

*Full Length Research Paper*

# Professional, social, and psychological correlates of HIV/AIDS care involvement among nurses in Botswana

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**This analysis explores the correlates of HIV/AIDS care involvement among nurses in a healthcare system (Botswana) that is severely impacted by the AIDS epidemic. It identifies the antecedents and consequences of recent HIV/AIDS nursing care participation in Botswana and develops testable hypotheses for further study. In 2009 a self-administered questionnaire on nursing practice and related issues was completed by 201 nurses working in different types of facilities in rural and urban areas of Botswana. Nurses who were citizens of Botswana, degree holders, and highly qualified professionals (midwives and specialists) were more engaged in providing HIV/AIDS clinical services. Also, caregivers who had greater participation in maternal and child healthcare duties, or those who felt they were competent to provide care and treatment for patients with HIV illness were more involved. There were also several psychological/mental health correlates. The analyses suggest that HIV/AIDS care in Botswana is mostly provided by highly educated and specialized nurses who because of the complex and often conflicting work demands placed upon them experience stress related to their work flow and scheduling.**

**Key words:** HIV/AIDS, nurses, healthcare, psychological outcome, Botswana.

## INTRODUCTION

### The problem

Despite the many strengths of its well-developed, nurse-based health services and prosperous economy, at the beginning of the new millennium Botswana was experiencing one of the world's worst HIV/AIDS epidemics. HIV prevalence for adults was reported to be 38.6% in 2001 (Government of Botswana, 2001). Over the next decade, the Botswana Ministry of Health undertook many effective initiatives to address the AIDS crisis, including the prevention of mother to child transmission (PMCT), the provision of anti-retroviral therapy (ARV), prevention education (PE), and community-based home care (CHBC) (Botswana Ministry of Health, 2009). These broad initiatives have resulted in many successes: healthcare is free for children and all

citizens are encouraged to get tested in public clinics. Mothers receive free treatment in clinics so they are far less likely to pass the virus on to their newborns. There is ample counseling and HIV tests are ready in 20 min. If an HIV positive patient has a CD4 count below 200 they are given free antiretroviral drugs (UNICEF, 2009). These healthcare programmatic innovations in response to pressures from outside events, the world-wide AIDS pandemic, are consistent with the generalization of Edwards and Roemer (1996) that external factors often drive change in healthcare systems

As a result of these new or expanded programs, the HIV infection rate has declined significantly and continues to fall among citizens of Botswana. Recent data shows that 31.8% of women attending antenatal care clinics, and 17.6% of the general population are infected with HIV-1 (Botswana Ministry of Health, 2009; National AIDS Coordinating Agency, 2008). Yet, as with other countries of Southern Africa, Botswana continues to have a generalized epidemic which for the foreseeable future will

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present a challenge to its healthcare system. Nurses and other clinical service providers must constantly treat HIV symptoms and AIDS related illnesses, while also giving other required care (Government of Botswana, 2010). This health service organization trend is congruent with the observations of Pettigrew and Whipp (1991) that organizational change is a complex process involving several unspecified variables.

The United Nations Programme on HIV/AIDS (UNAIDS, 2000) has long recognized the burden of AIDS patient care for nurses and other healthcare professionals. They developed a list of psychological, behavioral and physical symptoms of stress observed in these caregivers living in developing nations which include: depression and loss of self-esteem, withdrawal from clients and excessive fatigue. In Botswana, the Ministry of Health (2003) reported similar outcomes of AIDS care involvement in many of its nursing personnel and other healthcare professionals. They concluded that the caregiver soon discovers that HIV/AIDS carries a stigma for both the infected and uninfected caregivers. The caregiver is viewed as having AIDS and is rejected and sometimes isolated.

## Purpose

The dominance of nurses in the Botswana health service is extensively documented and recognized (Fako et al 2004). In view of their relative number and the referral pattern of the Botswana Primary Health Care system, nurses play a key role in the delivery of the health care (including HIV/AIDS care) and services (Government of Botswana, 2010). In many rural health facilities, such as clinics and health posts, the first contact person, and often the only one responsible for HIV/AIDS preventative, counseling, curative and home based health services, is a nurse. Even the decision to refer a patient to other specialized health care workers or a service is the responsibility of a nurse. Therefore, to best utilize existing nurses and to most effectively train nurses to meet the continuing challenge of HIV/AIDS, it is important that we know the personal/professional characteristics and outcomes associated with their current care involvement.

This analysis explores the correlates of HIV/AIDS care involvement among nurses in a healthcare system (Botswana) that is severely impacted by the epidemic. It identifies the antecedents and consequences of HIV/AIDS nursing care participation in Botswana and develops testable hypotheses for further study.

## METHODS

### Sample and data collection

The data for this study were collected in 2009 as part of a national survey of nurses in Botswana. The questionnaire for the survey was developed in consultation with nurses, nurse educators and

administrators, officials of the Ministry of Health, and representatives of international health organizations in Botswana. Factors that have been found in the literature (that is, HIV/AIDS care involvement) to impact work related issues such as performance; job satisfaction, stress etc. were included in the questionnaire. The target population included all nurses working in health posts and clinics with and without maternity wards, run by the Ministry of Local Government in Botswana. All clinics within each health region were targeted and a sample of questionnaires administered. To maintain confidentiality and in view of the full schedules maintained by nurses, the questionnaires were delivered to nurses for self completion and later collection. Questionnaires were given to 201 nurses. Of these, all returned their questionnaires, and 201 responded to the questionnaire item relating to frequency of HIV/AIDS care involvement.

Overall, this group of nursing professionals was relatively young and well educated. Seventy-two percent were under 40 years of age, 43% had degrees, and 36% were midwives or specialists. The majority, 61% had dependent children; however, most of them, 52% were neither married nor cohabitating.

### Measurement

Frequency of HIV/AIDS care involvement is measured by a single item which asks respondents how often they work with patients with HIV-related illness in their daily work. Coping strategies are assessed by a battery of nine items which indicate ways that individuals cope with life in general. They include: going on holiday; exercising; staying away from work; maintaining a healthy diet; working extra time; writing daily plans; taking food supplements; responding to emails; and testing for HIV. Work-environment stress is ascertained by a group of 13 questions which tap the following stress dimensions: role demand; supervisor conflicts; loss of job control; excessive workload; patient overload; patient family conflicts; patient death; unclear job description; clinical change; occupational dissatisfaction; shift work difficulties; work-home conflict; and family problems. HIV/AIDS care competence is a self assessment.

### Data analysis

All variables included in the analyses were categorical or converted into a categorical format. Respondents who reported that they worked with HIV/AIDS patients half of the time, or less, received a 1 and were placed in the "infrequent care" group, while those who said that they cared for these patients almost everyday, or everyday, received a 2 and were placed in the "frequent care" group. This approach enabled contingency table analysis and chi-square tests of association and independence to investigate the nature and strength of associations between HIV/AIDS patient care involvement and antecedent and outcome variables (Bohrnstedt and Knoke, 1994). Bivariate analyses were completed to investigate whether and how HIV/AIDS patient care among nurses was related to (1) professional and demographic, (2) social and behavioral, and (3) mental and physical health factors.

## RESULTS

Table 1 is a cross-tabulation of the percentage of nurses involved in HIV/AIDS care by variables that are significantly associated with involvement. Chi-square test results of these significant relationships are shown in Table 2.

**Table 1.** Percentage of nurses involved in HIV/AIDS care by factors significantly associated with involvement.

Questions	Variable	Frequency of providing care to HIV/AIDS patients		
		% Frequent	% Infrequent	Total number
Are you a citizen of Botswana or a citizen of another country?	1 Citizen of Botswana	67.8	32.2	171
	2 Citizen of another country	42.3	57.7	26
Highest level of educational achievement	1 Degree	73.3	26.7	86
	2 Diploma	59.1	40.9	115
Nursing qualification	1 Midwife	76.2	23.8	42
	2 Registered nurse	59.8	40.2	117
	3 Specialist nurse	80.0	20.0	30
Role demand stressor	0 Low	59.5	40.5	131
	1 High	74.2	25.8	66
Control stressor	0 Low	55.7	44.3	79
	1 High	70.3	29.7	118
Shift work stressor	0 Low	58.2	41.8	98
	1 High	71.7	28.3	99
Taking food supplements	0 Not often	56.9	43.1	109
	1 Often	75.8	24.2	91
Frequency of MCH duties	0 Not often	45.8	54.2	72
	1 Often	77.0	23.0	126
Feel competent to provide care and treatment for patients with HIV/AIDS	0 Do not feel competent	36.8	63.2	19
	1 Feel competent	67.6	32.4	179

**Table 2.** Chi-squared test results of factors that are significantly associated with nurses' involvement in HIV/AIDS care.

Factor	Chi-squared	df	Significance
1 Are you a citizen of Botswana or a citizen of another country?	6.421	1	0.011
2 Highest level of educational achievement	4.325	1	0.038
3 Nursing qualification	6.576	2	0.037
4 Role demand stressor	4.140	1	0.042
5 Control stressor	4.429	1	0.035
6 Shift work stressor	3.976	1	0.046
7 Taking food supplements	7.876	1	0.005
8 Frequency of MCH duties	19.718	1	0.000
9 Feel competent to provide care and treatment for patients with HIV/AIDS	7.109	1	0.008

Nurses who were citizens of Botswana, degree holders, and highly qualified professionals (e.g. midwives and specialists) were more engaged in providing HIV/AIDS clinical services. Also, caregivers who had greater participation in maternal and child healthcare duties, or those who felt they were competent to provide care and treatment for patients with HIV-related illness were more

involved.

There were also several psychological/mental health correlates. Nurses who experienced high levels of control over their work (that is, those who had a high ability to decide how to do their work); clinicians who were frequently asked to do things that were hard to combine at work (i.e. those who had high role-demand stress); or

caregivers who experienced high levels of stress due to working different shifts from time to time (that is, high levels of shift-related stress in the workplace) were more likely to frequently provide care to clients with HIV/AIDS. In addition, nurses who tried to enhance their coping resources by taking food supplements participated more in the treatment of HIV/AIDS illness.

Finally, it is noteworthy that frequency of providing care to HIV/AIDS patients is not related to reported stress from supervisors, workload, patients, patient families, death of a patient, clarity of duties, change, work-home conflicts, their own families or various other strategies for coping with everyday life. These results are contrary to the conclusions of Stuart (1995, 1996) that organizational change is often experienced as a profound, multi-faceted trauma by most employees.

## DISCUSSION AND CONCLUSION

The preliminary analysis suggests several testable hypotheses:

*“HIV/AIDS care in Botswana is mostly provided by highly educated and specialized nurses who because of the complex and often conflicting work demands placed upon them experience stress related to their work flow and scheduling. However, because they are employed in a modern, well-developed healthcare system which is relatively well-staffed and resourced the stress resulting from the burden of HIV-illness care demands and additional non HIV/AIDS responsibilities does not affect other areas of their work or home life. Consequently, they do not have to innovate new strategies to cope with everyday life.”*

These hypotheses should be addressed in a case study of Botswana nurses working in the national health network. Nurses will be interviewed regarding their HIV/AIDS care involvement and professional and demographic, social and behavioral and mental health and physical health factors. Since patients with HIV/AIDS access all units of the Botswana healthcare system, nurses will be interviewed in mobile stops, health posts, clinics and hospitals. Furthermore, data on the organizational characteristics of those units, e.g. patient load, staffing, facility size, medical equipment and supplies, and computer and cell phone network linkages will be gathered.

Primary health care services in Botswana are provided through a predominantly nurse staffed and run network of 243 clinics, 340 health posts, and 810 mobile stops. Patients, if need be, are referred from this healthcare system to a public health facility system consisting of 3 referral hospitals, 6 district hospitals, and 16 primary hospitals---all of which are fully staffed with a wide range of nurses and other specialists (Government of Botswana, 2010). During the recent National

Development Plan, no. 8, the Ministry of Health trained 2060 RNs and 361 midwives, in addition to over 115 nurses in other hard to recruit specialties (Government of Botswana, 2006). They took positions in an already robust healthcare system which serves a small national population (1.7 million) and is at the top of the standard of care provided by developing countries around the globe.

Working in such a well resourced system, nurses are less likely to experience the physical exhaustion, professional burnout, and stigmatization that formerly was associated with HIV/AIDS care (UNAIDS, 2000). Furthermore, Botswana may be uniquely positioned because of its nationwide HIV/AIDS testing, counseling and anti-retroviral treatment programs to more effectively address its epidemic through the test and treat approach (Dieffenbach and Fauci, 2009). This methodology has been shown to significantly reduce new infections in communities, (Vermund, 2011) which is the first step toward the elimination of nationwide epidemics.

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