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The development and validation of the HIV/AIDS Stigma Instrument - Nurse (HASI-N)

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Abstract

Illness-related stigma remains a serious problem in the management of HIV disease in Africa. This article describes a series of study phases conducted to develop and validate an instrument to measure HIV/AIDS-related stigma as perpetrated and experienced by nurses. Data were collected in Lesotho, Malawi, South Africa, Swaziland and Tanzania, from 2004-2006. The first phase was a qualitative study with focus group participants (n = 251) to gather emic and etic descriptions of HIV/AIDS-related stigma in the five countries. Based on the qualitative data, a 46-item instrument was developed and tested during a second phase in the same five countries (n = 244). The result of this phase was a 33-item, three-factor instrument with an average Cronbach alpha of 0.85. A third phase tested the instrument in 1474 nurses. The result was a final 19-item instrument, the HIV/AIDS Stigma Instrument - Nurse (HASI-N), comprised of two factors (Nurses Stigmatizing Patients and Nurses Being Stigmatized) with a Cronbach alpha of 0.90. Concurrent validity was tested by comparing the level of stigma with job satisfaction and quality of life. A significant negative correlation was found between stigma and job satisfaction. The HASI-N is the first inductively derived instrument measuring stigma experienced and enacted by nurses. It has the potential to be used not only to measure stigma, but also to develop stigma-reduction interventions.

Keywords

HIV/AIDS; stigma; Africa; measurement; nurses

Introduction

Stigma remains one of the central barriers to effective prevention and management of HIV and AIDS in Africa (Klein, Karchner, & O'Connell, 2002). Nevertheless, there is very limited published data that explores the relationship of HIV-related stigma and nursing practice, with few studies addressing changes in stigma over time or even accurate measurement of stigma (Holzemer & Uys, 2004). Researchers participating in the Research Workshop on Health-related Stigma and Discrimination in Amsterdam in 2004 agreed that measures to assess the extent of stigma are needed to allow broad comparisons and to identify change (Royal Tropical

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Institute, 2004). Such instruments do not currently exist to measure HIV/AIDS stigma in Africa as perceived by people other than those living with the disease.

One of the oldest definitions of stigma is that of Goffman (1963), who defined stigma as a "significantly discrediting" attribute (p. 3). In the case of illness-related stigma, the discrediting attribute is a diagnosis or illness. The Stigma-AIDS eForum identified three elements that drive stigma by healthcare workers: morality, helplessness in the face of HIV/AIDS and perceived personal vulnerability (Health and Development Networks & AIDS-Care-Watch Campaign, 2006). As a group central to the provision of healthcare in Africa, opinion leaders in their own communities and part of the middle class of professionals in Africa, nurses are an excellent indicator group in which to measure the response of communities to HIV and AIDS. They are not only closely involved in caring for people living with HIV infection, but they are also observers of enacted stigma both in healthcare settings and in the communities in which people live. Further, their work places them at risk of contracting the disease through occupational exposure (Adebajo, Bamgbala, & Oyediran, 2003) and the nature of their work has changed drastically due to the extent of the epidemic in Eastern and Southern African countries (Unger, Welz, & Haran, 2002).

The aim of this study, therefore, was to develop and validate a linguistically and culturally appropriate measure of perceived HIV/AIDS stigma for nurses in five African countries. To do this, the research team conducted a three-phase study to develop the instrument and test its validity and reliability.

Literature review

A number of instruments have been developed to measure HIV/AIDS stigma (Bauman, Silver, & Camacho, 2000; Berger, Ferrans, & Lashley, 2001; Fife & Wright, 2000; Herek & Capitanio, 1993; Holzemer, Uys, Chirwa et al., 2007; Hossain & Kippax, 2006; Kalichman et al., 2005; Sowell et al., 1997). Most of these instruments measure HIV/AIDS stigma as experienced by people living with HIV/AIDS. Herek and Capitanio's instrument (1993) looked at the level of stigma expressed by the general public. The same approach was followed in a study by Kalichman and colleagues (2005). These authors developed a psychometric AIDS-related stigma measure based on a review of previous measures and HIV-related literature. The instrument covered three domains: AIDS knowledge, AIDS concern and HIV disclosure and had an alpha coefficient estimate range of 0.64-0.83. Nyblade et al. (2005) developed a series of indicators to measure different aspects of HIV stigma, but did not develop or test an instrument as such.

At an international conference in Washington, DC in 2000 to develop a research agenda for stigma related to health and illness, the need for developing specific culturally appropriate measures of stigma was identified as a priority (Weiss & Ramakrishna, 2001). It was also pointed out that stigma research should include not only people living with HIV infection, but also people from the community and healthcare personnel. Researchers at a meeting in Amsterdam in 2004 (Royal Tropical Institute) agreed that any new instruments should be based on a comprehensive model of stigma and should be able to assess the extent of stigma, the nature and determinants of stigma and the challenges of stigma.

Theoretical model

The instrument reported here is based on a process model of stigma derived from qualitative data from five African countries (Holzemer, Uys, Makoae et al., 2007). This model describes stigma as being influenced by the cultural, economic, political, legal and policy environment; the healthcare system; and the agent, including person, family, workplace and community. Within this context, the process of stigma is enacted. First, stigma triggers, such as HIV testing,

diagnosis, HIV disease, disclosure, suspicion and rumor, set off the process. Then, stigmatizing behaviors, such as blame, insult, avoidance and accusation follow. These can be classified into three types of stigma: received, internal and associated stigma. The outcomes of stigma, such as poor health, decreased quality of life, reduced access to care, violence and poorer quality of work life, are the result. Received stigma has nine sub-categories and is defined as "All types of stigmatizing behavior towards a person living with HIV/AIDS as experienced or described by themselves or others" (Holzemer, Uys, Makoae et al., 2007, p. 548). Internal stigma has four sub-categories and is defined as: "Thoughts and behaviours stemming from the person's own negative perceptions about him or herself based on their HIV status" (p. 548). Associated stigma has two sub-categories and is defined as: "Stigma against people who work or associate with HIV/AIDS affected people" (p. 548).

Methods

Research design

The development of this instrument was conducted through a series of studies over a period of two years. This was part of a larger study on HIV/AIDS stigma (Greeff & Phetlhu, 2007; Greeff et al., 2008; Holzemer, Uys, Chirwa et al., 2007; Holzemer, Uys, Makoae et al., 2007; Kohi et al., 2006; Naidoo et al., 2007; Uys et al., 2005). These previously published articles, based upon this work, have reported on the qualitative data analysis and the model development that guided the development of the instrument reported here. The methodology and results of each phase are described separately below.

Settings

All phases of the study were conducted in five southern African countries: Lesotho, Malawi, South Africa, Swaziland and Tanzania, with a country Principal Investigator (PI) in each country managing the research process. In the two smaller countries - Lesotho and Swaziland - data were collected from people living in all administrative regions of the country. In the other countries, data were gathered from one geographical area with a relatively homogeneous population.

Ethical considerations

Permission to conduct the study was obtained from the appropriate local and central government authorities and the research protocol was approved by all seven of the universities involved. In all five sites the initial IRB/ethical permission covered all the phases of the study.

Participants were given information about the purpose of the study and were told that participation was completely voluntary and that they could stop at any time if they wished. The confidentiality of all data was assured. Following this explanation, participants signed a written consent.

Phase One: generating items through a qualitative study

A descriptive, qualitative methodology using the critical incident technique (Kemppainen, 2000), was used to explore the experience of stigma of nurses and people living with HIV infection. Focus group discussions were held with respondents to capture an emic and etic view of stigma and discrimination (Weiss et al., 1992). In the focus groups, the investigators asked two main questions: "How do people you know refer to people living with HIV/AIDS?" and "Can you share an example of stigma or discrimination directed toward a person living with HIV/AIDS, their family members or nurses who care for them?" In all of the countries, nurses working in the HIV/AIDS services in each setting were invited to a focus group discussion held at a convenient time and place outside of their working time and setting. A total of 124

nurses, nurse managers and nursing assistants (7% male) were involved in 20 focus groups from both urban and rural areas in the five African countries. In addition, 127 people living with HIV/AIDS and volunteers (43% male) participated in 22 focus groups from urban and rural areas.

Verbatim transcriptions were translated into English. NVivo™ software was used to code demographic attributes, including country, type of participant, gender and stigma-related themes. The three types of stigma proposed by the Siyam'kela Project (2003) (received, internal, associated) served as the origin for coding the data. Data were coded centrally and concepts were amended and augmented as the analysis progressed. The coding was checked by country PIs.

Based on data from the focus groups with both nurses and people living with HIV infection, the research team developed a scale to measure the stigma that nurses see and experience. This scale addressed received stigma and associated stigma. Internal stigma was not included because it refers to the stigma experienced by people living with HIV and is therefore not overtly applicable to nurses. The initial list of items was revised to give preference to items reflecting content frequently mentioned in the focus groups and to drop items that would fall outside of the experience of many respondents. The items were synthesized into a list of 45 items that comprised the nurse stigma instrument and asked respondents to report on their experiences of stigma over the last three months.

Phase Two: pilot testing

The aim of this phase of testing was to identify how well the items reflected the hypothesized dimensions of received stigma and associated stigma. An initial pretest was done to test the 45-item instrument before it was administered to a larger sample of nurses for pilot testing. For the pretest, a column was added, asking whether each item was clear or unclear and whether the respondent had any comments about the item. In each setting the questionnaire was distributed with a cover letter by service managers and collected by them after a stipulated time. The pretest involved four to six nurses in each country (n = 22), who completed the questionnaire and then discussed it with the country PI. The sample for the pretest was 96% female, with an average age of 37.6 years (SD = 10.5) who has worked as a nurse for an average of 13.4 years (SD = 9.8). Of the 45 items reviewed in the pretest, ten items were noted as being unclear by more than one person and one had dual themes (double-barreled). These items were rephrased and retained, resulting in a 46-item instrument.

The revised instrument was pilot tested among 244 nurses in the five countries. Nurses were sampled by choosing accessible healthcare settings, which included both hospital and primary healthcare settings. The questionnaires were distributed via nursemanagers, with cover letters requesting participation from nurses. The sample was 92% female with an average age of 38.3 years (SD = 9.6). The average years working as a nurse was 14.4 years (SD = 10.0).

Exploratory factor analysis for subscale development—Based on the results of the pilot test, items were dropped if 95% of respondents or more answered that they had “Never” observed the event in the past three months. Then, an exploratory factor analysis (EFA) using principal axis factoring with Promax oblique rotation was performed, examining the factor loadings and communalities. This analysis allows for correlations between factors and is theoretically the best approach for the interpretability of the optimal factor structure (Nunnally & Bernstein, 1994). Items that did not load well on any one factor (i.e. less than 0.35) were dropped, as were items that did not contribute to the Cronbach alpha of the subscale. The result was a 33-item instrument with three factors identified, confirmed by the Scree plot:

- Factor 1: Nurses Stigmatizing Patients (15 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 Cronbach alpha of 0.91, indicating very good internal consistency of the items to represent the factor (Nunnally & Bernstein, 1994).
- Factor 2: Community Stigmatizing Nurses (13 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.
- Factor 3: General Stigma (5 items). This factor included mainly items referring to the stigma nurses working with HIV patients experienced from their colleagues and also included items about nurses abusing patients, patients avoiding a nurse and family stigma. The factor had a Cronbach alpha of 0.69 indicating only fair internal consistency of the items to represent this factor. It was decided, however, to retain this factor for further testing.

The three-factor solution was tested for stability across the five countries by doing confirmatory factor analyses of the derived scale factors by individual country. These results indicated a good match between the five country solutions and the total solution. The Cronbach alpha for the 33-item, three-factor scale was 0.85 indicating a high internal consistency of the items to represent the nursingrelated stigma experience.

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.

Phase Three: validating the instrument

Having been refined through factor analysis, the 33-item instrument was used in a larger study involving nurses from the five countries. The country investigators again approached settings where nurses work and requested the participation of nurses. Each had a target of 300 nurses and they recruited respondents until they achieved this target. Both hospital and primary healthcare facilities that provided HIV treatment were approached, and a convenient sample was obtained.

To address construct validity, two hypotheses were tested:

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

The hypotheses were based on repeated assertions 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, Kanu, & Jolly, 2005). Given such negative connotation about the illness and the patients involved, it was postulated that if the stigma in a specific work setting is high, nurses will perceive their work life in a more negative way and this might lead to a poorer quality of life and lower job satisfaction. A recent study of nurses in South Africa identifies “compassion fatigue” as a major problem and “coping with AIDS” was mentioned particularly as one of the factors determining job dissatisfaction (van den Berg et al., 2006).

To test these two hypotheses, respondents completed the validated Medical Outcomes Study 36-item Short-Form health survey (SF-36), version 1 (Ware & Sherbourne, 1992). The SF-36

measures quality of life in terms of short-term functional, physical and mental health and well-being. It is a generic measure, which can be used for any age group. This analysis reports on the Physical Component Summary (PCS) measure and the Mental Component Summary (MCS) measure. Respondents also completed the validated Measure of Job Satisfaction scale (Traynor & Wade, 1993), where job satisfaction is measured on five dimensions: Personal Satisfaction, Satisfaction with Workload, Satisfaction with Professional Support, Satisfaction with Pay and Prospects and Satisfaction with Training.

Data were collected from 1474 nurses in the five countries. The demographics of the sample are summarized in Table 1. The sample of nurses reflects the usual nurse population in the countries concerned. Nurses are mainly women in their thirties, with a diploma education and just more than 11 years of nursing experience. Most are married and have not been tested for HIV.

A factor analysis was performed on this 33-item version of the scale, with the same process and criteria as the first. This analysis resulted in a two-factor solution with 19 items (see Table 2). Again, the solution was tested for stability across the five countries by doing individual country level factoring, which indicated a good match between the five country solutions and the total solution (see Table 3). The two factors were named Nurses Stigmatizing Patients and Nurses Being Stigmatized, the latter combining Community Stigmatizing Nurses and General Stigma from the previous version. The correlation between the instrument's two subscales was low (0.35) which again indicated distinct factor structures.

To test the first hypothesis, quality of life composite scores were correlated with the nurse stigma scores. Pearson correlations showed that the quality of life Physical Component Summary measure was not significantly related to either dimension of the nurse stigma scale. The correlations between the Mental Component Summary measure and the nurse stigma scale were statistically significant, but the amount of explained variation between these variables was not significant. Therefore, the first hypothesis was not supported (see Table 4).

To test the second hypothesis, job satisfaction scores were correlated with the nurse stigma scores. There are significant correlations between the total nurse stigma scale and its two sub-scales with the job satisfaction total score and its five dimensions (Table 4). Scatter plot analysis of these variables indicates that the total stigma score decreases as the job satisfaction score increases. The second hypothesis is therefore supported.

Discussion

The HIV/AIDS Stigma Instrument — Nurse (HASI-N) consists of two factors that measure two different aspects of HIV stigma: that perpetrated by nurses and that experienced by nurses. A copy is provided in the Appendix. The total score is an indication of the level of HIV stigma in the world of nurses in African countries. However, the items pertaining to the two factors may also be used separately to measure only stigma perpetrated by nurses or experienced by nurses.

The psychometric analysis of the HASI-N is strong. The level of consistency of the two factors across the five countries is impressive, as are the two factors' Cronbach's alpha reliability values of 0.89 and 0.91, respectively. Test-retest reliability should be done on the current version of the instrument.

It is argued that the instrument has content validity based on the conceptual work from the focus groups and the factor analysis (Holzemer, Uys, Makoae et al., 2007). The items of the Nurses Stigmatizing Patients factor fit the sub-categories of received stigma as follows:

- Neglecting (items 1, 6 and 9)
- Fearing contagion (items 3 and 8)
- Avoiding (item 10)
- Negating (items 4, 5 and 7)
- Verbal abuse (item 2)

The categories of labeling, rejecting, pestering, abusing and gossiping are not reflected in the instrument. In the context of the clinical situation, rejecting (breaking of a relationship) is not possible, since nurses in public health settings are obliged to give care to all. Abuse items were formulated initially, but this kind of behavior occurs too seldom in healthcare settings and did not survive the phases of the instrument development. Pestering and gossiping seem to be present in situations where people know each other, rather than in more formal and distant relationships, as reflected in the factor Nurses Being Stigmatized. Associated stigma included stigmatizing family and friends of people living with HIV infection and stigmatizing nurses working in the field of HIV and AIDS. The factor Nurses Being Stigmatized addresses only the one sub-category — stigmatizing of nurses. Most of the items address labeling (14, 15 and 16), gossiping (11, 12, 13 and 19) and fearing contagion (17 and 18).

Construct validity of the HASI-N is supported as predicted through: (1) the significant negative correlations of stigma with job satisfaction, (2) significant negative correlation with the SF36 Mental Component Summary measure and (3) no significant correlation with the SF36 Physical Component Summary measure. These results concur with the findings of Bellani et al. (1996), who found that healthcare workers working under extreme conditions caring for people living with HIV/AIDS display higher levels of depression, anxiety, overwork, stress, fear of death, poor career satisfaction and intellectual stimulation. Similarly, Nashman, Hoare and Heddesheimer (1990) found that caring for and working with people living with HIV/AIDS can lead to increased intellectual stimulation and substantial job satisfaction provided that the healthcare workers perceived a sense of doing good and that the patient acknowledged and appreciated the care. Construct validity therefore still needs additional investigation.

The stigmatizing of people living with HIV/AIDS by nurses reflects the intimate care relationship that this category of health worker has with their patients. In this relationship, nurses' negative attitudes towards the disease and people who have it lead to fear (ofcontagion) and anger (verbal abuse) and also to poor care (neglecting, avoiding and negating). The level of nurses stigmatizing patients is not high (average 0.35 out of a possible total of 3), but some stigmatizing behavior is clearly widely present.

The stigmatization of nurses who work with persons living with HIV infection seems to manifest mainly in labeling and gossip or negative comments (“people say”). The level of stigma by association experienced by nurses is high (average 0.59 out of a possible score of 3). Since nurses have a relatively high status in African societies, this milder form of stigma might be the only type of stigma they experience, while more serious forms of stigma are reserved for persons living with HIV infection (Holzemer, Uys, Chirwa, et al., 2007).

Conclusion

This instrument will allow researchers to measure the level of stigma observed and experienced by a group of health workers who can be argued to represent a good indicator of informed public opinion. Nurses can be expected to have accurate knowledge of the illness and close contact with people who have the virus and/or the illness. They also represent a group of community members who run an unusually high risk of occupational transmission and carry

a significant burden of care. All these factors make nurses, especially in Africa, an interesting index to monitor the level of stigma in a community.

The HASI-N (see Appendix) could also potentially be adapted for use with healthcare workers more generally. It might also be adapted to address infectious diseases other than HIV/AIDS. Although the qualitative development phase focused specifically on HIV and AIDS, it might be possible to adapt the instrument for more general use, for instance to test stigma related to tuberculosis or leprosy.

This instrument provides a useful addition in the arsenal of instruments available for the study of illness-related stigma, specifically HIV/AIDS stigma. It has the potential to be used for long-term monitoring studies to track HIV/AIDS stigma and changes to it over time. The instrument addresses stigma as observed by one group of health workers and also personally experienced by them. This is a unique instrument, in terms of its focus on nurses, the meticulous process of development and the fact that it was developed and tested in Africa.

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References

Adebajo SB, Bamgbala AO, Oyediran MA. Attitudes of healthcare providers to persons living with HIV/AIDS in Lagos State, Nigeria. African Journal of Reproductive Health 2003;7(1):103–112. [PubMed: 12816317]

Bauman, LJ.; Silver, EJ.; Camacho, S. Stigma amongmothers with HIV/AIDS. Paper presented at the XIII International AIDS Conference; Durban. July; 2000. [MoPe2578]

Bellani ML, Furlani F, Gnecchi M, Pezzotta P, Trotti EM, Bellotti GG. Burnout and related factors among HIV/AIDS healthcare workers. AIDS Care 1996;8(2):207–221. [PubMed: 8861419]

Berger BE, Ferrans CE, Lashley FR. Measuring stigma in people with HIV: Psychometric assessment of the HIV stigma scale. Research in Nursingand Health 2001;24(6):518–529.

Ehiri JE, Anyanwu EC, Donath E, Kanu I, Jolly PE. AIDS-related stigma in sub-Saharan Africa: Its contexts and potential intervention strategies. AIDS Public Policy Journal 2005;20(12):25–39. [PubMed: 17260567]

Fife BL, Wright ER. The dimensionality of stigma: A comparison of its impact on the self of persons with HIV/AIDS and cancer. Journal of Health and Social Behavior 2000;41(1):50–67. [PubMed: 10750322]

Goffman, E. Stigma: Notes on the management of spoiled identity. Prentice Hall; Englewood Cliffs, NJ: 1963.

Greeff M, Phetlhu DR. The meaning and effect of HIV/AIDS stigma for people living with AIDS and nurses involved in their care in the North West Province, South Africa. Curationis 2007;30(2):12–23. [PubMed: 17703819]

Greeff M, Phetlhu DR, Makoae LN, Dlamini PS, Holzemer WL, Naidoo J, Kohi TW, Uys LR, Chirwa ML. Disclosure of HIV status: Experiences and perceptions of persons living with HIV/AIDS and nurses involved in their care in five Africa countries. Qualitative Health Research 2008;8(3):311–324. [PubMed: 18235155]

Health and Development Networks, & AIDS-Care-Watch Campaign. Living on the outside: Key findings and recommendations on the nature and impact of HIV/AIDS-related stigma. 2006. Health and Development Networks. http://www.hdnet.org/v2/Files/detail.asp?iData=6&iCat=205&iChannel=4&nChannel=Files

Herek GM, Capitanio JP. Public reactions to AIDS in the United States: A second decade of stigma. American Journal of Public Health 1993;83(4):574–577. [PubMed: 8460738]

Holzemer WL, Uys L, Makoae L, Stewart A, Phetlhu R, Dlamini PS, et al. A conceptual model of HIV/AIDS stigma from five African countries. Journal of Advanced Nursing 2007;58(6):541–551. [PubMed: 17484748]

Holzemer WL, Uys LR. Managing AIDS stigma. Journal of Social Aspects of HIV/AIDS 2004;1(3):165–174. [PubMed: 17601004]

Holzemer WL, Uys LR, Chirwa ML, Greeff M, Makoae LN, Kohi TW, et al. Validation of the HIV/AIDS Stigma Instrument-PLWA (HASI-P). AIDS Care 2007;19(8):1002–1012. [PubMed: 17851997]

Hossain, MB.; Kippax, S. Health care workers, stigma and discriminatory attitudes towards PLWHA in Bangladesh. Paper presented at the XVI International AIDS Conference; Toronto. Aug. 2006 Abstract number TUPE0702

Kalichman SC, Simbayi LC, Jooste S, Toefy Y, Cain D, Cherry C, et al. Development of a brief scale to measure AIDS-related stigma in South Africa. AIDS and Behavior 2005;9(2):135–143. [PubMed: 15933833]

Kemppainen JK. The critical incident technique and nursing care quality research. Journal of Advanced Nursing 2000;32(5):1264–1271. [PubMed: 11115012]

Klein SJ, Karchner WD, O'Connell DA. Interventions to prevent HIV-related stigma and discrimination: Findings and recommendations for public health practice. Journal of Public Health Management and Practice 2002;8(6):44–53. [PubMed: 12463050]

Kohi T, Makoae L, Chirwa M, Holzemer WL, Phetlhu DR, Uys L, et al. HIV and AIDS stigma violates human rights in five African countries. NursingEthics 2006;13(4):405–414.

Naidoo J, Uys L, Greeff M, Holzemer W, Makoae L, Dlamini P, et al. Urban and rural differences in HIV/AIDS stigma in five African countries. African Journal of AIDS Research 2007;6(1):17–23.

Nashman HW, Hoare CH, Heddesheimer JC. Stress and satisfaction among professionals who care for AIDS patients: An exploratory study. Hospital Topics 1990;68(1):22–28. [PubMed: 10104523]

Nunnally, JC.; Bernstein, IH. Psychometric theory. Vol. 3rd ed.. McGraw-Hill; New York: 1994.

Nyblade, L.; MacQuarrie, K.; Phillip, F.; Kwesigabo, G.; Mbwanbo, J.; Ndega, J., et al. Workingreport measuring HIV stigma: Results of a field test in Tanzania. USAID; Washington, DC: 2005.

Royal Tropical Institute. Report of the Research Workshop on Health-related Stigma and Discrimination. Paper presented at the Research Workshop on Health-related Stigma and Discrimination; Soesterberg. November 29-December 2, 2004; 2004.

Insideout Research. Siyam'kela: A report on the fieldwork leading to the development of HIV/AIDS stigma indicators and guidelines. POLICY Project, South Africa; Centre for the Study of AIDS, University of Pretoria; United States Agency for International Development; ChiefDirectorate: HIV, AIDS & TB, Department of Health; 2003. Available at http://www.policyproject.com/pubs/countryreports/SA_Siyam_fieldwork.pdf

Sowell RL, Seals BF, Moneyham L, Demi A, Cohen L, Brake S. Quality of life in HIV-infected women in the south-eastern United States. AIDS Care 1997;9(5):501–512. [PubMed: 9404393]

Traynor M, Wade B. The development of a measure of job satisfaction for use in monitoring the morale of community nurses in four trusts. Journal of Advanced Nursing 1993;18(1):127–136. [PubMed: 8429157]

Unger, A.; Welz, T.; Haran, D. The impact of HIV/AIDS on healthcare staff at a rural South African Hospital, 1990[C1]2001. Paper presented at the XIV International AIDS Conference; Barcelona, Spain. July; 2002. Abstract number MoPeE3762

Uys L, Chirwa M, Dlamini P, Greeff M, Kohi T, Holzemer W, et al. Eating plastic, winning the lotto, joining the WWW: Descriptions of HIV/AIDS in Africa. Journal of the Association of Nurses in AIDS Care 2005;16(3):11–21. [PubMed: 16433113]

van den Berg, H.; Bester, C.; Janse-van Rensburg-Bothuizen, E.; Engelbrecht, M.; Hlophe, H.; Summerton, J., et al. Burnout and compassion fatigue in professional nurses. A study in PHC facilities in the Free State, with special reference to the antiretroviral treatment programme. Center for Health Systems Research and Development, University of the Free State; Bloemfontein: 2006.

Ware JE Jr. Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. Medical Care 1992;30(6):473–483. [PubMed: 1593914]Retrieved 17th Sept, 2007, from http://www.sf-36.org/tools/SF36.shtml#LIT

Weiss MG, Doongaji DR, Siddhartha S, Wypij D, Pathare S, Bhatawdekar M, et al. The Explanatory Model Interview Catalogue (EMIC). Contribution to cross-cultural research methods from a study of leprosy and mental health. British Journal of Psychiatry 1992;160:819–830. [PubMed: 1617366]

Weiss MG, Ramakrishna J. Conference examines need for more study of AIDS stigma. AIDS Policy Law 2001;16(18):4. [PubMed: 11591006]

Table 1

Selected demographic data for nurses in the validation study (*n*=1474).

	N	%	
Lesotho	298	21	
Malawi	297	20	
South Africa	279	19	
Swaziland	300	20	
Tanzania	300	20	
Demographic variables for all 5 countries	Mean	SD	Range
Age	37.77	9.56	19-67
Years working as a nurse*	11.85	9.48	1-43
Demographic variables for all 5 countries	Frequency	%	
Gender			
Female	1071	72.7	
Male	160	10.9	
Missing	243	16.5	
Highest post-school education (total)			
Certificate	455	30.9	
Diploma education	573	38.9	
Post-Basic/Advanced Diploma	143	9.7	
Degree	218	14.8	
Post graduate	50	3.4	
Missing	35	2.4	
Marital status			
Never married	325	22	
Married	873	59.2	
Widowed	99	6.7	
Divorced	65	4.4	
Cohabitating	18	1.2	
Missing	94	6.4	
Have had an HIV test			
Yes	464	31.5	
No	989	67.1	
Don't know	5	0.3	
Missing	16	1.1	

* Notes: 1 year includes nurses working for less than 1 year.

Table 2

Two factor scales, factor loadings, alpha reliability estimates and items.

Factor	Factor loading	Item#	Item
Factor I: Nurses Stigmatizing Patients	.488	1	A nurse provided poorer quality care to an HIV/AIDS patient than to other patients
10 items	.441	2	A nurse shouted at or scolded an HIV/AIDS patient
α=0.91	.466	3	A nurse kept her distance when talking to an HIV/AIDS patient
Eigenvalue=7.259	.607	4	A nurse ignored the physical pain of an HIV/AIDS patient
38.21% explained variance	.560	5	A nurse refused to feed an HIV/AIDS patient
	.515	6	A nurse did not check the condition of her HIV/AIDS patient in the unit/ward
	.434	7	A nurse made an HIV/AIDS patient wait until last for care
	.631	8	A nurse made an HIV/AIDS patient do things for himself/ herself to avoid touching him/her
	.607	9	A nurse left an HIV/AIDS patient for a long time in a soiled bed
	.409	10	Nurses made HIV/AIDS patients wait for care
Factor II: Nurses Being Stigmatized	.578	11	People said nurses who provide HIV/AIDS care are HIV-positive
9 items	.529	12	People said nurses would only work with HIV/AIDS patients if they had AIDS themselves
α=0.90	.446	13	Someone said that nurses who care for HIV/AIDS patients spread the disease
Eigenvalue=3.487	.665	14	People said nurses who work in homecare are HIV-positive
18.35% explained variance	.547	15	Someone called a nurse names because she takes care of HIV/ AIDS patients
	.564	16	A nurse was stigmatized because of the HIV/AIDS services she provides
	.380	17	The spouse of a nurse who cares for HIV/AIDS patients feared that the nurse would bring the virus from work and give it to him/her
	.412	18	People said that nurses get infected by taking care of people with HIV/AIDS
	.526	19	People made negative remarks about nurses involved with HIV/AIDS care
Total Scale			
α=0.90			
56.56% explained variance			

Table 3

Item factor loadings by country.

Factor I: Nurses Stigmatizing Patients: α=0.91; 10 items										
Items:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Lesotho	.76	.61	.57	.77	.80	.68	.59	.72	.73	.55
Malawi	.72	.75	.78	.78	.76	.69	.78	.77	.74	.65
South Africa	.65	.76	.76	.81	.81	.64	.71	.88	.82	.71
Swaziland	.68	.63	.62	.79	.75	.72	.61	.78	.74	.47
Tanzania	.66	.56	.61	.83	.54	.79	.60	.84	.82	.64

Factor II: Nurses Being Stigmatized: α=0.90; 9 items									
Items:	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
Lesotho	.81	.77	.70	.81	.80	.71	.75	.60	.69
Malawi	.65	.64	.50	.77	.55	.68	.55	.56	.72
South Africa	.81	.79	.73	.88	.86	.84	.62	.77	.83
Swaziland	.78	.46	.70	.88	.67	.70	.48	.49	.58
Tanzania	.83	.62	.57	.82	.70	.39*	.48	.47	.67

*Notes: Dual loading with Factor 1.

Table 4

Descriptive statistics for HASI-N and Pearson Correlation (r) for validation study (*n*=1474).

	Mean	SD	Range	N	Nurse Stigma Total	Nurses Stigmatizing Patients	Nurses Being Stigmatized
Stigma							
Nurse Stigma Total	.46	.49	0-2.84	1468	1		
Nurses Stigmatizing Patients	.35	.53	0-2.9	1467	.80	1	
Nurses Being Stigmatized	.59	.66	0.3	1463	.85	0.36	1
Quality of life							
Physical Component Summary measure	51.53	7.72	15.80-70.78	1418	-.06*	-.02*	-.09*
Mental Component Summary measure	45.83	8.62	15.30-68.58	1418	-.15	-.16	-.10
Job satisfaction							
Job satisfaction - total	84.0	23.34	5-148	1471	-.25	-.25	-.17
Job satisfaction - personal satisfaction	25.14	6.76	0-36.4	1466	-.21	-.23	-.13
Job satisfaction - workload	12.85	5.03	0-24.6	1471	-.19	-.19	-.14
Job satisfaction - professional support	23.31	6.65	3-36.4	1471	-.22	-.23	-.14
Job satisfaction - training	12.39	5.96	0-28.5	1470	-.21	-.19	-.15
Job satisfaction - pay and prospects	5.48	3.30	0-13.0	1457	-.15	-.12	-.13

*Notes: All correlations except those noted with the asterisk are significant at $p < .05$.

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Appendix 1

HIV/AIDS Stigma Instrument - Nurse (HASI-N)© We would like to know about your experiences as a nurse working with people living with HIV/AIDS.

Please mark how often you observed the event during the past three months.	**Never**	**Once or twice**	**Several times**	**Most of the time**
1. A nurse provided poorer quality care to an HIV/AIDS patient than to other patients	☐	☐	☐	☐
2. A nurse shouted at or scolded an HIV/AIDS patient	☐	☐	☐	☐
3. A nurse kept her distance when talking to an HIV/AIDS patient	☐	☐	☐	☐
4. A nurse ignored the physical pain of an HIV/AIDS patient	☐	☐	☐	☐
5. A nurse refused to feed an HIV/AIDS patient	☐	☐	☐	☐
6. A nurse did not check the condition of her HIV/AIDS patient in the unit/ward	☐	☐	☐	☐
7. A nurse made an HIV/AIDS patient wait until last for care	☐	☐	☐	☐
8. A nurse made an HIV/AIDS patient do things for himself/herself to avoid touching him/her	☐	☐	☐	☐
9. A nurse left an HIV/AIDS patient for a long time in a soiled bed	☐	☐	☐	☐
10. Nurses made HIV/AIDS patients wait for care	☐	☐	☐	☐
11. People said nurses who provide HIV/AIDS care are HIV-positive	☐	☐	☐	☐
12. People said nurses would only work with HIV/AIDS patients if they had AIDS themselves	☐	☐	☐	☐
13. Someone said that nurses who care for HIV/AIDS patients spread the disease	☐	☐	☐	☐
14. People said nurses who work in homecare are HIV-positive	☐	☐	☐	☐
15. Someone called a nurse names because she takes care of HIV/AIDS patients	☐	☐	☐	☐
16. A nurse was stigmatized because of the HIV/AIDS services she provides	☐	☐	☐	☐
17. The spouse of a nurse who cares for HIV/AIDS patients feared that the nurse would bring the virus from work and give it to him/her	☐	☐	☐	☐
18. People said that nurses get infected by taking care of people with HIV/ AIDS	☐	☐	☐	☐
19. People made negative remarks about nurses involved with HIV/AIDS care	☐	☐	☐	☐

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