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**THE IMPACT OF HIV AIDS ON THE WORK OF THE KENYAN
COMMUNITY NURSES: IMPLICATIONS FOR TRAINING**

ANASTASIA C.W. NDIRITU

A Thesis

Submitted to the Faculty of Graduate Studies

in Partial Fulfilment of the Requirements for the Degree of

MASTER OF SCIENCE

Department of Community Health Sciences

University of Manitoba

Winnipeg, Manitoba

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**THE IMPACT OF HIV AIDS ON THE WORK OF THE KENYAN
COMMUNITY NURSES:
IMPLICATIONS FOR TRAINING**

BY

ANASTASIA C.W. NDIRITU

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial
fulfillment of the requirements for the degree of**

MASTER OF SCIENCE

Anastasia C.W. Ndiritu © 1996

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DEDICATION

TO THE NURSES OF AFRICA

"People feel more motivated to make behavioral changes when they believe that their personal and cultural views are understood"

(Irwin et al., 1991, p. 926).

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CHAPTER ONE

INTRODUCTION:

The delivery of health care in Africa is hampered by scarce resources, made worse by the AIDS epidemic. Up to 40% of hospital beds in Africa are now being used for AIDS-related illnesses, (Chela & Siankanga, 1991; Katabira & Wabitsch, 1991; Piot, Kapita, Were et al., 1985; The World Bank, 1993). In order to meet the demand for health care services for PWAs, there has been a shift in services from hospital to home care for those with AIDS (Ankrah, 1993; Armstrong, 1993; Danziger, 1994; Stoneburner et al., 1994). Although it is expensive for the family in the long run, some authors argue that home care is cheaper, (Colebunders, Decock & Mbeba, 1995). The emotional and psychological needs of AIDS patients may be better met within the home environment.

With an estimated 750,000 adults infected with HIV/AIDS in Kenya and less than 50,000 hospital beds, (National AIDS Control Ministry of Health & National Council for Population and Development, 1994) home-based care for persons with AIDS (PWAs) has become necessary. While home care for AIDS patients has been

shown to be well accepted by the community (Chela & Siankanga, 1991), the success of the provision of care in homes is dependent upon the provision of appropriate facilities and well trained and experienced primary care workers (Colebunders, Decock & Mbeba, 1995). The problem is that providing care to AIDS patients living at home also places a heavy burden on primary health units. These already suffer from a shortage of trained personnel, drugs, equipment, transport, and maintenance (Colebunders, Decock & Mbeba, 1995; Garner & Thomason, 1993; Katabira & Wabitsch, 1991).

Kenyan Community Nurses are faced with the task of having to provide services to AIDS patients both at the health units and in the homes. Often they are required to work without adequate equipment or the training needed. Some efforts have been made by the Kenyan government and NGOs to provide training in STD/AIDS to community nurses. These efforts include a training program run through the University of Manitoba, Canada and the University of Nairobi Kenya, (The Strengthening Management and Control of STD and HIV in Kenya). Little information is available on the impact of such training on nurses, and little is known about how conditions of work affect nurses' attitudes towards HIV/AIDS clients. The primary question to be investigated in this research project is whether nurses who have received in-service training have a different attitude to persons affected by AIDS relative to nurses without such training. A secondary issue is the extent to which their

working conditions affect nurses' perceptions of the problems of providing care including their own risk of being infected through their work.

This chapter reviews some of the literature on AIDS with particular reference to the attitudes of nurses and other health care workers to caring for AIDS patients. The second part of the chapter looks at this literature in the context of AIDS in Africa.

Objectives:

The purpose of training is to decrease fear of AIDS and create positive attitudes towards PWAS. The objective of this thesis is to determine whether there is a difference between nurses trained in HIV/AIDS relative to nurses without this training in any of the following areas:

- a) Their sense of being at risk of HIV infection due to the conditions at work?
- b) Their attitudes towards caring for persons with AIDS?

REVIEW OF LITERATURE:

AIDS epidemic in North America:

By 1981, HIV infection was recognized among socially marginalized groups; homosexuals and intravenous drug users (IVDUs) in North America (Okojie et al., 1995; Phair & Chadwick, 1992; Stryker et al., 1995). Negative attitudes towards drug users and the gay community had a strong impact on the government and public responses to the AIDS epidemic, (The World Bank, 1993, p.100). The disease is still

predominant among men although increasingly more women are becoming infected. Infection in older persons has been associated with HIV-infected blood transfusions, occurring before blood screening was effected in 1985 (Stryker, Coates & DeCarlo et al., 1995; Okojie et al., 1995). Although the rate of infection has been declining among homosexual and bisexual men, the incidence has risen among illicit drug users, women and children born of infected mothers.

To date in the United States, over 500,000 cases have been reported to the Centre for Disease Control (CDC) although it is estimated that about one million residents are infected (Phair & Chadwick, 1992; Ronald, personal communication; Stryker, Coates, & DeCarlo et al., 1995). Much of the HIV infection is centred in densely populated central cities, where AIDS has become the leading cause of death in those aged 25-44 years. Even though all racial groups are affected by AIDS, the majority of cases are still within the Caucasian male population, the African-American and Hispanics communities (Ronald, personal communication; Singer, 1994; Stryker et al., 1995; Turner et al., 1994).

Sources of health workers' occupational exposure to HIV infection:

Humans are the only known reservoir of HIV, and even though HIV has been isolated from cerebral spinal fluid, pleural fluids, saliva, urine, tears, blood, semen, cervical secretions and human milk, only the last four have been implicated in the

transmission of infection (Committee on Infectious Diseases, 1994; Veeken, Verbeek, Houweling et al., 1991). The “latency” period for HIV ranges between a few months to years, with individual variability. Persons infected with HIV become seropositive within 6-12 weeks of infection. The overall risk of HIV for health workers is influenced by the frequency of the exposure to blood and other body fluids and the prevalence of HIV in the population (Fraser & Powderly, 1995, p.205).

Health workers are exposed to these fluids as part of their occupation. The best documented cause of exposure (Belani et al., 1984; Fraser & Powderly, 1995; Marcus, 1988; McEvoy et al., 1987; McCray, 1986; Oksenhendler et al., 1986; Shanks & Al-Kalai, 1995; Tokars et al., 1992) is through needle-stick injuries, although other sharp instrument injuries, splashes to mucous membranes and broken skin have also been incriminated.

By 1987, seven cases of HIV following occupational exposure had been documented (McEvoy et al., 1987, p.1596). By October 1993, this number had risen to 39 in the United States (Fraser & Powderly, 1995). The Centre for Disease Control (CDC) have collected information on another 81 possible case of seroconversion from occupational exposure, most of which involve nurses and laboratory technicians (cited in Fraser & Powderly, 1995, p.205). Among 150 exposures reported by McEvoy et al., (1987) 76 were caused by sharp instruments and the majority of these injuries were sustained by nurses. Sixty seven percent were blood exposures. While many

exposures to such injuries have been reported, only a few positive cases have been documented as resulting in seroconversion to the HIV virus. Most of the documented HIV seroconversions involve either nurses or laboratory technicians (Fraser & Powderly, 1995) and were related to either needle stick injuries or blood contamination of lacerations. "Recapping needles is the single most common and potentially avoidable hazard" (Jagger, Hunt & Brand-Elnaggar et al., cited in Veeken, Verbeek, Houweling et al., 1991, p.30; Fraser & Powderly, 1995). Prevention of needle-stick and sharps injuries would result in the greatest decreases in the risk of occupational HIV infection (Fraser & Powderly, 1995). Training manuals advise that needles should not be recapped or bent after use, should be handled minimally, but be decontaminated before disposal, and then placed in impenetrable containers (Veeken, Verbeek, Houweling et al., 1991, p.30).

The factors determining the risk of infection include the volume of the body fluid, the quantity of the virus, depth of penetration, type and size of the needle and actual injection of blood. In exposures via the mucous membranes and lacerated skin, large volumes of body fluids, prolonged exposure and route of entry may be important. Other factors appear to be the health workers' relative immunity, and the stage of the HIV infection in the source patient (Belani et al., 1984; Berkley, 1991; Fraser & Powderly, 1995; Marcus et al., 1988; McEvoy et al., 1987; McCray, 1986; Oksenhendler et al., 1986; Shanks & Al-Kalai, 1995; Tokars et al., 1992).

The known risk of HIV infection following accidental exposure among health care workers in the US according to the Centre for Disease Control (CDC) is 0.35% of all reported exposures (Fraser & Powderly, 1995; Phair & Chadwick, 1992, p.391; Shanks & Al-Kalai, 1995, p.225). Yet, even though health care workers have been classified in North America as at low risk for the HIV infection in the course of patient care, the risk of occupational exposure is real (Gerbert et al., 1988) and has a key role in attitudes of health care workers towards caring for patients with AIDS.

Review of the literature on attitudes of health workers towards patients with AIDS:

Most research on knowledge and attitudes of health personnel towards work with PWAs has been done in the United States and Britain and has focused on nurses' perceptions of AIDS and the HIV infection (Armstrong-Esther & Hewitt, 1990; Bond et al., 1990; Bond et al., 1991; Breault & Polifroni, 1992; Dworkin, Albrecht & Cooksey, 1991; Eliason, 1993; Forrester & Murphy, 1992; Kelly et al., 1988; Servellen, Lewis & Leak, 1988; Young, 1988; Young, Koch & Preston, 1989). Studies have been done using samples drawn from the student body, (Armstrong-Esther & Hewitt, 1990; Eliason, 1993) general care units, (Forrester & Murphy, 1992; Kelly et al., 1988) AIDS hospice and acute care units, (Breault & Polifroni, 1992; Dworkin, Albrecht & Cooksey, 1991; Servellen, Lewis & Leak, 1988) and the

community (Bond et al., 1990; Bond et al., 1991; Young, Koch & Preston, 1989).

Most of these studies have focused on the impact of training and education on attitudes and willingness to provide care.

Results from studies with acute care and hospice nurses, (Breault & Polifroni, 1992; Servellen, Lewis & Leak, 1988) and with physicians, nurses and social workers, (Dworkin, Albrecht & Cooksey, 1991) found that the attitudes of health personnel towards patients depends on whether they see themselves at risk of contracting AIDS due to their occupation. Another factor is the degree to which they also worry about the possibility of infecting their own family members. Worry and discomfort among nurses was associated with procedures that involve handling any body fluids, increasing with the type of fluid handled, particularly blood or serum.

Although there appears to be a relationship between the level of education and knowledge regarding HIV/AIDS, knowledge alone did not appear to alter negative attitudes (Chliaoutakis et al., 1993, p.78; Horsman & Sheeran, 1995) or change behaviour. Dworkin, Albrecht & Cooksey, (1991, p.243) found “only 8 % of nurses” were willing to work with PWAs. Negative attitudes towards homosexuality (Young, 1988) were important and difficult to change in one study of nurses; 50 % reported negative attitudes on both the pre and the post-test. Breault and Polifroni (1992) found that nurses’ expression of anger “was primarily directed at intravenous drug users (IVDUs) rather than homosexuals”. The nurses in this study described the IVDUs and

prostitutes as non-compliant, uncooperative, manipulative and difficult. There have been inconsistent findings regarding the relationship of age and the health workers' attitudes towards AIDS patients (Horsman & Paschal, 1995). In general however, experience with AIDS patients seemed to have a positive influence over the nurses' attitude (Bond et al., 1990; Gerbert et al., 1991; Latman et al., 1996).

Intervention studies have been recommended (Orubuloye et al., 1994) in the hope that training will influence practice. Positive training results were observed in a survey sample of community nursing staff in England, (Bond et al., 1990), and among rural New York and Pennsylvania nurses (Young, Koch & Preston, 1989). Nurses experienced in offering care to PWAs, or those who had received in-service, had significantly higher mean knowledge/attitude scores, or reported confidence about providing AIDS-related health care. Improvement on these scores was observed on post-tests, one day and three months after the workshop. However, fear of contagion to self and to family members remained a concern to nurses even on post test, and more than 90 % of the community nurses still wanted more HIV/AIDS related training.

From these studies both training and experience in working with PWAs seems to foster confidence and modify certain attitudes towards AIDS patients (Armstrong-Esther & Hewitt, 1989; Bond et al., 1991). However, it is not clear whether changes in knowledge and attitudes would result in actual changes in behaviour towards

patients with AIDS (Armstrong-Esther & Hewitt, 1990). The studies reported here assume that training can be put into practice and that the conditions for safe work environment are available.

AIDS in Africa:

The World Health Organization (WHO) estimates that there were 16 million HIV infected persons in the world by 1994. Unless the current trends change, the figure is expected to triple by the year 2000 when almost half the cases are expected to occur among women (Lamprey & Goodridge, 1991; Norr et al., 1992; Sloten, 1995; Stoneburner et al., 1994; Turner, 1993). Most of those infected are said to be in sub-Saharan Africa (Ankrah, 1991; Lagarde, Pison & Enel, 1996; Merson, 1993; Orobulo et al., 1994; Stoneburner et al., 1994). In this region, five to ten million children will become orphans, three to four million children may get infected, and many of them will die (Keogh et al., 1994; Stoneburner et al., 1994).

Unlike the industrialized countries where the first AIDS patients were homosexuals and drug users, (Carson & Green, 1992; Christenson & Stillstrom, 1995; Gwede & McDermott, 1992; Melby et al., 1992; Persson, 1994; Strunin & Hingson, 1987) the first identified groups at high risk in Africa were “commercial sex workers, truck drivers and other mobile male workers known to have a large number of sexual partners” (Barongo et al., 1992; Gwede & McDermott, 1992; Laga et al., 1993;

McGrath et al., 1993, p.430; Moses et al., 1994; Orubuloye et al., 1994; Pison et al., 1993; Stoneburner et al., 1994).

Studies in some urban populations, (Bruyn, 1992; Lamptey & Potts, 1990; Ngugi, personal communication; Persson, 1994; Stoneburner et al., 1994) show HIV prevalence rates of 50-88% among the commercial sex workers, 20-30% among pregnant women and 50% among patients with sexually transmitted diseases (STDs). Cultural practices, such as the traditional pattern of sexual abstinence by women after childbirth in some regions of sub-Saharan Africa (Gwede & McDermott, 1992, p.354) have also contributed to the HIV spread as men seek sexual satisfaction outside marriage.

The AIDS infection is now spreading from heavily populated urban centres to rural areas where formerly AIDS was unknown (Barongo et al., 1992; Gwede & McDermot, 1992; Ulin, 1992). Barongo et al., (1992, p.1526) in a study on sexual networking in Tanzania note that "Of all adults with HIV infection, approximately 40% live in Mwanza Municipality, 20% in roadside settlements, and another 40 % in rural areas". Rapid social economic change has led to heavy migration of males to cities without their families, seeking employment (Karim et al., 1994; Ngugi et al., 1988). This group of men are at a higher risk of being infected with STDs/HIV, subsequently transmitting the infection to their regular sex partners back in their rural homes (D'Costa et al., 1984; Karim et al., 1994; Moses et al., 1994; Ngugi et al.,

1988). “Half of the married migrants reported such extramarital sexual relations. Some of their partners were prostitutes” (Pison et al., 1993, p.197). Men are also turning to school girls for sex in the belief that the later are free from the HIV infection (Nicoll et al., 1993; Save the Children, 1989).

Research on AIDS in Africa has focused on sexual networking and its implications on STD control (Barongo et al., 1992; Gwede & McDermott, 1992; Laga et al., 1993; Moses et al., 1994; Orubuloye et al., 1994; Okojie, Ogbeide & Nwulia, 1995; Pison et al., 1993). A number of studies have documented knowledge, attitudes and practice (KAP) towards AIDS in Africa within the general population (Bassett et al., 1993; Bertrand et al., 1992; Garsen & Nondo, 1989, cited in Upval, 1993, p. 524; Helitzer-Allen et al., 1993; Irwin et al., 1991; Ndlovu & Sihlangu, 1992; Nicoll et al., 1993; Okojie et al., 1995; Pattullo et al., 1994; Uwakwe et al., 1994). These studies have indicated that despite misconceptions, (Nicoll et al., 1993) the AIDS awareness in the community is high. As AIDS is often associated with prostitution (Bruyn, 1992; D’Costa et al., 1984; Moses et al., 1994; Ngugi et al., 1988), very negative attitudes towards commercial sex workers (CSW) and men who buy sex are widespread (Bruyn, 1992; Irwin et al., 1991; Karim et al, 1994; Uwakwe et al., 1994; Wilson et al, 1994). There is need to focus research on the health workers’ perceived and real risk to HIV infection at their place of work.

AIDS and African health-care workers:

A single cross-sectional KAP study among health care workers in a district in Central Kenya (Karani et al., 1990) revealed some misconceptions and fear about HIV transmission. Both Karani et al., (1990) and Rogstad et al., (1993) in studies on Kenyan health care workers found that many workers lacked confidence in, and/or had mixed feelings towards the use of condoms as protection against AIDS. In one of the studies, condom promotion was seen "to increase promiscuity in the society" (Karani et al., 1990, p. 30). Yet workers appeared to have reasonable levels of knowledge about HIV transmission and were familiar with practice guidelines in relation to the control of HIV/AIDS. Inadequate supplies of protective equipment (Karani et al., 1990) such as gloves, were noted as increasing the potential risk of HIV infection among health workers.

The perception of risk among health workers in Africa is real and is based on a much higher risk of exposure to body fluids than experienced by North America nurses. With the higher prevalence of HIV infection in their clients, (Mitchell & Lamptey, cited in Ulin, 1992, p. 65; Moses et al., 1994) not only do African nurses encounter many more PWAs in their daily work than do nurses in North America, but they also face many other difficult problems; for example, disposal of needles is a problem and there is a risk that used needles and other material may fall into the hands of un-trained practitioners. Other problems include the quality of the equipment and

its scarcity; for example, gloves often have to be washed, re-sterilized and re-used. Gloves tear more frequently, probably due to their poorer quality, or to storage problems. This problem is also encountered with condoms (Lampthey & Goodridge, 1991). Gloves are often not even available. Disinfectants used in cleaning up spills such as Jik is not always available in many health centres and hospitals.

A study on operating room (OR) personnel in the US reported 63% visible skin contact with patients blood (Wright et al., 1991). In over 90% of the exposures, the staff were wearing only one pair of gloves. The injuries reported in this study involved OR staff. Glove tears may pose a risk to HIV infection to Kenyan nurses, particularly midwives who often perform suturing procedures on patients and clients; for example, when performing an episiotomy, repairing perineal tears, or suturing fresh cuts. In a study of HIV seroprevalence in Kinshasa, Zaire, (Mann et al., 1986) 68% of the nurses reported at least one accidental needle stick injury over the past one year.

Studies have demonstrated an increased risk of infection among mid-wives, working in high prevalence areas, such as Kenya (Hankins, 1993, cited in Persson, 1994, p.191). While the magnitude of their occupational risk is not known, midwives are exposed to large volumes of blood per cutaneously (Berkley, 1991). This problem is more common whenever they are practising without gloves and without easy access to running water. Experts have recommended that, "Personnel performing procedures

in which there is a possibility of aerosolization or splashing should wear goggles and masks to reduce the risk of mucous membrane exposure” (cited in Phair & Chadwick, 1992, p.391) but such equipment is rarely available in most African countries. In another example, the recommended practice during suturing procedures is to avoid blunt needles and to use a needle holder. Wearing more than one pair of gloves can further minimise exposure (Gerberding, 1996; Murr & Lee, 1995). However gloves and needle holders are frequently unavailable to the nurse/midwife working in Africa (Karani et al., 1990; Kofoed et al., 1993). Long rubber boots which are recommended to protect the feet against blood and falling instruments, are usually available only in the operating theatre in Africa and not in many primary health care facilities.

Medical injections are frequent and usually given by nurses (Lepage et al., 1986). Methods of treatment are often by injection; two examples are for the treatment of tuberculosis (Veeken & Bermejo, 1992), the commonest opportunistic infection in HIV and AIDS patients in Africa and the treatment for STDs themselves. In studies of commercial sex workers in Africa the rate of injection approaches 100% (Kreiss, Koech, Plummer et al., cited in Berkley, 1991, p.S88).

A relationship has been found between medical injections and HIV among children and health workers in Kinshasa Zaire, Congo and Romania (Hersh et al., 1990, cited in Berkley, 1991, p.S90; Mann et al., 1986; Heymann & Edstrom, 1991) although Mann et al., (1986) found no relationship between HIV seropositivity among

health workers and their occupational exposure. Large numbers of injections are not only administered by trained health personnel, but by untrained practitioners as well (Berkley, 1991). The re-use of syringes and needles, which have often been inadequately sterilized is quite frequent and risk of transmission of HIV through the parenteral route may be quite high (Vincent-Ballereau et al., 1989, cited in Berkley, 1991, p. S88). Karani et al., (1990, p.30) suggest that "... sterilisation of needles and syringes was not known to some of the subjects". In some African countries "as few as 60% of needles and 21% of syringes are sterilized in some immunization programs" (Ministries of Health of Burundi, Central African Republic, Cote D'Ivoire et al., 1991, cited in Heymann & Edstrom, 1991, p. S201). It is difficult to ensure proper sterilization procedures because of low equipment-to-patient ratios which make sterilization between use difficult, the lack of sterilization equipment and power failures.

SUMMARY:

Although there are relatively few documented cases of workers contracting AIDS as a result of their work, the literature records a relatively high number of events in which nurses are exposed to blood in the course of providing care. Such exposure occurs even when protective clothing is readily available as in most North American settings. Nurses in Africa face the problem of a much higher incidence of HIV

infection among their patients and a much lower availability of gloves, disposable syringes and other forms of protection.

Studies done in the United States suggest that reluctance to care for AIDS patients is closely related to fear of being exposed to AIDS, but also that education and training may help reduce such fear. Unfortunately, health workers in Africa lack access not only to equipment and supplies, but also to information and this type of training program. Access to post-basic training in HIV/AIDS is limited, mainly due to the costs of running such programs, but also as a result of the lack of information of their effectiveness in changing practice and reducing fear of infection among health workers.

In Kenya the Ministry of Health is the major body offering STD/HIV training for health workers throughout the country. A few NGOs also provide training for health workers, but community nurses in Nairobi have usually been trained by a program offered through a collaborative project between the University of Manitoba Canada and the University of Nairobi Kenya.

The main purpose of this study is to determine whether the attitudes of nurses towards persons with AIDS (PWAs) is different depending on whether or not they have received in-service training in STD/AIDS through one of these programs. Are their attitudes towards PWAs more or less negative? Are they more or less afraid of

being infected? What is the relative impact of training compared to the conditions of their work on their attitudes?

CHAPTER TWO

BACKGROUND:

Kenya is an Eastern African country bordered by Ethiopia on the north, Sudan on the north-west, Uganda on the west, Tanzania on the south, and on the east by Somalia. It covers 583,000 square kilometres has 400 kilometres of Indian Ocean in the south-east shoreline and is almost bisected by the equator (Appendix A, Map of Africa; UNICEF, 1989; Venkatacharya, 1991). Agriculture is still the economic backbone of the country with the population distribution influenced to a great extent by the availability of good agricultural land.

Estimates for 1993 set the population at 32.1 million, with the majority being children below eighteen years (The Task Force for Child Survival, 1990; WHO et al., 1990). The high population growth rate is a burden on Kenya's economy, particularly on the social sectors such as health and education and the labour market (Government of Kenya, "GOK" UNICEF, 1989; Wang'ombe, 1995). It is estimated that approximately 45.7% of the population will be living in urban areas by 2025 (GOK, UNICEF, 1989). Rapid urban migration has been accompanied by poverty, a rise in prostitution, STDs and HIV/AIDS (D'Costa et al., 1984; Moses et al., 1994; Ngugi et al., 1988; Raikes A., 1989; UNICEF, 1989, 1990, 1991; Wang'ombe, 1995).

The first cases of AIDS in Kenya were recorded among sex commercial workers and mobile male-population with history of multiple sexual partners (Ngugi et al., 1988). Levels of HIV infection as high as 13% have been reported among pregnant women (Moses et al., 1994) and 5% among blood donors (Mitchell & Lamptey, cited in Ulin, 1992, p. 65). Today HIV/AIDS is common and distributed widely among the general population (Moses et al., 1994). Most people know of a friend, a neighbour, a workmate or a family member who has died of AIDS (Armstrong, 1993). Although some parenteral transmission may occur from blood transfusions, inadequately sterilized needles and during ritual sacrifice, (Barongo et al., 1992; Berkley, 1991; Fraser & Powderly, 1995; Marcus, 1988, McCray, 1986; Shanks & Al-Kalai, 1995; Veeken, Verbeek, 1991) 80% of infections in Africa are said to be through heterosexual transmission (Ulin, 1992).

THE ORGANIZATION OF HEALTH CARE IN NAIROBI CITY COUNCIL:

Health services are administered by the Nairobi City Council (NCC). Health care delivery is organized into two administrative zones, Division One and Division Two. Pumwani Maternity Hospital is the referral hospital. The Special Treatment Centre (STC) is the referral centre for STD/HIV. The centre serves also as a "Research Unit" for STD/HIV and the treatment of skin conditions. The overall administration of the Nairobi City Council health services is under the Medical Officer

of Health (MOH). Assistant MOHs head health services at the divisional level. Maternity units are managed by an Enrolled Nurse/Midwife or the (KECN/KEHV). The KECN has received a consolidated training to include nursing, midwifery and community health; while the KEHV has received sequential training; nursing, midwifery and community health nursing or health visiting (KEHV). Other staff at these health units include Kenya Enrolled Nurses, Family Health Field Educators, Patient Attendants and cleaners. Registered clinical officers take charge of the curative services at these centres, while the MCH/FP services are under the Nursing Officer in-charge, usually a Kenya Registered Community Health Nurse (KRCHN) or a Kenya Registered Nurse/Midwife with Family Planning. The MCH/FP services are provided by KECN, under the supervision of the KRCHN.

The KECN may have had in-service training in family planning. Clinical officer and KECN may have in-service training in STD/HIV management. The health units are supplied with drugs, sterile supplies and other equipment; unfortunately the quantity and the quality of these supplies is often in-adequate. If a centre lacks supplies, then patients have to buy these things for themselves.

STUDY HEALTH UNITS:

The Medical Officer of Health for Nairobi gave permission for this study to be carried out in City Council's primary health units (see Appendix B1 & B11). These

are of three types: the dispensary offers curative services, the maternal/child health and family planning clinic (MCH/FP clinic) offers MCH/FP services while the health centre provides both curative and MCH/FP services. Some of the health centres have maternity units attached to them.

The 51 health units are scattered throughout the two administrative zones, Division One has 31 units and Division Two has 20. Sixteen of the 31 health units in Division One are Health Centres and provide curative and maternal and child health services plus family planning. Three of these 16 have maternity units although one is not yet operational. The remaining 13 offer maternal and child health services, but their provision of family planning depends on the availability of equipment and trained personnel. Four of the fifteen centres in Division Two have maternity units.

Five of the 51 health centres specialize in the standardized management of sexually transmitted diseases. These services are provided as part of The Strengthening Management and Control of STD/HIV Project funded by Canadian International Development Agency (CIDA) and organized jointly by the Universities of Nairobi and the University of Manitoba (UON and UOM).

The Strengthening Management and Control of STD/HIV in Kenya, (STD/HIV Project), is a collaborative project implemented by the University of Nairobi and University of Manitoba. The main objectives are to strengthen the management of STD in Kenya and to disseminate appropriate health education and promotional

messages to health providers and groups at risk. Key aspects of the program involve strengthening and decentralizing diagnostic and treatment services for STDs within the primary health care system ,in strengthening the referral system and up-grading health workers skills in health education and counselling. Training health staff at the peripheral health units is a main element of the program.

The Strengthening Management and Control of STD/HIV in Kenya program has conducted several training activities on STD management since its inception of the programme in 1991. The majority of the nurse participants who had received in-service training in STD/HIV in this study had attended courses organized through this program. Some of the senior nurses in the Nairobi City Council have also been trained as Trainers and/or Supervisors through the STD/HIV Project.

TRAINING PROGRAMS IN STD/HIV:

The National AIDS Control Program (NACP) coordinates all AIDS related programs in Kenya (UNICEF, 1989) through the AIDS Program Secretariate, in collaboration with the NGO-AIDS Consortium. Some programs organize HIV counselling workshops and others provide counselling services to PWAs and their families. Programs offering post-basic HIV/AIDS training include those run by the Kenya Ministry of Health (MOH) the key one being the STD Control Program which provides STD/HIV training to health workers in the country (Kahindo, personal

communication) the Strengthening Management and Control of STD/HIV in Kenya program, the African Medical Research Foundation (AMREF), Christian Health Association of Kenya (CHAK), AIDS Control and Prevention Project (AIDSCAP), the Kenya Red Cross (KRC), MAP International, Norwegian Church Aid (NCA), Kenya Association for Professional Counsellors (KAPC), and the Network of AIDS Researchers of Eastern and Southern Africa (NARESA). Many of these programs are members of the AIDS Consortium. The AIDS Consortium is in the process of standardizing a National Counselling Curriculum. The Kenya Red Cross program which has provided AIDS counselling to some nurses in the past, has discontinued training (Gatua, personal communication).

Access for nurses to the training programs is limited partly because the number of places are limited and because programs offer HIV/AIDS training to persons other than the nursing personnel. Health workers, who got their basic training before the AIDS epidemic, have had to gather their information about AIDS from a variety of sources, including the mass media and their co-workers. Over the last few years, health training institutions in the country have incorporated HIV/AIDS into the STD component of their curricular.

CHAPTER THREE

RESEARCH DESIGN:

This chapter discusses the research design for this study, particularly the decision to combine qualitative and quantitative methods. Qualitative research has been described as inquiry where attention is given to the social context in which events occur (Creswell, 1994; Kuckelman & Hagemaster, 1987; Mays 1995). The approach is inductive; the aim is to discover and an attempt to understand the social world from the perspective of the participants. By contrast, quantitative research is concerned with testing a theoretical model, it uses numeric measures and statistical procedures (Creswell, 1994). The main method of quantitative research in the social sciences is survey research. Qualitative researchers use participant observation, in depth interviews and focus groups. Mason et al., (1983) describe the survey approach as the best method to use when measuring attitudes and opinions. Other social scientists, however prefer qualitative methods of enquiry when they want to “...closely examine knowledge, attitudes, and practices of small segments of target audiences” (Smith et al., 1990, p.120).

Each method has its own strengths and weaknesses (Polit & Hungler 1991, p.518), but quantitative and qualitative designs can be used in the same project (Basset

et al., 1993; Helitzer-Allen et al., 1993; Karim et al., 1994; Pope & Mays, 1995; Strauss et al., 1964, cited in Strauss & Corbin, 1990, p.18; Uwakwe et al., 1994; Wilson et al., 1994). Brewer and Hunter (1990) suggest that using a multi-method design provides a way of combining the strengths of different approaches to data gathering.

Creswell (1994) argues that "...researchers should make the most efficient use of both paradigms in understanding social phenomena" (p.176). Qualitative techniques are often used when developing a questionnaire, partly as a way of determining which topics are important but also as a way to get a sense of how to word questions so that they are easily comprehended (Mays, 1995). Qualitative methods may also be used after a survey is complete; for example, the researcher may want to carry out a more in-depth phase utilizing in-depth interviews with individuals or focus-group interviews (Polit & Hungler, 1991). By using this approach and probing deeply into the reasons for different beliefs or attitudes, researchers may gain a more in-depth understanding of their qualitative data (Helitzer-Allen et al., 1993; Wilson et al., 1994).

Focus groups are an increasingly popular research method. They are a form of group interview that capitalizes on interpersonal interaction between the participants (Kitzinger, 1995). They can be conducted relatively quickly and without great expense and are seen as "ideal for testing the phrasing of questions, ... and in

explaining or exploring survey results” Kitzinger, 1994; O’Brien, 1993, cited in Kitzinger, 1995, p.300). For example, they are very effective as a method of exploring in-depth attitudes about sensitive issues. As Kitzinger, (1995, p.299) notes, “...analyzing the operation of humour, consensus, and dissent and examining different types of narrative used within the group, the researcher can identify shared and common knowledge”.

Focus groups have been especially valuable on topics such as AIDS, which involve research on taboo areas, on topics such as drug use and sexuality which involve value judgement (Helitzer-Allen, 1993; Irwin et al., 1991; Karim et al., 1994; Kitzinger, 1995; Uwakwe et al., 1994; Wilson et al., 1994). Their disadvantages are that generalizability is limited (Konde Lule et al., 1993) by the small sample size plus the difficulty of including a representative sample of community views. Hence, although focus groups provide excellent insights they need to be supplemented by other methods such as in-depth interviews.

In-depth interviews are usually conducted one-on-one (Bassett et al., 1993), although sometimes others may be present. The interviewer may use a pre-structured set of questions, while encouraging answers which are a free expression of views. By contrast, most survey questionnaire include a fixed set of responses to each question.

METHODS USED IN AIDS RESEARCH:

Researchers have utilized a variety of quantitative approaches in STD/AIDS research. Experimental studies have been used in clinical trials as in the study of vaccine and antiviral drugs (Emimi, 1995; Gazzard & Moyle, 1995; Osborn, 1995) while longitudinal and cross-sectional surveys dominate other areas, particularly in the study of epidemiologic trends of STD and the HIV. Qualitative approaches have been used in research on sensitive topics such as sexual behaviour and drug use. Methods have often been combined in the same study (Brewer, 1990); for example, areas of consensus in qualitative data have been compared with survey data to assess generalizability to larger populations (Irwin et al., 1991; Smith, 1993).

Research in Africa has used a variety of both qualitative methods (Helitzer-Allen, 1993; Irwin et al., 1991; Karim et al., 1994; Konde-Lule et al., 1993; Uwakwe et al., 1994; Wilson et al., 1994) and quantitative approaches (Allen et al., 1992; Anzala et al., 1995; Dehne et al., 1992; Elliott et al., 1990; Keogh et al., 1994; Kipp et al., 1992; Lagarde et al., 1996; Mann et al., 1986; Mati et al., 1995; Moses et al., 1994; Njeru et al., 1995; Ndlovu & Sihlangu, 1992; Okojie et al., 1995; Pattullo et al., 1994; Preble, 1990; Rogstad et al., 1993; Tswana et al., 1995). A number of the studies have utilized a combination of quantitative and qualitative study designs (Karim et al., 1994; Uwakwe et al., 1994). In a study on AIDS prevention among Nigerian University students (Uwakwe et al., 1994) for example, the survey method was combined with

focus groups; while Karim et al., (1994) used focus groups, in-depth interviews and questionnaires, in their project on the determinants of HIV protective behaviour in South Africa.

For purposes of this study the quantitative data collection methods of the survey have been combined with the in-depth interview and focus group. While the survey was important as a method of collecting quantifiable data on training programs and conditions of work, nurses' attitudes towards their conditions of work, towards providing care to PWAs, and their views on training were also to explored in more detail. "People feel more motivated to make behavioral changes when they believe that their personal and cultural views are understood" (Irwin et al., 1991, p. 926). The study might have more impact with the nurses' awareness that they could express some of their concerns in their own words.

THE SURVEY:

Development and Revision of the Survey Questionnaire:

A questionnaire was developed using items from the existing literature on the attitudes of health worker toward caring for persons with AIDS. Questions from other studies (Armstrong-Esther & Hewitt, 1989) were adapted to the Kenyan context and new items were added to reflect local conditions.

One of the objectives of the questionnaire was to collect information on nurses' knowledge, attitude and practice regarding HIV/AIDS. Some questions asked about

the likelihood of different people contracting HIV, HIV testing and control of CSW (27-31, 32). A number of items dealt with what training each nurse received on the topic, their sources of information other than formal training programs, whether skills and training acquired during training were passed on to other nurses and colleagues, their roles as nurses in educating their clients and the general community (Questions 5-9, 11-12, 33), particularly their attitudes towards teaching them about condom use (21-26). Other questions focused on the impact of their direct experience in caring for PWAs, their confidence in providing services to PWAs (18-20) and how often they saw PWAs in the course of their work (13-14). Their fears of being infected with AIDS through the course of their work were measured by questions on the level of risk they associated with different forms of nursing care (Question 15). Other items were included on nursing background and education (1-4), age, marital status and religion (34-36). Also, how long they had worked at their health unit, the availability of space and equipment at that unit (16), their general attitude towards the study (37-38) and any other ideas they had about AIDS.

Pre-test and Pilot:

Four Kenya Enrolled Community Nurses (KECN's) and one Kenya Enrolled Health Visitor (KEHV) took part in a pre-test of the questionnaire. All were currently working in health units which provided treatment for sexually transmitted diseases; they had all been trained in STD/HIV management and had experience in managing

STD clients. None of these five nurses was included in the main survey. The main purpose of a pre-test was to determine whether the language was clear and the items culturally valid. In this case, the pre-test was also used as a method of ensuring the completeness of the items by reflecting the services nurses provide to patients and clients.

Each was first asked to complete the questionnaire on their own and then to take part in a discussion in which the group went from item to item hearing from each participant. Terms that were found to be unclear were reframed but suggestions on “item improvement” were discussed by the group until a consensus was reached. During the discussion, a number of changes were made. For example, they suggested that the wording should reflect the local practice when referring to nurses trained in community health. They also suggested that questions should refer to training in “STD/HIV” rather than “HIV/AIDS” since this was the title used by the project which has trained the majority of the nurses in this study.

One of the most important changes they suggested required the addition of an item on “Conducting Delivery” to question number 15. All the five nurses felt that childbirth was a critical area of care, in which a nurse was exposed to a significant degree of risk particularly if adequate precautions could not be taken. There was much discussion of the items on condom use as they felt that condoms offer protection against STD/HIV depending on how effectively they are used. The answers to

questions 24-26 were changed to “always, sometimes, never”. Finally, they suggested changing the questions on marital status, so that “Living together arrangement” became “Trial Marriage”. They argued that couples living together often end up with a church ceremony, a customary marriage or separation. Finally they asked for an item on the strength of the antiseptics used by nurses.

The revised questionnaire was tested in a small pilot study conducted with twenty KECN/EHV, selected from 5 of the 51 health units. (These five units were excluded when sampling for the main survey). None of the nurses reported any problem in understanding the questionnaire but they suggested the addition of two new items, to question 15, “suturing episiotomy” and “suturing fresh cuts” (see Appendix C).

Sample:

To qualify for the study, an individual had to be “Enrolled Community Nurse or an Enrolled Health Visitor (KECN/KEHV)”, and be currently working in either the maternal, child health and family planning clinic (MCH/FP clinic), the maternity unit, or the out patient department in any of the NCC primary health units.

The sampling frame (Polit & Hungler, 1991) was a list of all the 607 nurses working within the 51 health units of the Nairobi city council. This list was provided with the permission of the Medical Officers of Health and the Nursing Officers in-charge, of the two NCC administrative “health divisions”. The list was verified by

visiting each of the 51 health units and checking the names, designations and qualifications of each nurse. Corrections and additions were made in consultation with the nurse in-charge, or with the individual nurse. During these visits, the purpose, objectives, procedures and concerns over the research project were discussed with the nursing staff. During this process, the 5 nurses who took part in the pre-test and the 5 health units for the pilot study were selected (20 nurses took part in the pilot). These were excluded from the sampling frame leaving a list of 380 nurses who met the criteria for the study. The list was divided into nurses with and without training in STD/HIV management. Using a table of random numbers, 50 names were selected at random from each group (Polit & Hungler, 1991; Waynew et al., 1991).

Implementation:

The questionnaire was administered using a face to face interview. Prior arrangements were made with the participants through their supervisors. In the less busy health units, all the interviews could be held on the same day, but in other units, two to three appointments were necessary depending on the work schedules, the work load and other commitments. In one unit with a maternity unit attached to it, four appointments were made during the study period.

A total of 9 nurses selected could not be interviewed. Two among those trained in STD/HIV management were sick, three had moved since compiling the

sampling frame. Two listed as having received the training had only been trained in syphilis screening. One was not an KECN as shown on the original list but an Enrolled Nurse/Midwife and already working in the community. One trained nurse declined to be interviewed. In order to maintain matching between the trained and untrained nurses we also reduced the number of untrained nurses by nine.

THE QUALITATIVE STUDY:

In-depth Interviews:

Twenty nurses were selected at random from a list of 41 senior nurses. They included senior nurses from the two Health Divisions and nurses in-charge of the health units. The sample included some nurses who were also trainers in STD/HIV management. Two Enrolled Nurse/Midwives were also asked to participate in this stage of the study; one of whom was currently working in a maternity unit. An “interview guide” (Appendix D) was used to guide the in-depth interviews. All but one nurse agreed to having their interviews tape recorded. (Extensive notes were taken during this interview). The in-depth interviews took from about 45 minutes to one hour.

The Focus Group:

Eight of the nurses who had taken part in the survey, were asked if they would participate in a focus group. Four of those asked were selected from nurses trained in

STD/AIDS management. An effort was made to include nurses who expressed negative feelings towards AIDS patients when answering the questionnaire. Only five of the eight nurses took part. One nurse was unable to attend the focus group, because of feeling unwell, another had a sick child, while a third one missed her way to the venue. Three of the five nurses had been trained in STD/AIDS management. Tape recording plus field notes were taken during the focus group discussion with consent from the participants. Appendix D was used to guide the discussion.

ETHICAL CONSIDERATIONS:

Application for Ethical approval was submitted to the University of Manitoba (UOM) Faculty of Medicine and the University of Nairobi (UON) Human Subjects Ethical committees on 15.05.95. Approval from UOM was granted on 12.06.1995, and from UON/KNH (UON/Kenyatta National Hospital) on 11.08.1995. Permission to carry out the study within the NCC health units was granted by the local government health authority, through the Medical Officer of Health (MOH) City Hall on 12.07.1995 (see Appendixes B11 & E1-G).

Each nurse received a letter explaining the purpose, the procedures, the rationale for the study, the anticipated time commitment, and requesting their voluntary consent to take part in the study. Those willing to participate were requested to give a written consent. They were assured that no names would appear on any parts

of the questionnaires, and codes would be used to further safeguard confidentiality. To further ascertain anonymity, raw data would be handled only by the researcher. Questionnaires and tapes used in focus group and in-depth interviews would be stored securely and separately, and only coded data would be shared with the thesis committee members for guidance. Excerpts of raw data in the thesis report would be un-identifiable. All participants were asked to sign a consent form (see appendixes H-N for copies).

This study deals with very sensitive topics, such as nurses feelings towards caring for HIV positive persons, their treatment of PWAs, and their own sense of being at risk because of the nature of their working conditions and the type of clients they see. For example, nurses were often very frank when discussing the problem of missing or faulty equipment and might seem critical of the central administration. They also spoke very honestly about their ability to protect themselves, other workers and clients from the risk of infection. Naturally, there was some concern over how the information gathered could be interpreted, and whether it could be linked back to them as individuals, potentially jeopardizing their credibility and identity, while at the same time using their own words to express their views.

DATA ANALYSIS:

Quantitative data was coded and entered into SPSS for Windows (SPSS for Windows 6.1, 1989-1994). To assess differences between groups, the Mann Whitney

U and Kruskal Wallis One way Analysis of Variance tests were used (Hassard, 1991). Factor analysis was applied to identify variable-groupings (Themes) in both the work environment and the risk scales (Polit & Hungler, 1991). To examine the impact of STD/AIDS in-service training on nurses' assessment on levels of risk to HIV infection, multiple regression was applied to control for the environmental factors.

The survey and the in-depth interviews were seen as complementary (Karim et al., 1994). Therefore, the interview guide for the in-depth interview/focus group allowed nurses to use their answers and to explore the issue in more depth. After transcription, the material from the interviews was sorted by topic and by sub-themes occurring within the same topic.

CHAPTER FOUR

FINDINGS AND DISCUSSION:

The reasons why nurses are concerned that they may be at risk of AIDS cannot be understood without having some knowledge of the nature of their work. After presenting the demographic characteristics of the study population, the first section in the chapter describes working conditions within the health units including the availability of space, protective clothing and equipment. The second and third sections discuss the extent to which nurses' perceptions of risk vary with the type of care they are providing and with whether or not they know if a client is HIV infected. Each of these topics is explored using a combination of quantitative survey data and qualitative data from the focus groups and in-depth interviews.

Demographic Characteristics:

As can be seen in Table 1 the majority of the community nurses were female. Their ages ranged between 27 and 54 years with over a third aged from 27 to 35 years. Most of the nurses were married. Their religious backgrounds differed, with about a third belonging to the Presbyterian Church of East Africa followed by the Catholic

TABLE 1. DEMOGRAPHIC CHARACTERISTICS (N =82)

CHARACTERISTICS	N	%
SEX		
Male	7	8.5
Female	75	91.5
AGE-GROUP		
27-35	32	39.0
36-45	25	30.5
46-54	25	30.5
MARITAL STATUS		
Married	73	89.0
Single	2	2.4
Separated/Widowed	7	8.5
RELIGIOUS BACKGROUND		
*PCEA	29	35.4
Catholic	23	28.0
Anglican	10	12.2
Others	20	24.4
TYPE OF HEALTH UNIT		
Health centre with a maternity	25	30.5
Health centre	44	53.7
Maternal child health/ Family planning clinic	13	15.9

- 60% of KEHV were born between 1940-45
- 73.8% of the KECN were born between 1960-1969
- *PCEA Presbyterian Church of East Africa
- NB: Percentages may not total 100 due to rounding

Church. Their length of stay in the current health unit ranged from a few months to over ten years.

About half of the sample were Kenya Enrolled Community Nurses (KECN) while the rest were Kenya Enrolled Health Visitors (KEHV). The nurses had received their basic nursing training from schools across the country, but their in-service training (excluding STD/HIV) had been provided by the Nairobi City Council (NCC). Pumwani Maternity Hospital had provided midwifery training for the majority, 27(67.5%) of the KEHV, while 36(90%) of the KEHV had received their community health training from Parklands (a program run by the NCC). Most of the nurses (44), worked at 16 health centres, 25 at 5 health centres with attached maternity units and 13 at 8 maternal, child and family planning clinics.

Each health centre is linked with local schools so that those children needing immediate health care can visit the nearest health unit for services. For example, children may require first aid services such as the dressings of wounds or cuts; or the administration of tetanus toxoid vaccine. The health centres do not play a very major role in the schools, however, as there is a separate school health services program administered through the school services department of the Nairobi City Council.

Conditions of Work:

Conditions of work for nurses varied from one unit to another, as did their size, the number of clients and the services offered to clients. It was also clear that the

availability of supplies and equipment fluctuated overtime and from one health unit to another. For this reason, availability of supplies over the past month were included (see Table 2). Over three quarters (79%) of the nurses said that space for examining clients at their clinic was adequate, although rather fewer (58%) thought adequate privacy was available for clients at their unit; about 25% said that enough privacy was never or only occasionally available.

Asked about equipment, approximately three quarters said that gloves and antiseptics had been available most of the time during the past month. However 41% said that supplies for safe blood storage, of dressing material (28%), needles and syringes (18%), were either occasionally or never available. Only about 63% of the nurses said that Jik was in adequate supply in their health facilities.

Disinfectants (household bleach) are the recommended decontaminants for HIV control. Since chemical decontamination plays a major role in HIV control, nurses were also asked whether they knew the correct strength of the antiseptic/disinfectants to use. Those who said “yes” were significantly more likely to report some risk of HIV associated with conducting deliveries, ($P < 0.002$) and in performing a physical examination, ($P < 0.03$). One possible explanation is that nurses doing deliveries are more likely to be using Jik and to be aware of the correct strength, but also be more likely to see themselves at risk. All nurses reported using Jik as the recommended disinfectant for use against the HIV. (In the past, nurses have been

TABLE 2. NURSES' REPORT ON THE AVAILABILITY OF EQUIPMENT AND FACILITIES DURING THE PREVIOUS MONTH IN THE HEALTH UNITS (N = 82)

ITEM	never or occasionally	some times	most times
	%	%	%
Antiseptic	6.1	19.5	74.4
Disinfectant	13.4	23.2	63.4
*Dressing material	28.0	34.1	37.8
Gloves	1.2	20.7	78.0
Needles	18.3	42.7	39.0
Privacy	24.4	17.1	58.5
Adequate space	11.0	9.8	79.3
*Facilities for speculum examination	12.6	11.4	75.9
Sterilizing equipment	18.3	24.4	57.3
*Safe storage for blood samples	41.0	7.7	51.3
Syringes	18.3	42.7	39.0

*Three health units are not equipped to take blood samples, do dressings, or speculum examinations. For these items n = 79

NB: Percentages may not total 100 due to rounding

carrying out procedures using antiseptics such as Savlon and Hibitane which are now known to be in effective against HIV).

To identify the variables that group together in the work environment scale, and to be able to access how best to describe the conditions under which the nurses worked, the 11 items dealing with conditions of work were entered into a Principal Axis Factor Analysis (PAFA), (Norusis, 1994; Joliffe & Morgan, 1992; Polit & Hungler, Schneider & Martin, 1996; SPSS for Windows, 1989-1994). Two items, “availability of syringes” and “availability of needles” were perfectly correlated, so the second was dropped. The final results suggest the presence of four major factors (see Table 3). Factor I includes the availability of equipment for speculum examination and sterilizing equipment. Adequate space and privacy loaded on Factor II; the three items on the availability of disinfectants, antiseptics and syringes loaded on Factor III. Factor IV includes dressings, gloves and equipment for safe storage of blood samples. Based on these four variable groupings, we decided that conditions of work in the health units are best described in terms of the lack of protective equipment (Factor I), overcrowding (Factor II), shortage of disinfecting agents (Factor III) and type of material to protect against contact with bodily fluids (Factor IV). Although it was possible to separately identify these four factors, the conditions under which nurses work are inevitably interdependent; for example, shortage of space, lack of privacy,

**TABLE 3. FACTOR ANALYSIS ON THE AVAILABILITY OF
EQUIPMENT AND FACILITIES AT THE HEALTH
UNITS**

Factor I-LACK OF PROTECTIVE MATERIAL	FACTOR LOADING
Speculum exam	0.75
Sterilization	0.73
 Factor II-OVERCROWDING	
Space	0.51
Privacy	0.90
 Factor III-SHORTAGE OF DISINFECTING AGENTS	
Antiseptics	0.64
Disinfectants	0.47
Syringes	0.42
 Factor IV-TYPE OF PROTECTIVE MATERIAL	
Dressings	0.59
Gloves	0.25
Safe storage for blood samples	0.54

difficulty in storing blood are all inter connected. As supplies often come from the same source, the shortage of one item is often associated with the shortage of others.

Using the Kruskal Wallis One way Analysis of Variance, the availability of equipment and other supplies as reported by nurses working in different types of health units was analysed; that is the health centres, health centres with maternity units attached to them, and the maternal child and family planning (MCH/FP) clinics. The general trend was that nurses from the larger health units were more likely to say that supplies of dressing materials, sterilizing equipment and facilities for speculum examination were adequate, and that syringes and needles had usually been available. On the other hand, nurses in the smaller MCH/FP clinics appeared to be better equipped with disinfectants, gloves, space and privacy (Table 4). These clinics had significantly more privacy for examination of clients ($P < 0.04$), but the least facilities for safe storage of blood samples and dressing materials ($P < 0.0001$).

Qualitative Data on Conditions of Work:

In the interviews, nurses discussed conditions of work in more detail. One of the administrators comments:

I think one of the main constraints, is lack of these things... We are talking about gloves that you can dispose off. At times we don't have enough, so we are forced to re-cycle, sort of to re-sterilize, gloves, which is not really good.

TABLE 4. PERCENT OF NURSES REPORTING THAT FACILITIES OR EQUIPMENT WERE NEVER OR ONLY OCCASIONALLY AVAILABLE IN THE PREVIOUS MONTH BY TYPE OF HEALTH UNIT IN WHICH THEY WORKED (N = 82)

	HEALTH CENTRE	HEALTH CENTRE /MATERNITY	MCH/FP CLINIC
NUMBER OF UNITS	16	5	8
	%	%	%
DISINFECTANT	13.6	12.0	15.4
ANTISEPTIC	6.8	4.0	7.7
NEEDLES	18.2	16.0	23.1
SYRINGES	18.2	16.0	23.1
SAFE STORAGE BLOOD SAMPLES	36.6	20.8	92.3
STERILISING FACILITIES	20.5	4.0	38.5
SPECULUM EXAM	14.6	-	30.8
DRESSING FACILITIES	25.0	8.0	76.9
GLOVES	2.3	-	-
PRIVACY	32.0	16.0	15.4
SPACE	13.6	12.0	

The MCH clinics had significantly more privacy, ($P < 0.04$ 2 Tl), but least facilities for safe storage of blood samples and dressing materials ($P < 0.0001$, 2 Tl).

Another nurse administrator talks about shortage of linen and cleaning material

particularly water:

...they should also have materials like soap! Where you wash. Water is very important! Whereby you attend a patient and you wash your hands, there are times when we have none! So many dispensaries in Nairobi have been staying without water for so long. So you might find that you attend this patient and you forget, and there is no water to wash, and you get another patient, and you carry on like that... Linen should be there, plenty of it...Linen is very important, especially in maternity, even in antenatal, because that is where you examine the patient one after the other. You should have enough linen so...,

Nurses also talked about the lack of protective clothing during delivery:

...mhh, actually we used to, we used to have the plastic ones, (aprons) but at the moment they are torn, ...so we don't have plastic... What we have is cotton, cotton ones... Just cotton ordinary...

A senior nurse explains how nurses in her unit cope with the fear of HIV

infection during the dressing procedure:

...if a nurse is doing a general dressing, if they don't know if this person is HIV positive, ...there is likelihood of you know, body discharge, pus and all..., and blood... Yes, we have protection, and we, we encourage that, and we provide nurses at least with gloves, and with that, the initial fear is out... We are not sterilizing other equipments. Like dressing the wounds, we have improvised, to an extent that whereas before we used to sterilize our dressing forceps and such, that kind of thing, these days, we have now, improvised and we use, (you know the small orange sticks?) We fold cotton wool onto them and we just, we use it, we clean the wound with it, and we discard, we clean with it and we discard, and then we just do the dressing, so we don't have to have any part of sterilization, ... we are doing clean dressing... So we are not sterilizing anything...,

Another of the nurse administrators comments about a similar problem and explains how the nurses try to cope with the problems of sterilization:

And these days we also try not to use instruments a lot... Because one thing there is power failure... And, we won't know for sure whether these things have really boiled, eh, the recommended time so, we have improvised...what we are using is something you can use on a patient once and throw! Like orange sticks, wooden spatulas, eh? So those are the ones we are using to clean the wounds. And when we are removing sutures we use surgical blades, instead of scissors!

Nurses were concerned about inadequate space. One of them talked about overcrowding and the problems this created for sterilizing equipment:

I think we have a problem with over crowding because if you are dealing with one patient at a time, it will be OK, because you can take precautions, you can even be able to sterilize your things properly, but when..., you lack those things and the patients are many...

Sometimes a shortage of equipment is dealt with by asking the clients to supply their own:

We don't have autoclaves....so we prefer disposable syringes which we use, and if we don't have in the health centres or dispensaries, we ask the patient himself to buy and use the disposable...

Lack of syringes and needles used in immunizing babies was sometimes a major problem. One administrator explains that mothers are asked to provide the equipment:

We are not just dealing with the adults, we also deal with the babies, and you see because of the concept of the AIDS, you see we don't want

to inject the child with a syringe that has been used before, or to be re-sterilized, we want a syringe for one baby, so there are times when we have to ask the mothers to buy syringes... So when the medical store does not have syringes... you can be sure that some don't have the money, yah, and what happens is that the services are not given, you see, we stand the risk of the babies contracting the infections we are trying to prevent, measles, tetanus and so forth.....

Some of the clients would rather provide the missing item, but there are others who cannot afford to buy for themselves. One of the administrators explains:

...We used to steam syringes and needles, but abandoned this practice, educated mothers were refusing these syringes... Now we have enough... When we do not have enough, we ask patients to buy. (But we educate them to buy when we do not have enough). Also, if a mother can't afford, we keep a few for such mothers...I have some I kept for babies from a project which was there in 1994.

Supplies for the health clinics are provided by the City Council, but are not always available. When there is a shortage, some health units are able to get what they need from other programs. One of the senior nurses describes the logistics, and the problems of supplies:

... the reason could vary, something can be there, and they won't deliver them in time, transport may be unavailable, or the order may be late, the delivering will be late, or wherever the whatever is coming from, may be the tenders... There are so many problems that could be..., because we can't say it (Jik supply) stopped completely, it is sort of the flow was a bit slow....but may be, if we could overstock ourselves, may be that could be better; (laughs) it is not allowed because they are also controlling from another end...

The same administrator talks about borrowing material across programs to try and cope with the shortages:

We are getting JIK from two sources. From the Medical Stores, and from Family Planning Services. When they bring for family planning we borrow, then when they bring from Medical Stores, we can share since we are using for the same patient ... For syringes and needles, we get from Medical Stores, those are not a problem because somehow even the patients... they are very willing to provide. There was a time they were “no where” so you find, telling a patient “bring me a syringe” was not a problem...but right now, we have enough...

Sharing between programs was discussed by several nurses. An administrator described how they benefit from supplies provided by other projects:

I say here we are somehow lucky because our health centre, accommodate the equipment for... (a family planning project). Since they have stored their equipment here, and some of the equipment that is stored here are gloves, and..., things like JIK, (you know the Jik for decontaminating the equipment), we have not really experienced a problem. Jik is in short supply alright, but when we are running short, we ask for a little supply. But this is actually a general problem. There are areas who, that never really get Jik.

Still another administrator comments about the same issue of supplies from a different program:

Ahh... We have this (names the Project), they have been able to give us gloves... (you know they are working very, very closely with the City Council...). They have given us JIK..., then we have these other..., Family Planning/MCH..., (Maternal Child Health projects)...they have been giving us gloves... And quite a few other instruments we are using..., and we have all these other projects which are helping us quite a lot...

Without adequate supplies, knowledge and skills gathered through in-service training cannot be put into practice. A nurse who had received in-service training in both the STD/AIDS and the infection control programs comments:

Like I think I have been trained in infection control. I have the knowledge. So I think I can take care of myself! Given the supplies. Like now if I am working with HIV patients who are being treated, I would expect things like gloves I should have. If a patient is having diarrhoea whenever I am changing, things like a gown. I expect to have... So if it could be changing or what, and I don't have gloves, you see I won't have (laughs) the spirit of doing it? But if I am well protected, yah, with those things I have mentioned, I will do it.

Perceived Risk in Providing Care to Patients:

Nurses do not usually know if a client is HIV positive or has AIDS. Indeed, anyone who comes to the health unit for care may be HIV positive without being themselves aware of their condition (Veeken et al., 1991). For this reason, each nurse was asked how often they dealt with persons infected with HIV at their health units; 19.5% said "most times", 78% "sometimes" but two nurses said they had not. Further to this, just over half said they had dealt with less than five such patients over the past month, about 21% had seen five to ten patients, 18% ten to twenty patients and 7% had dealt with over twenty HIV patients. Nurses were then asked about their general perception of the risks involved in the types of work they do. A risk scale was developed which included most of the procedures that the community nurses are likely to perform in the course of their work (see Table 5). Some were procedures in which the nurse is likely to come into contact with the patient's blood or other body fluids; for example, a nurse is exposed while drawing blood, performing vaginal examinations or conducting deliveries. Other items were based on procedures in

which exposure is possible but less likely, such as administering injections. A third group involved interactions with clients which do not involve physical contact, such as taking a history or providing counselling. As can be seen from Table 5, most nurses associate a very high level of risk with doing a delivery and associated procedures such as doing an episiotomy.

To find out the unifying concepts in the risk scale, the 23 items were entered into a Principal Axis Factor Analysis, (PAFA) followed by Varimax rotation (Joliffe & Morgan, 1992; Polit & Hungler, 1991). Based on the screen test, the final results suggested the presence of three factors, which were labelled “high”, “medium” and “low” according to the level of contact with the patient and the presumed risk of infection. Factor II, “high contact” includes all the items which potentially involve direct contact with the patient’s blood, such as suturing an episiotomy, drawing blood or doing a delivery. The items loading on Factor I, “medium contact” still require close contact with the patient (as in vaginal examination” or the collection of bodily fluids (as in the collection of urine specimens), but are unlikely to involve exposure to blood products. Factor III, is made up of forms of nursing care unlikely to involve exposure to blood or require much direct contact with a patient, such as counselling and dispensing medication, (see Table 6).

TABLE 6. FACTOR ANALYSIS ON PERCEIVED LEVEL OF RISK OF HIV/AIDS FROM PROVIDING THE FOLLOWING SERVICES TO PATIENTS (N= 82)

<u>MEDIUM CONTACT PROCEDURES (FACTOR I)</u>	FACTOR LOADING
Performing dressings	0.58
Inserting IUCDs	0.80
Performing oral hygiene	0.61
Performing speculum exam	0.80
Taking stool specimens	0.57
Taking urine specimens	0.59
Performing vaginal exam	0.75
Changing soiled beds	0.54
<u>FACTOR II-HIGH CONTACT PROCEDURES</u>	
Giving mothers Tetanus Toxoid	0.72
Taking blood samples	0.58
Conducting delivery	0.53
Immunizing < fives	0.71
Giving injections	0.76
Giving STD patients injections	0.74
Suturing episiotomy	0.61
<u>FACTOR III-LOW CONTACT PROCEDURES</u>	
Doing counselling	0.57
Taking history	0.68
Doing a physical exam	0.49
Giving medication	0.48
Offering school health services	0.57
Doing home visits	0.72

Qualitative Data on Perceived Risk in Providing Care:

Many of the nurses discussed their fears of contracting HIV through their work; for example, one nurse describing the problem of suturing a patient after an episiotomy comments:

When the patient is given an episiotomy, and you are suturing, you are likely to have a broken skin, and you have put only one pair of gloves, and it happens that it gets torn, you see, that way you are at risk.

Another nurse talked about giving injections and the risk of pricking herself with a needle:

You see like these “ninii” (you know), these needles I have put there, I have put them in 1:6 JIK, ...and sometimes this Jik supply, might not be there, and before I put them into that Jik, accidentally I prick myself still back of my mind, this needle I had not put it in that JIK, it had come from a patient...,

Community nurses were worried not only about contracting HIV, but also about passing on the infection to other patients. One of the midwives explained the problems she faced whenever she was the only midwife on duty:

Two patients come, and they are fully dilated, and I am supposed to conduct both of them...now, this one is pushing, and the other one is pushing! ... So, to save that life, I rush and take that child, and then I rush and take the other child, so there is likely to be cross infection because one is likely to have an STD problem or HIV, and I just pass on the infection from the mother to the child...

This same midwife also talked about the lack of equipment, particularly the shortage of beds and the risk of cross infection:

...the whole ward is full, and now, a mother comes fully dilated, she is not having any of these STDs, she is just thrown on that bed, she pushes the baby on that same bed where there was another one who had an infection, from there she carries an infection...

She described conditions at a maternity hospital where she worked in 1993:

I never liked the idea of mixing patients, because they saw many HIV positive patients, and I saw innocent mothers just, sleeping on those beds, and they used to suture them on those beds.

Nurse administrators understood the problems faced by community nurses during the course of their work. One of the administrators talked about the lack of gloves:

... you know the area where the nurses feel at risk...? Is mostly when they are dealing directly with the patient. Lets say a patient has come, who has been injured, and supposing there are no gloves, and the nurse fears that, the case is HIV or is a confirmed case of AIDS.

She also referred to the problems associated with emergency delivery, when the nurse has no choice but to rush and help both the mother and the baby:

Also in cases where a mother just pops in your unit and she wants to deliver, you have to help the mother and the baby and you don't have even the gloves! Mostly is the gloves! Because at least you should protect your hands and sometimes you might even have a cut or anything, and then you go and help the mother, you see that is also a risk, eh?

Several administrators talked about the same problem. One of them had this to say:

Can you imagine trying to deliver a mother without gloves in this day and age! When they are even reading in the newspapers that about 30% of our youth have AIDS, it is frightening!

Another administrator gave similar examples, "...and particularly if there is a delivery and the baby is coming out and you are not ready for it". She listed areas of work where she thought that gloves were absolutely necessary:

The risk is there especially in high risk areas like family planning, the delivery room, the dressing, the sluice..., those are "high risk areas", and at least one is to make use of the gloves...,

The same administrator suggested that the poor quality of gloves was one of the factors contributing to nurses being at risk of contracting HIV particularly when working in the "high risk" areas:

...and also, most of these gloves, we tested them. Some of them, those ones "which have not finished yet", (not expired) they have holes! That we proved... with the air, ...we tried to put air and you see, sometimes if you look properly, you see there are holes in the gloves. New packets in fact ... we have a particular brand, these ones...(she points at a sample)... Most of those..., have holes. That is one thing that puts us at risk!

The problem of poor quality of gloves was brought up by several nurses:

Well, again, this has always come in on and off, it depends on what we have in the store, there has been times when we get those "see through" those ones are very poor quality, because you wear and then you see your fingers out, sometimes you are even forced to wear three pairs.

Over the same issue, one of the midwives explains how she has often times found her hands contaminated with blood during the process of delivering a mother, although still wearing gloves:

So many times when I have been in "ninii" (you know), in maternity unit, I have removed gloves, just to my surprise that I am stained with blood... and I thought I was protected! That is when... you start scrubbing! And then you feel like crying! ... I think, that is where the

risk is! Because the amounts, the blood! The liquor! That is body fluid, and in heavy amounts!

The same midwife talks about the possibility of a needle puncture and contamination with splashing liquor during the process of delivering a mother:

Aaah! In maternity, I think that is where the problem is! Because, when you are delivering the mother, the blood is up to here! (Indicates the level of her elbows) and either when you are doing a vaginal examination, or when you are handling the baby, other places might be contaminated, may be liquor can enter your shoes, and you had a cut there, this is a body fluid, so, you are at risk there! ...Sometimes you might not know.

Fear of becoming infected during a delivery was very strong. One of the nurse administrators gives a similar example, but this time pointing at the absence of protective wear:

...the blood can even splash into your mouth, even into your eyes... So, you are at risk...

These and other comments made in the interviews help explain why 89% of those participating in the survey thought that nurses were at risk of contracting HIV infection at their health units.

In addition to work in the health units, nurses provide services to people in their homes and to children from nearby schools, usually non physical contact health care. In spite of many nurses describing youth as a group vulnerable to HIV infection, 80% of the sample did not see themselves at any risk in providing school health services

(see Table 5). However, a few nurses still worried about their risk of HIV infection from treating children. During one of the interviews, a nurse commented:

In school health it is the same, because there are cuts. You find children with cuts, accidents, with wounds. You are injecting them, contamination is also there.

She talked also about the need to take along containers and other supplies so that the materials she used could be carried safely to and from the school.

Nurses visit people in their homes. Patients who may require home-visiting services are usually very ill with opportunistic infections such as pulmonary tuberculosis (PTB), skin diseases or diarrhoea. Many homes are ill equipped with water and disposal facilities. This makes the provision of care quite difficult; however, over 80% of the nurses saw no risk to themselves from carrying out home visits, (see Table 5).

One of the senior nurses talking about home visiting describes some of the difficulties involved in delivering care in the absence of basic requirements however, she was relatively sanguine about the risk of a nurse becoming infected through a home visit:

Unless one is raped during home visiting by HIV patient, or, you are doing dressing at a home, or you find somebody delivering, otherwise going to see people I don't see how it can.

She however talked about the importance of having the right equipment and the means to decontaminate the used items after a home visit:

You carry your “gadgets”. The whole kit contains gloves..., contains syringes, lotion for dressing, delivery kit. So the risk will come from where? It is the same like the risk in the hospital... When they come back you need to decontaminate these things. You use a new glove, remove them and throw them away and decontaminate them....,

Perceived Risk in Providing Care to AIDS Patients:

The health units also provide care to persons known to have AIDS who are living in the community. To assess the attitudes of nurses towards these patients, they were asked about their sense of comfort or ease while providing different types of services to persons with AIDS, (PWAs). The list ranged from talking to people with AIDS to inserting intravenous fluids (IVFs) (see Table 7). The majority of nurses said they felt comfortable simply talking to patients with AIDS or with their family and friends, but fewer nurses were comfortable when drawing blood, inserting intravenous fluids or even providing general care.

Qualitative Data on Perceived Risk When Caring for Patients With AIDS:

The attitudes of nurses towards caring for patients with AIDS were explored in more depth in the interviews. One nurse said:

I would do it so that something is done! But if there were other people, who really are willing to do it, I would rather serve in another..., another set-up of nursing....that doesn't mean I don't enjoy doing it just now...but if I had a choice....

Another nurse spoke about the difficulties of working with PWAs when so little can be done for them:

....when they are in the critical condition, I think I wouldn't like to work with them because, they are in too much pain and sometimes you wonder what to do for them... Like these ones with Kaposi's sarcoma... Herpes Zoster is very painful, and you see, they are very much in pain and sometimes..., there is no drug for it...,

Some nurses talked about their own fears of infection or the fears of other nurses. One nurse was relatively philosophical:

I am not afraid individually to work with HIV patients, because, probably even during my period of work, and from the time I was in training and up to now, I have worked with so many of them unknowingly... I cannot fear to work with these people because you never know whether this disease will come to an end, and unless you resign and leave nursing, you will have to come across these patients!

In illustration of how fear of nurses affects the treatment of some patients with HIV, a nurse described the following incident:

Nurses know that most of PTB (Pulmonary Tuberculosis) patients are HIV. So I was surprised to find a nurse, putting on almost five pairs of gloves to inject these PTB patients! To me, I felt that was not right!

She said she tried to explain to the nurse that wearing this number of gloves was not only unnecessary, but also a waste. She wondered "is it because the nurse does not know? or, or just the fear in her...". This same nurse talked about how sensitive patients with AIDS are to the way they are treated by nurses. She described a patient terminal with AIDS:

So he comes in the room, and I am the nurse in the injection room! You are so rough with him! "... Turn round... You think we have time to listen to, to ..., Loord!" ... You know... "(Habari zako... Unaendelea aje na madawa zako? (How are you, how are you progressing with your

drugs?) Ebu nikundunge, nitakundunga upande gani? (Could I give you an injection, where was the injection site last time?)” He knows..., when you are handling him that you care! And when you will ask him a sensitive question, some will tell you quite a lot ... which if, you handle them negatively, they won't! In fact they are human beings, if you are the one... would you like to be handled like that? If you really welcome them and you show that you care, they will tell you a lot! So that you are able to intervene, positively...

One of the nurse administrators explained how they handle persons with AIDS and also gave examples of some of the precautions the nurses take as they deal with such patients:

We will not run away. We don't run away from HIV. We are much nearer to them. We advise, we sometimes even home visit them. It is only that we usually take the usual precautions, let's say if there is oozing here and there, you have to put on gloves. But you have to explain why you are putting on gloves because some of them might feel scared. But if they are people with no lesions and there are no fluids coming from them, we sit with them, talk, laugh discuss, and actually let them realize that the disease is not for a particular community or a particular class, it can affect anybody, and then the precautions they should take so that they don't re-infect themselves.

Conclusion:

The quantitative data shows that some nurses (although usually not the majority) faced shortages of equipment and space in their daily work during the previous month. It is what nurses say, however, which reveals how difficult it is to work under these conditions. The survey data also show how the sense of being at risk is not uniform, but varies with what a nurse is doing. The fear of infection is very

pervasive, however; almost all these nurses saw themselves at risk whenever the question dealt with potential exposure to blood. The comments of the midwives are particularly expressive of their concern not only for themselves, but for other clients. The next chapter takes these same analyses and looks at the impact of training.

CHAPTER FIVE

INTRODUCTION:

The main focus of this chapter is on the differences between nurses who have, or have not, attended one of the formal training programs offered by the Strengthening Management and Control of STD/HIV Project of the University of Nairobi (STD/HIV Project) or by any other program. A comparison is also made between nurses for whom education on HIV/AIDS was part of the basic nursing curriculum and nurses who were trained before that time. Later sections in the chapter discuss sources of information available to nurses, and nurses own roles as educators. This chapter also discusses the role played by nurses in patient and community education. Training programs lay a heavy emphasis on the value of condom use as protection against STD/AIDS; therefore, in the final section of the chapter we look at whether there are any differences in attitudes towards condoms between nurses who have, or have not, gone through a training program.

THE IMPACT OF TRAINING:

The sample had been selected so that half the nurses taking part in the survey had attended one of the training programs in STD/AIDS; 92% had been trained by the

STD/HIV project; two of the remaining nurses had been given in-service training by the Ministry of Health, and one nurse had been trained by the NCC. (A few nurses had taken additional training in counselling either through the STD/HIV project or through the Kenya Association of Professional counsellors). The Mann Whitney U-test, was used to first look for any differences between nurses with, or without STD/AIDS in-service training in response to the 11 questions on the availability of space and equipment. Only two items were significant; nurses with training were more likely to say that facilities were inadequate at their health unit for speculum examination, ($P < 0.05$) and for safe storage of blood samples, ($P < 0.005$, see Table 8). Using the four factors shown previously in Table 3 to look for any differences between these two groups of nurses, the only significant difference was on Factor IV ($P < 0.02$). This factor includes availability of gloves, facilities for doing dressings and for the safe storage of blood specimens. Possibly nurses trained by the STD/HIV project are more conscious of the importance of this last item.

Nurses with training are significantly less likely than nurses without training to say that they are at risk of infection on a number of items relating to patient care. For example, nurses with in-service training are less likely to see themselves at risk when performing procedures involving minimal physical contact with the patients or clients, such as counselling ($P < 0.05$), providing school health services ($P < 0.01$), dispensing

**TABLE 8. DIFFERENCES BETWEEN NURSES
WITH/WITHOUT IN-SERVICE IN STD/AIDS IN
REPORTING THE AVAILABILITY OF FACILITIES
AND EQUIPMENT OVER LAST ONE MONTH**

AVAILABILITY OF:	Never	occasionally	sometimes	most times	p < 2Tl.
	%	%	%	%	
Safe storage of blood samples	29.5	11.5	7.7	51.3	0.005
Trained	15.0	12.5	7.5	65.0	
Untrained	44.7	10.5	7.9	36.8	
Facilities to perform speculum exam	6.3	6.3	11.4	75.9	0.05
Trained	2.5	5.0	7.5	85.0	
Untrained	10.3	7.7	15.4	66.7	

**Three nurses said they have no facilities
for taking blood samples, doing dressings
or speculum examinations, therefore N = 79**

NB: Percentages may not total 100 due to rounding

medication, ($P < 0.04$) and administering injections to patients who have sexually transmitted diseases, ($P < 0.03$, Table 9).

There is no significant difference however, between the two groups of nurses on items involving contact with blood or other bodily fluids. Using the Mann Whitney U-test and looking at the three factors shown previously in Table 6, nurses with and without training were compared. There was a significant difference between them on Factor III, ($P < 0.02$) but not on Factors II and I (high and medium contact nursing care). As described in the previous chapter, only items involving little risk of direct physical contact between the patient and the nurse load on factor III. These results suggest that training does reduce the sense of being at risk from patients with HIV/AIDS, but only for some forms of nursing care.

Multiple regression was used to examine the impact of STD/AIDS in-service training on nurses' assessment on levels of risk to HIV infection, while controlling for the four environmental factors. The results still show significant differences between the nurses with in-service training in STD/AIDS and those without in-service training, ($P < 0.02$). These results suggest that training makes a difference which is quite separate from the conditions of work.

Answering questions whether they were comfortable when dealing with patients who have AIDS, the only significant difference between the two groups was in relation to drawing blood. Nurses without training were significantly more likely to

**TABLE 9. SIGNIFICANT DIFFERENCES IN PERCEIVED RISK
IN NURSES WITH/WITHOUT IN-SERVICE IN
STD/AIDS (*N = 82)**

	nil	low	medium	high	p <
TYPE OF NURSING CARE	%	%	%	%	2 Tl.
Counselling	91.5	3.7	2.4	2.4	0.05
Trained	97.6	2.4	-	-	
Untrained	85.4	4.9	4.9	4.9	
Dispensing medication	73.2	24.4	2.4	0	0.04
Trained	82.9	17.1	-	-	
Untrained	63.4	31.7	4.9	-	
Carrying out school health services	80.5	14.6	3.7	1.2	0.01
Trained	92.7	4.9	2.4	-	
Untrained	68.3	24.4	4.9	2.4	
Giving STD patients injections	-	13.4	32.9	47.6	0.03
Trained	9.8	17.1	36.6	36.6	
Untrained	2.4	9.8	29.3	58.5	

*Half the sample has STD/AIDS in-service

say they were uncomfortable carrying out this procedure ($P < 0.01$). This group was also significantly more likely to say they did not feel confident when providing care to PWAs ($P < 0.001$).

Other Forms of Training:

Although the in-service training programs are the main focus of the study, a decision was made to also look at the impact of instruction in STD or HIV/AIDS as part of the curriculum in nursing program. Over 90% of the nurses taking part in the survey said that their basic training as nurses had included information on STDs, but only 22% had been given information on AIDS during their training. Most of these are KECN; this group tends to be younger than nurses in the KEHV nurses and are more likely to have trained since AIDS became a major health problem in Kenya (see Table 10).

Comparing nurses with training in STDs with other nurses, those with training in STDs are significantly more likely to see themselves at risk when drawing blood ($P < 0.05$) and suturing fresh cuts ($P < 0.04$). They are also more likely to say they lack confidence in dealing with patients known to have AIDS ($P < 0.02$). These results suggest that STD training may have a negative impact on attitudes towards caring for PWAs; however, 48.8% of this group are over 45 years; therefore, the key factor may not be training in STDs, but their age and the fact that they were trained before AIDS

**TABLE 10. PERCENTAGES OF KECN & KEHV RECEIVING
TRAINING IN STDS OR STD/AIDS**

TYPE OF TRAINING	KECN (N=42)	KEHV (N=40)
	%	%
STD Training in Basic Program	51.2	48.8
STD/AIDS Training in Basic program	19.5	1.2
STD/AIDS in-service	29.7	20.7
-92 % by the STD/HIV Project		
-8 % by other organizations		

became a major issue in nursing care. By contrast, those who said that education on HIV/AIDS was part of their nursing curriculum education are less likely than all the other nurses to say they feel at risk when performing a speculum examination ($P < 0.02$), when inserting an intravenous infusion ($P < 0.004$), and when drawing blood ($P < 0.03$). Nurses with training in STD/AIDS are also more likely to say that they had dealt with patients positive to HIV “most times”, ($P < 0.01$), as opposed to saying “never” or “sometimes”. The most likely explanation is that possibly patients with AIDS are directed to nurses with training in STD/AIDS who are more comfortable in dealing with them. These results suggest that including training on HIV/AIDS in nursing education programs is having a positive impact on nurses by reducing their sense of risk and making them less inhibited in dealing with PWAs. However, although only 19.5% of the KECN had trained in nursing programs offering education in HIV/AIDS, the group as a whole are more positive in their attitudes than KEHV. For example, they are less likely to feel at risk when performing a speculum examination ($P < 0.01$) and when inserting IUCD ($P < 0.02$); therefore, some other factor such as their age or some other aspect of their training may also be implicated.

Qualitative Data on Training:

The in-depth interviews were used to explore nurses' views about the value of STD/AIDS in-service training and how they thought this program might be improved. One of the trained senior nurses commented:

I think they should be available for everybody so that at least you don't have to refer to the next person. You will be able to counsel and treat. Because sometimes we, I, we don't feel we have counselled adequately...

In response to the question of why not all nurses have received the STD/AIDS training, most of the nurses thought the major constraint was the finances. One of them had this to say:

I think mostly it is the finance. Because like our organization through the council, we don't have the money to train the nurses so we rely on other NGOs or other people who have got money so that they can organize seminars, or workshops so that people can attend.

Another administrator was of the same opinion, but also added that all nurses should learn how to live with the AIDS patients:

Me I think chances are limited, and even finances, ...and even setting certain places as priority, does not help, because the, the HIV patients and STD, is not here in (names the locality). ...It is everywhere, so, I think every health personnel, it is better to know about AIDS as well, just as we have known about other diseases, yah.

One of the senior nurses thought there were various reasons why nurses had not received further training in STD/AIDS:

...whereas in some, they don't offer it free and someone doesn't have money to pay for the training. And could be they are not interested! And they don't want to be involved with it, whatever.

One of the trained administrators said she had found the training very useful, and she had observed that the attitudes of nurses had become more positive towards the patients:

It is good and is very necessary because you know the days before the training started, after the course you just know that some of the STD cases were mishandled... “treated as if somebody is just a cast away. As if somebody is so bad that they have may be contracted that disease!” But after training, you can see everybody is kind to the patients. They counsel them as necessary. So to me, the training seems to be very essential... It has helped. It has made us able to treat, it has made us able to counsel, to be able to (sighs) accept. Accept the disease. The HIV and the HIV positive persons.

One senior nurse thought that some health workers lacked interest in STD/AIDS training because of the terminal nature of AIDS:

First of all people are very negative. You find some health workers, they are not interested to know more. Because first of all they are not ready to work with HIV patients, they are not ready... And the other problem you know when it comes to HIV, you know it is a terminal illness? So, as a health worker, could be you think, even in spite of all you are doing, this patient after all, is a terminal case. So there is that hopelessness.

During the interviews, nurses were asked to suggest areas that needed strengthening in the STD/AIDS in-service training, and how the problem of training could be solved locally within the health units. One of the senior nurses who had gone through the in-service training commented:

...and we had a few role plays, but we didn't have any visual aids, I mean, audio visual aids. You know. What you see you might never forget.

The same nurse thought that “if the person is actually willing to be a role model” the persons living with AIDS could be involved during the training sessions.

On the issue of training nurses locally within or between the health units, one of the nurse administrators commented:

One can organize so that you call a few nurses at a time so that the work does not go at a stand still, and then the nurse who is trained can give the information. This does not require funds. May be a little. May be a little for travelling.

Another of the senior nurses suggested that those trained could come back and train others on the job, as she had seen happen with another program:

Like here I do not have even one (trained in STD/AIDS). City council is sponsored by other organizations. But usually they do not have enough funds for training. I wish they could train everybody. Like for TB management, they trained two nurses for two days. These came and trained others. If they could get more funds, these now can train others in the dispensaries.

During the focus group, the 5 nurses discussed a number of issues in relation to in-service training:

I think there are not so many opportunities. Like myself, I have been in our clinic where the majority are trained but I was only trained the other day.

Me I would like to be trained, but I have never got the opportunity! And you know I see these patients every day... Usually we have no clinical officer and I have no choice but to counsel them.

I am trained but I don't even work in the STD room. I think administration should also be improved... Some of my colleagues are allocated there all the time... So I got the training, but I do not practice!

... To add to what our friend says, sometimes those without interest are trained. I think for such areas, those with interest should be trained.

OK, let us explore further the constraints of training. We were told that the opportunities are limited.

Yes. Other than this project (UON) which trains in specific clinics, I think there are no others.

Noo, I think they are there. But I think they do not train us... I mean NCC staff. Like Kenya Red Cross and others train in counselling which is very important. But I hear it is difficult to be trained there.

Also sponsors! It is difficult to be sponsored to such training.

I have learnt that nurses from "STC" (Special Treatment Centre) are trained in counselling through a certain program?

(Silence)

I also know some trained for a "long training". I think one month. But I think it is for those ones since it is a referral centre.

I see. We talked about sharing information earlier on. Do you think there is a way you could share that kind of information in a cheaper way since formal training seems to be a problem?

What I think is that we still share but like us now in our clinic, none is trained so we may be sharing the wrong information you know!

(All laugh)

...I don't know. But different clinics could share? If in-charges organized between themselves, people could share.

But still some money is needed. You know there still will be travelling and may be lunch or tea. Still some finance is needed.

This long passage from the focus group discussion reveals both a number of misconceptions about HIV/AIDS, but also the ways in which information is shared

among nursing colleagues. Group discussion is clearly a potential forum for learning. In the last chapter the possibility of using this approach to expand the influence of training programs by using already trained nurses to train their colleagues is discussed.

Other Sources of Information on AIDS:

Government and other NGO, and a number of international organizations have been very active in Kenya in trying to educate the general public and health care providers about AIDS. Information about AIDS is also spread by the mass media; although not all stories about AIDS published in the newspapers are accurate. Rumours are common and are passed on through networks of friends and neighbours. A question in the survey asked nurses what use they made of other sources of information. The answers show that information reaches nurses from a wide range of sources including the church, co-workers, family, friends, neighbours and even patients. The influence of the media is very obvious; with over three quarters saying they had received information from the media (radio, TV, books, posters and pamphlets).

Asked who should ensure that nurses get information about AIDS, 78% agree it is a responsibility of the health department, 74% see it also as a responsibility of the nurse in charge of the health unit, but 81% also think it is the responsibility of the individual nurse. Those who think that the health administration is responsible for

ensuring that nurses get information about AIDS, are also significantly more likely to think that nurses are at risk of contracting HIV infection at their place of work ($P < 0.01$).

Qualitative Data on Sources of Information:

During the focus group and in-depth interviews, nurses commented further on sources of information and how they share this information among the staff:

...even in magazines and radios we always hear about AIDS... and...usually one becomes interested to know how you can prevent it, or how you can help those who have AIDS...when we are giving lectures to our patients, we do talk about it. We raise that topic quite often, we don't miss it. So that at least, we have given information to some people, whether they take it or not, but we like mentioning it. With the staff, whenever we have any seminar from outside, we come and give that information to them so that at least they are aware of whatever we learnt...

Nurses talked also about the educational materials provided to clinics. One of the nurses said:

But we receive information like, there are some books, small books, that have been sent by UNICEF, and we read those books, there are posters like those (She points to the wall).

One of the senior nurses cited similar sources and explained how information is shared among staff in her health unit:

When we are free, (patients are finished) we refresh our minds with issues concerning AIDS, and sometimes you may hear the nurses..., "But sister, wewe umesikia maneno ya ukimwi" (But sister have you heard about AIDS?) "You know it is killing like this..., like this..." And then may be we can discuss, like we have articles from "AMREF"

(African Medical Research Foundation), they write, and they send to us, so we get time to read them, and we see what is happening in the other corner....,

Still another administrator gave examples of how information is shared with colleagues, but also pointed out that some of the information from the media could be very frightening to the nurses:

We share with them where they are not well informed, when we go for seminars, we learn something new, we come and up-date them after the seminars.... We call a meeting when they are not busy, we discuss the problem,Oh! another thing, we get those information through the newspapers. Like now there is one which came this “world day” (World AIDS Day), “3000 nurses have AIDS! Ooii! (exclamation), they got scared!” ...they thought they are at risk, because now we felt, in spite of the ways of transmission which we have been informed, we thought there were other ways... We felt, “although they say that mosquitoes don’t transmit AIDS, may be they do... and through insects and people are working night duty, they are likely to be bitten”. So these people got scared. But we had just to (stick) with what we know....,

A number of nurses talked about educational materials. Where available, such materials provide factual information about HIV/AIDS for nurses. But as can be seen from the last quotation, some of the information shared by nurses may perpetuate misconceptions about HIV and AIDS. During the focus group discussion, for example, it became clear that some of the nurses are not convinced that casual contact with a HIV positive person would not transmit HIV. When one nurse related her own experience of living with a PWA, she generated a long discussion about misconceived ideas about HIV transmission:

...so I don't know... What about that..., sharing the bed..., everything? ... I feel sorry for him because now they are using the same things. You can see him very busy washing his brothers clothes, even underwears. So I just feel sorry but I have nothing to say (looking at the other participants). What can you tell me? What can I go and tell him? ...But can you get it through the bed?

Me I think you should counsel him, ...the victim totally. Tell him it is bad to share the bed and may be you change, may be give his brother somewhere else to sleep, or they use different blankets...

Or even another mattress and sleep on the floor.

But can you get it through the bed? Me I think because of the utensils...

But do you know sometimes you sweat at night, and the pores are open at that time. Me I think you can get through the pores...

(All laugh uncomfortably)

Is it true also that, ...somebody talked about this sweat and how being very close with that sweat, one can get AIDS. Is it true? ... At least I heard that from a doctor! I don't know whether he was "jiving" or he was joking with me or what! But I don't know...,

I don't think it is possible

Why do you think it is not possible?

Because I don't see how sweat, can enter those pores. It is not possible...

...Me I think you can get it through blood, through needles and syringes, and through..., through sexual intercourse... But sweating, I am not sure...

What about the mucous?

Mucous you can. May be if you have a cut...

If you have a scratch, and it goes through there. So even with the sweat, I think the same...

...I was saying it can't because, I thought the pores are not open. No connection with the blood stream...

That's a point.

Even that sweat, myself I think it can... Because now, even those spoons, how careful are you when you are washing them? Yes, when he comes near me and I mark that cup spoon... I think I will still take care. Not, or, I think I will isolate his...

This passage from the focus group quoted at length, partly shows that many nurses have knowledge gaps and harbour misconceptions about AIDS. The passage also demonstrates, however, the process of information exchange between colleagues. Knowledge becomes more relevant because it is related to personal experience, but it is also possible for members in such groups to either add to existing misconceptions or correct misunderstandings.

NURSES' ROLE IN COMMUNITY EDUCATION ON AIDS:

An open ended question at the end of the survey questionnaire asked each nurse what they saw as their role in the control of HIV infection. They described their roles as providing useful information on prevention to patients and clients, avoiding cross infection to self and to others and educating the community through their leaders. For example, they spoke about the need to intensify education particularly in public places. Others talked about the need to reach organized groups such as women

associations or to speak at social gatherings through the chiefs' "Barazas", (meetings) the church and school community. In essence, these nurses describe the same steps in the prevention and control of STD/HIV as they had been trained to use in the control of communicable diseases.

Qualitative Data on Community Education:

During one of the in-depth interviews, a nurse administrator explains:

Each of our health units has got it's own catchment area... It is the responsibility of the nurses from this health unit to take knowledge to the people who are not able to come to them... "If the people cannot come to you, go to them!" That is what we tell them.

She also talked, however, about some of the barriers to community education:

Am sure, if we had the way, means, transport, to go to the people, we would spread the gospel, to tell the world about AIDS much more than we are doing now... The nurses are willing..., but as I said we have our own problems. I don't know what has happened to our country... A nurse cannot walk alone in the slums..., she is insecure... So it means the one nurse who would have gone, will not go, because of insecurity.

At the same time, she emphasized not only the importance of this work, but also that it was their responsibility to carry it out. Talking about the nurses, she said:

It is their job, they should go out... It is not just the work of the "Project". A Project is there to come and go... We are here to stay, this job we must take it as our own, that is our community..., that is Nairobi community, and they are ours... So we cannot leave the project alone.

One of the nurses said that "education on STD/AIDS should be focused mostly among youth...since they are the groups commonly involved". Another nurse said that

such education should be strengthened by training teachers who would then educate children and youth effectively right from primary schools by helping them believe that “AIDS is a reality”. While holding similar opinions, one of the senior nurses went on to explain why youth were in such dire need of STD/AIDS education:

... the question of the youth, I think HIV is also a problem because I don't think they are able to make the right decision. They need a lot of guidance because of this issue of HIV infection. They don't have the guidance or, plus, there are so many other factors that can influence like..., this they call “Peer pressure?”. Peer pressure is “others are doing it, I might as well do it, so why shouldn't I?” Some of them start sex very young, they don't know anything. OK, may be they have heard about AIDS, but they don't know how it is contracted. The same, the same thing when they are on drugs, you know that a lot of youth use drugs, and their judgement at that time is not very good!

NURSES' ROLE IN EDUCATION ON CONDOM USE:

Although condoms are promoted as protection against AIDS, nurses have sometimes been reluctant to show clients how they should be used. Aware of this attitude, the STD/HIV project training program has been teaching nurses how to instruct patients and clients in the correct use of condoms. For this reason, a number of items were included in the questionnaire dealing with the nurses' opinions and attitudes regarding condom availability and effectiveness. An overwhelming majority of nurses (93.9%) reported that condoms are always available in the health unit for those clients who may require them. However, there are no significant differences between the trained and untrained nurses concerning the effectiveness of condoms as

protection against AIDS (see Table 11). A majority of the nurses say that condoms are only sometimes effective against HIV and STDs, a small group of the nurses (11%) think that condoms offer no protection against HIV, and another 3.7% think that condoms are ineffective against STDs. Most of the nurses in this study say they are comfortable when discussing, demonstrating, or issuing condoms to clients, regardless of whether or not they had gone through in-service training on (see Table 12). However, a small group (9-12%) say they are still uncomfortable when dealing with the subject of condoms.

Qualitative Data on Condom Use:

Nurses talk about condom use during the focus group and in the in-depth interviews; for example one nurse says: ...But my feeling was, if all men accepted- Especially those men who don't stick to one partner - if they accept using condoms, the number of the infections will not be as high. But I think they have not taken it seriously.

She also talked about the damage done by rumours that the condoms were infected with the HIV. Another nurse said that men would not use condoms because she could not say they were 100% effective:

...when you tell them "condom is 65 % safe, ...say this 35 %, then there is no need! If, it was 100 %, then I would use it, but if it is 65 % only, then I better get it!..., (AIDS).

**TABLE 11. NURSES' VIEWS ON EFFECTIVENESS OF
CONDOMS AGAINST STDs AND HIV (N = 82)**

SITUATION:	Always	Sometimes	Never
	%	%	%
Offer protection against STDs	11.0	85.4	3.7
Offer protection against HIV	6.1	82.9	11.0

NB: Percentages may not total 100 due to rounding

**TABLE 12. NURSES' FEELINGS OF COMFORT WHEN
DISCUSSING CONDOMS WITH CLIENTS (N = 82)**

FEELING WHEN:	Comfortable	Neutral	Uncomfortable
	%	%	%
Talking about condoms	76.8	12.2	11.0
Offering condoms	81.7	8.5	9.8
Demonstrating	79.3	11.0	9.8

NB: Percentage may not total 100

She also talked about impact of rumours on people's willingness to accept the condoms handed out in the community:

... Recently they say that the people are refusing to use them because there was an uproar - may be in the radio, may be in the newspaper - that "we are being fooled or that this thing has been instilled with some things to make us "flat sexualwise" (impotent)" After that when we go in the streets eh? ..., you find that so many cartons have been thrown away, un-used!.... So sometimes you hear antagonizing "ninii" (you know) facts...

Other nurses talked about the misuse of condoms:

Condoms are being misused. They are being misused because people have taken it that they can go anywhere and they can go with anybody, mentally they are protected! But I don't think that is the idea of condom. Because condom should be a way of a married couple. If a partner has a disease, he can use it to protect the other one, but not as a immoral thing because you have a condom.

This same nurse talked about the problems she saw associated with condom use:

The disadvantage of the condom it is elastic, and it can have some pores that can be penetrated by the organisms. The other thing is that it is very easy to have even a puncture or a rupture. The other thing is that it can be put on and then slip. People are saying that because they are on high, they are well protected, and they are not! ... They (CSWs) have very many partners, so in case the condom is not working, then they will infect very many! And some are jealous, people have evil minds, they think they want to spread it! For those who are "selling themselves", one can know they have a disease, but "I want a certain target to get it!" and I fear they can spread it that way, thinking they are using it, but they are not using it properly! Because of the jealousy and immoral things.

Nurses have to be comfortable themselves before they can effectively educate the community on skills about condom use. One of the senior nurses had this to say:

...And I think you found that our nurses do give out condoms... That was not a problem. But are they as free to teach? Are they as free to demonstrate? As you go round you see the ages of our nurses. Some are elderly yah. And you know how we have been brought up not to want to talk about these things! So, they may not tell you, but I don't think they are comfortable in demonstrating, in teaching properly!Even in finding out from the client whether the condom is being used properly... "I gave you that condom, so, what ever number, did you use them properly? Did any of them burst?" ...Then from there, she can teach... But I am not so sure! Whether they follow up.

Conclusion:

The results suggest that training programs do have a positive impact on nurses' attitudes towards PWAs. Nurses who have attended these programs feel more at ease when educating patients about condom use and they also associate a much lower level of risk with many forms of nursing care. Training has no significant impact, however, on the high levels of risk which the majority of these nurses associated with any form of care that involves contact with bodily fluids, particularly blood.

Nurses do not lack sources of information about AIDs, but not all of these sources provide accurate information and it is clear from the interviews and the focus group that nurses harbour many misconceptions. Yet the qualitative data also shows how much they value in-service training programs, recognizing that nurses who go through such programs can help educate their colleagues as well as their patients.

However, as seen from the comments, the ability of the nurses to implement a program of preventive education is hampered by the availability of resource materials and of time.

CHAPTER SIX

NURSES' ROLE IN MINIMISING THE AIDS PROBLEM:

Many of the nurses taking part in the focus groups or who were interviewed in depth wanted to talk about the impact of AIDS on their society, on their work as nurses, and on their personal lives. Some knew family or friends who had died from AIDS and many had thought very deeply about this disease and what it meant for the people they encountered every day as patients in their health units. Some questions were included in the survey and we allowed time in the in-depth interviews for nurses to talk through their concerns. Many of their comments have been gathered together in this sixth chapter.

Testing for HIV:

Based on comments made by the nurses taking part in the focus group held before finalizing the survey questionnaire, a set of items on testing for HIV/AIDS and control of commercial sex workers were included. Slightly over a third of the nurses taking part in the survey think everyone entering a health facility should be tested; 89% say that prostitutes should be tested every three months (see Table 13). Nurses who have been through the in-service training program are significantly less likely to

**TABLE 13. NURSES' OPINIONS ON FREQUENCY OF TESTING
AND CONTROL OF COMMERCIAL SEX WORKERS
(N=82)**

OPINION	yes	neutral	no	p <
	%	%	%	2 TL
All patients should have HIV test	34.1	7.3	58.5	0.03
All prostitutes should have a HIV test every 3 months	89.0	2.4	8.5	NS
Stop prostitution	86.0	4.9	8.5	NS

Percentage may not total 100 due to rounding

say that all patients should be tested ($P < 0.03$) and slightly less likely to say that sex workers should be tested every three months. KEHV are significantly more likely to see married men as at greater risk of contracting HIV than married women, ($P < 0.05$). The KEHV are older than the KECN and may be more traditional in their views of women's behaviour relative to men. One of the senior nurses said:

Well (sighs) let me just, say..., if it was stopped, because it is both man and woman, that would cut off, a lot of problems, because it would cut off that problem of it going to the child. Prostitutes? You know prostitutes in my feeling are the ones who are known, but there are so many others quietly..., so, if you were to screen, you have "aloot" to screen...! Not just prostitutes.

Commercial sex workers are not regulated in Kenya; therefore, setting up the testing of prostitutes for HIV, or stopping the sex work are practically impossible.

One of the senior nurses commented:

The sexual behaviour of a man is different from the woman! ... (She laughs) I think our men are what? They are not that straight forward. You could be married and your husband could be having extra marital affairs, and he still comes to you, that is why I am saying the man is more prone. Yah so, I think those are men...

Based partly on the views expressed during the focus group, nurses were also asked about the likelihood of contracting AIDS of adolescents, married men relative to married women, individuals living apart from their spouse and, finally of nurses. All but three nurses think that adolescents are very likely to get AIDS; 90% think that anyone living without their married partner is at a high risk. One of the unexpected

result, however, is that 89% of those taking part in the survey think that nurses are at risk of HIV/AIDS through their work (Table 14).

THE IMPACT ON NURSES' ATTITUDES OF DIRECT EXPERIENCE WITH PWAS:

An attempt was made to find out whether working with patients who were HIV positive or had AIDS changed nurses' attitudes towards them. Over 79% of the nurses said that their experiences had made their attitudes towards PWAs more positive (see Table 15). However, there is a significant difference between those with, and those without training, ($P < 0.03$). Trained nurses are more likely to say their attitudes became more positive "after hearing a person with AIDS talk about their life". These results suggest that, direct experience has a positive influence on nurses' attitudes, but also that training has a separate but complementary impact.

Qualitative Data on Direct Experience with PWAS:

Many nurses shared some of their personal experiences of caring for PWAs, sometimes as patients and sometimes as relatives or friends. A nurse talked about a relative who had AIDS, and the fear of contracting HIV in the home environment:

I have got one and am staying with him. He is near me although we fear, even children. You tell them "let me go alone and don't go". So there is that kind of fear! So even myself when I go there I try to...(Holds her breath in demonstration, ...). To deep breath, sometimes you feel you don't want to breath the air he is... When you think of anything. Especially when he has all these...(Demonstrates to indicate mouth

**TABLE 14. NURSES' OPINIONS ON THE LIKELIHOOD OF
PEOPLE CONTRACTING HIV (N=82)**

	likely	unlikely
RISK IN:	%	%
Spouses living apart getting HIV	90.2	9.8
Married men getting AIDS than married women	67.1	32.9
Both married men and married women getting AIDS	42.7	57.3
Adolescents contracting HIV	96.3	3.7
Nurses contracting HIV at work	89.0	11.0

**TABLE 15. HOW EXPERIENCES INFLUENCED COMMUNITY
HEALTH NURSES' ATTITUDE TOWARDS PERSONS
WITH AIDS (N = 82)**

EXPERIENCE	Positively	neutral	negatively
	%	%	%
Hearing a PWA talk about their life	82.9	12.2	4.9
Offering services	84.1	12.2	3.7
Watching a close person die from AIDS	79.3	9.8	9.8

Percentage may not total 100 due to rounding

lesions..., skin lesions). But he has stayed healthy! And after he stops this, he gets up and he goes to work.

One of the nurses described AIDS as a disease that could affect anybody:

....because I know everybody can suffer and may be those who have suffered, it is not of their own will to suffer, or have the AIDS... so...I would say it has positively influenced me...

The same nurse said that those suffering from AIDS require assistance and understanding:

...and help them if ignorant, some of them are depressed. So you can call him or her aside and talk to her, so that she, even if she is suffering from it, you are not stigmatising her. And help her...

A different nurse related how the experience of losing a colleague to AIDS had influenced her attitude towards persons with AIDS:

We used to give her a lot of moral support, until she reached a stage whereby she used to vomit, and have diarrhoea. We used to go to her house, put on gloves, attend to her, so, I felt that thing brought us, changed our attitudes much as staff, because, we realized that, ...was just one of us, and... dying, ... So, we didn't check on the class or whatever... To us she was just a patient.

IMPACT OF AIDS ON FAMILY AND COMMUNITY:

Many of the nurses talked about the impact of AIDS on the community, particularly on the family. For example, one nurse said:

I have seen several people die..., they just go, and test HIV positive... Like another man, he went and he was told he was HIV positive, the wife was HIV positive, the child who was born during that time, died and was buried at Langatta, now the man got sick! ... The wife got sick first, but the man died first. The man started getting sick, he died first,

and the wife, went to bury the husband and died. They buried the husband on tenth and then the wife died on the same day. Now they left behind orphans, two... a child boy and a girl. That same plot, there were so many.

Another nurse described how the fear of AIDS had affected the people's ability to cope with orphans of AIDS, whereas before, the community would have solved such a problem easily:

... it is a disease that has brought a lot of sadness, and people are losing hope, and people are fearing. And this fear is the one that is making it worse because once a parent, is known that she has AIDS or she has died of HIV, then, people are not very much willing to help the children. They think that by being in contact with those children they are going to get infected. So, it makes the condition more miserable because, the children will just be left there to die.

The same nurse said she had observed that people had stopped helping others because of the fear of catching AIDS:

"You know not many people know that by greeting an AIDS case they can't get the disease... You can't convince people that you can't get AIDS by just going to visit those children and by sitting with them and being touched by them".

One of the senior nurses commented:

AIDS gives a bad name for Kenya! Those capable are dying. The bread winners die. We shall have so many street children. The crime rate will rise.

During the focus group discussion, some of the nurses were quite extreme in their views about the impact of AIDS:

OH! Our economy will go down! Now if the educated, the young are dying, and you know funerals are so expensive, the community is

becoming poorer! Middle aged group die, working class die, those in high positions. Only the old will be left to look after the sick and the dying, and the orphans. Some of these are also sick. It will become like Uganda. We talk about family planning! AIDS will finish Africa! I think more resources should be put into AIDS prevention, not in family planning!

A nurse administrator began by saying, "If in our small area we have seen two or three families being affected, what about nation wide? It's quite a lot!". Reflecting on her experience of that morning as she served the patients, she said:

Just this morning when I looked at the "queue" which was waiting for TB treatment. I looked at them, "these were people who were only twenty five up to thirty". And I don't know whether it is common here to have all men, ...these are people with young families..., probably the bread winner, and the lady probably was in the "reserve" (rural area), waiting for this man to bring everything... And this man is now un-able.

The same nurse thought the impact was harder on the economy, where the most productive members were the ones hit hard by AIDS, leaving orphans and the elderly:

... and it is hitting at the age which is also very productive, you know, energetic, you know people who are able to do so many things, and these are the children who are supposed to look after the older generation, the older generation is being given the responsibility to look after them... And you know with the children being left there... with nobody left to guide them..., Nobody to care for them. Relatives are there, blaming now which party was to blame, you know..., So it has so many impacts..., psychological, the trauma of now knowing that now your parents have died because of... And you know people talk, even before it is fully blown.

She went on to describe the impact of AIDS on the employment capacity for those suffering from the disease:

I understand there are some places if you are found to have AIDS, somehow they find a way of now, telling you to retire.

Another nurse said that the problem of the PWAs keeping their jobs was a real one:

...and I am sure when the employer sees somebody like that, I am sure they are not very happy about that person, since they loose their jobs, even after trying to hold it for sometimes.

TRADITION AND AIDS:

Finally, some of the nurses talked about the impact of traditional beliefs and practices on the spread of AIDS in Kenya. For example, they suggested that these beliefs sometimes lead people to deny the existence of AIDS. One nurse commented:

The problem is, you know some people don't also actually believe there is that AIDS! Because you go to some communities, they tell you "Noo..., the person has been bewitched" other people tell you, "you know it is just a, I mean, it's a sort of a campaign so that we can reduce, can keep one wife and such, so that may be people don't get people from outside". Something like that, so, it's a big problem! Because up to now, even if you see AIDS patients dying and may be loosing a lot of weight, they still believe may be witchcraft, some of them, others believe may be curses, "She was cursed, because she did this". Among some of the communities, they believe it's "shiraa" (witchcraft) something like that. It is very common, like (mentions one of the ethnic groups from the Kenyan coast and another from the western part of the country) who up to date, there is none who has believed that it is HIV. They believe AIDS is, "they used to call it shiraa or something".

Using similar terminology, another nurse thought that some traditional barriers make it quite difficult sometimes to convince people about the reality of AIDS:

...they will even go to the traditional healers. Again you know they cannot believe! They don't! They say, that it is, "Shiraa" Shiraa which means "This person may be has moved in a bad way or he has been bewitched" ...May be the wife was delivered, and now he went with other women before the wife...and now he has come back and had sex with his wife. So that is shiraa, he misbehaved, so now they believe like that, ...to convince them they are sick, it is not easy! "We believe in many things". That is why the community should be educated about the disease..., even these ones who come here, they will only be free with you and tell you "now, I will be going to...". They believe that they have been bewitched! And the disease is treatable. They have denied. That thing has been denied!

During both the in-depth interviews and the focus group, nurses said that such traditional beliefs should be discouraged to minimise their influence on HIV transmission. Another nurse talked about traditional customs including the practice of widows being inherited and the problems this created when a husband had died from AIDS.

It (tradition) contributes! Like in our culture, there is that thing of wife inheritance by our community, when someone passes away, you are supposed to be taken over...And they just find it normal...It doesn't affect them! So that way, it goes on and on...And when he is inheriting this particular wife, he has his own wives! So, the infection continues.

The same nurse described traditional circumcision and how difficult it is to change the practice among some communities:

...I come from there, they do circumcision. You find this person whoever is...doing the ritual, he just uses one type of knife! Because you find even if there has been seminars carried out, they are trying to tell them there should be one knife for each, they feel that knife is special! The one they inherited, or they were given by the grandfather. So even if you go, (a medical person) telling them "there should be a different knife", they feel "You, you are..., removing the powers!" It's just that

particular knife. And at times it takes like four days... Therefore, you just use that particular knife! So if the infection was to be with one of them, it will just spread!

An extract from the focus group shows how tightly tied AIDS is to behaviour and custom, and how both help perpetuate the HIV infection:

...the “incubation” (latency) is so long!

Yah...

And you know for example a man may leave his wife and go out with another girl or woman. Or even prostitutes! When he gets infected, he gives it to his wife, his girlfriend, mistress, whatever!

Yah...

And those ones infect others...

People are dying from AIDS!

Mh...,

But we only hear died from TB, or cancer, or any other disease. Some say “nikulogwa” (to be bewitched). But we know AIDS now...

In an attempt to counteract beliefs and practices and convince the community that AIDS is real, nurses suggested that everybody should participate in the AIDS campaign, with the authorities coming out “more strongly on the AIDS issue” because there were still many people who “believe that AIDS is due to witchcraft”. Reflecting back on their experiences, some of the nurses said that in order to be more effective in community education, “politicians should create more awareness about AIDS”.

One of the nurse administrators worried about reaching the community at the grassroots:

AIDS is discussed over TV. How many have TVs for example the poor non working group? And in rural areas? Some just laugh and say. There is nothing like that” (Sighs) ..., AIDS in Kenya is very bad! People have ears but they do not hear! They have the same “loose behaviour, ...are ignorant, until they see a relative die! ...”Should we wait until we see a relative die?”

The same nurse said there was a lot more the health workers could do in fighting the problem of AIDS:

The only thing is, we should try and do more about this problem. “I feel so useless sometimes, when I am just there and people are dying! I am not satisfied! Many members of the community should be trained in every field; administrators, chiefs, community based workers, health centre staff, counsellors, community elders, I mean in every area! We should create awareness in our catchment area. Really we could! In a place like this, our people are dying!

CHAPTER SEVEN

DISCUSSION:

Nurses play a big role both as care providers and educators in HIV/AIDS; despite their fears that they may risk contracting AIDS through their work. This study shows how important it is that they acquire up dated knowledge and skills on this area. Ways must also be found of counteracting their fear of AIDS, but also resources of time and equipment. Eliason (1993) and Gerbert et al. (1991) suggested that knowledge alone is not sufficient to deal with the nurses' negative attitudes which originate from "fear of death and dying". In a critical review of literature, Swanson et al. (1990) found that attitudes improved with accurate knowledge about HIV and AIDS, but also after experience with PWAs. Dworkin et al., (1991) reported that health personnel perceived themselves to be at risk of HIV infection due to their occupation and their discomfort increased for procedures involving handling any body fluids particularly blood or serum. In the studies with community and rural nurses by Bond et al., (1990, 1991) and Young et al., (1989) and in Armstrong-Esther & Hewitt (1989), the authors demonstrated that training plus experience did foster confidence and positive attitudes towards work with PWAs.

Most of this research was done with North American nurses; there has been very few studies of this type in Kenya (Karani et al., 1990; Rogstad et al., 1993). This study examined the attitudes of nurses towards PWAs and those perceived to be at risk for the HIV infection; it also looked at conditions of work and how these impact on the ability of nurses to protect themselves and others. Many of the nurses in this study perceived themselves to be at risk for the HIV infection even when a patient was not formally identified as PWA. As found by Dworkin et al., (1991) nurses' fear of infection was greater if there was a possibility of coming into contact with patients' body fluids, particularly blood or liquor. However, there was a difference between nurses without STD/AIDS in-service and those who were trained; the former felt themselves at risk even when performing procedures that did not directly expose them to any contact with the patients, including counselling, taking a patient's history, providing school health services and carrying out home visiting.

Yet perception of being at risk is based on a number of factors not found in North America. Research shows the prevalence of HIV infection in Nairobi is very high (Moses et al., 1994). Many of the clients seen by nurses are potentially HIV positive. The general AIDS literature concludes that the overall risk to HIV is influenced by the frequency of the exposure to blood and other body fluids and the prevalence of HIV in the population (Fraser & Powderly, 1995, p.205). The practical approach would be to take necessary precautions with all clients by following the

recommended guidelines (Murr & Lee, 1995). Gerbert et al., (1988) argues that “while health care providers have been told that if they use infection control measures their risk will be lower, there has been little or no discussion of accidents”, (p. 3482) such as those that could occur due to heavy workload or inadequate and poor standard quality of protective material. Berkley (1991) notes that midwives are at increased risk of contracting HIV infection, especially where there are shortage of water and protective material like gloves. The problem for nurses in Kenya, as the data show, is that they may be exposed to large volumes of blood and liquor for prolonged periods; and shortages of water and protective material are endemic.

Under the conditions in which the midwives in this study described, they may know how to use the protective measures, but they are in an environment where facilities and equipment are often inadequate, or the prescribed aseptic techniques cannot be maintained and accidents could still occur (Owens et al., 1995; Shanks & Al-Kalai, 1995; Servellen et al., 1988; Siddiqui, 1995). Not being able to carry out the procedures they have been taught, nurses will see themselves at high risk of contracting HIV themselves or passing on the infection from one patient to another.

While nurses often talked about the need to decontaminate used syringes and needles, they also explained that this practice was not routine in all the health units. Units often faced a recurrent shortages of disinfectants, so that the recommendation to use Jik was not always practicable. Nurses also spoke about the efforts made to use

disposable needles and syringes, but said that not only are these equipment sometimes lacking, but disposal methods are poor. In many of the busy health units, immediate disposal of syringes and needles is in open and sometimes paper carton containers. Filled containers are either burned at the end of the day or carried off to bigger impenetrable containers to be collected later by the staff from NCC refuse disposal department. Some of this material may find its way back into the hands of quacks as one of the nurses comments:

Because as we know nowadays there are “stray boys” who can pick them, selling them to people, so we decontaminate them...

Other researchers have reported that many nurses see all their clients as potentially HIV positive persons (McEvoy et al., 1987; Veeken et al., 1991) however, the nurses taking part in this study seemed to associate a higher level of risk with certain types of care and certain types of patients; for example they perceived themselves at risk when administering all types of injections, but particularly to patients with STDs. The presence of STDs indicate a clientele with high risk behaviour and highly vulnerable to HIV infection.

A large number of those requiring injections have Pulmonary Tuberculosis (TB). TB is one of the most frequent opportunistic infections in AIDS in Africa, and is therefore, a common presenting symptom. Between 14-30% of all AIDS patients have TB, and 12-60% of those who have TB are positive to HIV (Pitchenic, 1990;

cited in Veeken & Bermejo, 1992, p.64; Elliot et al., 1990, p.414). In regard to HIV infection in patients suffering TB, “health workers must be aware of cross infection” either to self or to other patients when either administering tuberculin or injection streptomycin (Veeken & Bermejo, 1992, p.67). Most patients on anti TB drugs in Nairobi receive their follow up care including streptomycin injection in the nearest primary health units. Nurses would not know for sure who among the TB patients was HIV positive; however, they are aware of the high prevalence of HIV among TB patients. The nurses also know that those who appeared not to be responding to treatment, (or who developed adverse drug reactions) also have a concurrent HIV infection (Veeken & Bermejo, 1992).

Knowing the context of care helps explain why nurses in this study saw themselves at risk of HIV infection when giving injections to patients as one nurse explains:

Often there are so many people who are HIV positive, according to my observations. Like for example, usually I have seen AIDS being accompanied by tuberculosis, usually pulmonary tuberculosis, and even if you can go to dispensary these days, there in the morning, you are likely to get almost a hundred people getting streptomycin, and they don't respond to treatment, they just get sick and they die...

At a practical level, it may be important to ensure that adequate equipment (such as gloves) or correct methods of needle disposal are more easily available to

nurses when injecting clients. Dealing with nurses' own fear of cross infection from the patient to themselves may be more difficult given their working conditions.

The survey showed some variation in the availability of materials between nurses working in the larger and smaller health facilities. Nurses from the smaller MCH/FP clinics tended to have more disinfectants and gloves and to feel comfortable with the level of privacy for clients. This may be because their units handle fewer clients and hence, are more spacious. On the other hand the larger health units were better equipped with dressing materials, facilities for safe storage of blood samples, sterilizing equipment, facilities for speculum examination and syringes plus needles. While there were no significant difference in the nurses' perception of risk to HIV infection due to work environment; from the study findings, nurses talked about the problems of working with inadequate facilities and equipment and their sense of being at risk, or putting others at risk of AIDS.

EDUCATION AND TRAINING:

Many of the nurses in this study wanted to play a role in helping to control the AIDS problem, but wanted updated knowledge and skills. They wanted more training programs but also better use of "trained trainers" that is, nurses trained in additional skills in counselling, who could provide support to PWAs while at the same time serving as positive role models for other nurses. Due mainly to inadequate finances,

providing formal in-service training to every nurse may be impossible; but from the nurses' comments it was clear that they thought more could be done to help them acquire the knowledge and skills they needed while remaining within their health units by using trained nurses and the PWAs themselves. Direct experience with PWAs has been reported in the US as having a positive influence on the nurses' attitudes towards PWAs. As Latman et al., (1996) notes, "as the number of people with AIDS has increased..., nurses have increased their general and clinical knowledge about AIDS, and their attitudes toward people with AIDS has become more positive" (p. 225). Most of the nurses in this study said that their experiences with PWAs had positively influenced their attitudes towards AIDS patients. As far as possible, willing PWAs should be encouraged to become a resource during the in-service programs addressing AIDS. To explore and address the existing gaps and/or misconceptions on HIV/AIDS, focus groups held within the health units (to include willing PWAs) could be utilized as a resource.

Government statistics and the literature on AIDS in Africa here documented the overall impact of AIDS in Kenya, but the comments of the nurses reveal the impact of this disease on themselves as individuals and on health care. With no vaccine or drug to treat AIDS, the best weapon is prevention of STDs and HIV infection. Nurses are already playing a major role in community education, but they could do even better. While it was clear that nurses in this study are able to provide some information to

individuals and groups attending their health units, they can reach only a small segment of the people in this way. Ways could be explored by which nurses in the clinics could network with other organizations and groups in the same community, so as to identify areas in which they could collaborate and reach out to educate people.

As a practical example, condoms are an important and effective public health measure in preventing the further spread of STDs/HIV (Allen et al., 1992; Conant et al., 1983; Drew et al., 1990; Judson et al., 1989; Katznelson et al., 1984; Lamptey & Goodridge, 1991; Zenilman et al., 1995). Nurses could play an important role in changing attitudes which associate condoms with promiscuity and prostitution (Caldwell et al., 1992; Karani et al., 1990). Yet, some of the nurses in this study (including those with STD/HIV in-service) were still quite inhibited about condom education and demonstration. If they are to carry out this role more effectively, the nurses themselves will need help overcoming their own inhibitions.

CONCLUSION:

The main objective of this study was to find out whether there were any differences between the nurses who have, or who have not received in-service training in STD/AIDS in their perception of risk to HIV infection, and whether the nurses' attitudes towards PWAs are influenced by the conditions of work. The major finding was that, whenever there was a possibility of coming into contact with the patients

body fluids, there did not seem to be any differences in the perception of risk to HIV between these two groups of nurses. However, the group without the STD/AIDS in-service were significantly more likely to say that there was a risk of contracting HIV even with non contact procedures like taking a patient's history, counselling or administering medication to patients.

Inadequate facilities and equipment did appear to negatively influence the nurses' attitudes towards work with PWAs. However, experience with AIDS patients did seem to have a positive impact on the nurses' attitudes. Other studies have shown that experience reduced the health care workers' perception of risk to HIV infection during the course of their work, in addition to improving their attitudes towards PWAs (Bond et al., 1990; Gerbert et al., 1991).

Another finding was that STD training in basic nursing programs appeared to have a negative impact on nurses' confidence and their assessment of risk to the HIV infection. STD/AIDS training in the basic programs on the other hand seemed to positively influence the nurses' attitudes towards work with persons with AIDS. The data suggests that STD/AIDS training in the basic nursing programs is a good foundation for continued learning on the area of AIDS, and it may positively influence the nurses' attitude towards the care of PWAs, particularly regarding handling the patients' body fluids. While appreciating the efforts to incorporate HIV/AIDS into the

basic nursing programs, it is recommended that such training be fully addressed to emphasize preventive and control measures at the individual and community level.

In order to assist nurses to not only gain knowledge and skills, but also change their perception about risk to HIV infection, there is need to use multiple learning approaches in future STD/AIDS in-service programs (Bond et al., 1991; Eliason, 1993; Flaskerud et al., 1989; Gerbert et al., 1988; Gerbert et al., 1991; Huerta & Oddi et al., 1992; Melby et al., 1992; Schillo et al., 1993; Servellen et al., 1988; Young, 1988, 1989). It is also recommended that sharing of information at the health units be exploited as a possible venue of in-service training. One approach could be to use the focus group as a possible intervention tool, thus providing nurses with an opportunity to discuss their personal views on STD/AIDS, and a venue to express the problems they face while providing care to PWAs. As far as possible, the nurses' rich experience, plus willing persons living with AIDS could be considered as a resource. Such training approaches are more likely to positively influence the nurses attitudes towards work with PWAs.

RECOMMENDATIONS:

This study has looked at the issue of HIV infection from the perspective of the health workers and at the moral and ethical dilemmas they face in providing services at the level of the community based clinic. While the following recommendations are

based on the main findings from this project, they reflect on conditions at the time of the study. Some changes in policies and programs may have already taken place and, therefore some recommendations may already be out-of-date.

An attempt has been made to target these recommendations to the appropriate agencies, but recognize that their implementation may require co-operation between the various government and non-governmental agencies involved in the campaign against HIV/AIDS. For example, the government has worked closely with supporting NGOs in creating public awareness about STD/HIV/AIDS. Nevertheless, there is some division of responsibility between different authorities. The National AIDS Control Program, for example, is the responsibility of the Ministry of Health which coordinates STD/AIDS related activities/programs in the country through the AIDS Program Secretariat in collaboration with the NGO-AIDS Consortium. The Nursing Council of Kenya is the “regulating body” which guides nursing education and curricular including the place of AIDS in that curricula. The Nairobi City Council runs the NCC public health services including midwifery, community health and other in-service training within the NCC health system but is also responsible for providing equipment and materials to the specific clinics. A number of NGOs are involved in HIV/AIDS activities in the country and collaborate with the government and the NGO-AIDS Consortium. NGOs have provided training and may also be a source of needed supplies.

Possibly one of the most important findings from this study is the level of fear among nurses of being infected themselves, or of transmitting infection unwittingly to their clients. The main source of this fear lies in the conditions under which they must do their work. Training programs clearly made a difference in the attitudes of nurses' towards PWAs, but not to their concerns over not having equipment they see as necessary to protect themselves and others. Therefore, the first recommendation focuses on the issue of equipment. It is directed to the Nairobi Department of Health, but may also be relevant to those NGOs able to contribute equipment:

Recommendation I

Additional support in funds and management logistics should be invested in the provision of adequate and good quality supplies and equipment such as gloves, disinfectants and protective clothing. Facilities for storing blood and disposing of used equipment must be improved.

The nurses taking part in this study saw themselves as having a major role in caring for PWAS, but also in the prevention and control of HIV/AIDS through community education and through sharing information with each other. The study found differences between nurses who had received training in HIV/AIDS as part of their nursing training and also nurses who had attended the training program organized by the CIDA-funded "The Strengthening Management and Control of STD/HIV

Project organized jointly by the Universities of Nairobi and the University of Manitoba. Hence the second recommendation is that:

Recommendation II

The Ministry of Health and the regulating bodies charged with the basic training, continuing education and in-service programs such as the Nursing Council of Kenya; the NCC through the NACP, the AIDS Consortium and major NGOs and International Organizations should review HIV/AIDS training with a view of increasing access to these programs for nurses.

Access to training is very important, but this training must also be relevant to the conditions under which nurses work and carry out community education. Training must also be reflective of the needs of PWAs. The third recommendation is that:

Recommendation III

Multiple learning approaches should be developed for future inservice training programs. Nurses with experience in community clinics should be involved in the training programs, offering advice on the curricula and working themselves as trainers. PWAs should also be recruited to work in training programs for health professionals and also in public education programs.

This study has looked only at nurses working in community clinics in Nairobi. Although key figures in the provision of health care to PWAs, there are many other

groups with similar or related responsibilities about whom there is very little information. Very little information is available on the problems faced by nurses and others working outside Nairobi. The fourth recommendation is that:

Recommendation IV

Similar studies should be conducted with nurses in hospital, physicians, other community based health workers and social workers and health workers based within the rural community.

The value of this study is partly that it allowed nurses to talk openly about their fears and concerns; however, the focus was attitudes and perceptions rather than practice. More research is needed on the actual process of providing care to PWAs and on how nurses cope in practice with the conditions of their work. The fifth recommendation is:

Recommendation V

Funding should be provided for an evaluation of nursing practice in community health clinics, paying close attention to the stress entailed in working in crowded conditions with inadequate equipment.

HIV/AIDS poses social, ethical and practical dilemmas for all Kenyans but particularly for those involved in the provision of health care, and particularly the front-line workers. Like the nurses who took part in this study, they must deal nearly

everyday in their clinical practice with the devastation caused by AIDS. This study has shown that we need to understand and appreciate what this means for these workers. It is only when the conditions of their work are understood that programs can be designed to meet their needs.

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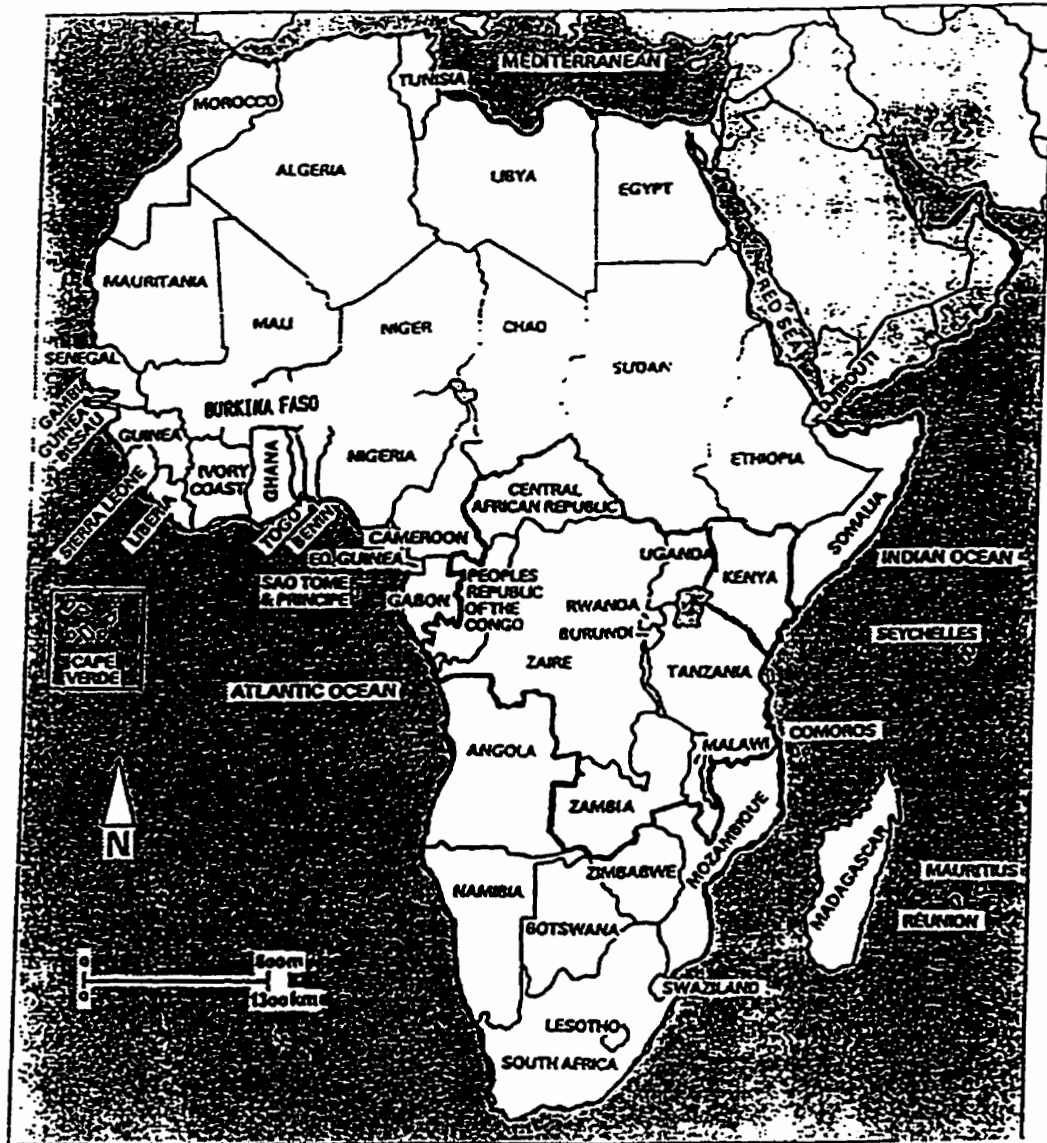
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KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix B1

Request for Nurse Researcher Access.

The Provincial Medical Officer of Health (PMO)
Nairobi Province

Attention

The Medical Officer of Health (MOH)
Nairobi City Council
City Hall
Po Box 30075
KENYA

I am writing to request permission to collect data from nurses working in the Nairobi municipality health centres/clinics. The purpose of this study is to find out the nurses' attitudes concerning HIV/AIDS and persons affected by AIDS.

I am Anastasia C. W. Ndiritu, previously working for the Project, Strengthening Management and Control of STD/HIV in Kenya, University of Nairobi. I am currently a graduate student in the University of Manitoba Canada, Community Health Department. The study will be the basis for my masters in community health sciences thesis.

Two small groups of six and twenty KECNs will be requested to participate in pretesting of the questionnaire and in a small pilot study. For the survey, about 100 KECNs trained and un-trained in HIV/AIDS management will be selected at random and requested to participate in a 30 minute interviewer-administered questionnaire. A representative sample from this sample will later be requested to participate in a Focus Group discussion (FGD). Further to this, two Senior Nurse administrators (Superintendent Health), Nursing officers in-charge of health centres/clinics study sites (some of whom may be trainers in STD/HIV management) and 1-2 EN/MWs will be requested to participate in face to face in-depth interviews. Participation by the nurses will be entirely voluntary and their human rights will be respected.

The study proposal was submitted to the University of Manitoba, Community Health Sciences Department, and the University of Nairobi Ethics Committees for review. No data will

be collected until the approval has been granted. My contact address is: Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project in Kenya, University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi. Find enclosed copies of the: Abstract, questionnaire, and Consent forms.

Yours sincerely,

Anastasia C. W. Ndiritu

NAIROBI CITY COUNCIL

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MEDICAL OFFICER OF HEALTH
TELEGRAMS "MUNICIPALITY" NAIROBI
TELEPHONE 224281 - EXT.....

PUBLIC HEALTH DEPARTMENT

CITY HALL
P.O. BOX 30108
NAIROBI
KENYA

Ref No. PHD/MOH/R2 (11)

12th July, 1995

Anastasia C. Ndiritu,
Dept. of Comm. Health,
University of Nairobi,
P. O. Box 19676,
NAIROBI

RE: PERMISSION TO COLLECT DATA FROM NURSES FROM NCC CLINICS

Permission has been granted to you to carry out the exercise of collecting data from Nurses working in NCC Clinics.

You are requested to submit your timetable of the scheduled activities to us so that we can alert the various facility incharges to assist you when you visit them.

A handwritten signature in dark ink, appearing to read 'P. K. Kirui', written over a horizontal line.

DR. P. K. KIRUI
MEDICAL OFFICER OF HEALTH

APPENDIX C: STD/AIDS KNOWLEDGE, ATTITUDE AND PRACTICE SURVEY:

- YOUR NAME WILL NOT BE WRITTEN ON ANY PART OF THE QUESTIONNAIRE
- The following questions will ask you about your work at the health centre/clinic and your experiences in dealing with HIV/AIDS patients, persons living with AIDS (PWAs) or persons perceived to be at risk of acquiring the HIV infection.
- Please answer the questions to the best of your ability. The interviewer will check off or write down your answer in the space provided. The reverse side of the paper may be used if more space is needed.
- Feel free to omit providing answers to any question which you may find objectionable for any reason.

LET US START BY DISCUSSING YOUR NURSING BACKGROUND:

1. What is your nursing designation ?

- EN/EM/EHV ☐
- ECN ☐
- Others (Specify) ☐

2. Where did you receive the following Training ?

- i) General nursing Training?
Year finished
- ii) Midwifery Training?
Year finished
- iii) Community/Public Health Training?
Year finished
- iv) Other (Specify)
Year finished

3. In which year did you first start working as a nurse/midwife ?
(19)

4. How long have you worked in the current health centre/clinic ?

- a. Less than six months ☐
- b. Six months to one year ☐
- c. One year to two years ☐
- d. More than two years ☐
(Specify number of years)

YES

NO

5. Did you receive any training in
STD in your basic nursing training? ☐ ☐
6. Did you receive any training in
AIDS during your basic nursing
training? ☐ ☐
7. Have you attended any in service
training in HIV/AIDS management? ☐ ☐

(FOR THOSE WITH IN-SERVICE TRAINING ON HIV/AIDS)

8. Which of the following programs did you attend, which year did
you attend and how long did the course take?

	YEAR	NO OF DAYS
a. The University of Nairobi STD/HIV Project	19...	.....
b. Kenya Red Cross	19...	.....
c. AMREF	19...	.....
d. Ministry of Health	19...	.....
e. NARESA	19...	.....
f. Catholic Secretariat	19...	.....
g. CHAK	19...	.....
h. Norwegian Church Aid (NCA)	19...	.....
i. Amani Counselling Centre	19...	.....
j. Other (Specify)	19...	.....

9. Were you able to pass on information from the course(s) to your co-workers?

YES

☐

NO

☐

10. Did the in-service training contribute to your confidence in offering services to persons with AIDS

YES

☐

NO

☐

11. Have you got information about HIV/AIDS from any of the following ? (TICK AS APPROPRIATE).

YES

NO

a. RADIO

☐☐

b. TV

☐☐

c. BOOKS

☐☐

d. POSTERS

☐☐

e. PAMPHLETS

☐☐

f. COLLEAGUES AT WORK

☐☐

f. OTHER (Specify)

☐☐

12. Who is/are responsible for ensuring that nurses get information on AIDS?

YES

NO

a. Health Administration department

☐☐

b. Health Centre In-charge

☐☐

c. Individual nurse

☐☐

13. In your daily work at the health centre/clinic, do you deal with persons infected with HIV?

MOST
TIMES☐SOME
TIMES☐

NEVER

☐

14. IF YOU DO, how many HIV-positive or AIDS patients would you say you have dealt with in the last one month ? (TICK ONLY ONE ANSWER)

- a. Less than 5 Patients ☐
- b. 5 to 10 ☐
- c. 10 to 20 ☐
- d. More than 20 ☐

NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT PROVIDING NURSING CARE TO PATIENTS WITH HIV/AIDS

15. I will read you a list of services nurses provide to patients and clients. In your opinion, do any of these services put nurses at risk of HIV infection.

(INDICATE THE LEVEL OF RISK IN THE APPROPRIATE BOX)

- | | HIGH | MEDIUM | LOW | NIL |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Taking history of condition | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Performing physical examination | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Taking patient's blood for laboratory examination | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Giving patients injections | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | HIGH | MEDIUM | LOW | NIL |
|----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| e. Dressing the patients' wounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Conducting delivery | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

g. Dispensing medication
at the pharmacy

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

h. Giving under five
immunizations

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

i. Giving antenatal
mothers tetanus toxoid

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

j. Counselling

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

k. Performing vaginal
examination

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

l. Performing speculum
examination

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

m. Inserting IUCDs

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

n. Giving injections
to STD patients

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

o. Carrying out home
visiting

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

	HIGH	MEDIUM	LOW	NIL
p. Carrying out school health services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. Collecting urine samples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. Collecting stool samples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. Performing oral hygiene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. Suturing episiotomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. Suturing fresh cuts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Changing soiled bed linen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w. OTHERS (Specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I WILL READ YOU A LIST OF EQUIPMENT AND FACILITIES USED IN CARING FOR AIDS PATIENTS. FOR EACH, PLEASE TELL ME WHETHER IT WAS AVAILABLE IN YOUR CLINIC DURING THE PAST ONE MONTH.

16. In your clinic, were the following available?

	MOST OF THE MONTH	PART OF THE MONTH	SOMETIMES	NEVER
a. Disinfectant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Antiseptic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	MOST OF THE MONTH	PART OF THE MONTH	SOMETIMES	NEVER
c. Gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Needles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Syringes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Dressing material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Facilities for performing speculum exam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Facilities for sterilizing equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Adequate space to examine patients/ clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Safe storage for blood samples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Privacy for counselling clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. For the antiseptics/disinfectants in your clinic do you know the correct strength to use ?

YES NO

☐
☐

THESE NEXT QUESTIONS ASK ABOUT HOW YOU FEEL ABOUT PROVIDING DIFFERENT TYPES OF CARE TO PATIENTS WITH AIDS:

18. Do you feel comfortable or uncomfortable when:

	COMFORTABLE	NEUTRAL	UNCOMFORTABLE
a. Caring for a person who has AIDS.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Talking to an AIDS patient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Touching objects belonging to an AIDS patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Withdrawing blood from a patient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Inserting an intravenous infusion on a patient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. In the company of families or friends of patients who have AIDS.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. How have the following experiences influenced your attitude regarding PWAs ?

	POSITIVELY	NEUTRAL	NEGATIVELY
a. Hearing a PWAs talk about their life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Offering services to patients with AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Watching a friend or relative die from AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. OTHER (Specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HEALTH WORKERS EXPRESS DIFFERENT LEVELS OF CONFIDENCE ABOUT OFFERING SERVICES TO PERSONS WITH AIDS.

	CONFIDENT	NEUTRAL	NOT CONFIDENT
20. Do you feel confident when offering services to persons with AIDS.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONDOMS ARE ADVERTISED AS PROTECTION AGAINST HIV/AIDS.

Do you feel comfortable or uncomfortable when:

	COMFORTABLE	NEUTRAL	UNCOMFORTABLE
21. Talking about condoms with clients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Offering condoms to clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Demonstrating condoms to clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THE FOLLOWING THREE QUESTIONS WILL FIND OUT ABOUT AVAILABILITY OF
CONDOMS AND WHAT YOUR OPINION IS REGARDING THEIR EFFECTIVENESS

- | | ALWAYS | SOMETIMES | NEVER |
|---|--------------------------|--------------------------|--------------------------|
| 24. Are condoms readily available
in the health centre/clinic
for the clients who require
others | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. Do you think that condoms
offer protection against STDs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. Do you think that condoms
offer protection against HIV
infection | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

THE NEXT FIVE QUESTIONS WILL ASK YOU LIKELIHOOD TO RISK OF HIV
INFECTION AMONG DIFFERENT GROUPS

- | | VERY LIKELY | UNLIKELY | VERY UNLIKELY |
|--|--------------------------|--------------------------|--------------------------|
| 27. Nurses are at a high
risk of contracting
the HIV infection at
the place of work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. Married men are more
likely to get AIDS
than married women. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. Both married men and
married women are
equally likely to get
AIDS. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- | | VERY LIKELY | UNLIKELY | VERY UNLIKELY |
|--|--------------------------|--------------------------|--------------------------|
| 30. Those who live away from their spouses are more likely to get AIDS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. The adolescents are more likely to get AIDS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SOME PEOPLE SAY THAT THE FOLLOWING COULD MINIMISE THE AIDS PROBLEM.

- | | YES | NEUTRAL | NO |
|---|--------------------------|--------------------------|--------------------------|
| 32. Do you think that: | | | |
| a. All patients attending any health institution should have a HIV test done. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. All prostitutes should have HIV testing every 3 months. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. If people stopped prostitution, the AIDS problem would be minimised. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IT IS SAID THAT NURSES HAVE A MAJOR ROLE TO PLAY IN THE CONTROL OF HIV INFECTION.

33. What do you see as your role in the control of HIV:

- a. At your place of work ?
- b. With families ?
- c. In the community ?

THE FOLLOWING QUESTIONS WILL ASK YOU SOME PERSONAL INFORMATION

34. What is your marital status:

- a. Single (Never married) ☐
- b. Married ☐
- c. Trial marriage
(Living together) ☐
- d. Separated ☐
- e. Widowed ☐
- f. Divorced ☐

35. In which year were you born ?
(19)

36. What is your religious denomination ?

- a. PCEA
- b. ANGLICAN
- c. CATHOLIC
- d. INDEPENDENT
- f. PENTECOSTAL
- g. MUSLIM
- h. AKORINO
- i. OTHER (Specify)

37. Would you be willing to participate in a follow up study of
this research project ?

- () Yes
- () No.

38. Would you wish to be informed about the general outcome of this
study ?

- () Yes
- () No

39. Do you have any other thoughts or ideas about HIV and AIDS ?

40. Gender

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

APPENDIX D

- THIS IS AN INTERVIEW/FOCUS GROUP DISCUSSION GUIDE:
 - YOU WILL BE REQUESTED TO GIVE CONSENT TO TAPE-RECORD THE SESSION FOR EASE OF REFERENCE. If you would rather not have the interview or focus group tape-recorded, the interviewer will inform you that they will only write down notes during the interview.
 - Your name will not appear on any records kept.
- a. How has the knowledge about AIDS influenced your outlook concerning the disease ?
 - b. In which ways have you been able to pass on the information and skills gathered through training to other colleagues ?
 - c. How else would you say you have gathered information concerning HIV/AIDS.
 - d. What would be your reaction if you were given a choice to either work or not work with persons who have AIDS ?
 - e. How has the possibility of contracting AIDS affected you as a nurse?
 - f. What would you say are the problems encountered in providing trained staff and facilities for the care of PWAs?
 - g. We have had different experiences with persons who have AIDS. How has this experience affected your outlook concerning AIDS?
 - h. What are your attitudes towards different types of AIDS patients?
 - i. What would you say has been the impact of AIDS in Kenya ?

APPENDIX E1

Anastasia C.W. Ndiritu
University of Manitoba
Community Health Sci. Dept.
750 Bannatyne Avenue
Winnipeg, Manitoba
R3E 0W3

Fax:(204) 772-8748
15.05.1995

The Chairman,
Human Ethics Committee
University of Nairobi
Kenya

THR'
The Directors
The STD/AIDS Control Project
P.O. Box 19676
Nairobi, Kenya.

Dear Sir,

RE: SEEKING APPROVAL TO CONDUCT A STUDY: KENYAN NURSES'
KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH
AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

While the focus of care to persons living with AIDS has shifted to community based care due to the rising trends in HIV and AIDS, no studies examining nurses perceptions about HIV/AIDS have been done in Kenya, or in any other countries of Africa.

I hope to conduct this study beginning JULY, 1995. The study will investigate the Kenyan nurses' knowledge and attitudes about HIV/AIDS and how their perceptions influence the care they provide to HIV positive clients, to persons living with AIDS, (PWAs) or to those at risk of the HIV infection. I expect that the nurses with HIV/AIDS in-service training and those with experience in the care of such clients will report more

positive attitudes. Conditions at work may influence the nurses' perception about risk of HIV infection.

An interviewer administered questionnaire will collect the survey data from a random sample of nurses drawn from the Nairobi Municipality health centres/clinics in Kenya. Focus group discussions and face to face in-depth interviews with different nurse-cadres will be used to refine the study instruments and to complement survey data.

Each nurse will receive a letter explaining the purpose of the study, the procedures, the rationale for invitation, the anticipated time commitment and their right to withdraw from the study without penalty at any time. Nurses will be informed that there is no direct personal benefit attached to participation. Those willing to participate will be requested to give a written consent (Appendix D, E, F, G, H, I, & J).

All data will be held secure and later coded to further safeguard confidentiality. To further ascertain anonymity, questionnaires and tapes used in focus group discussions and/or in-depth interviews will be stored securely and separately. A code number will be assigned to each subject, to be used on all study instruments. A master list linking codes to names will be kept in a locked location. Coded data will be shared with the thesis committee members for guidance. Raw data will only be handled by the researcher and assistant. Excerpts of raw data in the thesis report will be un-identifiable.

Any factors which might raise concern over the research process will be brought to the attention of the two ethics committees.

The funding of the study will be through a CIDA grant via The Strengthening Management and Control of STD/HIV Project University of Nairobi, Kenya, PO Box 19676, Telephone number 718895 Nairobi.

Please find attached the copy of the proposal.

Sincerely,

Anastasia C. W. Ndiritu
Graduate Student
Community Health Sciences Dept.
University of Manitoba.

APPENDIX E11

Anastasia Ndiritu
University of Manitoba
Community Health Sci. Dept.
750 Bannatyne Avenue
Winnipeg, Manitoba
R3E 0W3

Fax:(204) 772-8748
02.06.1995

Dr. Gordon R. Grahame
Chairman,
Human Ethics Committee
A115-753 McDermot Avenue
Winnipeg, Manitoba
Canada R3E 0W3

Dear Dr Grahame,

In response to the committee's questions in relation to my qualifications, I am a Kenya Registered Community Health Nurse (KRCHN) with a Diploma in Advanced Nursing. I became a team leader for the STD/HIV Project University of Nairobi in 1991. The STD/HIV project then offered me a fellowship to continue my education and I was accepted into the M. Sc Program at the University of Manitoba in 1993.

During the past two years, I have been completing the course work for my M. Sc and I am now ready to return to Kenya to complete my research. My advisor is Dr. Patricia Kaufert. Dr Alan Ronald and Dr Kay Wotton are also members of my committee.

As requested by the committee, I have added the title of the study to the consent forms and have included a passage assuring nurses that no risk of job loss or any other penalty is attached to their decision to participate or not participate in the study. (Copies of the new forms are appended to this letter).

In response to the committee's question about translation, all the nurses I will be interviewing are fluent in English having been educated in English at school and during their nursing training. Hence, I do not anticipate any problem. However, should the need arise, translation using Kiswahili, the Kenyan national language will be arranged. I am myself fluent in both English and Kiswahili.

In response to the committee's suggestion that I should include less information on myself, I would like to point out that it is customary in Kenya to introduce yourself in this manner, providing information on one's background and work. However, should the committee so wish, I will cut back on the amount of information.

Sincerely,

Anastasia C. W. Ndiritu
Graduate Student
Community Health Sciences Dept.
University of Manitoba.

UNIVERSITY OF MANITOBAFACULTY COMMITTEE ON THE USE OF HUMAN SUBJECTS IN RESEARCH

NAME: Ms. Anastasia C.W. Ndiritu

OUR REFERENCE: E95:139

DATE: June 12, 1995

YOUR PROJECT ENTITLED:

Kenyan Nurses' Knowledge, Attitude and Practice Towards Persons with AIDS or at Risk of HIV Infection: Implications for Training.

HAS BEEN APPROVED BY THE COMMITTEE AT THEIR MEETING OF:

Approved by Dr. Gordon Grahame on behalf of the Committee on June 12, 1995.

COMMITTEE PROVISOS OR LIMITATIONS:

Approved with receipt of your revised consent form.

You may be asked at intervals for a status report. Any significant changes of the protocol should be reported to the Chairman for the Committee's consideration, in advance of implementation of such changes.

****THIS IS FOR THE ETHICS OF HUMAN USE ONLY. FOR THE LOGISTICS OF PERFORMING THE STUDY, APPROVAL SHOULD BE SOUGHT FROM THE RELEVANT INSTITUTION, IF REQUIRED.**

Sincerely yours,



by Gordon R. Grahame, M.D.,
Chairman,
Faculty Committee on the Use of
Human Subjects in Research.

GRG/11

TELEPHONE INQUIRIES:

789-3255 - Lorraine Lester

Telegrams: "MEDSUP", Nairobi
Telephone: Nairobi 726300
When replying please quote -



KENYATTA NATIONAL HOSPITAL
P.O. Box 20723
NAIROBI.

Ref. No. KNH/ERC/01
and date

.....11th August..... 19 95.

Ms. Anastasia C.W. Ndiritu,
University of Nairobi,
Department of Community Health,
P. O. Box 19676,
NAIROBI

RE: RESEARCH PROPOSAL: "KENYAN NURSES' KNOWLEDGE,
ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT
RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING:
(P480/6/95)

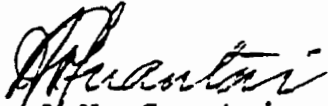
This is to inform you that the Kenyatta National
Hospital Ethical and Research Committee has reviewed
and approved your above cited research proposal.

On behalf of the Committee I wish you fruitful
research and look forward to receiving a summary
of the research findings upon completion of the
study.

This information will form part of data base that
will be consulted in future when processing related
research study so as to minimize chances of study
duplication.

Thank you

Yours faithfully,


Prof. A.N. Guantai
SECRETARY, KNH-ERC

c.c. Prof. K.M. Bhatt,
Chairman, KNH-ERC,
Department of Medicine, U.O.N.

Deputy Director (CS),
K.N.H.

Supervisor:- Dr. E.N. Ngugi - Dept. of Community Health

Dr. S. Moses - Dept. of Microbiology

Chairman, Department of Community Health, U.O.N.

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix H

Consent to participate in a pilot project

This is a request to invite you to participate in a pilot study on nurses' attitudes towards AIDS and persons living with AIDS (PWAs). I am Anastasia C W. Ndiritu. I was previously working for the Strengthening Management and Control of STD/HIV Project in the University of Nairobi Kenya. I am currently a graduate student in Community Health Sciences Department, University of Manitoba, Canada. The pilot study will form the basis for the major study, which is part of my masters in community health sciences thesis.

Those willing to participate in the survey should be Kenya enrolled community nurses (KECNs), working within the Nairobi municipality health centres/clinics. You will be asked to respond to a 30 minute questionnaire, which will be administered by myself and a trained interviewer. The questionnaire will ask you to express your beliefs or opinions regarding AIDS and persons living with AIDS. Your name will not appear on any parts of the questionnaire. Your decision to participate or not to participate in the study is entirely voluntary. No risk of job loss or any other penalty is attached to your decision. For those who decide to participate, you may omit questions that you find objectionable.

You may contact me through the following address if you have any questions now or in future: Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi.

.....
Your signature indicates that you have read the explanation provided, and you have made a decision to participate. You may decide not to participate in the pilot project even after signing this consent form without any fear of penalty.

.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix I Survey Consent Form

This is a request to invite you to participate in a study on nurses' attitudes towards AIDS and persons living with AIDS (PWAs). I am Anastasia C W. Ndiritu. I was previously working for the Strengthening Management and Control of STD/HIV Project in the University of Nairobi Kenya. I am currently a graduate student in Community Health Sciences Department, University of Manitoba, Canada. The study will form the basis for my masters thesis. The results of this study will help identify gaps in the nurses' HIV/AIDS knowledge and attitudes. It is hoped that such findings would form the basis for improving HIV/AIDS training programs for nurses.

Those willing to participate in the survey should be Kenya enrolled community nurses (KECNs), working within the Nairobi municipality health centres/clinics. You will be asked to respond to a 30 minute questionnaire, which will be administered by myself and a trained interviewer. The questionnaire will ask you to express your beliefs or opinions regarding AIDS and persons living with AIDS and provide some demographic information. Your name will not appear on any parts of the questionnaire. The information gathered through the questionnaire will be securely locked. Your consent form will be stored separately from the questionnaires. The questionnaires will be analyzed together with others to get an overall picture of findings. Your decision to participate or not to participate in the study is entirely voluntary. No risk of job loss or any other penalty is attached to your decision. For those who decide to participate, you may omit to respond to questions that you find objectionable.

You may contact me through the following address if you have any questions now or in future: Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895, Nairobi.

.....
Your signature indicates that you have read the explanation provided, and you have made a decision to participate in the survey. You may decide not to answer any or all of the questions even after signing this consent form without any fear of penalty.

.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

If you would wish to participate in a follow up focus group discussion after the survey, please indicate in Appendix F (attached).

**KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS
PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS
FOR TRAINING.**

Appendix J

Focus Group with a representative survey sample

I would be willing to participate in a follow-up focus group discussion.

YES....

NO....

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix K

Consent Form for those who agreed to take part in Focus Group Discussion:

You indicated willingness to participate in a focus group discussion. I am inviting you to join us on (date) at (time and place). Find attached the guideline for the Focus Group.

You may contact me through the following address if you have any questions now or in future: Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi.....

Please sign below if you are still willing to participate. No risk of job loss or any other penalty is attached to your decision. You may decide to change your mind even after signing this consent form without any fear of prejudice.

.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix L

Consent for in-depth interviews to Senior nurse administrators

I am requesting you to participate in a in-depth Interview as part of a study on Kenya nurses knowledge and attitudes regarding AIDS and persons living with AIDS.

I am Anastasia C. W. Ndiritu. I previously worked for the Strengthening Management and Control of STD/HIV Project in the University of Nairobi Kenya. Currently, I am a graduate student in Community Health Sciences Department, University of Manitoba, Canada. My plan is to survey about 100 KECNs working with the Municipality of Nairobi health centres/clinics. To complement the survey findings, I want to interview you as one of the two Senior nurse administrators, from each of the two Divisions of the municipality of Nairobi.

Your participation in the interview will help clarify issues surrounding the care of HIV positive persons or those who have AIDS. I hope this information may help improve future HIV/AIDS training programs for nurses. Find attached a copy of the interview guide for the study. If you agree, I would like to tape-record the interview for ease of reference. Should you want me to turn off the machine, I will do so whenever you ask. Your identity will not appear on any parts of interview or any publication of this study now, or in future. Your decision to participate or not to participate in the study is entirely voluntary. No risk of job loss or any other penalty is attached to your decision.

You may contact me through the following address if you have any questions now or in future. Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi.

.....

Your signature indicates that you have read the explanation provided, and you have made a decision to participate in the interview. You may decide to change your mind even after signing this consent form without any fear of prejudice.

.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix M

Letter to Nursing Officers in-charge of health centres/clinics and trainers in STD/HIV management.

I am writing to request you to participate in an in-depth interview as part of a study on Kenya nurses knowledge and attitudes regarding AIDS and persons living with AIDS. I am Anastasia C. W. Ndiritu, who previously was working for the Strengthening Management and Control of STD/HIV Project in the University of Nairobi Kenya. Currently I am a graduate student in Community Health Sciences Department, University of Manitoba, Canada. I am hoping that the study findings can assist us improve HIV/AIDS training programs for nurses.

My plan is to survey about 100 KECNs working with the Municipality of Nairobi health centres/clinics. To complement the survey findings, I will also want to interview you as one of the Nursing Officers In-charge(s). Your participation in the in-depth interview will help clarify issues surrounding the care of HIV positive persons or those who have AIDS. Find attached a copy of the guide for the in-depth interview. If you agree, I would like to tape-record the interview for ease of reference. Should you want me to turn off the machine, I will do so whenever you ask. Your identity will not appear on any parts of interview or any publication of this study now, or in future. Your decision to participate or not to participate in the study is entirely voluntary. No risk of job loss or any other penalty is attached to your decision.

You may contact me through the following address if you have any questions now or in future. Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi.

.....
Your signature indicates that you have read the explanation provided, and you have made a decision to participate in the in-depth interview. You may decide to change your mind even after signing this consent form without any fear of prejudice.

.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

KENYAN NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PERSONS WITH AIDS OR AT RISK OF HIV INFECTION: IMPLICATIONS FOR TRAINING.

Appendix N

Letter to ENs/EMs.

I am writing to request you to participate in an in-depth interview as part of a study on Kenya nurses knowledge and attitudes regarding AIDS and persons living with AIDS. I am Anastasia C. W. Ndiritu, who previously was working for the Strengthening Management and Control of STD/HIV Project in the University of Nairobi Kenya. Currently, I am a graduate student in Community Health Sciences Department, University of Manitoba, Canada. I am hoping that the study findings can assist us improve HIV/AIDS training programs for nurses.

My plan is to survey about 100 KECNs working with the Municipality of Nairobi health centres/clinics. To complement the survey findings, I will also be interviewing Enrolled Nurses and/or Midwives. Your participation in the in-depth interview will help clarify issues surrounding the care of HIV positive persons or those who have AIDS. Find attached a copy of the guide for the in-depth interview. If you agree, I would like to tape-record the interview for ease of reference. Should you want me to turn off the machine, I will do so whenever you ask. Your identity will not appear on any parts of interview or any publication of this study now, or in future. Your decision to participate or not to participate in the study is entirely voluntary. No risk of job loss or any other penalty is attached to your decision.

You may contact me through the following address if you have any questions now or in future. Anastasia C. W. Ndiritu, Strengthening Management and Control of STD/HIV Project University of Nairobi, PO Box 19676, Telephone number 718895 Nairobi.

.....
Your signature indicates that you have read the explanation provided, and you have made a decision to participate in the in-depth interview. You may decide to change your mind even after signing this consent form without any fear of prejudice.

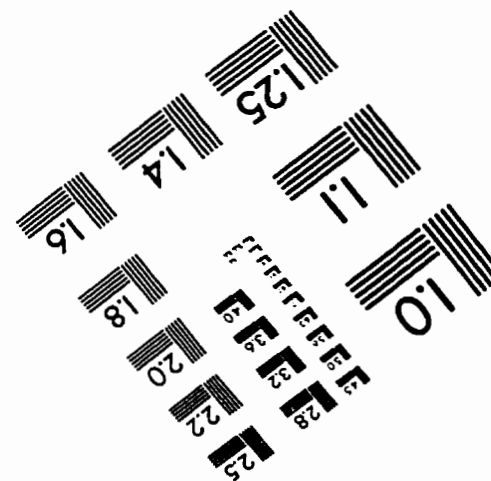
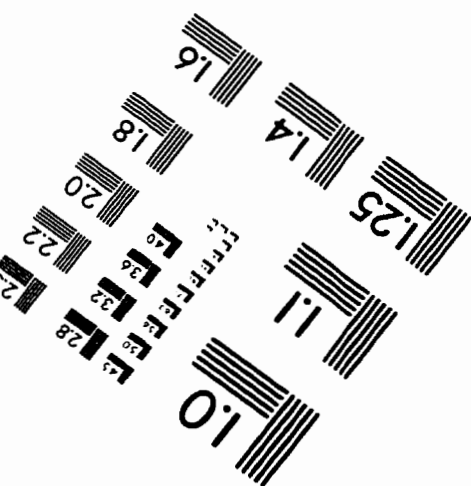
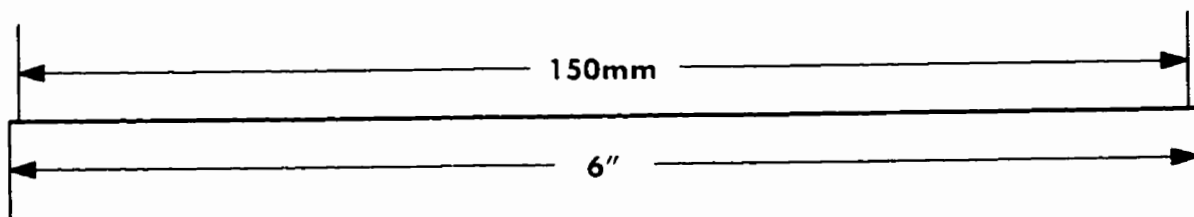
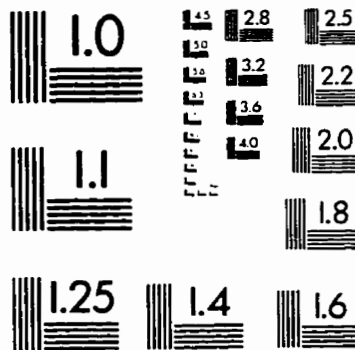
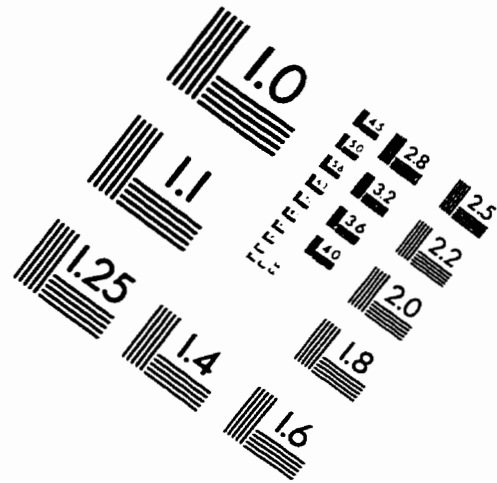
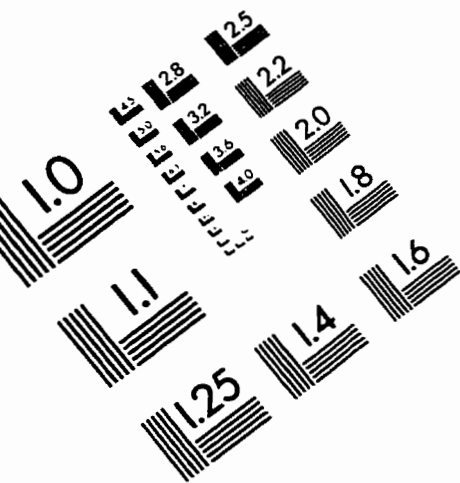
.....
Signature

.....
Date

.....
Signature of Researcher

.....
Date

IMAGE EVALUATION TEST TARGET (QA-3)



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Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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