this chapter will discuss the statistical findings, delineate the limitations of the study and present some of the implications of this research.

Correlation analysis showed that there was a significant negative correlation found between stigma and job satisfaction. Quality of life composite scores and job satisfaction scores were correlated with the nurse stigma scores. Pearson correlations also revealed that the quality of life Physical Component Summary (PCS) measure was not notably related to Nurses Stigmatizing Patients. The correlations between the Mental Component Summary measure and the nurse stigma scale were statistically significant, but the amount of explained variance between these variables was not significant. As a result, it was concluded that higher levels of HIV stigma were correlated with lower levels of job satisfaction in this sample.
Discussion of Personal Characteristics

The Pearson correlations for age and years of nurse experience and HIV stigma revealed that there was no significant correlation between age and the stigma scores. The relationship between years of experience and stigma was significant for Nurses Stigmatizing Patients, however, there was only 3% of shared variance, so in essence there was no relationship. There was no significant relationship between years of experience and Nurses Being Stigmatized. Also, there was a negative correlation between age and years of nursing experience, which makes sense, the older you are the more experience you typically have. As a result it was concluded that nurses with more years of experience were somehow more immune to HIV stigma to the point where it was not as noticeable.

The 1x3 ANOVA comparing where the nurses lived with HIV stigma revealed that Factor #1 (Nurses Stigmatizing Patients) was significant (p = 0.037). Nurses residing in the peri-urban areas reported significantly higher stigma scores on Nurses Stigmatizing Patients than did those living in either urban or rural areas. The Bon-Ferroni post-hoc comparison demonstrated a significant difference between the urban and the peri-urban areas. Factor #2 (Nurses Being Stigmatized) however, was not significant (p = 0.398), thus, there was no significant difference in where the nurses lived and HIV stigma.

The T-Test assessing the relationship between having an HIV test and stigma revealed that there were no significant differences in stigma scores for those who had been HIV tested and those who had not been tested. The T-Test comparing nurses who had an HIV+ family member and nurses who did not have an HIV+ family and HIV stigma illustrated that nurses who reported having an HIV+ family member reported significantly higher scores on Nurses
Stigmatizing Patients than did those who did not have a relative who was HIV+. There were no differences between the two groups and Nurses Being Stigmatized. As a result it was concluded that nurses who had an HIV+ family member were more aware of stigmatizing attitudes and behaviors because of the lived experience in having seen their relative being stigmatized.

Discussion of Work Characteristics

The T-Test comparing nurses who worked on a specifically identified HIV unit with nurse who did not work on a specifically identified HIV unit and stigma revealed that there was no significant relationship between working on a specifically identified HIV unit and reported stigma scores. As a result, all nurses realistically work on an HIV unit, regardless of its designation because of the increasing volume of hospitalized HIV/AIDS patients throughout sub-Saharan Africa. The 1x3 ANOVA assessing the nurses frequency of contact with HIV/AIDS patients revealed that there was no overall relationship among frequency of contact with HIV patients and nurse reported stigma.

Separate hierarchical multiple regression analysis was conducted to construct a model of the predictors of two factors of QOL (Physical Health and Mental Health). In the first multiple regression table (DV = PCS) job satisfaction entered in the first model, and in the second model job satisfaction and Nurses Being Stigmatized entered, and both models were significant. There was a small total $R^2$ change in the second model, but nevertheless significant. This table illustrated that stigma and job satisfaction have very little relationship with Physical Health because only 1% of the variance can be explained by job satisfaction and Nurses Being Stigmatized. Every relationship in a large sample such as this (N =1,388) is statistically significant, however, it's not meaningful because there is only 1% shared variance.
The second multiple regression table (DV = MCS) job satisfaction entered in the first model, job satisfaction and Nurses Being Stigmatized entered in the second model, and the third model was comprised of job satisfaction, Nurses Stigmatizing Patients and Nurses Being Stigmatized. All three models were statistically significant. Mental health is relatively strongly related to job satisfaction, and with the addition of both stigma variables, they only added another 1% of the shared variance. So, although the results are statistically significant, they are very meaningful. These results show that both job satisfaction and nurses being stigmatized affect their physical health and mental health.

This dissertation study added new information demonstrating that HIV stigma experienced by nurse’s affects their Mental Health and slightly their Physical Health and this may contribute to the nursing shortage. Chirwa et al., (2009) found that HIV stigma was the strongest predictor of job satisfaction, and that mental and physical health and HIV stigma had significant influence on job satisfaction. The strength of the influence of HIV stigma on job satisfaction makes an important contribution to the understanding of job satisfaction in countries in which HIV infection is at epidemic levels. Future research needs to examine the relationship between nurses’ HIV stigma and QOL to determine how it is affecting the nursing shortage.

Study Limitations

Some limitations of this data should be noted. To begin, the data were collected from five different countries with various different languages and cultures. However, the research team was comprised of representatives from each country and the USA, to ensure that their input, along with the diverse data collected, would be representative of HIV/AIDS stigma among nurses throughout southern Africa. Voluntary participation meant it was possible that nurses who did not choose to participate differed from those who did participate. In addition, this study relies
entirely on nurse’s self-report data to describe their perspective of HIV/AIDS stigma, for which issues of accuracy of recall and veracity can always be raised. Moreover, although the nurses were asked if they had been tested for HIV, their HIV status was not asked for purposes of confidentiality. Thus, it is not clear whether their views are emic, as a health care provider, or etic as a potential person who lives with HIV disease or has a family member or close friend living with HIV disease. Nevertheless, these findings seem clear enough to encourage speculation about the need for onsite interventions to decrease HIV-related stigma, which may also result in improved job satisfaction and retention for nurses.

The effectiveness of HIV-related stigma interventions are well documented within the literature (Mahendra et al., 2007; Pisal et al., 2007; Murphy et al., 2000). These studies propose that interventions designed to decrease HIV-related stigma among nurses and other healthcare personnel might also improve job satisfaction. In this study, mental and physical quality of life were all significantly related to job satisfaction, although the correlations were low. The result from this study shows that job satisfaction within these five African countries affects nurses quality of life, and is also related to HIV stigma, as reported by Chirwa et al. (2009). Greater job satisfaction was related to feeling healthier (mentally and physically). This result provides further information that might drive HIV stigma reduction interventions to increase nurse job satisfaction in Africa by directly addressing the concept of stigma among nurses.

Implications for Nursing Practice

The findings reported on in this study highlight that stigmatizing behaviors toward people living with HIV/AIDS are challenges for nurses in southern Africa, and there are particular issues in this limited resource setting that are often not taken into account in global discussions about HIV-related stigma in the health care sector. To be successful in this context and in other
resource limited settings, stigma-reduction interventions need to take into account the job satisfaction of health care workers as an important factor in ensuring care for people living with HIV. The strength of the influence of stigma on job satisfaction is clearly illustrated in the multiple regression models, and this makes an important contribution to the understanding of job satisfaction in countries in which HIV infection is at epidemic levels.

Nurses represent a group of health care workers who run an unusually high risk of infection because of their exposure to the virus during service delivery. It is essential to assess and acknowledge nurses’ (and all health care workers’) fears and risk and then develop and implement workplace policies that ensure staff safety and respect for their rights. These policies need to ensure the availability of essential supplies (e.g., gloves, post-exposure prophylaxis) for maintaining optimum infection control practices by health care workers at all times to not only protect themselves but also to protect their patients from exposure to infection, thereby improving job satisfaction and retention for nurses.

Implications for Future Research

Nursing is a predominantly female occupation in which the working conditions are often poor. Such conditions contribute to recruitment and retention problems. Together with demographic changes, the result is a shortage of qualified nurses. Mounting evidence demonstrates that the lack of an adequate supply of qualified nurses is a global public safety issue that may require a multipronged policy approach. Monitoring and improving the working conditions of nurses are likely to improve the quality of health care by decreasing the incidence of many infectious diseases, assisting in retaining qualified nurses, and encouraging men and women to enter the profession. Further research is needed to understand how best to protect the patient as well as the health care worker. Nurses’ perception of stigma related to HIV
significantly influences their job satisfaction. Thus, interventions to reduce HIV-related stigma may also result in improved job satisfaction and retention for nurses. These changes in the workforce will have implications for infectious disease, infection control, and occupational health professionals with a need for much more thorough training of nonprofessionals in critical practices.

Healthcare providers and institutions are important sources of information, education, prevention and treatment. HIV-related stigma results in deleterious health behaviors (e.g., poor medication adherence, testing behaviors, and HIV status disclosure), underlining the importance of strong healthcare resources. At the same time, some of the most profound institutional stigmas have been documented in healthcare settings. More research is needed to determine how best to train healthcare providers to offer non-discriminatory care, and to promote equitable services/policies at the institutional level. This is important because unfounded concerns about disease spread through casual contact have resulted in limited resources being wasted.

The development and distribution of antiretroviral therapy has changed the course of the HIV epidemic. However, stigma poses barriers to accessing treatment because of the fear of disclosure of HIV status and possible discrimination. Enhancing access to treatment and reducing stigma can be mutually beneficial and research into the interrelationship between stigma and treatment can help policy and program interventions.

The stigma of HIV/AIDS and its associated risk behaviors (sex & drugs) have restricted prevention efforts. To truly stem the epidemic, future research needs to explore the best approaches to primary, secondary and tertiary prevention, in light of stigma, and to protect the social and economic integrity of communities worldwide. Given the recent evidence for effectiveness, the clinical approaches that future research needs to address include male
circumcision, pre and post-exposure prophylaxis against sexual transmission in high-risk populations, and microbicidal agents.

The crisis of the nursing shortage in sub-Saharan Africa is now firmly on the policy agenda, and initiatives to improve retention and attract returners back into the profession are underway (Buchan, 2000). Research indicates that nurses are attracted to work and remain in work because of the opportunities to develop professionally, to gain autonomy, and to participate in decision making, while being fairly rewarded (Lu, While and Barriball, 2005). Factors related to work environment such as job satisfaction can be crucial, and there is evidence in this study that job satisfaction is related to HIV stigma and QOL. This study added new information demonstrating that HIV stigma experienced by nurses affects their mental health, and slightly their physical health and this may contribute to the nursing shortage.
References


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