A study of nurses' experiences of paediatric care in resource-poor settings in the context of HIV and AIDS.

Completed in fulfillment of a Masters degree in Psychology, Faculty of Humanities, University of KwaZulu Natal, South Africa

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I, Thembelihle Zuma declare that

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As the candidate's Supervisor I have approved this dissertation/thesis for submission:

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Abstract

This study investigated the experiences of paediatric care nurses in a public, resource-poor hospital in Durban, KwaZulu-Natal to. A mixed methods design was used . The quantitative aspect focused on how contextual factors influenced nurses' perceptions of the hospital ward where they worked. The Moos Ward Atmosphere Scale was used to assess ward environment. The Maslach Burnout Inventory Scale was used to explore the role of various aspects of vicarious job burnout. The study took place in four phases, baseline, pre-intervention, intervention and post-intervention. Quantitative analysis was done to explore possible relationships in burnout and ward atmosphere. A repeated (paired) measures t-test design was used to compare the pre- and post-intervention data, to test if the intervention process had any effect on the ward atmosphere and nurse burnout. As this was a small data set, quantitative analysis was done as an exploration for future research.

The qualitative aspect explored how the intervention was utilized; how nurses talked about their issues in the support group and what issues they reported. Thematic analysis was used as the focus of this research was describe the experiences of nursing in a resource-poor setting, with the expectation that this could raise complex and new challenges faced in the context of HIV and AIDS.

Although nurses in this study reported many challenges resulting from health sector problems, such as the shortage of staff and resources, they did not achieve high scores on the Maslach Burnout Inventory. The possible reasons for this are explored. The study also revealed that newly employed nurses expressed having more miscommunication problems with caregivers and other staff members. Other themes identified included, lack of HIV and AIDS disclosure, stressors related to the current South African context and trauma as a result of the death of patients and colleagues.

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Acronyms

HSRC	Human Sciences Research Council
CYFSD	Child, Youth, Family and Social Development
KZN	KwaZulu-Natal
AIDS	Acquired Immune Deficiency Syndrome
HIV	Human Immunodeficiency Virus
UNAIDS	United Nations Programme on HIV/AIDS
USAID	U. S. Agency for International Development
WHO	World Health Organisation
UNICEF	United Nations International Children's Emergency Fund
EPI	Expanded Programme on Immunisation
PTSD	Post Traumatic Stress Disorder
ARV's	Antiretroviral Drugs
PMTCT	Prevention of Mother-to-Child Transmission of HIV

Chapter 1: Introduction

1.1 Background

This study is part of a larger intervention study that was conducted by the Child, Youth, Family and Social Development (CYFSD) unit of the Human Sciences Research Council (HSRC) from November 2006 to December 2007. It was conducted at the request of the Department of Health. The CYFSD was asked to provide assistance to a paediatric in-patient ward at a large, public, tertiary hospital in KwaZulu-Natal (KZN). The objective of the larger study was to implement and evaluate a psychosocial training and support intervention package aimed at reducing the stress of staff, increasing caregiver participation in the care of their children, and to improve practical skills at a caregiver and nursing level in the care of young children suffering from acute or chronic illness admitted to a hospital environment. As part of this intervention and in collaboration with the ward staff, the research team created five short training videos, each addressing an area identified by the staff as difficult to deal with in the process of providing care for sick children.

The intervention combined an intensive psychosocial training workshop for nursing staff that ran from July until October 2007, the provision of video material (mentioned above) to facilitate training of caregivers from August until the end of the project, and 11 peer support group sessions that started in the middle of August to December 2007 that were held to support nurses on issues happening with and outside the ward. The research involved a time series pre-intervention and intervention cohort with assessments which included ward atmosphere, nursing burnout and compassion, child coping and distress and parental participation.

The current study focused on two aspects of the larger intervention: the nurses' experiences of working with children in resource poor-settings in the context of HIV and AIDS in KZN and measuring the effectiveness of a psychosocial training intervention and peer support group programme, to reduce occupational stress of nurses and improve ward atmosphere. This study focused on the data from the Ward Atmosphere Scale (Moos, 1989), the Maslach Burnout Inventory/Human Services Survey (Maslach & Jackson, 1981, in Richardsen & Martinussen,

2004) and support group sessions which the researcher was involved in collecting and facilitating respectively. The current study was a mixed methods study.

1.2 Research questions

The main research questions were:

1. What are nurses' experiences of paediatric care in resource-poor settings in the context of HIV and AIDS?
2. Is a psychosocial training intervention and peer support group programme effective in reducing occupational stress and improving ward atmosphere in the context of the AIDS pandemic?

Sub-questions were:

- How do contextual factors influence this experience?
- What is the role of various aspects of ward atmosphere?
- What is the uptake of a voluntary support intervention in the ward?
- How is the intervention utilized?
- How do nurses talk about their issues?
- What issues do nurses want to talk about?
- Do nurses experience any vicarious trauma and job burnout?

These key questions addressed issues requiring both quantitative and qualitative research methods. The qualitative aspect explored how the intervention was utilized; how nurses talked about their issues in the support group; what issues they reported; and whether the intervention influenced their experiences. The quantitative aspect focused on how contextual factors influenced nurses' experiences in the hospital ward where they worked; it looked at the role of various aspects of the ward atmosphere; and also assessed vicarious job burnout.

1.3 Methodological Approach

The researcher was interested in nurses' personal experiences of working in a paediatric ward in a resource-poor setting. The study used a mixed methods approach: incorporating a positivist

(quantitative) and interpretive (qualitative) approach to research. The positivist approach allowed the researcher to obtain objective accounts of nurses' perspectives of their experiences. A social climate scale as well as a scale for burnout was used to capture these objective accounts. The interpretive approach was essential in drawing the researcher to understand the social lives of nurses and data from peer support groups was used to capture details of nurses' daily working encounters. The full account of the methodology is provided in Chapter Three.

1.4 Outline of the Study

Chapter One has provided the background for doing this study. It has also given an outline of the research questions that this study aims to respond to. Chapter Two covers the literature review, and states the aims and a rationale for this study. Chapter Three provides a full account of the methodology used, discussing issues like sampling, research design, research procedure, research analysis and ethical considerations. Quantitative and qualitative study results are explained in Chapter Four. A summary of the results is discussed in Chapter Five. The conclusion, implications and limitations of the study are provided in Chapter Six.

Chapter 2: Literature Review

2.1 HIV and AIDS: The general situation

The global percentage of adults living with HIV has levelled off since 2000. There were an estimated 2.7 million new infections and two million HIV-related reported deaths in 2007 (UNAIDS, 2008). Sub-Saharan Africa remains the region most heavily affected by the epidemic, accounting for 67% of all people living with HIV and for 75% of AIDS deaths in 2007 (UNAIDS, 2008). Southern Africa continues to bear a disproportionate share of the global burden of HIV where 35% of HIV infections and 38% of AIDS deaths in 2007 took place.

HIV and AIDS has caused immense human suffering. In 2006 there were an estimated 2.1 million AIDS-related deaths in Sub-Saharan Africa and AIDS was reported as the leading cause of premature mortality (UNAIDS, 2006). South Africa is estimated to have the largest number of people living with HIV and AIDS in the world resulting in high morbidity and mortality, causing immense human suffering (Shisana & Simbayi, 2002). The profound impact caused by the epidemic has not only been confined to the health sector, but has affected many aspects of South African society and is projected to affect the country's demographic structure and its economic, social, and education (UNAIDS, 2007).

Rates of new HIV infections in Sub-Saharan Africa appear to have peaked in the late 1990's, and HIV prevalence seems to have declined slightly, although it remains at an extremely high level. Stabilisation of HIV prevalence occurs when the rate of new HIV infections is identical to the AIDS death rate among the infected population. This means that a country with a stable but very high prevalence must be suffering a very high number of AIDS deaths each year. Although prevalence has declined, the number of Africans living with HIV is rising due to general population growth (USAID, 2002).

HIV prevalence rates and the numbers of people dying from AIDS differ significantly between African countries. In some places, the HIV prevalence is still growing. In others, the HIV prevalence appears to have stabilised and in a few African nations - such as Kenya and Zimbabwe - declines appear to be under way, probably in part due to effective prevention campaigns; for example, in Somalia and Senegal, the HIV prevalence is under 1% of the adult

population, whereas in Namibia, South Africa, Zambia and Zimbabwe around 15-20% of adults are infected with HIV. In three southern African countries (Botswana (23.9%), Lesotho (23.2%) and Swaziland (26.1%), the national adult HIV prevalence rate has risen higher than was thought possible and now exceeds 20%. West Africa has been less affected by AIDS, but the HIV prevalence rates in some countries are gradually growing. HIV prevalence is estimated to exceed 5% in Cameroon (5.1%) and Gabon (5.9%) (History of HIV and AIDS in Africa, 2009).

Until recently, the national HIV prevalence rate has remained relatively low in Nigeria, the most heavily populated country in sub-Saharan Africa. The rate has grown slowly from below 2% in 1993 to 3.1% in 2007. But some states in Nigeria are already experiencing HIV infection rates as high as those now found in Cameroon. Already around 2.4 million Nigerians are estimated to be living with HIV. Adult HIV prevalence in East Africa exceeds 5% in Uganda, Kenya and Tanzania (History of HIV and AIDS in Africa, 2009).

Added to the personal suffering that accompanies HIV infection, the AIDS epidemic in sub-Saharan Africa threatens to devastate whole communities, rolling back decades of development progress. Numerous parts of society are broken down due to its impact. The effect of the AIDS epidemic on households can be very severe. Many families are losing their income earners. In all affected countries, the HIV and AIDS epidemic is putting a strain on the health sector. As the epidemic develops, the demand for care for those living with HIV rises, as does the number of health workers affected. HIV and AIDS dramatically affect labour, setting back economic activity and social progress. The vast majority of people living with HIV and AIDS in Africa are between the ages of 15 and 49 - in the prime of their working lives (UNAIDS, 2007). Through its impacts on the labour force, households and enterprises, HIV and AIDS can act as a significant brake on economic growth and development.

Poverty in South Africa is mainly responsible for the vast spread of HIV (Streak, 2002). Poverty is more than just insufficient income. It also includes a lack of opportunities, lack of access to resources and credit, as well as social segregation. Poverty is complex, multi-faceted and changes in depth and duration (Guthrie, 2003). Moreover, the rise in the inflation rate has caused escalating food prices which have impacted negatively on the wellbeing of the poor. Within the general socio-economic situation in South Africa, a particularly vulnerable group consists of

children and women. According to Streak (2002), an estimated 11 million children were living on less than R200 a month in 2002.

Furthermore, some poor people may be more vulnerable because they have not been taught about HIV prevention; because they are compelled to exchange sexual favours for gifts or money; because they cannot afford to buy condoms or to treat other sexually transmitted infections (which facilitate HIV transmission); or because they are struggling just to keep themselves fed, and have little time to worry about less immediate threats like AIDS (Streak, 2002). In addition, poorer people usually have less access to HIV counselling and testing facilities, and those who are unaware of their infection are more likely to pass it on (ibid). Evidence, according to Wilkinson (1996, in Hammond-Diedrich & Walsh, 2006), suggests that children and youth who live in impoverished conditions are at risk of long-lasting psychological and emotional damage.

Other barriers to curb the slow progress of people getting treatment relate to HIV stigma and discrimination which remains an enormous impediment to the fight against AIDS. Fear of discrimination often prevents people from getting tested, seeking treatment and admitting their HIV status publicly (WHO, 2008). Since laws and policies alone cannot reverse the stigma that surrounds HIV infection, more and better AIDS education is needed in Africa to combat the ignorance that causes people to discriminate. The fear and prejudice that lies at the core of HIV and AIDS discrimination needs to be tackled at both community and national levels.

2.2 Household HIV and AIDS tribulations

Overall, women account for half of all people living with HIV, and nearly 60% of HIV infections in Sub-Saharan Africa (Akintola, 2004). Affected households continue to bear the impact due to the demands posed by the epidemic such as intensive care and financial demands to those who require hospitalization and transportation. For example, it has reduced life expectancy; intensified poverty among those who are most vulnerable, resulted in uneven population distribution and weakened national systems, and institutional structures. Particular effects such as less access to employment and education as well as sexual violence are more encountered by women and children (UNAIDS, 2008). Other populations at risk of HIV exposure are injecting drug users, who face considerable barriers to HIV treatment access, often as a result of institutionalized discrimination (UNAIDS, 2008). Work that is done to address HIV is

destabilized by the fact that the majority of those living with HIV are unaware of their HIV status (WHO, 2008).

The financial weight associated with HIV for the poorest of households in India represents 82% of their annual income, while the comparable burden for the wealthiest families is slightly more than 20%, (UNAIDS, 2008). HIV infection results in considerable added expenses, which poor households are least capable of bearing. In Botswana it is estimated that, on average, every income earner is likely to acquire one additional dependant over the next ten years due to the AIDS epidemic (UNAIDS, 2006). This situation may result in every member of the family being affected in one way or another. For example, children may be forced to leave school and take care of their sick parents or relatives, or they may be forced to leave school because they are also not well and, as a result of the fear of being discriminated against within the school environment, they choose to stay at home.

Women are compelled to leave their jobs and take care of sick people at home, or at times need to find jobs to maintain the home (UNAIDS, 2006). This is not only a financial strain to those taking care of sick people; it also results in emotional and physical strain, as well as mental and general health care problems of carers. Moreover, funerals also take a toll on the financial burden of a family because in South Africa, some families spend seven times their household monthly income on a funeral (Richter, 2008; Smit, 2007). Even where HIV treatment services are ostensibly free, patients often remain liable for considerable costs from their own pockets in the form of co-payments, user fees, transport costs, and not items covered like medications for opportunistic infections (Smit, 2007).

The epidemic has particularly harsh effects on women, requiring implementation of scaled-up measures to increase women's independent income-generating potential. They account for two-thirds of all caregivers for people living with HIV in Africa, and women who are widowed as a result of HIV risk social ostracism or destitution. Enhancing women's financial options helps mitigate some of the epidemic's most harmful effects. About 90% of women participating in microfinance initiatives reported significant improvement in their lives, including improved sense of community solidarity in crises and reductions in partner violence (UNAIDS, 2007).

Improving treatment access to women has also played an important role in decreasing the number of dying women due to AIDS related illnesses; however, treatment access alone will not resolve the social and economic damage caused by the epidemic. What is more important and valuable is increasing the scale and scope of prevention and care programmes which is absolutely critical to long-term efforts to minimize the epidemic's impact on women and children since they are the most affected in the population (UNAIDS, 2007).

2.3 HIV and AIDS burden facing children

According to UNAIDS (2007) about 12 million children (under age 18) have lost one or both parents to AIDS in sub-Saharan Africa, and the number of children orphaned by the epidemic continues to rise, moreover, other children are forced to lose their childhood and start caring for their siblings. In 56 countries from which recent household survey data are available, orphans who had lost both parents were on average 12% less likely to attend school than non-orphans. In countries with HIV prevalence greater than 5%, orphans were only 4% less likely to be in school than non-orphans, suggesting that heavily-affected countries are closing some of the educational disparities seen earlier in the epidemic. Ensuring educational opportunities for children is critical to alleviation of HIV-related vulnerability (UNAIDS, 2007).

The increase of the epidemic has caused families to dissolve. When parents die, they leave their children to be looked after by grandparents or left alone in child-headed households. Even before the family dissolves, the disease strips them of their assets and breadwinners, resulting in further impoverishment. While most high-prevalence countries have policies in place to support children orphaned or made vulnerable by HIV, few national programmes reach more than a small minority of such children (USAID, 2008).

Another great challenge facing a society with a large number of orphans is to guarantee that children become well-adjusted and valuable members of society. There are, however, a number of obstacles to achieving this outcome. Firstly, the psychological impact of parental and educator role model illness and death on children should not be underestimated. There is good evidence to suggest that traditional mechanisms and strategies assist with coping, but there is growing concern about the resilience of these systems. In addition there are reports that children cared for

by extended family members or fostered out, are stigmatised and discriminated against - for example, they receive less food than other children and are given more chores (Steinberg, Johnson, Schierhout, & Ndengwa, 2002; Akintola, 2004). Other studies have found that children raised without sound role models are more likely to engage in delinquent behaviour with negative consequences for society at large (Richter, 2008,).

According to UNAIDS (2007), few direct surveillance data are available for children in South Africa. In the main, data is collected from women attending antenatal care who participate in a seroprevalence survey which is conducted in October each year on women aged 15 years and older. The anonymous, unlinked data is collected at approximately 400 of the public sector antenatal clinics, and distributed throughout the country. HIV estimates for children are obtained through representation that is based primarily on HIV prevalence in adult women (ages 15–49), fertility rates, and assumptions about the survival of HIV-positive children (Stover et al., 2006, in press, in UNAIDS, 2007). Such estimates show that the number of children living with HIV continues to increase steadily. It is projected that more than 90% of children living with the virus acquire it during pregnancy, breastfeeding or during childbirth which are all forms of transmission that can be prevented (UNAIDS,2007). Individuals aged 15–24 account for an estimated 45% of new HIV infections worldwide. An estimated 370 000 children younger than 15 years became infected with HIV in 2007. Globally, the number of children younger than 15 years living with HIV increased from 1.6 million in 2001 to 2.0 million in 2007.

Increased action is required to guarantee timely delivery of HIV treatment to children, who are significantly less likely than adults to receive antiretroviral medicines (Richter, Foster & Sherr, 2006). Without treatment, approximately half of children with perinatal HIV infection will die by age two (Richter et al., 2006). HIV is more difficult to diagnose in children than in adults, although cost-effective paediatric diagnostic tools have recently materialized. Initially, antiretroviral medicines were developed and made available for adults. Most standard fixed-dose combinations are inappropriate for children; this challenge, too, can be overcome as a result of increasing availability of paediatric regimens, dosing tools to assist clinicians in resource-limited settings, and increased financial support for uptake of paediatric treatment (UNAIDS, 2008).

Moreover, policy and programmatic initiatives are needed that specifically address the epidemic's impact on households, women and children, and national sectors and institutions (UNAIDS, 2008)). Around nine out of ten children living with HIV are in Sub-Saharan Africa (UNAIDS, 2007). By 2010, South Africa's under-5 mortality rate is expected to have increased by 100 deaths per 100 000 as a result of AIDS. African regions have seen a decline in child mortality but in Southern Africa, which is the most affected area, under-5 mortality has increased (UNAIDS, 2006).

Richter and Rama (2006) argue that children lose social connections to social institutions resulting from stigma in communities and withdrawal from school due to poverty, as well as work and care obligations at home. Moreover, children lose hope and opportunities for the future because of demoralisation in the family environment due to depression, bereavement and multiple losses (Richter & Rama, 2006). The kinds of difficulties faced by children and their families in the context of HIV and AIDS have a massive impact on the problems encountered by the health sector.

2.4 Provision of paediatric care

According to UNICEF (2007), 10.9% of the South African population is made up of individuals between the ages 0-4. About 2.86 million children between these ages benefit from the child support grant. While the burden of care for these young children who have ill or deceased parents in the main falls on grandmothers, most of it also falls on the nurses who take care of them in public hospitals. Paediatric treatment is compounded by the lack of paediatrically trained healthcare personnel and infrastructure (Richter, Rochat & Rollins, 2004). Services providing prevention of mother-to-child transmission (PMTCT), early infant HIV diagnosis, and chronic care for HIV-infected infants and children need to be connected or integrated to ensure timely diagnosis and treatment (Gray et al., 2005). Given the scale of the epidemic, all children in high prevalence countries experience the impact of HIV and AIDS - either directly or indirectly- through changes in their families, communities, schools, health services and the like, which occur as a result of illness and death (Richter, Manegold & Pather, 2004).

In the context of the epidemic, children experience multiple losses, including their health and vitality, through infection (Richter, Foster & Sherr, 2006; Richter, Somai, Zuma & Ramsoomar, 2007). About 90% of children living with HIV are in sub-Saharan Africa (WHO, 2008). Children and young people with life-limiting conditions have very specific care needs that are often different from those of adults. Health providers must evaluate and alleviate a child's physical, psychological and social distress. Effective care requires a broad multidisciplinary approach that also includes family involvement. Gray et al. (2005) say that the needs of paediatric HIV care can be best met within the context of family-based care. While this could be the goal of all paediatric HIV and AIDS care, it is particularly applicable to the smaller centres and rural sites where paediatric services are not segregated from adult care (Gray et al., 2005).

South Africa	57
Lesotho	56
Botswana	54
Namibia	53
Swaziland	47
Zimbabwe	41

Table 1: Country Deaths attributable to HIV (%) among children younger than five years (Source: World health statistics 2008.)

In many cases, young children die before life saving interventions can even reach them (Rochat, Mitchell & Richter, 2008). Some deaths are directly caused by illnesses such as diarrhoea and pneumonia while others can be attributed to indirect causes including HIV and AIDS and poverty (Rochat et al., 2008). Other factors that contribute significantly to child mortality in South Africa include malnutrition, poor hygiene and lack of access to safe water and adequate sanitation. In South Africa, HIV-related illnesses are the single greatest cause of death in children under five, accounting for 40 percent of deaths (Bradshaw, et al., 2003).

Childhood poverty plays a vital role in the mortality of a large number of infants in South Africa. Increased unemployment rates and the impact of HIV and AIDS on breadwinners within households are among the factors contributing to childhood poverty. With these factors both on

the rise, poverty in childhood is likely to increase as well (Streak, 2002). According to Bradshaw (2008), increased provision of social grants, extreme wealth inequalities and high unemployment most likely play an important role in poor health outcomes.

Among affected children, are those that are abandoned by their caregivers in hospitals and are left there for the hospital to take care of them. Caring for these children creates vast difficulties for South African hospitals because children end up residing in hospitals for lengthy periods. As a result, they get exposed to the risk of hospital-acquired infections, which could be detrimental to their health. Moreover, this creates pressure for the health sector such as financial costs and strain on health workers. The care of abandoned children also detracts from the more pressing needs of ill patients while the use of bed space in paediatric wards and health resources restricts health care to the broader community (Brink, 2000).

The table below is an estimation from Brink (2000) of the number of children that are abandoned in hospitals for each province in South Africa. These estimations show that KwaZulu-Natal has the highest number of hospital abandoned children.

KwaZulu-Natal	75
Gauteng	44
Eastern Cape	30
Western Cape	25
Mpumalanga	19
Free State	16
Northwest Province	11
Northern Province	9
Northern Cape	8
TOTAL	237

Table 2: Estimated (ANNUAL) number of children abandoned in hospitals (Source: Brink, 2000)

The large and increasing number of children that require hospital care may contribute to burnout. Factors associated with nurses' distress are, workload, leadership/management style, professional conflict and emotional cost of caring (McVicar, 2003). Some hospitals require nurses to do their own administrative work, which increases their workload (Meel, 2003). As a result, patient care is degraded by having too many patients in hospitals as well as carrying out other duties which are not necessarily related to caring for patients such as handling administrative duties.

Young children in Sub-Saharan Africa are faced with endless problems affecting their health, development and wellbeing (UNICEF, 2007). Sub-Saharan Africa has the highest prevalence of children less than five years old who do not fulfil their development potential (UNICEF, 2007). Close to 100 000 children per annum are infected with HIV by vertical transmission through mother-to-child infection in South Africa (Richter et al., 2004). On the other hand, transmission by transfusion, sexual transmission, and drug abuse are much less prevalent (Richter et al., 2004). HIV infection in childhood is not the same as infection in adulthood with regard to transmission, the natural course of the viral dynamics, maturity of the immune system, and clinical manifestations (Richter et al., 2004). It is estimated that 75% of all HIV infected-children will develop a serious illness and die within the first two years of life (Richter et al., 2004).

Hospitals are also faced with a dilemma of not being able to turn patients away, regardless of whether they have money or are South African citizens; everyone requiring medical care should by law receive it. This unavoidably leads to increased workloads for medical staff, as well as increased pressure on equipment and infrastructure in hospitals. The result can be stress-related burnout for nurses, and compromised care for patients, which is exacerbated if the patients are young children (Solidarity Research Institute, 2009).

2.5 Health sector problems

In many high-prevalence and resource-limited settings, health systems are weak, inequitable, and unresponsive to the HIV and AIDS pandemic (WHO, 2008). In all affected countries, the AIDS epidemic is bringing additional pressure to bear on the health sector. As the epidemic matures, the demand for care for those living with HIV rises, as does the toll of AIDS on health workers (Smit, 2005). Government-funded research in South Africa has suggested that, on average, HIV-

positive patients stay in hospital four times longer than other patients. This means that more work is done by health care workers since AIDS patients require specialized and time-consuming care (Barnett & Whiteside, 2002).

South Africa is among the African countries that are affected in the extreme. Weaknesses in health care systems are slowing the scale-up of HIV treatment programmes, underscoring the need for intensified action to strengthen these systems. A national study on the impact of HIV and AIDS on South Africa's health sector revealed that 46.2% of patients served in the medical and paediatric wards were HIV positive (Barnett & Whiteside, 2002). The burden on the health system is increasingly felt in public hospitals (Govender, Rochat, Richter & Rollins, 2006). This situation is set to worsen as the number of people that require treatment and care increases daily (Govender et at., 2006).

With the impact on households and the excessive cost of treatment, individuals now rely heavily on public health facilities for treatment. Bachman and Booysen (2004) also indicated that about 45% of ill members of affected households typically rely on government clinics. Direct medical costs of AIDS in Sub-Saharan Africa (excluding antiretroviral therapy) have been estimated at about US$30 per year for every person infected, at a time when overall public health spending is less than US$10 per year for most African countries (Bachman & Booysen, 2004).

The health sector is affected through a variety of mechanisms including; increased patient load, burnout, high absenteeism, stress, depression, and demotivation (Aitken & Kemp, 2003). While AIDS is causing an increased demand for health services, large numbers of healthcare professionals are being directly affected by the epidemic. Botswana, for example, lost 17% of its healthcare workforce due to AIDS between 1999 and 2005. A study in one region of Zambia found that 40% of midwives were HIV-positive. Healthcare workers are already scarce in most African countries. Excessive workloads, poor pay and migration to richer countries are among the factors contributing to this shortage making it difficult to provide care adequately (Aitken & Kemp, 2003).

2.6 Healthcare problems

The 2000 National Primary Health Care Facilities Survey indicates that some facilities are inadequately equipped to handle the health needs of the communities they serve, even before featuring in the impact of an escalating HIV/AIDS epidemic (Ntuli, Ijumba, McCoy, Padarath, & Berthiaume, 2003). While the situation has improved since 1998, in 2000 and on a daily basis, only 74% of clinics offer Expanded Programme on Immunisation (EPI) services, and only 60% offer antenatal care. Only 63% of fixed clinics had been visited by a doctor to consult patients in the month preceding the survey and nurse supervisor visits had declined to 67% in 2000 from 79% in 1997 (Ntuli et al., 2003).

Although the recent increase in the provision of antiretroviral drugs (which significantly delay the progression from HIV to AIDS) has brought hope to many in Africa, it has also put increased strain on healthcare workers. Providing antiretroviral treatment to everyone who needs it requires more time and training than is currently available in most countries (Nattrass, 2006).

Thus, HIV and AIDS intensifies the demand for care, the level and complexity of work and the risk of infection, whilst also placing a strain on resources (Hongoro & McPake, 2004). This is further compounded by severe staff shortages, health care workers' migration, and a decrease in the production of new staff each year (Hongoro & McPake, 2004). The care needs of patients suffering from opportunistic infections and AIDS have placed a severe strain on services, often disproportionately on some of the most disadvantaged facilities. This workload has resulted in physical, emotional and psychosocial problems for health care workers.

In South Africa, primary healthcare is free. However, there is a significant inequality in the quality of healthcare. The greatest healthcare inequities are observed between the public and private sectors, although within the public sector, inequity persists between and within provinces. Although the private sector is accessed by less than 20% of the population, it employs 77% of all specialists, providing quality of care equal to the best in the world. At the other end of the spectrum, access is sometimes almost non-existent. A poor rural family may have to travel many kilometres to the nearest clinic, only to find the clinic closed or out of stock of medicine (Chetty, 2007; Meel, 2003; Ntuli et al., 2003).

With South Africa not yet having a comprehensive Human Resources strategy, initiatives intended to rectify the shortage of personnel in rural areas, such as Community Service and employment of Cuban doctors, have been only partially successful. The rates of attrition from the public sector, coupled with the projected numbers of health professionals expected to die as a result of AIDS, and the increased demand for care arising from the epidemic, imply that South Africa needs to increase the numbers of health professionals it produces. Concurrently, exploration of comprehensive strategies to recruit to, and contain migration from, the public sector, in particular from rural areas, requires attention (Chetty, 2007).

2.6.1 Threat of physical consequences

HIV and AIDS is found to increase the workload of nurses because of the lack of support that is available to them. Playing another vital role is the secrecy surrounding the disease which reduces nurses' productivity. Nurses can also be infected with the disease, which will ultimately increase workloads and emotional discontent for the remaining workforce (Hall, 2004).

As a result of the demands, health care systems challenges have escalated drastically in low income countries (Hall, 2004). According to WHO (2008), people providing health care are at potential risk of HIV exposure, depending on whether adequate universal precautions are implemented. Additionally, people receiving care may also be exposed to blood from contaminated blood supplies, from needles or instruments used on other people receiving care or, rarely, from the health care worker to the people receiving care during surgery. Health care workers are most commonly exposed to the blood of the people receiving care via accidental injuries from sharp objects such as syringe needles, scalpels, lancets, broken glass or other objects potentially contaminated with blood (Hall, 2004; Loewenbrück, 2000).

However, the increase in the number of infections in South Africa together with the lack of enforced precautions by government, fuels the fear of infection among health workers, especially those operating in trauma units (Wessels, 1997, in Hall, 2004). A study conducted by Hall (2004) showed that 46.4% of nurses are afraid of infecting their partners and children because of the HIV and AIDS exposure at work. Secrecy which results from stigma and discrimination additionally accounts for the increased workload of nurses. As the HIV status of most patients

was unknown to the nurses in the study conducted by Hall, nurses said that they had to apply universal precautions while treating all patients in their care. They felt that these precautions took more time to administer and affected their productivity (Hall, 2004).

Moreover, people receiving health care are positioned to be at risk of being infected through unsafe injections, adding to the already high infection rate experienced in hospitals. In low- and middle-income countries, an estimated 40% of all injections are given with injection equipment that is unsafe (Hall, 2004). Recent studies in sub-Saharan Africa and Thailand suggest that unsafe injections are responsible for between 1% and 3% of all HIV infections (Hall, 2004). An estimated 327 000 health care workers throughout the world are percutaneously exposed to HIV annually (Hongoro & McPake, 2004). The highest numbers of workers exposed are reported in sub-Saharan Africa and South-East Asia. In Eastern Africa alone, about 19% of health care workers are infected by HIV-contaminated fluids that they get exposed to through skin absorption annually (Hongoro & McPake, 2004).

WHO (2008) says that the risk of acquiring HIV from a single percutaneous exposure to a needle contaminated with HIV is about 0.43%. But, this is an average figure, and deep injuries or injuries from devices with visible blood carry a higher risk of infection. Injuries from sharp objects result in about 200 and 5000 HIV infections among health care workers each year globally, and about 4% of all HIV infections among health care workers arise from occupational exposure (WHO, 2008). WHO recommends that post-exposure prophylaxis be provided as part of a comprehensive, universal health sector prevention package that reduces staff exposure to infectious hazards.

2.6.2 Emotional/psychosocial problems

Given the scale of the problems encountered by the health system in South Africa, nurses are greatly affected. During the course of their work, they are in regular and prolonged contact with HIV-infected patients who are at the terminal stages of the illness. Nursing presents a wide range of possible workplace stressors as it requires a high level of skill, teamwork in a variety of situations, and the provision of 24-hour delivery care (Mc Vicar, 2003). French et al. (2000, in

Mc Vicar, 2003) identified discrimination, workload, uncertainty concerning treatment, dealing with death, and dying patients as some stressors that might impact on nurses work overload.

HIV and AIDS especially amplify the demand for care, the level and complexity of work and the risk of infection, whilst also placing a strain on resources. These burdens may cause health care workers to become ill and absent themselves from work. Stress may result from overwhelming workload and fear of contagion (Aitken & Kemp, 2003). For example, UNAIDS (2006) reports that, Malawi and Zambia were experiencing 5-6 fold increase in health workers' illness and death rates, and training of doctors and nurses would have to increase by an estimated 25-40% in 2001-2010 in order to make up for these losses. During the course of their work, health workers may encounter different emotions resulting in empathy, burnout and eventually leading to compassion fatigue. Healthcare workers spend most of their time in hospital wards, sometimes working 10-12 hour shifts and in the same communities during their leave days. Their physical and socio-cultural environment will to an extent be related to the hospital and community.

2.6.3 Burnout

According to van den Berg et al. (2006, p7) "Burnout encompasses three distinct components. Emotional exhaustion is burnout in the first stage, followed by depersonalization, which is used as a coping strategy. Thereafter, feelings of reduced personal accomplishment are experienced. Burnout is, therefore, a combination of negative behavioural, attitudinal and physical changes in response to work-related stress".

Pines and Arrison (1998, in Booysen, 2005) stated that burnout is physical, emotional and mental exhaustion caused by involvement in emotionally demanding situations. Burnout is said to be specific to work content and results partly from a lack of support from supervisors and co-workers (Pines & Arrison, 1998 in Booysen, 2005). Maslach and Schaufeli (1993, in Booysen, 2005), explain that burnout is composed of dynamic processes and systems, including those that are important to social support and supportive communicative behaviour, within a work group. They conclude that the most frequent consequence of burnout is people leaving their jobs, resulting in a situation where human service organizations lose some of their best and most experienced workers. Ainsworth and Fulcer (1981, in Booysen, 2005) commented that the

problem of job stress and burnout is of special concern in professional childcare workers. A significant contribution comes from the physical and psychological exhaustion experienced by childcare workers in the caring process (Ainsworth & Fulcer, 1981, in Booysen, 2005).

van den Berg et al. (2006) declare that there are two underlying processes that play a role in burnout. Firstly, burnout is an effort-driven process in which excessive demands lead to exhaustion and secondly, it is a motivation-driven process in which insufficient resources to handle job demands lead to disengagement. Furthermore, job demands comprise physical, social and organisational aspects of the job and include job stressors such as workload, unfavourable working conditions, as well as emotional demands such as exposure to suffering and death of patients.

A study conducted by Duguette, Kerouac, Sandhu, & Beaudet (1994, in Hall, 2004) on nurse burnout concluded that the best correlates of nursing burnout are role ambiguity, workload, age, hardiness, active coping, and social support. However, this study yielded inconsistent results, with no clear evidence of differences in terms of stress or burnout. Having too many patients per nurse degrades hospital care, places unnecessary stress on hospital staff and increases the risk of preventable conditions progressing to life threatening stages for patients (Solidarity Research Institute, 2009). Daguette et al. (1994, in Hall, 2004) note that there is an implicit relationship of job stress to burnout.

Thus of primary importance in the effective provisioning of health services and programme implementation are nurses' wellbeing, their skills and commitment which all play a crucial role in ensuring that they deliver quality care to patients (van den Berg et al., 2006). The rapid pace of transformation in the South African public health sector brought about significant changes in the working conditions of health care professionals (Van Rensburg, 2004). In particular, the daily organizational functioning of many public health care institutions is affected by the ongoing process of health sector reform (Van Rensburg, 2004). Public health services are severely affected by staff shortages due to a flight of skills from the public to the private sector and to other countries (van den Berg et al., 2006).

Lambie (2006) states that consequences of burnout, including therapeutic ineffectiveness, premature occupational attrition, depression, and substance abuse, are serious both personally and professionally. On the other hand, uncompetitive remuneration, poor working conditions and a lack of support and recognition from management and colleagues are often cited as the main reasons for attrition of nursing professionals and may seem to contribute significantly to the burnout experiences (Mhlambi, 2002, in van den Berg, 2006; van den Berg, 2006; Van Niekerk, 2006, in van den Berg, 2006).

Most research has studied burnout hand-in-hand with compassion fatigue (Duguette et al., 1994 in Hall, 2004; van den Berg, 2006; Maslach & Schaufeli 1993, in Booysen, 2005). Factors such as emotional contagion (compassion fatigue), empathetic concern, and communicative responsiveness contribute to burnout (Maytum, Bielski, Heinman & Garwick, 2004). According to Radey and Figley (2007, p.163), compassion fatigue is "a state experienced by those helping people in distress, it is an extreme state of tension and preoccupation with the suffering of those being helped to the degree that it is traumatizing for the helper". The helper, in contrast to the person(s) being helped, is traumatized or suffers through the helper's own efforts to empathize and be compassionate. Often, this leads to poor self-care and extreme self-sacrifice in the process of helping. Together, this leads to compassion fatigue and symptoms similar to Post Traumatic Stress Disorder (PTSD).

Figley (2001) says that there is a particular process involved in going through the trauma of suffering compassion fatigue. There are a few underlying building blocks that come together and form what he calls compassion fatigue. First, the carer is exposed to the feelings of the sufferer, and responds in an empathetic way to help the person who is in need. Figley (2001) refers to the ability to notice and respond to the feelings of the sufferer as empathetic ability. The helper attempts to distance themselves from the ongoing misery of the traumatised person. However, they reach a state of tension and preoccupation with the feelings of the traumatized person by (a) Re-experiencing the traumatic events (b) Avoidance/numbing of reminders and (c) Experience persistent arousal which is a natural consequent behaviour and emotion resulting from knowing about the traumatic event experienced by others. Other aspects which are said to play a role in burnout include contextual factors (van den Berg, 2006; Lambie, 2006).

2.6.4 Ward Atmosphere

The influence of the ward atmosphere on the treatment of a patient and the role it has on the kind of care provided by the carer is vital when studying experiences of carers. Studies of ward contexts using the Moos Ward Atmosphere Scale have in the main looked at psychiatric ward environments (Middelboe, Schjodt, Byrsting & Gjerris, 2001; Rossberg & Friis, 2003). Studying ward atmosphere provides a good overview for studying individual perceptions as well as group perceptions of a particular ward. It provides a comparison of staff perceptions and patients' perceptions, depending on what aspects the research study is looking at, and looks at the initiatives that patients feel they can take on that ward (Kish, Solberg & Uecker, 1968).

According to Sidman and Moos (1971), different ward social environments have differential effects; this is due to the fact that certain types of helping behaviour will occur in different wards. In a study conducted by Kish et al. (1968), patients perceived nurses' 'helping' behaviours as dominating, impatient, and unable to relate to or trust. A recent study conducted on family experiences and perceptions of how nurses can promote family health, explored the families' point of view, however it used one on one qualitative interviews to collect data. Five domains were distinguished in the promotion of family health: (1) reinforcing parenthood, (2) looking after the child's welfare, (3) sharing the emotional burden, (4) supporting everyday coping and (5) creating a confidential care relationship. The results of this study strengthen the knowledge base of family nursing by showing how nursing staff can promote family health during the child's hospital stay (Hopia, Paavilainen, & Astedt-Kurki, 2005).

The results have a number of practical applications for nursing, both for clinical practice and research. The results can be used in paediatric hospital wards caring for chronically ill children and their families. The five domains of family health promotion described here should be tested in other paediatric wards and in other geographical locations. The results of the study showed that family health is highly vulnerable when a child has to be admitted to hospital because of a chronic condition. They should help nursing staff gain a clearer picture of the depth and diversity of family health and support the resources that promote family health (Hopia, Paavilainen, & Astedt-Kurki, 2005).

There are no recent published studies which have used the Moos Ward Atmosphere Scale to study paediatric ward contexts. Previous research has focused on mentally ill patients and the perceptions they had of their wards and staff. Research has shown that nurses providing paediatric care are among those who are most affected due to HIV and AIDS in paediatric wards. This study aimed to bridge the gap in literature by studying a poorly resourced paediatric ward in a South African context.

2.6.5 HIV and AIDS experiences and challenges on nurses

There have been studies that have focused largely on the experiences of health care workers caring for patients living with HIV and AIDS. Letamo (2005) reported 9% of professionals refused to care for a patient with HIV and AIDS, and 9% reported that they refused a patient with HIV and AIDS admission to hospital. Further studies have also explored the impact of HIV and AIDS on health care workers. Ehlers (2005) reported that nurses face daily challenges in making decisions based on prioritizing their own long-term safety needs versus the immediate survival needs of their patients.

Another study conducted by Hall (2004) found that nurses experience challenges involving providing delicate care to people who are usually not feeling well; nurses also have to come to terms with human suffering and the death of patients. These findings, however, do not capture the experiences of nurses working strictly with child patients in resource-poor settings, most of whom are in terminal stages of HIV and AIDS illness.

Given that paediatric care workers deal with diverse problems of children who are in the terminal stages of illness, it is important to understand their experiences as well. However, there have only been a few studies that have explored the various impacts of paediatric care in resource-poor settings in South Africa. Richter et al., (2004) looked at an approach to improve the care of sick children, in which they emphasize that nurses require support and further training. Their study, however, did not focus particularly on the environments in which these nurses work. Numerous authors who have conducted paediatric-related research in the context of HIV and AIDS in South Africa (Gray et al., 2005; Richter et al., 2004; Rochat et al., 2008) have largely

focused on the care needs and support interventions for children. However, there has not been a study directly focusing on paediatric healthcare workers.

The present study looked at the experiences and challenges facing paediatric care nurses at a Hospital in KwaZulu-Natal, South Africa. This research study attempted to explore nurses' experiences and support needs in a paediatric ward.

2.6.6 Peer support programmes

There is a plethora of research supporting the effectiveness of staff support groups in minimising stress (Salmon & Connor, 1997; Guillory & Riggin, 1991; Griffin & Christie, 2004).

Health care professionals who work with people affected by HIV and AIDS experience burnout from the excessive demands on their energy, strength, and resources. Support groups with their focus on awareness, shared experiences, supportive and helping relationships, and the emotional consequences of working with people affected with AIDS can help staff manage stress and enhance their capacity and effectiveness to work with these patients (Griffin & Christie, 2004). The experience of burnout can be alleviated by the availability of coping resources, one of which is social support.

Jenkins and Elliot (2004) conducted a study to investigate and compare levels of stressors and burnout of qualified and unqualified nursing staff. A lack of adequate staffing was the main stressor reported by qualified staff, while dealing with physically threatening, difficult or demanding patients was the most stressful aspect for unqualified staff. Qualified nurses reported significantly higher workload stress than unqualified staff. Approximately half of all nursing staff showed signs of high burnout in terms of emotional exhaustion. They concluded that qualified and unqualified nursing staff differed in terms of the prominence given to individual stressors in their work environment. The findings were consistent with the notion of burnout developing in response to job-related stressors. Jenkins and Elliot (2004) concluded that staff support groups may be useful in alleviating feelings of burnout if they are structured in a way that minimizes negative communication and encourages staff to discuss their concerns in a constructive way.

Griffin and Christie, (2004) argue that staff support groups for nurses are useful for stress reduction and team building, and believe that they should be made available and used by staff. These nursing staff support groups may assist the nursing staff in managing conflict, ambiguity, stress, and strain (Guillory & Riggin, 1991). One of the aims for the current study was to assess whether such groups are effective.

2.7 Aims and objectives of the study

The current study had two aims. Firstly, it aimed to look at nurses' experiences of paediatric care in resource poor settings in the context of HIV and AIDS. Secondly, it aimed to evaluate a psychosocial training intervention and peer support group programme for nurses in a paediatric setting.

2.8 Problem statement and Rationale

Without antiretroviral treatment, children infected with HIV and AIDS will inevitably experience repeated hospital admissions before they succumb to illness and die (World Health Organisation, 2002). While there are numerous studies examining the implications of nursing HIV-infected patients, there is a scarcity of literature on understanding paediatric nurses' perceptions and experiences of caring for HIV-infected patients, an area that needs urgent attention and research. Every year an estimated 300 000 children under the age of five die of AIDS-related illnesses UNAIDS (2005). In South Africa in 2005, 26% of infants born to HIV-infected mothers were also infected (UNAIDS, 2006).

In the context of the devastating impact of HIV and AIDS, the effect on children infected by the epidemic is brutal. Paediatric wards in public hospitals are largely (60%) occupied by children with AIDS-related illnesses (Pillay, Colvin, Williams, & Coovadia, 2001). The progressive decline of their health poses enormous coping challenges for the health care workers who work closely with them (Pillay et al., 2001).

When people face unfortunate circumstances every day, they are prone to suffering burnout. Those most at risk may be social service providers who spend their lives attending to the needs of others, especially if their work puts them in frequent contact with the tragic side of human

experiences, or if they are underpaid, unappreciated, or criticized for matters beyond their control (Smit, 2005). Smit (2005) reported that nurses face psychosocial problems such as feelings of helplessness, emotional stress, fear, fatigue, anger, frustration, and at the same time, feelings of self-enhancement, empathy, and sympathy for the patients they treat. Although there have been studies on the impact of HIV and AIDS on nurses, most have focused on attitudes and problems encountered and have not examined nurses' experiences.

Research indicates that interventions that equip nurses to deal with new challenges and provide a strong supportive network will significantly enhance nurses' abilities to cope in their work (Kalichman, Gueritault-Chalvin, & Demi, 2000; Ewers, Bradshaw, McGovern & Ewers, 2002; Edwards & Burnard, 2003; Jenkins & Elliott, 2004).

This study aimed to provide insight to highlight nurses' experiences in an attempt to address some problems that South African public hospitals face. The findings obtained from this study could be used as a platform to address problems encountered by nurses and the Health Sector in order to alleviate their daily struggles, promote better work environments and quality care, even when resources are strained.

Further interventions can be launched to change the environment to reduce the potential for stress, help individuals modify their appraisals of it or help them cope more effectively with stressors (Edwards & Burnard, 2003; Ewers et.al, 2002). Stress management interventions such as social support programmes for staff and training in psychosocial interventions have been reported to have a positive effect on burnout because they help staff to conceptualize their patients' problems within a more empathic framework, and train them in skills to intervene effectively.

2.9. Conclusion

The purpose of this chapter was to provide a detailed overview of important literature in HIV and AIDS and to introduce the context of nursing in South Africa which is the focus of this study. It also aimed to provide details of previous research on HIV and AIDS, burnout, and ward atmosphere. The next chapter will present the methodology used in this study, outlining the study sample, design, research process, data collection, analysis and ethical considerations.

Chapter 3: Methodology

Chapter Three explains the methodology used in this study, this was a mixed methods approach incorporating both a positivist (quantitative) and an interpretive (qualitative) approach to research. The quantitative aspect evaluated changes in ward atmosphere and experiences of vicarious trauma and job burnout using statistical techniques. The qualitative aspect used the methods of participant observation, and thematic analysis to analyse the peer support groups for nurses which were formed during the intervention phase of the study.

3.1 Study Design

The design of the study called for four phases. 'Time point one' was a baseline phase which ran over a period of four months, 'time point two' was prior to the intervention (pre-intervention); 'time point three' was the intervention and 'time point four' was post-intervention. Originally, the intention was that the baseline measurements could serve as a time-lag 'control' against which to evaluate the impact of the intervention. However, due to sampling problems resulting from staff rotations and loss of participants following the baseline measurements, the researcher was not able to use these results for comparison purposes.

The study used a mixed methods approach: incorporating a positivist (quantitative) and interpretive (qualitative) approach to research.

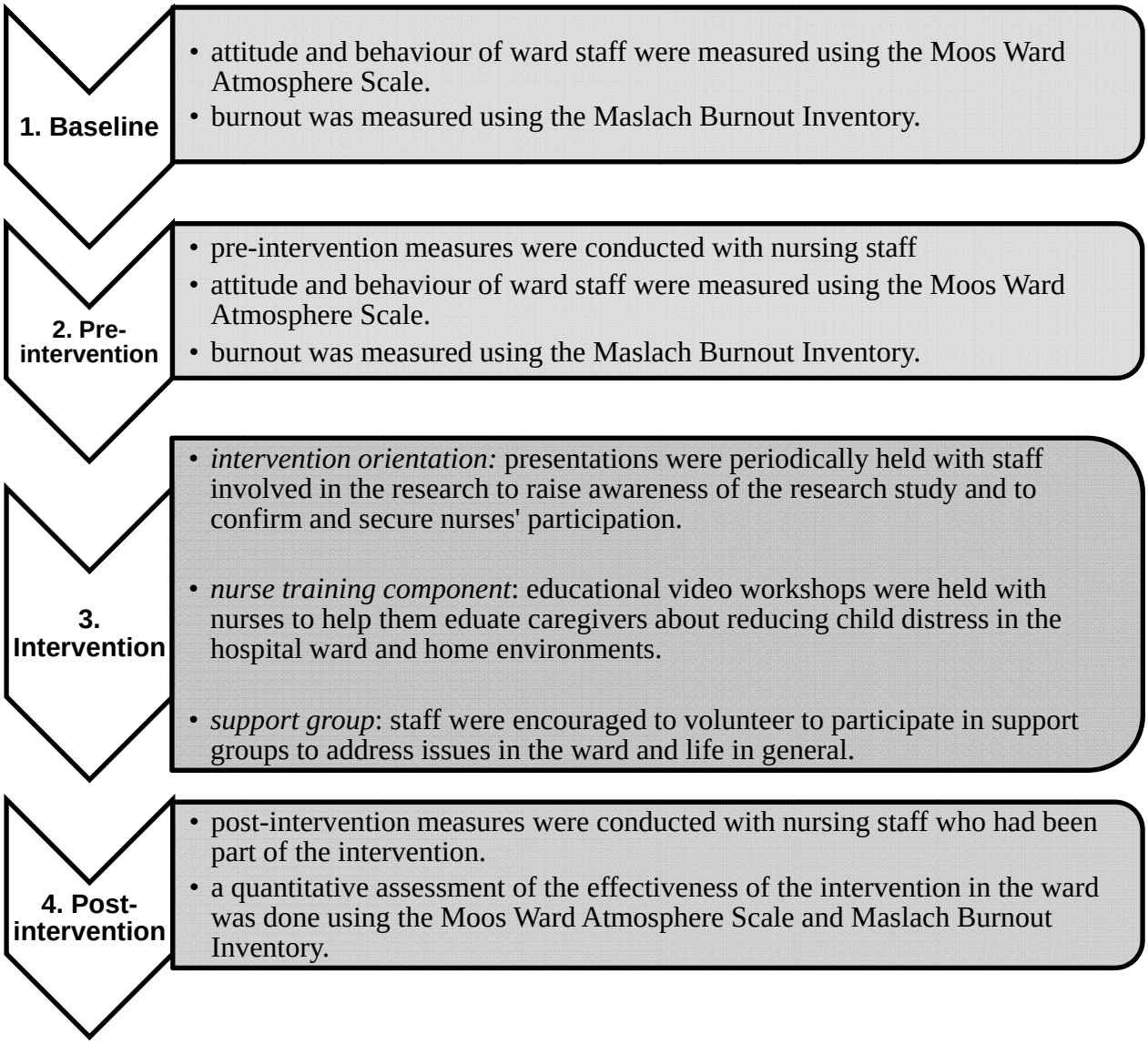
Positivist evaluation research is based on the belief that the scope of programme evaluation is limited to those aspects of social programmes that can be objectively observed and tested. These are usually applied within a systematic framework, which means that different forms of evaluation are conducted depending on the phase of development of a programme. (Stanovich, 1998) During the baseline, pre and post-intervention phase of the larger study, objective measures were used to assess the effectiveness of the training intervention. This type of analysis is quantitative and falls within a positivist approach to understanding research (Terre Blanche & Durrheim, 1999).

Interpretive evaluation designs draw on the research traditions of ethnography, methodologies, data sources, time frames, and levels of human interaction. It is argued that both subjectivity and

reflexivity are necessary for valid interpretation, and that without being personally involved and drawn into the worlds of others, it would be impossible to adequately develop an understanding of social life and discover how people create meaning in natural settings, and that without this type of understanding, it would be impossible to evaluate a programme (Ritchie & Spencer, 1994).

Peer support groups for nurses were formed during the intervention phase of the study. The researcher was a group facilitator and therefore a participant observer (Banister, Burman, Parker, Taylor & Tindall, 1994). This part of the study involved a qualitative analysis; using the methods of participant observation, phenomenology and thematic content analysis. This type of analysis falls within an interpretive approach to understanding research.

3.2 Research Process



Phase 1 – Baseline (a period of four months prior to the introduction of the intervention)

Setting conditions in the ward, as well as attitudes and behaviours of ward staff were measured with the Moos Ward Atmosphere Scale (Appendix One). Burnout in nurses was measured with the Maslach Burnout Inventory (Appendix Two). These measures were administered at the beginning and at the end of a four month-period, with17 nurses participating.

Phase 2 – Pre-intervention (over a period of four months)

At the end of four months, setting conditions in the ward, as well as attitudes and behaviours of ward staff were measured with the Moos Ward Atmosphere Scale and burnout was measured with the Maslach Burnout Inventory, Thirty-six nurses participated, only one of whom was measured at baseline.

Phase 3 – Intervention

The intervention phase took place in several stages. Each stage is described below.

Orientation to the intervention

Three presentations over a period of two weeks were organized for everyone involved in the management of children and caregivers in the ward, including nurses, doctors and admission staff. This was done in order to raise awareness and sensitivity to the issues being addressed, and to secure agreement and participation of ward staff in the implementation of the interventions within the ward.

Nurse Training Component

Six video workshops for 25 nurses were held between 18 July to 7 September 2007 to train staff to support and counsel mothers in psychosocial interventions useful in reducing child distress. Seventeen of these nurses were assessed with the Moos Ward Atmosphere and Maslach Burnout Inventory Scales in the pre- and post-intervention phases. The videos covered five areas of concerns. These concerns were divided into five sections: 1) caregiver orientation into the ward and hospital, 2) active feeding when children are sick, 3) coping with children's crying and distress, 4) caregivers' involvement in the ward and medical procedures and lastly, 5) caregiver and child preparation for discharge. Training was conducted by the researcher.

The training package consisted of a training manual and six workshops that nurses attended. The intention of the workshop was to help nurses in the important work they do with children and their caregivers, to treat children and help nurses cope in the health facility. The videos showed some ways that nursing staff could work with caregivers to make them feel at ease and help them see what they could do to help their children get better.

The topics covered by each of the videos were:

- Section 1: Orientation – Caregivers and Staff Working Together

This section reminded nurses that they were to help and make mothers comfortable in the ward. It outlined the following:

When a child becomes ill, caregivers often find it difficult to decide when it is the right time to take their child to a health care facility. They may think that as caregivers they should be able to take care of the child themselves and that they will be worrying nurses unnecessarily. As medically trained and qualified people, nurses were reminded that they were the ones who could judge how ill the child was and what treatment was available to help him recover. They were also the people who knew the way around the health care facility; they were familiar with the routines and procedures. In many ways they were a guide to the health care facility and to the ward. They were the ones who were able to let caregivers know what was expected of them.

The video was hoped to help nurses as they tried to get the caregivers to relax and the video was going to give the caregiver some information about a health care facility and what she and her child could expect there. This video also showed the many duties that a nurse did. It addressed that when working together with caregivers, nurses' workload was lightened.

- Section 2: Active Feeding when Children are Sick

In this section, the researcher and nurses discussed how nursing staff could support caregivers in the active feeding of children.

Nurses were expected to inform caregivers that young children have small stomachs so they needed to eat and drink very often so that they could grow up strong and healthy. The challenge was to make sure that children who came to a health care facility ate and drank enough of the right things so that they regained their strength. Nurses had seen many children refusing to eat, or eating only a few mouthfuls and then firmly closing their mouths. Nurses had also seen caregivers trying to make children eat and often giving up in frustration as the children turned their heads away, cried, or spat out their food.

The video instructed nurses to take a little time to help caregivers understand why their children should eat and drink while ill. It showed that nurses could teach caregivers the best way to

encourage children to eat. The video showed several ways that could be used to actively feed children

- Section 3: Coping with Children's Crying and Distress

In this section, the researcher and nurses looked at how to cope with children who are distressed and crying. This was one of the most difficult parts of nurses' work – finding ways to comfort children who are upset and also helping caregivers to respond effectively to their children.

The video illustrated that, working surrounded by children who are unhappy and crying is not easy. It showed that children cried for different reasons, for example a child cried to let nurses know he was unhappy or in pain, to try and get nurses/caregivers attention, to let nurses/caregivers know he needed to be changed or fed – there were a lot of reasons and all of them were valid. But because children were too young to explain exactly what they needed and could not understand nurses' explanations, it was a challenge to find out how to provide comfort.

In this video there were different scenes showing children crying and children being comforted and how nurses could convey these methods to caregivers.

- Section 4: Caregivers Involvement in Ward Routines and Medical Procedures to help reduce the Distress of Children.

This section addressed how caregivers could be involved in ward routines and procedures that children could experience while in a health care facility.

The video showed that there were different ways that caregivers could help nurses during the routine activities that took place each day in the ward, if nurses asked caregivers and helped them understand what they could do. Caregivers could help with washing or bathing their child; they could change nappies, feed their child and give them their medication. If the caregivers did some or all of this for their child, they would feel useful and that they were not in the nurses' way. Caregivers would be supported as they took some of the routine activities from nurses and the children will benefit from having a familiar person taking care of them.

- Section 5: Preparing Caregivers for Returning Home and Continued Care

This section showed how to prepare caregivers for discharge and continued care at home. The video showed that most caregivers had mixed feelings when they heard that their child was to be discharged. They were pleased that he was well enough to leave the health facility, they were also relieved to be able to spend more time with the rest of their family and they will no longer have to make trips to the health facility to visit their child. However, they may have been worried about how they were going to take care of their child once they were at home.

The video showed that there were several things the nurse could do to help the caregiver feel confident that she could take good care of her child at home. First of all, it showed that the nurse could remind the caregiver that they were both still part of the team that would take care of the child and that the nurse and others in the health facility were still going to be available to answer questions and concerns.

Support Component

During the same time period, peer support groups for staff were formed, which ran every two weeks throughout the intervention period of three months, led by the researcher. Participation depended on the availability of staff as it was voluntary. The peer support groups were encouraged to continue to meet after the intervention phase was completed.

During this time, the researcher acted as a participant observer. A total of 11 support group sessions were held with those nurses who volunteered to attend. The total number of nurses who attended the support groups was 51. The groups ran until 5 December 2007. The researcher's observations and notes included the number of nurses attending per session, nature of the problem presented, context of the problem, response to the problem, and quality of the interaction within the group. The structure of the session is attached as Appendix Three.

Phase 4 – Post-intervention

Post-intervention measures were conducted with all participating nursing staff assigned to the ward during the period of the intervention, 17 of these nurses had participated in the pre-intervention phase. Data from these 17 nurses was used for further analysis in this study which included a repeated-paired measures t-test.

3.3 Sampling Frame

The sampling method was purposive. This sampling technique was used to select participants relevant to the research question (Denzin & Lincoln, 2000). There was always a staff of at least 15 nurses on duty in the ward, comprising six nursing sisters, and nine staff nurses and excluding the senior ward sister, nursing students, and general nursing assistants.

Sampling proved to be a problematic issue because there were regular nurse rotations in the hospital. The process of recruiting new nurses in the ward had to be done several times because some of those who had been recruited were lost to the study and could not be followed as the study was limited to one specific paediatric ward. Due to rotations that took place in the ward, there were eighteen nurses who participated in baseline and they were not necessarily the same as those who participated in the study pre-intervention and post-intervention phases. Thirty six nurses participated in the pre-intervention phase, and only seventeen of those participated in the post-intervention phase of the study. It is data from these seventeen nurses that is used for in-depth analysis in the results section to compare ward atmosphere and burnout scores across time in the same nurses.

During the intervention, a maximum of five nurses per video workshop were recruited for training (from 18 July to 7 September 2007). A total of twenty-five nurses attended six training workshops. Fifty-one nurses participated in twelve support group sessions, with some attending four to five sessions over time. There were sixteen Black participants and one Indian participant. Participants were between the ages 23-55. Nurses who had served in the health sector the longest had 31 years nursing experience and those who had served the shortest time had only one month experience.

The sample thus consisted of 17 nurses that participated in both the pre- and post-intervention.

3.4 Data collection

Quantitative data was collected in the ward using two different psychological assessments (Maslach Burnout Inventory and Moos Ward Atmosphere Scale). Assessments were in English and isiZulu and nurses chose the language which they felt comfortable using. Measures were

translated into isiZulu by a professional translator. Data was collected throughout the day with all nurses working in the ward from the period of baseline through to the evaluation phase of the study. Nurses were approached when they had time, usually during the morning and afternoon tea breaks. The assessments were explained to them, and then they were asked to participate in the research after being given full information about the study. Completion of both assessments took about 20 minutes. Data was then entered by the researcher and analyzed using Statistical Package for the Social Sciences (SPSS).

Qualitative data was collected during peer support groups. These were held in English and isiZulu because nurses who attended were of different races. IsiZulu sessions were translated into English for analysis by the researcher. The researcher took notes during each session, asking for clarity from participants in order to make sure that details were not omitted. The researcher requested permission to audio record the support group sessions however, the nurses requested that this not happen in order to respect confidentiality as it made them feel uncomfortable to participate with the audio recorder on. The researcher could therefore only record the sessions in written form directly as they were reported. Certain statements were recorded verbatim by the researcher. After each session, the researcher wrote reflections and extra notes which formed data which was then entered into NVIVO, coded and analyzed.

Nurses were notified about the support groups during a presentation introducing the intervention phase. The support group component of the research was explained to them and voluntary participation was emphasized. Nurses and the researcher discussed an appropriate time for the support groups to be held and it was agreed that they would take place once every two weeks for an hour in the afternoon, from 15h00 to 16h00 which was during the nurses' tea time. It was appropriate to schedule the support groups to take place every two weeks to allow nurses time to do their duties in the ward and attend to other meetings. Support groups were held in one of the nurses' tea rooms. Those nurses who wanted to have tea but did not want to be part of the support group used the second tea room on the days when support groups were held

3.4.1 Instruments

As discussed above, the instruments utilized in this study were the Moos Ward Atmosphere Scale Form S (WAS) and the Maslach Burnout Inventory-Human Services Survey (MBI-HSS).

3.4.1.1 Moos Ward Atmosphere Scale Form S (WAS)

The Moos Ward Atmosphere Scale (Appendix One) was developed in 1989 by Dr Rudolf Moos to determine staff and client perceptions of ward environment (Moos, 1989). The measure is divided into ten subscales including involvement, support, spontaneity, autonomy, practical orientation, personal problems, anger and aggression, order and organization, program clarity, and staff control. The scale can also be used to plan and monitor changes in treatment programs, evaluate the impact of intervention programs, and promote programme improvement. It also encourages staff involvement in programme planning and design. Edwards and Burnard (2003) found the Moos Ward Atmosphere Scale to be an invaluable aid in making and measuring changes in a ward environment.

The WAS measures patient and staff perceptions and comprises items concerning both the patient and staff domains (Rossberg & Friis, 2003). It measures both behaviour and attitude. All scales are scored in the same direction, with high scores indicating a greater degree of the concept measured. The subscale score is the number of items answered in the scored direction (Moos, 1989). High scores are between 70-100%, average scores equal 50-60% and low scores are below 40% (Moos, 1989).

The WAS comprises 40 questions forming ten subscales. Each subscale consists of three groups of higher order dimensions (Rossberg & Friis, 2003).

A) The relationship dimension (Involvement, Support and Spontaneity). This assesses the involvement of patients in the ward, the extent to which staff support patients and patients support and help one another.
B) The personal development dimension (Autonomy, Practical Orientation, Personal Problem Orientation and Anger and Aggression). This deals with personal development or treatment program dimensions. Each subscale assesses a dimension that is specifically relevant to the type of treatment program the ward has developed.

C) The system maintenance dimension (Order/Organization, Problem Clarity and Staff Control). This assesses administrative structure or system maintenance.

Subscale Items	**Definition**
Involvement	How active and energetic patients/staff are in the program
Support	How much patients/staff help and support each other, how supportive the staff are toward patients
Spontaneity	How much the program encourages the open expression of feelings by patients and staff
Autonomy	How self-sufficient and independent patients/staff are in making their own decisions
Practical orientation	The extent to which patients learn practical skills and are prepared for release from the program
Personal problem orientation	The extent to which patients/staff seek to understand their feelings and personal problems
Anger and aggression	How much patients/staff argue with each other, become openly angry, and display other aggressive behavior
Order and organization	How important order and organization are in the program
Program clarity	The extent to which patients/staff know what to expect in their day-to- day routine and the explicitness of program rules and procedures
Staff control	The extent to which the staff uses measures to keep patients under necessary controls

Table 3: WAS Subscale/ item Definitions

(Source: Rossberg & Friis, 2003)

3.4.1.2 Maslach Burnout Inventory (MBI-HSS)

The second measure that was used was the Maslach Burnout Inventory (MBI, see Appendix Two) which has been the standard measure of burnout ever since it was introduced in 1981 (Maslach & Jackson, 1981, in Richardsen & Martinussen, 2004). The MBI is a 22-item questionnaire designed to measure three elements of burnout, namely, emotional exhaustion (the extent to which emotional resources are depleted), depersonalization (negative, cynical attitudes and feelings towards patients), and reduced personal accomplishment (tendency to evaluate ones work with patients negatively). There are nine questions used to describe feelings of being emotionally overextended and exhausted by one's work and five questions to measure depersonalization and describe an un-feeling and impersonal response to patients. The personal

accomplishment subscale of burnout was measured using eight questions that describe feelings of competence and successful achievement at work (Maslach & Jackson, 1996).

The MBI is available in three versions, (1) The Human Services Survey (HSS), which was used in this study and was developed specifically to measure burnout in health care staff. (2) The Educators Survey (ES), and (3) the General Survey. The MBI-HSS and ES both contain the three scales and are identical except for the fact that the word *recipient* is replaced by the word *student*. The MBI-GS is appropriate for more generic occupations and include the following subscales: Emotional Exhaustion, Cynicism and Professional Efficacy (Brand, 2006).

High scores on emotional exhaustion and depersonalization and low scores on personal accomplishment are associated with high levels of burnout. All items are scored on a zero (never) to six (every day) Likert scale, indicating the frequency of feelings and attitudes experienced. Cronbach Alpha Coefficients ranging from .071 to 0.90 have been reported for the three subscales (Maslach & Jackson, 1996). International usage of the MBI-HSS in studies researching burnout levels among various health care professionals has added to the reliability of this instrument (Storm & Rothman, 2003; Schaufeli, Barker, Hoogduin, Schaap, & Kladler, 2001). Most studies of burnout in the United States and worldwide rely on one of the versions of the MBI (Barnett, Brennan, & Garies, 1999). There are numerous studies supporting the validity and test-retest reliability of the subscales of the MBI (Richardsen & Martinussen, 2004; Barker, Demerouti, & Schaufeli, 2002).

3.5 Data analysis

3.5.1 Quantitative

General descriptive statistics were calculated for both scales and subscales to compare means across all three time points. Quantitative analysis was done to explore possible relationships in burnout and ward atmosphere in the pre-intervention and post-intervention phases in seventeen nurses assessed at both time points. As this was a small data set, quantitative analysis was done as an exploration for future research.

Descriptive statistics were calculated for the pre and post-intervention phases. A repeated (paired) measures t-test design was used to compare the pre and post-intervention data. The assessments occurred across time, with the intervention occurring in between. The t-test assessed whether the mean scores were statistically different from each other. The t-test was applied here to test if the intervention (nurses' educational workshop and support group) process had any effect on the ward atmosphere and nurse burnout.

3.5.2 Qualitative

Thematic analysis was used for the qualitative data analysis (Silverman, 2005). As the focus of this research was to describe the everyday experiences of nurses, this was an appropriate method used to understand and describe the experiences of nursing in this context. On the expectation that this study could raise complex and new challenges faced in the context of HIV and AIDS, the aim was to develop an in-depth, rich and embedded understanding of the problems facing paediatric nursing in the context of HIV and AIDS in South African resource poor settings. The data for the qualitative analysis was obtained from structured field notes from the support groups and participant observation. Field notes were recorded as per Appendix Three.

The findings in the qualitative section are an account of the perceptions of nurses from the support group sessions that were held with them at the hospital. The methodology used an interpretive approach as the researcher was interested in developing an understanding of the nurses' occupational and social lives and how they created meaning in their natural setting. Peer support groups for nurses were formed during the intervention phase of the study. The researcher was a group facilitator and therefore a participant observer.

The support group conversations were not specified by the researcher but were a representation of what the nurses felt like discussing at each support group session; therefore, nurses were not led to answer in any specific way or to have their conversation in any directed manner. Nurses expressed, in their own words, characteristics of their daily experiences.

3.6 Ethical considerations

The Child Youth Family and Social Development (CYFSD) programme at the Human Sciences Research Council (HSRC) was requested by the senior paediatric consultant at a hospital in

KwaZulu-Natal, Durban, to provide assistance by developing interventions to help ease the care burden on staff and caregivers, and the suffering and discomfort of children admitted for treatment of acute illnesses, in the context of the burden on health facilities caused by the HIV and AIDS pandemic. Permission was granted by the hospital's senior paediatric manager.

Ethical clearance for the initial study was granted by the Biomedical Research Ethics Committee of the Human Sciences Research Council. Written informed consent (see Appendix Four) was sought from participants and they were given a right to discontinue participation whenever they felt they no longer wanted to participate in the study. Records of all the questionnaires answered by participants for the duration of the study were kept with the research institution that the study was done on behalf of. The questionnaires and focus group data was only accessed by the researcher and the research organization (HSRC). None of the participants' personal details were essential for the final study.

Ethical clearance for the current study was granted by the University of KwaZulu-Natal Human and Social Sciences ethics committee. Several ethical issues were considered in working with a population of nurses who may be considered vulnerable due to their work in a stressful context. Firstly, an informed consent form was given to them to read and sign before agreeing to participate in the study. It outlined all aspects and procedures of the research study and contained full details of the researchers and the medical research office at the Nelson R Mandela School of Medicine for nurses who had any questions about the study. The nursing manager and the sister in charge of the ward had been made aware of the nature of our research study. The study was first discussed with them and their permission was sought before asking the nurses consent to participate.

Secondly, voluntary participation was emphasized for both quantitative and qualitative data collection. Assessments that had been completed by those nurses who agreed to participate were labeled with a special code and the same code was kept for each nurse throughout data collection. Their names and personal details were not included. This was done to keep the information that they gave confidential. Confidentiality in support group sessions was also emphasized and the support groups were not audio recorded to permit nurses to talk freely and be

assured that the sessions were only between them and the researcher. Support group notes were kept by the researcher in lockable cupboards and were removed weekly together with the assessments to the researchers' office. Participants were told that the findings of the study would be reported but their names would not appear in any of the reports.

Thirdly, nurses were told that they could withdraw from participating when they felt that they no longer wanted to participate and they would not to be penalized or lose any benefits for doing so. Lastly, nurses were informed that participating in the study could be beneficial to them by teaching them more ways to help children in distress that they could use in the ward and help mothers to extend these to their homes as well. Once the study was complete, the training videos were made available to the ward staff.

3.7 Conclusion

Chapter Three provided details of the research process, the sample selection, data collection, and analysis. It presented details of the two measures that were utilized to measure nurses' perceptions of ward atmosphere and burnout. The results of the research will be presented in the next chapter.

Chapter 4: Results

This chapter presents the results of the analysis of the quantitative assessments and the qualitative support group component. The quantitative results are presented first, followed by qualitative results which give an in-depth account of nurses' experiences.

4.1. Quantitative results

4.1.1 Sample characteristics

Although demographic information was collected from the nurses regarding what type of qualification, academic training and nursing experience they had, this was not used in the analysis of this study due to the limits of the sample size. There was minimal data that the researcher could use to make demographic comparisons. For example, there was only one nurse auxiliary enrolled in baseline and only three participated in the pre-intervention and post-intervention phases. Comparisons within phases and across phases could therefore not be made.

Type of Qualification	**Baseline**	**Pre-Intervention & Post-Intervention**
Chief Professional Nurses	2	2
Senior Professional nurses	0	1
Registered nurses	5	1
Enrolled nurses	6	10
Staff nurses	4	0
Enrolled nurse auxiliaries	1	3
Total	18	17
Academic training		
1 year academic training	0	3
2 years academic training	11	11
3 years	6	0
4 years academic training	1	3
Total	18	17
Nursing experience		
1 month- 5 years	6	9
6-10 years	4	2
11-16 years	3	2
17 years and more	5	4
Total	18	17

Table 4: Participant characteristics

4.1.2 Descriptive statistics

The descriptive statistics of the two assessments used throughout the study are presented below. Data from baseline was not included in the results section due to problems which resulted from sampling. The researcher could only analyse data from 17 nurses who participated in the pre- and post-intervention phases and exclude those who participated in baseline but were not in pre- and post-intervention to allow for analysis of the same sample over time. The data from the pre-intervention and post-intervention phases was subjected to t-test analyses.

4.1.2.1 Ward Atmosphere Scale

The Ward Atmosphere Scale consists of ten subscales which are conceptually grouped into three dimensions, (1) relationship (2) personal development and (3) system maintenance. Mean scores for these dimensions were compared across the pre-intervention and post-intervention phases. Moos (1989) argued that the subscales are conceptually distinct, have different practical implications, and tend to be changed by somewhat different procedures, and, thus, should be kept separate. The researcher thus looked at the ten subscale means separately from each other and the three dimensions separately from each other.

	N	**Pre-intervention**		**Post-intervention**	
		Mean	Std. Deviation	Mean	Std. Deviation
Involvement	17	2.76	.75	2.64	.93
Support	17	2.64	1.2	2.64	.93
Spontaneity	17	1.82	.72	1.47	.87
Autonomy	17	2.17	1.2	1.58	.87
Practical Orientation	17	2.41	1.0	2.29	.84
Personal Problems	17	1.64	1.0	2.52	.71
Anger & aggression	17	2.05	.74	2.64	.78
Order & maintenance	17	2.88	1.16	3.00	.86
Program clarity	17	2.17	.72	2.00	.93
Staff control	17	1.88	1.21	2.00	1.06

Table 5: Ward Atmosphere Scale mean scores

The mean for “Involvement” is higher at the pre-intervention phase compared to the post-intervention phase. (*M=2.76, SD= .75; M=2.64, SD= .93*). The mean of “Support” (how much patients/staff help and support each other, how supportive the staff are toward patients) stays the same at pre-intervention and post-intervention (*M=2.64, SD= 1.22; M= 2.64, SD= .93*).

"Spontaneity" mean scores are highest at pre-intervention (*M= 1.82, SD=.72*). Nurses exercised the greatest autonomy at pre-intervention (*M=2.22, SD=1.11*) compared to post-intervention mean scores. "Practical orientation" was highest at post-intervention with the mean score of (*M=2.29, SD=.84*). "Personal problems" and "Anger and aggression" were reported highest at post-intervention with the mean score at (*M= 2.52, SD= .71; M= 2.64, SD= .78*). "Order and maintenance" is highest at post-intervention and lowest at pre-intervention, while "Program clarity" does not change across time. Lastly, "Staff control" is highest at post-intervention (*M= 2.0, SD= 1.06*). Ward atmosphere subscales are examined in tables 6, 7 and 8.

- *Relationship dimension*

	N	Pre-intervention		Post-intervention	
		Mean	Std. Deviation	Mean	Std. Deviation
Relationship dimension	17	7.05	1.34	6.88	1.65
• Involvement	17	2.76	.75	2.64	.93
• Support	17	2.64	1.22	2.64	.93
• Spontaneity	17	1.82	.72	1.47	.87

Table 6: Relationship dimension

The relationship dimension assesses staff perceptions of how active patients are in the ward. For example, one question in the relationship dimension is "*Patients put a lot of energy into what they do around here"* and nurses have to answer true or false to this statement. Other aspects that were assessed in this dimension included how much patients helped and supported each other, and how supportive staff were towards patients. The mean score at the pre-intervention phase is *M= 7.05 (SD= 1.34*). The mean score at post-intervention phase is *M= 6.88 (SD= 1.65*). Mutual support is higher at the pre-intervention phase. The significance of these differences is reported on in the t-test.

- *Personal Development Dimension*

	N	Pre-intervention		Post-intervention	
		Mean	Std. Deviation	Mean	Std. Deviation
Personal development	17	8.52	2.34	9.11	1.90
• Autonomy	17	2.17	1.28	1.58	.87
• Practical orientation	17	2.41	1.06	2.29	.84
• Personal problems	17	1.64	.99	2.52	.71
• Anger & aggression	17	2.05	.74	2.64	.78

Table 7: Personal development dimension

This dimension looks at factors such as the extent to which staff understand their feelings and personal problems as well as how much staff argue openly with each other. For example, one statement says *"Staff sometimes argue openly with each other"*. At pre-intervention, the personal development mean was *M= 8.52 (SD= 2.34*). At post-intervention, there was an increase in the personal development dimension mean *(M= 9.11, SD= 1.90*). An increase occurs in the "anger and aggression" subscale of this dimension. This increase is explored in the t-test in section 4.1.3.1.

- *System Maintenance Dimension*

	N	Pre-intervention		Post-intervention	
		Mean	Std. Deviation	Mean	Std. Deviation
System maintenance	17	6.88	1.83	6.88	1.65
• Order and organisation	17	2.88	1.16	3.00	.86
• Program clarity	17	2.17	.727	2.00	.93
• Staff control	17	1.88	1.21	2.00	1.06

Table 8: System maintenance dimension

This dimension looks at how important order and organization are to patients and staff and the extent to which patients know what to expect in their day-to-day routine at the ward. This is important to both staff and patients to maintain order and understanding between each other. For example, one statement says *"The patients clearly understand the ward rules"*. The system maintenance mean score is *6.88 (SD= 1.83*) at pre-intervention and stays exactly the same at post- intervention (*M= 6.88, SD= 1.65*). There therefore appears to have been no change in

system maintenance dimensions of staff and patients in this paediatric ward through the study period.

4.1.2.2 Maslach Burnout Inventory

The MBI was used to measure three elements of burnout: emotional exhaustion (EE), depersonalization (DP), and reduced personal accomplishment (PA). High scores on emotional exhaustion and depersonalization and low scores on personal accomplishment are associated with high levels of burnout. All items are scored on a zero (never) to six (every day) Likert scale, indicating the frequency of feelings and attitudes experienced. The subscale scores for each nurse were categorised according to the validated cutoff points published for the standardised measure into 'low', 'moderate' and 'high' degrees of burnout (Chandra, Jairam & Jacob, 2009).

Scores that are less than 19 on EE, 6 on DP, and more than 39 on PA suggest a low level of burnout. Scores 19-26 on EE, 6-9 on DP and 34-39 on PA suggest average level of burnout. A high level of burnout is indicated by a score more than 26 on EE, 9 on DP and less than 34 on PA (Chandra, Jairam & Jacob, 2009). Analysis was carried out using raw scores. Raw scores on the personal accomplishment dimension are scored in the opposite direction. For assessing the prevalence of burnout, the cutoff suggested was used to categorise the scores indicating low, average or high level of burnout.

	N	**Pre-intervention**		**Post-intervention**	
		Mean	Std. Deviation	Mean	Std. Deviation
Burnout					
• Emotional exhaustion	17	18.94	14.35	24.76	14.61
• Depersonalisation	17	4.70	5.14	5.41	4.00
• Personal accomplishment	17	32.94	13.26	34.64	13.91

Table 9: Burnout mean scores

The nurses measured at pre-intervention reported the lowest emotional exhaustion (*M=18.94, SD= 14.35)* and these scores increased in the post-intervention testing (*M=24.76, SD= 14.61*), indicating that the nurses experienced more emotional exhaustion after the intervention. With

regards to depersonalization, once again nurses have higher scores at post-intervention. Nurses appear to have had a high to average level of burnout in terms of their sense of personal accomplishment in their work at pre- and post-intervention. Mean scores at post-intervention are, associated with an 'average' degree of burnout.

4.1.3 T-test results for pre-intervention and post-intervention phases

The t-test was done to test which scores in the Moos Ward Atmosphere Scale and the Maslach Burnout Inventory Scale were significant, across the pre-and post-intervention phases.

4.1.3.1 Moos Ward Atmosphere Scale t-test results

		Sig. (2-tailed)			
		Mean	Std. Deviation	Std. Error Mean	Std. Error Mean
		Lower	Upper	Lower	Upper
Pair 1	Involvement	.117	.99	.24	.63
Pair 2	Support	.00	1.22	.29	1.0
Pair 3	Spontaneity	.35	1.05	.25	.18
Pair 4	Autonomy	.58	1.66	.40	.16
Pair 5	Practical orientation	.11	.85	.20	.57
Pair 6	Personal problems	-.88	1.36	.33	.01
Pair 7	Anger & aggression	-.58	.87	.21	.01
Pair 8	Order & maintenance	-.11	1.36	.33	.77
Pair 9	Program clarity	.17	1.07	.26	.50
Pair 10	Staff control	-.11	1.11	.26	.66

Table 10: Moos Ward Atmosphere scale subscale significance t-tests

This table shows significant differences in ward atmosphere scores for nurses' "Personal problems" *(p=.01)* and "Anger and aggression" scores *(p=.01)*. There appears to have been a significant increase in "Personal problems" and "Anger and aggression" of nurses in the ward from pre- to post-intervention.

4.1.3.2 Moos Ward Atmosphere Scale higher order dimensions

	Paired Differences					Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Std. Error Mean
	Lower	Upper	Lower	Upper	Lower	Upper
Relationship	.17	1.46	.35	-.57	.93	.62
Personal Development	-.58	2.87	.69	-2.06	.88	.41
System Maintenance	.00	1.73	.42	-.89	.89	1.0

Table 11: Moos Ward Atmosphere Scale higher order dimension significance t-test

The three higher order dimension results in Table 11 above show that there was no significant change in "relationships", "personal development" and "order and maintenance" in the ward, (Relationship *p=.62*; personal development *p=.41* and system maintenance *p= 1.0*).

4.1.3.3 Maslach Burnout Inventory t-test results

The mean scores for the MBI subscales indicate that nurses experienced average levels of burnout at post-intervention. The scores on the emotional exhaustion subscale increased between pre-intervention (*M= 18.94*) and post-intervention (*M=24.76*). The researcher explored whether the mean increase was significant or not. Statistical significance of burnout subscales is reported in the table below.

	Paired Differences					Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Std. Error Mean
	Lower	Upper	Lower	Upper	Lower	Upper
Emotional exhaustion	-5.82	13.55	3.28	-12.79	1.14	.09
Depersonalization	-.705	3.15	.76	-2.32	.91	.37
Personal accomplishment	-1.70	19.56	4.74	-11.76	8.35	.72

Table 12: Burnout subscales significance t-tests

Emotional exhaustion (Table 12) is not significant with *p*=.09. As this is an exploratory study looking for possible relationships with a small sample and does not inform widespread policy

changes, the result may be considered to be approaching significance. Depersonalization (p=.37) and personal accomplishment (p= .72) were not significant.

4.2 Qualitative Results

It is important to understand the nature of tasks performed by nurses caring for paediatric patients in the context of HIV and AIDS as this relates to issues of attrition, and physical and emotional stress to name just a few. The most frequently mentioned themes that were identified as playing a role in the experiences of nurses in this study were, (1) Issues of authority in the ward (2) Disclosure of HIV status (3) Social support and early education and prevention for caregivers and nurses (4) Increased workload (5) Physical and emotional strain related to caring for children (6) Loss of colleagues (7) Stressors related to the current South African context. These themes are further elaborated in the following section. Throughout the qualitative results section, associated quotes from the nurses are used to illustrate the findings and they are indicated in italics. Quotations were recorded verbatim directly as they were reported.

4.2.1 Issues of authority in the ward

A major theme in the support groups was the issue of authority in the ward. Nurses described difficulties in their relationships/interactions in the ward both with other staff members and with caregivers.

4.2.1.1 Experience and educational level

Nurses described numerous occasions where they felt unable to take the initiative in making health care decisions or to ask questions of doctors with regard to care procedures performed on patients. This was due to the fear that they would appear less knowledgeable to the caregivers who may therefore lose respect for their authority. They also worried that the doctors may think that they were questioning or doubting what doctors were doing.

Nurses who had only a year or two of training were the ones who expressed a lot of helplessness in making decisions in the ward because they felt that they did not have the authority to do so. Nurses and doctors with a higher rank and long service at the hospital received more respect from their colleagues, patients and caregivers and were thus able to take positions of authority

when compared to those who only had a few years of working and this made nurses who had only just started feel invisible. Nurses said that they would like to have a general staff meeting where they would be able to talk about their concerns without seeming like they did not know anything or were questioning what the doctors were instructing them to do.

4.2.1.2 Relationships with caregivers

Caregivers of children who were five years and under were able to sleep in at the hospital's 'mothers' lodge and spend the day at the ward helping the medical staff to take care of their children. Nurses said that this was helpful but it came with a lot of negative consequences regarding how it interrupted their work. Nurses said that caregivers had a perception that they were the experts of their own children and no one could tell them how to take care of them. This posed a problem when nurses were instructed to do procedures on the children such as inserting the nasal gastric tube.

> *Mothers have to be told about the use of the NG (nasal gastric) tube because they seem to think that it is dangerous to the baby but in fact it is to help the baby to eat.*

> *Some parents have an "attitude", they think that because we are nurses, they do not have to help when they come to visit, they exclude themselves.*

Nurses said the educational videos (part of the intervention) that were playing in the ward helped them to have more positive conversations with caregivers because caregivers were beginning to trust them with their children when they watched the videos and learned that they had to work together with nurses to improve the wellbeing of their children. However, caregivers who had been at the hospital for a long time were a 'bad influence' on the new ones and did not want to be told anything by nurses. One nurse made an example of a caregiver who was sleeping on the child's bed in the ward and when she told her to go to the mothers' lodge if she wanted to sleep, the mother was rude to her.

> *When mothers have been in the ward for too long, they become rude and influence new caregivers to behave the same. For example, about the videos, when they have been in the ward for a long time they start to say that the videos are boring and they tell new mothers the same thing.*

4.2.2 Disclosure of HIV status

Nurses said that women who disclosed their HIV status to their partners received more support than those who did not. Those who received support made nurses' work easy because they had both parents of the child coming to the hospital and working together with them. Nurses said that those who were scared to tell their partners due to issues of stigma or potential abandonment by their partners made nurses' work difficult. It was difficult because it made nurses feel helpless because they were not in a position to disclose the HIV status of the baby as it would have meant that they were disclosing the mother's status as well, which was not their place or duty to do. Mothers were terrified because they worried about what would happen should their partners find out about the HIV status of the child. They feared that they were going to be in trouble.

Nurses said that they thought caregivers were mostly afraid of disclosing to their partners because they were afraid of being abandoned and discriminated against. On the other hand, men were most scared to get tested. The privacy around the HIV status resulted in mothers continuing to have unprotected sexual intercourse which often resulted in a pregnancy and nurses feeling more unproductive in helping their patients.

It was reported that caregivers were not the only ones who were scared to disclose their status. Nurses said that other nurses (medical staff) did not disclose to colleagues. They said it was important to disclose to colleagues because they work in a difficult environment where one mistake could lead to a lifetime of regret and they had to take extra precautions as sometimes not disclosing could cost another person's life. Nurses said that caring for very sick children often required extra precautions. There were several cases of infected grandmothers that were reported to nurses. These grandmothers got infected through caring for their infected children and grandchildren. They had no knowledge of the child's status and they did not even know a lot about HIV transmission.

> *I know a grandmother who was infected because she was nursing her grandchild. She did not know that she was infected and I tried to tell her that she should use gloves when bathing*

her or dressing her sores. She did not understand why I was saying this and I couldn't tell her why I wanted her to protect herself because of the issue of confidentiality.

4.2.3 Social support and early education and prevention for caregivers and nurses

In order to deal with the dilemmas of HIV disclosure, nurses said that there needed to be social support and early education and prevention of HIV. They said that parents of their patients should be taught about having unprotected sexual intercourse and how they should live and take care of each other. They believed that it would be best for them to be supported together.

There was a concern about nurses not having enough information on antiretroviral treatment and nurses said that this made them unable to give caregivers correct information so they would be able to prevent infecting a child that was born negative.

As nurses we also need training on ARV treatment because we do not know as much as we should about it.

Nurses also said that people from rural areas still did not know much about the disease. They still thought of it as witchcraft and often used other forms of medicine in conjunction with what they were given at the hospital. They used traditional medication such as (*umuthi wenyoni* for inhibiting fear, and medicine used as an enema). Some caregivers thought that it was better to give their children both kinds of medication. Other parents came to the hospital and told nurses that their child had been bewitched because of the regular diarrhoea the child had.

It is hard to tell Black people not to use traditional medication; they think that their child has been bewitched.

4.2.4 Increased workload

Inadequacies caused by issues of authority, and the secrecy surrounding the disease reduced nurses' productivity. They said that they were confronted with ethical issues and hindered in curbing the further spreading of HIV and AIDS. The fact that they could also be infected with the disease, ultimately led to increased absenteeism, stress and lower performance among sufferers (who refused to disclose) and increased workloads and emotional discontent for the

remaining workforce. Nurses said that the ward was very busy towards the end of the year. There were always a lot of children admitted which as a result generated a lot of work. Despite the fact that there was not enough staff, there were nurses who took leave and that contributed to the shortage of staff.

Nurses mentioned that some mothers left their children at the hospital and they never came back to check how their child was doing. The number of children in the ward that required specialized care and the shortage of nurses resulted in a very high demand for care. Nurses said they could not give each child adequate individualized attention because there was always a lot of work to do between minimum staff on duty.

> *It is not right to dump children at the hospital and go back home because sometimes caregivers just dump their babies here and expect nurses to look after them, the video shows that once the child is admitted, the caregiver has to be there to help the child settle down and comfort the child, and also to help the nurses with bathing children, making beds and feeding them. The advice is well brought out in the video.*

Nurses often did not have a lot of time to dedicate to each child so they ended up relying on caregivers for extra support. However they believed that caregivers did not do well in taking care of their children. There was a lot of demand for care. With a lot of nurses leaving South Africa, nurses said it made it very tough to meet all the demands posed by HIV and AIDS in a children's ward. Children were fragile and required more specialized care. Furthermore, sick children required more specific and extended attention.

> *Summer is a busy time in the ward. There are always a lot of children admitted and a lot of work is created. There is not enough staff, and there are even nurses who take day offs from the shortage that we already have. It makes us tired.*

Some nurses in the support group felt that when mothers were at the ward, the burden of caring was at least decreased because they knew that they could delegate some duties like feeding and responding to a crying baby to the caregivers. Nurses said that the videos that were playing in the ward were also helpful to assist with caregiver orientation and to educate caregivers about the

things that they could do in the ward that were helpful to nurses and children. Nurses emphasized the importance of having the videos in the ward and said that they had made a difference in the ward.

There was also a notable trend of children coming back because they had fallen sick all over again. Nurses said that this was because caregivers failed to practice what they were taught at the hospital about the child's illness and how they had to nurse the child. They left their child in the care of other people without properly explaining the nature of the child's illness and how the child should be taken care of and this defeated their attempt at early education and prevention.

> *After discharge, some mothers leave their babies with grandparents who are not adequately knowledgeable about giving medication.*

4.2.5. Physical and emotional strain related to caring for children

Nurses said that they could not deal with the pain suffered by the children that they cared for. They acknowledged that nursing in any context is a challenging job; however, when almost half of the ward is filled with AIDS infected children, providing care becomes more challenging. These challenges were exacerbated by having to attend to lodger mothers, the trauma of losing colleagues and issues of crime. Most of the time there was a lot of work and they could not deal with all the children. They had to prioritize and that meant some children were not given the attention that they required. Nurses also said that this resulted to them taking sick leave or unauthorized leave to get time to rest.

> *Constant crying in the ward hurts us.*
> *It is difficult to cope and handle crying children and sometimes you never know which child to hold and comfort first because they are all crying.*

Sick children required more attention, they could not do anything by themselves, and it was nurses who had to bath, feed, change their linen, dress their sores, and turn them regularly to avoid bed sores. These duties were not done only once, but many times a day because often children suffered from serious diarrhoea. All nurses reported being exhausted and stressed because they had long days at work (10 to 12 hour shifts), which entailed working very hard.

Nurses said that caring for children with HIV and AIDS who also suffer from incontinence comes with a lot of emotional stress. However, many nurses indicated that they developed close relationships with the children that they cared for. Nurses had to endure seeing children's appearance and their degeneration and finally see them pass away; it was not easy dealing with such circumstances, and they said that they liked to see the children recover, but what they often witnessed was death.

> *One child died last year while we were inserting the tube. We think the mother had tried to feed her on the mouth forcefully.*

Nurses said that even though they went through a lot of trauma at work they did not receive any counselling when something as drastic as the death of a child that they had been caring for and had come to love passed away. Life had to go on and they had to take care of the other children and it was not an easy thing to move away from. Nurses indicated their desire for counselling as they were often haunted by the suffering and death of patients, and said that it took time to get over the pain.

4.2.6 Loss of colleagues

It was not only the loss of patients that they were overwhelmed about, but they also had to endure losing a colleague. They said that at least twice every year they lost a nurse that they worked very closely with, and almost every weekend, a nurse that they knew passed away.

> *A lot of nurses die every week at the hospital and we do not understand what is going on.*

During the study period, a nurse who had been very ill for about two weeks and was at the hospital's intensive care unit passed away. One support group session took place on the day that she passed away where nurses were talking about her and it was clear that her death had taken a lot away from them, especially those who were her friends.

It is very difficult to believe that Siphelele has passed away. It is difficult to think that this has really happened because we were with her this morning, we visited her.*

*A pseudonym is used for the nurse who passed away.

The nurses indicated that they appreciated having a chance to talk about her in the support group because most of the time, people passed away and they did not even get a chance to talk and make peace with what had happened.

In contrast to the issues raised above some nurses said that they were not as overwhelmed by stress as much as they were when they started working at the hospital, as they have had a lot of experience and had seen a lot of people die, therefore it was not something that overwhelmed them anymore. They just went on like they always did.

4.2.7 Stressors related to the current South African context

HIV and AIDS were not the only factors that nurses said impacted on their daily struggles. They said that political and economic changes, an increase in the demand for health services, a decrease in nursing service due to nurses leaving the country and unsatisfactory working conditions and crime contributed to the challenges faced by them. Nurses said that they had been victims of crime in and outside work premises.

A taxi that was taking nurses to work was hijacked and they were asked for their cellular phones and money that they had in their bags and jewellery.

Two nurses who work here were abducted. One got robbed of all her money which was about R 34 000. The other one was abducted by three girls who locked her into a flat and took out all her money. They would withdraw the day limit and go to the ATM again the next day until all her money was finished and only then did they let her go.

Nurses felt that this was a big problem for them which needed government's attention. They stated that often crimes went unreported as they feared for their lives and for the lives of their families. Nurses said they no longer felt safe at the hospital, especially when they had to walk to their cars at night because they did not know who was there watching them. They said that the

hospital parking lot had a lot of criminals who pretended to be patients and there was no proper security. As a result, they did their work in fear because they did not know what was going to happen to them and this also gave them reason to leave the country and seek work elsewhere.

During the study period nurses went on a national strike due to grievances regarding working conditions and salary. Once their grievances were met, the nurses felt targeted by criminals due to the media reporting that they were going to get a salary rise. Nurses became targets even in their own areas of residence by people who knew that they had recently got a raise. Most of them feared coming to work and going back home. Nurses said that they did not feel safe in their working environment. They reported that there was a break-in at the medical school which was part of the hospital. Robbers asked for money and cellular phones.

4.3 Conclusion

In this chapter the research results were reported and interpreted. Baseline, pre-intervention and post-intervention data obtained through quantitative and qualitative analysis were reported with pre-and post-intervention data highlighted.

HIV and AIDS impacts negatively on health care workers' job satisfaction especially because of increased workload, resource shortfalls and increasing patient mortality. Overwork due to caring for chronically ill children is often emotionally draining, especially where resources are too limited to provide good treatment. These frustrations have impacted negatively on the relationships between nurses and caregivers of their patients. Changing economic and political structures have also caused a shift in the health sector and how it functions, creating a continuous worry over finances and safety in nurses. The following chapter will highlight how contextual factors influenced nurses' experiences of burnout and ward atmosphere, how the intervention was utilised and what role it played in this paediatric ward.

Chapter 5: Discussion

The current study focused on the experiences of nurses who are caring for children in a resource-poor hospital in South Africa, KwaZulu-Natal. It aimed to provide insight to paediatric care nurses' experiences in an attempt to address problems that South African public hospitals face and to evaluate whether a psychosocial training intervention and peer support group programme was effective in reducing occupational stress and improving ward atmosphere in the context of HIV and AIDS. Nursing care implies providing extensive physical care and rendering emotional support to patients, often suffering from HIV and AIDS related diseases (Reis, Heisler, Amowitz, Moreland & Mafeni, 2005). This makes nurses' work more physically and emotionally demanding and risky.

There are few South African studies that have focused specifically on the experiences of paediatric care nurses who care mainly for terminally ill children. A number of studies on HIV and AIDS have focused on patients' experiences as well as that of families (Richter, et al., 2004; Gray, et.al 2005). This study aimed to address this lack of research into the experiences of paediatric care nurses who are faced with the burden of caring for young children in the context of HIV and AIDS. It also aimed to highlight the impact this may have on policy and Department of Health decisions.

The current study used the Moos Ward Atmosphere Scale and the Maslach Burnout Inventory to measure nurses' experiences of ward atmosphere and burnout in a South African public paediatric ward. This was done to establish nurses' risk in relation to burnout in order to highlight their state of wellbeing.

5.1 Ward atmosphere

In many HIV high-prevalence and resource-poor settings, health systems are weak and unbalanced. As the epidemic grows, the requirement for care for those living with HIV rises, as does the toll of AIDS on health workers. Research suggests that, on average, HIV-positive patients stay in hospital four times longer than other patients. This means that more work is done

by health care workers since AIDS patients require specialized and time consuming care (Barnett & Whiteside, 2002).

The Ward Atmosphere subscale measures revealed that nurses experienced an increase in "anger and aggression" scores as well as increased "personal problems" scores during the study period. The significant increase in both these scores did not seem to occur because nurses felt extremely overwhelmed in the ward at the post-intervention phase. The rest of the scores showed that nurses experienced challenges in the ward throughout the study. The increase in the "personal problems" scores may have resulted from nurses being able to openly talk about their problems to each other and with an outsider in the context of the support groups. Nurses said that they were happy to be able to tell someone what their problems are and this process made them aware of their challenges in the ward. The "personal problems" score measures the *extent to which patients/staff seek to understand their feelings and personal problems*. Results showed that personal problems increased and this may have been a positive development from the support groups.

On the other hand, "anger and aggression" scores also increased. This score is indicative of *how much patients/staff argue with each other, become openly angry, and display other aggressive behaviour*. In the support groups, nurses shared their experiences of anger towards the health system and their anger towards fellow community members whom they felt did not acknowledge their hard work and resorted into victimising them through crime. Nurses also raised their distress about the national strike that took place for about two months during the study. The strike resulted in a heavier workload due to too many patients in the ward, lack of resources, especially staff. The nurses in the current study feared becoming victims of crime inside the hospital. Safety became a primary concern due to a rise in incidents that targeted them. Thus the change in this score may have been a result of the strike and its consequences.

5.2 Burnout

HIV and AIDS intensify the demand for care, the level and complexity of work and the risk of infection (Hongoro & McPake, 2004). For these reasons, HIV and AIDS care may result in nurse burnout. Saag (2006) defines burnout as a loss of enthusiasm for doing the job at hand. He

further states that burnout occurs when the rewards of patient care are dwarfed by the workload and the absence of job satisfaction. This is in accordance with results of previous studies that looked at nurses' experiences as they provide care to people with HIV and AIDS (Aitken & Kemp, 2003; Hall, 2004; Smit, 2005).

Having too many patients per nurse degrades hospital care, places unnecessary stress on hospital staff and increases the risk of preventable conditions progressing to life threatening stages for patients. Thus of primary importance in the effective provisioning of health services and programme implementation are nurses' wellbeing and their skills and commitment, which play a crucial role in ensuring that they deliver quality care to patients.

The Maslach Burnout Inventory revealed that in the pre-intervention phase nurses experienced low levels of "Emotional Exhaustion" and "Depersonalization" but indicated poor levels of "Personal Accomplishment". In the main this was not indicative of high levels of burnout. Average levels of "Emotional Exhaustion" and "Personal Accomplishment" also did not indicate high levels of burnout in the post-intervention phase. Even though there was an improvement in "Personal Accomplishment" in the post-intervention phase, it was not significant; therefore no conclusions can be drawn from this. The results on the Maslach Burnout Inventory are surprising given the context in which these nurses work and given the substance of the support group meetings.

During the support groups, nurses in the current study reported feelings of hopelessness, emotional exhaustion, fear, anger and frustration, occupational-related concerns in relation to politics and the economy, compassion for their patients, and a lack of self-fulfilment. These findings are consistent with those of Smit (2005), who explored the perceptions and experiences of nurses caring for people living with HIV and AIDS in the public health sector. This study focused on registered nurses working in different wards in a public hospital. Seven themes were identified, which were: helplessness, emotional stress and fatigue, anger and frustration, occupational-related concerns, empathy, and self-fulfillment.

In the support groups, nurses mentioned challenges that related to relationships with caregivers, threats of physical consequences, challenges in the health sector more broadly, the difficulties of paediatric care and the effect of the intervention, however, the Maslach Burnout Inventory Scale results reveal that nurses were not suffering from burnout as measured by this instrument. It is interesting to note that in the support groups the nurses repeatedly mentioned being able to overcome challenges that they faced. They said that they learned from their previous hardships and knew how to deal with them if they came up again. The support group sessions comprised of older staff members who had many years of nursing experience and they shared their philosophical views on handling challenges and not being thrown off the wagon by hardships.

5. 3 Relationships with caregivers

A unique feature of the paediatric ward is the presence, not only of the patient (child), but in most cases the child's caregiver as well. Nurses therefore have to manage multiple relationships in the ward, and this can be problematic. The nurses in this study said that it was helpful to have caregivers at the ward but this came with a lot of negative consequences regarding how it interrupted their work. Derbashire (1996) claimed that parental participation and living-in was viewed largely as philosophically and professionally unproblematic. The living-in of caregivers has been advocated and operationalised with little or no attempt made to understand what living-in is like for either parents or for nurses who work with them. Throughout the literature on paediatric care, there is a lack of detailed descriptions on how parents and nurses feel about this situation.

The current study revealed that having caregivers in the ward was an ambivalent experience for nurses. Caregivers were considered both a threat and an ally. A threat, in terms of not respecting their expertise as nursing staff - where caregivers who had been at the hospital for a long time were regarded as a 'bad' influence on the new ones and did not want to be told anything by nurses; and an ally - by helping them with duties such as feeding, bathing and soothing crying children in the ward.

This ambivalent relationship was also played out in the caregivers' use of both traditional healing and western medicine. Traditional beliefs regarding HIV and AIDS and the use of traditional

medication (*umuthi wenyoni* for inhibiting fear, and medicine used as an enema) were a source of conflict between nurses and caregivers. Caregivers often used both traditional and western medicine which resulted to miscommunication between nurses and caregivers.

Nurses in the study expressed an inability to communicate effectively with their patients or patients' caregivers. Prior to the introduction of the educational videos in the ward, nurses spoke of being frustrated in their attempts to display care and empathy when they encountered communication problems with family members and caregivers, due to a lack of time, feedback, or understanding. This was experienced more by nurses who had minimal experience and were new in the ward. This is not unique to the South African situation however as Gunther and Thomas (2006) report similar experiences with nurses in the United States where nurses expressed their inability to understand the patient's suffering as related to communication problems, inexperience, and lack of resources .

5.4 Challenges presented by HIV and AIDS

Nurses also experienced some caregivers as uncooperative with regards to disclosure of their HIV status. They said that women who disclosed their status to their partners received more support than those who did not. Those who received support made nurses' work easier because they had both parents of the child coming to the hospital and working together with them. Nurses said that those who were scared to tell their partners due to issues of stigma or potential abandonment by their partners made their work difficult. Disclosure was an ethical dilemma to nurses as it made them feel helpless. While nurses were irritated by caregivers who did not want to disclose to partners, nurses themselves were also not disclosing to fellow colleagues. It was interesting to hear nurses sharing the importance of disclosure when they, in turn, did not practice it.

Nurses also expressed the inability to provide adequate care to children; as a result, they experienced feelings of guilt and dissatisfaction with their work. Irurita (1996, in Gunther & Thomas, 2006) found that lack of time and resource availability, coupled with increasing patient insight, inhibited the development of caring nurse-patient relationships in the ward. This failure resulted in feelings of guilt, dissatisfaction, and stress which eventually lead to burnout. Nurses

in the current study also expressed feelings of stress when they could not communicate properly with caregivers. Communication problems were not limited to nurses and caregivers only, but new nurses in the ward said that they struggled to communicate with their seniors and make health care decisions on their own. This lack of initiation made them feel inadequate.

Nurses felt that they were also in danger of contracting HIV from their patients or passing it on to patients and each other due to the lack of disclosure. It was reported that other nurses (medical staff) did not disclose to colleagues because caring for very sick children often required extra precautions. Loewenbrück (2000) stated that people providing health care are at potential risk of HIV exposure, depending on whether adequate universal precautions are implemented. Hall (2004) also found that 46.4% of nurses are afraid of infecting their partners and children because of the HIV and AIDS exposure at work.

The experience of stress can have a significant consequence for a person's lifestyle and social functioning. According to Hongoro & and McPake (2004), severe staff shortages, health care workers' migration, and a decrease in the production of new staff each year is further compounded by an increase in HIV and AIDS patients in public hospital wards. The care needs of patients suffering from opportunistic infections and AIDS have placed a severe strain on services, often disproportionately on some of the most disadvantaged facilities. This workload on nurses has resulted in physical, emotional and psychosocial problems.

5.5 Challenges of paediatric care and the health sector

In addition to feeling stressed due to the challenges posed by HIV and AIDS, the work load and a lack of psychological support, crime and miscommunication with caregivers, nurses also had particular concerns with challenges posed by the nature of their work. The factors discussed above are some of the reasons that lead to attrition at work - nurses are feeling stressed, overworked and emotionally unstable because of worry for their patients and for themselves. Saag (2006), reported that grief associated with magnitude of loss, persistently, on a day to day basis, burned nurses out. According to Brand (2006), increased absenteeism, loss of productivity and inefficiency result in financial losses for the hospital.

Paediatric treatment in South Africa is compounded by the lack of paediatrically trained healthcare personnel and infrastructure (Richter et al., 2004). Despite the lack of staff in paediatric wards, nurses said that some mothers left their children at the hospital and they never came back to check how their child was doing. This created a very high demand for specialised care on their part. It also resulted in a lack of provision of adequate care to those children who needed it the most. Likewise, uncooperative caregivers hindered the manner in which nurses were able to deliver care to children because they often had to check with the parents and were not able to make necessary health care decisions.

In spite of describing emotional and physical stress, nurses expressed feeling empathetic towards patients and a supportive attitude regarding their patients. Literature has revealed that caring for chronically ill patients results in compassion fatigue (Booysen, 2005; Radey & Figley, 2007). Silverman and Daniel (1993) stated that, it is possible and in fact likely that the enormous stress of HIV-related work and the constant exposure to the suffering of people with HIV related illness can lead to the onset of symptomatic disorders in some susceptible care providers.

Nurses also wished they could acquire more knowledge and skills in order to provide quality care to patients requesting training on ARV treatment because they did not know as much as they wanted to know about it. Nattrass (2006) states that there has been a recent increase in the provision of antiretroviral drugs (which significantly delay the progression from HIV to AIDS) however, it has put an increased strain on healthcare workers. Providing antiretroviral treatment to everyone who needs it requires more time and training than is currently available in most African Countries.

The rapid pace of transformation in the South African public health sector brought about significant changes in the working conditions of health care professionals (Van Rensburg, 2004). Public health services are severely affected by staff shortages due to a flight of skills from the public to the private sector and other countries (van den Berg, 2006). According to Aitken and Kemp (2003), the health sector is affected through a variety of mechanisms including; increased patient load, burnout, high absenteeism, stress, depression, and demotivation. Excessive workloads, poor pay and migration to richer countries are among the contributing factors to the health sector problems making it difficult to provide care adequately.

In this study, inadequacies caused by the secrecy surrounding the disease and lack of cooperation between nurses and caregivers reduced nurses' productivity. They said that they were confronted with ethical issues and hindered in curbing the further spread of HIV and AIDS. The fact that they could also be infected with the disease, ultimately led to increased absenteeism, stress and lower performance by sufferers resulting in increased workloads and emotional discontent for the remaining workforce. Nurses said that there were always a lot of patients/children admitted which as a result generated a lot of work. Despite the fact that there was not enough staff, there were nurses who took leave and that contributed to the shortage of staff. With a lot of nurses leaving South Africa, nurses said it made it very tough to meet all the demands posed by HIV and AIDS in a children's ward. Children were fragile and required more specialized care. Furthermore, sick children required more specific and extended attention.

The problems encountered by nurses in this setting were exacerbated by the fact that there was a staff shortage. Nurses reported that they are caring for a maximum of 16 patients in a day; most of the children that they cared for were bed bound or needing special attention because they were at a critical stage (most were unable to eat because they had oral thrush and they cried constantly because they were in pain). Nurses felt a lot of pressure as they struggled to provide the best of care to all of them and often had to rely on caregivers to support them which often did not happen. Also of great concern was the emotional stress that was suffered by nurses making them vulnerable to burnout caused by job tension and emotional exhaustion.

Another unique feature for these nurses was dealing with the consequences of the national strike which lasted two months. Not only did it impact on nurses' workload as a result of the backlog, but it also perpetuated the human resource problems of the health sector. As Reis et al. (2005) reported that perceived workload may predict burnout in nurses, it is important that mechanisms for support are available for nurses in this context.

5.6 Effect of the intervention

The intervention appears to have had a mixed impact on ward atmosphere and nurse burnout.

Due to the lack of a control group, no direct conclusions can be made regarding the impact of the intervention. The researcher could not use the baseline data but was only able to compare means at pre and post-intervention phases. These design issues led to limitations in the analysis procedures that could be used. The quantitative results pointed to few significant differences between the pre- and post-intervention phases, and those that were significant showed movement in contradictory directions. In the main, there were no significant differences in ward atmosphere except on the "personal problems" and "anger and aggression" subscales. Due to contextual factors at the time of the study (i.e. the national strike), it is not clear what the sources of these differences were.

Qualitative comments from the study showed that there were positive and negative outcomes from the intervention. On the positive side, it assisted nurses in recruiting caregivers to participate and be more cooperative in taking care of their children. The videos showed caregivers how they could be of help in feeding, bathing and attending to crying children in the ward. As a result, nurses reported that caregivers assisted them and this decreased their workload. The support group component provided nurses a chance to talk about their problems amongst each other and they reported that they felt comfortable doing so with an outsider who was the facilitator. Conversely, the intervention was perceived in a negative way as nurses reported that they lost time they would have spent with patients and rather used it to attend support groups, educational workshops and supervise caregivers while watching the video so they could have a discussion with them afterwards.

5.7 Conclusion

This study has highlighted that occupational stress and burnout in nurses studied was low to average. Conclusions could not be drawn regarding the impact of the intervention due to sampling issues; therefore, further interventions with large samples could offer more insight into the relationship between burnout and ward atmosphere and nurses' experiences of working in

resource-poor settings in the context of HIV and AIDS. The implications and limitations of the study are explored in the final chapter.

Chapter 6: Conclusion

Health care providers are faced with exhausting demands placed by the special attention needed to care for HIV and AIDS patients. Nurses face a taxing situation because they are at the forefront of providing care. This serves to contribute to the enormous psychosocial stress that they experience. Silverman and Daniel (1993) emphasise that the degree to which caring for these patients poses risks, either physically or psychologically to health care workers, is an area that will require ongoing evaluation. Paediatric nurses working in resource-poor settings face the serious challenge of caring for children affected by HIV-and AIDS-related diseases, especially since it is caregivers who make decisions on behalf of these children. Literature indicates that these children with life-limiting conditions have specific care needs that are often different from those of adults. Nurses in this context are often responsible for evaluating and alleviating a child's physical, psychological and social distress.

6.1 Implications

Ideally the study findings could be used as a platform to lobby the Department of Health to address the problems encountered by nurses in order to alleviate their daily struggles, promote better work environments and quality care even when resources are strained. Further interventions can be launched to change the environment to reduce the potential for stress, help alter perceptions, or help nurses cope more effectively with stressors (Edwards & Burnard, 2003; Ewers et al., 2002).

Stress management interventions such as social support programmes for staff, and training in psychosocial interventions have been reported to have a positive effect on burnout because they help staff to conceptualize their patients' problems within a more empathic framework, and train them in skills to intervene effectively. Nurses reported that the intervention helped them communicate more effectively with patients' caregivers. Silverman and Daniel (1993) state that the degree to which caring for children poses risks, either physically or psychologically to health care workers is an area that will require ongoing evaluation. As this is a government hospital, implications for what could be done are directed to government policy makers.

- There is a need for a counselling facility at this hospital ward so that nurses can have a support structure for their problems. The support group that was provided as part of the research intervention was attended by a lot of nurses (52 nurses), and they reported that it helped them to talk about their problems. However, it was only temporary during the period of this research study. Ongoing support structures need to be put in place for those nurses who require them.
- It should be government's priority to look into the human resource issues in public health institutions. The health sector is not only faced with a shortage of nurses, but those that are already working have assumed roles beyond providing nursing care such as administration. The rates of attrition from the public sector, coupled with the projected numbers of health professionals expected to die as a result of AIDS, and the increased demand for care arising from the epidemic, imply that South Africa needs to increase the numbers of health professionals it produces. Concurrently, exploration of comprehensive strategies to recruit to and contain migration from the public sector, in particular from rural areas, requires attention (Chetty, 2007).
- Training on antiretroviral treatment is required. This will equip nurses with more knowledge on caring for children affected by HIV and AIDS related diseases.
- The health risks associated with providing care are massive and nurses should have assurance that they are being cared for as well in terms of being given protective medication against diseases. Universal precautions should be adhered to, so that nurses are ensured protection.
- There is a need to investigate the issue of 'living-in' (lodger mothers). Throughout the literature on paediatric care, there is a lack of detailed descriptions on how parents and nurses feel about this issue.

6.2 Limitations

6.2.1. Sampling issues:

- Rotations in the ward

All new nurses in the ward were approached to be recruited into the study. However, as new nurses came in, existing study participants moved out to work in other wards. Not all nurses rotated which meant there were nurses who stayed in the study for a long time. The nurses that

rotated could not be followed up because the intervention took place only in one particular ward in which the research was conducted.

- Small sample size

A principal limitation in this study was sample size. A big sample size is recommended for future studies. The process of carrying out a statistical test usually provides information that can be used to evaluate the stability and potential replicability of the results (Cohen, 1988). Studies with too little statistical power can frequently lead to erroneous conclusions. In particular, they will very often lead to the incorrect conclusion that findings reported in a particular study are not likely to be true in the broader population (ibid). The undersized sample did not allow us to make quality generalizations regarding the population studied.

6.2.2. Timing issues

The study was impacted by the national strike that took place during the study period. There were nurses who took part in the strike, leaving only a few in the wards. In addition the research activities were affected by the nurses' schedules. There were times when support groups were not run due to staff being too busy and some workshops had to be re-scheduled as nurses were not available.

6.2.3. Analysis limitations

Due to the fact that the study consisted of a small sample of nurses and two different groups in baseline and pre- and post-intervention, there was a limit on the analysis procedures that could be conducted on the data. An ideal analysis would have been a repeated measures ANOVA looking at three time points, which would have allowed the researcher to look at one group of nurses studied over time (baseline, pre-intervention and post intervention) to be able observe changes in burnout and their perception of the ward atmosphere.

Qualitative analysis was hindered by the lack of permission to record support group sessions. Nurses asked not to be audio recorded due to confidentiality concerns. The researcher relied only on written notes for cases discussed. Even though the researcher asked participants to clearly state their cases in the discussions, some details were omitted during the write up process.

6.3 Conclusion

In conclusion, the empirical data presented in this study reveals that nurses did not have burnout as measured by the Maslach Burnout Inventory Scale. It is clear that attention is necessary to investigate the issue of ‘living-in’ of caregivers. This issue plays a role on personal and professional perspectives of nurses and impacts significantly on occupational stress that they experience, which will have a direct effect on the level of care that they provide to their patients. Therefore further intervention studies should be conducted to highlight the burden of caring for HIV and AIDS patients in paediatric wards, especially in South Africa, to reduce experiences of stress and burnout in the nursing industry.

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Appendices

Appendix 1: Moos Ward Atmosphere Scale (WAS)

There are 40 statements. Please decide which statements are true and which are false. Please be sure to answer every statement.

True – Circle the T if you think the statement is true
False – Circle the F if you think the statement is false

Form S	True	False
1. Patients put a lot of energy into what they do around here	T	F
2. Doctors have very little time to encourage patients	T	F
3. Patients tend to hide their feelings from one another	T	F
4. The staff act on patients' suggestions	T	F
5. New treatment approaches are often tried in this ward	T	F
6. Patients hardly ever discuss their sex life	T	F
7. Patients often gripe	T	F
8. Patients' activities are carefully planned	T	F
9. The patients know when the doctors will be on the unit	T	F
10. The staff very rarely punish the patients by restricting them	T	F
11. This is a lively ward	T	F
12. The staff know what the patients want	T	F
13. Patients say anything they want to the doctors	T	F
14. Very few patients have any responsibility here	T	F
15. There is very little emphasis on teaching patients solutions to practical problems	T	F
16. Patients tell each other about their personal problems	T	F
17. Patients often criticize or joke about the staff	T	F
18. This is a very well-organized ward	T	F

19. Doctors do not explain what treatment is about to patients	T	F
20. Patients may interrupt when a doctor is talking	T	F
21. The patients are proud of this ward	T	F
22. Staff are interested in following up on patients once they leave the ward	T	F
23. It is hard to tell how patients are feeling here	T	F
24. Patients are expected to take leadership here	T	F
25. Patients are strongly encouraged to plan for the future	T	F
26. Personal problems are openly talked about	T	F
27. Patients in this ward rarely argue	T	F
28. The staff make sure that the unit is always neat	T	F
29. If a patient's medicine is changed, a nurse or doctor always explains why	T	F
30. Patients who break the rules are punished for it	T	F
31. There is very little group spirit in this ward	T	F
32. Nurses have very little time to encourage patients	T	F
33. Patients are careful about what they say when staff are around	T	F
34. Patients here are encouraged to be independent	T	F
35. There is very little emphasis on what patients will be doing after they leave	T	F
36. Patients are expected to share their personal problems with each other	T	F
37. Staff sometimes argue openly with each other	T	F
38. The ward sometimes gets very messy	T	F
39. The patients clearly understand the ward rules	T	F
40. Patients who argue with other patients will get into trouble with the staff	T	F

Office use

	I	S	SP	A	PO	PPO	AA	OO	PC	SC
R/S										
S/S										

Appendix 2: Maslach Burnout Inventory (MBI) – Human Services Survey

There are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way *about your job*. If you have *never* had this feeling, mark the "0" (zero) in the space below the statement. If you have had this feeling, indicate *how often* you feel it by marking the number (from 1 to 6) that best describes how frequently you feel that way.

1. I feel emotionally drained from my work

0	1	2	3	4	5	6
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

2. I feel used up at the end of the workday

0	1	2	3	4	5	6
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

3. I feel fatigued when I get up in the morning and have to face another day on the job

0	1	2	3	4	5	6
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

4. I can easily understand how my patients (children and caregivers) feel about things

0	1	2	3	4	5	6
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

5. I feel I treat some people as if they were impersonal objects

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

6. Working with people all day is really a strain for me

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

7. I deal very effectively with the problems of my recipients

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

8. I feel burned out from my work

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

9. I feel I am positively influencing other people's lives through my work

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

10. I have become more callous toward people since I took this job

0	1	2	3	4	5	6

Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

11. I worry that this job is hardening me emotionally

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

12. I feel very energetic

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

13. I feel frustrated by my job

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

14. I feel I am working too hard on my job

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

15. I don't really care what happens to some patients (children and caregivers)

0	1	2	3	4	5	6
Never	A few times a year or	Once a month or less	A few times a month	Once a week	A few times a week	Every day

	less					

16. Working with people directly puts too much stress on me

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

17. I can easily create a relaxed atmosphere with my patients (children and caregivers)

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

18. I feel exhilarated after working closely with my patients (children and caregivers)

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

19. I have accomplished many worthwhile things in this job

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

20. I feel like I am at the end of my rope

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

	less					

21. In my work, I deal with emotional problems very calmly

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

22. I feel patients (children and caregivers) blame me for some of their problems

0	**1**	**2**	**3**	**4**	**5**	**6**
Never	**A few times a year or less**	**Once a month or less**	**A few times a month**	**Once a week**	**A few times a week**	**Every day**

(Administrative use only)

EE:_____ _____ DP:_____ _____ PA:_____ _____

Appendix 3: Template for support group data

Nurse Support Group Notes
This template comprised field notes that were taken by the researcher.

Date:
Compiled by:

Number of nurses participating:
##

Support Group Process:

1. Case presentation and request for assistance

2. Questioning period and identification of focus

3. Feedback statements and discussion

Stories shared by nurses

4. Presenter's response

5. Optional discussion/conclusion

6. Empathy and identification

7. Other observations

8. Way forward

Appendix 4: Informed Consent

CONSENT TO PARTICIPATE IN RESEARCH (FOR NURSING STAFF)

"An evaluation of a psychosocial intervention package to improve the care of sick children in health care facilities**"**

We have learnt from our experiences with nurses and mothers that things in children's wards can be difficult sometimes. Nurses sometimes feel helpless and tired and don't know what to do, they also sometimes feel that mothers and the world expect too much of them.

Because the wards are so full and so many children are getting sick we want to try and help nurses and mothers cope better with being in the hospital with sick children. The nurses have decided that making some videos that show how difficult situations taking place in the ward and how they can be dealt with would help them to feel better and that these can be used to show the mothers and other nurses in the wards some of the problems they can expect and how to work together with the nurse to make things better for the mother and the baby.

In the context of this project, we want to explore and understand nurses' experiences of working in a paediatric ward. We think it best to ask the nurses themselves about what it means to be a nurse working in this ward. In order to do this, we would like to ask you to answer these questionnaires and participate in support group sessions with the researcher and other nurses in this ward. We would like to do this to find out about nurses experiences. Your decision to participate is voluntary.

The nursing manager and the sister in charge of your ward are both aware of the nature of our research study. We first discussed this project with them and sought their permission before asking for your consent to participate.

Participating in this study can teach you more ways to help children in distress that you can use in the ward and help mothers to extend this to their homes as well. Once the study is complete the training videos will be available through the Department of Health and the Child Youth and Family Development programme of the Human Sciences Research Council if you want to see one.

We will keep confidential any personal information you decide to share with us and your name and personal details will not be included. The Department of Health and the researchers may use some of the information you give to generate reports that may be disseminated to other care institutions. Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop.

You have been asked to participate in a research study.

You have been informed about the study.
You may contact the Medical Research Office at the Nelson R Mandela School of Medicine at 031-260 4604 if you have questions about your rights as a research subject.

If you have any questions about this study you can talk to Linda Govender any time she is in the ward. You can also talk to the doctor in charge of the ward, Dr Nigel Rollins, when he visits the ward. If you would like to telephone us to talk about things that are worrying you about this study you can contact Tamsen Rochat on 072 585 3113 or Professor Linda Richter on 031 242 5512.

Contact details of REC administrator and chair – for reporting of complaints / problems. Cheryl Borreson or Professor Ames Dhai, UKZN Research Ethics Committee. Ph 031 2604495

The research study, including the above information, has been described to me orally. I understand what my involvement in the study means and I voluntarily agree to participate.

_____ _____

Signature of Participant Date

_____ _____

Signature of Witness Date
(Where applicable)

_____ _____

Signature of Translator Date
(Where applicable)

HSRC Research Ethics Committee
Tel: (012) 302 2009 Fax: (012) 302 2005 Email: JEBotha@hsrc.ac.za

General descriptive statistics: output from SPSS

8.4.1 Pre-intervention Ward Atmosphere Mean and Standard Deviation scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Involvement	17	2.00	4.00	2.7647	.75245
Support	17	1.00	6.00	2.6471	1.22174
Spontaneity	17	1.00	3.00	1.8235	.72761
Autonomy	17	.00	4.00	2.1765	1.28624
Practical Orientation	17	1.00	4.00	2.4118	1.06412
Personal Problems	17	.00	4.00	1.6471	.99632
Anger and aggression	17	.00	3.00	2.0588	.74755
Order and maintenance	17	.00	4.00	2.8824	1.16632
Program clarity	17	.00	3.00	2.1765	.72761
Staff control	17	.00	3.00	1.8824	1.21873
Valid N (listwise)	17				

8.4.2 Post-intervention Ward Atmosphere Mean and Standard Deviation scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Involvement	17	.00	4.00	2.6471	.93148
Support	17	1.00	4.00	2.6471	.93148
Spontaneity	17	.00	3.00	1.4706	.87447
Autonomy	17	.00	3.00	1.5882	.87026
Practical Orientation	17	1.00	4.00	2.2941	.84887
Personal Problems	17	1.00	3.00	2.5294	.71743
Anger and aggression	17	1.00	4.00	2.6471	.78591
Order and maintenance	17	1.00	4.00	3.0000	.86603
Program clarity	17	1.00	4.00	2.0000	.93541
Staff control	17	.00	4.00	2.0000	1.06066
Valid N (listwise)	17				

8.4.3 Pre-Intervention Burnout Mean and Standard Deviation scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Burnout					
Emotional exhaustion	17	.00	48.00	18.9412	14.35910
Depersonalization	17	.00	17.00	4.7059	5.14496
Personal accomplishment	17	.00	47.00	32.9412	13.26400
Valid N (listwise)	17				

8.4.4 Post-Intervention Mean and Standard Deviation Scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Burnout					
Emotional exhaustion	17	.00	51.00	24.7647	14.61390
Depersonalization	17	.00	16.00	5.4118	4.00092
Personal accomplishment	17	.00	60.00	34.6471	13.91016
Valid N (listwise)	17				

8.5 T-test tables: Output from SPSS

t-test: Ward atmosphere sores

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	involvement	69.9412	17	28.09687	6.81449
		2.7647	17	.75245	.18250
Pair 2	Support	2.6471	17	.93148	.22592
		2.6471	17	1.22174	.29632
Pair 3	Spontaneity	2.6471	17	.93148	.22592
		1.8235	17	.72761	.17647
Pair 4	Autonomy	1.4706	17	.87447	.21209
		2.1765	17	1.28624	.31196
Pair 5	Practical o	1.5882	17	.87026	.21107
		2.4118	17	1.06412	.25809
Pair 6	Personal p	2.2941	17	.84887	.20588
		1.6471	17	.99632	.24164
Pair 7	Anger & aggression	2.5294	17	.71743	.17400
		2.0588	17	.74755	.18131
Pair 8	Order & maintenance	2.6471	17	.78591	.19061
		2.8824	17	1.16632	.28287
Pair 9	Program clarity	3.0000	17	.86603	.21004
		2.1765	17	.72761	.17647
Pair 10	Staff control	2.0000	17	.93541	.22687
		1.8824	17	1.21873	.29558
		2.0000	17	1.06066	.25725

t-test: Ward Atmosphere significant scores

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Mean	Std. Deviation	Std. Error Mean
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Pair 1	Involvement	.11765	.99262	.24075	-.39271	.62801	.489	16	.632
Pair 2	Support	.00000	1.22474	.29704	-.62971	.62971	.000	16	1.000
Pair 3	Spontaneity	.35294	1.05719	.25641	-.19061	.89650	1.376	16	.188
Pair 4	Autonomy	.58824	1.66053	.40274	-.26553	1.44200	1.461	16	.163
Pair 5	Practical orientation	.11765	.85749	.20797	-.32324	.55853	.566	16	.579
Pair 6	Personal problem	-.88235	1.36393	.33080	-1.58362	-.18109	-2.667	16	.017
Pair 7	Anger & aggression	-.58824	.87026	.21107	-1.03568	-.14079	-2.787	16	.013
Pair 8	Order & maintenance	-.11765	1.36393	.33080	-.81891	.58362	-.356	16	.727
Pair 9	Program clarity	.17647	1.07444	.26059	-.37595	.72889	.677	16	.508
Pair 10	Staff control	-.11765	1.11144	.26956	-.68910	.45380	-.436	16	.668

t-test: Burnout subscale scores

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Emotional exhaustion	18.9412	17	14.35910	3.48259
		24.7647	17	14.61390	3.54439
Pair 2	Depersonalization	4.7059	17	5.14496	1.24784
		5.4118	17	4.00092	.97037
Pair 3	Personal accomplishment	32.9412	17	13.26400	3.21699
		34.6471	17	13.91016	3.37371

t-test: Burnout subscale significant scores

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Mean	Std. Deviation	Std. Error Mean
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Pair 1	Emotional Exhaustion	-5.82353	13.55192	3.28682	-12.79128	1.14422	-1.772	16	.095
Pair 2	Depersonalization	-.70588	3.15762	.76584	-2.32938	.91762	-.922	16	.370
Pair 3	Personal accomplishment	-1.70588	19.56963	4.74633	-11.76766	8.35590	-.359	16	.724