EXPERIENCES OF NURSE MANAGERS IN MANAGING A WORKFORCE WHO ARE HIV AND/OR TB INFECTED

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ABSTRACT

Managing a workforce suffering from HIV and TB leads to management and administrative issues for nurse managers to deal with. The purpose of this study is to describe the experiences in the management of a nursing workforce suffering from HIV and TB in selected hospitals in South Africa. An interpretive constructionist ethnography using qualitative research methods was used to conduct research in selected hospitals in KwaZulu-Natal, South Africa. In-depth interviews were conducted with 17 participants in 4 hospitals; the interviews were transcribed verbatim and analysed using thematic analysis. The nurse managers' descriptions lead to administrative, emotional, employee personal protection, and the burden of death as the categories which emerged from the data. A theme emerged regarding the ambivalence between making decisions which are best for the patients and those which are best for the ill nurse. The burden experienced by nurse managers needs to be understood and requires organisational support. Understanding the human resource management experiences of nurse managers managing HIV and TB-infected nurses in a workforce may guide nurse managers working in similar contexts, with a similar HIV and TB prevalence as that in Southern Africa.

Keywords: nurse manager, management, workforce, HIV, TB

INTRODUCTION AND BACKGROUND INFORMATION

Providing adequate and quality nursing care to patients is a daily challenge for nurse managers as they are expected to provide the correct number and skills mix of nurses at the correct time, at a reasonable cost (Beduz, Vincent & Pauze, 2009:5). An additional complication to human resource management in sub-Saharan Africa is the inclusion

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of employees who are HIV and TB-infected in the workforce (Dambisya, Modipa & Nyazema, 2009:22).

In sub-Saharan Africa, HIV and TB-infected nurses provide care to patients (Uebel, Nash, & Avalos, 2007:501). This phenomenon is a consequence of the improved availability of antiretroviral treatment, which governments provide. HIV and TB infections have an impact on the absenteeism of infected nurses. Tawfik and Kinoti (2006:4) report that health care worker absenteeism can be as high as 34 percent. Nurse managers may not discriminate against employees by terminating the employment of employees who are ill and not performing (International Labour Organisation, 2010:7), but are required to support and allow such employees to continue working and be as productive as possible until they are medically unable to continue to work (International Labour Organisation, 2010:1). In order to prevent nurses contracting TB, those whose immune systems are compromised should not be placed to work in TB wards (Tawfik & Kinoti, 2006:8). An immune-compromised nurse's health can be seriously affected by TB-infected patients, however, if a nurse has TB she could also infect immune-compromised patients (Kompala, Shenoi & Friedland, 2013:4). When there are nurses in the workforce who are sick for prolonged periods of time, the nurses who are healthy are forced to take up the workload, resulting in burdening healthy nurses, which leads to employee burnout (Peterson, 2008:37). Prolonged absences by nurses due to their HIV and TB status affects the work of the nurse manager as he or she spends many hours sourcing replacement staff within the hospital or telephoning locum staff or off-duty staff to come to work (McIntosh & Stellenberg, 2009:19).

Absenteeism is costly to the country, companies and individuals. Employees are responsible for managing their own sick leave responsibly (DPSA, 2012:23). There are policies within the state health service in South Africa which serve as guides for the management of absenteeism in the workplace and the processes to be followed for employees who are incapacitated due to illness. The Public Service Amendment Act, no 30 of 2007, makes provision for the termination of services of employees who are persistently ill (ss2.6.1.8.) and specifies that supervisors monitor the time taken to process sick leave, incapacity leave applications and the management of incapacity leave applications of deceased employees (DPSA, 2012:11). South Africa has a policy for incapacity leave and ill health retirement (DPSA, 2009) that defines incapacity as an illness and permanent ill health as a situation where it becomes evident that an employee will be unable to return to work as a consequence of his or her incapacity.

In Lesotho, Mozambique, Malawi and Zambia, studies have shown that health care workers die primarily due to HIV-related causes (Dieleman et al, 2007:144). It has also been shown that nurses who are HIV infected and may be co-infected with TB have a higher risk of death (Uebel, Friedland, Pawinski & Holst, 2004:424–425). State hospitals provide occupational health care for ill employees, however survival is dependent on

their willingness to disclose their status, be tested and access treatment at work or external to the work environment (Adeleke, 2013:200).-

STATEMENT OF THE RESEARCH PROBLEM

In South Africa, absenteeism by HIV-infected health care workers can be as high as 34 percent (Tawfik & Kinoti, 2006:4; Chaudhury, Hammer, Kremer, Muralidharan & Rogers, 2006:95) and TB is the leading cause of death among those infected with HIV (UNAIDS, 2013:67). The dilemma that faces nurse managers is that they cannot discriminate against nurses because of their HIV or TB status (Employment Equity Act no 55 of 1998; Department of Labour, 2006:2). Employers are required to support HIV-infected employees to continue to work in their current position until they are medically unable to do so. HIV-positive people have the right to privacy, which includes their status, and are not legally bound to disclose their disease status to their employer or coworkers (Constitution of South Africa). Nurse managers are accountable for providing safe, quality care, while at the same time looking after the interests of both the employee and the employer. However, this is difficult in situations where the nurses have been newly diagnosed with HIV and have low CD4 counts and/or TB. Such nurses should be protected from infectious diseases in the work environment.

DEFINITION OF CONCEPTS

In the context of this study, the following concepts are defined as follows:

- Nurse manager, a nurse specialist who plans the staffing provision for a nursing service.
- Management relates to the human resource planning, monitoring and control of nurses.
- Workforce relates to the total complement of nurses available to care for patients.
- Nurses may be HIV and/or TB-infected or co-infected with either of these diseases.

PURPOSE OF THE STUDY

The purpose of the study was to describe the experiences of nurse managers in managing a workforce in which there are nurses who are HIV and/or TB infected.

RESEARCH QUESTIONS

The research question was: How do nurse managers experience managing employees once they are aware that a nurse is ill? The lack of research in this area and the researcher's experience led to this study.

RESEARCH METHODOLOGY

A qualitative ethnographic study using an interpretive and constructionist approach was conducted (Crotty, 1998:5). The study sites were five urban hospitals in the eThekwini municipal area in KwaZulu-Natal, South Africa. Two public sector hospitals (A & D), a semi-private state-funded hospital (B) and a private hospital (C) were purposely selected to participate in the study; they were all known for their focus on HIV care.

A total of 17 participants took part in the study and these included the 4 nurse managers who plan the monthly staffing for each hospital and directly interact with ill nurses and their work placement on a daily basis. Thirteen opportunistic participants comprising three occupational health nurses, two infection control officers, three human resources (HR) managers, a safety officer and two professional nurses who assisted with staff planning as well as two representatives from a private company which advises state employers on incapacity leave, were also included. The four nurse managers were selected using purposive selection while the opportunistic participants were selected by snowballing.

Data collection took place between October 2010 and December 2012. Data were collected through in-depth individual interviews with the participants and field notes written whilst conducting the study (Hammersley & Atkinson, 2007:89). Each initial interview was commenced with the same question: 'What have been your human resources management experiences where nurses are HIV and TB infected?'

The participants were each interviewed twice and once for hospital C. Initial interviews enabled the researcher to gain entry to the sites, get to know the participants and build a rapport with them. Subsequent interviews were used to collect data for verification of previous data collected. The interviews were conducted in the workplaces of the participants by the researcher. Interviews with participants were followed by confirmatory interviews with the opportunistic participants. All these interviews lasted 30 minutes to an hour per interview. Interviews were audio recorded and transcribed verbatim.

Each nurse manager was approached by the researcher after an initial discussion with the senior nurse manager of each hospital. After the initial telephonic contact, appointments were made with the nurse managers commencing with hospital A. Once data had been collected in one hospital, the researcher then set up appointments with each of the remaining nurse managers. The opportunistic participants were selected through participant identification (Hammersley & Atkinson, 2007:38).

The field notes were made after leaving the participants once the interviews were complete, but written before leaving the research site. The field notes were used to

remind the researcher of the important events that occurred and how the participants reacted to events that occurred during interviews. They served as a place to document the researcher's own feelings and perceptions of the interviews and her possible effect on the research process through her presence in the everyday normal world of nurse managers.

During data analysis the emerging categories and themes were grounded in the data obtained from the participants. The analysis consisted of categorising the nurse managers' daily activities of HR management, their perceived priorities and concerns, how they plan and implement the HR needs, how they balance staff and quality care, and to identify what support they require. Each theme and category was checked and formulated through repeated readings of the transcripts and field notes, while searching for exceptions and similarities in the responses.

ETHICS

Ethical approval was granted by the ethics committees of the University of KwaZulu-Natal, the KwaZulu-Natal Department of Health and the respective hospitals. Neither names nor other identifying details were used to ensure confidentiality. Written consent was obtained from each participant who was informed that he or she could withdraw from the study at any time without reprisal. Data were stored electronically on a hard drive. Only the researcher had the computer password so that participant's confidentiality could be guaranteed. Data will be destroyed from the hard drive after five years.

RIGOR

Trustworthiness includes credibility, transferability, dependability and confirmability (Shenton, 2004:64–69) and was determined using the ethnographic research design. Data were collected at different times in the multiple selected hospitals and from different people in the settings. Furthermore, additional participants were identified, through 'snowballing', and interviewed as the study progressed (Shenton, 2004:65). The data obtained were confirmed or refuted through confirmatory interviews with opportunistic participants as well as participant confirmation. Credibility was ensured by prolonged engagement in the study (Shenton, 2004:65). Frequent debriefing sessions were held with the supervisors of the study so as to ensure trustworthiness of the analysis and field notes, member checks by the participants and rich descriptions (Shenton, 2004:68) all contributed to the study rigor. The study was context-based, and detailed descriptions contribute to the richness of the data and data stability (Shenton, 2004:69). Data collection continued until no new data was obtained.

DISCUSSION OF RESEARCH RESULTS

The researcher interviewed all the participants who ranged in age between 35 and 60 years. The findings highlight the nurse managers' experiences during their daily management of HIV and TB-infected nurses. The following four themes were identified: (1) administrative burden, (2) emotional burden, (3) employee personal protection, and (4) burden of death.

ADMINISTRATIVE BURDEN

Absenteeism, as a consequence of prolonged sick leave and incapacity leave, were a concern and resulted in the daily 'shuffling around of staff'. Prolonged absenteeism due to HIV and TB compounds the normal absences which occur when employees are away from work due to annual leave, ordinary sick leave, maternity leave, family responsibility leave, study leave or retirement.

> I wish, you will see my change list, because I've got about 4 professional nurses who are on long term sick leave. It's … it's really hitting on the institution because we've got few … Because besides the four that are sick, we also have those on Mat [maternity] leave. (Nursing Service Manager (NSM), hospital A)

The employer is not able to employ replacement employees in posts held by somebody else, even if he or she is absent and non-productive. This creates staff shortages: 'Two employees have been booked off work for twelve months' (field notes, hospital A).

> had a case where an employee, was, applied for permanent incapacity, it was disapproved, so you are going to have that staff member in your institution, she is going to be occupying a post while she's sick at home, and eventually the staff member will die. (field notes, hospital A)

Managing such absenteeism increases the daily workload of the nurse managers and the employees who have to take on the extra workload. Employees stay away from work on temporary disability leave for lengthy periods of time or return to work when their situation improves or they pass away.

The nurse manager often identifies an ill nurse because the nurse either requests not to work in a ward where he or she perceives his or her own health is at risk, or the nurse discloses his or her status openly.

> It depends on the illness … Maybe they have an injury or they have developed newly diagnosed TB. Usually if those staff are booked off or if they feel that a certain department is a bit too heavy for them…. So it goes back to shuffling and looking at their allocation … to see is it possible to move them (NSM, hospital B)

Managing incapacity leave results in an administrative burden for the nurse manager as they are responsible for following up on employee incapacity leave applications: 'They, via the other managers and supervisors need to do the administration, they need to do the home visits' (HR).

The HR department in the hospital has the responsibility to advise employees of the outcome of their incapacity leave application and to make the final decision. The consequence of such decision is that the nurse manager has to deal with the employee:

> in most cases incapacity leave applications are not approved as a consequence of mismanagement…. Why do you have a problem when it is a no when that is part of the whole deal that you know it is an application and it needs the employer to say yes or no. (HR)

If there is a staffing shortage, nurse managers move an employee from one unit to another to accommodate for the absence of employees. Employees are redeployed into wards where they would be most productive. When it is necessary to replace an employee altogether, the manager organises locum staff if allowed.

In the event of employees not being replaced, locums were employed by the semi-private and private hospitals. This was not an option in the state hospitals: 'So as much as we know the stipulated hours that they are supposed to be working you find that some of the staff end up doing extra overtime because of the shortage and nobody else to call' (NSM, site B).

EMOTIONAL BURDEN

On a daily basis nurse managers experience their own emotional burden while dealing with sick nurses: 'the stress factors have actually affected most of us working here' (NSM, hospital D). The nurse managers expressed their emotional burden using words such as 'it destroys me' (NSM, hospital A).

There are times when knowledge of the disease status of employees 'comes as a bomb to me'. The emotional turmoil nurse managers face in their daily staffing decisions are reflected as: 'you have this compassion for this [sic] people … feeling sorry for them' (NSM, hospital A).

Nurse managers experience conflict within themselves around the decisions they must make related to the clinical placement of HIV and TB-infected nurses and the expectations of the employer and feel that at times they have a 'fear of destroying the employee's life'.

> So you now face a challenge of you've got to have sick and well people and the well ones not always understand the fact that this one is sick because at the end of the day we all get paid. (NSM, hospital D)

EMPLOYEE PERSONAL PROTECTION

Nurse managers have to ensure compliance with occupational health and safety policies which exist to protect patients and employees: 'our very own nurses often don't look after themselves. It's a problem because then they can put other staff members at risk' (HR, hospital B).

The Occupational Health and Safety Act (no 83 of 1993) stipulates that employees use personal protective equipment in areas that are unsafe and the employer has a responsibility to ensure that employees comply: 'We encourage them to use protective clothing especially the N95 mask, so that they don't contract TB' (occupational health nurse, hospital A).

The reluctance of employees to comply with occupational health and safety policies adds to the nurse managers' burden of ensuring personal protective equipment compliance, 'last year – had twelve TB cases and this year – have got fifteen TB cases' (field notes, hospital B).

During field work, one participant failed to comply with wearing a N95 mask during ward rounds, although she asked the researcher to do so. Audits were conducted in an attempt to ensure compliance with policies which are in place. All of the hospitals sampled provided employees with N95 masks. Designated areas for the wearing of N95 masks were identified and implemented: 'and we also developed a protocol and we identify risk areas where it is mandatory to protect yourself with an N95 mask' (infection prevention control officer, hospital B).

BURDEN OF DEATH

The burden of death in a nursing service results in having to replace staff. Staff shortages are an immediate challenge which affects nurse managers and employees who are left to carry on the task of nursing.

> we have said 'no, come back to work' and the staff member comes back to work and two or three weeks down the line the staff member passes, ye [yes] I think it affects me a lot, Ja [yes] (HR, hospital A)

This study revealed that young nurses passed away because of HIV and TB. Staff replacement is not immediate and leaves a gap in the workforce. Nurse managers have

to replace the deceased employee in order to provide adequate nursing staff in units affected by the death. Added to this is the emotional burden experienced due to the death of a colleague. In all sites, employees were lost due to death. Participants told of employees who had passed away as a result of overwork. They had been studying, working normal hours and working extra hours all at the same time. These deaths exacerbate the difficult job of providing adequate quality nursing care for the patients admitted to the hospitals. Nurse managers in all the sites, organised memorial services for the deceased employee, which added to their workload and emotional burden: 'It's so busy, one of the staff died and we are having her memorial service today' (field notes, hospital A).

The common theme across all categories was that the participants discussed experiencing an ambivalence between caring for the employees and ensuring quality care once they knew that an employee was sick. Nurse managers implement HR policies, and they are expected to remain empathetic and caring toward sick employees as well as having to provide quality patient care to keep patients, their families and the employer satisfied. The ambivalence is explained as: 'we are expected to deliver service quality and care for staff. "how do they expect me to do this?"' (field notes, NSM, hospital A).

Mfusi and Steyn (2012:157,158) found that prolonged absenteeism among HIV-infected educators is a concern because the absenteeism leads to compromised service delivery. Similarly, the workload is increased for nurses who are at work, and obliged to take up the workload of those who are absent. Smit (2005:26) found that nurses caring for HIV-infected patients experienced an increased workload, because fewer nurses were caring for more patients. This supports the findings of this study where workload was found to increase when attempting to manage with fewer available nurses.

In this study, the management of employees' applications for incapacity leave was regarded as time consuming. Minnaar (2001:23) finds that HIV and management issues around this disease take up a lot of nurse managers' time. Adding to which, employees are off work in the assumption that their application will be granted for additional sick leave. Mfusi and Steyn's (2012:162–163) participants expressed frustration regarding the administration of sick leave, eg the completion of sick leave forms for sick employees. In this study, however, the nurse managers' frustration was centred on following up on sick employees and obtaining their medical certificates. Mfusi and Steyn (2012:162–163) allude to this kind of frustration whereas the participants in this study expressed the emotional effect this had on them in the form of the frustration and stress they experienced. Smit (2005:25) finds that nurses nursing HIV-infected patients were perturbed by their own emotional exhaustion. Smit (2005:26) notes fear as an emotion expressed by the participants in her study. In the current study, participants expressed that it was 'frightening' that young nurses die as a result of HIV. O'Donnell, Livingston and Bartram (2012:203) indicate that where nurse managers are involved

in investigating employee absentee behaviour requiring possible discipline, the processes involved are complicated, time consuming, laborious and stressful. A further consequence is the ambivalence of making the correct clinical placement decisions for ill employees and providing quality patient care.

Nurse managers are accountable and responsible for the protection of nurses from occupationally acquired diseases. Occupational health and safety legislation requires that employers provide employees with a safe working environment which includes personal protective equipment (World Health Organisation, 2009:15). The findings of this study indicate that nurse managers' main concern is the protection of the nursing workforce by ensuring the use of N95 masks. The nurse managers of both the state hospitals stated that there was poor employer support in facilitating the opening of windows within patient care areas and the provision of N95 masks. Kompala et al (2013:14) support improving ventilation by opening windows and the wearing of surgical masks by suspected patients, but regard wearing N95 masks as a last resort as it only protects the wearer of the mask.

Death among nurses has become a norm within the context of this study. Gandhi et al (2010:80–86) state that there is a 98 percent mortality rate among drug-resistant TB-infected individuals from an HIV-endemic area in KwaZulu-Natal. The information provided by their study is an indication that nurses who are HIV-infected and may be co-infected with TB have a higher risk of death. Not replacing deceased employees affects the quality of service delivered. When deaths are added to annual, sick, maternity, study and family responsibility leave, the effect of a single death compounds staff shortages.

Stewart, Holmes and Usher (2012:212) agree that there is ambivalence between caring and the bureaucratic administrative requirements of nurse managers' positions. They found that nurse managers experience difficulty in 'juggling' their roles of 'nurse' and 'leader' or manager (Stewart et al, 2012:224). They constantly have to balance the urgency of the care that they give to admitted patients, staff and organisational needs.

All the participants in this study mentioned workload increases for the nurse manager and the employees who carry out the work in the absence of colleagues. The participants were all concerned with the administrative burden created by incapacity leave. This may be due to ill nurses receiving antiretroviral treatment, which results in their recuperating and returning to work.

LIMITATIONS

This qualitative study was conducted in an urban district in South Africa, which was specific to the context of the study and makes the generalisation of the findings a limitation.

RECOMMENDATIONS

The researcher recommend that the study be replicated in other sub-Saharan African countries, rural districts in South Africa and countries which have a HIV and TB prevalence similar to South Africa. Employers need to be sensitised to the emotional effect of nurse managers' daily work and to the need to provide support programmes within occupational health facilities for affected nurse managers. Employers should revisit the lack of contingency plans available to nurse managers in the event of prolonged absenteeism or the death of an employee while still in service. Employers are advised to revisit the use of a relief pool or the employment of locum or agency staff. It is recommended to enhance the in-service education of nurses regarding TB infections and their control in the workplace.

CONCLUSION

The effects of the ambivalence of having to make decisions that are both best for patients and for ill nurses on nurse managers were discussed in this paper. Policy makers and health authorities can assist and support nurse managers' needs and provide for greater organisational support of this cadre of workers. Nurse managers are caught in the middle of organisational decisions for sick nurses to return to work, having to manage ill nurses infected with HIV and TB at work and preventing transmission of infections from patients to nurses and vice versa. It is envisaged that this paper will contribute to the understanding of policy makers and health authorities of the management experiences of nurse managers managing HIV and TB-infected nurses in a workforce, guide nurse managers working in similar contexts, and that it will contribute to improved support of nurse managers faced with managing such workforces.

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REFERENCES

Adeleke, O. 2013. Barriers to the implementation of tuberculosis infection control among South African healthcare workers. *South African Health Review 2012/13*. http://www.health-e.org.za/wp-content/uploads/2013/04/SAHR2012_13_lowres_1.pdf (Accessed 5 May 2014).

Beduz, M.A., Vincent, L. & Pauze, E. 2009. *Building capacity in nursing human resource planning: a resource for nursing managers* (A Toolkit). Mount Sinai Hospital, Toronto, Ontario. http://www.mountsinai.on.ca/nursing/building-capacity#sthash.BTSa3vvM.pdf (Accessed 29 January 2015).

Crotty, M. 1998. *The foundations of social research: meaning and perspective in the research process*. London: Sage, 1–248.

Chaudhury, N. Hammer, J., Kremer, M., Muralidharan, K. & Rogers, F.H. 2006. Missing in action: teacher and health worker absence in developing countries. *The Journal of Economic Perspectives*, 20(1):91–116.

Dambisya, Y.M., Modipa, S.I., & Nyazema, N.Z. 2009. A review on the impact of HIV and AIDS programmes on health worker retention. Discussion paper 71. http://www.equinetafrica.org/bibl/docs/DIS71DambisyaHCWAIDS.pdf (Accessed 28 January 2015).

Department of Labour. 2006. Code of good practice on key aspects of HIV and employment. http://www.labour.gov.za/downloads/legislation/Codes%20of%20Good%20Practice/emploemploequity/Code%20of%20Good%20Practice%20on%20the%20Key%20Aspects%20of%20HIH%20and%20AIDS%20and%20employment.doc (Accessed 28 January 2015).

Department of Public Service and Administration. 2009. Policy for incapacity leave and ill health retirement. http://www.dpsa.gov.za/dpsa2g/documents/pilir/2009/PILIR%20POLICY%201%20APRIL%202009.pdf (Accessed 26 August 2014).

Department of Public Service and Administration. 2012. Determination and directive on leave of absence in the public service. http://www.dpsa.gov.za/dpsa2g/documents/cos/2012/17_8_p_10_10_2012_determination.pdf (Accessed 25 November 2012).

Dieleman, M., Biemba, G., Mphuka, S., Sichinga-Sichali, K., Sissolak, D., van der Kwaak, A. & van der Wilt, G-J. 2007. 'We are also dying like any other people, we are also people': perceptions of the impact of HIV on health workers in two districts in Zambia. *Health Policy and Planning*, 22:139–148.

DPSA *see* Department of Public Service and Administration.

Gandhi, N.R., Shah, N.S., Andrews, J.R., Vella, V., Moll, A.P., Scott, M., Weissman, D., Marra, C., Lalloo, U.G. & Friedland, G.H. 2010. HIV coinfection in multidrug- and extensively drug-resistant tuberculosis results in high early mortality. *American Journal of Respiratory Critical Care Medicine*, 181:80–86. http://ajrccm.atsjournals.org/content/181/1/80.full.pdf+html (Accessed 27 January 2013).

Hammersley, M. & Atkinson, P. 2007. *Ethnography: principles in practice*.3rd Edition. London: Routledge, 1–274.

International Labour Organization. 2010. Recommendation concerning HIV and AIDS and the World of Work. http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/normativeinstrument/wcms_194088.pdf (Accessed 5 May 2014).

Kompala, T., Shenoi, S.V. & Friedland, G. 2013. Transmission of tuberculosis in resource-limited settings. *Current HIV/AIDS Reports*. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3809054/ (Accessed 28 January 2015).

McIntosh, J. & Stellenberg, E.L. 2009. Effect of a staffing strategy based on voluntary increase in working hours on quality of patient care in a hospital in KwaZulu-Natal. *Curationis*, 32(2):11–20.

Mfusi, B.J. & Steyn, G.M. 2012. Problems in managing educators with HIV in South African schools. *Journal of Human Ecology*, 402:157–166.

Minnaar, A. 2001. Caring for the caregivers: a nursing management perspective. *Curationis*, 24(3):19–26.

O'Donnell, D.M., Livingston, P.M. & Bartram, T. 2012. Human resource management activities on the front line: a nursing perspective. *Contemporary Nurse*, 412:198–205.

Peterson, U. 2008. Stress and burnout in healthcare workers. http://openarchive.ki.se/xmlui/bitstream/handle/10616/40035/thesis.pdf?sequence=1 (Accessed: 25 April 2014).

Shenton, A.K. 2004. Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22:63–75.

Smit, R. 2005. HIV and the workplace: perceptions of nurses in a public hospital in South Africa. *Journal of Advanced Nursing*, 51(1):22–29.

Stewart, L., Homes, C. & Usher, K. 2012. Reclaiming caring in nursing leadership: a deconstruction of leadership using a Habermasian lens. *Collegian*, 19(4):223–229.

Tawfik, L. & Kinoti, S. N. 2006. The impact of HIV on the health workforce in developing countries. http://www.who.int/hrh/documents/Impact_of_HIV.pdf (Accessed: 13 May 2014).

Uebel, K., Friedland, G., Pawinski, R. & Holst, H. 2004. HAART for hospital health care workers: an innovative programme. *South African Medical Journal* 94(6):423–427.

Uebel, K., Nash, J. & Avalos, A. 2007. Caring for the caregivers: models of HIV care and treatment provision for health care workers in Southern Africa. *Journal of Infectious Diseases*, 196(3):500–504.

UNAIDS. 2013. Global report: UNAIDS report on the global AIDS epidemic. http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf (Accessed 19 October 2013), 67.

World Health Organisation 2009 WHO policy on TB infection control in health-care facilities, congregate settings and households. http://whqlibdoc.who.int/publications/2009/9789241598323_eng.pdf?ua=1 (Accessed 13 May 2014).