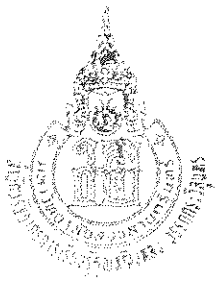

Anxiety Experience and Anxiety Management of People Living with HIV/AIDS in Bangladesh

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Nursing Science (International Program)

Prince of Songkla University

2010

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Academic Year	2009

ABSTRACT

Anxiety is one of the dominant psychological symptoms occurring in both symptomatic and asymptomatic HIV patient groups. Little is known about the experiences of anxiety and the ways whereby people living with HIV/AIDS (PLWHA) manage and tackles anxiety in Bangladesh. This study aimed at describing the anxiety experiences and anxiety management strategies of people living with HIV/AIDS in Bangladesh. Total subjects 75 people living with HIV/AIDS were recruited from the outpatient department of the Infectious Diseases Hospital and NGOs working with HIV people in Bangladesh. The questionnaires used to collect data, included: the Demographic Data Assessment Form (DDAF); the Anxiety Experience Questionnaire (AEQ); and the Anxiety Management Strategies Questionnaire (AMSQ). The contents of the AEQ and AMSQ were validated by three experts, and tested for reliability using a test-retest coefficient that yielded .87 to 1.00, respectively. Data were analyzed using frequency, percentages, ranges, means, and standard deviations.

The finding showed that the majority of the subjects (90.7%) experienced anxiety almost every day of the week (M = 6.70, SD = .80). They reported severe anxiety at a high level (M = 6.53, SD = .94), they evaluated it as distressful (M =

6.56, SD = 1.00), and reported its impact on daily life (M = 6.77, SD = 1.13). Both pharmacological and several non-pharmacological anxiety management activities were performed. Anti-depressant and anti-anxiety drugs were reported as most helpful to relieve their anxiety (M = 7.69, SD = .72 and M=6.99, SD=.51, respectively). Regarding non-pharmacological methods, the most helpful were reported to be using anxiety-ventilation, avoidance coping and religious practices. The research findings could guide nurses and counselors to promote better advice and counseling services to reduce the problem of anxiety to PLWHA in Bangladesh.

ACKNOWLEDGMENTS

In the name of Allah, the most Gracious, the Merciful. The first of all thanks to Allah the Al-mighty who guided me to start this thesis and gave me the strength to continue my learning process. I would like to extend my deepest appreciation to my major advisor Assoc. Prof. Dr. Praneed Songwathana for her kindness, guidance, enthusiasm, patience, and the unwarving support you have given me which I shall never forget. I would like to thanks Dr. Hathairat Sangchan my co-advisor for her support, advice, and the inspiration given to me throughout my study and for providing the necessary knowledge regarding my proposal and in calculating the excitement me for doing research work. Great appreciation is given to Assist Prof. Dr. Wongchan Petpichetchian, the Chairperson of the Master of Nursing Science (International Program) and the Chairperson of the examining committee and other members: Dr. Ampaipith Nilmanat, MD., and Assist. Prof. Dr. Kittikorn Nilmanat. My gratitude also goes to experts who involved in content validation and translators.

I express my sincere gratitude to Mrs. Dr. Shamima Sultana, Director/senior consultant, and Dr. M. Salim uzzaman, Specialized trained in Infectious Disease & Tropical Medicine and HIV clinician, of Infectious Diseases Hospital (IDH) and Mrs. Delowara Begum, Head of Nursing Department, Mrs. Kakoli HIV ward incharge and Mrs. Anowara Senior staff Nurse of HIV ward, IDH, Dhaka, Bangladesh. Besides, NGO support from Dr. Md. Moshtaq Pervage, HIV Clinician, Mrs. Rose Merry ward nurse (Jagori), and Md. Meharab Hossain, staff Nurse (ICDDRB). Dr. Halida Hanum Khandaker, Executive Director, and Dr. Md. Rashidul Hoque, Medical Officer CAAP, Banani, and Dr. Md. Hasan, Medical officer (Asar Alo Society),

Mohammadpur, Dhaka for their open-minded to permit me to collect data in their medical settings; and effort to make contact with hospital and during the data collection.

I would like to extend my deep appreciation to my participants and their families who have given so generously of their time and willingly shared anxiety experiences of people living with HIV/AIDS.

I am deeply grateful to the Dean of Faculty of Nursing, Assoc. Prof. Dr. Ladawan Prateepchaikul support in all academic facilities. I sincerely appreciate valuable helps from teaching faculty (teacher) and office staff. I have blessed with my dear classmates and friends from whom I have obtained immense help, support, and friendships.

Finally, great respect to my loving family members: brothers, nieces, nephew, and relatives for their immense and selfless contribution and patience from a distance during my study in PSU.

I give my deep bow to all of you that gave me your hands and supported me to complete this study, and who are mentioned or unmentioned here.

Md. Suruj Ullah

CONTENTS

CONTENTS (Continued)

CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURE

CHAPTER 1

INTRODUCTION

Background and Significance of the Problem

Human Immunodeficiency Virus (HIV) causes Acquired Immune Deficiency Syndrome (AIDS), an incurable disease. Its progression is uncertain and unpredictable (Kemppainen, 2001). Signs and symptoms of AIDS appear later without warning (Tangkawanich, Yunibhand, Thanasilp & Magilvy, 2008). Although advances in treatment and care have resulted in prolong healthy-living, coping with chronic disease often involves series of psychological and physical symptoms (Lorenz, Shapiro, Asch, Bozzette, & Hays, 2001). As a consequence, the body's immune function and people's day-by-day life are deteriorated (Sukati et al., 2005).

The people living with HIV/AIDS (PLWHA) may experience various symptoms including anxiety, depression, diarrhea, fatigue, nausea and peripheral neuropathy (Holzemer, 2004). Anxiety is one of the dominant psychological symptoms occurring in both symptomatic and asymptomatic HIV patient group (Sanjay, Chwastiak, & Bruce, 2005). The main causes of anxiety are fear of death and fear of the unexpected future about the disclosure of HIV/AIDS and discrimination by the society (Kemppainen et al., 2003). In addition, the increased anxiety was associated with adherence to HIV treatment and physical status disruptions (VanServellen et al., 1998) that may lead the patient's condition to be worst (Fontaine & Lassauniere, 1999).

Although anxiety is one of the most prominent symptoms recognized by physicians among people living with HIV disease, anxiety scores did not significantly increase in the symptomatic or asymptomatic patient group (Fontaine & Lassauniere, 1999). In addition, the level of anxiety and fear changes from time to time depending on how PLWHA respond to illness, anxiety management being used (Flaskerud & Miller, 1999), overall adjustment to HIV disease, anxiety symptoms, higher pre-infection rates of psychiatric disorders, greater sources of severe stress, and socioeconomic issues (Kerrihard, Breitbart, Dent, & Strout, 1999).

To relieve anxiety, people generally use several management strategies related to their perception of symptoms. In a literature review of anxiety management reported by PLWHA, pharmacological and non-pharmacological methods were used to relieve the anxiety symptoms. For example, seven categories of self-care strategies to reduce anxiety in PLWHA were reported: 1) using distraction activities 2) talking to others 3) using alternative/ complementary therapies 4) taking prescribed medications 5) using self-talk 6) using substances 7) using avoidance behaviors (Kemppainen et al., 2003).

To cover the detail of anxiety symptom management, Dodd et al. (2001) symptom management model should be used as a guide. According to Dodd et al., anxiety management strategies may be determined by the anxiety experience, evaluation and response of PLWHA. The individual's experience may lead people to select the anxiety management strategies to solve the problem (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). In addition, people may perceive the anxiety experience and perform anxiety management strategies in different way

(Antoni, 2003). Moreover, the experience and interpretation of symptoms are the most important sources of anxiety management strategies to encourage the individuals seeking help (Kemppainen et al., 2003). Hence, strategies to relieve symptoms would be depending on the individual's perception and the expected symptom outcomes based on the symptom management model.

Although previous work has described the prevalence of HIV-related anxiety and self-care strategies, most of the studies were conducted in developed countries, only self-care strategies used for HIV- related anxiety without any measures of frequency and overall effectiveness were described (Kemppainen et al., 2003; Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008; Kemppainen et al., 2006). The anxiety level of HIV/AIDS infected people are related to anxiety symptom and anxiety management strategies which might be different (Henry, Holzemer, Weaver, & Stotts, 1999). In addition, there are several factors associated with anxiety and its management in PLWHA. Based on Dodd et al. (2001), these factors could be from personal domain such as age, gender, income, health and illness domain such as health status, physical symptom, and antiretroviral treatment and its side-effect, and environmental domain such as family/social support and stigma. However, the conditions of people were usually severe and many HIV- disease complications always occurred during the course of illness and treatment (Banda et al., 2008) particularly in a country with limited resources. It was found that self-management of anxiety plays an important role in determining symptom outcomes in HIV/AIDS (Campsmith, Nakashima, & Davidson, 2003).

In Bangladesh, Infectious Disease Hospital (IDH) in Dhaka is one of the main hospitals for treatment of HIV/AIDS patient. The hospital is equipped with both indoor and outdoor facilities to meet the demands of patients. The management and care of the HIV/AIDS patient is provided by collaboration of government and non-government organization (NGO). However, a previous study by Azim et al. (2008) reported that care and support provisions for PLWHA in Bangladesh are limited. At present, the government focuses on Awareness and Preventive care for HIV/AIDS patients primarily through NGOs and voluntary counseling testing (VCT) services. It is also an important service for providing preventive counseling to those people who perceive themselves to be at risk. In addition, other services include physical examinations, arranging clinical investigations as needed, management of opportunistic infections, referrals to other service providers, clinical follow-ups of antiretroviral therapy (ART), and providing consultation services to other hospitals. However, those services are accessible only at some hospitals where the specialists presented. In addition, the Infectious Diseases Hospital has one separate ward for the HIV/AIDS infected patients. The patients with HIV/AIDS sero-positive status in need of hospital care are usually admitted in the hospital directly to the HIV ward.

One who knows that he or she had HIV positive always hides his or her HIV status. Fear and stigmatization may lead patients to the difficulties of seeking appropriate health care services (Songwathana & Manderson, 2001). In addition, isolation ward have no recreational facilities for the HIV/AIDS. As a result, they feel more anxious, fear of death, and reported higher level of anxiety than those of other illness.

Although anxiety is one of the most prevalent symptoms of HIV-infected people, little is known about the anxiety experiences and the ways in which PLWHA manage and relieve anxiety in Bangladesh. Hence, there is requirement of a research study regarding anxiety management strategies in PLWHA. The research findings could guide nurses and counselors to promote better advice and counseling services to reduce the problem of anxiety to PLWHA in Bangladesh.

Objectives of the Study

1. To describe anxiety experience of PLWHA in Bangladesh.
2. To describe anxiety management strategies used by PLWHA in Bangladesh.

Research Questions

1. What is the anxiety experience in terms of perception, evaluation and response reported by PLWHA in Bangladesh?
2. What are the strategies used for anxiety management reported by PLWHA in Bangladesh?

Conceptual Framework of the Study

Anxiety is a normal response to unfamiliar, uncertain or dangerous situation. Anxiety is characterized by subjective feelings of tension, apprehension, nervousness,

and worry, and by activation or arousal of the autonomic nervous system (Gaberson, 1995). The differences of the anticipations occur in accordance with the perception and evaluation process of an individual. Some people may think that a given situation is dangerous and violent, and their response will be as violent as the perception. If the violent response is beyond control, the person will feel helpless and hopelessness. In the same situation, other people may feel that it is not violent because they assess the situation as being less violent for them. Spielberger, Gorsuch, and Lushene (1983) also mentioned that anxiety depends on the extent to which each of them perceives a specific situation as psychologically dangerous or threatening, and this is greatly influenced by each individual's past experience.

The conceptual framework of this study was derived from the Symptom Management Model (Dodd et al., 2001). The Symptom Management Model focuses on interrelationship among the three domains of symptom experience, symptom management, and outcomes. In this study, only two domains were explored. Firstly, symptom experience is dynamic, involving the interaction of three sub-concepts including an individual's perception of symptoms, evaluation of symptoms, and response to symptoms. Perception of symptoms refers to the perception of an individual towards a change from the way that the individual usually expressed to behavior. Evaluation of symptoms refers to the judgment of the individual to characterize the symptom experiences. Response to symptoms refers to the individual's effects from the symptom. In this study, the symptom experience in terms of perception, evaluation, and response were focused.

Secondly, symptom management strategies refers to an individual symptom management process encompasses the components of who?, how?, when? to whom, where?, how much?, and why? to manage that specific symptom or a cluster of symptoms. In this study, symptom management was focused on the individual's self-management of the anxiety symptoms to reduce or relieve anxiety experience perceived by PLWHA in terms of what strategies they use, how often they do that particular strategy, and how well they perceive of their effectiveness used to relieve their anxiety.

Definition of Terms

Anxiety experience refers to feeling of anxiety symptom which occurred over the last week perceived by PLWHA. Anxiety experience includes perception, evaluation and response. Perception of anxiety experience refers to an expression or feeling of an individual behavior towards the symptoms of anxiety. Evaluation refers to the anxiety severity and distress expressed by the patient. Response is the way that the patient describes its impacts to daily life. Anxiety experience was measured by the Anxiety Experiences Questionnaire modified from Tangkawanich, Yunibhand, Thanasilp, and Magilvy (2008).

Anxiety management strategy refers to the activity of an individual initiated and performed towards his/her ability to manage anxiety over the last week. Anxiety management was obtained from the individual's self report using the Anxiety Management Strategies Questionnaire, modified from Tangkawanich et al. (2008).

The content comprises of pharmacological and non-pharmacological strategies in dealing with anxiety which include what strategies an individual uses, how often he/she does that particular strategy, and anxiety.

Scope of the Study

This descriptive research investigated the anxiety experience and anxiety management of people living with HIV/AIDS in Bangladesh. A total of 75 subjects, were people living with HIV/AIDS who attended the services at Infectious Diseases Hospital, Dhaka and collaborative NGOs working unit. Data were collected from November 2009 to January 2010.

Significance of the Study

The research outcomes could provide knowledge about the management of anxiety by PLWHA. In addition, these findings can be used to educate and train HIV/AIDS health-care provider including nurses to promote better self-management activities by patient in order to reduce and tackle anxiety problem of PLWHA in Bangladesh.

CHAPTER 2

LITERATURE REVIEW

This chapter presents a literature review related to anxiety experience and its management of people living with HIV/AIDS (PLWHA). The outlines of this chapter are as follows:

1. HIV/AIDS situation in Bangladesh
2. Symptom Management Model
3. Anxiety in people living with HIV/AIDS
   - 3.1 Concept of anxiety.
   - 3.2 Level of anxiety in people living with HIV/AIDS.
   - 3.3 Impact of anxiety on people living with HIV/AIDS.
4. Anxiety management in people living with HIV/AIDS.
5. Factors related to anxiety and its management in people living with HIV/AIDS.

HIV/AIDS Situation in Bangladesh

The prevalence of HIV in the general population of Bangladesh appears to below, 0.1 percent. The prevalence is estimated to be below 1 percent in all risk groups except for intravenous drug users (IDUs), thought to be a relatively small group of people (Azim et al., 2008). With that prevalence rate of HIV and AIDS in Bangladesh may not look like a major threat, but a country with high population; a

mere 1% rise would mean an addition of more than a million numbers. Regarding the most at risk population group sex-workers, IDUs, migrant-workers, and clients of sex-worker. IDUs bear the highest risk of HIV transmission as elsewhere.

Although Bangladesh continues to be a low prevalence area, it is surrounded by high prevalence countries especially. The first HIV case in Bangladesh was detected in 1989 (WHO, 2008). By December 31st, 2008, the Ministry of Health and Family Welfare had confirmed 1590 cases of HIV (Government of the People's Republic of Bangladesh, 2009). On the other hand, brothel-based female sex workers in Bangladesh report the highest turn over of clients than anywhere in Asia (an average of 18.8 clients per week). Meanwhile, most of the people of country are unaware about the deadly disease and its prevention. As a report in the 1999-2000 Bangladesh Demographic and Health Survey (WHO, 2008), it was found that only 31 percent of married women and 50 percent of newly married men had heard of AIDS. Over 90 percent of rickshaw pullers could not identify a single method of HIV prevention.

Symptom Management Model

In order to describe anxiety symptom perception or experience and anxiety management strategy in this study, Symptom Management Model developed by Dodd et al. (2001) was used. This model focuses on nursing domains and management of symptoms at home rather than curing the disease which is directly related to nursing profession. Anxiety management strategies that individuals use or practice through

biomedical professional to prevent or manage the symptom occurrence perceived by people living with HIV/AIDS. In general, it is clear that symptom management can be applied for removing disease or minimizes the impact of symptoms.

Symptom Management Model was used as a framework for anxiety management strategies of HIV-related symptoms. The premise of the model suggested a bidirectional relationship between the perceived symptom experiences, evaluation of anxiety symptom and individual responses to anxiety symptom (Dodd et al., 2001).

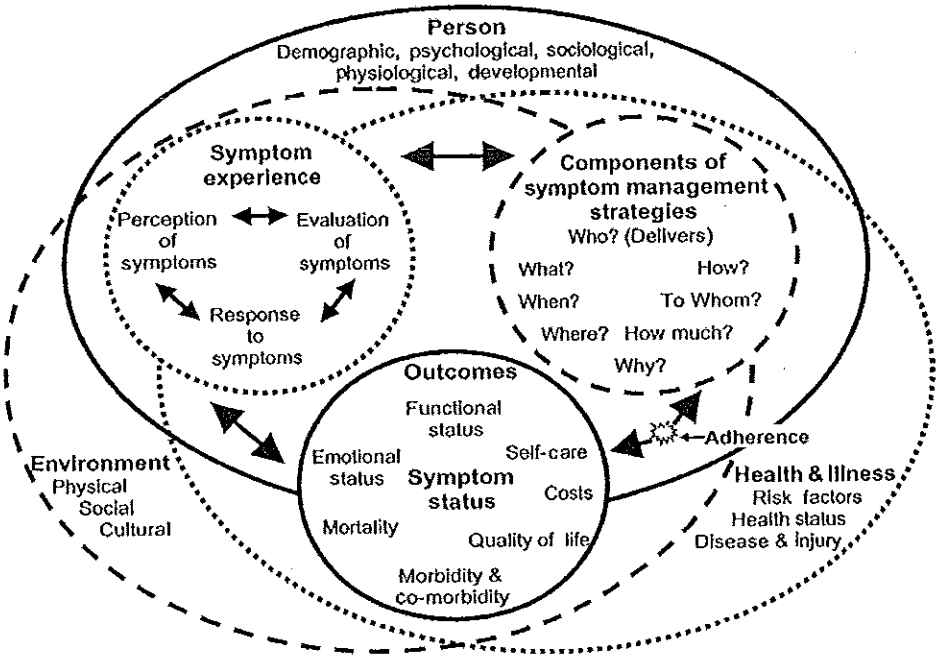

Figure 1

Revised Symptom Management Model (Dodd et al., 2001, p.670)

A model for symptom management developed by Dodd et al. (2001) was composed of three dimensions and three nursing domains. Three dimensions include symptom experience is dynamic; involving the interaction of three sub-concepts

includes the patient's perception of symptoms, evaluation of symptoms, and response to symptoms. Perception of symptoms refers to the anxiety perception of an individual regarding a change from the way that the individuals usually feel to behave. Evaluation of symptoms refers to the judgment of the individuals to characterize the symptom experience. Response to symptoms refers to the patient's responses to symptom.

Dodd et al. (2001) stated that symptom management is a dynamic process. It is modified by individual outcomes and the influences of the nursing domains. Three domains of nursing include 1) person such as age, gender, and income 2) health and illness such as physical symptom, antiretroviral treatment, and 3) environmental such as social support. These three domains are contextual variables influencing all three dimensions of the model including 1) symptom experience, 2) symptom management strategies, and 3) symptom outcomes. The three domains of nursing are described as follows:

Person domain consists of demographic, psychological, and physiological. Individual variables such as age, gender, income may influence the symptom experiences. This domain can interfere with an individual's view and response to the symptom experience.

Health and illness domain is composed of variables unique to the health or illness state of an individual with symptom burden of HIV disease and risk factors such as side effects of antiretroviral treatment, presence of opportunistic infection. This domain has direct and indirect effect on symptom perception, self- management and symptom outcomes.

Environmental domain includes physical, social, and cultural variables. The physical environment may encompass home, work, and hospital influences. The social environment includes social support network and interpersonal relationships.

Symptom management strategies are defined as the strategies that are managed through biomedical professional, or anxiety management strategies to manage or prevent the symptoms (Dodd et al., 2001). Symptom management strategies used by HIV-infected individuals as those behaviors specific to the management of HIV-related symptoms that could be generic or specific modalities (Henry, Holzemer, Weaver, & Stott's, 1999). Self-care activities are an essential component of the symptom experience for individuals living with HIV/AIDS (Kemppainen et al., 2003).

Since Dodd et al. (2001) Symptom Management Model was used to guide this study, anxiety symptom experience are focused on the individual's perception of the manifestations of anxiety (symptom occurrence) and evaluated by rating the severity of anxiety and determination of response to anxiety. Symptom management strategies are defined as the self-care strategies that have been performed to relieve anxiety (Fang-Yu, Holzemer, Portillo, & Slaughter, 2004).

Anxiety in People Living with HIV/AIDS

Concept of Anxiety

Anxiety is a normal response to unfamiliar, uncertain or dangerous situation. Anxiety is a state of uneasiness, unpleasantness, tension, insecurity, nervousness,

worry and apprehension caused by the activation of an autonomic nervous system (Gaberson, 1995). Conversely, State anxiety as an emotional state, consists of unpleasant feelings of tensions, apprehension, nervousness and worry, with associated activation or arousal of an autonomic nervous system (Dwiningsih, 2004). Wehmeier (2000) in Oxford Advanced Learner's Dictionary (OALD) defines anxiety as the anxiety of feeling nervous or worried that something bad is going to happen. Anxiety has been described, as the most common psychological reaction experienced by persons with HIV/AIDS. Anxiety is a common symptom response to extreme stressors, but it can also be a symptom of a more significant underlying anxiety disorder (Kemppainen et al., 2003). Anxiety manifests itself in two main aspects which include cognitive and affective manifestations and physiological manifestations (Agadzhanyan & Terekhin, 2002). Cognitive impairment is relatively a common manifestation of HIV infection (Mehandru et al., 2004). Impairments of attention, information processing speed, mental flexibility, and response fluency are most often observed among HIV-infected patients, although more severe dementia occurs in a small proportion of people with HIV infection. These difficulties have been shown in many studies to be associated with immunological status as measured by CD4 cell count. Consequently, physiological impairment of anxiety individuals may exhibit poor memory, poor concentration and poor attention (Mehandru et al.). These can all directly and indirectly influence clinical performance and decision making. Thus, anxiety individuals are at risk for error as a result of these multiple and interrelated phenomena. Apart from this, subjective and objective indicators of anxiety can be found. Subjective findings includes an increased tension, fearfulness, feel distress, etc.

Objective findings are mediated primary through the sympathetic activities such as tachycardia, shortness of breath, insomnia, palpitation (Sanjay, Chwastiak, & Bruce, 2005).

Assessment of anxiety refers to actions to determine or evaluate effects and the level of anxiety. Hinkin et al. (2002) revealed that the effects of anxiety included physical, perceptual, cognitive, and behavioral perspectives. Tsao, Dobalian, and Naliboff (2004) mentioned that the levels of anxiety ranged from mild anxiety to panic. Mild anxiety is associated with the occurrence of tension on daily living, which can motivate learning and creativity. Moderate anxiety is caused by immediate concern, narrowing the perceptual field, which is recognized as strong breathing, uneasiness, and headaches. Severe anxiety is marked by a significant reduction in the perceptual field, disorientation, lack of awareness of the environment, and inability to focus on surroundings (Christine et al., 2001). Panic is associated with awe, dread, and terror symphonized with loss of control, inability to do things even with direction, and unable to communicate effectively (Kemppainen et al., 2003).

Anxiety response in PLWHA can be assessed. In a study by Sanjay, Chwastiak, and Bruce (2005), it was found that somatic and autonomic symptoms which include chest pain, sweating, tingling, palpitation, hypertension, and shortness of breath, gastrointestinal irritation, nausea, muscle tension and headache. Anxiety is also associated with endocrine changes, transmission of neurotransmitters, nor-epinephrine and serotonin. Patients with untreated anxiety can experience arrhythmias and hypertension. Chronic anxiety has been associated with increased morbidity and mortality (Ballenger et al., 2001). Bjelland, Dahi, Hang, and Neckelmann (2002)

found that increased anxiety was associated with adherence to the HIV/AIDS medical regimen and disruptions in physical status.

Level of Anxiety in People Living with HIV/AIDS

Anxiety is one of the dominant psychological symptoms occurring in both symptomatic and asymptomatic HIV patients group (Sanjay, Chwastiak, & Bruce, 2005). The most frequent causes of anxiety are fear of death, unexpected future, disclosure and discrimination (Kemppainen et al., 2003). Regarding mental health providers experience, the HIV positive people (and others living with serious medical conditions) are more prone to anxiety symptoms due to the stress of managing a chronic illness (Berger et al., 2008). Up to 70% of HIV infected people reported persistent anxiety symptoms, and up to 40% meet the criteria for an anxiety disorder (Kemppainen et al).

The prevalence of anxiety in PLWHA varied from 15% to 40% (American Psychiatric Association, 2000), and 14% to 55% in drug injection users with HIV (Brienza et al., 2000). Anxiety itself is associated with poor medical adherence in a variety of chronic diseases (Dimatteo et al., 2000) and particularly in HIV- infected patients (Catz et al., 2000). The prevalence rate of anxiety disorders among HIV-infected patients has been estimated to be 38% (Sanjay, Chwastiak, & Bruce, 2005). However, those studies were mainly conducted in developed countries where many PLWHA were accessible to treatment and care.

Anxiety symptoms can develop because of a patient's uncertainty about HIV infection and treatment including other issues unrelated to HIV. Symptoms can

include mild distress, full-blown panic attacks, generalized anxiety disorder, or other disorders (Kemppainen et al., 2003). When anxiety symptoms are severe or persistent, patients may have an anxiety disorder. These disorders include panic disorder, generalized anxiety disorder, obsessive-compulsive disorder, and post-traumatic stress disorder (Tsao, Dobalian, & Naliboff, 2004). Among the HIV-infected patients receiving medical care, 20.3% have been found to have an anxiety disorder, with 12.3% meeting the criteria for panic disorder, 10.4% for post traumatic stress disorder, and 2.8% having generalized anxiety disorder (Vitiello, Burnam, & Bing, 2003).

Holzemer et al. (2005) found that there was a higher level of anxiety symptoms in HIV- seropositive individuals as compared with HIV- seronegative groups. However, the proportion of individual's anxiety disorders was not significantly different between the HIV-seropositive and HIV- seronegative groups. In addition, prevalence of anxiety disorders in HIV-seropositive women was higher than men (American Psychiatric Association, 2000).

Anxiety is related to several factors, including HIV testing, numbers of symptoms, age, gender, treatment access and social support, overall adjustment to HIV disease, higher pre-infection rates of anxiety disorders, greater sources of severe stress, and socioeconomic issue (Kerrihard, Breitbart, Dent, & Strout, 1999). Although these factors account for increased levels of anxiety and fear are present, the two most frequently reported sources of anxiety and fear include 1) fear of death 18.9% and 2) fear of future 18.9% (Douaihy & Singh, 2001). However, anxiety and

fear may be ignored as it is perceived as a common response to HIV/AIDS (Swindells et al., 1999).

Anxiety was frequently unrecognized and under reported, hence the ongoing assessment is necessary (Kemppainen et al., 2003). It is important for providers to recognize the levels of anxiety and fear that changes from time to time, especially at various crisis points that occur during the course of HIV disease (Flaskerud & Miller, 1999). Providers also need to remain alert for signs and symptoms of anxiety and fear. Frequent assessment should be performed which includes the information about the severity of anxiety symptoms and the degree to which these symptoms disrupt a person's daily functioning. Persons with severe anxiety and fear may require a full range of supportive psychological interventions, including crisis counseling (Lee, 1998).

Impact of anxiety on people living with HIV/AIDS

There are several impacts to PLWHA when they experiences of anxiety (Compostella, Compostella, & Delia, 2008).

Impaired immunological function. Chronic anxiety would diminish CD4 T cell count which contributes to poor immunodeficiency, a secondary infection with opportunistic organisms (Harthi et al., 2000). Several studies had shown similar findings in terms of the association between immune function and anxiety level (Chiappini et al., 2002; Sheldon, Kalichman, & Fielder, 2008; Berger et al., 2008). For example in a study of the association between anxiety, stress, depression, and substance abuse with HIV infection, particularly with the cellular immune status of

the individuals, it indicated that the CD4 counts have an inverse relationship with anxiety and depression (Mehandru et al., 2004). The higher levels of anxiety and depression found, the lower CD4 lymphocyte counts assessed which lead to the impairment of cellular immunity. Although neurobiological mechanisms remain unknown, a considerable body of basic and clinical research has documented a relationship between depression and cell-mediated immunity (Chiappini et al.). In addition, the HIV/AIDS affected individuals who were well-informed about the disease and who required hospitalization as a result of clinical conditions and disease risk had increased anxiety (Bartos, 2000). Other study, reported that higher level of anxiety was associated with lower CD4 count (Berger et al., 2008).

Emotional stress and depression. HIV-infected people are more likely to be anxious and depressed, whose relationship has been thoroughly assessed. In addition, there is an evidence that emotional stress produced during anxiety through neuroendocrine mechanism, have an impact on immunological functions (Antoni, 2003). Because the amount of stress at individuals with anxiety disorders is continuum, the clinical relevance of such effects if they occur is currently unknown. However, when symptoms of anxiety are severe, patients are at greater risk for suicide when provoked by a stressful trigger (especially those patients with panic disorder), even when anxiety is not accompanied by depression (Kelly et al., 1998).

Disturb daily life activities and reduce quality of life (QOL). HIV-infected people perform less daily work due to prolonged anxiety. Regarding anxiety symptoms, chest pain, sweating, tingling, palpitation, hyperventilation and shortness of breath, gastrointestinal irritation, nausea, muscle tension and headache were

commonly occurred (Sanjay, Chwastiak, & Bruce, 2005). As a result, HIV/AIDS positive individuals get disturbed during daily life activities (Piyakul, 1999). Unintentional loss of weight and lean body mass (wasting) is a major cause of morbidity and mortality in patients with acquired immunodeficiency syndrome (AIDS). Patients with AIDS wasting often experience reductions in lean body mass, muscle strength and the ability to perform functions of daily living. Dependence on assistance with activities of daily living may be associated with a lower quality of life (QOL) and higher risk of mortality (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008).

Anxiety Management Strategies in People Living with HIV/AIDS

The different ways of strategies have been found to manage anxiety in PLWHA. However, there are two major strategies to manage anxiety symptom in people living with HIV/AIDS including, non-pharmacological and pharmacological management.

Non-pharmacological management for anxiety

Distraction activities. The HIV/AIDS participants reported using a wide variety of solitary activities in an effort to alleviate the symptoms of anxiety, including engaging in physical activities, relaxation and meditation such as games, watching television, participation in hobbies, or actively work on household tasks (Kemppainen et al., 2006). Activities for distraction such as exercising, relaxation

activities, talking to others and emphasize the importance of seeking advice from supportive family, friends, providers and others with HIV/AIDS were most commonly reported (Kemppainen et al., 2003). In addition, Coleman et al. (2006) described the use of positive self-talk included "thinking about something else", talking myself through it", and "telling myself to take positive action" for self management of anxiety. Attending support group was also reported.

Seeking religious practice. The use of religious practice as self-management strategies for anxiety in people living with HIV/AIDS are also reported in some studies (Kemppainen et al., 2003; Sanjay, Chwastiak, & Bruce, 2005; Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). These include prayer, meditation, going temple. It will depend on the level of symptoms anxiety and depression. Holzemer et al. (2006) found that use of prayer as a self-management strategy for anxiety and depression. Another study found that prayer were reported by over 50% of the respondents for 2 of the 3 symptoms including anxiety and were also rated highly efficacious (Eller et al., 2001). In addition, using religious practice as one of alternative / complementary therapies was reported as first five categories for managing the anxiety (Kemppainen et al., 2006).

Using substances such as illegal drug and alcohol. A previous study reported that the use of substances is related to relieve symptoms of anxiety and fear (Kemppainen et al., 2006). Within this strategy, approximately 60% of PLWHA described use of street drugs such as marijuana, cigarettes, alcohol, and intravenous drug (Kemppainen et al., 2006). In addition, Eller et al. (2001) also reported that

drugs and alcohol as self-management strategies were sometimes used for reducing anxiety and depression.

Using avoidance coping. The activities such as staying alone, trying not to think were reported (Kemppainen et al., 2003). Coping strategies are behavioral and cognitive activities of patients to deal with or manage some specific anxiety and stressors, such as pain (Dwiningsih, 2004). Furthermore, coping mechanisms are usually conscious methods that the individual uses to overcome a problem or anxiety. Most individuals also deal with anxiety by using a number of behaviors or coping mechanisms to help them in decreasing discomfort (Valfre, 2001).

Other strategies. Some self-management strategies such as rest and sleep, doing exercise, taking vitamins and supplements were also used for reducing anxiety (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008).

Pharmacological Management

Anxiety has a large differential diagnosis, and may range in severity from an early undetectable, mild sense of unease to debilitating panic attacks. Anxiety particularly occur at times of stress-including an illness episode, a psychosocial stressor such as divorce or loss of a loved one, and when facing a new disability (Hinkin et al., 2002). Anxiety and depression are among the most commonly diagnosed psychiatric conditions affecting HIV-infected patients. Whenever, the patients have anxiety, medication for relieving anxiety can be used. The conventional anti-anxiety medications (anti-anxious agents), which include Prozac (amitriptyline);

anxiolytic (diazepam) drugs can reduce anxiety (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008).

In conclusion, people living with HIV/AIDS used several managements to relieve anxiety as described in a concept of symptom management's framework which related to their perception of symptoms (Dodd et al., 2001). Both pharmacologic and non-pharmacologic managements have been shown to be beneficial among HIV-infected patients with anxiety and depression. The most common methods that patients use to manage their symptoms including 1) consultation or asking for help, 2) self-management, and 3) enduring (Holzemer et al., 2006). In a study of self- management of anxiety in HIV disease, seven categories of self-management strategies were reported: 1) using activities for distraction, 2) talking to others, 3) using alternative/ complementary therapies, 4) taking prescribed medications, 5) using self-talk, 6) using substances, and 7) using avoidance behaviors (Kemppainen et al., 2003). However, most of the research described that only self-care practices were used to manage HIV- related anxiety not included measure of frequency and overall helpfulness (Kemppainen et al., 2006).

Factors Related to Anxiety in People Living with HIV/AIDS

From literature review, some factors may be related to anxiety. There are classified by using Dodd's symptom management framework: 1) the person domain 2) health and illness domain and 3) the environmental domain (Dodd et al., 2001).

Personal Domain

Age. Age is one of the risk factor of anxiety. Anxiety symptom severity increases as the age advances (Heckman et al., 2000). Elderly patients perceive the symptoms such as anxiety more often than younger patients; on the other hand, psychosomatic symptoms are reported more frequently by younger patients (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). Similar to Heckman et al. found that younger patients experienced significantly more anxiety, depression, vulnerability, impatience, and irritability than those who were older. However, the literature found that increased age is a significant risk factor of death while self-care strategies can reduce such type of anxiety in people living with HIV/AIDS (Campsmith, Nakashima, & Davidson, 2003). Further age might be related to the developmental stage of anxiety and people which influences the response to the symptom experience (Dodd et al., 2001). Moreover, age is related to past experience and each person has different experiences.

Gender. Regarding to gender differences, previous studies showed that the women perceive severity and frequency of symptoms more than men (Heckman et al., 2000). This may be due to the reason of physiological and sociological differences between women and men. So, the perception of symptom severity among female may be more severe than men. Females with HIV were significantly more likely to report insomnia, tiredness, forgetfulness, and shortness of breath, chills, and other symptoms (Sanjay, Chwastiak, & Bruce, 2005). The study to compare the levels of anxiety and anxiety disorders revealed that both HIV-positive and HIV negative female had more distress than their male counter parts on several dimensions (somatization, obsessive –

compulsive disorder, interpersonal sensitivity, depression, anxiety, phobic anxiety and paranoia) (Kennedy, 1995). Kemppainen et al. (2003) found that the higher levels of psychological distress in women than man. Hence, it is widely accepted that for various reasons HIV infected women had higher anxiety rates than HIV infected men which may explain the higher proportion of female patients in this group (Miles et al., 2003). However, there was no significant difference found in the rate of anxiety disorders among HIV males and females (Kemppainen et al.).

Employment. Work is often a source of satisfaction, self-esteem, companionship, and income (Stearns & Fasick, 2000). Work also serves a normalizing function, replacing the patient identity that many wish to shed. Most of unemployed HIV+ patients struggle with numerous social problems such as stigma, poverty, depression, substance abuse, and cultural beliefs which can affect their quality of life not only from physical health aspect, but also from mental and social health point of view and cause numerous problems in useful activities and interests of the patients (Worthington & Krentz, 2005). Blalock, Stephen, and Farber (2002) reported that younger men who lacked full-time employment were at greater risk for psychiatric symptoms and depression. Previous research has demonstrated that unemployed individuals generally report more depression, anxiety, social isolation, and low self-esteem than employed individuals (McDonnell, Gielen, O'Campo, & Burke, 2005). In the HIV/AIDS literature, studies that have incorporated employment as a variable of interest have yielded similar findings. For example, Swindells et al. (1999) found that employment was one of several factors associated with improved quality of life. Finally, Blalock, Stephen and Farber found unemployment to be one of

several variables that predicted higher rates of depression during disease progression and associated with suicidal ideation in HIV-seropositive patients.

Health and Illness Domain

Health status. The previous study indicated that health status could be reflected by physical condition assessed from following indications: CD4 count/ percentage and number of hospitalization over the past year. In addition, health limits functioning scale could be used to assess the extent to which patients perceived their health limits and functioning (VanServellen et al., 1998). Similar findings were found that lower score on anxiety scale was associated with better functioning (Mehandru et al., 2004; Kemppainen et al., 2003). Previous study reported that HIV patients with a low CD4 white blood cell count progress more rapidly to AIDS, even if their CD4 count eventually rises (Castillo et al., 2009). The CD4 T lymphocyte count has been an important clinical parameter for monitoring the anxiety among the HIV infected individuals. Lower CD4 count leads to higher symptoms related to AIDS and will ultimately increase the anxiety among the patients related to HIV infection. Thus, it could be observed that HIV patients with low CD4 white blood cells have higher affinity towards anxiety related symptoms (Mehandru et al.).

Physical symptoms. The levels of anxiety were higher among those who had physical symptoms compared to those who lacked physical symptoms (Kemppainen et al., 2003). The previous study also found that the higher frequency and number of physical symptoms reported by patients indicated the severity of symptom burden and leads to the higher anxiety level (Kemppainen et al., 2006). For

instance, when the symptoms are severe, the physical nature of symptom will stimulate the patients to seek help (Tsai, Hsiung, & Holzemer, 2003). In addition, lack of knowledge about symptoms of HIV/AIDS in terms of accurate assessments of susceptibility influences the interpretation of the symptoms and its management (Sheldon, Kalichman, & Fielder, 2008).

Antiretroviral treatment and its side effect. Anxiety in HIV patients can be a manifestation of side effects medication (John, 2002). Antiretroviral treatment is one of the treatments related to self-management strategies for anxiety in people living with HIV/AIDS (Hinkin et al., 2002). The people living with HIV/AIDS who received antiretroviral treatment reported good self-management strategies for different level of anxiety (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). It has a direct effect in slowing the progression of the virus, thereby reducing the symptoms (Hudson, Kirksey, & Holzemer, 2004). Antiretroviral drugs can decrease the viral load after 1 to 4 months of treatment (Dedkaew, 2001). However, type of medication with side effects could lead to anxiety and its management (Liu, Ostrow, & Detels, 2006; Mannheimer, Matts, & Telzak, 2005). In a study of anxiety in PLWHA, it was found that the score of anxiety were higher in the 31 women receiving protease inhibitor therapy than in the 62 women who were taking other antiretroviral medications or no medications but this difference also was not statistically significant (Garcia & Jose, 2003). In addition to further analysis of those taking antiretroviral therapy, protease inhibitor use was associated with current depressive disorder (Douaihy, & Singh, 2001).

Environment Domain

Social and family support. Social support is very important for anxiety in HIV/AIDS affected people because HIV/AIDS affected people needs self-care practices (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). Most of the HIV affected people are poor and are living with their family. So family always takes care of a sick family member (Pakdewong, 2006). However, the HIV group significantly shows stronger depressive symptoms with lower social support than the healthy control group (Hudson, Lee, Miramontes, & Portillo, 2001). Limited social support can diminish the quality of life as supported by Tangkawanich et al.'s study. Moreover, inadequate social support can predict depression, anxiety, hopeless and loneliness, which is the strongest predictor of decrease in the quality of life of patients living with HIV/AIDS (Kemppainen, 2001). The social support intervention produced reductions in overall symptoms and tended to reduce maladaptive interpersonal sensitivity and anxiety (Heckman et al, 2000).

Some HIV positive individuals are at higher risk than others for the development of anxiety disorders and required much support (Sanjay, Chwastiak, & Bruce, 2005). Persons including in this category are: 1) individuals with a previous history of anxiety disorder, 2) persons whose lives are complicated by psychosocial factors including high stressful life events, poor social support, and maladaptive coping strategies (Tangkawanich et al., 2008). However, family support was significant factor related to better immunological functioning and lower anxiety level (Compostella, Compostella, & Delia, 2008). Patients who had a strong sense of family support starting early in the disease process were more likely to adapt and combat

effectively with their illness, positively affecting disease progression, morbidity, and mortality (Tangkawanich et al.).

Social stigma. In the context of Bangladesh, WHO (2008) reported that HIV/AIDS-related stigma refers to the prejudice and discrimination directed at PLWHA, and the groups and communities that they are associated with. It can result in people living with HIV and AIDS being rejected from their community, shunned, discriminated against or even physically hurt. AIDS stigma and discrimination have been seen all over the world, although they manifest themselves differently between countries, communities, religious groups and individuals. They are often seen alongside other forms of stigma and discrimination, such as racism, homophobia or misogyny and can be associated with behaviors often considered socially unacceptable such as prostitution or drug use.

Stigma directed at PLWHA not only makes it more difficult for people trying to come to terms with and manage their illness on a personal level, but it also interferes with attempts to fight the AIDS epidemic as a whole. On a national level, the stigma associated with HIV can deter governments from taking fast, effective action against the epidemic, whilst on a personal level it can make individuals reluctant to access HIV testing, treatment and care. Factors that contribute to HIV/AIDS-related stigma are, HIV/AIDS is a life-threatening disease and is associated with behaviors (such as homosexuality, drug addiction, prostitution or promiscuity) that are already stigmatized in many societies. People become infected with HIV through sex and sexually transmitted diseases are always highly stigmatized (Azim et al., 2008). There is a lot of inaccurate information about how HIV is

transmitted and its infection. It is often thought to be the result of personal irresponsibility, religious or moral beliefs and lead some people to believe that being infected with HIV is the result of moral fault (such as promiscuity or 'deviant sex') that deserves to be punished (WHO, 2008).

AIDS-related stigma has had a profound effect on the epidemic's course. The WHO reports that fear of stigma and discrimination is the main reason why people are reluctant to be tested, to disclose HIV status or to take antiretroviral drugs (WHO, 2008). A previous study found that the possible consequences of HIV-related stigma are various such as loss of income/livelihood and marriage and childbearing options, poor care within the health sector, withdrawal of care giving in the home, loss of hope and feelings of worthlessness and reputation (Parker & Aggleton, 2003). The withholding of treatment, hospital staff refusing to treat patients, HIV testing without consent, lack of confidentiality, and denial of hospital facilities and medicines are always that PLWHA can experience stigma and discrimination in healthcare settings (WHO, 2008). Such responses are often fuelled by ignorance of HIV transmission routes amongst doctors, midwives, nurses and hospital staff. In the workplace, PLWHA may suffer stigma from their co-workers and employers, such as social isolation and ridicule, or experience discriminatory practices, such as termination or refusal of employment. Fear of an employer's reaction can also cause anxiety (Azim et al., 2008).

Summary

Anxiety is one of psychosocial issues which can contribute to worsening immune function and affects the patient's behavior, adherence to treatment and daily life. People living with HIV/AIDS suffer from both physical and psychological symptoms but how they experience and interpret the symptoms in their lives may differ. From this situation, it is reflected that anxiety could be managed by using non-pharmacological and pharmacological interventions to remove or minimize the effect of anxiety symptoms. However, some selected factors from personal, health and illness and environmental domains have been found to be associated with anxiety and its management. This study therefore aimed to describe anxiety and its management in people living with HIV/AIDS while related factors are also examined for further explanation.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the methodology of this study including research design, population and setting, sample, instrumentation, ethical consideration, data collection and data analysis.

Research Design

A descriptive study was used to describe the anxiety experience and anxiety management strategies in people living with HIV/AIDS.

Population and Setting

The target populations were the persons living with HIV/AIDS who attending the medical services and outpatient departments at the Infectious Diseases Hospital (IDH) at Mohakhali, Dhaka. It was one of the biggest hospitals for HIV/AIDS treatment and collaborated with NGOs in the medical management for PLWHA. By monthly medical record, about 25 to 26 PLWHA have received treatment and services from this hospital. The average number of patients regularly attended the services each year was 300. The common diagnosis among patients attended this hospital include oral thrush, fever, diarrhoea, skin infections, pneumonia, and tuberculosis (Medical statistics, 2008).

In-patient unit, there is one ward allocated for PLWHA patients with 12 beds including one isolated room with 2 beds for tuberculosis patients. Patients admitted to the ward are given information about the treatment and routine practice of universal precaution. The hospital services often provide care and support for PLWHA both physical and psychological supports and facilities that are offered as regular basis such as physical examinations, arranging clinical investigations as needed and all investigations are free for HIV/AIDS, management of opportunistic infections, referrals to other service providers, and clinical follow-ups of antiretroviral therapy (ART), and free of cost ART with all type of medications. The families are usually allowed to stay with patients in the ward when they are admitted. However, they are isolated with other patients and less likely to receive fully support compared to other illness.

Sample and Sampling

Sample Size Estimation

The sample size in this study was estimated by using the 35% of the 1-999 target population, which was enough to be a good representation of the population for the descriptive studies (Polit & Back, 2008). One hundred and five subjects were expected, but only 75 were included during the 3 months period since the rest unmet the inclusion criteria.

Sampling Method

Purposive sampling was used to recruit subjects by using the following inclusion criteria.

1. Having known of HIV status after diagnosed by the doctor at least one month

2. Being alert and able to communicate in Bengali language

3. Having experienced of anxiety in the last 2 weeks by using a screening question "Have you ever felt anxious in the last 2 weeks?"

Instrumentation

The instruments in this study composed of Demographic Data Assessment Form (DDAF), Anxiety Experiences Questionnaire (AEQ), and Anxiety Management Strategies Questionnaire (AMSQ).

Part 1: Demographic Data Assessment Form (DDAF)

The DDAF was used to collect the personal and health related data. The personal data consisted of 11 items. These included age, sex, religion, marital status, educational background, occupation, monthly average income, medical payment, home location, numbers of family members and type of family. The 9 items of health related data include cause of anxiety, current physical symptoms, CD4 count, ARV taking, other medications, opportunistic infection, and health status. These data were obtained from interviews and medical records.

Part 2: Anxiety Experience Questionnaire (AEQ)

The AEQ was modified from Tangkawanich, Yunibhand, Thanasilp, and Magilvy's instruments (2008). It was originally developed based on the Symptom Management Model (Dodd et al., 2001), and the anxiety experiences (Kemppainen et al., 2003). Anxiety experiences consisted of 4 items to assess anxiety perception, response and evaluation. Anxiety perception was consisted of anxiety occurrence assessed during the past week until present (day 1- 7). The number of day would indicate rarely or low (1-3 days), sometimes or moderate (4-5 days), and often or high (6-7 days). Anxiety evaluation consisted of the severity of anxiety experiences and how much distressful of anxiety people living with HIV/AIDS have been using numerical rating scale from 1 to 10. Anxiety response consisted of the impact of anxiety on daily life of participants using numerical rating scale from 1 to 10. "1" indicated very low and "10" indicated very high (Tangkawanich et al., 2008). The higher total score indicated the higher anxiety. The score of each item was divided into three levels as low (1-3), moderate (4-6) and high (7-10).

Part 3: Anxiety Management Strategies Questionnaire (AMSQ)

The questionnaire was slightly modified from the AMSQ developed by Tangkawanich, Yunibhand, Thanasilp, and Magilvy (2008). The AMSQ was used to assess the anxiety management strategies in people living with HIV/AIDS. This tool was composed of the statement relating to the anxiety management strategies in people living with HIV/AIDS including what to do (using a checklist with yes/no format), how often (using a checklist with daily, weekly), and how well each strategy

used to relieve anxiety (using numerical rating scale ranged from 1 (not at all) to 10 (very well). The higher score indicated the most helpful of the strategy.

Psychometric Properties of the Instruments

Validity of the instruments

The instruments had been validated by three experts. One was a HIV/AIDS experts/consultant from the Infectious Diseases Hospital, Mohakhali, Dhaka, Bangladesh; another two persons were nurse expertise either in the area of HIV/AIDS care or symptom management from Faculty of Nursing, Prince of Songkla University. Recommendations from the experts were used to modify the instruments to be appropriate for this study.

Reliability of the instruments

The AEQ and the AMSQ were administered twice with 20 subjects. The instruments were tested by using test-retest procedure with a one-week elapse time. The test-retest coefficients of the anxiety intensity, anxiety distressful, and impact of anxiety on daily life were 1.00, .87, and 1.00, respectively. For the Anxiety Management Strategies Questionnaire, the test-retest reliability coefficients calculating for each practice ranged from .87 to 1.00.

Translation of the Instruments

The instruments were translated (in Bengali) with a back translation method by bilingual English expert. This method was preceded in three phases (Sperder & Devellis, 1994). Firstly, the instrument of English version was translated into Bengali

version by bilingual translator. Secondly, the Bengali version was translated back into English version by bilingual translator, and thirdly, the original instruments and the English back translated instruments were evaluated by bilingual English expert for discrepancies.

Ethical Considerations

1. Permission was obtained from Institutional Review Board of the Faculty of Nursing, Prince of Songkla University, Thailand.

2. Permission for data collection in this study was obtained from the Head/ Director of the hospital/Head or Executive Director of NGOs.

3. Subject's willingness to be interviewed with verbal consent form was given.

4. Subject's were assured of their confidentiality and anonymity. Neither their name nor any identifying information was revealed in the reports of the study; their names were coded by number, and they had freedom of withdrawal from the study at any time. If there was any emotional distress during interview, the researcher would stop and allow time for relieving tension or asking for further assistance from staff. However, none of them felt distress during interview.

Data Collection Procedures

Subjects in this study were interviewed with full privacy by the researcher in the out-patient department of Infectious Diseases Hospital at Mohakhali, Dhaka-

1212, Bangladesh and other IDH-collaborative NGOs working in the field of HIV/AIDS; from November 2009 to January 2010 by using the following processes:

1. After the permission from hospital/NGO was obtained, researcher had visited at outpatient departments and then introduced the project to the heads of outpatient department and medical department.

2. Every patient was initially introduced by nurses. The patients who met the criteria were approached and informed about the study.

3. After obtaining the subject's consent, the questionnaire was interviewed by the researcher in order to assure patient's responding through their experiences. The interview had taken at least 20 minutes for each subject.

4. All parts of the questionnaires were checked the completion before leaving the subjects and entering data.

5. Responses were coded, translated, and analyzed by the researcher.

Data Analysis

Data were processed with computer software program. The characteristics, health information, anxiety experiences, and anxiety management of the subjects were analyzed using descriptive statistics, namely frequency, percentage, range, mean, and standard deviation. The additional analysis to determine factors related to anxiety was also performed as necessary to explain further details.

CHAPTER 4

RESULTS AND DISCUSSION

This descriptive study was designed to explore the levels of anxiety experienced by and the anxiety management of people living with HIV/AIDS in Bangladesh. Seventy-five subjects from the Infectious Diseases Hospital, Dhaka in Bangladesh who met the criteria were purposively selected. They were interviewed by the researcher. The results and discussions are presented in 3 parts.

Part 1: Demographic data and health related data

Part 2: Anxiety experiences in terms of perceptions, evaluation, and responses reported by PLWHA in Bangladesh

Part 3: Anxiety management reported by PLWHA in Bangladesh

Results

Subjects' Characteristics

The demographic and health related characteristics of 75 HIV/AIDS patients are presented below (Table 1). The majority of the subjects (80.0%) ranged in age from 20-40 years old with a mean of 35.47 years (SD = 7.26). The majority of the subjects was male (65.3%), Muslim (82.7%), and married (94.7%). More than half of the subjects had completed primary school (54.7%). Thirty-seven subjects were migrants. Regarding medical payment, all subjects received support from a Non-Government Organization (NGO). Twenty four subjects (32.0%) lived in Dhaka divisions while the majority of them lived outside Dhaka. More than half of the

subjects (57.3%) reported that they stayed with 4 family members, such as husbands and their children.

Table 1

Subjects' Demographic Characteristics (N = 75)

Demographic Characteristics	Frequency	Percentage
Age (years) (M = 35.47, SD = 7.26)		
20 – 40	60	80.0
41 – 60	15	20.0
Gender		
Male	49	65.3
Female	26	34.7
Religion		
Muslim	62	82.7
Christian	4	5.3
Hindu	9	12.0
Marital status		
Single	4	5.3
Married	71	94.7
Educational background		
Illiterate	4	5.3
Primary school	41	54.7
Secondary high school	27	36.0
Diploma/ Bachelor	3	4.0
Occupational status		
NGO service	9	12.0
Labor/Farmer	3	4.0
Business	8	10.7
Housewife	17	22.7
Migrant worker	28	37.3
Others (sex worker, street boy/Tokai, drug seller)	10	13.3

Table 1 (Continued)

Demographic Characteristics	Frequency	Percentage
Monthly income (70 Tk. (Taka) is equivalent to 1 US$)		
Tk. < 3000	7	9.3
Tk. 3001-5000	20	26.7
Tk. 5001-10000	32	42.7
Tk. > 10000	16	21.3
Medical Payment		
NGO support	75	100
Home location		
In Dhaka division	24	32.0
Other division	51	68.0
Number of family members (M = 3.40, SD = .52)		
1-2 members	1	1.3
3-4 members	31	41.3
> 4 members	43	57.4

Health and Illness Characteristics

The health and illness characteristics of the subjects are presented in Table 2. Nearly half of the subjects (41.3%) indicated that they had known of their disease for an average of 3.77 years (SD = 2.60). More than half of the subjects (52.0%) reported that their anxiety was caused by fear of social discrimination and stigma after knowing they had HIV/AIDS. However, all subjects reported that they disclosed their HIV/AIDS positive status to their family member only. Most of the subjects (94.7%) reported that their current health status was much better than before, and they had been receiving anti-retroviral drugs for an average of 14 months. The majority of the subjects (70.7%) currently had opportunistic infections (OIs) and received other

medication (100.0%). More importantly, most of them reported a history of hospital admission with HIV/AIDS (77.3%).

Table 2

Subjects' Health and Illness Characteristics (N = 75)

Health and Illness Characteristics	N	%
Duration of having known a HIV positive (M = 3.77, SD= 2.60)		
< 1 year	12	16.0
1-2 years	21	28.0
3-4 years	11	14.7
> 4 years	31	41.3
Have disclosed HIV status to the family	75	100
Perception of current health		
Much better than before	71	94.7
All about the same as last month	3	4.0
Much worse than before	1	1.3
Cause of anxiety after knowing of HIV/AIDS		
Fear of death	27	36.0
Fear of social discrimination and stigma	39	52.0
Fear of isolation	9	12.0
Last CD_4 count (T cells/mm^3) (M =356.45, SD =270.67)		
< 200	26	34.7
201- 350	15	20.0
> 350	34	45.3
Currently taken anti-retroviral therapy (ART)		
Yes	48	64.0
No	27	36.0
Duration of ART taken (n =48)		
< 1 year	18	24.0
1 to 3 years	21	28.0
> 3 years	9	12.0

Table 2 (Continued)

Health and Illness Characteristics	N	%
Other medications currently taken		
Anti-tuberculosis	40	53.3
Analgesic	18	24.0
Anti-histamine	73	97.3
Anti-anxiety	72	96.0
Ant-depressant	68	90.7
Antibiotics	29	38.7
Others (vitamin, calcium, cevit, diabetic drug, and anti-hypertensive drug etc.)	74	98.7
Current opportunistic infection (OIs)		
Yes	53	70.7
No	22	29.3
History of hospital admission with HIV/AIDS		
Yes	58	77.3
No	17	22.7

Current Physical Symptoms

Regarding the occurrence of symptoms, itching and dry mouth were reported by all subjects, followed by muscle weakness and loss of appetite (98.7%). Other symptoms found in most subjects (>90%) were aching muscles, cramps (96.0%), headache (94.4%), rashes and trouble with sleeping (93.3%), numbness, tingling or burning (92.0%), and trouble in walking (92.0%). In addition, changes in menstruation were reported among female subjects. Some symptoms were reported by males rather than females such as mouth sores, trouble in breathing, diarrhea, and vomiting, whereas dizziness was reported more among females (Table 3). On average, each subject had approximately 14 reported symptoms (M = 13.90, SD = 1.75).

Table 3

Subjects' Current Physical Symptoms Classified by Gender

Current physical symptoms	Total (N = 75)	Male (n = 49)	Female (n = 26)
	n (%)	n (%)	n (%)
Itching	75(100)	49(100)	26(100)
Dry mouth	75(100)	49(100)	26(100)
Muscle weakness	74(98.7)	49(100)	25(96.15)
Muscle aches, cramps	72(96.0)	47(95.92)	25(96.15)
Headache	71(94.4)	45(91.84)	26(100)
Trouble with sleeping	70(93.3)	47(95.92)	23(88.46)
Rash	70(93.3)	48(97.96)	22(84.62)
Numbness, tingling or burning	69(92.0)	45(91.84)	24(92.31)
Trouble in walking	69(92.0)	48(97.96)	21(80.77)
Mouth sores	55(73.3)	43(87.76)	12(46.15)
Nausea	54(72.0)	35(71.43)	19(73.08)
Constipation	51(68.0)	31(63.27)	20(76.92)
Dry skin	36(48.0)	25(51.02)	11(42.31)
Trouble breathing	35(46.7)	26(53.06)	9(34.62)
Dizziness	32(42.7)	15(30.61)	17(65.38)
Diarrhea	23(30.7)	18(36.73)	5(19.23)
Vomiting	13(17.3)	11(22.45)	2(7.69)
Sores on rectum or vagina	13(17.3)	9(18.37)	4(15.38)
Other symptoms (piles, hemorrhoids, vaginal prolaps)	6(8.0)	5(10.20)	1(3.85)
Change in menstruation	5(6.7)	--	5(19.23)
Total number of symptoms (M = 13.90, SD = 1.75)			
< 14	19(25.3)	11(22.44)	8(30.76)
> 14	56(74.7)	30(61.22)	26(69.24)

Anxiety Experience

All subjects described various feelings of anxiety such as: 'I feel like I can't breathe'; 'I feel jittery and anxious'; 'I get easily agitated and irritable'; 'My stomach gets tight, and I get nauseated'; 'I can't concentrate or think straight'; and 'I feel stressed out, and I get a nervous and scared feeling'. Of 75 subjects, most of the subjects (90.7%) thought their anxiety occurred almost every day in a week (M = 6.70, SD = .80). More than half of the subjects (56.0%) reported that they evaluate the severity of their anxiety at a high level (M= 6.53, SD= .94), and majority of the subjects (60.0%) reported their distressful anxiety at a high level (M= 6.56, SD= 1.00). More than half of the subjects (54.7%) reported a high level of anxiety responses (M= 6.77, SD= 1.13).

Table 4

Mean, Standard Deviation and Level of Anxiety Experience in Terms of Perception, Evaluation and Response Reported by Subjects (N = 75)

Anxiety Experiences	M	SD	Level		
			Low	Moderate	High
			n (%)	n (%)	n (%)
Perception (1 – 7 days)	6.70	.80	1(1.3)	6(8.0)	68(90.7)
Evaluation					
- Severity (1-10)	6.53	.94	1(1.3)	32(42.7)	42(56.0)
- Distressful (1-10)	6.56	1.00	---	30(40.0)	5(60.0)
Response (1-10)	6.77	1.13	---	34(45.3)	41(54.7)

Additional Analysis

To identify the differences in the anxiety levels classified by some factors, further analysis using t-test was necessary. The findings revealed that there was no significant difference of anxiety level between males and females ($t = -.03$, $p > .05$), or between those who had last CD4 count < 200 or > 200 cells/mm^3 ($t = -.17$, $p > .05$). On the other hand, there was a significant difference in levels of anxiety between those who had presented OIs and those without OIs ($t = 2.71$, $p < .01$), and between those who had a history of hospital admission and those without one ($t = 1.79$, $p < .01$). Regarding the occupational groups, there was a statistically significant difference of anxiety level between migrants and non-migrants ($t = -.38$, $p < .01$). In addition, ANOVA was used to identify the difference of anxiety level between those who had been taking ART in various years and those not taking ART. No significant difference was found ($F = 1.25$, $p > .05$) (Table 5).

Table 5

The Mean Differences of Anxiety Level Classified by Gender, Presenting OIs, CD4 Count, Hospital Admission, Occupation, and Taking ART (N = 75)

Anxiety level	N	M	SD	t	p-value
Gender					
Male	49	6.53	.87	-.034	.973
Female	26	6.54	1.10		
Presenting OIs					
Yes	53	6.72	.97	2.71	.008**
No	22	6.09	.75		
Last CD4 count					
< 200	26	6.50	1.14	-.175	.862
> 200	49	6.56	.86		

Table 5 (Continued)

Anxiety level	N	M	SD	t	p-value
Hospital admission					
Yes	58	6.64	.99	1.79	.007**
No	17	6.18	.72		
Occupation					
Migrants	28	6.04	.97	- .381	.000**
Non-migrants	47	6.83	.81		
Taking ART					
Yes	48	6.52	1.01	.151	.880
No	27	6.56	.84		
Duration of taking ART				F	
< 1 year	16	6.75	1.00	1.25	.298
1-3 years	23	6.57	.84		
> 3 years	9	6.00	1.32		

** $p < .01$

Anxiety Management Strategies

Based on the Symptom Management Model, subjects identified 26 strategies for anxiety symptoms under 6 categories (Table 6). All subjects reported that they used both pharmacological and non-pharmacological anxiety management strategies. Almost all subjects used anti-anxiety agents (97.3%) and anti-depressants (90.7%). For non-pharmacological strategies, several strategies were used. Common strategies used by all subjects were: talking with the family and friends, health care providers, others with PLWHA, and counselors; denial or trying not to think; crying; staying alone; sleeping; talking themselves through it; watching television; walking; praying; and meditation. Moreover, most of the subjects with equal number (98.7%) attending

support groups; reading books; practicing relaxation techniques; and going to mosques or temples. Smoking cigarettes (82.7%), taking alcohol (73.3%), and using marijuana (52.0%) were also reported. Regarding the frequent use of those strategies, all subjects reported daily use of the following: talking with the family and friends; denial or trying not to think; praying; and almost all reported using antidepressant drugs (89.3%). In addition, the majority of the subjects reported following weekly strategies. These included: swimming (76%); jogging (78.7%); talking with health care providers (81.3%); talking to HIV counselors (84.0%); practicing relaxation techniques (72.0%); swimming (85.3%); and taking alcohol (84.0%).

Table 6

Frequency and Percentage of Subjects' Anxiety Management Strategies (*N*= 75)

Anxiety management strategies	Performed n (%)	Daily n (%)	Weekly n (%)
Pharmacological: Medications			
Use anti-anxiety agent (such as diazepam)	73(97.3)	24(32.0)	49(65.3)
Use anti-depressant (such as amitriptyline)	68(90.7)	67(89.3)	1(1.3)
Non-pharmacological			
Using ventilation			
Talk with family & friends	75(100.0)	75(100.0)	--
Talk with health care provider	75(100.0)	14(18.7)	61(81.3)
Talk with others with HIV	75(100.0)	27(36.0)	48(64.0)
Attend support groups	74(98.7)	74(98.7)	--
Talking to HIV counselor	75(100.0)	12(16.0)	63(84.0)
Using avoidance coping			
Denial or try not to think	75(100.0)	75(100.0)	--
Crying	75(100.0)	69(92.0)	6(8.0)

Table 6 (Continued)

Anxiety management strategies	Performed n (%)	Daily n (%)	Weekly n (%)
Stay alone	75(100.0)	23(30.7)	52(69.3)
Sleeping	75(100.0)	56(74.7)	19(25.3)
Talk myself through it	75(100.0)	70(93.3)	5(6.7)
Using distraction			
Watch TV`	75(100.0)	74(98.7)	1(1.3)
Playing cards	53(70.7)	38(50.7)	15 (20.0)
Read book	74(98.7)	38(50.7)	36(48.0)
Relaxation technique	74(98.7)	21(28.0)	53(70.7)
Doing exercise			
Walking	75(100.0)	71(94.7)	4(5.3)
Swimming	68(90.7)	11(14.7)	57(76.0)
Jogging	64(85.3)	5(6.7)	59(78.7)
Using religious practice			
Prayer	75(100.0)	75(100.0)	--
Meditation	75(100.0)	35(46.7)	40(53.3)
Going Mosque/Temple	74(98.7)	38(50.7)	36(48.0)
Using substances			
Marijuana	39(52.0)	5(6.7)	34 (45.3)
Cigarettes	62(82.7)	52(69.3)	10 (13.3)
Alcohol	55(73.3)	12(16.0)	43(57.3)
Intravenous drug	36(48.0)	5(6.6)	31(41.3)

Anxiety Management Strategies and Its Helpful Use

To assess the degree to which each strategy was used to relieve anxiety, a numerical rating scale was used going from 1 (not at all) to 10 (very well). The subjects reported various levels of usefulness (Table 7). Both pharmacological and

non-pharmacological anxiety management strategies were reported, but the anti-depressant and anti-anxiety drugs (97.3% and 90.7%) were reported as helpful at a high level (M = 7.69 and 6.99, SD = .72 and .51). Regarding non-pharmacological anxiety management, the top 5 most helpful strategies reported were: talking with family and friend (M = 7.23, SD = .48); watching TV (M = 7.21, SD = 1.06); attending support groups (M = 7.17, SD = 1.17); talking to HIV counselors (M = 7.04, SD = 1.10); and praying (M = 6.99, SD = 1.18). The 5 least helpful strategies reported were: jogging (M = 5.67, SD = 1.93); smoking cigarettes (M = 5.59, SD = 1.77); using marijuana (M = 5.48, SD = 1.81); taking alcohol (M = 5.03, SD = 1.99); and using intravenous drugs (M = 4.28, SD = 1.70).

Table 7

Frequency, Percentage, Mean and Standard Deviation of the highest and the lowest 5 items of the Helpful Strategies Used to Relieve Anxiety (N =75)

Anxiety management strategies	Rating of its helpful used		
	n (%)	M	SD
Pharmacological: Medications			
Use anti-depressant	68 (90.7)	7.69	.72
Use anti-anxiety agent	73 (97.3)	6.99	.51
Non-pharmacological:			
The 5 items of the highest score			
Talk with family & friend	75 (100)	7.23	.48
Watch TV	75 (100)	7.21	1.06
Attend support groups	74 (98.7)	7.17	1.17
Talking to HIV counselor	75 (100)	7.04	1.10
Prayer	75 (100)	6.99	1.18
The 5 items of the lowest score			
Jogging	64 (85.3)	5.67	1.93

Table 7 (Continued)

Anxiety management strategies		Rating of its helpful used	
	n (%)	M	SD
Marijuana	39 (52.0)	5.48	1.81
Alcohol	55 (73.3)	5.03	1.99
Intravenous drug	36 (48.0)	4.28	1.70

Discussion

The findings of this study provide an understanding of the experiences anxiety of and anxiety management of people living with HIV/AIDS in the context of Bangladesh. The discussion of subjects' characteristics, health and illness characteristics, anxiety experience, and anxiety management strategies are presented as follows:

Subjects' Characteristics

Seventy five subjects who had experiences of anxiety in the past two weeks were included in the study. The majority of the subjects were in the reproductive age (20-40 years old), and there was a higher level of anxiety male to female which was congruent with the national statistics (Government of the People's Republic of Bangladesh, 2009). Most of the subjects were married (94.7%) which may reflect the high number of HIV transmissions in the household as reported by the increased HIV prevalence in pregnant women (Panuwatsuk, 1998). It is interesting that many of those who had anxiety symptoms were migrants who had less income. This may be caused by unemployment. Previous studies have reported that psychological

symptoms are the primary cause of unemployment among migrants living with HIV (Sanjay, Chwastiak, & Bruce, 2005). Another study conducted by Azim et al. (2008) also reported that care and support provision for PLWHA in Bangladesh are limited. With respect to payment for medical services, all subjects received support from Non-Government Organizations (NGOs). Because of their incurable and socially stigmatized illness, plus the uncertain progression of the disease, the PLWHA often feel stress and anxiety. Other causes of anxiety reported by subjects involved financial problems and their family lives.

Health and Illness Characteristics

The findings showed that more than half of the subjects currently received anti-retroviral drugs and other medication. These medications were mainly related to HIV-related symptoms such as anxiety, depression, and itching. Other drugs, such as calcium, vitamins, and scabies cream for scabies and itching, were provided to treat some symptoms in response to patients' complaints. All regimens of ART and medication are free for people living with HIV/AIDS in Bangladesh. Some did not receive ART, partly because their immunity (CD4 count) was higher than 350 (T cells/cubic mm). Others reported that they were afraid of the many complications, particularly hair loss. Regarding their current physical symptoms, people living with HIV/AIDS often have multiple symptoms (M = 13.90, SD = 1.75). Of 21 symptoms on the check list, most the common HIV-related symptoms were itching, dry mouth, muscle weakness, loss of appetite, aching muscles, cramps, headache, rashes, trouble with sleeping, and numbness, tingling or burning. It is interesting that itching or skin

lesion was expected to disappear by those taking ART drugs, but it was still reported by all subjects. This may be because most of the subjects were poor, with inadequate hygiene practices and living in poor conditions.

The symptoms that prevailed in this study were congruent with previous studies which found that the above symptoms remain the most common for those receiving ART drugs and those without them (Holzemer et al., 2005; Kemppainen et al., 2003). In addition, almost all subjects received anti-anxiety drugs which could relieve anxiety symptoms to some degree. Although there were no differences in anxiety levels between those taking or not taking ART drugs, some symptoms would be reduced after taking ART drugs. Thus most subjects reported their current health status as better than before. Such results might be due to the continuation of using ART drugs for more than 1 year and following advice from physicians or counselors.

Regarding gender issues, more male subjects reported certain symptoms than did females. These were muscle weakness, loss of appetite, trouble with sleeping, rashes, trouble in walking, mouth sores, dry skin, and trouble in breathing. This may be due to diminished CD4 T cell counts which contribute to immunodeficiency, a secondary infection with opportunistic organisms in Bangladesh (Azim et al., 2008). Similar findings were also reported by a previous study that presented HIV related symptoms in males and females (Harthi et al., 2000). Although the occurrence of most symptoms was slightly higher in males, the female with HIV may experience a severity and frequency of symptoms greater than the males (Holzemer et al., 2006; Kemppainen et al., 2003; Tangwanish, Yunibhand, Thanasilp, & Magilvy, 2008). In this present study, some symptoms were reported more by females with HIV than by

males, such as aching muscles, cramps, headache, nausea, and dizziness. These symptoms were mainly related to stress and anxiety (Sanjay, Chwastiak, & Bruce, 2005). In addition, this may be due to the physiological and sociological differences between women and men. Thus the HIV positive women reported more severe and frequent symptoms than did the men (Heckman et al., 2000).

Anxiety Experience

In this present study, most subjects had a high level of experience of anxiety (76.0%) with a high level of the evaluation of symptom severity (56.0%) and distressful symptoms (60.0%). The most frequent causes of anxiety were fear of death, isolation and social discrimination and stigmatization. A previous study also supported that the two most frequently reported sources of anxiety and fear of HIV diseases included fear of death and fear of future (Douaihy & Singh, 2001). These are all negative emotions and might contribute to a generally negative stress response. Fear in particular elicits mood-congruent effects associated with anxiety disorders (Kemppainen et al., 2003). Anxiety may be also be caused by suffering from multiple physical symptoms. Because of several physical symptoms and past experiences of admission to hospitals, anxiety experiences may be higher. This is supported by a study on self-care management of anxiety and fear in HIV diseases. This indicated that the levels of anxiety were higher among those who had physical symptoms compared to those who lacked physical symptoms (Kemppainen et al.). Not only the number of symptoms, but also the frequency reported by patients would indicate the severity of the burden of symptoms and lead to higher anxiety levels (Kemppainen

et al., 2006). For instance, when the symptoms are severe, the physical nature of a symptom would stimulate patients to seek help as a result of fear and anxiety (Tsai, Hsiung, & Holzemer, 2003).

In the Bangladesh context, people living with HIV/AIDS are often neglected. This is not only from society; HIV/AIDS makes them suffering along with family members, neighbors, the community, and hospital personnel. As a result, those who are suffering from HIV/AIDS may feel higher levels of anxiety. Moreover, WHO (2008) reported that HIV/AIDS-related stigma refers to the prejudice and discrimination directed at PLWHA. This can result in people living with HIV and AIDS being rejected by their community, and shunned and discriminated against. Stigma and discrimination because of AIDS has been seen all over the world, although they manifest themselves differently between countries, communities, religious groups and individuals. People with HIV/AIDS are often seen alongside other forms of stigma and discrimination, such as racism, homophobia or misogyny. They may be associated with behavior often considered socially unacceptable and day by day this increases their anxiety level (Azim et al., 2008).

HIV/AIDS-related stigma is menacing because HIV/AIDS is a life-threatening, uncertain, and unpredictable disease and is associated with behaviors that are already stigmatized in many societies. The withholding of treatment, refusal by hospital staff to treat patients, HIV testing without consent, lack of confidentiality, and denial of hospital facilities and medicines are ways that PLWHA experience stigma and discrimination in healthcare settings (Parker & Aggleton, 2003). PLWHA may suffer stigma from their co-workers and employers, such as social isolation and

ridicule. They may experience discriminatory practices, such as termination of or refusal of employment. Fear of an employer's reaction to HIV/AIDS can also cause anxiety (Azim et al., 2008).

This study's findings revealed that there was no statistically significant mean difference in the anxiety level among genders. This may be due to the multiple symptoms, particularly some visible symptoms that occurred in both males and females, such as itching, dry mouths, and weakness. The perception of symptoms was not different. On the other hand, there was a statistically significant mean difference found between the anxiety level and those presenting OIs, and past experiences of admission to hospitals. This may be because of the frequent stigma-related experiences when admitted as a result of being isolated and experiencing visible symptoms. In addition, HIV/AIDS affected individuals who were well-informed about the disease and who required hospitalization as a result of clinical conditions and risk of disease, experienced increased anxiety (Bartos, 2000). Another study also reported that higher levels of anxiety were associated with the lower CD4 counts associated with OIs (Berger et al., 2008).

Additional analysis revealed that there was a statistically significant difference among non-migrants who had had a higher anxiety level than migrants. This may be due to misunderstandings about the modes of transmission of HIV, and lack of awareness about antiretroviral treatment (Foley, 2005). In addition, there is anxiety about lower incomes, tension about their family, fear of death and isolation, social discrimination and stigma, non-adherence to treatment due to its side-effects, and discontinuation of the ART drugs (Yang, Derlega, & Luo, 2007). Conversely,

migrants had lower anxiety levels because most of them migrated to work in Bangladesh earned better income and had high education. The migration may also affects migrants' HIV/STD risks, future death, accepting adherence to antiretroviral treatment, and obeying the advice of physicians and counselors (Yang, Derlega, & Luo).

Anxiety Management Strategies

The overall helpfulness of anxiety management strategies was measured by two main dimensions that included pharmacological and non-pharmacological strategies for anxiety management. The non-pharmacological anxiety management strategies had six sub-dimensions such as: using ventilation; using coping by avoidance; using distraction; doing exercises; using religious practices; and using substances. The findings indicated that the majority of the subjects reported a high level of helpfulness after using a management sub-dimension. Medication was frequently reported, such as using an anti-anxiety agent (97.3%) and anti-depressant (90.7%). In addition, medication could relieve their anxiety at a high level (M = 7.69, SD = .72; M = 6.99, SD = .51). This finding was similar to a previous study (Tangkaanich, Yunibhand, Thanasilp, & Magilvy, 2008) in terms of the strategies used. Moreover, several non-pharmacological strategies were reported as helpful in an effort to alleviate the symptoms of anxiety. Using ventilation registered the highest mean of the effectiveness scores (M = 6.95, SD = .61) followed by using religious practices (M = 6.72, SD =1.10). Using ventilation can emphasize the importance of self care by seeking advice from supportive family members, friends, providers and

others with HIV/AIDS. These remains the main sources of support in daily life for people living with HIV/AIDS (Appendix E).

Most of the HIV affected people are living with their family. The family always takes care of a sick family member including those with HIV (Songwathana, 2001). In this study, they disclosed their HIV status to the family, who also provided financial support. Patients who had a strong sense of family who sought such social support early in the disease process were more likely to adapt to and combat their illness effectively. This positively affected the progression of the disease, its morbidity, and mortality (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). Overall, NGOs provide all types of medicine including HAART and financial support for PLWHA in Bangladesh (WHO, 2008). However, limited social support can diminish their quality of life (Tangkawanich, et al., 2008). Moreover, inadequate social support can bring on depression, anxiety, hopelessness and loneliness, which are the strongest predictors of loss in the quality of life of people living with HIV/AIDS (Kemppainen, 2001).

On the other hand, hospitals provided some activities for people living with HIV/AIDS. These included recreational facilities, watching television, cooking nutritional food, free medicine and laboratory testing, and facilities inside and outside hospitals. In addition services and training facilities were provided for those affected by HIV-related symptoms. Following training, the subjects reported using religious practices as the second most helpful method to relieve anxiety, and this apparently played an important role in the daily practice of most Muslim populations. This finding suggested that the self healing method by praying could be one alternative

intervention for the managing of anxiety in Bangladesh. This is supported by a previous study that showed that self management strategies for anxiety should be encouraged by health care providers (Kemppainen et al., 2003).

Regarding the personal domain featured in the Dodd symptom management model, it was found that past experience influences the response to the experience of symptoms (Dodd et al., 2001). The individual's experiences of hospital admission may lead people to select anxiety management strategies to solve their problems (Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008). The various methods used for anxiety management may be obtained from various sources, particularly from NGO and support groups. Moreover, the HIV experiences within the family are one of the most important sources of anxiety management strategies for encouraging individuals to seek help (Kemppainen et al., 2003).

In conclusion, whether the subjects' anxiety was relieved or strategies were reported to be helpful might be related to use of medication such as diazepam and amitryptylline. In addition, the most common non-pharmacological methods used were related to a subject's daily life experiences. These included talking with family and friends, talking to an HIV counselor, attending support groups, and watching television. Praying was also related to their traditional practice. However, the findings of this study should be applied cautiously due to the limitations of time and the subjects being limited to one setting.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

There were two aims of this descriptive study. The first was to explore the anxiety experiences in terms of perception, evaluation and response reported by PLWHA. The second was to assess anxiety management strategies in terms of the strategies being used, and the frequency and effectiveness of each strategy reported by PLWHA in Bangladesh. Seventy-five subjects were recruited and interviewed at the Infectious Diseases Hospital (IDH)/NGO in Bangladesh. The instrument developed was based on the literature review and incorporated three parts: 1) a Demographic Data Assessment Form (DDAF) covering demographic data and health related data; 2) an Anxiety Experiences Questionnaire (AEQ); and 3) an Anxiety Management Strategies Questionnaire (AMSQ). Data were collected from November 2009 to January 2010. The data were analyzed using a computer program to process the descriptive statistics.

Conclusion

HIV–related anxiety is one of the most common HIV symptoms. It is frequently not recognized by health care providers and is often underreported or minimized by people living with HIV/AIDS. The results show that 75 people living with HIV/AIDS commonly experienced high anxiety with severity scores of 6.53 (SD= .94). They perceived their anxiety as occurring almost every day of the week

(M = 6.70, SD = .80). They reported their anxiety to be distressful and at a high level (M= 6.56, SD= 1.00). It impacted on daily life at a high level (M= 6.77, SD= 1.13). The anxiety level was higher among those who presented OIs and had a previous history of hospitalization.

Various management strategies for anxiety were applied. Although the pharmacological methods, such as anti-anxiety and anti-depressant drugs, were commonly used, several non-pharmacological methods were reported. The top 5 most helpful strategies reported were: talking with the family and friend (M = 7.23, SD = .48); watching TV (M = 7.21, SD = 1.06); attending support groups (M = 7.17, SD = 1.17); talking to HIV counselors (M = 7.04, SD = 1.10); and praying (M = 6.99, SD = 1.18). Religious practice and support from others seem to be the main sources in helping those living with HIV/AIDS to manage their anxiety symptoms.

Limitations

Some limitations of this study should be noted. First, this study assessed the experiences of anxiety and the self-management of anxiety in people living with HIV/AIDS at a single point of time. This limits the applicability of the anxiety experiences and management strategies assessed. Longitudinal studies using time series would, in the future, provide better pictures of this phenomenon. Second, most of people living with HIV/AIDS in this study included only those with access to related services. Therefore the findings may not be generalized to all people living with HIV/AIDS in Bangladesh. Third, the reliability of some of the sub-scales in the

Anxiety Management Strategies Questionnaire was rather low, indicating a need to adjust some items for any future studies.

Recommendations

The findings emphasize the importance of the assessment of anxiety symptoms in a clinical setting. Due to limited access to resources in the country, some helpful self management strategies should be encouraged to enable people living with HIV/AIDS to relieve their anxiety and to function in their daily lives. However, comprehensive intervention is required to test effectiveness as the anxiety is caused by several factors. These have been largely under-recognized and under-reported by health care providers in Bangladesh.

This study has four important implications for nursing practice, nursing education, nursing administration, and nursing research.

Nursing Practice

It is important for providers to be aware that persons with HIV/AIDS had high levels of anxiety and use a wide variety of self-management strategies. This study showed that talking with the family and health care providers and praying were very helpful to relieve anxiety. The information provided in this study should help health care providers become more aware of anxiety levels and self-management strategies that persons with HIV/AIDS experience. They must be aware which are most helpful in managing anxiety, and also assist patients in making informed choices. Traditional measures, such as anti-anxiety medication should be considered for intense, disabling

symptoms. These should be provided along with the full range of supportive physical and psychological counseling services and referrals to clergy or mental health professionals as necessary. While antiretroviral medication is critical to combating the disease, HIV self-management strategies for dealing with anxiety offer important and successful approaches to reduce some of the impact of HIV/AIDS on daily life.

The findings of this study have also shown that health care teams and HIV counselors could be important sources for relief of subjects' anxiety. The professionals' attitudes and advice may facilitate the subjects' self-management. Therefore, several activities should be encouraged such as: 1) giving subjects adequate information about their condition, treatment, and the relationship between their anxiety and their immunity; 2) helping subjects achieve effective self-management by continuous monitoring of their health states in order to help them take care themselves at home, outside, and to alleviate their suffering from disease; and 3) assessment and monitoring of anxiety levels at every visit.

Nursing Education

Based on the findings, several self-management strategies to cope with anxiety were reported by most of the Bangladeshi people. An educational program or videotape related to HIV-related anxiety and self-management needs to be developed for both patients and family members. This will help people gain more access to information. Instruction in holistic self-management strategies related to religious practices should also be included in the teaching programs.

Nursing Administration

According to the findings, previous hospitalization may be associated with anxiety caused by a discriminatory environment. Training workshops are recommended for Bangladeshi health care providers to reduce these negative experiences of PLWHA.

Nursing Research

It was shown that experience of anxiety remains high while several anxiety management strategies of people living with HIV/AIDS were used. Intervention should be developed for people living with HIV/AIDS, particularly among those presented with OIs, or with previous hospitalization experience, and who experience multiple symptoms. In addition, a longitudinal study is necessary to observe the outcomes of interventions.

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APPENDICES

Appendix A

Informed Consent Form

Dear participants,

My name is Md. Suruj Ullah. I am a senior staff nurse in the National Institute of the Diseases & Chest Hospital at Mohakhali, Dhaka-1212 of Bangladesh. Now, I am Master student of Nursing Science in Prince of Songkla University, Thailand. I am conducting a nursing research project to assess your anxiety experience and how well you manage your anxiety symptom. If you agree to participate in this project, you will be interviewed to complete questionnaires, which includes 3 parts: Demographic data assessment form, symptom experience questionnaire and anxiety management strategies questionnaire. Please give me your answer as accurately as you can.

There will be no risks to your participating in the project. On the contrary, you may gain some information related to your anxiety management after interview and better understand your own anxiety management strategies. All information and your responses in connection with this study will remain confidential. Neither your name nor any identifying information will be revealed in the reports of the study.

Your participation in this study is voluntary. Your refusal or failure to comply will not result in any penalty or affect the quality of your health care. You have the right to withdraw from the project any time you want without any problems prior to completion of data collection. If you feel discomfort about participation in this study, please do not hesitate to tell me. There is no cost to participate in this study and no financial reward.

If you have any questions related to the questionnaires now or any time during the study period, please feel free to ask or discuss with me. Please contact me at the following address:

Md. Suruj Ullah

Tel. +88-01716300080

E-mail: surujullah@yahoo.com

I have already read and understood all information and agree to participate in this study.

(Signature of participants)

Date ----------

---------- ---------- -------/-------/----

(Name of Researcher) (Sig. of Researcher) Date

Appendix B

INSTRUMENTS

Code: .....

Date and Time: .....

Hospital/NGO: .....

Part A: Demographic Data Assessment Form (DDAF)

Please answer by tick "√" in the ( ) at the appropriate responses and specify your answers in the space provided (.....).

1. Age----------years.

2. Gender ( ) 1. Male ( ) 2. Female

( ) 3. Trans-gender

3. Religion ( ) 1. Muslim ( ) 2. Christian

( ) 3. Buddhism ( ) 4. Hindu

( ) 5. Others.....

4. Marital status ( ) 1. Single ( ) 2. Married

( ) 3. Divorced ( ) 4. Widow/ Widower

5. Educational background ( ) 1. Illiterate ( ) 2. Primary school

( ) 3. Secondary high school ( ) 4.Higher secondary

( ) 5. Diploma/Equivalent ( ) 6. University or above

6. Occupational status ( ) 1. Jobless ( ) 2. Retirement

( ) 3. Service ( ) 4. Labor

( ) 5. Business ( ) 6. Farmer

( ) 7. Housewife ( ) 8. Migrant worker

( ) 9.Others specify.....

7. Monthly average income ( ) 1. < Taka 1500 ( ) 2.Taka. 1501-3000

( ) 3. Taka.3001-5000 ( ) 4.Taka. 5001-10000

( ) 5. > Taka.10000

8. Medical Payment ( ) 1. Wholly reimbursed ( ) 2. Medical insurance

( ) 3. Govt. support ( ) 4. NGO Support

( ) 5. Others.....

9. Home location ( ) 1. In Dhaka division ( ) 2. Other divisions .....

10. Number of family members who stay with you .....

11. How long have you known the HIV positive status? .....

12. Have you disclosed your HIV status to anyone in your family?

( ) 1. Yes, please specify the person who have been disclosured.....

( ) 2. No, please specify the reason.....

13. Compared to last visit or last month, how would you rate your current health in general? ( ) 1. Much better than before

( ) 2. all about the same as last month

( ) 3. Much worse than before

14. Please identify the cause of anxiety after knowing of HIV/AIDS

(1) Fear of dying (2) Social discrimination and stigma

(3) Fear of isolation and killing, (4) Others.....

15. Laboratory: last CD4..... date.....

16. Currently on ARV taken

( ) No ARV ( ) Yes, please specify the type of ARV

( ) Zidovudine ( ) Stavudine ( ) Lamivudine ( ) Indinavir, ( ) others.....

If yes, how long have you been taking ARV? .....year.....month.....day

17. Other medications currently taken

( ) Yes, please specify ..... ( ) No

18. Any histories of opportunistic infections (OIs) since diagnosed of HIV/AIDS?

( ) Yes, please specify the OIs..... ( ) No

19. How many times you have been admitted in hospital since diagnosed of HIV/AIDS? ( ) None ( ) Yes, please specify the frequency.....and the causes...

20. Current physical symptoms (Symptom Checklist)

No	Currently physical symptoms	Yes	No
1	Mouth sores		
2	Rash		
3	Numbness, tingling or burning		
4	Itching		
5	Muscle aches, cramps		
6	Muscle weakness		
7	Trouble walking		
8	Headache		
9	Dizziness		
10	Trouble breathing		
11	Trouble sleeping		
12	Nausea		
13	Vomiting		
14	Diarrhea		
15	Constipation		
16	Loss of appetite		
17	Dry mouth		
18	Dry skin		
19	Sores on rectum or vagina		

Current physical symptoms (continued)

No	Currently physical symptoms	Yes	No
20	Change in menstruation (female)		
21	Other symptoms		

Part B: Anxiety Experience Questionnaire (AEQ)

This is an opportunity for you to share with us about your anxiety experiences related to HIV disease and treatment. Anxiety may refer to – constant, worrisome thoughts and tensions. You may experience shaking, tight muscles, headache, dizziness, trouble breathing, fast heartbeat, irritability, or restlessness. Please describe your experience of anxiety by check one or more feeling you have had below:

Descriptions of anxiety: ( ) I feel like I can't breathe.

( ) I feel jittery and anxious.

( ) I get easily agitated and irritable.

( ) My stomach gets tight, and I get nauseated.

( ) I can't concentrate or think straight.

( ) I feel stressed out.

( ) I get a nervous and scared feeling.

( ) Others please specify----------

Many people living with HIV and AIDS report anxiety. We are interested in learning about the frequency, intensity and its impact with which you have had experiences.

1. Circle the number of days that you have experienced anxiety this past week:

1 2 3 4 5 6 7 day (s)

2. Rate the **intensity** of the anxiety:

Very low: 1 2 3 4 5 6 7 8 9 10 : Extremely High

3. Rate how **distressful** the anxiety has been:

Very low: 1 2 3 4 5 6 7 8 9 10 : Extremely High

4. Rate the **impact** on your daily life of the anxiety:

Very low: 1 2 3 4 5 6 7 8 9 10 : Extremely High

Part C: Anxiety Management Strategies Questionnaire (AMSQ)

For symptom management strategies, I would like you to think about what kinds of strategies you do either at home or elsewhere when you feel anxious. Some people will eat more, sleep more or else. Here is something people may do for anxiety. Please review the list of activities which you have done as follows:

1) Check "yes" if you have tried it or do it from last week until now, or "no" if you have never tried it.

2) If you answer yes "✓" of each activity, please check how often do you do this?

Daily mean you have done a particular activity very often or everyday when anxiety has occurred.

Weekly mean you have done a particular activity sometimes or once a week as needed but not everyday when anxiety has occurred.

3) After you did, please identify of how does it work with your anxiety by rating from 1-10?

1 means the strategies you used do not have any effects or not at all and 10 means the strategies you used have very well effects or relieve all anxiety.

4) After that, please complete the last question about overall outcome after your management. The following strategies are below:

Anxiety management strategies	Yes	No	Daily	Weekly	Rating and Its Helpful Use (1) Not at all									(10) Very well
					1	2	3	4	5	6	7	8	9	10
Pharmacological: Medications														
Use anti-anxiety agent (such as diazepam)														
Use anti-depressant (such as amitriptyline)														
Non-pharmacological: Using ventilation														
Talk with family & friends														
Talk with health care provider														
Talk with others with HIV														
Attend support groups														
Talking to HIV counselor														
Using avoidance coping														
Denial or try not to think														
Crying														
Stay alone														
Sleeping														
Talk myself through it														
Using distraction														
Watch TV														
Playing cards														

Anxiety Management Strategies Questionnaire (Continued)

Anxiety management strategies	Yes	No	Daily	Weekly	Rating and Its Helpful Use (1) Not at all									(10) Very well
					1	2	3	4	5	6	7	8	9	10
Relaxation technique														
Doing exercise														
Walking														
Swimming														
Jogging														
Using religious practice														
Prayer														
Meditation														
Going Mosque/Temple														
Using substances														
Marijuana														
Cigarettes														
Alcohol														
Street drugs														

Appendix C

List of Experts for Content Validity of the Instruments

Three experts have examined the content validity index of the Demographic Data Assessment Form, Anxiety experience and self-care for anxiety management strategies Questionnaires of PLWHA in Bangladesh. They are listed:

1. Associate Prof. Dr. Wandee Suttharangsee RN. PhD
   Department of Psychiatric Nursing, Faculty of Nursing,
   Prince of Songkla University, Hatyai Campus, Thailand.

2. Assistant Prof. Dr. Kittikorn Nilmanat RN. PhD
   Department of Medical Nursing, Faculty of Nursing,
   Prince of Songkla University, Hatyai Campus, Thailand.

3. Dr. M. Salim uzzaman MBBS;DTM&H;MCTM (Thailand)
   Fellow Nuffield Institute for Health (Leeds University, UK)
   Fellow SEARCH (Thailand), Specialized trained in Infectious & Tropical Disease. Dhaka, Bangladesh. (E-mail: msalimuzzaman@hotmail.com)

Appendix D

List of Translators for Back Translation of the Instruments

Three persons worked on back translation of instruments: Demographic Data Assessment Form, Anxiety experience and Anxiety Management of People Living with HIV/AIDS in Bangladesh. They are listed:

1. Dr. M. Salimuzzaman MBBS, DTM& H, MCTM (Thailand),
   Fellow Nuffield institute for Health (Leeds University, UK),
   Specialist in Clinical Tropical Medicine & Infectious Diseases. SSMC & Hospital,
   Dhaka of Bangladesh (E-mail: msalimuzzaman@hotmail.com). English expert and he checked the discrepancies both the original instruments and the English back translation to ensure the usable instruments.

2. Mrs. Selina Chowdhury
   Principal, College of Nursing, Mohakhali, Dhaka of Bangladesh.
   She translated the instrument of Bengali into English version.

3. Mrs. Taslima Begum
   Lecturer, College of Nursing, Mohakhali, Dhaka-1212, Bangladesh.
   She translated the instrument of English into Bengali version.

Appendix E

TABLES

Table 7

Frequency, Percentage, Mean and Standard Deviation of Anxiety Management Strategies and Its Helpfulness Ranked by the Mean Score (N =75)

Anxiety management strategies	Rating of Its Helpful Use		
	n (%)	M	SD
Pharmacological: Medications			
Use anti-depressant	68(90.7)	7.69	.72
Use anti-anxiety agent	73(97.3)	6.99	.51
Non-pharmacological			
Talk with family & friend	75(100.0)	7.23	.48
Watch TV	75(100.0)	7.21	1.06
Attend support groups	74(98.7)	7.17	1.17
Talking to HIV counselor	75(100.0)	7.04	1.10
Prayer	75(100.0)	6.99	1.18
Crying	75(100.0)	6.89	1.17
Talk with health care provider	75(100.0)	6.67	.70
Talk with others with HIV	75(100.0)	6.65	.86
Sleeping	75(100.0)	6.65	1.29
Going Mosque/Temple	74(98.7)	6.64	1.55
Talk myself through it	75(100.0)	6.61	1.14
Meditation	75(100.0)	6.55	1.50
Stay alone	75(100)	6.27	1.40
Playing cards	53(70.7)	6.27	1.67
Read book	74(98.7)	6.27	1.72

Table 7 (Continued)

Anxiety management strategies	Rating of Its Helpful Use		
	n (%)	M	SD
Relaxation technique	74(98.7)	6.15	1.50
Denial or try not to think	75(100.0)	5.85	1.65
Swimming	68(90.7)	5.69	1.79
Jogging	64(85.3)	5.67	1.93
Cigarettes	62(82.7)	5.59	1.77
Marijuana	39(52.0)	5.48	1.81
Alcohol	55(73.3)	5.03	1.99
Intravenous drug	36(48.0)	4.28	1.70

VITAE

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Educational Attainment

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