Research Article

The impact of caring for persons living with HIV and AIDS on the mental health of nurses in the Limpopo Province

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Keywords:
AIDS Impact Scale (AIS), burnout among nurses, depression, HIV and AIDS impact, nurses

Abstract: Curationis 31(2): 67-73

This study assessed the impact of caring for AIDS sufferers on the mental health of nurses. This assessment was measured against the level of burnout, stress and depression among 174 nurses caring for people living with HIV and AIDS in Limpopo Province, South Africa. A structured questionnaire was used for data collection. The questionnaire incorporated the AIDS Impact Scale (AIS), Maslach Burnout Inventory (MBI), Beck Depression Inventory (BDI) and the participants' demographic and professional profiles. Participants were conveniently selected from five selected hospitals in Limpopo Province. The study participants' valuation using the AIS showed that nurses tended to develop strong bonds and relationships with the patients; felt frustrated by their inability to help the terminally ill AIDS sufferers and were subsequently affected by the death of their patients. Personal accomplishments of the nurses remained high and the levels of emotional exhaustion and depersonalization levels were low. The BDI showed that over 3 out of 4 nurses were experiencing between mild mood disturbance and extreme depression. Higher average scores were noted for items of the depression scale like sadness, dissatisfaction, fatigue and low level of energy. The findings highlight the need to develop psychological support programmes for nurses caring for AIDS patients and promote the provision of social incentives and recognition of the role of nurses in AIDS care.

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Introduction and Background

The growing demand for health services as a result of the AIDS epidemic exacerbates the strain on Africa's limited health workforce (WHO, 2006: 5; Marchal, 2005: 301). Caring for AIDS sufferers and their evolving health needs come with occupational risks of infection and the need for more training and support. Efforts to address these concerns have often been inadequate. This is despite the fact that these factors lead to increased emotional and physical stress for nurses caring for HIV-infected persons (Marchal, 2005: 301). Research studies in other places have shown that caring for persons living with HIV and AIDS (PLWHA) results in burnout and high level of stress among nurses. This occurrence is known to be situation and consequent on the time spent in caring for PLWHAs, level of institutional support and the intensity of related care in developed countries (Li, Lin, Wu, Wu, Rotheram-Borus, Detels & Jia, 2007: 262). In spite of this knowledge, there is limited information on the impact of caring for PLWHA on the wellbeing of South African nurses and this is despite of the country's high HIV and AIDS burden

which averages about 18.3% among persons aged 15-49 years (UNAIDS, 2006: 17).

It is also known that more than 50% of hospital beds in the sub-Saharan Africa are occupied by people with HIV-related conditions (UNAIDS, 2006: 95).). In addition, PLWHAs generally stay in hospital four times longer than other patients. South Africa accounts for a substantial proportion of PLWHA worldwide (±14%), with its estimated 5.5 million PLWHA in 2005 (UNAIDS, 2006: 17). It was also reported that 346 000 people died of AIDS-related illnesses in South Africa in 2005 alone, translating to about 900 deaths daily (Dorrington, Johnson, Bradshaw & Daniel, 2006:11). Statistics revealed that Limpopo Province a total of 397 000 PLWHAs (Dorrington, et al 2006: 67). Nurses are a critical part of these events either in terms of the workload of providing care, preparing PLWHA for a peaceful death or communicating with and consoling grieving family members.

This study looked at the interplay of the above experiences on the mental health of nurses in the Limpopo Province of South Africa. Limpopo is one of the most rural provinces in South Africa and this is a major cause of attrition of health workers due to urban-rural migration which further strains the limited workforce (WHO, 2006: 5). A study conducted on the nurses' experiences of delivering voluntary counseling and testing services for people with HIV/ AIDS in the Vhembe District of Limpopo Province revealed the following:

- that they lacked adequate resources, including human and material, to render effective voluntary counseling and testing (VCT) services
- emotional drain associated with stress and burnout, and
- frustration due to setbacks in the VCT programme related to certain practices and behaviours of community members and clients (Mavhandu-Mudzusi, Netshandama & Maselesele, 2007: 255).

Several researchers have measured the impact of HIV and AIDS on nurses in other places, most of which are socio-culturally and epidemiologically different from South Africa (Li et al., 2007: 259; Bennett, Ross & Sunderland 1996: 145; Visintini, Campanini, Fossati, Bagnato, Novella & Maffei, 1996:185). These individuals have relied on the AIDS Impact Scale (AIS) developed by Bennett, Kelaher and Ross, (1991, 1994) and Bennett et al. (1996:145) as well as the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981) in their efforts to measure the impact of HIV and AIDS on the mental health of health care workers. These instruments have been validated and found reliable in various cultural settings (Visintini et al., 1996: 188; Ergin 1992: 150). The MBI measures the endurance to work performance and exhaustion in service delivery in relation to level of stress in the workplace while the AIS assess the various implications of HIV and AIDS care for health care workers. Using these instruments, this study assessed the impact of caring for PLWHA on the mental health of nurses in public health facilities in the Limpopo Province.

Research design and method

The study was a cross-sectional study. A structured questionnaire was used for data collection. The questionnaire incorporated the MBI, AIS, Beck Depression Inventory (BDI), participants' demographic and professional profiles in the measurement. AIS is a self administered scale which is composed of 28 items and used a five point Likert scale (strongly agree to strongly disagree); grouped in five scales, namely: Stigma and discrimination, Peer relationship, Identification with patients, Social reward, Grief and loss (Visintini, et al. 1996). This study polarized the responses to the AIS items into 'never' and 'agree' in an attempt to categorize the respondents into the two broad categories instead of using a 5 point Likert scale.

The MBI has 20 items divided into three scales, namely personal accomplishment, emotional exhaustion and depersonalisation to explore burnout levels. The BDI is a 21 item tool that measures the level of depression. Participants' aggregate scores on the BDI are rated from normal to extreme depression.

The participating nurses were conveniently selected from five referral hospitals in Limpopo Province. The choice of convenient sampling was necessitated by the difficulty of co-opting randomly selected nurses to participate in the study amidst their heavy patient workloads. One referral hospital was randomly selected from each of the five districts of Limpopo Province. The study targeted all nursing cadres (including professional, enrolled and auxiliary nurses) in the Limpopo Province. A total of 174 nurses participated in the study out of the 1687 nurses employed in the Limpopo Province. To allow for comparison, efforts were made to obtain similar number of professional, auxiliary and enrolled nurses.
Ethical clearance was obtained from the

Table 1: Demographic characteristics

Variable	Attributes	Frequency	Percent
Sex (N = 127)	Male Female	10 117	8% 92%
Age (N = 127)	20 to 29 years old 30 to 39 years old 40 years old and older	26 51 49	21% 41% 38%
Years of experience (N = 105)	0 to 1 year 2 to 4 years 5 to 9 years 10 years +	25 34 13 33	24% 32% 12% 31%
Qualification (N = 119)	Qualified nurse Persons without professional nursing training	61 58	51% 49%

University of Venda. The Limpopo Provincial Department of Health and Social Development gave permission for the study to be conducted at the hospitals. Participants were assured of confidentiality and anonymity, and those who volunteered to participate were requested to sign an informed consent form. Data analysis was done, using the Statistical Package for Social Sciences (SPSS) version 15 for Windows. Frequency tables were mostly used to describe the variables considered in this study; means and standard deviations were used to describe the distribution of the variables being considered. Chi-square and t tests were performed to compare the frequency of respondents to and average scores of the variables.

Results

Demographic characteristics of participants

The sample comprised of 174 nurses, with similar proportions of qualified professional nurses (51%) and the auxiliary and enrolled nurses (49%) without professional nursing training (Table 1). The participants were mostly females (92%) and the average age of the participants was 37 years (SD = 9.2, Table 1). One out of the three participants had been working as a nurse for 2 to 4 years and over 10 years respectively (Table 1). The average years of experience was 7 years (SD = 7) and ranged from less than 1 year to 32 years of experience.

The impact of working with HIV and AIDS patients on nurses

The 28 items of the AIS had a Cronbach's alpha of 0.78 (this a measure of the reliability of the instrument and

Table 2: Measures of the impact of AIDS

Question	Never	Agree
Seeing my patients suffer and die is very difficult	11%	89%
When I look at my patients I think I'll end up like that	37%	63%
I feel the distress that my patients are going through	14%	86%
I am highly regarded by my friends due to my work in the AIDS unit	40%	60%
I am working in this area due to my involvement in Home-Based Care	55%	45%
I identify strongly with my patients	11%	89%
I have trouble coping with the number of deaths on the unit	27%	73%
I have had to deal with my losses due to AIDS	21%	79%
I feel helpless watching a patient suffer in the final stages of his illness	17%	83%
I think it is important for the community to help combat problems associated with AIDS	11%	89%
I have a lot in common with my patients	30%	70%
My friends recognise that my work in the area of AIDS is a valuable contribution to society	28%	72%
People move away from me at social functions if they hear that I work in the area of AIDS	64%	36%
I become friends with many of my patients and suffer when they die	19%	81%
I am rewarded by my patients' gratitude for the work I do	19%	81%
I feel a responsibility to help deal with the impact of AIDS in our society	17%	83%
Some friends have had less contact with me since I started working with AIDS patients	71%	29%
I receive status and recognition due to my involvement in the area of AIDS	48%	52%
My family is unhappy that I am working in the areas of AIDS	67%	33%
I suffer stigma/discrimination outside of work due to the area in which I work	68%	32%
AIDS is mainly a sexual immoral disease	43%	57%
I receive support from my peers due to my involvement in the AIDS unit	30%	70%
There are many aspects of my patients' lives that remind me of my own	32%	68%
I am grieving for the loss of patients' lives due to AIDS	17%	83%
My friends encouraged me to apply for this job in the area of AIDS	45%	55%
I suffer stigma/discrimination from other staff at the hospital due to the unit in which I work	60%	40%
I feel guilty when I have to say 'no' to a person who has AIDS and needs help	24%	76%
I feel powerless because no matter what I do my patients with AIDS will die	39%	61%

Table 3: Measures of depression

Items	Frequency	Mean	S.D.
Sadness	133	1.61	1.218
Pessimism	111	.88	.960
Sense of failure	132	1.48	1.245
Dissatisfaction	128	1.54	1.235
Guilt	133	1.17	1.268
Expectation of punishment	133	.78	1.110
Dislike of self	134	1.05	1.210
Self Accusation	129	1.00	1.179
Suicide ideation	131	.89	1.211
Episodes of crying	129	1.49	1.187
Irritability	132	1.30	1.223
Social withdrawal	127	1.34	1.203
Indecisiveness	121	1.13	1.176
Change in body image	129	1.31	1.267
Retardation	130	.93	1.240
Insomnia	131	1.52	1.291
Fatigability	128	1.58	1.277
Loss of appetite	131	1.33	1.315
Loss of weight	131	1.24	1.306
Somatic preoccupation	127	1.22	1.181
Low level of energy	131	1.56	1.284

instruments with a reliability of 0.70 and over are considered to be reliable). One-third of the participants reported that they were being stigmatised and discriminated against by their friends and other health-care workers because they worked in units that care for HIV and AIDS patients (Table 2). However, half of the participants reported receiving some form of normative support, encouragement and recognition from their friends for their involvement in HIV and AIDS care.

Out of the 28 items, 4 items showed significant differences between the number of professional nurses and the number of nursing staff without professional training that agreed or never experienced the respective items.

- A significantly higher proportion of nurses without professional training agreed to identify strongly with patients when compared to the proportion of qualified nurses that agreed ($p = 0.037$; $X^2 = 4.355$).
- A higher proportion of qualified nurses agreed that they had trouble coping with the number of deaths ($p = 0.045$; $X^2 = 4.031$).
- More qualified nurses agreed that their friends recognized that the work they are doing in the area of HIV is valuable ($p = 0.005$; $X^2 = 8.028$).
- More nurses without professional nursing training agreed that they suffered sigma/discrimination from other staff at the hospital due to the unit in which they work ($p = 0.039$; $X^2 = 4.242$).

Two-thirds (63%) of the nurses felt that they would end up like their patients and that they had a lot in common with the patients (70%) and that many aspects of the patients' lives reminded them of their own (68%) (Table 2). The majority of the nurses (>80%) reported that they formed good friendships with their patients with HIV and felt a responsibility to help deal with the impact of AIDS on society respectively. Similar proportions noted that they were distressed by the difficulties faced by PLWHA in their care. A high proportion (89%) of nurses agreed that seeing patients suffer and die was very difficult for them and that they had difficulty coping with the number of deaths in their units and this made them feel powerless because no matter what kind of care they offered, the patients would still die (Table 2).

Measure of depression among nurses

Using the 21-item Beck Depression Inventory with a scale of 0 to 3, a Cronbach's Alpha of 0.96 was obtained and the mean total score was 26.70 (SD = 20.25). The scores ranged from 0 to 63. Sadness had the highest mean score (1.61) followed by fatigability (1.58), low level of energy (1.56) and insomnia (1.52). Expectation of punishment (0.78), pessimism (0.88) and ideation of suicide (0.89) had the lowest mean scores (Table 3). There was no significant difference between mean scores of professional

Table 4: Level of depression

Level of depression (range of score)	Frequency	Percent
Normal (1 to 10)	16	23.0%
Mild mood disturbance (11 to 16)	9	13.0%
Borderline clinical depression (17 to 20)	6	8.5%
Moderate depression (21 to 30)	6	8.5%
Severe depression (31 to 40)	9	13.0%
Extreme depression (Over 40)	24	34.0%

Table 5: Measures of burnout

	Frequency						
	0	1	2	3	4	5	6
Items of personal accomplishment							
I can easily understand how my recipients feel about things	13%	14%	12%	19%	12%	6%	23%
I deal very effectively with the problems of my recipients	17%	12%	14%	12%	10%	13%	23%
I feel I am positively influencing other people's lives through my work 36%	19%	10%	10%	7%	7%	12%	36%
I can easily create a relaxed atmosphere with my recipients	21%	10%	10%	13%	7%	7%	31%
I feel exhilarated after working closely with my recipients	32%	11%	12%	13%	8%	11%	15%
I have accomplished many worthwhile journeys in the job	28%	16%	9%	13%	8%	8%	19%
In my work I will deal with emotional problems very calmly	18%	14%	9%	7%	5%	12%	35%
Items of emotional exhaustion							
I feel emotionally drained by my work	31%	16%	10%	13%	7%	9%	13%
I feel used up at the end of the day	38%	13%	12%	5%	8%	11%	14%
I feel fatigued when I get up in the morning and have to face another day on the job	32%	18%	8%	10%	12%	7%	13%
Working with people all day is really a strain for me	50%	14%	8%	8%	6%	5%	8%
I feel burned out from my work	43%	16%	2%	11%	6%	7%	15%
I feel frustrated about my job	49%	14%	8%	9%	6%	5%	9%
I feel I am working too hard on my job	28%	13%	11%	7%	5%	8%	28%
I feel as if I'm at the end of my rope	54%	10%	9%	6%	6%	6%	8%
Items of depersonalization							
I feel I treat some recipients as if they were impersonal objects	48%	16%	8%	6%	7%	4%	11%
I've become more callous towards people since I took this job	36%	14%	5%	11%	8%	12%	14%
I worry that this job is hardening me emotionally	45%	7%	8%	12%	5%	8%	15%
I don't really care what happens to some recipients	62%	8%	9%	6%	7%	2%	5%
I feel recipients blame me for some of their problems	51%	18%	8%	5%	7%	4%	7%

0: never; 1: a few times a year or less; 2: once a month or less; 3 A few times a month; 4: once a week; 5: a few times a week; 6: every day

nurses and nurses without professional training across all the 21 items of the BDI. Categorising the total scores into the different levels of depression showed that 34% of the 70 nurses who responded to all of the 21 items suffered extreme depression and 55% of them suffered from moderate to extreme depression (Table 4). The average aggregate BDI scores of nurses without professional nursing training (30.25) was significantly higher than that of the professional nurses (14.82) ($p = 0.001$). This means that nurses without professional nursing training reported higher levels of depression when compared to the professionally trained nurses.

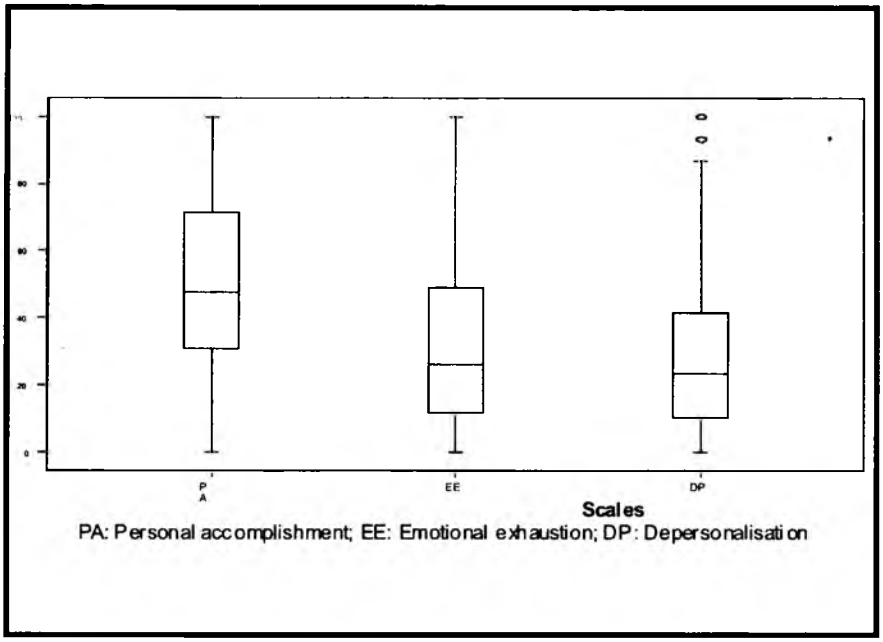
Burnout among nurses

The 20 MBI items were categorised under personal accomplishment (Cronbach's Alpha = 0.84), emotional exhaustion (Cronbach's Alpha = 0.86) and depersonalisation (Cronbach's Alpha = 0.78). With regards to personal accomplishment, about one-third of the study participants felt they dealt with emotional problems calmly, positively influencing other people with their work and could create a relaxed atmosphere with their recipients on a daily basis. On the other hand, over one-quarter of participants noted that they never felt exhilarated after working closely with patients and never felt that they had accomplished any worthwhile journeys in their jobs (Table 5).

It can also be observed from Table 5, that the majority of the participants reported very low frequencies of measures of emotional exhaustion except for the item on how often they felt they were working too hard. Of the participants, 28% (n= 49) felt they were working too hard on a daily basis (Table 5).

High proportions of the study participants never experienced feelings of depersonalization feelings, such as not caring about what happened to patients (62%), feeling that patients blamed them for their problems (51%) and feeling that they treated some patients like impersonal objects (48%) (Table 5). On the other hand, 1 in 10 nurses reported that on a daily basis, they felt as if they treated patients as impersonal objects, felt as if they had become more callous towards people since they took the job and

Figure 1: Scores on Maslach Burnout Inventory scales in percentage



PA: Personal accomplishment; EE: Emotional exhaustion; DP: Depersonalisation

worried that their job was hardening them (Table 5).

The mean values expressed as a percentage for personal accomplishment, emotional exhaustion and depersonalisation were 52%, 33% and 29% respectively. According to Figure I, 75% of the participants scored below 72%, 50% and 42% in personal accomplishment, emotional exhaustion and depersonalisation respectively.

Conclusions and recommendations

This study highlights the resilience of nurses in the fight against the AIDS epidemic. This is evident despite the high HIV and AIDS burden in South Africa, staff shortages, heavy workload and human and material resource inadequacies (Maluleke et al, 2006: 33, Mavhandu-Mudzusi et al, 2007: 254).

This study revealed that one out of three nurses experienced extreme depression while two out of three nurses had between borderline clinical depression and extreme depression. Higher measures of sadness, fatigue and low energy was noted among the nurses. Chandra et al (2004: 48) remarked that psychological disturbances among health care providers may lead to suboptimal quality of care. This situation could compromise the quality of survival of HIV-infected persons and may exacerbate the risk of work-related injuries including the risk of HIV infection among health workers (Li et al, 2007: 258).

The study showed that high proportions of nurses formed good friendships with their patients, and felt responsible for dealing with the impact of AIDS in the society. In addition most of the nurses reported that watching patients suffer and die and being unable to help was very difficult for them. Visintini et al. (1996: 185) added that this scenario presents a complexity of feelings could lead to a high risk of burnout among nurses and discourage future relationship with other patients. Visintini et al. (1996: 192) added that empathetic relationships with patients could be protective against burnout and this study showed the high levels of empathy reportedly shown by nurses to AIDS patients (Table 2).

Despite the widely reported high level of depression among the study participants, personal accomplishment remained high while emotional exhaustion, depersonalization and burnout were notably lower (Figure I). Contrary to this finding, Chandra et al (2004: 52) noted high levels of burnout, emotional exhaustion and depersonalization among Indian nurses caring for AIDS suffers. These differences may be explained by suggestions that burnout among health care workers is situational and driven the balance between stressors and rewards (Bennett et al, 1996: 148; Visintini et al, 1996: 191). In this regard, this study reported high levels of markers of social rewards, recognition and positive peer relationships (Table 2). This interplay may explain the significantly higher level of burnout noted among nurses without professional training who were also receiving lesser social and organisational rewards and with higher reports of stigmatization by peers when compared to the level of depression, rewards and stigmatization reported by professionally trained nurses caring for AIDS patients.

Against the findings of this study Li et al (2007: 258) added that meeting the health care needs of persons living with HIV and AIDS is dependent on the wellbeing of health care workers and hence the need to develop measure to ensure the mental and physical integrity of health care workers. In this regard, Visintini et al, (1996: 192-3) put forward four key recommendations to prevent burnout among health care workers and include: the careful selection of nurses to work in burnout prone areas; provision of specialized training on relationships; development of functional support groups and debriefing programmes; clarification of roles, line functions, institutional support and recognition. The sensitization of workplaces to the implication of stigmatization on the quality of care provided by nurses is crucial given the negative impact of stigma on the quality of care provided by nurses (Li et al, 2007: 262). Institutional support is vital to the process of dealing with the stigmatization and creating a conducive working environment for nurses who cared for HIV-infected persons.

The study was largely based on self reports and had no control group for comparisons, it however providers a background understanding of the scale of AIDS impact, burnout and depression among nurses caring for PLWHA and sets the platform for similar research studies among South African nurses.

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