

## CHAPTER 1

### INTRODUCTION

#### Background and significance of research problem

Acquired Immunodeficiency Syndrome (AIDS), caused by Human Immunodeficiency Virus (HIV), is a serious disease which generates devastating consequences. It can be transmitted from person to person sexually, parentally, and prenatally (WHO, 1993). Since AIDS was first diagnosed in 1981, it has developed into an epidemic of the worldwide proportions. By late 1993, approximately 850,000 cases of AIDS had been reported to the World Health Organization (WHO) from over 180 countries and territories. The World Health Organization estimated that the cumulative HIV/AIDS cases were 34.6 million all over the world in January 1996. The cumulative HIV/AIDS death was 5.8 million all over the world by January 1996 (UNAIDS, 1996). In the United States, the mortality associated with the disease exceeds 80 percent after two years following diagnosis (Quinn, 1985). Even more there has been no effective treatment and vaccine to control AIDS prevalence nowadays. No disease like AIDS has so serious fatality, high incidence and mortality. AIDS has become the most significant public health crisis of the century.

The first AIDS case in China was reported in 1985 in Peking. By the end of August 1996, there were 4,305 HIV/AIDS

cases reported from all over the country. There were 122 HIV positive cases reported in Peking totally from 1989 to 1996 (Reuter's News Agency, 1996). Because of the limitation of the current diagnosis and reporting systems, the official report was a fraction of the actual number. The persons with AIDS represent only the tip of the iceberg. Many more people are unknowingly infected and are carriers of HIV representing like the larger hidden part of the iceberg, which is under water. According to the authoritative persons who are involved in relevant affairs, it was about 50,000 to 100,000 HIV/AIDS cases in China in 1995. And now China has entered into the early period of prevalence of AIDS (Wu, 1996). Moreover, China is an open country. Many foreigners as well as those from western cultures come into China at the same time of inputting advanced technology. The huge migrant population within the country, people's lack of knowledge about prevention, the continued existence of drug abuse and prostitution, the growing number of people with venereal diseases have all created opportunities for the spread of AIDS (Chinese News Agency, 1996).

Increasing numbers of HIV positive cases made health care workers increasingly encounter the HIV/AIDS patients in health care settings. HIV can be transmitted to health care workers by exposure to blood or other body fluids of infected patients. The needle sticks, mucous membrane exposures, cuts with instruments, body fluids contacting on open skin lesion are occupational exposures that occur in caring practices every day. Nurses, as part of health care workers, spend more time

and be more involved in critical patients' care. They may have a higher risk for occupational exposures to blood or other body fluids from patients than other health personnel (Sultan, 1991). In the survey which was conducted by Michigan's Department of Public Health HIV/AIDS Prevention and Services, nearly all of 3,468 nurses who had participated the survey indicated exposures to biologic materials that have potential for HIV transmission. More than 40 percent had recapped needles in the previous 3 months and twelve percent of nurses had actually stuck themselves with needles that had been used in patients (Schillo & Reischl, 1993). Nurses may be put into high risk of exposure to blood or body fluids of infected patients when they practice inappropriately.

In order to prevent transmission of HIV infection and other bloodborne diseases in health care settings, the Centers for Disease Control (CDC) published universal precautions (UPs) in 1987. The universal precautions stated considering the blood and body fluids of all patients as infected. It recommended that: (1) use appropriate protective barriers to reduce the risk of exposure when in potential contact with blood or body fluids; (2) immediately and thoroughly wash hands and other skin surfaces that are contaminated with blood or body fluids; and (3) take care to prevent injuries when using needles, scalpels, and other sharp instruments; when handling sharp instruments after procedure; when cleaning used instruments; and when disposing of used needles. It also included content of disinfection, waste management and housekeeping. All health

care workers should routinely adopt UPs when there is a risk of direct exposure to any blood or body fluids of all patients. In absence of effective treatment and vaccine of HIV infection, applying universal precautions is the safest way to protect health care workers from HIV or other bloodborne pathogens infection.

As nurses take the important roles in preventing HIV transmission, it is concerned if the nurses have been prepared well to copy with the increasing cases of HIV infection. Many studies had been done to investigate nurses' knowledge, attitudes toward AIDS and universal precautions practices. The knowledge regarding AIDS of nurses shown in the previous studies were usually inadequate and deficit (Armstrong-Esther & Hewitt, 1989; Stanford, 1988; Steele & Melby, 1995). Some nurses thought HIV could be transmitted from direct contact which leads to fear of taking HIV to their families and friends and avoided contacting with AIDS patients. They usually use UPs more often and much more than necessary (Van Servellen, Lewis & Leake, 1988). On the other hand some nurses including the emergency department nurses did not know the magnitude of risk of infection and they had a low rate of compliance of UPs. In the study of Baraff and Talan (1989), only 52.5 percent of emergency department nurse worn gloves when drawing blood or attempting IV catheter placement. Discussion with nurses revealed that most of them did not know the magnitude of risk in HIV transmission by needle sticks. They reported that when gloves were worn for prolonged periods that they frequently

caused a rash on their hands which they believed might increase their risk of infection. The authors analyzed this phenomenon and found that it was partly due to the unavailable and ineffective equipment, lack of awareness of risk of infection and misconception of HIV transmission.

The attitudes toward AIDS of nurses were investigated to be poor in many studies (Akinsanya & Rouse, 1992; Brown & Turner, 1989; Haughey, Scherer, & Wu, 1986; Van Servellen, Lewis, & Leake, 1988). The previous studies indicated that fears of contagion, perceiving high risk of infection and discomfort with AIDS patients made nurses avoid caring for AIDS patients. With these beliefs and feelings some nurses did not believe that UPs could protect them, whereas some nurses used UPs much more than necessary. In the study of Burtis and Evangelisti in 1992, forty to sixty percent of nurses always use double layers of gloves when taking care of patients.

Because individual states of affection and acts of cognition are inferred from psychomotor acts (Kilber, 1970, cited in Reilly, 1975), individual behavior is influenced by one's knowledge and attitudes towards certain objects (Bloom, 1975). Change of one's behavior must be accompanied by the change in cognitive and affective domains (Mallish, 1982). The knowledge, attitudes and behavior affect one another. The knowledge toward AIDS, attitudes toward AIDS and universal precautions practices of nurses were also related in previous studies. The knowledge regarding AIDS help nurses understand more about AIDS and leads to decreased fears (Brown, Calder, &

Rea, 1990; Flaskerud, 1989; Lawrence & Lawrence, 1989). Receiving training in AIDS and universal precautions had a significant association with the awareness of risk of infection, the confidence of caring for AIDS patients and compliance of universal precautions (Brown, Calder, & Rea, 1990; Gershon, Karkashian, & Felknor, 1994). Instituting universal precautions also increased the confidence of caring AIDS patients (Burtis & Evangelisti, 1992). Basing on the results of studies, many educational programs had been supplied to improve nurses' ability of coping with increasing AIDS cases. So it is very necessary and important to identify the nurses' knowledge and attitudes toward AIDS and universal precautions practices. It is the first step to improve nursing practices relating AIDS.

Peking Union Medical College hospital is a famous medical center for difficult and complicated cases in Peking, where has 1000 beds and 506 professional nurses. According to the statistics department, thirty-one AIDS patients had been admitted at PUMC hospital from 1985 to June 1997. From the experience of the researcher who worked at PUMC hospital for eight years as a nurse, unwillingness to be in contact with AIDS patients, refusing to care for AIDS patients, inappropriate isolation and unsafe practices were common in caring for AIDS patients in the hospital. Neither the related policies nor the formal training of universal precautions was conducted in hospital. According to the researcher's observation, some nurses did not wear gloves even when drawing

blood, administering IV injections for AIDS patients, whereas some nurses wore gloves when they changed sheet for patients.

AIDS is a global problem. The HIV/ AIDS cases increase rapidly in China nowadays. The health care workers in China will face the problem of increasing numbers of HIV/AIDS cases in the near future which had been experienced in many other countries several years ago. However there are few educational programs either in media or in health care settings. Most people just have heard about AIDS. Even medical students and some health personnel had poor knowledge of AIDS (Liao & Wang, 1997). Nurses, as part of health care workers, should take important roles in preventing HIV transmission in health care settings. They are not only the caregivers but also models for people. They need to give safe, sensitive and judicial care for AIDS patients, do appropriate UPs to reduce HIV transmission and protect themselves from infection. They should have adequate knowledge, good attitudes toward AIDS and appropriate practices. Up to date, few researches have been done to investigate the nurses' knowledge, attitudes toward AIDS and universal precautions practices in China. It is necessary and feasible to identify the knowledge and attitudes toward AIDS and universal precautions practices of nurses at PUMC hospital. The findings of the study may form the basic information to improve nursing practices in the AIDS field.

**Objectives of the study**

1. To identify the knowledge toward AIDS of nurses at PUMC hospital.
2. To identify the attitudes toward AIDS of nurses at PUMC hospital.
3. To identify the universal precautions practices of nurses at PUMC hospital.
4. To examine the relationships among knowledge and attitudes toward AIDS and universal precautions practices of nurses at PUMC hospital.

**Research questions**

1. What is the knowledge toward AIDS of nurses at PUMC hospital?
2. What are the attitudes toward AIDS of nurses at PUMC hospital?
3. What are the universal precautions practices of nurses at PUMC hospital?
4. Are there any relationships among knowledge and attitudes toward AIDS and universal precautions practices of nurses at PUMC hospital?

**Scope of the study**

The study was conducted at PUMC hospital among diploma nurses and associate degree nurses who work in medical department, surgical department, pediatric department, OB&GYN department, emergency department, ICU department, foreign

patient department and outpatient department. Data collection was done from November, 1997 to December, 1997.

#### Definition of terms

The following terms are defined for the purposes of the study.

**Knowledge toward AIDS**      The nurses' understanding of the current information of AIDS including AIDS causal agent, epidemiology, transmission, manifestation, testing, treatment, and universal precautions to be taken. It can be measured by Knowledge Toward AIDS Questionnaire which is modified by the researcher based on the questionnaire developed by Senaratana, Leksawasdi, and Nantasupawat (1996).

**Attitudes toward AIDS**      The beliefs, feelings and behavioral intentions of nurses toward AIDS including information about perceived risk of infection, feelings of caring for AIDS patients, testing for HIV antibody, and universal precautions. It can be measured by Attitudes Toward AIDS Questionnaire which is modified by the researcher based on the questionnaire developed by Senaratana, Leksawasdi, and Nantasupawat (1996).

Universal precautions practice

The behaviors of compliance of nurses about the the precautions preventive measure of HIV transmission when practices there is a risk of direct exposure to any blood or body fluids including: (1) using appropriate protective barriers to prevent skin and mucous membrane exposure when in potential contact with blood or body fluids; (2) immediately and thoroughly washing hands and other skin surfaces if contaminated with blood or potentially contaminated articles; and (3) preventing injuries caused by needles or other sharp instruments. Disinfection, waste management and housekeeping are also included. It can be measured by Universal Precautions Practices Questionnaire which is modified by the researcher based on the questionnaire developed by Senaratana, Leksawasdi, and Nantasupawat (1996).

Nurse

Person who graduated from nursing education programs receiving diploma degrees of nursing or associate degrees of nursing (ADN).