INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

A RANDOMIZED CONTROLLED TRIAL OF NURSING INTERVENTION CENTERED ON COGNITIVE COPING SKILLS FOR HIV-POSITIVE INDIVIDUALS EXPERIENCING AN EXACERBATION OF SYMPTOMS

José Kathleen Côté

School of Nursing
McGill University, Montreal
July 1999

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements for the degree of Doctor of Philosophy

ABSTRACT

A randomized controlled trial was conducted to test the effects of an intervention centered on cognitive coping skills as compared to one focused on expression of emotions. Both interventions were concerned with emotional response regulation in human immunodeficiency virus (HIV)-positive persons experiencing an exacerbation of HIV-related symptoms. Ninety hospitalized patients were randomly assigned to one of three groups: cognitive group, expression group and control group. Interventions were administered on three consecutive days in 20-30 minute daily sessions. Pre\post data were gathered on mood, distress, and anxiety.

Both interventions produced a beneficial effect on negative affect, from the day before the intervention to the day after and on the other days. Neither intervention affected positive affect. Paired T-tests indicated a decrease in distress, specifically, intrusive thoughts for cognitive intervention participants. Also, this group experienced a decrease in anxiety from immediately before to immediately after each session. Conversely, expression-of-emotion intervention participants experienced an increase in anxiety.

The cognitive nursing intervention is effective in helping to regulate HIV-positive patients' emotional response to advanced disease. The cognitive nursing intervention can be used readily by skilled practitioners providing daily care.

RÉSUMÉ

Un essai randomisé a été réalisé auprès de personnes vivant avec le virus de l'immunodéficience humaine (VIH) afin de comparer l'efficacité de deux interventions infirmières, l'une centrée sur les habiletés cogitives et l'autre orientée vers l'expression des émotions. L'échantillon a été constitué de 90 personnes vivant avec le VIH hospitalisées pour l'exacerbation des symptômes. Les participants ont été randomisés soit dans les groupes d'intervention ou le groupe de comparaison. D'une durée de 20 à 30 minutes les interventions se sont déroulées sur trois jours consécutifs. La réponse émotionnelle des participants a été mesurée à l'aide d'indicateurs d'humeur, de détresse et d'anxiété le jour précèdant et suivant l'intervention.

Les résultats révèlent une diminution de l'humeur négatif auprès des participants des deux groupes d'interventions. Toutefois aucune des interventions n'a permis d'affecter l'humeur positif. Au niveau du groupe d'intervention centrée sur les habiletés cognitives, des tests de T pairés indiquent une diminution de la détresse des participants, en particulier de leurs pensées obsessives. De plus, les participants qui ont reçu l'intervention centrée sur les habiletés cognitives ont démontré une diminution de l'anxiété immédiatement après les sessions d'interventions comparativement à ceux du groupe orienté vers l'expression des émotions qui ont présenté une augmentation de l'anxiété.

L'intervention centrée sur l'acquisition des habiletés cognitives permet à la personne vivant avec le VIH, à un stade avancé de l'infection, de régulariser ses émotions. Cette approche novatrice peut être utilisée dans les soins quotidiens dispensés à la clientèle.

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to Dr. Carolyn Pepler, my dissertation supervisor, for her guidance throughout the various stages of this research project. Dr. Pepler's strong, unwavering commitment to the advancement of knowledge in the nursing practice has remarkably influenced my professional development. As well, I wish to express my deep appreciation to Dr. Norbert Gilmore, committee member, for his helpful comments, thoughtful advice, ongoing encouragement and support. I am also grateful to m y committee members, Dr. Ethel Roskies, Dr. Joan Stelling, and Dr. Barbara Gooding, who have been key to the development of this project.

My gratitude extends, also, to my nursing colleagues in the Ph.D. program, Sean Clarke, Sylvie Cossette, and Viola Polomeno, who so generously shared knowledge, and provided friendly encouragement, sound advice and constructive criticism.

Throughout this research project, the support offered by my family was most crucial. I owe an immeasurable debt to my mother, for her unfaltering reassurance and help, and to my husband, whose much-valued contributions helped me to fully pursue my educational goals and professional ambitions.

Additionally, I sincerely thank the Fonds de la Recherche en Santé du Québec, the Ordre des Infirmières et Infirmiers du Québec, the Canadian Nurses Foundation, and Université de Montréal. Without their financial assistance, my nursing and research studies simply would not have been possible.

Equally, this study fully owes its existence to the gracious involvement of persons living with HIV\AIDS. Hospitalized, as they were, for HIV-related symptoms, ill, tired and confined to bed, they nonetheless gave generously of themselves and their time. Always, their courage inspired me.

Finally, no nursing research project can be completed without the assistance of one's professional colleagues. Thus, I wish to thank this project's two research assistants and statistician and commend them for their excellent work. Finally, I am most grateful to the various nurses and medical staff, whose in-hospital assistance was vital to the successful realization of this research project.

Preoccupied by the well-being of persons living with HIV, I have conducted my thesis fueled by the passion to provide such persons with the best of nursing care. This thesis is dedicated to all nurses who so passionately strive to provide nursing care to persons with HIV.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER I. INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) constitutes the first pandemic disease of the twentieth century. It is estimated that 30,000 Canadians are infected with the human immunodeficiency virus (HIV). To date, 15,935 Canadians have been diagnosed with AIDS (Health Canada, 1998). Within Canada, the province of Québec, with 4717 AIDS cases, is *second* only to Ontario in the number of reported cases (Health Canada, 1998). Recent progess in antiretroviral and antibiotic therapy has changed our earlier understanding of HIV as a severe and fatal infection to our current view of HIV infection as a chronic condition. However, the infected individual still has to cope with the unpredictable and chaotic nature of this infection.

At advanced stages of HIV-related disease, opportunistic infections and physical manifestations of the infection are controlled through medical and drug therapy. For these HIV-positive patients, appearance and recurrence of symptoms heralds periods of stress that may interfere with their psychological integrity. In fact, some cross-sectional studies reveal a strong association between HIV-related physical symptoms and severity of depressive symptoms (Belkin, Fleishman, Stein, Piette, & Mor, 1992; Burack et al., 1993; Kelly et al., 1993b; Lyketsos et al., 1993; Ostrow et al., 1989; Perry, Fishman, Jacobsberg, & Frances, 1992).

More recent studies by Griffin and Rabkin (1998) and Lyketsos and colleagues (1996) corroborate these findings. In fact, Lyketsos and colleagues (1996) conducted a large prospective study among 911 HIV-seropositive person for 10 years, and observed a dramatic, sustained rise in depressive symptoms as AIDS developed. Griffin and Rabkin's study (1998) revealed that physical symptoms among persons at late stages of AIDS were the most important predictor of cognitive depression. Research (Griffin & Rabkin, 1998; Lyketsos et al., 1996; Perry & Fishman, 1993) concludes that the development of HIV-related physical symptoms is likely to increase depression and

that depressive symptoms are likely to increase with the development of AIDS.

To date, most psychological interventions described in the research literature have been designed for HIV-infected patients experiencing few, if any, exacerbated HIV-related symptoms. These psychological interventions, which include the development of cognitive and behavioral coping skills, have demonstrated improved psychological well-being in people at risk for HIV infection (Roffman et al., 1997), both at the time of notification (Antoni et al., 1991; Perry, Fishman, Jacobsberg, Young, & Frances, 1991), and at early stage of the infection (Kelly et al., 1993a; Lamping et al., 1993; Mulder et al., 1994, 1995; Pepler et al., 1998; Rozman, Whitaker, Beckman, & Jones, 1996; Taylor, 1995).

Unfortunately, very little intervention research has been reported with HIV-positive clientele who are at a more advanced stage. More recently, interest in intervention research with HIV-people at a more symptomatic stage of the infection has grown (Bock, Escobar, Riemer, & Hautzinger, 1998; Eller, 1995; Gifford, Laurent, Gonzales, Chesney, & Lorig, 1998; Inouye, Flannelly, & Flannelly, 1998; McCain, Zeller, Cella, Urbanski, & Novak, 1996; Lutgendorf et al., 1997). Progress in HIV\AIDS medical management and treatment of HIV-related opportunistic infections have changed the trajectory of HIV infection to one of long-term illness, thus increasing the need for appropriate psychological interventions.

Until now, most nursing interventions with HIV\AIDS clientele have been based on descriptive research dealing with the psychosocial aspects of being HIV-positive (Gloersen et al., 1993; O'Brien & Pheifer, 1993; Ragsdale, Kotarba, & Morrow, 1992). Nurses who work with HIV-positive individuals are very concerned about the psychological state of their patients. Typically, they attempt to help them to cope with their HIV-related situation by trying to be empathetic. The nurse's presence and active listening can facilitate

the emotional expression of stress experienced by the HIV-positive person (Gloersen et al., 1993; Pepler, 1995). According to the qualitative work of Kermode (1995), nurses have the opportunity to substantively influence their hospitalized, HIV-positive patients and how they experience their HIV-related circumstances. To date, only two nursing interventions (Eller, 1995; McCain et al., 1996) have been tested through formal research, and they demonstrated their efficacy in decreased distress.

Although research has yielded mixed findings regarding severity and duration of distress in the HIV-positive population, it does appear that the exacerbation of HIV-related symptoms places individuals at greater risk of emotional distress. Since HIV-positive individuals now live longer with AIDS, it is critical to provide nursing interventions for them which can help improve their quality of life.

Empirical literature and theoretical frameworks have provided the groundwork for developing a nursing intervention for the HIV-positive patient. For this study, a nursing intervention was designed that aimed to develop, maintain and strengthen the HIV-positive patient's cognitive coping skills so as to regulate emotional response to exacerbated, HIV-related physical symptoms. The effects on the psychological well-being of the HIV-positive patient of a nursing intervention which focuses on cognitive coping skills was compared to the effects of the more common nursing intervention which focuses on expression of emotions.

CHAPTER II. LITERATURE REVIEW

The following sections discuss the conceptual, theoretical and empirical bases for the development and evaluation of the nursing intervention aimed at developing, maintaining and strengthening cognitive coping skills. As an overall conceptual framework, the McGill Model of Nursing is presented first. This is followed by the middle range theories that specify and explain specific aspects of the intervention and its evaluation: stress and coping theory, cognitive theory, and emotion theory.

Conceptual Base: Nursing Perspective

The McGill Model of Nursing offers the primary nursing perspective for this study (Gottlieb & Rowat, 1987). Originally developed under the guidance of Dr. Moyra Allen and the faculty and students of the McGill University School of Nursing at Montréal, Québec, the McGill Model of Nursing has evolved substantially over the past twenty-five years. This model has been applied and tested in a variety of settings, including hospital and community centers as well as in formal and less formal demonstration projects (Gottlieb & Ezer, 1997; Kravitz & Frey, 1989). This model continues to be an excellent guide for nursing practice, research, and education (Gottlieb & Ezer, 1997; Kravitz & Frey, 1989).

From the McGill perspective, the goal of nursing is to promote client health or healthy behavior. Health is a central component of the model and is viewed as a variable distinct from illness. Here, health is posited as a multidimensional construct - something learned which develops over time, as a way of living and being. Health exists in the presence of illness and healthy behavior is a way of living with or without an illness. According to the McGill model, the nurse, in order to develop, maintain, and strengthen the patient's health, must actively engage the patient in a learning process by

focusing on potential and strengths rather than on limitations and deficits.

Through nurse-patient collaboration, the nurse helps the patient acquire healthier coping strategies which enhance quality of life. In the McGill model, coping process is understood to be a critical dimension of health. With regard to the nurse-patient relationship, the model stresses active participation, negotiation, and a balanced power distribution. Thus, the patient is viewed as active and capable of learning new coping strategies. Lazarus and Folkman (1984) elaborate a more detailed theory of the coping process.

Theoretical Base: Middle-Range Theories.

Stress and Coping Theory

Lazarus and Folkman (1984) define coping as the efforts deployed by an individual to regulate specific internal or external demands evaluated as actually exceeding the individual's resources. Early work by Lazarus (1966, 1976) and colleagues (Cohen & Lazarus, 1983; Lazarus & Folkman, 1984) posits coping as beginning with primary and secondary appraisals of the stressor. In primary appraisal, a person judges the type and severity of perceived threat, and in secondary appraisal a person estimates personal coping strategies available to deal with the threat. According to these authors, when a situation is determined to be stressful, coping strategies fulfill two major functions. The first major function is problem-oriented: coping strategies are directed towards a definition of a problem, research, identification, evaluation and selection of solutions, and finally action. The second major function is emotion-oriented: coping strategies that permit management of emotional distress.

More recently, Lazarus (1993) and Folkman (1993) have emphasized the notion of a situational appraisal of control. Although

people use both major coping functions - problem-focused and emotion-focused - in all stressful situations (Folkman & Lazarus, 1980), the control individuals determine they have over a particular situation will influence the type of coping function deployed (the notion of "goodness-of-fit"). When stressful conditions are viewed by the individual as resistant to change, emotion-focused coping predominates; when stressful conditions are viewed as controllable by action, problem-focused coping predominates (Folkman, Chesney, Pollack & Coates, 1993; Lazarus, 1993).

Consistent with this assertion, Auerbach (1989) states that emotion-focused coping may be utilized to deal with stressors such as disease that offer little potential for control by the individual. According to Lazarus (1993), "there is ample evidence that under certain conditions, those in which nothing useful can be done to change the situation, rational problem-solving efforts can be counter-productive, even likely to result in chronic distress when they fail; then emotion-focused efforts would offer the best coping choice" (p. 238). Empirical data support Auerbach's and Lazarus' theoretical propositions. In fact, earlier studies suggested that mismatches between appraisal and coping lead regularly to anxiety and depression (Cohen et al., 1986; Collins, Baum, & Singer, 1983; Forsythe & Compas, 1987).

The focus of this intervention is consistent with such recent theoretical propositions and empirical support as regards the two major coping functions. Here, the nursing intervention with HIV-positive people experiencing an exacerbation of HIV-related symptoms is focused on emotion-oriented coping strategies. In order to guide the development of an intervention aiming to regulate the emotional response, cognitive approaches to emotion provided direction.

Cognitive Theory

Cognitive theory originates from Greek philosophers who stated that "men are distressed not by things but by the views which they take of them" (Epictetus, 1949, p. 19). Despite cognitive theory's ancient roots, the cognitive revolution in psychology did not occur until the 1960's (Mahoney, 1993).

Thirty years ago, Beck (1961) proposed a cognitive model of depression based on clinical observations of depressed patients' thoughts and dreams. In Beck's original observations, he discovered a central theme of defeat and a pervasive negative bias. From this, Beck developed a theory suggesting that depressive symptoms could be explained by a preexisting negative cognitive bias. Later, Beck (1967) went on to make three distinctions between cognitions that may play a role in depression and its treatment: automatic thoughts, schemata, and cognitive distortions. Automatic thoughts are types of cognition that tend to arise quickly and spontaneously. The person is unaware or barely aware of them. Schemata can be understood as internal models individuals use to perceive, code, and recall information. Personal perceptions of situations, for example, are biased by particular schemata. Cognitive distortions link automatic thoughts and dysfunctional schemata. It is because of dysfunctional schemata that new information may be distorted, resulting in biased appraisal of a situation which will then become accessible at a conscious level in the form of automatic thoughts. Beck (1967, 1976) describes specific distortions that tend to be present among individuals who suffer from emotional disorders: dichotomous thinking, overgeneralizing, selective abstraction, mind reading, personalizing, "should" statements, catastrophizing, and minimizing.

Based on Beck's important theoretical formulations, cognitive therapy was designed as an approach to treating clinical depression. Beck, Rush, Shaw and Emery (1979) define cognitive behavior therapy as an "active, directive, time-limited, structured approach...

based on an underlying theoretical rationale that an individual's affect and behaviour are largely determined by the way in which he structures the world." The primary focus of intervention, then, is the patient's cognitive processes. In an assessment of literature on Beck's cognitive therapy, Robins and Hayes (1993) conclude that it remains unknown whether cognitive therapists induce change in the patient by deactivating schemata, activating other schemata, or teaching mood-correcting behaviours (such as compensatory skills) to cope with depressive thoughts while leaving schemata unmodified.

Originally developed for the study and treatment of depression, cognitive theory and cognitive therapy have been applied to treat a wide range of disorders. For Beck (1991, 1993, 1997), the striking feature of cognitive theory's diverse applications is cognitive specificity. According to Beck. "each disorder has its own specific cognitive conceptualization and relevant strategies that are embraced under the general principles of cognitive therapy" (Beck, 1991, p.368). A central theme of cognitive theory is that of a bias in information processing which produces dysfunctional behaviour (obesity, eatings disorders) and excessive distress (anxiety, depression). Beck explains that "cognitive therapy is best viewed as the application of the cognitive model of a particular disorder with the use of a variety of techniques designed to modify the dysfunctional beliefs and faulty information processing characteristic of each disorder" (Beck, 1993, p.194).

In the field of cognitive psychotherapy, significant evolution has occurred as a result of contructivist approaches (Mahoney, 1993; Neimeyer, 1993). In this context, a critical issue is the reintegration of the role of emotion into cognitive psychotherapy (Guidano, 1991; Robins & Hayes, 1993). The era of "affective revolution" began with Zajonc (1980), who severely criticized the prevailing view of rationalist cognitive therapies which viewed emotion as an epiphenomenon of cognition. From Zajonc's perspective, emotion is more than a by-product of cognitive processes. It is central to the process of

psychological change. Recently, a number of authors have attempted to reconcile and reintegrate these two fields of cognitive theory and emotion theory. For Safran and Greenberg (1991), cognitive theory and emotion theory are two domains that contribute, in tandem, to our understanding of the emotional change processes in psychotherapy. For Lazarus (1991a), the connection between thought and emotion (part-whole relationship) constitute the center of therapeutic attention.

For this research, recent developments in cognitive psychotherapy have been considered, and emotion theory has provided an important theoretical base. The next section discusses the field of emotion theory.

Emotion Theory

Emotion has been explored and examined from a number of different perspectives (Forgas, 1991; Haviland, 1993; Izard, 1991a, b; Ortony, Clore, & Collins, 1988; Scherer & Ekman, 1984; Stein, Leventhal, & Trabasso, 1990). From a biological and neurophysiological perspective, emotion is rooted in biophysiological determinants activated by several processes, such as changes in brain chemistry and neural activity - or those unconscious processes in subcortical pathways. In contrast, from a cognitive-constructivist perspective, emotion is not primarily connected to genetic factors, but rather is cognitively constructed and activated by the cognitive process of appraisal.

Both Zajonc (1984) and Mandler (1990) recognize these two major schools of thought regarding emotions. The first school of thought, the fundamentalist position (Izard, 1977; Plutchik, 1980; Tomkins, 1980), emphasizes somatic factors and motor output and considers emotions as a "discrete patterns of behavior, experience, and neural activity, consisting of some few such patterns" (Mandler, 1990, p.22). The second school of thought invokes cognition as a

necessary factor in emotional phenomena exploration and considers emotional experience to be the result of cognitive analyses (Lazarus, Kanner, & Folkman, 1980; Mandler, 1984).

A more intermediate view is endorsed by Lazarus (1991a), who discusses the importance of personal meanings as well as physical states in the emotion-generating process. Lazarus states: "The proposition that appraisal is a necessary condition of emotion is, in my view, the most parsimonious, nonreductive, and internally consistent conception of how things work" (p.298). In the present study, Lazarus' perspective (1991a, b, c) is crucial to the view of generation of emotion. Earlier, with their stress and coping theory, Folkman and Lazarus (1988) stated that coping is a mediator of the emotion response. They discussed how the appraisal process generates emotion, stating: "The appraisal and its attendant emotions influence coping processes, which in turn change the person-environment relationship. The altered person-environment relationship is reappraised and the reappraisal leads to a change in emotion quality and intensity" (p. 467). Folkman and Lazarus's findings support their theoretical proposition that coping mediates emotions in stressful encounters. Resultingly, Lazarus (1991b) proposes a cognitive-motivational-relational theory of emotion that explains how emotion is generated and how it shapes subsequent adaptations. According to Lazarus (1991b), the relationship between cognition and emotion goes both ways: emotion is a response and a reaction to meaning and it influences subsequent thoughts and emotion.

Cognitive-constructivist psychotherapy recognizes that emotion influences cognition, and that cognition influences emotion. The cognitive approach emphasizes the influence of cognition on mood, so that interventions are designed to change patients' cognitive processes (Robins & Hayes, 1993). For cognitive-constructivist therapists, then, regulation of emotion becomes largely a matter of cognitive processes that respond to cognitive techniques.

The intervention developed for the purpose of the study, aimed at regulating emotional response in HIV-positive individuals experiencing an exacerbation of symptoms, takes into account the following primary model and theories: 1) the McGill Model offers the nursing perspective (Gottlieb & Rowat, 1987); 2) Lazarus and Folkman's (1984) theory of stress and coping is used to conceptualize the coping process and propose the focus of the intervention; 3) cognitive-constructivist psychotherapy prescribes directions for the intervention (Beck, 1991, 1993) and 4) cognitive-motivational-relational theory of emotion (Lazarus, 1991a, b, c) guides the view of the interrelationship between emotion and the coping process.

Empirical Base: Psychological Dimensions of HIV Infection

Research literature indicates that HIV infection is characterized by multiple stressors and catastrophic losses. Coping theorists have postulated that the relationships between stressors and negative outcomes such as psychological distress are mediated by coping processes. A considerable number of empirical studies support this postulation (Folkman, 1993; Lazarus & Folkman, 1984). The following section examines current knowledge regarding psychological repercussions of HIV infection and the role coping occupies in psychological well-being.

Psychological Repercussions of HIV Infection

Empirical studies demonstrate a wide-range of psychological distress responses associated with HIV infection. Early studies of the psychosocial impact of HIV infection demonstrate significant levels of psychological distress and maladjustment in HIV-positive patients (Donlou, Wolcott, Gottlieb, & Landsverk, 1985; Perry & Tross, 1984). For example, the work of Wolcott, Namir, Fawzy, Gottlieb, and Mitsuyasu (1986) showed that 28% of persons living

with AIDS exhibited mood disturbances. However, more recent studies reveal conflicting results with respect to psychological health in the HIV-infected patient population.

Some recent studies which examine psychological health and well-being of HIV-infected populations exhibit results consistent with earlier findings, showing high rates of depression. For example, in a study by Bornstein and colleagues (1993), 29% of the 121 HIV-positive asymptomatic men had scores on the Beck Depression Inventory (BDI) above the clinical cut-off point of 15 (said to be highly suggestive of clinical depression). Similarly, in a study by Kelly and colleagues (1993b), the mean score on the Center for Epidemiological Studies Depression Scale (CES-D) in a sample of 142 persons with HIV infection was 25.09 (clinical cut-off score is 16). In a study by Belkin and colleagues (1992), 42.3% of a large sample of persons infected with HIV (n=881) scored above the cutoff for depression. As well, the mean scores for samples of 105 and 144 men with HIV on the CES-D depression scale were, respectively, 19.4 (Thompson, Nanni, & Levine, 1996) and 19.6 (C. Pepler, personal communication, 1999). Again, this is considerably higher than the general population norm. Another study by Krikorian, Kay, and Liang (1995), undertaken with HIV-positive patients at various stages of disease progression, revealed that emotional distress levels were high compared with normative data. Mean values for depression and anxiety were 1.5 to 2 standard deviations above the mean score for male nonpatients (Derogatis & Melisaratos, 1983). Results of other studies are similar: Scores on depression, as measured by the POMS were significantly higher for the HIV group than for the healthy group (Fukunishi et al., 1997b); the mean score among people with late-stage AIDS on the Hamilton Depression Rating Scale (HAM-D) was 10 and the mean of BDI score was 15.5, both of which exceed the cutoff for probable depression as indicated by the scale authors (Griffin & Rabkin, 1998).

However, in contrast, there are researchers who report no evidence for high levels of clinical depression among HIV-infected

clientele. In fact, baseline data from two longitudinal studies, using the CES-D, found that approximately 20% of their samples were experiencing clinical depression. These rates appear to be relatively stable over time (Burack et al., 1993; Lyketsos et al., 1993). Williams, Rabkin, Remien, Gorman, and Ehrhardt (1991) found relatively low scores on the Hamilton Depression Rating Scale (HAM-D) in a sample of HIV-positive individuals. Findings are congruent with other results suggesting that levels of distress in asymptomatic seropositive men are comparable to those in general community samples (Blaney, Millon, Morgan, Eisdorfer & Szapocznik, 1990; Rabkin, Williams, Neugebauer, Remien, & Goetz, 1990).

In order to interpret findings concerning psychological response to HIV infection, Chesney and Folkman (1994) recommend evaluating findings in relation to the subjects' stage of the disease and the time-frame of the epidemic when the study was conducted. According to Chesney and Folkman, since 1988 studies have reported fewer adverse psychological effects of HIV-positive status among patients. However, according to Folkman (1993), once HIV-related symptoms appear, morale and psychological well-being are then challenged. For the HIV-positive individual, presence of HIV-related symptoms precipitates awareness of threatening implications of HIV disease, and so this period is perceived as a signal that disease is progressing.

Levels of psychological distress are different across asymptomatic and symptomatic HIV-infected individuals. For example, in a study by Ostrow and colleagues (1989), depressive symptom scores of men who reported HIV-related symptoms (more than three possible HIV-related symptoms) were twice as high as those obtained by subjects who did not report any symptoms. However, this result must be examined with caution and appreciated in relation to the stage of the epidemic when the data were collected. In this particular case, data were collected at the beginning of the epidemic (1984-1985), when little treatment was available. The advent of combination therapy and the new generations of drugs

since 1995, it might be argued, change mood and distress experience by HIV-positive people. Recently, Huesler, Werlen, & Sigrist (1998), using the same instruments, compared the mood state and coping behavior of 70 HIV patients in 1989 with those of 120 patients in 1997. Results showed no significant changes in mood states. The Husler team concluded that in spite of new medications, mood states of patients remained unchanged. From their cohort of 1997, about 40% of patients exhibited symptoms of depression and anxiety.

With respect to distress across the course of HIV-related illness, other researchers have presented interesting and controversial results (Chuang, Devins, Hunsley, & Gill, 1989; Joseph et al., 1990). Chuang and colleagues (1989), for instance, examined psychosocial adjustment across the spectrum of HIV illness, and found that asymptomatic and symptomatic HIV-positive groups were significantly more distressed than the group diagnosed with AIDS. Chuang and colleagues (1989) explain their results in terms of adaptive demands and severity of stressors. They discuss how, in early stages of HIV-infection, the HIV-positive individual may face equally and more threatening stressors than those faced at the end of the HIV-related health continuum. In the Krikorian study (1995), depression and anxiety scores did not increase significantly for symptomatic subjects who were free of acute medical illness at the time of the collection of data. Distress was only greater for subjects with advanced illness in certain domains: somatic concern and obsessive-compulsive symptomatology. According to both Rabkin and colleagues (1997), and Perdices and colleagues (1992), patients with low CD4 cell count and\or AIDS are not necessarily more depressed than those in the early phases of infection. While their HIV-positive group tended to score higher for distress than the HIV-negative group, and to exhibit higher rates of major depression throughout most of the period of observation, Rabkin and colleagues (1997) found no increase in symptomatic depression and anxiety over the 4 years despite substantial progression in HIV-related illness.

However, two longitudinal studies revealed a significant cross-sectional association between severity of depressive symptoms and severity of HIV-related physical symptoms (Burack et al., 1993; Lyketsos et al., 1993). Findings were congruent with previous reports revealing that the development of HIV-related physical symptoms increases the likelihood of depression (Kessler et al., 1991; Rabkin et al., 1991; Perry et al., 1992). Moreover, Belkin and colleagues (1992) found that the frequency of physical symptoms among 881 HIV-positive individuals was strongly related to depressive symptomatology. Similarly, Pepler and colleagues (personal communication, 1999) found a significant correlation between depressive symptoms and physical symptoms ($r=.51$, $p=.0001$). And recently, Griffin and Rabkin (1998) found that physical symptoms were the most important predictor of cognitive depression. Results of other studies are similar: 46% of symptomatic HIV-positive African-American gay men were found to be depressed, compared to 31% of asymptomatic men (Cochran & Mays, 1994); symptomatic HIV-positive patients were shown to experience more distress, especially in the variables "disturbed everyday life" and "physical complaints" than asymptomatic persons (Leiberich et al., 1997); depressive symptoms in HIV-positive persons were found to increase with the development of AIDS (Lyketsos et al., 1996); a large prospective 10-year study among 911 HIV-positive person found a dramatic and sustained rise in depressive symptoms as AIDS developed, beginning as early as 18 months before clinical AIDS was diagnosed (Lyketsos et al., 1996).

With regard to the relationship between HIV-related exacerbated symptoms and depressive symptoms, Folkman and colleagues (1993) reported the following findings from a study of 425 persons infected with HIV: 1) depressive mood in 1988 and symptoms of HIV disease in 1989 accounted for 50% of the variance in depressive mood in 1989; 2) stress, control, and coping accounted for an additional 10% of the variance; 3) after controlling for 1988 depressive mood, HIV-related exacerbated symptoms explained only 1% of the unique variance in depressive mood during the year 1989.

Folkman goes on to suggest that the presence of symptoms does not directly affect depressive mood, but has, rather, an indirect action through the stress and coping processes. Folkman explains that "individuals who feel in control and cope actively with these stressful conditions may not experience increases in depression, whereas individuals who appraise the stressful conditions as not controllable and use detachment coping strategies may experience increases in depression" (p. 415). Nevertheless, physical symptoms, according to the study by Griffin and Rabkin (1998) were the most important predictor of cognitive depression and explained 34% of the variance. Continuing, the next perceived predictor of cognitive depression was control over illness, and explained an additional 15% of the variance. No additional variables were predictive of cognitive depression scores.

In addition to associations between the appearance and recurrence of HIV-related symptoms and psychological distress, other interesting associations between symptom status and mental health outcomes have been found among this clientele. For example, O'Dowd, Biderman, & McKegney (1993) report exacerbated HIV-related symptoms to be associated with elevated suicide risk. Belkin and colleagues (1992) and Donlou and colleagues (1985) also report exacerbated HIV-related symptoms to be associated to suicidal ideation. As well, Cochran and Mays (1994) report that symptomatic clientele demonstrated greater suicide risk than the HIV-negative group. More specifically, Belkin and his colleagues (1992) found the association between exacerbated HIV-related symptoms and suicidal ideation to be relative to the number of days the HIV-positive person had been bed-bound. Importantly, more recent study, by Breitbart, Rosenfeld and Passik (1996), showed interest in physician-assisted suicide not to be related to severity of pain, pain-related functional impairment, physical symptoms, or extent of HIV disease. In fact, the strongest predictors of interest in physician-assisted suicide were revealed to be high scores on measures of psychological distress.

Several methodological limitations of these studies must be acknowledged. In their review of empirical literature on the psychological sequelae of HIV infection, Kalichman and Sikkema (1994) highlight some major research problems. First, design issues are a key concern. Most research studies in this area used cross-sectional designs. In the longitudinal cohort studies, samples were sensitized to repeated measures, meaning that results might have been influenced by treatment opportunities (benefits of long-term follow-up). Secondly, measurement issues are of concern. As regards measurement, most research studies in this area rely on self-report measures. One important problem in measuring distress via self-report instrument is the overlap between distress measures and illness symptoms. However, in an attempt to minimize the influence of illness-related symptoms on measures of psychological distress, some investigators have omitted items related to somatic distress (Burack et al., 1993; Lyketsos et al., 1993, Ostrow et al., 1989). Furthermore, measures and procedures by other researchers have been designed to manage the problem of symptom overlap (Belkin et al., 1992; Kelly et al., 1993b). As yet, though, it has not been possible to fully evaluate the level of psychological distress that existed before HIV infection. Those HIV-positive people who were found to be most depressed may, in fact, have been more depressed before the occurrence of the HIV infection.

Generally, however, the presence of psychological distress in HIV infected individuals has been well-documented. In the opinion of most clinicians and researchers, this psychological distress justifies intervention. Perry and Fishman (1993) emphasize the need to view depression in the HIV-positive population as a treatable disorder, rather than an expected response to being HIV-positive. They recommend interventions to reduce suffering and improve functioning. Before an exploration of literature on interventions designed to improve coping skills, the impact of the coping process in HIV-positive populations on psychological well-being will be reviewed.

Impact of Coping on Psychological Health

Increasingly, research literature suggests that coping mediates the effect of stressors on psychological outcomes. According to Folkman (1993), studies reveal that the coping process plays an important role in morale maintenance and depression control throughout the course of HIV infection. Several cross-sectional studies have addressed the process of coping with HIV infection. For example, Namir, Wolcott, Fawzy, and Alumbaugh (1987) observed 50 persons recently diagnosed with AIDS so as to determine the relationship between coping responses and psychological health status. Active behavioral coping response was associated with lower levels of depressive symptoms, while avoidance coping was associated with higher levels of mood disturbance. In addition, cognitive-positive strategies, used frequently, were associated with lower mood disturbance, as compared to the avoidance coping response. However, in their study of 89 men who were HIV positive or diagnosed with AIDS-related complications, Nicholson and Long (1990) found no association between active behavioral coping and mood. Nevertheless, consistent with the findings of Namir and colleagues (1987), Nicholson and Long (1990) reported a positive correlation between avoidant coping and worsened mood state.

Similarly, Wolf and colleagues (1991) determined active-behavioral coping to be significantly related to enhanced mood, while avoidance coping was significantly related to greater mood disturbance among asymptomatic and symptomatic HIV-positive persons. However, their study used a small sample (n=29) and did not include a comparison or matched group of HIV-negative persons. Later, using a comparison group of 53 HIV-negative men, Leserman, Perkins, and Evans (1992) found denial related to increased depression scores in 52 asymptomatic HIV-positive men.

Similar to Namir and his colleagues (1987), Storosom, Van den Boom, Van Beauzekom, and Sno (1990) found active positive involvement strongly correlative to lower mood disturbance, while avoidant coping and venting of emotions was related to the presence of psychopathology. Their study involved 97 outpatients and 22 inpatients infected with HIV. Côté reported a similar pattern in her study of 50 men diagnosed with AIDS (1989; Côté & Fortin, 1992). Côté found that utilization of strategies focused on avoidance was correlated with lower psychological well-being.

Recently, Classen and colleagues (1998) found disturbed mood negatively correlated to active coping, positive reinterpretation, and acceptance, and positively correlated to behavioral disengagement and denial. Pepler and colleagues (personal communcation, 1999) found correlations between active coping strategies and their perceived effectiveness in a sample of 157 HIV-positive men. However, perceived effectiveness of strategies was related to more well-being measures than frequency of use. Among their 108 HIV-positve patients, Grassi, Righi, Sighinolfi, Makoui, and Ghinelli (1998) found those well-adjusted to their HIV-positive status tended to have a higher level of fighting spirit and lower degree of hopelessness than those patients who were not well-adjusted to their HIV-positive status.

From these cross-sectional studies conducted with HIV-positive individuals, both asymptomatic and symptomatic, Folkman (1993) states that the pattern of findings seems consistent: avoidant coping does not seem to protect HIV-positive individuals from distress. Recently, Fukunishi and colleagues (1997a) found depressive symptoms positively correlated to avoidance coping behaviors among HIV-positive patients. Avoidance does not appear effective in reducing the distress associated with exacerbated HIV-related symptoms (Solano et al., 1993).

However, some investigators found that realistic acceptance, when used as a coping strategy was associated with greater

hopelessness (Griffin & Rabkin, 1998). As well, realistic acceptance was associated with decreased survival time among men who had clinical AIDS (Reed, Kemeny, Taylor, Wang, Visscher, 1994). Very recently, Mulder, De Vroome, Van Griensven, Antoni, and Sandfort (1999) conducted a study which revealed that avoidance coping was unrelated to the development of AIDS-defining clinical symptoms.

All these findings have been derived from research studies with specific methodological limitations. For example, these research studies all assessed coping strategies at only a single point in time, and examined the association with psychological status cross-sectionally. An assessment of coping strategies at different points in time or stages in the disease process could be highly revealing, thus allowing for a more comprehensive observation of patterns and trends between coping and psychological status.

A few longitudinal studies have been implemented to corroborate results of cross-sectional studies. For instance, Reed, Kemeny, and Taylor (1990) studied the relationships between coping responses and psychological adjustment cross-sectionally and longitudinally in men diagnosed with AIDS. Cross-sectionally, behavioral escape-avoidance and cognitive escape-avoidance were negatively related to psychological adjustment; cross-sectionally, active positive coping was positively associated to psychological adjustment after accounting for subjective health status. Longitudinally, behavioral escape-avoidance at time 1 was negatively associated with psychological adjustment at 8 months later. In their longitudinal study, Fleishman and Fogel (1994) found active coping at time 1 predicted less distress 11 months later. Recent findings in longitudinal study by Leiberich and colleagues (1997) revealed highly distressed individuals who cope in an evasive-regressive way report a low quality of life.

With regard to a situational appraisal of control, some research studies conducted in this field are grounded in the stress and coping theory posited by Lazarus and Folkman (1984). In a sample group

of HIV-positive and HIV-negative gay men (n=425), Folkman and colleagues (1993) studied the extent to which stress, appraised control, and coping were related to depressive mood. Path analysis suggested that perceived control mediated depressive response to stress through a constellation of coping characterized by involvement in the situation (problem-solving, seeking information, and reappraising the situation in positive light), but not through detachment coping (self-controlling coping, cognitive escape avoidance, distancing).

Again taking into consideration the HIV-positive person's ability to control the impact of AIDS, Pakenham, Dadds and Terry (1994) hypothesized that HIV-positive asymptomatic persons would prefer emotion-focused coping whereas HIV-negative persons at risk for HIV would prefer problem-focused strategies. No support existed for their hypothesis. Their results could be explained by the use of a categorical index of disease status, instead of the subjects' evaluation of illness severity. When, Krikorian and colleagues (1995) investigated the coping process in groups of HIV-infected subjects at different stages of illness, they found that coping strategies were heterogeneous and not particularly related to HIV diagnostic status. They did, however, observe an exception: plan-oriented problem solving was decreased for AIDS subjects. They explained this difference in plan-oriented problem solving between uninfected subjects and AIDS subjects with Folkman's (1993) proposition. Folkman (1993) proposes that problem-focused coping is more often used in situations amenable to control. Similarly, Lutgendorf and colleagues (1998), found that in early stages of HIV illness, active behavioral coping strategies may influence disease state and improve adjustment by modifying problem situations. However, in later stages of HIV-related illness, when there may be less that a person can do to influence the disease, cognitive and emotional adjustments may be necessary through active-cognitive coping.

Krikorian's group (1995) revealed that mean levels of coping activity endorsed by HIV-positive participants were generally 1.5 to 2 times greater than those observed in a community sample of married couples (Folkman, Lazarus, Gruen, & DeLongis, 1986). They explained that risk of advancing illness stimulated a generalized increase in all assessed coping domains. Similarly, Fukunishi and colleagues (1997a) reported that the HIV-positive patient group demonstrated significantly higher active-cognitive and active-behavioral coping scores than the healthy-person group. Another study by Friedland, Renwick and McColl (1996) showed a variety of coping strategies used by 107 HIV-positive respondents to face their HIV-related condition. For Leiberich and colleagues (1997), persons who dealt effectively with demands of their HIV-related circumstances also exhibited a great degree of flexibility with cognitive-actional and emotional-palliative strategies.

Pakenham and colleagues (1994) found action coping (a problem-focused coping strategy), optimism coping strategies (emotion-focused coping), and control associated with low levels of distress. They highlight the important role played by emotion-focused coping and emotion regulation in the coping process. In the theoretical formulation by Lazarus and Folkman (1984), emotion regulation is important in response to illness. According to Folkman's (1993) synthesis of research literature, cognitive coping strategies that help the HIV-positive individual focus on positive psychological well-being throughout the disease's course. As well, findings of Friedland and others (1996) showed perception-oriented coping as positively related to quality of life. Moreover, a study by Classen and colleagues (1998) showed that mood was correlated to positive reinterpretation.

Given that coping strategies are associated with psychological distress measures, it is generally believed that coping-skills training can enhance patient outcomes (Pakenham et al., 1994). According to Auerbach (1989), determination of useful coping strategies must precede development and evaluation of interventions designed to

induce appropriate coping behaviour. With the HIV-positive population, some forms of coping - such as problem-solving, seeking information, and situation reappraisal in a positive light - may have a beneficial effect on emotional response to HIV-related circumstances. In contrast, other forms of coping - such as avoidant coping - may have an adverse effect on mood. These associations are supported by many studies with diverse clientele (Felton & Revenson, 1984).

However, in reviewing the research literature on coping with cancer, Meyerowitz, Heinrich and Schag (1983) actually found that avoidant coping strategies were associated with favorable outcomes. Effectiveness and the adaptive value of coping, then, depends largely on context and population. However, it does appear that both problem and emotion-focused coping are useful under many circumstances (Auerbach, 1989). In studies with HIV-positive populations, coping has been evaluated in relation to a global stressor such as "being seropositive", instead of the multiple substressors of the HIV-positive condition. In regard to such substressors, it becomes difficult to study the coping effort involved and deployed. Particularly, this problem has been observed in coping research with chronic disease patients. To deal with this research problem, Folkman and her team (1993) recommend an assessment of the coping strategies of HIV-positive individuals in reference to the particular domain they determined to be most stressful.

Finally, from a psychosocial perspective, the relationship between coping and the psychological impact of HIV infection has been greatly documented. In addition, from a psychobiological perspective, coping as deployed by the HIV-positive individual has been shown to exert possible influence on disease parameters. In fact, some psychobiological studies have show that active coping is associated with higher total lymphocyte (Goodkin et al., 1992). Furthermore, a rapid progression of disease occurred more often in those patients who coped in a passive way (Solano et al., 1993) or a

fatalistic-resigned way (Reed et al., 1994), particularly when their situations was associated with depression and presence of severe stressful events (Evans et al., 1997; Leserman et al., 1997; Patterson et al., 1995).

The following section examines clinical research as regards efficacy of interventions designed to assist HIV-positive individuals to manage the stresses associated with HIV-related symptoms.

Psychological Interventions with HIV-Positive Clientele

Since the beginning of the 1990's, evidence demonstrating that differences in the coping process can influence the patient's psychological response to HIV has encouraged the developement and evaluation of various psychological interventions centered on behavioral and cognitive coping skills (Kelly & Murphy, 1992).

Coates, McKusick, Kuno, and Stites (1989) conducted the first controlled study evaluating a stress-reduction intervention program on immune status and use of safe sex behaviours. Sixty-four HIV-positive men were randomized to either an intervention group or a wait-list control group. The intervention was scheduled for eight 2-hour sessions, and a full day retreat. The intervention gave emphasis to stress management skills, relaxation training and health behaviour change. Subjects in the intervention group reported significantly fewer sexual partners compared with controls. No difference between groups was observed for immune status measures.

Later studies evaluated the efficacy of psychological interventions at a particular time frame in the HIV spectrum - particularly at the time of notification of HIV-positive status. Antoni and colleagues (1991) evaluated the effect of cognitive-behavioral stress management program on depressed mood and immunologic changes associated with the notification of HIV-positive status.

Forty-seven gay men, unaware of their HIV status, were randomly assigned to a cognitive-behavioral stress management group (n=24) or to an assessment-only group condition (n=23). Control subjects showed significant increase in depression and slight decrease in lymphocyte cell counts pre- to post-notification of HIV-positive status.

Perry and colleagues (1991) tested the effectiveness of three psycho-educational interventions aimed at reducing emotional distress after voluntary serologic testing for HIV. The study sample was comprised of 307 adults who after immediate post-test counseling were randomly assigned to receive either standard counseling, counseling plus a three-session interactive video-program, or counseling plus six individual sessions of stress prevention training. Investigators reported two major findings: 1) the counseling with six individual sessions of stress prevention training program significantly reduced psychological distress in HIV-positive subjects; 2) increased distress was not incurred by HIV-positive subjects in the other groups. Perry and colleagues concluded that the addition of individual stress prevention training in the standard counseling appears particularly helpful at that period of time.

Building on Perry's original study, Card, Jacobsberg, Moffat, Fishman, and Perry (1993) conducted a pilot study to examine the effectiveness of these three interventions in increasing subjects' knowledge about HIV. Adults perceived to be at risk for HIV infection were recruited for free HIV testing and counseling. Results on 328 subjects completing the study indicated that those assigned to an interactive video intervention gained more knowledge than the subjects in other groups. However, Card and colleagues (1993) reported a greater number of persons satisfied with the stress-prevention training. They explained that, due to the interpersonal nature of relationship involved in the stress-prevention training program and its focus on stress reduction, subjects were likely to experience satisfaction. Other recent studies, focused on cognitive-

behavioral skills training and HIV risk reduction intervention, have been conducted with different groups at risk of HIV infection. These groups include a heterosexual ethnic minority group (Kalichman, Rompa, & Coley, 1997), pregnant injecting drug users (O'Neill et al., 1996) and gay\bisexual men (Roffman et al., 1997). Results gathered by Kalichman and colleagues (1997) revealed that cognitive-behavioral intervention significantly increased AIDS-related knowledge and significantly increased initial intentions to change HIV risk behaviors such as unprotected vaginal intercourse.

As well, studies have been conducted which evaluated psychological interventions focused on HIV-positive individuals at an early stage of their infection. Emmott (1992) assessed cognitive group therapy effectiveness with regards to psychological distress reduction in those infected with HIV. Cognitive group therapy sessions were held weekly for ten weeks. Data collected from 32 subjects showed a significant decline in depression and anxiety. Despite these significant results, the design of one group pre- and post-test evaluation is weak and has serious limitations. Similarly, Kelly and colleagues (1993a) compared the effectiveness of brief cognitive-behavioral therapy and social support group therapy on psychological distress, substance abuse and sexual practices. Sixty-eight depressed, asymptomatic HIV-positive men were randomly assigned to one of three groups: an eight-session cognitive-behavioral therapy group, an eight-session social support group, or a comparison group. Results reveal that both therapy groups, relative to the comparison group, experienced reducted distress. Chesney and Folkman (1994) tested the effectiveness of their coping training program, with 20 HIV-positive men and 20 HIV-negative men. Stratified according to their serostatus, they were randomized to the intervention group or a waiting group. This particular program consisted of eight two-hour group sessions and a day-long retreat mid-way through the program. Despite a very small sample size, results show that the intervention improved coping, depression and morale indicators among both HIV-positive and HIV-negative persons.

Mulder and colleagues (1994) implemented a study with a randomized experimental design, so as to compare psycho-immunological outcomes of a cognitive-behavioral group therapy and an experiential group therapy program for 39 aysmptomatic HIV-positive men. Both therapy groups involved 17 sessions over a 15-week period. Mulder found that both interventions, as compared with the control group, decreased distress. However, the interventions did not cause changes in coping, support, emotional expression and CD4 cell or T cell responses. Using an intervention designed by Antoni and colleagues (1991), Lutgendorf and colleagues (1997) tested effects of cognitive-behavioral intervention on mood and immunologic parameters with HIV-positive men whose disease had progessed to a symptomatic stage without clinical symptoms of AIDS. Results indicated that cognitive-behavioral stress management intervention decreased dysphoria, anxiety, distress and immunological parameter: herpes simplex virus-Type 2, immunoglobulin G antibody titers.

In Canada, Lamping and colleagues (1993) evaluated the effectiveness of a stress management program comprised of 8 weekly individual sessions. In their study, 81 subjects were randomly assigned to an immediate intervention or a wait-list group. Findings indicated that the intervention had an effect on subject's quality of life, mood disturbances, depression and subjective distress. A randomized controlled trial, as conducted by Pepler and colleagues (1998), evaluated two different one-day workshops teaching specific coping skills and their effect on psychological well-being and sense of control of HIV-positive persons. These workshops were compared to an unstructured session and a wait list control group. Pepler hypothesized that participants with baseline problem-focused coping skills would benefit from the emotion-focused workshop, and vice versa. Regression analyses revealed no group effect, but paired T-test confidence intervals demonstrated that those subjects who used few problem-focused strategies

initially benefitted from the emotion-focused and those with skills gained more from the unstructured workshops.

In summary, until the mid-1990's, most psychological interventions were designed and tested for HIV-positive persons who were only at the early stages of the infection. For instance, Kelly (et al., 1993a), Mulder (et al., 1994), and Chesney and Folkman (1994), specified in their eligibility criteria that the subject must be in an asymptomatic stage of the HIV-infection or have symptoms of immune compromise that did not reflect major opportunistic illness. More recently, other studies have been conducted with HIV-positive clientele at a more advanced stage of the infection (Bock et al., 1998; Eller, 1995; Gifford et al., 1998; Inouye et al., 1998; McCain et al., 1996). Due to advances in medical management and treatment for opportunistic infections, the trajectory of HIV infection has changed to one of long-term illness with the need for appropriate psychological interventions.

McCain and colleagues (1996) compared the effectiveness of a 6-week stress management training program (1-hour sessions, 1\week for 6 weeks) with a sample of 60% asymptomatic HIV-positive participants (CDC groups A1 and A2) and 40% symptomatic HIV-positive participants (CDC groups B2 through C3). At six weeks, the intervention had brought about increase in emotional well-being. At six months, the intervention had brought about a relative decline in HIV-related intrusive thinking. However, these findings must be considered in light of the research study's weak design: it was a pretest, post-test two-arm non-randomized study. Eller (1995) compared a guided-imagery and a progressive muscle relaxation intervention with a control group condition, conducting a three-by-three blocked (for illness stage) randomized design with 69 HIV-positive subjects. Eller's results revealed that the imagery group experienced a significant decrease in depression and fatigue, while the progressive muscle relaxation group demonstrated an increase in CD4+ T lymphocyte count and a decrease in depression.

To date, cognitive-behavioral interventions have improved the psychological well-being in HIV-positive clientele who are in a relatively well state. However, these therapies, which may often involve 1-2 hours\week for many weeks are far too demanding for an *ill* HIV-positive participant. Thus, in terms of intensity and duration, these interventions were not designed for the HIV-positive individual who experiences an exacerbation of HIV-related symptoms. Of all the cognitive-behavioral interventions, only Eller (1995) designed two interventions which were feasible for the HIV-positive individual in the context of progressive HIV-related symptoms. These interventions by Eller included guided imagery available in a 21.5-minute audiotape, and progressive muscle relaxation, available on a 12-minute audiotape. They were used by the subject on a daily basis for six weeks.

In general, the cognitive-behavioral studies that examine therapeutic effects of psychological interventions have been focused on outcome evaluation rather than process of change. Outcomes most often targetted concern different domains: psychological mood, immunological indicators, sexual behavior. Further research efforts in the cognitive-behavioral field should more carefully consider the process of change underlying therapeutic interventions. Different pathways, for example, could explain changes in depression and positive morale. In their research study, Chesney and Folkman (1994) postulated that change in depression and positive morale are associated with a shift in coping profiles. However, Emmott (1992), on the other hand, reported no difference in coping scores before and after the intervention. Using the Dysfunctional Attitudes Scale, Emmott noted a change in terms of patterns of thinking. In these interventions by Chesney and Folkman, and Emmott, decreased depression was the particular component targetted. With the goal of reduced depression, Folkman and Chesney (1994) focused on coping skills, while Emmott (1992) centered his intervention on modification of thinking. Results of another study by Mulder and colleagues (1994) indicated decreased distress through psychosocial intervention, yet with no changes reflected in coping strategies.

Mulder stated that long-term intervention, such as those performed by Spiegel, Bloom and Yalom (1981) with cancer patients (1-year), are needed so as to change established coping styles in patients who have lived with their diagnosis for a long period of time.

Changes in coping skills and social support were recently examined by Lutgendorf and colleagues (1998) in relation to reduced dysphoria, anxiety, and distress. Their results demonstrated significant improvement in the HIV-positive individual's cognitive coping strategies - in particular those coping strategies that involve positive reframing and acceptance. As well, their results demonstrated significant improvement in the HIV-positive individual's social support by the end of the intervention program. These results were compared with controls who showed decrements in coping skills and no change in social support. In both conditions, improved cognitive coping - specifically, an acceptance of the HIV infection - was strongly related to reduced dysphoria, anxiety, and distress in both conditions. Lutgendorf concluded that, during the intervention, changes in social support and cognitive coping skills mediate effects of the experimental condition on distress.

Most psychological interventions for HIV-positive clientele have targetted a cross-section of coping skills, and have a mixed-focus approach so as to help individuals to cope with the stress of their HIV-related circumstances. Auerbach (1989) stressed the importance of the relationship between coping intervention skills and the nature of stressor faced by the HIV-positive patient at different times. Consistent with Auerbach's view, this study placed its focus on the particular stressor of exacerbation of HIV-related symptoms in HIV-positive individuals with an intervention centered specifically on cognitive coping skills and emotional response regulation. The following section discusses empirical findings of cognitive approaches.

It is important to remember that the majority of studies related to psychological dimension of HIV infection have over-sampled well-

educated, white males who contracted HIV infection through homosexual contact. Although this particular group reflects the current epidemiology of HIV in Canada, the extrapolation of these findings to other subgroups is unknown.

Cognitive Approaches

Over the past three decades, considerable research has evaluated the cognitive model of depression. In Ernst's (1985) and Hollon and Najavits's (1988) review of the research literature, empirical work was observed to largely support the cognitive model of depression. Another review by Dobson (1989) concluded that efficacy of cognitive therapy in the treatment of depression has been well demonstrated.

Since its inception, cognitive therapy has been applied to a wide range of psychological disorders, including anger, anxiety disorders, personality disorders, psycho-physiological disorders, eating disorders, as well as various childhood difficulties (Beck, 1993). Moreover, the cognitive therapeutic approach has made significant contributions to behavioral medicine in the areas of cardiovascular disorders, obesity, bulimia, chronic pain, benign headache, cancer, asthma, and acquired immunodeficiency syndrome (Emmelkamp & Oppen, 1993).

With such diverse applications, several lines of research have evolved from the original cognitive model of depression (Beck, 1991). In behavioral medicine studies, an evaluation of the relative contribution of the cognitive approach has been difficult because, to date, most cognitive interventions have been embedded in behavioral programs (Emmelkamp & Oppen, 1993; Robins & Hayes, 1993). However, many of these applications offer support for the appropriateness and applicability of cognitive approaches across medical conditions.

Cognitive-Behavioral Interventions

In the field of cardiovascular disorders, cognitive stress management programs have been designed for Type A individuals (Roskies, 1987a, b), depressed stroke patients (Lincoln, Flannaghan, Sutcliffe, & Rother, 1997), hypertensive individuals and smokers (Lichtenstein & Glasgow, 1992). For example, Bosley and Allen (1989) evaluated a cognitive stress-management program and found a reduction in blood pressure. As well, Nunes, Frank and Kornfeld's (1987) review of research literature indicated that cognitive behavioral programs were effective in changing the Type A pattern and improving coronary artery conditions.

In the field of eating disorders, results have been mixed as regards the efficacy of cognitive interventions to behavioral programs on weight reduction (Collins, Rothblum, & Wilson, 1986; Kalodner & DeLucia, 1991). Specifically, as concerns individuals who suffer from bulimia nervosa, cognitive-behavioral approaches are shown to have a beneficial effect on binge eating and vomiting (Fairburn, 1981; Fairburn, O'Connor, & Cooper, 1986; Leitenberg, Rosen, Gross, Nudelman, Vara, 1988; Yates & Sambrailo, 1984). Recently, cognitive-behavioral group therapy demonstrated efficacy among patients, helping to alleviate irritable bowel syndrome, stimulate coping strategies, and reduce avoidance behavior (Van Dulmen, Fennis, & Bleijenberg, 1996). However, Craig, Hancock, Dickson, and Chang (1997) tested cognitive behavior therapy during the rehabilitation of spinal cord injured persons and, in contrast, found no effect on anxiety, depressive mood, and self-esteem.

In the area of chronic pain, cognitive-behavioral interventions have shown success (Basler, 1993; Fishman, 1992). Clients have experienced reductions in pain (Engstrom, 1983; Keefe et al., 1990), health care utilization (Turner, 1982), and physical disability (Keefe et al., 1990). As well, clients have experienced increases in internal locus of control (Engstrom, 1983), improved mood and self-efficacy

(Philips, 1987), and changes in affective reactions to pain, avoidance behavior, drug intake and exercise capacity (Philips, 1987). In the domain of dentistry, cognitive-behavioral techniques (Martelli, Auerbach, Alexander, & Mercuri, 1987; Wolfe, Stewart, Meader, & Hartz, 1996) have been effective in improving outcomes related to oral hygiene (Alcouffe, 1988; Stewart et al., 1991).

In the area of cancer, there is evidence that cognitive-behavioral interventions induce a reduction in patient's emotional distress (Lovejoy & Matteis, 1997). Edgar, Rosberger and Nowlis (1992), for example, found their cognitive coping intervention to have positive effects on anxiety, depression, and distress. In their work with cancer patients, Fawzy and colleagues (1990a, b) observed decreased distress, increased utilization of active cognitive coping strategies at 6 months follow-up, as well as changes in immunological parameters after a cognitively based intervention. Recently, Moorey, Greer, Bliss, & Law (1998) found their cognitive behavioral intervention to produce a significant change in fighting spirit, helplessness, coping, anxiety, and self-defined problems among patients with various types of cancer experiencing abnormal adjustment reaction. Kissane and colleagues (1997) tested a new psychological intervention which integrates existential and cognitive psychotherapy traditions, using a study sample of 300 patients with breast cancer.

Research literature documents the importance of cognitive therapy to clinical practice involving patients suffering from diverse chronic physical illnesses (Bates, Burns, & Moorey, 1989; Fishman, 1992; Golden & Gersh, 1990; Golden, Gersh, & Robbins, 1992; Sensky, 1989). Recently, in a pilot study conducted by Tuschen-Caffier, Florin, Krause and Pook (1999), the impact of a 6-month cognitive-behavioral therapy for infertile couples was evaluated. The therapy group experienced increased sperm concentration, decreased thoughts of helplessness and decreased marital distress. At the 6 month follow-up, problem-focused thoughts had also decreased, and

the live birth rate was higher in the therapy group than in epidemiological samples.

Evaluating the efficacy of these cognitive intervention programs raises several issues. First, programs are designed for diverse clientele and target various outcomes. For example, in the field of behavioral medicine, outcomes include psychological parameters (for example, mood, locus of control, self-efficacy), physiological indicators (for example, blood pressure), behavioral parameters (for example, diminution in self-inflicted vomiting or in drug intake), and health care parameters such as decreased health care utilization. Second, protocols for cognitive and behavioral interventions vary greatly, including duration, intensity, and content of sessions offered. In evaluating the cognitive part of such programs, it is important to remember that the application of cognitive theory-therapy differs according to the problem experienced by particular clientele, the purpose and the outcome expected.

According to Beck (1993), in evaluating the applicability of cognitive intervention models for certain disorders it is necessary to keep in mind a primary, recurring theme: the bias in information processing which produces dysfunctional behavior and excessive distress. With type A behavior, cognitive interventions focus on altering the particular schemata concerning self and others. With obese clientele, cognitive interventions are directed towards altering common irrational beliefs (such as one is only valuable as a person when one is thin), and feelings of guilt. With clientele suffering from eating disorders such as bulimia nervosa, cognitive interventions are directed toward irrational beliefs and distorted cognitions. With substance abuse patients, cognitive interventions are directed towards a series of beliefs, such as I can't stand my boredom and: after such as It's okay to have a smoke this one time. Finally, typical avoidant beliefs recur among sex offenders, such as: "Sex with my daughter will be good for our relationship and will help her to mature" (Beck, 1993).

In contrast to these cognitive intervention models which focus on common dysfunctional beliefs of particular clientele, some authors utilized cognitive intervention models differently. Specifically, they did not assume the preexistence of faulty cognitions as a point of departure. With patients suffering from chronic pain, for example, the focus of the cognitive intervention is modification of the patient's subjective experience of pain and acquisition of cognitive coping skills. In a specific situation with cancer patients, a nurse and her collaborators (Edgar et al., 1992) explained to the patient that the distress they experienced emerged from their own cognitive appraisal of illness, meaning that if the patient reappraised their thoughts they could become less distressing. In the present study, similarities exist between the utilization of a cognitive intervention model for HIV-positive individuals with exacerbated HIV-related symptoms and previous cognitive interventions with patients suffering from chronic pain and cancer, as documented in literature.

The following section examines nursing knowledge as regards development and evaluation of cognitive coping interventions among different populations, and in particular HIV-positive clientele.

Nursing Interventions

Recent nursing research has focused on the implementation and evaluation of psychosocial interventions which encompass cognitive and behavioral coping skills. Edgar and colleagues (1992), Cunningham and Tocco (1989) and Palsson and Norberg (1995), for example, have designed and evaluated such interventions with cancer patients. Findings indicate that these nursing interventions produced beneficial outcomes. Patients experienced a decrease in depression, anxiety, and worry, and an increase in feelings of safety and security. Recently, in an intervention by Zauszniewski (1997) conducted with elders, resourcefulness skills were taught and measurements taken for: learned resourcefulness, anxiety, depression, adaptive functioning and life satisfaction. Results

indicated that the elderly participants who received Zauszniewski's intervention scored significantly higher on learned resourcefulness, adaptive functioning, and life satisfaction than the elderly participants who did not receive the intervention.

Abraham and Reel (1992), Abraham, Neundorfer, and Currie (1992b), Campbell (1992) and Zerhusen, Boyle, and Wilson (1991) have evaluated the cognitive component of psychosocial interventions, including diverse clientele as: long-term residents, depresssed adults and the elderly. Campbell (1992) found that the experimental group of elderly who received the nursing intervention focused on positive-input thought patterns demonstrated significant reductions in depressive symptoms. Similar results were noted by Zerhusen and colleagues (1991) among their group of depressed elderly. However, in the cognitive-behavioral intervention by Abraham (et al., 1992) significant improvements were noted on participants' cognitive scores but were not noted on their depression scores.

In summary, nursing interventions focused on cognitive and behavioral components have produced positive outcomes among participants. Despite minimal nursing coping intervention research available, clinical articles describe the application of cognitive interventions (Lam & Cheng, 1998), with clients suffering from anorexia nervosa, bulimia nervosa (Meades, 1993), body-image disturbance (Newell, 1991), anger (Reeder, 1991), ventricular dysrhythmia (Dunbar & Summerville, 1997) and other problems (DeHowitt, 1992; Massey & Pesut, 1991; Mintz & Collins, 1991).

Clinical nursing research among HIV-positive patients is still sparse, particularly with regards to practical aspects of psychosocial care. Extensive review literature on psychological nursing intervention research identifies three important studies: Eller (1995); McCain and colleagues (1996); and Pepler and colleagues (1998). These three nursing research studies tested interventions which focused on stress management skills in relation to increased

well-being, decreased intrusive thinking (McCain et al., 1996) and decreased depression (Eller, 1995). Pepler's team found differential responses to be dependent on baseline coping patterns.

While the majority of research literature related to the care of HIV-positive persons is clinical (Bennett, DeMayo, & Saint Germain, 1993; Hall, 1994b), nursing interventions are derived from research on physical and psychosocial aspects of person with HIV (Gloersen et al., 1993; Hall, 1994a; O'Brien & Pheifer, 1993; Ragsdale et al., 1992). For example, Gloersen and colleagues (1993) studied the phenomenon of "doing well" in people with AIDS. They recommended specific interventions strategies such as mastery-control techniques, health education groups and resources, and cognitive therapy focused on positive thinking. As well, Ragsdale and her colleagues (1992) conducted research on the quality of life of hospitalized persons with AIDS. Ragsdale explained various ways nurses could improve the quality of life of their HIV-positive clientele by supporting their respective management styles. O'Brien and Pheifer (1993) recommended nursing intervention strategies to assist HIV-positive people cope with particular areas of difficulty, such as: fatigue, weight loss, self-concept, loneliness, sexual integrity, home maintenance management, impaired communication and spiritual disress. One common nursing strategy, as recommended by O'Brien and Pheifer, is to encourage and support the HIV-positive client in expression of emotion, through the nurse's presence and active listening. Furthermore, Kermode (1995) studied the patient's experience of nursing interventions during hospitalization with an AIDS-defining illness, and recommended the therapeutic value of presencing.

From these nursing research studies examining psychosocial aspects of HIV-positive persons, various nursing intervention strategies have been proposed. Unfortunately, however, research on nursing interventions with HIV-positive clientele experiencing an exacerbation of HIV-related symptoms do not exist. For the purposes of the present study, a new psycho-social nursing intervention -one

centered on cognitive coping skills - was evaluated. For comparison purposes, a common nursing intervention has been selected from clinical nursing literature: a nursing intervention focused on the expression of emotions. The following section examines further rationale on these two emotion-focused interventions.

Emotionally Focused Intervention

Greenberg (1993) described four extant and evolving psychotherapeutic approaches to emotion: 1) psychoanalytic; 2) behavioral; 3) cognitive; and 4) experiential. Each approach endorses a particular view of emotion and its role in human functioning and therapeutic change. From these four psychotherapeutic approaches, Greenberg (1993) derived three major types of emotion- focused interventions: 1) interventions which acknowledge emotion; 2) interventions which evoke and intensify emotion; and 3) interventions which restructure emotion schemes. According to Greenberg (1993), emotion restructuring is the most important goal of the emotion-focused intervention. Greenberg and Safran (1987) and Nichols and Efran (1985) stipulated that emotional processing requires three components: affective arousal, cognitive change, and a shift to positive feelings.

Some researchers, taking Greenberg's propositions a step further, (Donnelly & Murray, 1991; Murray, Lamnin, & Carver, 1989; Segal & Murray, 1994) advance the idea that affective discharge alone is not sufficient for therapeutic change. Segal and Murray (1994) tested the hypothesis that brief cognitive psychotherapy is more effective than simple expression of emotion. They randomly assigned undergraduate student subjects to a cognitive therapy group or a vocal expression group. In both groups, subjects had 20-minute sessions for four successive days. Each day, subjects were asked to express their deepest thoughts and feelings about a traumatic experience, such as the death of a close relative, breakup of a serious relationship, or parental divorce. In the cognitive

therapy group, emphasis was given to identification and correction of cognitive distortions and maladaptive beliefs. In the vocal expression group, subjects simply expressed their feelings into a tape recorder. Segal and Murray found important differences between the two groups. In the vocal expression group, subjects persistently focused on negative emotional content over the four-day period and experienced an augmentation of negative feelings after each session. In contrast, the cognitive psychotherapy group experienced increased positive affect after each session. Although both procedures facilitated the process of responding to a traumatic experience, Segal and Murray concluded that subjects in the cognitive therapy group experienced greater positive benefits.

Murray and colleagues (1989) compared a brief two-session psychotherapy with written expression about stressful life events. They concluded that written expression was effective in arousing negative affect but was not effective in changing feelings. Murray and colleagues advocate "a model of therapeutic change stressing emotional expression followed by cognitive reappraisal rather than a model of simple affective discharge" (p. 414). In a second study using a four-day paradigm, Donnelly and Murray (1991) found no difference in outcome between psychotherapy and written expression about stressful life events. However, important differences were found once process measures were compared. In fact, after each session of written expression, an augmentation in negative mood was observed that did not appear following a session of psychotherapy.

Throughout these studies (Donnelly & Murray, 1991; Murray et al., 1989; Segal & Murray, 1994), one important factor is confounded in the comparison of psychotherapy with written or vocal expression of emotion: the absence of an intervenor in the written or vocal expression group. Furthermore, the intervention "written or vocal expression of emotion" is derived from a more classical psychoanalytic perspective, where emotions are understood as needing to be expressed, released or discharged.

In the present study, the comparison group focused on expression of emotions, and was inspired by a more experiential approach. The present study took into account the particular situations experienced by HIV-positive people, and the clinical (Gloersen et al., 1993) and empirical (Kermode, 1995) nursing literature. Using a more experiential approach, emotions were valued as primary components of human experience, rather than something to be expelled or gotten rid of. Thus, the goal of the intervention was to heighten the HIV-positive person's awareness of their emotional experience (acknowledgement of emotion). In comparison to cognitive approaches, this experiential approach placed greater emphasis on the experience and expression of emotions. Therapeutic change, then, was meant to involve the purposeful experiencing of feelings. Patients were assisted in talking about their feelings by an intervenor who listened in an accepting, supportive manner and acted primarily to convey empathic understanding of the client as suggested by Pierce, Nichols, and Dubrin (1983). Treatment involved an empathic response to client experiences, so as to permit acknowledgement of emotion. Empathic confirmation, according to Greenberg (1993), helps solidify the clients' highly subjective, unsure sense of feeling. Greenberg (1993) explains: "When a feeling first emerges into a client's awareness, it is vague and the client is unsure. When it is empathically understood by another, this acts to confirm that the feeling is real, and the client becomes more confident in his or her own experience. With therapeutic development, the unsure felt sense progresses from a state of relative globality and lack of differentiation to one of increased differentiation, articulation and integration." (Greenberg, 1993, p. 506).

To restate, emotional processing involves three processes: expression of feelings, cognitive reappraisal, and a shift to positive feelings. Therefore, a nursing intervention centered on cognitive coping skills (emotion-restructuring intervention) was expected to be

more effective in producing change than a nursing intervention focused on expression of emotions (emotion-acknowledging emotion).

Summary

Review of research literature indicates that distress in HIV-positive clientele can be addressed through specific coping interventions. As well, the literature review suggests that exacerbation of HIV-related symptoms places the HIV-positive person at risk for emotional distress. However, most psychological interventions have been designed for an asymptomatic HIV-positive clientele - that is, persons at an early stage of the infection. Few interventions for HIV-positive persons at a more an advanced stage of HIV-related illness have been reported. Most nursing interventions proposed for such a clientele have been derived from psychosocial research on HIV-positive persons. To date, no nursing interventions have been evaluated in HIV-positive patients hospitalized for an exacerbation of HIV-related symptoms.

This literature review emphasizes the importance of interventions for HIV-positive individuals experiencing exacerbated HIV-related symptoms. Numerous authors agree that coping interventions should be closely tied to the nature of stressor faced by the individual. Therefore, a specific intervention, centered on cognitive coping skills for HIV-positive individuals experiencing exacerbated HIV-related symptoms, was developed. Cognitive approaches have demonstrated efficacy in treatment of depression. Since cognitive interventions have been embedded in behavioral interventions programs, it is more difficult to assess their contribution in behavioral medicine. However, the cognitive approach seems to offer benefits across many medical and psychological conditions.

In this study, an intervention focused on developing cognitive coping skills HIV-positive individuals experiencing exacerbated HIV-

related symptoms was compared with an intervention focused on facilitating expression of emotions in an acutely-ill HIV-positive sample clientele.

Major Questions and Hypotheses

The purpose of the present study was to compare a nursing intervention centered on development and maintenance of cognitive coping skills with a nursing intervention centered on facilitating of expression of emotions and a non-intervention (wait list control) group. For all three groups, the effects on regulation of emotional response in HIV-postive persons hospitalized for exacerbated, HIV-related symptoms was evaluated.

Therefore, two principal questions were proposed:

What is the difference in mood (positive affect and negative affect) between HIV-positive persons who receive the intervention centered on cognitive coping skills compared to those who receive the intervention focused on the expression of emotion and those in the control condition?

What is the difference in psychological distress (intrusion and avoidance) between HIV-positive persons who receive the intervention centered on cognitive coping skills compared to those who receive the intervention focused on expression of emotions and those in the control condition?

To guide these principal questions, the following hypotheses were examined:

Hypotheses Related to Mood

Hypothesis I. Patients who receive the intervention centered on cognitive coping skills and those who receive the intervention

focused on expression of emotions will experience an increase in positive mood and a decrease in negative mood from the day before the intervention to the day after the intervention, as compared to patients in the control group.

Hypothesis II. Patients who receive the intervention centered on cognitive coping skills will experience an increase in positive mood and a decrease in negative mood each day over a four day period, as compared to patients who receive the intervention focused on expression of emotion.

Hypotheses Related to Psychological Distress

Hypothesis III. Patients who receive the intervention centered on cognitive coping skills will experience a decrease in distress score from the day before the intervention to the day after the intervention, as compared to patients who receive the intervention focused on expression of emotion and patients in the control group.

Hypothesis IV. Patients who receive the intervention centered on cognitive coping skills will experience a decrease in intrusion score from the day before the intervention to the day after the intervention, as compared to patients who receive the intervention focused on expression of emotion and patients in the control group.

Hypothesis V. Patients who receive the intervention centered on cognitive coping skills and patients who receive the intervention focused on the expression of emotions will experience a decrease in avoidance score from the day before the intervention to the day after the intervention compared to patients who are in the control group.

For the purpose of comparing immediate intervention effects, the following question was posed:

What is the difference in anxiety between HIV-positive persons who receive the intervention centered on cognitive coping skills and

those who receive the intervention focused on the expression of emotion?

To guide this question, the following hypothesis was examined:

Hypothesis Related to Anxiety

Hypothesis VI. Patients who receive the intervention centered on cognitive coping skills will experience a decrease in anxiety from immediately before to immediately after the session, as compared to patients who receive the intervention focused on expression of emotion will experience an increase.

As well, the following questions, concerning relationships among study variables before and after both interventions (two points in time), were addressed:

What is the relationship between appraisal and psychological distress in HIV-positive persons experiencing exacerbated HIV-related symptoms? What is the relationship between appraisal and mood scores in HIV persons experiencing exacerbated HIV-related symptoms?

Based on the chosen theoretical model and the research literature review, the following hypothesis was proposed:

Hypothesis VII. HIV-positive patients who appraise the event (exacerbated HIV-related symptoms) as stressful will have higher scores for psychological distress, intrusive thoughts, avoidance, and negative affect, and will have lower scores for positive affect.

CHAPTER III. METHODS

Design

This research project investigated the regulation of emotional response in HIV-positive persons experiencing an exacerbation of HIV-related symptoms. To address the research questions regarding this emotional response, a randomized, controlled trial was used to compare the effects of: (a) a nursing intervention centered on cognitive coping skills (X1); (b) a nursing intervention focusing on the expression of emotions (X2); and (c) a non-intervention (wait list intervention) group (X3).

According to Parloff (1986), in psychotherapy research, it is more informative to conduct comparative studies using treatments that are operationally and theoretically distinctive and linked to the problem being treated, rather than using placebo controls. The choice of this research design - the randomized controlled trial - was made on the basis of the goal of this project: to maximize internal validity so as to distinguish treatment effects (Fetter et al., 1989; Fleiss, 1986; Green & Lewis, 1986; Karasu, 1982).

Sample

The sample was composed of 90 HIV-positive adult men hospitalized for an exacerbation of HIV-related symptoms, who knew their seropositivity at the time of hospitalization. Participants were randomly assigned to one of three groups: a nursing intervention centered on cognitive coping skills (n=29), a nursing intervention focused on the expression of emotions (n=30), or a non-intervention (wait list control) group (n=31).

This convenience sample was recruited at two tertiary care hospitals, designated as centres for AIDS care and research (Unités hospitalières de recherche, d'enseignement et de soins sur le SIDA

(UHRESS)). Of the 376 hospitalized patients, 161 patients met the following inclusion criteria: HIV-positive men; able to communicate in French and in writing; expected to stay in hospital at least one week from recruitment; and able to participate both mentally and physically - that is, not in the terminal phase of illness, confused, or over-medicated.

In total, 215 HIV-positive patients hospitalized over the data collection period did not meet the criteria: 72 women, 44 persons who were psychologically unable to participate (32 persons with neurological AIDS complications and 12 persons who had psychological problems), 52 persons who had already participated in the study (second hospitalization), 14 persons who were unable to communicate in French, 14 active drug adicts, 6 persons who were unaware of their seropositive status and 13 for diverse reasons (one person was aphasic, two persons who were dying, one person who was completely blind, four persons with tuberculosis, one person over-medicated for pain, four persons at the end of their hospitalization).

In all, 138 patients were approached to participate in the study, because the remaining 23 eligible patients were discharged. From these 138 patients, 119 agreed to participate in the study and 19 refused (4 because of their sickness and 15 because their lack of interest). Of these 119 patients who started the study, 22 did not participate at all, due to premature discharge and 7 withdrew (four participants were transferred to the intensive care unit or deceased, one participant was overwhelmed by his present situation, and two participants were busy with their families). Of these 7 dropouts, one had been assigned to the cognitive group, two were in expression group and four in the wait list group. In total, 90 participants completed the entire process of the study. A summary of the sampling process for eligible and ineligible participants is presented in figures 1 and 2.

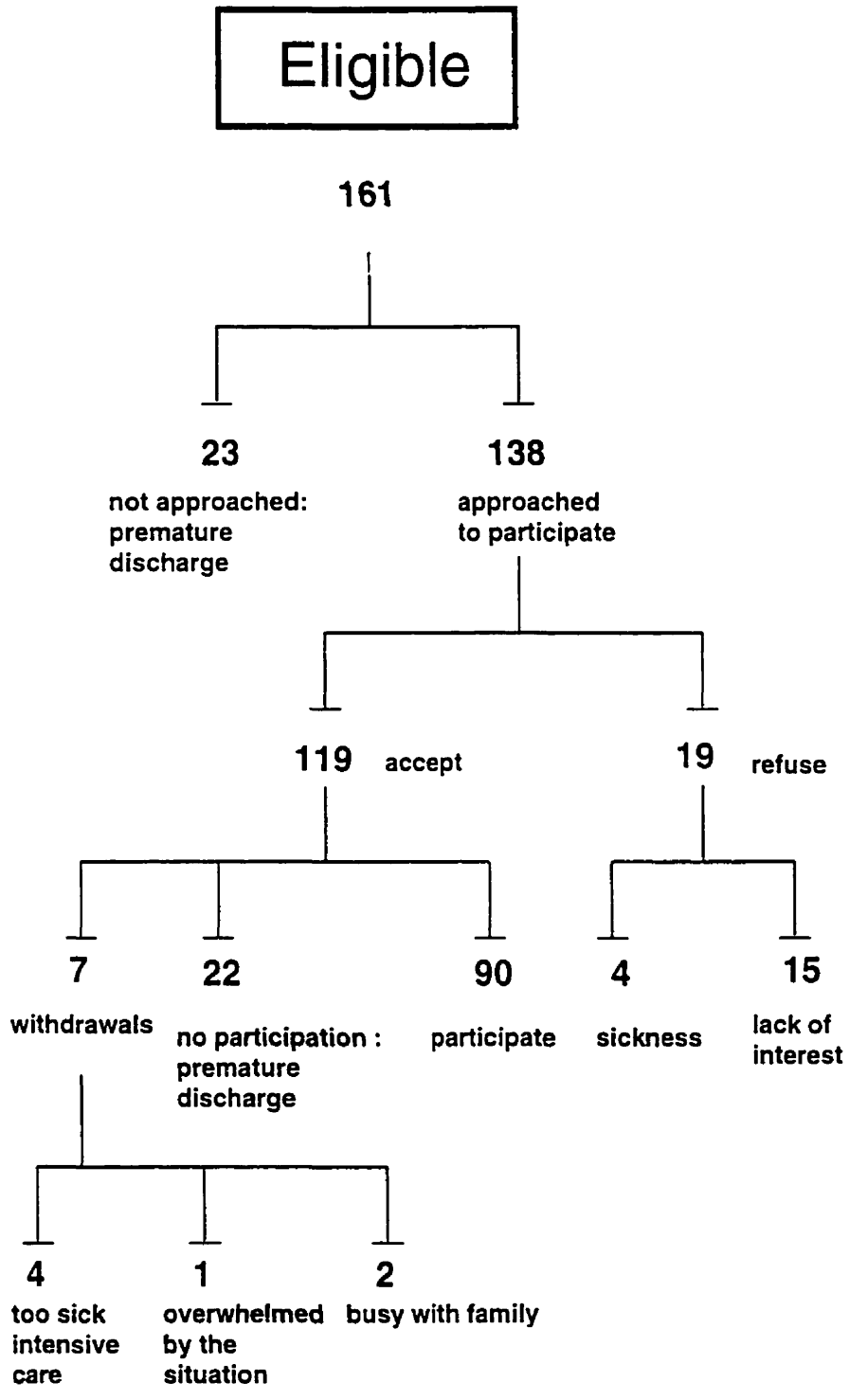

Figure 1. Eligible participants

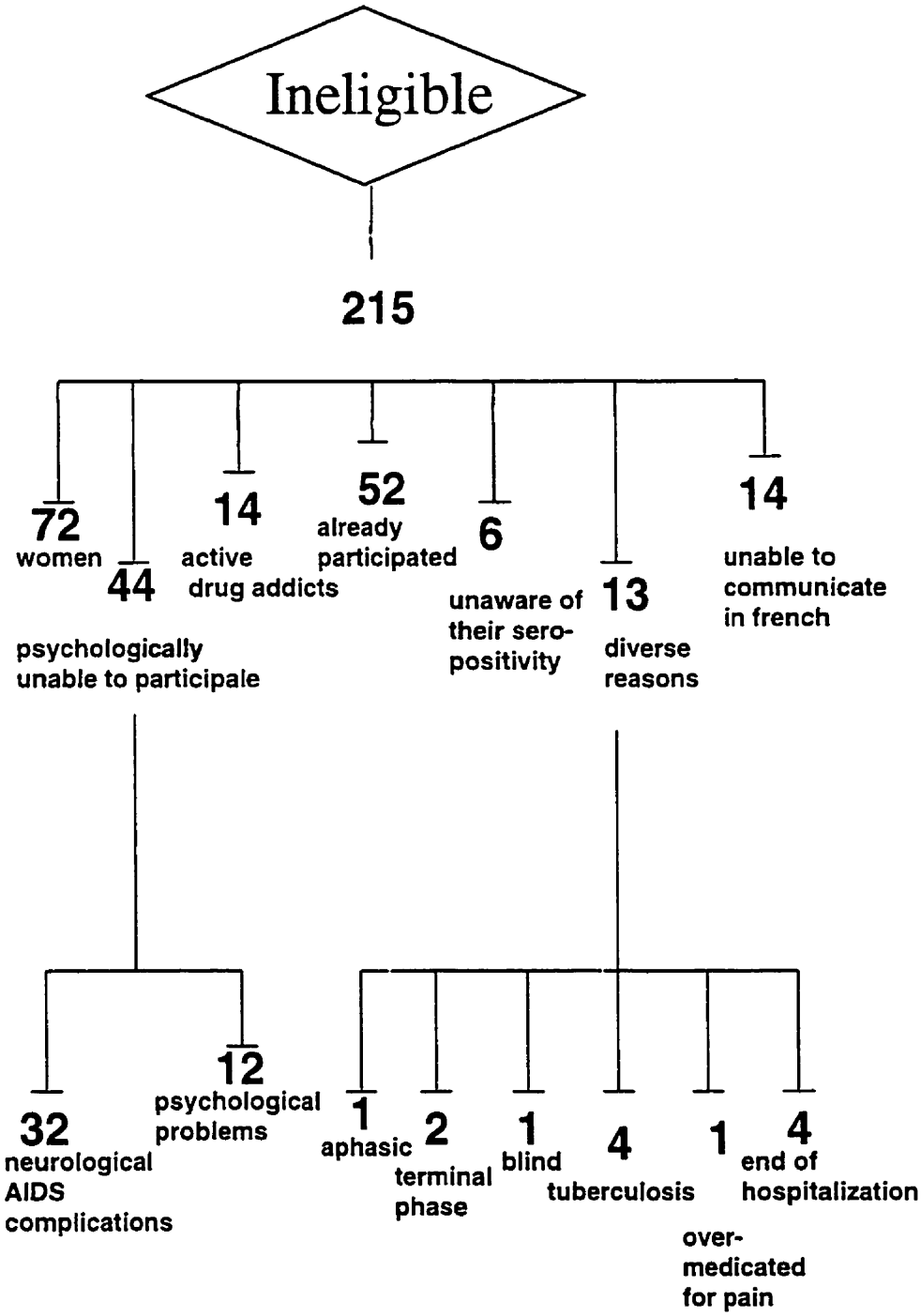

Figure 2. Ineligible participants

To restate, the sample for this study was composed of HIV+ males only. As corroborated by Anderson's (1995) cross-sectional study involving 77 men and 50 women with HIV infection, gender significantly influences the coping process. Based on the numerous differences identified between men and women, Anderson proposed the gender-specific nature of interventions.

The sample size was determined by a power analysis (Cohen, 1977). In order to calculate the sample size, two principal dependent variables were considered: mood measured by the Positive and Negative Affect Schedule (PANAS); and psychological distress, as assessed by the Impact of Event Scale (IES). Based on the findings of Segal and Murray (1994) (details of their study are provided in the "emotionally focused intervention" section, p.38), the expected effect size was estimated at .4 for the PANAS and .359 for the IES. The calculation of sample size, based on the effect size expected and on a significance level of .05 and a power greater than 80%, indicated a sample size of 20 per group for the PANAS and 32 per group for the IES. Based on these calculations, the sample size for the study was fixed at 96, resulting in 32 participants per group.

Interventions

The nurse-patient relationship became the back drop for both interventions. Presence is the key that opens the door to the nurse-patient relationship (Gardner, 1992). According to Gardner (1992), the nurse's presence for the patient is expressed through three domains: a cognitive domain, an affective domain, and a behavioral domain. In this study, it was possible for the nurse to be fully present in both the cognitive and affective domains: in the cognitive domain through verbal communication, empathy and understanding the patient's experience, and in the affective domain through positive regard, trust, and genuineness. To some extent, it was also possible for the nurse to be present in the behavioral domain

through ensuring physical comfort (by giving water, bringing the urinal, etc.). However, in situations involving treatment or professional care, the nurse assigned to the patient was contacted.

Both interventions - the treatment focused on expression of emotions and the treatment centered on cognitive coping skills - were administered by the same nurse, on three consecutive days in 20- to 30-minute daily sessions. These individual sessions addressed the patient's present illness episode and explored the specific situation experienced by the HIV-positive person. Details of these two interventions are presented in the following sections.

Intervention Focused on the Expression of Emotions

In one group, three consecutive sessions were centered on facilitating the expression of emotions in the HIV-positive patient. The patient was encouraged to express his feelings with regard to his HIV-positive status, his HIV-related symptoms, and his present illness episode requiring hospitalization. Empathy constituted the fundamental component of the nurse-patient interactions. In these sessions, the nurse sought to understand the patient's experience of the illness episode cognitively (by listening to the patient's perspective) and affectively (by reacting and sharing emotions). Listening skills and therapeutic communication strategies were used - for example, reflection, which is considered as the technical base of active communication (JoBanks, 1992). In conjunction with the principle of empathy, warmness, self-disclosure, attention, engagement, genuineness, authenticity, honesty, non-judgmental approach (unconditional positive regard) were also central in the nurse-patient interactions. Moreover, it was important that the patient felt that the nurse took the time to be with him and was truly concerned about his situation. The nurse, in being sensitive to patients' situations and distress, was better able to listen reflectively to the patient's verbalized concerns. In addition, the nurse's

presence was further manifested through body postures and body language such as touch.

Intervention Centered on Cognitive Coping Skills

Although empathic understanding was also inherent in this particular intervention, the primary focus was on the development, maintenance and strengthening of the patients' cognitive coping skills, so as to regulate their emotional response. Thus, this intervention was characterized by a scheduled educational component.

The intervention targeted the patient's particularly stressful experience of being HIV-positive and experiencing the present illness episode and symptoms. The intervention took into account coping skills already mastered by the patient. In theory, the intervention was designed to develop, maintain and strengthen these skills. However, it is important to keep in mind that clinically there are no absolutely clear boundaries that distinguished these components.

Specific steps taken by the nursing intervention whose purpose was to develop these cognitive coping skills:

1) Guide the patient in becoming aware of how his thoughts mediate emotional arousal.
2) Guide the patient in becoming aware of his self-perceived, un-helpful thoughts.
3) Guide the patient in modifying his thoughts by using self-talk constructively. Help the client to generate more helpful thoughts that might entail less negative emotional states.

Specific steps taken by the nursing intervention whose purpose was to maintain and strengthen these cognitive coping skills:

1) Guide the patient in becoming aware of how his thoughts mediate emotional arousal.
2) Guide the patient in becoming aware of his self-perceived helpful thoughts.
3) Acknowledge and reinforce the process.

The following section explains and illustrates the intervention.

Development of Cognitive Coping Skills

The nurse-researcher encouraged the patient to express his feelings with regard to his HIV-positive status, his HIV-related symptoms, and his present episode of illness. Then, the nurse-reseacher focused on the feelings expressed by the patient, encouraging him to talk about the situation and his related emotions.

Emotion, according to Roskies (1992), is a signal which permits the examination of thought. For this research study, a distinction was established between the facts of the patient's situation and the meaning given to them through his interpretation. The nurse-researcher tried to emphasize that the feelings the patient experiences are the product of thoughts. She stressed the idea that feelings of distress could be decreased by modifying or changing the un-helpful thoughts associated with them. The goal was to increase the patient's awareness that his interpretation contributes to the intensity and the duration of his emotional distress and that the modification of his un-helpful thoughts might lead to less negative emotional states.

Being HIV-positive and experiencing the present illness episode, the patient generally understood he had little control over the medical facts related to his current situation. However, it was assumed he could, nevertheless, exert control over the emotions

generated by his appraisal of the facts (notion of goodness-of-fit). When the patient realized his emotions were linked to his interpretation of his situation, he would then be encouraged to recognize that if his interpretation was not helpful, the resulting emotions and actions could be harmful for his well-being. Then, modification of unhelpful thoughts would be accomplished by analyzing the patient's thoughts and by introduction of more helpful thoughts. The nurse-researcher explained to the patient that people modify their thoughts once they have determined that their thoughts aggravate their distress.

Maintaining and Strengthening Cognitive Coping Skills

The nurse-researcher encouraged the patient to express his feelings with regard to his HIV-positive status, his HIV-related symptoms, and his present illness episode requiring hospitalization. By drawing attention to the connection between thoughts and emotions, the nurse-researcher tried to increase the patient's awareness that his way of perceiving or interpreting his situation affected the way he felt. The nurse-researcher explained that while the patient may have little control over the medical facts of his situation, he could still exert important control over the emotion generated by his interpretation of the facts. Then, the nurse-researcher acknowledged and reinforced the cognitive restructuring process.

Appendix (A) presents more details of the three, consecutive 20-30 minute sessions. The first session permitted sensitization to the cognitive coping skills strategy, the second session was used for illustration and application of the cognitive coping skills, and the third session focused on consolidation of the cognitive coping skills.

Consistency of Interventions

Protocols should be sufficiently standardized so as to be reproducible and persuasive (Silverman, 1985). In order to evaluate intervention integrity, 12 cases (6 for each of the 2 interventions) were randomly selected. Session content was examined by a research assistant (blind to the intervention) for protocol adherence (assessment of elements of the grid) (Appendix B).

Procedure

Preliminary Contacts

In the preliminary phase (April and May 1995) of this research project, collaborative relationships were established with resource persons in three different medical settings. The clinical expertise of skilled resource people permitted the enrichment of protocol in various ways (sampling, interventions and procedure) and the improvement of the study's feasibility. Ethical and research approval were obtained from the centres (Appendix C).

To implement the project, contacts with nurses and medical teams were made in eight units over the three sites. The project was explained and collaborative processes were discussed with the medical and nursing teams. Then project was presented in scientific meetings at hospital research institutes.

Pilot phase

In January 1996, the investigator and the research assistant carried out the pilot phase of the research project. To evaluate and test the process of intervention and measurement, 6 subjects were recruited (3 subjects in the cognitive group, 2 in the expression

group and 1 in the control group). The pilot phase enabled the identification of some potential problems that are outlined below.

First, it became evident that pre- and post-instrumentation was too demanding for HIV-positive patients hospitalized for an exacerbation of HIV-related symptoms. For example, the majority of participants took at least one hour to complete all questionnaires (100 items) with only one highly- skilled participant taking 30 minutes. Therefore, it was decided to drop some measures and retain the principal outcome variables: Positive and Negative Affect Scales (20 items) and the Impact Events Scale (15 items). Unfortunately, the short questionnaire regarding a coping variable- the "Ways of Coping Checklist" (16 items) - was abandoned, and only one subscale (4 items) of the "Stress Appraisal Measure" (24 items) was retained to appraise the stress.

As for the procedure regarding measurements during the intervention, the completion of PANAS (20 items) both before and after the session was too demanding for this particular patient sample. Therefore, it was decided to keep PANAS as a measure only after the session, while incorporating a visual analogue scale to measure anxiety before and after session.

As well, a decision was made to limit the measurement of major outcomes. This decision was based on the research study's prior objective of constituting a sample of persons experiencing HIV-related symptoms. If, in fact, the measurement of major outcomes had not been reduced, it would have meant that the sample group would have had to have been restricted to persons less sick and therefore able to take the full one hour required to complete the questionnaires. For this research study, it was of prime importance to access a variety of patients hospitalized for the exacerbation of HIV-related symptoms.

Initially, it was planned that the first session of each intervention would have as its primary goal the establishment of the

nurse-patient relationship. However, the nurse-patient relationship was actually established during the recruitment process. In fact, the nurse-researcher met the patient at least twice before beginning the intervention. At the first meeting, which lasted approximately 20 minutes, she introduced herself, explained her interest in HIV and briefly presented the project. Often during this initial meeting, the patient talked easily and openly about his present situation. During the second meeting, also lasting approximately 20 minutes, the discussion focused on the patient's participation and informed consent. After the recruitment process, it was evident that a session for establishing the nurse-patient relationship was unnecessary. Therefore, it was decided to simply begin the first session of intervention, according to the particular focus of the patient's intervention group - expression of emotions or development of cognitive skills.

Following the pilot testing, an exclusion criterion was added in the recruitment process. For example, one patient suffered from tuberculosis. This particular medical condition, in which the nurse would have to wear a mask, could affect study results by reducing non-verbal interactions and potentially diminishing the nurse-patient relationship.

Recruitment of Participants and Collection of Data

Data were collected over a period of 17 months, from January 1996 to July 1997. As much as possible, participants were recruited and interventions conducted at the beginning of each participant's hospital stay. Efforts were made to approach patients between days 2 and 10 of their hospitalization. Data revealed that 42% of patients were enrolled in the study within the first 5 days of their hospitalization, 33% of patients between days 6 and 10, 12% of patients between days 11 and 15, and finally 7% of patients after 16 or more days in hospital.

Initially, the prospective patient was identified in collaboration with the head nurse or her delegate. Then, the nurse assigned to the patient invited him to meet with the nurse-researcher. Only if the patient accepted did the nurse-researcher contact him to explain the goal of the research study and the methods of data collection. During this first meeting, the prospective patient was provided with an information sheet. The following day, the nurse-reseacher visited the patient to discuss his potential participation. Usually, she explained the study verbally and read over the information sheet with the patient. In some instances, the patient required more time to decide about his participation in the study. When the patient agreed to participate in the study, a consent form (Appendix D) was completed.

Randomization occurred after consent was obtained. As suggested by Friedman (1987), this randomization procedure minimizes subsequent losses from one or more groups. Randomization was determined by statistical procedure. Participants knew that there were three groups, but they were not informed as to which group they belonged.

Two nurse research assistants were hired to collect pre and post-intervention data. Both held baccalaureate degrees and had some experience with data collection. They were given three hours of training regarding the nature of the research and procedures involved. As well, they examined the research questionnaires, and assisted in revising processes related to the administration of tools. A second follow-up session was held to further clarify the research process. Then, a guided visit was organized so that the research assistants could meet with the head nurse or her delegate and become familiar with the units. Upon completion of the questionnaires for the first participant, each research assistant was invited to discuss the process. Both reported that questions were well understood by the participants and that the process took approximately 30 minutes. Interviewers were trained to avoid leading the participant to answer in a particular direction.

Pre-intervention and post-intervention data were gathered by the research assistants who were blind to treatment or control group assignment. Due to the physical status of the HIV-positive patient, data were collected using questionnaires administered through an interview rather than self-report. Patients referred to large-print plasticized cards when answering questions involving Likert-type scales. The nurse-researcher gave the anxiety visual analogue scale to the patient immediately before and after the daily session. Upon completion, the participants sealed their responses in an envelope. Both interviews and interventions were conducted in the patient's hospital room or in the family-visitors' room when more intimacy was required (necessary in one hospital with 4-bed rooms). Participants assigned to the control group completed the pre- and post-intervention assessment measures at the same time as participants in the other group, but did not receive any intervention. After the completion of the study, at day 6, a three-day intervention was provided if the patient had not been discharged.

Over the duration of the study period, one research assistant gathered pre- and post-data for the first 64 participants and the other research assistant collected data for 26 participants. To compare the research assistants, a two factors (2 groups X 2 Time) repeated-measures ANOVA was carried out. Table E1 (Appendix E) shows that no assistant effect was present.

Measurement & Instruments

This section describes instruments used to measure key variables in the research study. In the selection and the choice of these outcomes measures, issues raised by Stewart and Archbold (1992, 1993) were considered. Two variables - mood and psychological distress - constituted the primary outcomes. A schematic diagram indicates timing of completion of the various measurements (Figure 3).

O1		X		O2
D1	D2	D3	D4	D5
Mood	Mood (post)	Mood (post)	Mood (post)	Mood
Distress				Distress
Subjective Health	S. Health	S. Health	S. Health	S.Health
Anxiety	Anxiety (pre-post)	Anxiety (pre-post)	Anxiety (pre-post)	Anxiety
Appraisal				Appraisal
Demographic information				

Figure 3. Timing of measurement

Mood

Description of the Instrument

Mood was measured with the Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark and Tellegen (1988) (Appendix F). Previous research on mood has identified two dominant factors that represent affective state dimensions: Positive Affect (PA) and Negative Affect (NA) (Watson & Clark, 1984). Positive affect (PA) and negative affect (NA) are distinct constructs that can be represented as orthogonal dimensions in factor- analytic studies of affect. Positive affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. In contrast, negative affect (NA) is a general dimension of subjective distress. The tool contains twenty descriptors, 10 adjectives for the PA scale and 10 adjectives for the NA scale. The 5-point scale permits assessment of the extent to which the participant has experienced each mood state during a specified time frame: very slightly or not at all, a little, moderately, quite a bit, and very much. When used with short time frame instructions, such as "right now" or "today", the tool has been found to be sensitive to fluctuations in mood. One score is derived from each dimension. A low PA score is characterized by sadness and lethargy, whereas a high PA is characterized by a state of high energy, full concentration and pleasurable engagement. Alternately, a low NA is characterized by a state of calmness and serenity whereas high NA scores indicates a state of distress.

Psychometric Properties

Basic psychometric data for PANAS were gathered from studies of large student and non-student adult samples (Watson et al., 1988). Psychometric properties have been obtained for different temporal instructions: moment, today, past few days, past few weeks, year and, in general. Mean scores on both scales tend to

increase as the rated time frame lengthens. According to the authors, as the rated time period increases, the probability that a participant will have experienced a significant amount of a given affect also increases. The reported internal consistencies of the scales are high for all time frames (Cronbach's alpha ranging from .86 to .90 for PA and from .84 to .87 for NA) and appear to be unrelated to the time frame used. Test-retest reliability properties were assessed for each time frame at an 8-week interval. PANAS scales demonstrated a significant level of stability in every time frame.

Factorial validity of the scale and of individual PANAS items have been extensively discussed by Watson and colleagues (1988). The low correlation between NA and PA scales, ranging from -.12 to -.23, indicates quasi-independence of these scales. This tool has demonstrated an appreciable convergent and discriminant validity. To ensure the concurrent validity, Watson and his colleagues (1988) correlated PANAS with other measures of distress and psychopathology such as the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) and the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Correlation between the PANAS and these other measurement tools has shown that Hopkins Symptom Checklist scores were strongly correlated to PANAS NA-scale scores and modestly negatively correlated to PANAS PA-scale scores. Beck Depression Inventory scores were highly correlated to the PANAS NA-scale and negatively correlated to the PANAS PA-scale.

Watson and colleagues (1988) used the PANAS in three large, within-subjects investigations to demonstrate the usefulness of scale in studying qualitatively-distinguishable intra-individual mood fluctuations. It appears that PANAS scales used with short-term time frame instructions (moment or today) are sensitive to changing internal or external circumstances. As hypothesized, perceived stress was strongly correlated with fluctuations in NA, whereas PA was related to social activity. Furthermore, PA scores showed a

strong time-of-day effect, rising throughout the morning, remaining steady during the day, and declining during the evening. Conversely, NA scores did not exhibit this sort of diurnal patterning.

French Version

La version française de PANAS est présentée à l'appendice F. Suite à une traduction inversée, cet instrument a été administré à un millier de personnes qui recherchaient de l'aide auprès d'une clinique de counselling (D. Maskowitz, personal communication, November 20, 1995).

Utilization of the Tool

The PANAS was used before the intervention (D1), after the intervention (D5) and post-session on days 2, 3 and 4. The time frame used was at this "moment". After data collection, internal consistencies of the scales were analyzed for PA (n:66; participants who completed all items) and NA (n:83). The Cronbach's alphas were .76 and .87 respectively.

Psychological Distress

Description of the Instrument

Subjective distress experienced by each HIV-positive patient was measured using the Impact of Event Scale (IES) developed by Horowitz, Wilner and Alvarez (1979) (Appendix G). This 15-item IES measure addresses the degree to which thoughts, both intrusive and avoiding, contribute to the subject's distress for any life event. IES development was guided by the authors' clinical experience, with items derived from statements most frequently used to describe episodes of distress by persons who had experienced recent life

changes (Horowitz, 1973, 1974). The IES yields intrusion (8-item) and avoidance (7-item) subscale scores, which are then totalled to determine a subjective distress score. Items are rated by the patient according to frequency on a 4-point scale (not at all, often). In the administration of the tool, the best time frame to specify is within "the past week". During the trial runs, it was determined that specifying a time frame shorter than a few days or longer than a week yields less information.

Psychometric Properties

Horowitz and colleagues (1979) examined and established the psychometric properties of IES. In order to assess IES' empirical validity, the instrument was administered to 66 adults who sought psychotherapy as a result of reactions to a serious life event such as illness, bereavement or violence. A cluster analysis was performed on the 20 items initially proposed, and then reduction of the scale permitted to the 15 most powerful items. Internal consistency of the scale and subscales, as calculated using Cronbach's alpha, was respectively 0.86 for total scale, 0.78 for intrusion subscale and 0.82 for avoidance subscale. According to Horowitz and colleagues (1979), the moderate correlation obtained (r=0.42) indicates that the two subscales measure related but not identical constructs.

In order to test the test-retest reliability of the tool, its authors administered the IES twice within an interval of one week to 25 physical therapy students who had recently begun dissection of a cadaver. Test-retest reliabilities of 0.87 for the total scores, 0.89 for the intrusion subscale, and 0.79 for the avoidance subscale were found. In order to assess sensitivity of the scale to change, 32 patients completed the scale immediately before and after a brief therapy session. Significant change in scores (item, subscale, and overall scores) supported the validity of IES as a sensitive indicator of distress.

Zilberg, Weiss and Horowitz (1982) cross-validated and extended the basic pyschometric properties of IES. Their results showed that IES exhibited highly relevant item content, contained two subscales demonstrating high internal consistency, discriminated between different populations and detected change over time.

French Version

La version française de l'équipe de Edgar (1992) a été utilisée pour les fins de l'étude (Appendice G). Cette version fut utilisée auprès de patients atteints de cancer (Edgar et al., 1992) et de SIDA (Lamping et al., 1993). Edgar et son équipe (1992) ont procédé à trois traductions inversées successives et ont procédé à l'évaluation de la stabilité de l'instrument (alpha de Cronbach) (L. Edgar, personal communication, November, 13, 1995).

Utilization of the Tool

IES was administered on the day before treatment began and on the day treatment terminated. The life event "being HIV+ and experiencing this present illness episode" served as a referent for each statement. For pre-measurement intervention, the time unit "the past week" was selected whereas at post-intervention the time unit was fixed at "during the past few days". The tool was administered via questionnaire-interview. Upon completion of data collection, internal consistency of the scale and subscales were calculated using Cronbach's alpha, with values of 0.86 for total scale, 0.82 for the intrusion subscale and 0.78 for avoidance subscale (n:66).

Appraisal

Description of the Instrument

Appraisal was measured using the subscale of stressfulness according to the Stress Appraisal Measure (SAM) developed by Peacock and Wong (1990) (Appendix H). Based on the cognitive-relational theory of stress (Lazarus & Folkman, 1984), SAM evaluates the cognitive appraisal process (primary and secondary) of anticipated stress. The SAM tool assesses three aspects of primary appraisal: "threat", "challenge" and "centrality", and three aspects of secondary appraisal: "controllable by self", "controllable by others", and "uncontrollable by anyone". The authors have developed a subscale entitled "stressfulness", so as to evaluate the relationship between aspects of primary and secondary appraisal of stress and global appraisal of stress. SAM contains 28 items, 4 items by aspects of appraisal (7 subscales). The response format is a 5-point Likert scale (1=pas du tout à 5=excessivement). Seven scores, one for each scale, can be obtained.

Psychometric Properties

Initially, 37 items (5 to 7 items for each appraisal scale) were administered to 100 undergraduate students enrolled in a second-year psychology course. These 37 items were administered four weeks before the students' final course examination. Subsequently, only 4 items yielding the highest item to subscale-total correlations for each subscale were retained. Reliability of each subscale was assessed through internal consistency estimates. For six of the subscales, alphas were appreciable, ranging from .74 to .90. The subscale "uncontrollable by anyone" revealed a low alpha coefficient of .51. The mean intercorrelation among six appraisal subscales was .22, revealing that scales are tapping relatively independent appraisal dimensions. A step-wise multiple regression of

stressfulness ratings on the six appraisal scales revealed that "threat", "centrality" and "controllable by others" were significant predictors of stressfulness.

Subsequent research (Peacock & Wong, 1990) examined replicability of these findings, through a study of students experiencing two different anticipatory stressors: being unable to obtain suitable summer employment, and being exposed to the HIV-virus responsible for AIDS. Alphas for seven scales were comparable to the results from the first study ranging from .73 to .86. Only the "uncontrollable by anyone" scale demonstrated a much higher alpha coefficient. Peacock and Wong (1990) suggest that low alpha coefficients obtained in the first study may have been due to lack of variability in ratings.

In the third study, emphasis was given to the correlation between SAM scales and measures of locus of control, mood and psychological symptomatology. Internal consistency estimates for SAM scales were similar to those obtained in the two previous studies. In all three studies, "threat" and "centrality" were found to be unique predictors of stressfulness ratings, accounting for over half of the variance in stressfulness ratings. Related to the convergent validity examination, dysphoric mood was significantly associated with all the appraisal scales, positively correlated with "threat", "centrality", "uncontrollable by anyone" and "stressfulness". In turn, dysphoric mood was negatively correlated with "challenge", "controllable by self" and "controllable by others". Other correlations have been found between psychological symptoms and all but the "challenge" and "controllable by self" scales.

Peacock and Wong (1990) did not examine test-retest reliability, because they expected appraisal phenomena to change over time. It is important to note that SAM was designed for measurement of anticipatory stress. There is no indication or contra-indication for use of the tool for assessment of an ongoing or past event stress. Actually, the French version was used with an ill

population dealing with ongoing stress (D. Pelchat, personal communication, November 7, 1995).

French Version

Pour les fins de l'étude la version française de l'instrument Stress Appraisal **Measure développée** et validée par Pelchat, Ricard, Lévesque, Perreault & Polomeno (1994) a été utilisée (Appendix H). Cette validation respecte la procédure de validation transculturelle en sept étapes. Les auteurs ont réalisé deux études afin d'apprécier les propriétés psychométriques de l'instrument. Les échantillons utilisés et les procédures de collecte de données planifiées dans le cadre de ces études sont semblabes à ceux utilisés par Peacock et Wong (1990). Les résultats démontrent, des coefficients de consistence interne équivalents à ceux des études de la version anglaise. Toutefois le degré d'homogénéité des items de la sous-échelle défi est à la limite de l'acceptable (.60). Quant à la validité de construit de l'outil, les dimensions relatives à l'appréciation secondaire du stress (contrôle par soi-même, contrôle par les autres et incontrôlabilité) et les dimensions menace et défi de l'appréciation primaire sont valides. Les items de la sous-échelle centralité sont fortement associés à ceux des items de la sous-échelle menace. Les auteurs sont d'avis que les items de la menace ne permettent pas de distinguer la menace de la centralité. Des analyses de régression multiple démontrent que trois dimensions du SAM, la menace, la centralité et l'incontrôlabilité sont des prédicteurs significatifs de l'appréciation globale du stress.

Utilization of the Tool

Only the subscale of stressfulness of the Stress Appraisal Measure (SAM) was used and administered on the day before treatment began and the day following the last day of treatment. The life event "being HIV+ and experiencing this present illness

episode" served as a referent for each of the statements on the list. The subscale was administered via questionnaire-interview. The reported Cronbach alpha was quite high at .84.

Anxiety

The variable "anxiety" was evaluated through the following question: "Comment vous évaluez votre anxiété à ce moment précis?" ("How would you evaluate your anxiety at this exact moment?"). On each of the five days, patient's indicated their perception of anxiety on a visual analogue scale (horizontal line of 100mm) anchored by "Aucunement anxieux" (no anxiety) and "Extrêmement anxieux" (extreme anxiety) (Appendix I). On days 2, 3 and 4, anxiety was assessed both pre-and post-session.

The history of analogue scales is lengthy. However, they were rarely used in a clinical setting until Aitken (1969) emphazised their research value and recommended their application. The visual analogue scale - a unidimensional scale which only quantifies intensity - is a graphic method to quantify sensations such as pain, dyspnea, quality of life. It can be used by observers as well as partipants, and used as often as required. The analogue scales are best used for a "here and now" evaluation. Validity of the visual analogue has been established using a variety of techniques such as concurrent validity (Davies et al., 1975; Gift et al., 1986; Little et al., 1973) and discriminate validity (Gift et al., 1989; Joyce et al., 1975; Padilla et al., 1983). Reliability of the visual analogue scale has been demonstrated using the test-retest (Luria, 1975; Padilla et al., 1983; Revill et al., 1976). Vogelsang (1988) stated that the visual analogue scale is an accurate and sensitive method for self-reporting preoperative anxiety. She found that VAS anxiety scores were highly correlated (r=.84) with State-Trait Anxiety Inventory scores.

Subjective Health Perception

On each of the five days, variable subjective health was assessed by the following question: "Comment vous évaluez votre santé aujourd'hui?" (How would you evaluate your health today?). Patients indicated their subjective perception of their health on a visual analogue scale anchored by "not at all healthy" and "extremely healthy" (Appendix I).

Demographic Information

Demographic information was gathered the day before the intervention via questionnaire-interview. Information garnered from the questionnaire included: participant's age, education, living arrangements, work status, ethnicity, annual income, support (partner and family) and disease-related variables (time since diagnosis of HIV infection or positive test, number of hospitalizations, number of episodes of infections, type of infections experienced). (Appendix J). Demographic information retained for this study was similar to the information sought in the Canadian study on the Evaluation of the Needs of HIV-positive People.

Analysis

The principal mode of analysis for this study was repeated-measures analysis of variance (ANOVA). In the preliminary phase, exploratory and descriptive data-analytic techniques provided a general summary of information on each measure. Normality of data was assessed by examination of boxplots, and outliers were detected and evaluated. In order to reveal differences between groups on any outcome-measures before the beginning of treatments, T-tests were performed with data measured at the interval level. In comparison, chi-square tests were performed with data at the

nominal and ordinal level. To control for difference, an analysis of covariance (ANCOVA) was performed where the pre-measure for some variables was used as covariate.

Before proceeding to ANOVA, two assumptions of statistical procedures were examined: homogeneity of variance-covariance matrices and spherecity (*when* there are at least three time frames). For ANCOVA, the regression curve in relation to the inter-subject factors were examined. T-tests and paired T-tests were used for multiple comparisons.

The difference in the mean of scores of the variable negative affect (NA) and positive affect (PA) in the three groups (Hypothesis I) was assessed by a two-factors (3 groups X 2 Time) repeated-measures ANOVA. Subsquently, an ANCOVA was performed for NA. For hypothesis II, a two-factors (2 groups X 4 Time) repeated-measures ANOVA was used to examine difference in the mean of scores of NA and PA variables in the two intervention groups.

For the second primary outcome, the difference in the mean scores of the variable psychological distress (distress, intrusion and avoidance) from the IES in all three groups (Hypotheses III, IV and V) was examined by a two-factor (3 groups X 2 Time) repeated-measures ANOVA. Then, an ANCOVA was performed for distress and intrusion.

As regards the secondary outcome, difference in the mean change scores on the variable anxiety was determined by subtracting "before treatment score" from "after treatment score". The variation score was assessed by ANOVA between the two intervention groups (Hypothesis VI) over the course of two days.

Correlational analysis was used to assess relationships among the following variables after and before both interventions: appraisal, psychological distress and mood (Hypothesis VII).

All analyses were carried out using SPSS and SAS programs. In the results report, confidence intervals instead of p value as the more informative value (Evans, Mills, & Dawson, 1988).

Ethical Considerations

This randomized controlled trial was conducted to compare the therapeutic value of two psychosocial interventions relative to the wait list control group. In the planning phase of the study, the investigator had good reason to believe that nursing intervention which centered on cognitive coping skills could be very helpful to HIV-positive patients. However, in reviewing the literature the investigator developed doubts about the value of an intervention focused on cognitive coping skills as compared to a nursing intervention focused on the expression of emotions. According to Freedman (1987), it is, nevertheless, ethically justifiable to proceed with formal evaluation of interventions in a situation of such uncertainty -- called "equipoise". Levine (1993) states that ethical justification of a randomized clinical trial requires that investigators be able to state an honest null hypothesis regarding proposed comparative therapies.

Ethical considerations for this research were based on the widely-accepted principles governing research on humans, as advocated by the National Commission for the Protection of Human Subjects, 1978. Three basic ethical principles are seen to serve as the basis for federal regulations: respect of persons, beneficence, and justice. These three basic principles were translated into six norms for the conduct of this research project: valid research design, competence of researcher, identification of consequences, adequate selection of participantsts, voluntary informed consent, and compensation for injury.

In order to protect the privacy and comfort of potential participants, ethical measures regarding access to research parti-

cipants were taken. Given that patients had been hospitalized to receive health care and not to participate in research, their being approached by researchers could undoubtedly be perceived as an invasion of their privacy (Harrison, 1993). For the purposes of this project, then, the patient's nurse informed him that a nurse researcher was interested in meeting him to discuss the possibility of participating in a project. Only once the patient agreed to this meeting did the nurse-researcher actually approach him.

In order to obtain informed consent from patients, the following elements were incorporated: a consent form, explanation of the purpose of the study and procedures of participation, description of risk as well as benefits, explanation of how the confidentiality will be maintained (Federal Policy for the Protection of Human Subjects, 1991). The consent form is conceptualized both as an ongoing two-way communication process between the participant and the investigator. The first part of the consent form contains information regarding the study, and the second part, related to the consent statement, contains an agreement about the conditions of the research participation (Sieber, 1993) (Appendix D).

With respect to randomization, participants were advised (both verbally and in the consent form) that they would have an equal probability of being assigned to one of the two interventions or the delay-intervention (wait list control) group. The mininum number of participants who could detect difference between groups (if one existed) was recruited.

According to Levine (1993), randomized clinical trials should maximize the likelihood of benefit to the patient. Similarly, Pocock (1983) states that randomization is ethical when a reasonable possibility exists that the new treatment will be as good or better than the standard one. The essential goal of both intervention groups in this research study was to help the HIV-positive patient regulate his emotional distress. For the wait list control group, one or the other intervention (emotion focused intervention or cognitive coping skills

intervention; variation in terms of time and intensity) was assigned and provided at the end of the participation in the study (day 6; if the patient had not been discharged). Also, the nurse-researcher was sensitive to the psychological vulnerabilities of the participants. Counseling support was suggested to participants when necessary. At the hospitals, the nurse-researcher had regular informal contact with the AIDS care team and encouraged the patients to discuss their concerns with the team.

Perhaps most importantly, voluntary consent implies that participants must be able to exercise free choice in their decision to participate in the research study. Considering that little psychosocial intervention is available for this particular clientele, such voluntary consent is of foremost concern. Therefore, suggestions about the possible impact on the immune system were included in the consent form under "potential benefits of participation". Furthermore, the consent form included statements regarding free choice to participate, and right to withdraw or discontinue participation without prejudice to ongoing health care and services. Given the past experience of the investigator with this particular clientele (in a study of 50 persons with AIDS hospitalized in 1988) and her knowledge about the study, it was decided she would seek informed consent. During data collection, the researcher remained keenly aware of the conflict between the desire to recruit participants and the desire to avoid any element of coercion in the consent process.

To protect confidentiality of research data, personal identifying information was discarded and replaced by code numbers. Research assistants signed an agreement stating that all information they encountered would remain confidential. Tape-recorded material was accessed only by the investigator and research assistants directly involved in the research. Tape-recorded material and questionnaires were locked in filing cabinets. Tape-recorded material and questionnaires are locked in filing cabinets, and will be destroyed within two years following the final analysis.

As stated by Hill (1971), failure to carry out a controlled experiment when needed and feasible is itself unethical. In conclusion, the researched is confident that this research study effectively balanced participants' rights with the potential benefits to this vulnerable and yet understudied segment of the HIV-positive population.

CHAPTER IV. RESULTS

This chapter is divided into five sections: 1) descriptive characteristics of the sample, 2) preliminary analyses, 3) analyses focusing on the hypotheses, 4) management of outliers, and 5) dropout characteristics.

Descriptive Characteristics of the Sample

The sample included 90 HIV-positive adult men hospitalized for an exacerbation of HIV-related illness. Table 1 summarizes the major characteristics of the sample.

Participants were predominantly well-educated, white, living alone, unable to work, and on welfare with an income of less than $10 000. Mean age was 40. Mean length of time since HIV-positive diagnosis was six years, and mean number of infections and hospitalizations were 3 and 4. Half of the participants were hospitalized for pulmonary and intestinal conditions.

Table 1
Summary of the Characteristics of the Sample

Variable	Frequency	%
Age		
Less than 20	1	1.1
20-29	9	10.0
30-39	36	40.0
40-49	32	35.6
50-59	11	12.2
more 60	1	1.1

Table 1 continued.

Variable	Frequency	%
Education		
Primary	3	3.3
Secondary	38	42.2
Collegial	17	18.9
University	32	35.6
Ethnicity		
White	76	84.4
Black	8	8.9
Latino	2	2.2
Living with		
Partner	23	25.6
Alone	39	43.3
Family	17	18.9
Friend	7	7.8
House care	3	3.3
Occupation		
Full-time work	15	16.9
Part-time work	7	7.9
Unable to work	59	66.3
Work from home	2	2.2
Student	2	2.2
Retired	3	3.4

(Continued on next page)

Table 1 continued.

Variable	Frequency	%
Sources of Salary		
Employment	11	12.5
Disability insurance	24	27.3
Welfare	37	42.0
Insurance and Welfare	5	5.7
Employment and Welfare	3	3.4
Salary		
Less than $10 000	44	50.6
$10 000 - $19 999	19	21.8
$20 000 - $29 999	12	13.8
$30 000 - $39 999	5	5.7
$40 000 - $49 999	3	3.4
$50 000 and more	3	3.4
Time since HIV diagnosis		
Less than one year	9	10.0
1-2 years	13	14.4
2-4 years	12	13.4
4-6 years	9	10.0
6-8 years	19	21.1
8-10 years	18	20.0
10-12 years	8	8.9
12 years and more	2	2.2

(Continued on next page)

Table 1 continued.

Variable	Frequency	%
Number of previous infections		
Less than one	19	21.3
Two	17	19.1
Three	18	20.2
Four	15	16.9
Between 5 and 9	10	11.2
10 and more	10	11.2
Number of hospitalizations		
Less than one	27	30.3
Two	21	23.6
Three	15	16.9
Four	8	9.0
Between 5 and 9	11	12.4
10 and more	7	7.9
Reason for hospitalizations		
Pulmonary infection	28	32.2
Intestinal infection	16	18.4
Several infections	16	18.4
Diverses infections	27	30.6

Group equivalence was assessed using chi-square for demographic variables. No difference for demographic variables was found among groups. Results are reported in Table K1 in Appendix K. The demographic variables of participants were compared between settings. No difference between settings for the characteristic of participants were found. Results are reported in Table L1 in Appendix L.

The entire sample (N:90) was compared to those who refused (n:19) for the only two demographic variables available. No difference between the two groups as regards age and ethnicity was found. Results are reported in Table 2.

Table 2
Comparison of Distribution of Demographic Variables between Sample and Refusal.

Variable	chi-value	df	p value
Age	.01	1	.904
Ethnicity	2.69	1	.101

Preliminary Analyses

This section presents information related to 1) the procedure for missing items and questionnaires, and 2) the control of variables.

Missing Items and Questionnaires.

A frequency count was performed for all item responses of PANAS (20 items) and IES (15 items) scales. With regard to missing information, a decision was made to preserve participants who had responded to at least 80% of the scale. For PANAS, the scores for "negative affect" and "positive affect" were calculated with at least 8 out of 10 items. The same procedure was followed with the IES scale: "intrusion", "avoidance" and "distress" scores were calculated with at least 7 items out of 8 for "intrusion", 6 items out of 7 for "avoidance" and 12 items out of 15 for "distress". In addition, instead of totalling the score of each item, the mean score for all items was computed.

Data were collected five times: on day 1 and day 5, with the help of an interviewer and on days 2, 3 and 4 through self-reports. On day 4, the completion of questionnaire dropped substantially to two thirds of the sample. Thus, it was decided to drop this time frame for exploration of change over time with PANAS and Anxiety.

Control Variables

Participants in all groups were compared on possible confounding variables at the baseline. No significant differences between group conditions were found regarding age, education, ethnicity, living, occupation, source of salary, amount of salary, time since HIV-diagnosis, number of infections and hospitalizations, support and reason of hospitalization. Results are reported in Table K1 and L1 in appendix K and L.

Initially, subjective health was to be used as a confounder for each time frame (day 1, 2, 3, 4 and 5). As the study progressed, through, another confounder was identified as a variable with potential effect: anxiety. In the preliminary phase, T-tests were performed to detect differences between groups on the mean scores of "subjective health" and "anxiety" just prior to each session. No significant differences were found. In terms of "subjective health" and "anxiety", the three groups appeared equivalent for each time frame. Therefore, it was decided not to adjust for these two confounders. Results are reported in the Table M1 of the Appendix M.

Equivalence between groups at baseline for the mean scores of outcomes variables - positive affect, negative affect, distress, intrusion, avoidance, anxiety and appraisal - was evaluated. Results are reported in Table 3. For negative affect, the cognitive group scored higher than the control group. For intrusion, the cognitive group scored higher than the expressive group. Although these

results have only bordeline significance, subsequent analysis was used to control for this difference.

Table 3
Comparison of Mean Score of Positive Affect, Negative Affect, Distress, Intrusion, Avoidance, Appraisal and Anxiety between Groups at Baseline.

Variable	Mean (SD)	t value	df	p (2tailed)
Positive Affect				
Cognitive	3.035 (.753)			
		.377	53	.707
Expression	2.956 (.798)			
Cognitive	3.035 (.753)			
		-.092	50	.927
Control	3.053 (.655)			
Expression	2.956 (.798)			
		-.481	51	.633
Control	3.053 (.655)			
Negative Affect				
Cognitive	2.320 (.946)			
		1.60	56	.115
Expression	1.956 (.788)			
Cognitive	2.320 (.946)			
		2.05	57	.045*
Control	1.863 (.764)			

(Continued in the next page)

Table 3 continued.

Variable	Mean (SD)	t value	df	p (2tailed)
Negative Affect				
Expression	1.956 (.788)			
		47	59	.644
Control	1.863 (.764)			
Distress				
Cognitive	2.395 (.667)			
		1.78	44	.082
Expression	2.055 (.626)			
Cognitive	2.395 (.667)			
		1.72	45	.093
Control	2.057 (.684)			
Expression	2.055 (.626)			
		-.01	43	.991
Control	2.057 (.684)			
Intrusion				
Cognitive	2.707 (.811)			
		2.18	43	.035*
Expression	2.228 (.638)			
Cognitive	2.707 (.811)			
		1.86	45	.070
Control	2.261 (.837)			

(Continued in the next page)

Table 3 continued.

Variable	Mean (SD)	t value	df	p (2tailed)
Intrusion				
Expression	2.228 (.638)			
		-.15	42	.885
Control	2.261 (.837)			
Avoidance				
Cognitive	2.164 (.743)			
		1.20	43	.237
Expression	1.898 (.740)			
Cognitive	2.164 (.743)			
		1.44	44	.158
Control	1.874 (.619)			
Expression	1.898 (.740)			
		.120	43	.905
Control	1.874 (.619)			
Anxiety				
Cognitive	5.65 (3.32)			
.		96	41	.344
Expression	4.65 (3.51)			
Appraisal				
Cognitive	2.817 (1.19)			
		.308	50	.760
Expression	2.721 (1.06)			

(Continued in the next page)

Table 3 continued.

Variable	Mean (SD)	t value	df	p (2tailed)
Appraisal				
Cognitive	2.817 (1.19)			
		1.79	54	.079
Control	2.317 (.905)			
Expression	2.721 (1.06)			
		1.54	54	.130
Control	2.317 (.905)			

*p<.05, **p<.016 (Bonferroni adjustment)

The Research Hypotheses

To test the research hypotheses, repeated-measures analysis of variance (ANOVA) was the principal mode of analysis (using SPSS and SAS programs). To control for pre-intervention differences, data were analyzed with analysis of covariance (ANCOVA), using pre-intervention scores as covariates. Before exploring results on the verification of hypotheses, underlying assumptions and statistical procedures are reviewed.

Underlying Assumptions and Statistical Procedures.

In the process of repeated-measures analysis of variance (ANOVA), two underlying assumptions were examined for each test: the homogeneity of the variance-covariance matrices and the spherecity (when there were at least three time frames). The Greenhouse-Geisser correction was applied when the spherecity assumption was not respected. To test the first six hypotheses, eight

ANOVA were performed. Homogeneity of the variance-covariance was respected for each test. Spherecity was examined for two tests. The Greenhouse-Geisser correction was used for two test.

Repeated-measures ANOVA were calculated for each variable so as to determine significant interactions followed by post-hoc. In the case of an interaction between groups and times, data were analyzed in two parts. First, the T-test was used to compare the means of both groups in each time frame. Then, the paired T-test was performed to assess difference in the mean of each group across two time frames. In the absence of an interaction between groups and times, the effect of time was examined using paired T-tests by pooling information related to the treatment for more statistical power. Following this, the T-test was used to examine the effect of treatments by pooling the information related to time.

Subsquently, to control for difference, an analysis of covariance (ANCOVA) was performed for negative affect, intrusion and distress, where the pre-measures were used as covariates. In the process of analysis of covariance (ANCOVA), homogeneity of the regression curve was examined in relation to the inter-subjects factors. Results indicated that the assumption for each test was respected.

Bonferroni's procedure was used to control for escalation of significance when tests were performed on different aspects of the same data. In this procedure, the overall significance level was divided by the number of tests, with the resulting number used as the significance level.

Verification of Hypotheses

The first research question was: What is the difference in mood (positive affect and negative affect) between HIV-positive persons who receive the intervention centered on cognitive coping skills, HIV-positive persons who receive intervention focused on the

expression of emotions and HIV-positive persons who are in the control group?

To guide the first research question, two sets of hypotheses were established. The first hypothesis concerned the difference of mean scores for positive affect and negative affect across all three groups (two intervention groups and one control group), both at baseline (day 1) and at outcome (day 5). The second hypothesis concerned the difference of mean scores for positive affect and negative affect across the two intervention groups and four time frames (days 1, 2, 3 and 5).

Before testing the first hypothesis, mean scores and standard deviation for positive and negative affect were calculated for all three groups, on days 1 and 5. Results are reported in Table 4.

Table 4
Mean and Standard Deviation of Positive Affect and Negative Affect at Day 1 and Day 5 for Cognitive, Expression and Control Groups.

Variable	Mean (SD)	Mean (SD)
Positive Affect		
Group	Day 1	Day 5
Cognitive (n=27)	3.035 (.753)	3.102 (1.01)
Expression (n=28)	2.956 (.798)	2.773 (.817)
Control (n=25)	3.053 (.655)	2.840 (.810)
Entire sample (N=80)	3.013 (.732)	
Negative Affect		
Group	Day 1	Day 5
Cognitive (n=28)	2.320 (.946)	1.789 (.710)
Expression (n=30)	1.956 (.788)	1.675 (.649)
Control (n=31)	1.863 (.764)	1.765 (.637)
Entire sample (N=89)	2.038 (.847)	

Hypothesis I.

In comparison to patients in the control group, patients who receive interventions centered on cognitive coping skills and expression of emotions will experience an increase in positive mood and a decrease in negative mood as observed from the day prior to the intervention and including the day following the intervention.

To test this hypothesis an analysis of variance was performed across all three groups. Results are reported in Table 5.

Table 5
Analysis of Variance of Positive Affect and Negative Affect by Group: Cognitive, Expresssion & Control.

Source	SS	df	MS	F	p
Positive affect					
-Interaction					
Trx by time	.63	2	.311	.32	.273
-Time-Within					
Subject Effect	.48	1	.48	2.00	.161
-Trx-Between					
Subject Effect	1.16	2	.58	.53	.591
Negative affect					
-Interaction					
Trx by time	1.39	2	.69	3.36	.039*
-Time-Within					
Subject Effect	4.08	1	4.08	19.81	.000*
-Trx-Between					
Subject Effect	2.21	2	1.11	1.19	.310

*p<.05

ANOVA revealed no effect for positive affect and a significant treatment X-time interaction for negative affect. Paired T-tests were used to assess differences in the mean scores of negative affect for each group, both at baseline (day 1) and outcome (day 5). A significant decrease in negative affect for both intervention conditions was found, with a non-significant change for the control group. Results are reported in Table 6. Next, using T-tests, the mean scores of both groups in each time frame were compared. There was no difference between group conditions at the outcome. Results are reported in Table 7.

Table 6

Comparison of Mean Score of Negative Affect at Day 1 and Day 5 for each Group.

Variables	Mean (SD)	t value	df	p value (2tailed)
Cognitive				
NA Day 1	2.320 (.946)			
		3.41	27	.002*
NA Day 5	1.789 (.710)			
		95% CI (.531) = (.212, .850)		
Expression				
NA Day 1	1.956 (.788)			
		2.70	29	.011*
NA Day 5	1.675 (.649)			
		95% CI (.280) = (.068, .493)		
Control				
NA Day 1	1.863 (.764)			
		1.07	30	.292
NA Day 5	1.765 (.637)			
		95% CI (.098) = (-.088, .284)		

*p<.016 (Bonferroni adjustment)

Table 7

Comparison of Mean Score of Negative Affect Among Groups at Day 5

Variables	Mean (SD)	t value	df	p value (2tailed)
Cognitive	1.789 (.710)			
		.64	56	.525
Expression	1.675 (.649)			
		95% CI (.114) = (-.244, .472)		
Cognitive	1.789 (.710)			
		.14	57	.891
Control	1.765 (.637)			
		95% CI (.024) = (-.327, .375)		
Expression	1.675 (.649)			
		-.55	59	.586
Control	1.765 (.637)			
		95% CI (-.09) = (-.419, .239)		

*p<.016 (Bonferroni adjustment)

In summary, the results of the ANOVA indicate that both intervention groups experienced a reduced negative affect over time, with no significant difference between group conditions at the outcome. Considering the bordeline difference in negative affect among cognitive and control groups at baseline (Table 3), post-intervention results were analyzed with ANCOVA, using the pre-intervention score as a covariate. There was no significant difference among group conditions at outcome (p=.273). Results are reported in Table 8.

Table 8

Tests of Between-Subject Effects: Negative Affect at Endpoint.

Sources	Sum of S	df	Mean	F	Sig
Corrected Model	16.46	3	5.49	21.44	.000
Intercept	5.61	1	5.61	21.92	.000
NA T1	16.25	1	16.25	63.48	.000
TRX	.67	2	.34	1.33	.273

*p<.05

Although none of the other pre- to post- intervention comparisons achieved significance, all changes followed predicted directions (Table 9). The decrease in NA score for the cognitive group was not sufficient to be statistically significant, although the superior bound of the confidence interval was near zero (-.483, .054). Results are reported in Table 9.

Table 9

Parameter Estimates: Negative Affect at Endpoint.

Parameter	B	SE	t	Sig	95%CI
Intercept	.793	.152	5.22	.000	(.491,1.096)
NA T1	.522	.065	7.97	.000	(.391, .652)
Cognitive	-.214	.135	-1.58	.117	(-.483,.054)
Expression	-.138	.130	-1.07	.289	(-.396,.120)
Control	0				

Negative Affect for each group was estimated, following the adjustment of pre-intervention scores. Having adjusted scores for all subjects at baseline to a negative affect score of 2.04 as the mean, the score estimate at outcome is then 1.64 for the cognitive group, 1.72 for the expression group, and 1.86 for the control group. Results are reported in Table 10.

Table 10
Estimates: Negative Affect at Endpoint for Each Group.

Treatment	Score Mean (SD)	Adjusted Score Mean (SE)
Cognitive	1.79 (.710)	1.64 (.097)
Expression	1.67 (.649)	1.72 (.093)
Control	1.76 (.637)	1.86 (.092)

In conclusion, hypothesis I was partially supported. Findings indicated that both intervention groups exhibited a reduced negative affect over time, with no significant difference for the control group. However, neither the two intervention groups nor the one control group were different at outcome. Both intervention groups exhibited no increase in positive mood.

Hypothesis II is related to the difference in mean scores of positive affect and negative affect, as indicated for both interventions groups at four time frames (days 1, 2, 3 and 5).

Hypothesis II.

Patients who receive the intervention centered on cognitive coping skills will experience an increase in positive mood and a decrease in negative mood over a four day period, as compared to

those patients who receive the intervention focused on expression of emotions.

Before testing this hypothesis, mean scores and standard deviation of the principal outcomes, positive affect and negative affect for both intervention groups were calculated on days 1, 2, 3 and 5. Here, the mean scores are different than previous data for days 1 and 5 because of the difference in number of participants with complete data sets over the four days. Results are reported in Table 11.

Table 11
Mean and Standard Deviation of Positive Affect and Negative Affect on Days 1, 2, 3 and 5 for Cognitive and Expression Groups.

Variable	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Positive Affect				
Group	Day 1	Day 2	Day 3	Day 5
Cognitive (n=20)	3.132	3.144	3.266	3.259
	(.723)	(.812)	(.914)	(.988)
Expression (n=20)	2.931	2.917	2.936	2.777
	(.863)	(.934)	(.956)	(.864)
Negative Affect				
Group	Day 1	Day 2	Day 3	Day 5
Cognitive (n=22)	2.262	1.768	1.777	1.809
	(.942)	(.793)	(.862)	(.777)
Expression (n=22)	2.003	1.794	1.693	1.689
	(.895)	(.725)	(.758)	(.691)

A main effect for time was significant for negative affect outcome. Results for analysis of variance are reported in Table 12.

Table 12

Analysis of Variance of Positive Affect and Negative Affect by Group: Cognitive & Expression.

Source	SS	df	MS	F	p
Positive affect					
-Interaction					
Trx by time	.49	2.45	.16	.70	.529
-Time-Within					
Subject Effect	.17	2.45	.06	.24	.826
-Trx-Between					
Subject Effect	3.84	1	3.84	1.58	.217
Negative affect					
-Interaction					
Trx by time	.46	2.65	.15	.77	.497
-Time-Within					
Subject Effect	4.75	2.65	1.58	8.04	.000*
-Trx-Between					
Subject Effect	.53	1	.53	.26	.613

*$p<.05$

Then, paired T-tests were used to compare the mean scores of negative affect for different times. The mean score of negative affect was significantly different on day 1 compared to days 2, 3 and 5 for pooled sample (both interventions groups). Thus, hypothesis II was not supported by the findings. In fact, both intervention groups had reduced negative affect from day 1 compare to days 2, 3, and 5. While both groups improved, their results did not differ. Results are reported in Table 13.

Table 13

Comparison of Mean Score of Negative Affect at Different Days for Pooled Sample.

Variable	Mean (SD)	t value	df	p value (2tailed)
NA Day 1	2.133 (.917)			
		3.55	43	.001*
NA Day 2	1.781 (.751)			
		95% CI (.351) = (.152, .551)		
NA Day 1	2.133 (.917)			
		4.17	43	.000*
NA Day 3	1.735 (.803)			
		95% CI (.397) = (.205, .590)		
NA Day 1	2.133 (.917)			
		3.55	43	.001*
NA Day 5	1.749 (.729)			
		95% CI (.384) = (.165, .602)		
NA Day 2	1.781 (.751)			
		.70	43	.491
NA Day 3	1.735 (.803)			
		95% CI (.046) = (-.088, .180)		
NA Day 3	1.735 (.803)			
		-.15	43	.884
NA Day 5	1.749 (.729)			
		95% CI (-.014) = (-.204, .176)		

*p<.008 (Bonferroni adjustment)

The second research question was: What is the difference in psychological distress (intrusion and avoidance) in HIV-positive persons who receive the intervention centered on cognitive coping skills compared to those who receive the intervention focused on expression of emotions and those who are in the control condition? To guide this question, three hypotheses were formulated and tested as follows.

Hypothesis III.

Patients who receive an intervention centered on cognitive coping skills will experience a decrease in distress score from the day prior to the intervention to the day following the intervention as compared to those patients who receive the intervention focused on the expression of emotions and to those in the control group.

Before examining this hypothesis, mean scores and standard deviation of distress at day 1 and day 5 were calculated for both groups. Results are reported in Table 14.

Table 14
Mean and Standard Deviation of Distress at Day 1 and Day 5 for Cognitive, Expression and Control Groups.

Variable	Mean (SD)	Mean (SD)
Group	Time 1	Time 5
Cognitive (n=24)	2.395 (.667)	2.095 (.663)
Expression (n=22)	2.055 (.626)	2.093 (.621)
Control (n=23)	2.057 (.684)	2.053 (.630)
Entire sample (N=69)	2.174 (.671)	\ 32.61

ANOVA was performed so as to assess within-subjects and between-subject effects for all three groups. The borderline interaction between treatment and time was observed. Results are reported in Table 15.

Table 15
Analysis of Variance of Distress by Group: Cognitive, Expression & Control.

Source	SS	df	MS	F	p
-Interaction					
Trx by time	.79	2	.40	3.02	.056
-Time-Within					
Subject Effect	.27	1	.27	2.06	.156
-Trx-Between					
Subject Effect	1.03	2	.52	.73	.488

*p<.05

Paired T-tests were carried out to compare the mean score for distress for each group, on day 1 and day 5. No significant differences were revealed for the expression and control groups, with a borderline difference noted for cognitive group. Results are reported in Table 16.

Table 16

Comparison of Mean Score of Distress at Day 1 and Day 5 for each Group.

Variable	Mean (SD)	t value	df	p value (2tailed)
Cognitive				
DS Day 1	2.395 (.667)			
		2.18	23	.039*
DS Day 5	2.095 (.663)			
		95% CI (.300) = (.016, .584)		
Expression				
DS Day 1	2.055 (.626)			
		-.41	21	.686
DS Day 5	2.092 (.621)			
		95% CI (-.038) = (-.230, .154)		
Control				
DS Day 1	2.057 (.684)			
		.05	22	.964
DS Day 5	2.053 (.630)			
		95% CI (.004) = (-.157, .164)		

*p<.05, **p<.016 (Bonferroni adjustment)

When T-tests were used to compare the mean of both groups in each time frame, no significant difference was noted at outcome. Results are reported in Table 17.

Table 17

Comparison of Mean Score of Distress Across Groups on Day 5.

Variables	Mean (SD)	t value	df	p value (2tailed)
Cognitive	2.095 (.663)			
		.01	44	.989
Expression	2.092 (.621)			
		95% CI (.003) = (-.380, .385)		
Cognitive	2.095 (.663)			
		.22	45	.826
Control	2.053 (.630)			
		95% CI (.042) = (-.338, .422)		
Expression	2.092 (.621)			
		.21	43	.835
Control	2.053 (.630)			
		95% CI (.039) = (-.337, .415)		

*p<.016 (Bonferroni adjustment)

Subsequently, an ANCOVA was performed to measure distress, in which the pre-measure for this variable was used as a covariate. Taking into account pretreatment group differences in distress, no significant difference between groups was demonstrated at outcome (p=.244). Results are reported in Table 18.

Table 18
Tests of Between-Subject Effects: Distress at Endpoint.

Sources	Sum of S	df	Mean	F	Sig
Corrected Model	12.81	3	4.27	19.60	.000
Intercept	2.26	1	2.26	10.39	.002
NA T1	12.78	1	12.78	58.69	.000
TRX	.63	2	.31	1.44	.244

*p<.05

Decrease in distress for the cognitive group was not sufficient to be statistically significant (Table 19).

Table 19
Parameter Estimates: Distress at Endpoint.

Parameter	B	SE	t	Sig	95%CI
Intercept	.682	.204	3.35	.001	(.276,1.09)
NA T1	.666	.087	7.66	.000	(.493,.840)
Cognitive	-.184	.139	-1.32	.192	(-.462,.095)
Expression	.041	.139	.292	.771	(-.237,.319)
Control	0				

For estimates of distress at outcome for both the two intervention groups and the control condition, the baseline was adusted which resulted in a distress score of 2.17 (mean of the three initial scores) (Table 20).

Table 20
Estimates: Distress at Endpoint for Each Outcome.

Treatment	Score Mean (SD)	Adjusted Score Mean (SE)
Cognitive	2.095 (.663)	1.95 (.097)
Expression	2.093 (.621)	2.17 (.100)
Control	2.053 (.630)	2.13 (.098)

Hypothesis III was partially supported by the findings. The cognitive group had a reduction in distress from baseline to outcome that was of marginal statistical significance. However, at outcome, no difference between groups was exhibited.

Hypothesis IV.

Patients who receive the intervention centered on cognitive coping skills will experience a decrease in intrusion score from the day prior to the intervention to the day following the intervention, as compared to those patients who receive the intervention focused on the expression of emotions and those in the control group.

Before testing this hypothesis, mean scores and standard deviation of intrusion score are calculated for all three groups, on day 1 and day 5. Results are reported in Table 21.

Table 21
Mean and Standard Deviation of Intrusion on Day 1 and Day 5 for Cognitive, Expression and Control Groups.

Variable	Mean (SD)	Mean (SD)
Group	Time 1	Time 5
Cognitive (n=24)	2.707 (.811)	2.363 (.782)
Expression (n=21)	2.228 (.638)	2.381 (.689)
Control (n=23)	2.261 (.837)	2.298 (.782)
Entire sample (N=68)	2.408 (.792) \ 16.86	

To detect within-subject effects and\or between-subject effects, an analysis of variance was performed. This analysis of variance demonstrated a significant treatment X time interaction. Results are reported in Table 22.

Table 22
Analysis of Variance of Intrusion by Group: Cognitive, Expression and Control.

Source	SS	df	MS	F	p
Interaction					
Trx by time	1.55	2	.78	4.26	.018*
Time-Within					
Subject Effect	.09	1	.09	.49	.487
Trx-Between					
Subject Effect	1.86	2	.93	.95	.393

*p<.05

Paired T-tests were performed to calculate the difference of the mean score for intrusion for all three groups, on day 1 and day 5. No significant difference was found between the expression and control groups. A marginal difference can be noted for the cognitive group. Results are reported in Table 23.

Table 23
Comparison of Mean Score of Intrusion on Day 1 and Day 5 for each Group.

Variable	Mean (SD)	t value	df	p value (2tailed)
Cognitive				
IS Day 1	2.707 (.811)			
		2.32	23	.030*
IS Day 5	2.363 (.782)			
		95% CI (.344) = (.037, .651)		
Expression				
IS Day 1	2.228 (.638)			
		-1.33	20	.199
IS Day 5	2.381 (.689)			
		95% CI (-.153) = (-.393, .087)		
Control				
IS Day 1	2.261 (.837)			
		-.34	22	.735
IS Day 5	2.298 (.782)			
		95% CI (-.037) = (-.262, .188)		

*p<.05, **p<.016 (Bonferroni adjustment)

T-tests revealed that mean scores for groups were not statistically different by day 5. Results are reported in Table 24.

Table 24
Comparison of Mean Score of Intrusion between Groups on Day 5.

Variables	Mean (SD)	t value	df	p value (2tailed)
Cognitive	2.363 (.782)			
		-.08	43	.936
Expression	2.381 (.689)			
		95% CI (-.018) = (-.464, .428)		
Cognitive	2.363 (.782)			
		.28	45	.777
Control	2.298 (.782)			
		95% CI (.065) = (-.395, .525)		
Expression	2.381 (.689)			
		.37	42	.712
Control	2.298 (.782)			
		95% CI (.083) = (-.367, .533)		

*p<.016 (Bonferroni adjustment)

Subsequently, ANCOVA was used to control for difference in intrusion at baseline (Table 3). Results are reported in Table 25. Decrease in intrusion score for the cognitive intervention was not sufficient to be statistically significant. Results are reported in Table 26. None of the pre- to post- intervention comparisons achieved significance and no significant differences between groups were demonstrated (p=.131).

Table 25
Tests of Between-Subject Effects: Intrusion at Endpoint.

Sources	Sum of S	df	Mean	F	Sig
Corrected Model	17.56	3	5.85	19.15	.000
Intercept	3.30	1	3.30	10.81	.002
NA T1	17.47	1	17.47	57.18	.000
TRX	1.28	2	.64	2.10	.131

*p<.05

Decrease in intrusion for the cognitive group was not sufficient to be statistically significant. However, the superior limit of the confidence interval was near zero. Results are reported in Table 26.

Table 26
Parameter Estimates: Intrusion at Endpoint.

Parameter	B	SE	t	Sig	95%CI
Intercept	.778	.232	3.36	.001	(.315, 1.24)
NA T1	.672	.089	7.56	.000	(.495, .850)
Cognitive	-.235	.166	-1.42	.162	(-.567, .097)
Expression	.105	.167	.63	.531	(-.228, .438)
Control	0				

Estimates of intrusion for each group was calculated, following the adjustment of pre-intervention scores. By adjusting the score of intrusion to 2.35 at baseline, the estimates of intrusion score at outcome for the cognitive group will be 2.16, for the expression

group 2.50, and for the control group 2.40. Results are reported in Table 27.

Table 27
Estimates: Intrusion at Endpoint for Each Group.

Treatment	Score Mean (SD)	Adjusted Score Mean (SE)
Cognitive	2.363 (.782)	2.16 (.116)
Expression	2.381 (.689)	2.50 (.122)
Control	2.298 (.782)	2.40 (.116)

Although no difference between all groups was demonstrated at outcome, there was evidence to suggest that the cognitive group had a reduction in intrusive thoughts from baseline to outcome. This reduction was of borderline statistical significance, in regards to its support of the four hypothesis.

Hypothesis V

Patients who receive the intervention centered on cognitive coping skills and patients who receive the intervention focused on expression of emotions will experience a decrease in avoidance score from the day prior to the intervention to the intervention to the day following the intervention, as compared to those patients who are in the control group.

Before testing this hypothesis, mean scores and standard deviation of avoidance were calculated for all three groups, on day 1 and day 5. Results are reported in Table 28.

Table 28
Mean and Standard Deviation of Avoidance Score at Day 1 and Day 5 for Cognitive, Expression and Control Groups.

Variable	Mean (SD)	Mean (SD)
Group	Time 1	Time 5
Cognitive (n=23)	2.164 (.743)	1.876 (.808)
Expression (n=22)	1.899 (.741)	1.882 (.662)
Control (n=23)	1.874 (.619)	1.837 (.611)
Entire sample (N=68)	1.980 (.705) \ 15.84	

Then, ANOVA was performed so as to detect differences between subjects and\or within subjects. No significant effect was found. Hypothesis V was not supported by data. No significant changes in avoidant thoughts were demonstrated. Results are reported in Table 29.

Table 29
Analysis of Variance of Avoidance Score by Group: Cognitive, Expression and Control.

Source	SS	df	MS	F	p
-Interaction					
Trx by time	.52	2	.26	1.55	.220
-Time-Within					
Subject Effect	.44	1	.44	2.62	.110
-Trx-Between					
Subject Effect	.69	2	.34	.42	.658

*p<.05

In order to explore the comparative effects of the interventions, the following question was posed: What is the difference in anxiety in HIV-positive persons who receive the intervention centered on cognitive coping skills, in comparison to those who receive the intervention focused on the expression of emotions - both immediately before and after the session?

This following hypothesis was examined:

Hypothesis VI

Patients who receive an intervention centered on cognitive coping skills will experience a decrease in anxiety from immediately before to immediately after the session, in comparison to those patients who receive the intervention focused on expression of emotions and will experience an increase.

Before testing this hypothesis, mean change scores and standard deviation of anxiety (score calculated by subtracting after-anxiety from before-anxiety), were calculated for both intervention groups at day 2 and day 3. Results are reported in Table 30.

Table 30
Descriptive Data of Difference in Anxiety at Day 2 and Day 3 for Cognitive Group and Expression Group.

Variable	Mean	SD	n
Time 2			
Cognitive group	-.543	1.21	23
Expression group	+.165	1.25	23
Time 3			
Cognitive group	-.283	.911	23
Expression group	+.391	1.37	23

ANOVA was performed, revealing a treatment effect for the mean change scores of anxiety. Results are reported in Table 31.

Table 31
Analysis of Variance of Anxiety by Groups: Cognitive and Expression.

Source	SS	df	MS	F	p
-Interaction Trx by time	.01	1	.01	.01	.936
-Time-Within Subject Effect	1.36	1	1.36	1.29	.262
-Trx-Between Subjects Effects	10.99	1	10.99	6.07	.018*

*p<.05

A t-test compared the difference in mean change scores for anxiety between the two intervention groups. Time was pooled for more statistical power. Results are reported in Table 32.

Table 32
Comparison of Change Scores for Anxiety by Groups.

	Mean (SD)	t value	df	p value (2tailed)
Cognitive	-.413 (.978)			
		2.46	44	.018*
Expression	+.278 (.925)			
		95% CI (-.691) = (-.126, 1.257)		

*p<.05

The cognitive group had experienced a decrease in anxiety from immediately before to immediately after the session, at day 2 and day 3, as compared to the expression group who experienced an increase in anxiety. Hypothesis VI is fully supported by these findings.

As well, before and after the interventions, the following questions involving relationships between the study variables were addressed:

What is the relationship between appraisal and psychological distress variables? What is the relationship between appraisal and mood variables in HIV-positive persons experiencing an exacerbation of symptoms?

Based on the theoretical model adopted and the research literature, the following hypothesis was proposed:

Hypothesis VII.

Patients who appraise the event (exacerbated symptoms) as stressful will score higher for psychological distress, intrusive thoughts, avoidance and negative affect scale, while scoring lower for positive affect.

Before testing this hypothesis, mean scores and standard deviation of appraisal-stressfulness were calculated for each group, at day 1 and day 5. Results are reported in Table 33.

Table 33

Mean and Standard Deviation of Appraisal-Stressfulness at Day 1 and Day 5 for Cognitive, Expression and Control Groups.

Group	Day 1 Mean (SD)	Day 5 Mean (SD)
Cognitive (n=26)	2.82 (1.19)	2.39 (.949)
Expression (n=26)	2.72 (1.06)	2.61 (1.20)
Control (n=30)	2.32 (.905)	2.35 (.977)
Entire sample (N=82)	2.60 (1.06)	

Pearson correlation was used at outcome to test hypothesis VII. Significant results fully support this hypothesis. These results reflect that a high score for stressfulness was related to a high score for distress, intrusive thoughts, avoidance thoughts, and negative affect, and to a low score for positive affect. Results are reported in Table 34.

Table 34

Correlations among Subjective Health (SH), Stressfulness (SS), Distress (DS), Intrusion (IS), Avoidance (AS), Negative Affect (NA) and Positive Affect (PA).

	SH	SS	DS	IS	AS	NA	PA
SH		-.35**	-.27*	-.23	-.23	-.32*	.37**
SS			.71**	.58**	.65**	.68**	-.32*
DS				.86**	.86**	.54**	-.24
IS					.49**	.51**	-.19
AS						.42**	-.23
NA							-.23
PA							

**p<.001; *p<.05, two-tailed (n=66 to 88)

Pearson correlation was also used to examine other relationships among study variables: subjective health (SH), stressfulness (SS), intrusion (IS), avoidance (AS), negative affect (NA), and positive affect (PA). Significant correlations were demonstrated between stressfulness, distress, avoidance, intrusion and negative affect. In contrast, positive affect was shown to have no relation to the outcomes variables of this study. This variable was correlated with stressfulness and subjective health. Finally, the high score on subjective health was related to a low score on stressfulness, negative affect, and distress, and to a high score on positive affect. Results are reflected in Table 34.

Management of Outliers

In order to identify specific outliers, boxplots of each outcome variable for each group were examined. Then, analysis was conducted without the specific outlier. If the outlier did not contribute to a change in the statistical findings (model), it was decided to keep the case.

For both positive affect and negative affect, several analyses were conducted: three factors (3 groups = Cognitive, Expression and Control X 2 Time = baseline and outcome); repeated-measures ANOVA; and a two factors (2 groups = Cognitive & Expression X 4 Time) repeated-measures ANOVA. For positive affect, one outlier was identified: case 39 in the cognitive group. However, analysis without the case demonstrated similar results in Table N1 and Table N2 in Appendix N. For negative affect, two outliers were identified: case 15 in the expression group and case 39 (only when using the four time frames). Analysis without case 39 and case 15 produced similar results in Table N1 and N2 in Appendix N. It was then decided to keep these cases. For distress, avoidance, intrusion and anxiety outcomes, boxplots demonstrated no outliers.

Characteristic of Dropouts

Seven participants did not complete the entire process of this study: four subjects were transferred to the intensive care unit or died; one was overwelmed by his current situation; two were busy with their family. Within the dropouts group, personal characteristics of six are reported in appendix O (Table O1) (one participant did not want to take part in the analysis). Dropouts varied widely across all demographic variables.

Due to the small number of dropouts, it was impossible to statistically compare their personal characteristics with those of the entire sample. Within the dropout group, four participants had been in the control group (two were too sick and two were not available), two had been in the expression group (one was too sick and one was overwhelmed), and one had been in the cognitive group and was very sick.

Descriptive data of dropouts for outcome measures at Day 1 were gathered. Results are reported in Table 35.

Table 35
Mean and Standard Deviation of Dropouts for Outcome Measures at Day 1

Measures	Mean	SD	n
Positive Affect	2.52	.756	5
Negative Affect	1.75	.582	6
Intrusion	2.86	.655	3
Avoidance	2.3	.794	3
Distress	2.58	.684	3
Appraisal	2.96	1.09	6
Anxiety	4.7	3.83	6
Subj. Health	3.00	2.76	6

Mean scores obtained in the dropout sample for outcome measures were compared to the mean scores obtained for the entire sample. No difference was noted. Non-parametric tests confirmed these observations. Results are reported in Table 36.

Table 36

Comparison of Mean Score of Positive Affect, Negative Affect, Distress, Intrusion, Avoidance, Anxiety, Appraisal and Subjective Health between Entire Sample and Dropouts.

Variables	Mean (SD)	t value	df	p (2tailed)
Positive Affect				
Sample	3.01 (.721)			
		1.47	86	.145
Dropouts	2.52 (.756)			
Negative Affect				
Sample	2.04 (.847)			
		.82	93	.415
Dropouts	1.75 (.582)			
Distress				
Sample	2.19 (.650)			
		-1.01	81	.315
Dropouts	2.58 (.684)			
Intrusion				
Sample	2.40 (.763)			
		-1.02	81	.310
Dropouts	2.86 (.655)			

(Continued in the next page)

Table 36 continued.

Variables	Mean (SD)	t value	df	p value (2tailed)
Avoidance				
Sample	2.03 (.724)			
		-.70	78	.483
Dropouts	2.33 (.794)			
Appraisal				
Sample	2.63 (1.06)			
		-.731	94	.466
Dropouts	2.96 (1.09)			
Anxiety				
Sample	2.86 (1.48)			
		-1.22	5.11	.276
Dropouts	4.78 (3.83)			
Sub. Health				
Sample	2.62 (1.05)			
		-.33	5.10	.753
Dropouts	3.00 (2.77)			

Summary of Findings

Hypothesis 1 was partially supported by the findings, in that both intervention groups experience a reduced negative affect over time, with no significant difference for the control group. However, at outcome no difference was demonstrated between all three groups. Neither of the two intervention groups experienced an increase in positive mood.

Hypothesis II was not supported by the findings, in that both intervention groups experienced a reduced negative affect from day 1 to days 2, 3, and 5. While both intervention groups improved, they did not differ.

Hypothesis III and hypothesis IV were partially supported by the findings, in that the cognitive group experienced a reduction in distress and intrusive thoughts from baseline to outcome that was of borderline significance. However, at outcome, no difference for distress and intrusion was apparent between groups.

Hypothesis V was not supported by the findings. There were no significant changes in avoidant thoughts.

Hypothesis VI was supported by the findings, in that the cognitive group experienced a decrease in anxiety from immediately before to immediately after the session, at day 2 and day 3. In comparison, the expression group experienced an increase in anxiety.

Hypothesis VII was fully supported by findings. A high score for stressfulness was related to high scores on distress, intrusive thoughts, avoidance thoughts, and negative affect, and to a low score on positive affect.

CHAPTER V. DISCUSSION

A randomized controlled trial compared the emotional responses of acutely ill HIV-positive persons to two interventions: one intervention centered on cognitive coping skills; another intervention centered on the expression of emotions. Emotional response was determined in accordance with two primary outcomes - mood and psychological distress. Anxiety was measured as a secondary outcome. This final chapter is divided into four major sections. In section one, theoretical considerations are reviewed. In section two, research findings are discussed with emphasis on theoretical, empirical, and methodological issues. In section three, limitations of this research study are acknowledged. Finally, in section four, implications for practice, teaching, and research are considered.

Theoretical Considerations

AIDS is a terminal condition, still incurable, that may go through long, relatively asymptomatic periods punctuated unpredictably by periods of extreme debilitation. As discussed by Griffin and Rabkin (1998), the application of "stage" theories of death and dying to the HIV-positive population is less appropriate considering the particular nature of their disease and recent advances in HIV treatment. In fact, the trajectory of HIV is now much less predictable than that of other terminal illnesses such as cancer.

Recent theoretical works by Lazarus (1995a, b, c) on "Cognitive-mediational theories of emotion" are relevant to this study. From Lazarus' (1995a, b, c) perspective, "cognitive-mediational theoretical approaches are now said to dominate thinking about how stress is generated, how emotions are aroused, how the coping process is shaped and also influences emotion, and

how this multivariate system affects adaptation and health."(p.183) For Lazarus, emotion is generated by appraisal, taking into consideration that coping and further reappraisals may change the emotional state, and that cognitive-emotional activity continues. The core of the cognitive intervention is primary and the secondary appraisal. In fact, by helping people to generate more helpful thoughts, the intervener guides the person in their primary appraisal (how they perceive their situation). Then, in secondary appraisal (what the person can do), the intervener readjusts the notion of fit, improves the notion of personal control (you can do something) and proposes a way to do something by working on thinking (cognitive coping). This theoretical framework guided the intervention of the present study, and the empirical findings with regard to the effect of cognitive intervention supports the theoretical propositions of Lazarus. Cognitive intervention produced a change in emotion by decreasing negative affect and a change in appraisal by decreasing intrusive thoughts.

For Beck (1991,1993, 1997), cognitive theory's most striking feature is cognitive specificity. Beck explains how there is a bias in information processing which produces dysfunctional behavior and excessive distress. In contrast to Beck's focus on common dysfunctional beliefs, in this study the cognitive intervention model did not assume the preexistence of faulty cognition as a point of departure. Consequently, in the present cognitive intervention, the theoretical basis proposed by Lazarus appears sufficiently explicative and most appropriate.

The expression-of-emotion intervention centered on verbalization. The patient had an opportunity to appraise and reframe his situation. However, no encouragement was given or action taken on the part of the intervener so as to assist the patient, actively in developing cognitive skills. The expression of emotions is derived from a more experiential psychotherapeutic approach to emotion where the goal of intervention was to increase awareness and acknowledgement of emotional expression.

In the present study, the nursing intervention was based on some borrowed middle-range theories, integrated in a nursing perspective known as the McGill Model of Nursing. Meleis (1991) states that borrowed theories are relevant for nursing if there is to be integration of a nursing perspective. According to Fawcett (1989), Parse (1991), Phillips (1988) and Smith (1992), nursing research must establish links with relevant nursing models, as it is this link that will continue to generate nursing knowledge. Thus, the overall conceptual framework for the present study was the McGill Model of Nursing. This particular nursing model has permitted the adaptation and application of coping theory and depression theory-therapy within a valid nursing context. The following essential features of the nursing profession predominated this study:

-The patient is an active participant.
-The nurse works in collaboration with the patient and his resources.
-The patient has the capacity to judge what is or is not helping him.
-The patient has the choice to change or to not change.
-Thoughts are not considered from an objective point of view as irrational\rational but rather are judged from a personal perspective as helpful or unhelpful.
-The patient generates helpful thoughts. Helpful thoughts are not usually suggested by the nurse.
-The focus is not only on deficit but strengths. The goal of the intervention is to develop, maintain and strengthen cognitive skills.

In the McGill Model of Nursing, initially, the purpose and emphasis of coping is mastery and problem solving. The present study supports the usefulness of emotional coping, as posited by the McGill model, and further expands that vision.

Effect of Both Interventions on Outcome Measures

At baseline positive affect was similar to other populations. Conversely, negative affect was higher (Watson et al., 1988).

Similarly, psychological distress was higher than that found in other populations (Horowitz et al., 1979), but was found to be similar to an earlier HIV-positive population (Perry et al., 1992).

Interventions and Mood

Two major outcomes were used to measure mood: positive affect (PA) and negative affect (NA). The score obtained for PA in the study sample (30.1) is comparable to the PA score obtained in the 1994 study by Segal and Murray involving undergraduates students bothered by a traumatic experience (28.0). Moreover, the PA score is similar to another PA score obtained during the development and validation of PANAS scale (29.7), involving undergraduate students and employees (Watson et al., 1988). However, the NA score obtained in the study sample (20.4) is higher than that obtained during the development and validation of the tool (14.8). According to Watson and colleagues (1988), NA is a general dimension of subjective distress and encompasses a variety of aversive states including distress, anger, guilt, fear, disgust, and worry. Therefore, it was expected that the study group experiencing a particularly difficult period would have relatively high NA scores. In fact, several studies have shown high scores on negative mood for this population, as assessed by POMS measure (Fukunishi et al., 1997b; Lutgendorf et al., 1997; Mulder et al., 1994).

Surprisingly, the PA score is comparable to PA scores obtained from a sample of undergraduate students still bothered by a traumatic experience and a sample of undergraduates student and employees who had not experienced major stressors. According to Watson and Kendall (1989), PA scores reflect one's level of pleasurable engagement with the environment. This study sample exhibited high scores on some specific items expressing the PA, such as 'interested' (86% answered moderately to extremely), 'determined' (83%), 'attentive' (87%) and 'proud' (72%). Possibly, participants had been living with their HIV-related condition for

some time and so kept their PA within the normal range. Mean length of time since their HIV-positive diagnosis was six years, with an average of three infections and four hospitalizations. Moreover, specific items may reflect the "fighting spirit" documented in research literature about persons with a chronic illness.

According to Clark and Watson (1991), as well as Watson and Kendall (1989) anxiety is a state of high NA. On the other hand, PA is more strongly and consistently negatively related to depressive rather than anxiety symptoms. These researchers propose that anxiety be viewed as a state of high NA, with no significant PA component. In other words, an anxious individual scores necessarily high on NA, but can score high, low, or anywhere in between on PA. In contrast, depression is a more complex combination of high NA and low PA. Participants of this study, can theoretically be considered to exhibit more anxiety than depression.

With regard to NA outcomes, both the cognitive and expression group interventions demonstrated consistent results. Beneficial effects on the NA outcome were noted from the day before to the day after the intervention. In Segal and Murray's study (1994), NA decreased steadily over the four intervention days for both their cognitive therapy and vocal expression group. Although in both the Segal and the present study these interventions were related to the particular problem, operationally and theoretically they were distinct. Similarly, other studies (Eller, 1995; Kelly et al., 1993a; Mulder et al., 1994) utilizing different interventions for HIV-positive clientele (cognitive-behavioral intervention with social support intervention and counselling intervention) have demonstrated decreased distress and symptoms of depression.

In the present study, the vital backdrop for both the cognitive and expression interventions was the nurse-patient relationship. Therefore, findings can be partially attributed to a specialized component: the nurse's presence in cognitive, affective, and behavioral domains. Moreover, both intervention groups shared

other common elements, such as therapist qualities and opportunity for expression. Interestingly, with regard to therapeutic techniques, Stiles, Shapiro and Elliot (1986) observe that "despite clear demonstrations by process researchers of systematic differences in therapists' techniques, most reviews of psychotherapy outcome research show little or no differential effectiveness of different psychotherapies." (p.165) Numerous explanations for this have been suggested. For example, the apparent equivalence of outcomes has been attributed to the therapeutic, helping, and working alliance as the common core (Stiles et al., 1986). However, this suggested explanation can not fully explain results in the study by Segal and Murray (1994), since the intervener was present only for the cognitive group. Instead, Segal and Murray suggested that diverse approaches result in different processes that change negative affect.

At outcome, however, both intervention groups and the control group scored the same for NA. The observed decrease for both the cognitive and expression groups could be partially explained by their higher NA score at the beginning, thus leaving room for change. However, once the score was adjusted to the same NA score at baseline (20.4) for all groups, estimates at outcome were 16.4 for cognitive group, 17.2 for expression and 18.6 for control group. In fact, it may be somewhat unrealistic to expect a larger decrease in NA when considering an undergraduate student and employee sample who scored 14.8. By the end of the Edgar study (1992), levels of anxiety and depression were close to general population norms. Yet, it was one full year later, thus making it possible that patients had perhaps simply adjusted to their condition. Although they had had treatment for cancer, some may have considered themselves cured. The present study was conducted during the hospitalization phase, when the HIV-positive patient was sick and symptomatic, suffering from various HIV-related conditions: kaposi sarcoma, diarrhea, intestinal incontinence, pulmonary infection, dyspnea, nausea, pain. In these cases, the patients were emaciated, weak, debilitated and confined to bed.

Over a four day period, results showed that both intervention groups experienced a decrease in NA from the day before the intervention to day 2, day 3 and the day after the intervention. For both intervention groups, negative affect dropped dramatically after the first day of the intervention. This NA decrease was maintained throughout the process. Possibly, the NA decrease may be attributed to the interveners' presence and contribution. In a phenomenological study of HIV-positive patients' experiences of nursing interventions during hospitalization by Kermode (1995), the therapeutic value of presence was emphasized. In this study, the HIV-positive patients in both intervention groups were reassured that a nurse would help and support them over a period of a few days. At the first session, the patient in the expression group was encouraged to verbalize his perceptions and feelings about the present HIV-related illness. In the cognitive group, the client was sensitized to the idea that he could actively do something to enhance his well-being. According to mechanisms proposed by Folkman (1996) and Roskies (1992), the first intervention session affected the patient's optimism and sense of control. Importantly, research on stress and coping among HIV-positive persons (Folkman, 1993) indicates that successful management of illness-related distress involves a sense of control and optimism or hope. Specifically, stress management may further reduce psychological distress by virtue of its impact on these two variables of control and optimism.

The present study revealed no increase in positive affect with either intervention. Segal and Murray (1994) found that cognitive therapy and vocal expression groups showed a different pattern of positive mood over the four days of the study. Initially, the cognitive therapy group demonstrated decreased positive mood, only to be followed by a steady increase. Comparatively, the vocal expression group demonstrated little increase in positive mood, followed by a decrease on the fourth day. Thus, Segal and Murray concluded that cognitive therapy seemed to be a more positive and beneficial experience. In the Segal study the intervener was present for only the cognitive group, a factor which might help explain the PA

decrease in the vocal expression group. In the present study, it may perhaps unrealistic to expect large improvement in PA considering that prior to treatment the entire sample demonstrated a high PA which, in effect, caused a ceiling effect.

In conclusion, in the present study no difference between the intervention groups and control group was shown for positive affect. Paired T-tests revealed that both intervention groups exhibited decreased negative affect. This finding is consistent with research suggesting that stress management intervention studies demonstrate post-intervention reductions in psychological distress for people at risk for HIV infection (Roffman et al., 1997), people just notified of their HIV- positive status (Antoni et al., 1991; Perry et al., 1991), people at an early stage of the infection (Kelly et al., 1993a; Lamping et al., 1993; Mulder et al., 1994, 1995; Pepler et al, 1998; Rozman et al., 1996, Taylor, 1995) as well as people at a symptomatic stage of the infection (Bock et al., 1998; Eller, 1995; Gifford et al., 1998; Inouye et al., 1998; Lutgendorf et al., 1997; McCain et al., 1996).

Interventions and Psychological Distress

In the present study, results of the Psychological Distress measure revealed that the total distress score, at 32.6, was quite high for the entire sample. The score for avoidance was 15.84 and for intrusion, 16.86. For clinical patients coping with stress or parental death, the mean of total distress was about 39 to 42 (Horowitz et al., 1979). In comparison, the mean score for normal control subjects is 9.8 and for non-patient subjects with parental death is 22.9 (Horowitz et al., 1979). Horowitz (1995) considers cutoff points for the distress score as follows: low= below 8.5; medium= 9-18; and high= 19 or more. Values obtained in the current sample are similar to those obtained by Perry and collaborators (1992) with 205 HIV-positive adults, who scored 14.65 for intrusion and 15.67 for avoidance for a total of 30.32. Similarly, in Pepler and colleagues' (1998) sample of HIV-positive persons, the score was

16.22 for avoidance and 16.42 for intrusion. However, the value obtained for intrusion - 16.86 - is much higher than those obtained with cancer patients (12.5) in the Edgar study (1992) or with HIV-positive outpatients (10.5) in the McCain study (1996).

The high score obtained for intrusive thoughts among the HIV-positive population can be explained by the nature of the particular illness condition. In the face of severe, enduring, and uncontrollable threat (diagnosis of HIV seropositivity), the level of intrusive ideation becomes higher (Miller, Rodoletz, Schroeder, Mangan, & Sedlacek, 1996). The study sample appeared moderately stressed by their present condition with a score of 2.6 on the stressfulness subscale (highest value 5). According to Miller and colleagues (1996), the effects of intrusive ideation depend on the perceived severity of the medical stressor. Consequently, Miller and colleagues state that HIV-positive individuals may need more extreme avoidance patterns to deal with the threatening intrusive content. Their results support the notion that higher levels of intrusive ideation predict higher levels of avoidant ideation. In fact, to reduce intrusive ideation, greater avoidance efforts should be mobilized, such as trying not to think or talk about the stressor, and staying away from reminders of the stressor. For the present study sample, the avoidance score was quite high (15.84). According to Foa and Kozak (1986), as well as Horowitz (1986), the cycle of intrusive and avoidant ideation can interfere with adaptation to the HIV-related situation, because the stressor is never actively confronted nor emotionally processed. Miller and colleagues (1996) concur that this pattern should be strongest when the stressor is not only of high intensity and long-term, but also of low controllability, as in the HIV diagnosis.

Results from paired T-tests for the cognitive group indicated a decrease in distress and intrusion. However, at outcome no significant difference between groups was found. Subsequently, when ANCOVA was used to control for differences in distress and intrusion, the decrease in the cognitive group was not sufficient to be

statistically significant. However, the superior limit of the confidence interval for distress and intrusion was near zero. Yet, intrusion and distress scores were very high, leaving room for improvement. Utilizing the Intrusion subscale, McCain and collaborators (1996) found that the intervention group and comparison groups for their HIV-positive clientele only demonstrated a significant difference at 6 months post-intervention, not at six weeks. Their intervention group exhibited a reduced score for intrusion, while the comparison group exhibited an increase of intrusive thinking over the 6-month period. McCain and collaborators explained the reduction in intrusive thinking in relation to the HIV-positive clientele having learned and practised cognitive restructuring techniques.

Edgar and colleagues (1992) suggest that cognitive coping skills, may lessen patient's stress regarding illness-related concerns. In the present study, decreased intrusion may not have been more substantial than expected due to the lack of practice of the strategy over time. In this context, homework was not possible. Participants were sensitized to the strategy and then invited to generate more self-perceived helpful thoughts. From clinical observations, the sensitivity session where the client becomes aware of the vital relationship between his thoughts and emotional arousal was well-mastered. Subsequently, with the help of the intervener, the client generated more helpful thoughts.

In the present study, high intrusion scores at outcome for all groups and the bordeline decrease in intrusion score for the cognitive group may be related to the patients' particular HIV-related situation. In fact, the patients had to cope with an acute period of stress due to an exacerbation of HIV-related symptoms. The study was conducted during this crisis situation, with the patient sick and symptomatic. In Edgar's psychosocial intervention (1992), patients newly-diagnosed with cancer demonstrated a reduced intrusive score over the year - at 4, 8 and 12 months. Specifically, the intrusive thought score over the year decreased by 2 points. At baseline, participants scored around 12 while one year later they

scored 10. Yet, one year later Edgar's study participants were scoring higher than norms, considering that their anxiety and depression levels were close to general population norms. In the McCain study (et al., 1996) with HIV-positive persons, an immediate benefit to emotional well-being was demonstrated 6 weeks after the psychological intervention. Six months later, there was a significant reduction in intrusive thoughts.

The debate among researchers is whether intrusive thoughts are mediators or consequences of stress. For Segal and Murray (1994), intrusive thoughts are simply symptoms of a more basic affective process, rather than the cause of negative feelings. Segal and Murray's (1994) symptomatic view of negative cognition is supported by the fact that the negative thoughts index is positively correlated, albeit moderately, with all of the measures of negative affect. In their study, both expression and cognitive intervention groups exhibited decreased intrusion and distress from the time of orientation to the time of termination of the intervention. Both intervention groups improved, with no differences between them. One month following treatment both groups continued to improve, but still did not exhibit differences between groups in their intrusion and distress scores.

In the Segal and Murray study, participants were shown to still be bothered by the situation, even though the stressful experience was past. The stressful experience was related to death of relative, parents' divorce or a relationship breakup. Negative thoughts may, perhaps, be symptoms of a more basic affective process rather than the cause of negative feelings. However, in the present study, HIV-positive individuals are directly confronted with a stressor which is still very much in the present. Thus, it can be advanced that intrusive thoughts act as a mediator of stress. Recently, Moneyham and colleagues (1997) have supported this possibility that intrusive thoughts can act as a mediator of stress as regards the impact of HIV-related stressors. In their study sample involving 264 HIV-

positive women, cognitive appraisal was conceptualized and measured using the intrusive thoughts index.

Results showed no decrease in avoidant thoughts with either group. In contrast to the study conducted by Miller and colleagues (1996), where intrusive ideation predicted avoidant ideation, it is possible that slightly reduced intrusive thought was not sufficient to decrease avoidant thinking. In fact, HIV-positive individuals may need more extreme avoidance patterns to deal with the threatening intrusive content that is activated by their HIV-related situation. In the Moneyham study (1997), avoidant thought was conceptualized and measured as a coping strategy and did not mediate the relation between stress and emotional distress. Moneyham's findings parallel the findings of Lutgendorf and colleagues (1998), who examined the relative contribution of changes in coping skills and social support during the intervention period to reductions in dysphoria, anxiety and distress among HIV-positive persons. No significant changes were observed in denial coping in either group condition. However, members of the intervention group showed significant improvement in cogitive coping strategies involving positive reframing and acceptance. They explained that reframing represents an attempt to see things differently and may facilitate acceptance. Acceptance suggests a new stage of cognitive integration and a new level of understanding.

Denial and avoidance have been studied in relation to the adaptation process among HIV-positive individuals. Characteristics including denial, avoidance, fatalism, helpless coping, and withdrawal have been shown to be related to depressed mood and distress (Hays et al., 1992; Leserman et al., 1992; Namir et al., 1987), to predicted negative long-term effects on immune function, and to disease progression (Ironson et al., 1994). More recently Mulder and colleagues (1999) determined that avoidance coping was not related to the development of AIDS-defining clinical symptoms.

Interventions and Anxiety

In this study, anxiety was a potentially relevant variable considering that the participants, as indicated by their high NA scores at baseline, were relatively anxious. Interestingly, patients who received the cognitive intervention experienced decreased anxiety from immediately before to immediately after each session (days 2 and 3). In contrast, patients who received the expression-of-emotion intervention experienced increased anxiety. These results are similar to those of Segal and Murray (1994), in which the subjects in their vocal expression group were found to be emotionally distressed after each session, while those in their cognitive therapy group were determined to be more positive.

Despite their findings that both expression and cognitive interventions produced a decrease in negative affect and distress over four days, Segal and Murray (1994) conclude that cognitive therapy seems to be a more positive experience. They take into consideration important differences in the treatment sessions for the two groups. For example, subjects in the expression group focused on negative emotional content and, experienced an upsurge in negative feelings after each session. In contrast, subjects in the cognitive group shifted their focus from expression of unpleasant feelings to examination of negative thoughts, and, experienced an increase in positive affect after each session. Similarly, in the present study, participants from expression group vented their emotions, while participants from the cognitive group shifted their focus to the examination of thoughts. However, here it was not clinically evident that participants in the expression group experienced an upsurge in negative feelings. However, they were definitely more anxious.

Mulder and colleagues (1994) compared the effectiveness of cognitive-behavioral therapy and experiential-oriented therapy in reducing distress among asymptomatic HIV-positive homosexual men. Their psychosocial intervention, independent of the therapeutic orientation, reduced distress significantly in comparison to the

waiting-list control group. Mulder and colleagues had not hypothesized that one intervention might be superior. Rather, they predicted beneficial effects from both therapies; these are different psycho-therapeutic approaches to emotion and its role in human functioning and therapeutic change. However, some researchers (Greenberg, 1993; Greenberg & Safran, 1987; Nichols & Efran, 1985) argue that emotional processing involves at least three processes: an expression of feelings, a cognitive change, and a shift to positive feelings. Based on this assumption, for the present study it was expected that the cognitive coping intervention would be more effective in producing emotional change than the expression-of-emotion intervention. The later was derived from a more experiential point of view where the goal of intervention was to increase awareness and acknowledgement of emotional experience. During this process it was reasonable to expect an increase of emotion.

Recently, in a study with cancer patients, Moorey and colleagues (1998) compared a non-directive approach to emotional distress called supportive counselling with a more problem-oriented approach, the cognitive behavioral treatment. With their non-directive support counselling, they encouraged patients to express emotions by developing an empathic therapeutic relationship guided by the patient's needs. With their cognitive behavioral approach, they employed techniques through more formal, structured intervention sessions. Although both treatments were statistically associated with significant change over time, Moorey's cognitive behavioral technique produced significantly greater change in fighting spirit, helplessness, coping with cancer, anxiety, and self-defined problems than did the non-directive support counselling intervention. Concluding that cognitive-behavioral treatment is an effective intervention treatment, Moorey and colleagues thereby challenge the conventional wisdom that non-directive support is the best way to help cancer patients adjust.

General Comments on Effect of both Interventions

In conclusion, both interventions resulted in decreased negative affect. Generally, it would appear that the psychological status of HIV-positive individuals does not improve without particular psychosocial interventions. For example, in the absence of psychological treatment, Fell and colleagues (1993) found no improvements in three psychological measures among symptomatic HIV-positive patients over an 11-month period. Additionally, while in the present study both interventions resulted in decreased negative affect, the cognitive coping intervention demonstrated decreased distress -specifically, intrusive thoughts and decreased anxiety from immediately before to immediately after each session. Therefore, with regards to the regulation of emotional response, this particular type of cognitive intervention appears to be effective with HIV-positive clientele experiencing an exacerbation of HIV-related symptoms.

Key Intervening Variables

In the present study, the intervention centered on cognitive coping skills strengthened the notion of personal control for HIV-positive patients experiencing exacerbated symptoms. Although control was not an outcome in the present study, the appraisal measure incorporated a sense of control. Recent research findings (Griffin & Rabkin, 1998; Reed, Taylor, & Kemeny, 1993) involving people at late-stage AIDS reveal that perceptions of control over the day-to-day course of HIV-related illness are strongly associated with adjustment. Also, Griffin and Rabkin (1998) suggest that personal control becomes more important as one's physical health status becomes more uncertain and unpredictable. In the present study, the cognitive intervention reinforced the notion of personal control over emotions, in particular those related to exacerbated HIV-related symptoms.

In the trajectory of HIV infection, it would appear that the HIV-positive person's perceived health status is a key variable that may either moderate or aggravate psychological distress. In a cross-sectional study by Linn, Anema, Hodess, Sharpe and Cain (1996), HIV-related depression was predominantly contingent on the person's perceived health status. Results indicated that symptoms of HIV and personal and social resources only contributed 26% to mental distress, as compared with the 26% contributed by self-appraisal of health status. In the present study, participants had a very poor perception of their health status, reflected by scores that fluctuated from 2.6 to 3.1 over four days on a visual analogue scale anchored by "not at all healthy" 0 and "extremely healthy" 10. As well, correlational analysis revealed that perceived health status was negatively related to stressfulness, negative affect, distress, intrusion thoughts, avoidance thoughts and positively related to positive affect. In Edgar and colleagues' study (1992), perceived physical health status was correlated with depression, anxiety and intrusion. These authors stress subjective health when assessing cancer patients' adjustment, since self-rated physical status could be an important discriminating factor for identifying those patients who might benefit from an intervention.

From clinical observations in both intervention groups, HIV-positive patients were truly concerned by their exacerbated HIV-related symptoms. In the cognitive group, patients' focus was primarily on thoughts related to HIV-related symptoms. They evaluated their physical symptoms to determine if they were getting worse or improving, and then reflected this evaluation in their subsequent feelings and emotions. In relation to their physical condition, it appears patients have little information regarding the evolution of the long-term HIV treatment.

Linn and colleagues (1996) recommend interventions which provide HIV-positive clients with information about the probable trajectory of their HIV disease and its long-term treatment, but which still allows patients to maintain optimism. Such a strategy,

they explain, would improve the patient's chance for positive health appraisal, decreased anxiety and decreased depression. According to Lenz (1984), the manner in which such medical information is disclosed to the patient is extremely important. When information is presented with optimism, patients experience more hope and a favorable overall emotional adjustment than when information is framed within a negative context.

Presently, the medical understanding of HIV allows more room for hope than the medical view prior to 1990. As regards coping strategies of HIV-positive adults, it is recommended that health-care professionals encourage clients to adopt a positive spirit, plan a course of action, and seek social support. This is supported by the Kermode (1995) study on patients' experiences of nursing interventions during hospitalization. Participants explained that when feeling emotionally low, they preferred the nurses to communicate optimism and encouragement.

Intervention Timing

In the present study, interventions were delivered to the patient during a particularly stressful period: the exacerbation of HIV-related symptoms. According to Auerbach (1989), the timing of the intervention in relation to the onset of the stressor has received little research attention. However, intervention timing appears to be critical to change (Gottlieb & Feeley, 1995). The vast majority of study interventions, explains Auerbach, are delivered during a pre-stress period, just prior to the patient's confrontation with the stressor. With HIV-positive clientele, most psychosocial interventions have been designed for early stages of HIV-infection: the time of notification (Antoni et al., 1991; Perry et al., 1991) and the asymptomatic phase (Coates et al., 1989; Kelly et al., 1993a; Lamping et al., 1993; Mulder et al., 1994; Rosman et al., 1996; Taylor, 1995). These early stages are also stressful, and studies support the notion that stress management interventions can affect mood and

immune functioning in early HIV infection. Yet little is known regarding the effect of such interventions on symptomatic HIV-positive individuals.

To counter this lack of knowledge, recent research studies, testing cognitive-behavioral stress management intervention on mood, were conducted with HIV-positive clientele at a symptomatic phase (Bock et al., 1998; Eller, 1995; Gifford et al., 1998; Inouye et al., 1998; Lutgendorf et al., 1997; McCain et al., 1996). Results indicate that even in progressive symptomatic HIV disease, stress management interventions may enhance psychosocial adjustment. Most studies included symptomatic HIV-positive persons who showed clinical or laboratory signs consistent with mildly progressive HIV infection, but with no clinical symptoms of AIDS. For example, McCain and colleagues (1996) compared the effectiveness of a 6-week stress management training program (one hour sessions held once each week for 6 weeks), involving a sample of 60% asymptomatic (CDC groups A1 - A2) participants and 40% symptomatic participants (CDC groups B2 - C3). Although the researchers included symptomatic HIV-positive people, in terms of their intervention format, their study was not specifically designed for people experiencing exacerbated HIV-related symptoms. In another study by Eller (1995), both interventions were designed for patients experiencing HIV-related symptom progression. Here, interventions included: 1) guided imagery, 21.5-minute audiotape, viewed daily for six weeks, and 2) progressive muscle relaxation, twelve-minute audiotape, viewed daily for six weeks. In Eller's (1995) randomized trial, blocked by illness stage (asymptomatic\mildly symptomatic, AIDS-like syndrome, and AIDS), both interventions decreased depression.

When HIV-related symptoms progress, the format of psychosocial interventions must be adapted to the physical condition of the HIV-positive person. In studies with different clientele, including cancer patients (Edgar et al., 1992; Fawzy et al, 1990a, 1990b; Lovejoy & Matteis, 1997), patients suffering from irritable

bowel syndrome (VanDulmen et al., 1996), and stroke patients (Lincoln et al., 1997), simple psychologically-focused interventions involving weekly sessions were shown to have beneficial results. During acute illness, shorter interventions must be designed which are adapted to the ill person's needs and are more practically applicable from a nursing context. In dentistry, for instance, very short psychologically-focused interventions of between 20 to 45 minutes have been employed with beneficial effect (Martelli et al., 1987; Wolfe et al., 1996). Such interventions address very short term stress rather than chronic illness stressors. In the continuum of the chronic illness stressor, exacerbated symptoms constitute short periods of acute stress. While stress management interventions can help clientele cope with chronic illness stressors, short interventions are needed for acute stressful periods. As regards treatment differentiation, interventions need to be designed in relation to the specific nature of stressor, and to individual characteristics. Eller's study (1995) demonstrated the effects of such differential treatment. The guided imagery group experienced a significant decrease in depression and fatigue, while the progressive muscle relaxation group experienced an increased CD4+ T lymphocyte count and reduced depression.

Value of Short-Term Effect

Research literature indicates that psychologically-focused support interventions lead to positive effects at short-term follow-up with various clientele (Farash, 1979; Linn, Linn, & Harris, 1982; Vachon et al., 1882). Several studies evaluated long term outcomes and discovered no effect. Explanations for this lack of significant treatment effect include: (1) ineffective intervention; (2) intervention design (implementation of treatment, sample size); and (3) sensitivity of the measure. While many different issues are relevant to sensitivity of the measure, questions can be raised in regard to the capacity of the intervention to produce a long term change. If the researcher and intervener are influenced by the

advantages of long term effect, they may be overly preoccupied with durable change. Such preoccupations can result in unrealistic expectations. For example, there is a prevalent view that unless there are demonstrated long-term gains, the intervention is of relatively little value. Traditionally, in the psychological domain, long-term effects were expected from long-term scheduled interventions. Western medicine, of course, has already demonstrated the value of short term effect. In nursing, then, what effects do we expect from our nursing interventions? Are we overly influenced by the prevalent idea that an intervention is trivial unless it demonstrates a significant, long-term effect? Is it not possible, instead, to argue that there is much value in an improved quality of life at the time the intervention occurs, even if such improvement is short-lived. In fact, it is unrealistic to expect the patient's comfort and relief, as produced by nursing interventions, to persist beyond the time of the nursing intervention. In the present study, taking into consideration the particular crisis situation of exacerbated HIV-related symptoms, a nursing intervention designed to produce immediate short-term effects was determined to be truly valuable.

Relationships among Appraisal and other Variables

In the present study, appraisal, as measured by the Stressfulness Subscale, was positively correlated with distress, avoidance, intrusive thoughts, and negative affect, and negatively correlated with positive affect. Interrelationships among psycho-social variables were in accordance with predictions from stress and coping theory. According to the theory advanced by Lazarus and Folkman (1984), cognitive appraisal mediates the relationship between the stressor and adaptational outcomes. Several studies confirm that primary appraisal predicts emotional adaptation outcome and mood dysfunction in HIV-positive populations (Anderson, 1995; Moneyham et al., 1997), as well as in other various populations (Munkres et al., 1992). Studies examining psychological

adjustment in HIV-positive people indicate that negative appraisal is associated with mood disturbances, poor psychological adjustment and negative quality of life (Kelly et al., 1991; McCain & Cella, 1995; Reed et al., 1994).

Demographic Factors

The mean and the distribution of participants' age was comparable to the entire HIV-positive population (Remis, Leclerc & Vandal, 1999). In this sample, 54.5% of participants had a post-secondary education. This compares to the 61% reported in the Friedland, Renwick and McColl (1996) study of 107 HIV-positive males living in Metropolitan Toronto. As well, this study's unemployment rate of 68.5% was comparable to Friedland's study which reported 67%. Importantly, the unemployment rate is very high, given that the percentage reported in the entire population by Statistics Canada was 8%. As well, in this study 51% of participants were on welfare and had an income less than $10,000 per year. Hogg and colleagues (1994) determined there to be an association between low income (below $10,000) and shorter survival following HIV infection. The unemployment status and low income of such a well-educated group would have been additional stressors.

Limitations

This study's limitations are best determined by scrutinizing threats to internal and external validity. To control for equivalence between groups, it was decided to assign participants randomly to one of the three intervention groups. To insure that this randomization resulted in three comparable groups, distribution of demographic and outcome variables was verified. Results revealed no difference between groups for demographic variables. However, some results for outcome variables were of borderline significance at baseline. As a result, appropriate analysis was utilized to control for

this difference. Control of extraneous variables was planned by random assignment and statistical strategy. Based on the research literature, some confounders were initially identified: subjective health, anxiety, and support. Statistical procedures detected no significant differences between groups. Therefore, it was decided not to adjust for these confounders.

Internal Validity

Group comparison and the randomization process counteracted some of the threat to internal validity: history, maturation and selection. Testing effect was not a major concern in this study, as the number of dropouts was small (n: 7) compared to the entire sample (n: 90). Pre-testing allowed for assessment of group equivalence, while sophisticated statistical procedures helped determine the change process. As regards instrumentation, the effect of data collectors was statistically assessed with no difference found. There was no mortality-dropout effect as participants were not different than dropouts relative to outcome variables.

The loss of statistical power was an other limitation of this study. Because the burden of symptoms some participants were not able to complete all questionnaires which accounted for the smaller sample size.

The present study was conducted in eight clinical units from three geographically different centers with a recruitment of one or two patients per week. Contamination or diffusion of treatment was not a substantial threat since more than one person from the same setting were not involved in the study during the same week. However, potential contamination could have occurred if, for example, a participant and potential participant met in the cafeteria. In this study, health care professionals were aware which patients participated, but were unaware of group assignment. Therefore, there was no threat of compensatory equalization of treatments. Of

course, as in any research, subjects might respond differently due to their desire to be seen as competent and psychologically healthy.

As regards internal validity, another threat considered was the possibility that participants pre-determined the study hypotheses. Emotional changes that may have occured could, in fact, have been due to knowledge of the hypothesis in their particular intervention group. If participants did guess the hypothesis in this study, they guessed that both interventions were beneficial to psychological well-being. Both intervention groups exhibited decreased negative affect. However, only one group exhibited a decrease in intrusive thoughts and distress, while the other group statistically remained unchanged. Moreover, pre- and post-session anxiety decreased for the cognitive group and increased for the expression group.

As for the participants in the control group, it is possible they may have withdrawn upon realizing their intervention would take place one week later. This could have affected outcome variables, due to a resentful demoralization-effect. Of the seven dropouts, four participants were in the control group and two were unavailable to participate at the time of the post-test. These dropout instances could be interpreted as a sign of withdrawal.

When considering internal validity, it is also important to consider the relationship between improved negative affect and improved physical health during hospitalization. Over the course of their hospitalization and by the end of their hospital stay, the participant's health could be expected to improve. The majority of the sample participated in this study during the beginning of their hospital stay: 42% of patients were enrolled in the study in the first five days of their hospitalization; 33 % of patients between days 6 and 10; 12% of patients between days 11 and 15; and, finally, 7% of patients participated at days 16 or more of their hospital stay. For the entire sample, mean time of hospitalization was three to four weeks. From clinical observations, a majority of patients were still emaciated, weak, debilitated, and confined to bed by their last day of

hospitalization. Sometimes, patients were admitted with pneumocystis carinii pneumonia (PCP) and became sicker with the antibiotic therapy (nausea, fatigue). Unfortunately, patients seemed to have little information with regard to improvement, in their condition (clinical observation). As well, some patients conditions worsen as their treatment - often very long and difficult - progresses. The pattern of subjective health over four days stayed virtually unchanged for the entire group: 2.6 at day 1; 2.8 at day 2; 3 and 3.1 for days 3 and 4. Over the four days, there was no demonstrable difference in subjective health between groups.

External Validity

This study was conducted with 90 HIV-positive adult men hospitalized for an exacerbation of HIV-related illness. Strictly speaking, study findings cannot be generalized beyond the sample because the sample was non-random and is therefore not representative of the entire HIV-positive population. However, sample criteria were not so limited as to completely restrict the study's more generalized applicability.

One threat to external validity is interaction between selection and treatment. From the 138 patients approached to participate in this study, 19 patients refused: 4 due to their physical illness, and 15 due to their stated lack of interest. While the researcher anticipated a difference as regards ethnicity between final participants and refusals, statistical comparison actually demonstrated no difference in the two demographic variables of age and ethnicity. Another threat to external validity is interaction between setting and treatment. Participants from all settings demonstrated no differences in demographic characteristics.

It is important to situate this study within the context of the evolution of HIV-AIDS. This study's findings were collected during 1996-1997, a period when protease inhibitors and tritherapy were

readily available. Generally, a climate of optimism in regard to AIDS therapy was inherent during this period. However, at the present time - the summer of 1999 - there is less optimism as researchers and clinicians confront the complexity of HIV/AIDS therapy. As yet, there is no definite cure for AIDS and patients are still confined to HIV/AIDS symptom management. Findings, then, in this study are relevant to the context of HIV/AIDS symptom management.

This study is potentially important for diverse types of people and situations. The knowledge is transferable to populations confronted with an acute period of stress due to exacerbated symptoms during either a chronic, degenerative disease or a life-threatening condition. A study by Sarna, Van Servellen and Padilla (1996) compared the psychological status of men suffering from a life-threatening cancer diagnoses with AIDS patients. No difference in emotional distress, depression and hopelessness was observed between groups. However, the men with cancer experienced fewer stressors and the AIDS patients were less satisfied with their social support. The authors concluded that the two groups of men were more similar than different with regard to emotional distress. Therefore, they recommended that findings related to AIDS patients literature may have potential for application with oncology patients. While there is potential for diverse applicability of their study, it is also important to keep in mind that the sample size was small (30 per group) and the selection of patients non-random.

In the present study, one particular characteristic of HIV-positive persons which was repeatedly observed was their capacity for introspection. For example, most participants had dealt with their sexual orientation. This particular capacity of introspection helped them to acquire cognitive coping skills. According to Church (1998), in cognitive-behavioural therapy, similarities can be drawn between the HIV-positive population and people with other life threatening illnesses such as cancer. However, the therapist has to take into account a number of factors specific to the HIV-positive person,

including stigmatization as regards their illness and the fact that, at present, there is no opportunity for total remission or recovery.

Implications

Practice and Teaching

Findings of this study have direct clinical implications. Both intervention approaches - expression and cognitive - resulted in decreased negative affect. Additionally, distress, intrusive thoughts and anxiety decreased in the cognitive group intervention. These findings support the usefulness of an expression intervention and emphasize the value of cognitive intervention. Furthermore, the cognitive intervention can be readily used by skilled practitioners providing daily care. Cognitive interventions can be transmitted through teaching centers and clinical settings.

For this study, the nurse-patient relationship was the common core and the crucial back drop for both intervention groups. The nurse's "presence" was manifested through touch, positive regard, trust, genuineness, verbal communication of empathy, self-disclosure and engagement. In the expression intervention, the nurse encouraged the client to express and share feelings. Although empathic understanding was inherent in the cognitive intervention, the nurse undertook further steps to develop, maintain and strengthen cognitive coping skills.

With regard to the application of both intervention approaches, there are practical considerations. From a clinical viewpoint, in a situation where the patient is anxious, stressed, and overwhelmed, expression of emotion seems most appropriate. In fact, in a more anxious state, the patient may not be receptive to the teaching, may have insufficient resources to change cognitive behavior, and may only want to express emotion and be listened to. Thus, the cognitive

intervention is more relevant when the patient is experiencing some degree of stress but is still receptive to teaching. The cognitive approach involves a more scheduled educational component, as compared to the expression approach where a spontaneous informational component predominates.

In certain instances, the cognitive intervention can focus more on the maintenance and strengthening of coping skills, rather than their development. This is because some patients already possess cognitive coping skills. Consider this patient's remarks: "lorsque je me sens mal depuis quelques jours,... nerveux et déprimé, ...et que j'en ai marre...je me dis ben voyons qu'est ce qui se passe...je m'aperçois que j'entretiens des choses qui me dépriment...alors j'essaie de m'encourager de voir les choses autrement." From clinical observation it seemed most beneficial when a patient's already-existent coping skills were acknowledged, then reinforced and further strengthened. In other instances, however, patients had poor re-framing skills. Although the information-and-discussion phase was well understood, the subsequent step - replacing unhelpful thoughts with more helpful thoughts - was most difficult. Despite the nurse's open questions, the patient found it difficult to generate other ways of perceiving their situation. The intervention goal was the client's active generation of a helpful self-perceived thought. Ultimately, the intervener could also suggest such a thought to the patient.

Some patients refused to participate in the study because they seemed unwilling to address their feelings (avoidance, denial of the need to discuss). Similarly, such situations can arise in a clinial setting.

Finally, in undertaking interventions based on cognitive coping theories and focused around personal skills, it is important to protect patients from unnecessary stressful events by properly managing their environments. As stated by Lovejoy and Matteis (1997), by minimizing environmental stressors nurses contribute to the

patient's psychological well-being and help reduce the patient's depression. Nursing activities which help prevent stressful events include: maintaining adequate symptom control, preparing patients for special procedures, and providing daily information on their physical condition (Breitbart, Bruera, Chochinov, & Lynch, 1995). In particular, the patient's perceived health status is a key variable in psychological distress. Thus, it is important to provide information within a framework of hope.

Research

Altough the cognitive intervention group demonstrated a change in negative affect and intrusion thoughts it was not clearly evident if the change was attributable to the intervention only or due to the high score at the beginning. To answer this question a replication of the study is needed. Also, this study focused on intervention outcome rather than process. For the purpose of capturing change (process mechanisms), future researchers should give consideration to process analyses, and study the process underlying the therapeutic change more carefully. Different pathways could explain how changes occur. To date, few reports (Lutgendorf et al., 1998) have examined the psychological mechanisms by which cognitive-behavioral interventions decrease distress in HIV-positive individuals. Other concepts relevant to process mechanisms are: illness-related uncertainty, hope, and sense of personal control. To further study such potential psychological mechanisms, future investigations might include measures of personal control, optimism and coping such as fighting spirit. More recent studies (Griffin & Rabkin, 1998; Reed et al., 1993) emphasize personal control as an important variable with HIV-positive clientele at the late stage of AIDS.

Future coping theory and coping research requires more emphasis on the role of personality (Suls, David, & Harvey, 1996): who benefits the most from a particular intervention? Recently,

Bolger and Zuckerman (1995) distinguished between differential coping choice and differential coping effectiveness. Differential coping choice is when certain individuals may be predisposed to use certain kinds of coping strategies; differential coping effectiveness is when some strategies are more useful for certain kinds of people. Auerbach (1989) discusses individual differences, giving consideration to two major questions: (a) Can we identify characteristics of persons who - in the absence of psychological intervention - will experience negative outcomes? and (b) Are there characteristics that identify persons more likely to respond favorably to particular types of interventions? From their preliminary analysis, Pepler and colleagues (1998) found that participants who used emotive coping at baseline benefitted most from focused intervention sessions, while those using confrontive strategies benefitted most from the unstructured workshop. Future research could look for individual characteristics that predict which persons benefit more from one intervention versus another, including variables such as psychological distress, coping patterns, personality types, and course of illness. For example, researchers could investigate whether participants with high baseline levels of stress will benefit more from expression-of-emotion interventions or cognitive interventions.

In the present study, short-term effects were determined. The effects would be interesting to investigate within the context of a second hospitalization. Booster-sessions may be beneficial during re-hospitalization. Certainly, cognitive intervention which involved a family member in the process of developing, maintaining and strengthening these coping skills could be interesting to future researchers. Most likely, a significant family member could help reinforce newly-acquired coping strategies.

As regards gender, HIV-infected women represent a growing population, and so future research should address the applicability of these interventions to women. Findings from the present study may not be generalized to women. Finally, future research should be

directed toward following persons longitudinally to assess changes in health and psychological status over time as related to the psychological intervention.

Conclusion

In the present study, two nursing intervention were evaluated for their efficacy with regard to decreased distress, decreased negative affect and decreased anxiety of acutely ill, hospitalized HIV-positive persons. Although both approaches demonstrated decreased negative affect, the intervention centered on cognitive coping skills demonstrated decreased anxiety from immediately before to immediately after each session. Paired T-tests indicated a decrease in distress, specifically, intrusive thoughts for cognitive intervention participants. Therefore, the intervention centered on cognitive coping skills appears to be effective in regulating emotional response for HIV-positive clientele with exacerbated HIV-related symptoms.

This study is unique, in that it tested a short, nursing intervention, focused on cognitive coping skills with an HIV-positive clientele hospitalized at an advanced stage of illness. The study contributes to the field of coping interventions, through its design of a short intervention more tied to the nature of stressor than to a mixed-focus approach. Another contribution of this study is its application of cognitive theory-therapy to an HIV-positive clientele facing acutely difficult times. The cognitive approach is applied in a different way than is usual, by not assuming the preexistence of common dysfunctional beliefs among the clientele.

One major contribution of this study, then, is the development of a cognitive-based nursing intervention appropriate to HIV-positive clientele at a late stage of AIDS. This innovative coping intervention was adapted to the physical condition of the ill person

and the particular HIV-related situation, as experienced by the patient. Previous interventions have usually focused on an HIV-positive clientele at an early stage of the HIV infection without acute HIV-related symptoms. Therefore, this study contributes significantly to the domain of psychological intervention with an HIV-positive population. To date, the study is the first which formally tests an intervention with HIV-positive persons at an advanced stage of illness.

Finally, this study contributes to the field of nursing by demonstrating the effectiveness of two nursing interventions: a common nursing intervention focused on the expression of emotion and an innovative nursing intervention centered on coping. By expanding on emotion-focused coping, the current study extends knowledge related to the McGill Model of Nursing. Nursing is a human science and a practice discipline. Therefore, knowledge development in nursing, according to Meleis (1991) has as its purpose the empowerment of clients and nurses and the expansion of the discipline of nursing. This study contributed to knowledge development in nursing by testing an intervention which empowers clients to take advantage of available resources and to take control over their situation. Moreover, the intervention was designed to promote more effective nursing care within the context of a realistic nursing environment. This innovative intervention has the potential to empower the nurse by offering an effective approach to nursing HIV-positive individuals facing severe illness.

References

Abraham, I.L., Neundorfer, M.M., & Currie, L.J. (1992). Effects of group interventions on cognition and depression in nursing home residents. Nursing Research, 41, 196-202.

Abraham, I.L., & Reel, S.J. (1992). Cognitive nursing interventions with long-term care residents: Effects on neurocognitive dimensions. Archives of Psychiatric Nursing, 6, 356-365.

Aitken, R.C.B. (1969). A growing edge of measurement of feelings. Proceedings of the Royal Society of Medicine, 62, 989-993

Alcouffe, F. (1988). Improvement of oral hygiene habits: a psychological approach. Journal Clinical Periodontological, 15, 617-620.

Anderson, E.H. (1995). Personality, appraisal, and adaptational outcomes in HIV seropositive men and women. Research in Nursing & Health, 18, 303-312.

Antoni, M.H., Bagget, L., Ironson, G., LaPerriere, A., August, S., Klimas, N., Schneiderman, N., & Fletcher, M.A. (1991). Cognitive-behavioral stress management intervention buffers distress responses and immunological changes following notification of HIV-1 seropositivity. Journal of Consulting and Clinical Psychology, 59, 906-915.

Auerbach, S.M. (1989). Stress management and coping research in the health care setting: An overview and methodological commentary. Journal of Consulting and Clinical Psychology, 57, 388-395.

Basler, H.D. (1993). Group treatment for pain and discomfort. Patient Education and Counseling, 20, 167-175.

Bates, A., Burns, D.D., & Moorey, S. (1989). Medical illness and the acceptance of suffering. International Journal of Psychiatry in Medicine, 19, 269-280.

Beck, A.T. (1961). A systematic investigation of depression. Comprehensive Psychiatry, 2, 163-170.

Beck, A.T. (1967). Depression: Clinical, experimental, and theoretical aspects. New York: Harper & Row.

Beck, A.T. (1976). Cognitive therapy and the emotional disorders. New York: International Universities Press.

Beck, A.T. (1991). Cognitive therapy: A 30 year retrospective. American Psychologist, 46, 368-375.

Beck, A.T. (1993). Cognitive therapy: Past, present, and future. Journal of Consulting and Clinical Psychology, 61, 194-198.

Beck, A.T. (1997). The past and future of cognitive therapy. The Journal of Psychotherapy Practice and Research, 6, 276-284.

Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guildford Press.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An interventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Belkin, G.S., Fleishman, J.A., Stein, M.D., Piette, J., & Mor, V. (1992). Physical symptoms and depressive symptoms among individuals with HIV infection. Psychosomatics, 33, 416-427.

Bennett, J.A., DeMayo, M., & Saint Germain, M. (1993). Caring in the time of AIDS: The importance of empathy. Nursing Administration Quarterly, 17, 46-60.

Blaney, N.T., Millon, C., Morgan, R., Eisdorfer, C., & Szapocznik, J. (1990). Emotional distress, stress-related disruption and coping among healthy HIV-positive gay males. Psychology and Health, 4, 259-273.

Bock, J., Escobar, L.C., Riemer, D., & Hautzinger, M. (1998, July). Living with HIV--cogitive-behavioral group programs enhance the process of adaptation to living with HIV. Paper presented at the Internal Conference of AIDS, Geneva.

Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. Journal of Personality and Social Psychology, 69, 890-902.

Bornstein, R.A., Pace, P., Rosenberger, P., Nasrallah, H.A., Para, M.F., Whitacre, C.C., & Fass, R.J. (1993). Depression and neuropsychological performance in asymptomatic HIV infection. American Journal of Psychiatry, 150, 922-927.

Bosley, F., & Allen, T.W. (1989). Stress management training for hypertensives: Cognitive and physiological effects. Journal of Behavior Medicine, 12, 77-89.

Breitbart, W., Bruera, E., Chochinov, H., & Lynch, M. (1995). Neuropsychiatric syndromes and psychological symptoms in patients with advanced cancer. Journal of Pain Symptom Manage, 10, 131-141.

Breitbart, W., Rosenfeld, B.D., & Passik, S.D. (1996). Interest in Physician-Assisted Suicide Among Ambulatory HIV-Infected Patients. American Journal of Psychiatry, 153, 238-242.

Burack, J.H., Barrett, D.C., Stall, R.D., Chesney, M.A., Ekstrand, M.L., & Coates, T.J. (1993). Depressive symptoms and CD4 lymphocyte decline among HIV-infected men. JAMA, 270, 2568-2573.

Campbell, J.M. (1992). Treating depression in well older adults: Use of diaries in cognitive therapy. Issues in Mental Health Nursing, 13, 19-29.

Card, C.A.L., Jacobsberg, L.B., Moffatt, M., Fishman, B., & Perry, S. (1993). Using interactive video to supplement HIV counseling. Hospital and Community Psychiatry, 44, 383-385.

Chesney, M.A., & Folkman, S. (1994). Psychological impact of HIV disease and implications for intervention. Psychiatric Clinics of North America, 17, 163-181.

Chuang, H.T., Devins, G.M., Hunsley, J., & Gill, M.J. (1989). Psychosocial distress and well-being among gay and bisexual men with human immunodeficiency virus infection. American Journal of Psychiatry, 146, 876-880.

Church, J. (1998). The application of cognitive-behavioural therapy for depression to people with human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). Psycho-Oncology, 7, 78-88.

Clark, L.A., & Watson, D. (1991). Theoretical and empirical issues in differentiating depression from anxiety. In J. Becker & A. Kleinman (Eds.), Psychosocial aspects of depression (pp.39-65). Willsdale, NJ: Lawrence Erlbaum Ass.

Classen, C., Koopman, C., Gill, M., Chesney, M.A., Ney, N.H., & Spiegel, D. (1998, July). Coping style is associated with mood and sexual risk behavior in HIV positive patients. Paper presented at the International Conference AIDS, Geneva.

Coates, T.J., McKusick, L., Kuno, R., & Stites, D.P. (1989). Stress reduction training changed number of sexual partners but not immune function in men with HIV. American Journal of Public Health, 79, 885-887.

Cochran, S., & Mays, V. (1994). Depressive distress among homosexually active African-American men and women. American Journal of Psychiatry, 151, 524-529.

Cohen, J. (1977). Statistical power for the behavioral sciences. New York: Academic.

Cohen, S., Evans, G.W., Stokols, D., et al. (1986). Stress processes and the costs of coping. In S. Cohen et al. (Eds.), Behavior, health, and environmental stress (pp.1-23). New York: Plenum.

Cohen, F., & Lazarus, R.S. (1983). Coping with the stresses of illness. In G.C. Stone, F. Cohen, & N.E. Alder (Eds.), Health psychology- a handbook (pp.217-254). San Francisco: Jossey-Bass.

Collins, D.L., Baum, A., & Singer, J.E. (1983). Coping with chronic stress at Three Mile Island: Psychological and biochemical evidence. Health Psychology, 2, 149-166.

Collins, R.L., Rothblum, E.D., & Wilson, G.T. (1986). The comparative efficacy of cognitive and behavioral appraoches to the treatment of obesity. Cognitive Therapy Research, 10, 299-317.

Cote, J.K. (1989). Processus d'adaptation à la maladie chez des personnes atteintes du SIDA. Mémoire de maitrise non publié, Université de Montréal, Montréal.

Cote, J.K., & Fortin, M.F. (1992). Processus d'adaptation à la maladie chez des personnes atteintes du SIDA. Revue Canadienne de Recherche en Sciences Infirmières, 24, 19-35.

Craig, A.R., Hancock, K., Dickson, H., & Chang, E. (1997). Long-term psychological outcomes in spinal cord injured peresons: results of a controlled trial using cognitive behavior therapy. Archives Physical Medical Rehabilitation, 78, 33-38

Cunningham, A.J. & Tocco, E.K. (1989). A randomized trial of group psychoeducational therapy for cancer patients. Patient Education & Counseling, 14, 101-114.

Davies, B., Burrows, G., & Poynton, C. (1975). A comparative study of four depression rating scales. Australian and New Zealand Journal of Psychiatry, 9, 21-24.

DeHowitt, M.C. (1992). King's conceptual model and individual psychotherapy. Perspectives in Psychiatric Care, 28, 11-14.

Derogatis, L.R., Lipman, R.S., Rickels, K., Uhlenhuth, E.H., & Covi, L. (1974). The Hopkins Symptom Checklist: A self-report symptom inventory. Behavioral Science, 19, 1-15.

Derogatis, L., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. Psychological Medicine,13, 595-605.

Dobson, K.S. (1989). A meta-analysis of the efficacy of cognitive therapy for depression. Journal of Consulting and Clinical Psychology, 57, 414-419.

Donlou, J.N., Wolcott, D.L., Gottlieb, M.S., & Landsverk, J. (1985). Psychosocial aspects of AIDS and AIDS-related complex: A pilot study. Journal of Psychosocial Oncology, 3, 39-55.

Donnelly, D.A., & Murray, E.J. (1991). Cognitive and emotional changes in written essays and therapy interviews. Journal of Social and Clinical Psychology, 10, 334-350.

Dunbar, S.B., & Summerville, J.G. (1997). Cognitive therapy for ventricular dysrhythmia patients. Journal of Cardiovascular Nursing, 12, 33-44.

Edgar, L., Rosberger, Z., & Nowlis, D. (1992). Coping with cancer during the first year after diagnosis: Assessment and intervention. Cancer, 69, 817-828.

Eller, L.S. (1995). Effects of two cognitive-behavioral interventions on immunity and symptoms in persons with HIV. Annals Behavioral Medicine, 17, 339-348.

Emmelkamp, P.M.G., & Oppen, P.V. (1993). Cognitive interventions in behavioral medicine. Psychotherapy and Psychosomatics, 59, 116-130.

Emmott, S. (1992). Cognitive group therapy for HIV-related distress. Paper presented at the 2e Congrès National Annuel sur la Recherche sur le VIH-SIDA, Toronto, Canada.

Engstrom, D. (1983). Cognitive behavioral therapy methods in chronic pain treatment. Advances in Pain Research and Therapy, 5, 829-838.

Epictetus. (1949). The enchiridon. New York: Bobbs-Merrill.

Ernst, D. (1985). Beck's cognitive theory of depression: A status report. Unpublished manuscript, University of Pennsylvania.

Evans, D.L., Leserman, J., Perkins, D.O., Stern, R., et al. (1997). Severe life stress as a predictor of early disease progression in HIV infection. American Journal Psychiatry, 154, 630-634.

Evans, S.J.W., Mills, P., & Dawson, J. (1988). The end of the p value? British Heart Journal, 60, 177-180.

Fairburn, C.G. (1981). A cognitive behavioral approach to the treatment of bulimia. Psychological Medicine, 11, 707-711.

Fairburn, C.G., O'Connor, M., & Cooper, P.J. (1986). A comparison of two psychological treatments for bulimia nervosa. Behavior Research Therapy, 24, 629-643.

Farash, J.L. (1979). Effect of counselling on resolution of loss and body image disturbance following a mastectomy. Dissertation Abstracts International, 39, 4027

Fawcett, J. (1989). Analysis and evaluation of conceptual models of nursing. Philadelphia: Davis.

Fawzy, F.I., Cousins, N., Fawzy, N., Kemeny, M.E., Elashoff, R., & Morton, D. (1990a). A structured psychiatric intervention for cancer patients. I. Changes over time in methods of coping and affective disturbance. Archives of General Psychiatry, 47, 729-735.

Fawzy, F.I., Kemeny, M.E., Fawzy, N., Elashoff, R., Morton, D., Cousins, N., & Fahey, J.L. (1990b). A structured psychiatric intervention for cancer patients. II. Changes over time in immunological measures. Archives of General Psychiatry, 47, 736-742.

Fawzy, I., Namir, S., & Wolcott, D. (1989). Group intervention with newly diagnosed AIDS patients. Psychiatric Medecine, 7, 35-46.

Federal policy for the protection of human subjects: Notices and rules. (1991, June 18). Federal Register.

Fell, M., Newman, S., Herns, M., Durrance, P., et al. (1993). Mood and psychiatric disturbance in HIV and AIDS: changes over time. British Journal of Psychiatry, 162, 6604-6610.

Felton, B.J., & Revenson, T.A. (1984). Coping with chronic illness: A study of illness controllability and the influence of coping strategies on psychological adjustment. Journal of Consulting and Clinical Psychology, 52, 343-353.

Fetter, M.S., Feetham, S.L., D'Apolito, K., Chaze, B.A., Fink, A., Frink, B.B., Hougart, M.K., & Rushton, C.H. (1989). Randomized clinical trials: Issues for researchers. Nursing Research, 38, 117-120.

Fishman, B. (1992). The cognitive behavioral perspective on pain management in terminal illness. Hospice Journal, 8, 73-88.

Fleishman, J.A., & Fogel, B. (1994). Coping and depressive symptoms among people with AIDS. Health Psychology, 13, 156-169.

Fleiss, J.L. (1986). The design and analysis of clinical experiments. New York: Wiley.

Foa, E.B., & Kozak, M. (1986). Emotional processing of fear: Exposure to corrective information. Psychological Bulletin, 99, 20-35.

Folkman, S. (1993). Psychosocial effects of HIV infection. In L. Goldberger, & S. Breznitz (Eds.), Handbook of stress (pp.658-681). New York: Free Press.

Folkman, S., Chesney, M., Pollack, L., & Coates, T. (1993). Stress, control, coping, and depressive mood in human immunodeficiency virus-positive and negative gay men in San Francisco. The Journal of Nervous and Mental Disease, 181, 409-416.

Folkman, S., & Lazarus, R.S. (1980). An analysis of coping in a middle-age community sample. Journal of Health and Social Behavior, 21, 219-239.

Folkman, S., & Lazarus, R.S. (1988). Coping as a mediator of emotion. Journal of Personality and Social Psychology, 54, 466-475.

Folkman, S., Lazarus, R., Gruen, R., DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. Journal of Pers Soc Psychol, 50, 571-579.

Forgas, J.P. (1991). Emotion and social judgments. Australia: Pergamon Press.

Forsythe, C.J., & Compas, B. (1987). Interaction and cognitive appraisals of stressful events and coping. Cognitive Behavior Therapy, 11, 473-485.

Freedman, B. (1987). Equipoise and the ethics of clinical research. New England Journal of Medicine, 317, 141-145.

Friedland, J., Renwick, R., & McColl, M. (1996). Coping and social support as determinants of quality of life in HIV\AIDS. AIDS Care, 8, 15-31.

Friedman, G.D. (1987). Primer of epidemiology. New York: McGraw-Hill Book Company.

Fukunishi, I., Hosaka, T., Negishi, M., Moriya, H., Hayashi, M., & Matsumoto, T. (1997a). Avoidance coping behaviors and low social support are related to depressive symptoms in HIV-positive patients in Japan. Psychosomatics, 38, 113-118.

Fukunishi, I., Matsumoto, T., Negishi, M., Hayashi, M., Hosaka, T., Moriya, H. (1997b). Somatic complaints associated with depressive symptoms in HIV-positive patients. Psychotherapy and Psychosomatics, 66, 248-251.

Gardner, D.L. (1992). Presence. In G.B. Bulechek & J.C. McCloskey (Eds.), Nursing Interventions (pp.191-200). Philadelphia: W.B. Saunders Company.

Gifford, A.L., Laurent, D.D., Gonzales, V.M., Chesney, M.A., & Lorig, K.R. (1998). Pilot randomized trial of education to improve self-management skills of men with symptomatic HIV\AIDS. Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology, 18, 136-144.

Gift, A.G. (1989). Visual analogue scales: Measurement of subjective phenomena. Nursing Research, 38, 286-288.

Gift, A.G., Plaut, S.M., & Jacox, A.K. (1986). Psychologic and physiologic factors related to dyspnea in subjects with chronic obstructive pulmonary disease. Heart and Lung, 15, 595-601.

Gloersen, B., Kendall, J.M. Gray, P., McConnell, S., Turner, J., & West Lewkowicz, J. (1993). The phenomena of doing well in people with AIDS. Western Journal of Nursing Research, 15, 44-58.

Golden, W.L., & Gersh, W.D. (1990). Cognitive-behavior therapy in the treatment of cancer patients. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 8, 41-51.

Golden, W.L., Gersh, W.D., & Robbins, D.M. (1992). Psychological treatment of cancer patients: A cognitive-behavioral approach. Boston: Allyn & Bacon.

Goodkin, K., Blaney, N.T., Feaster, D., Fletcher, M.A., et al. (1992). Active coping style is associated with natural killer cell cytotoxicity in asymptomatic HIV-1 seropositive homosexual men. Journal Psychosomatic Research, 36, 635-650.

Gottlieb, L.N, & Ezer, H. (1997). A Perspective on Health, Family, Learning and Collaborative Nursing. Montréal: Mc Gill Press.

Gottlieb, L., & Feeley, N. (1995). Nursing intervention studies: Issues related to change and timing. In M.G. Stewart (Ed.), Community Nursing Promotes Canadians' Health (pp.618-639). Toronto: W.B. Saunders.

Gottlieb, L., & Rowat, K. (1987). The McGill model of nursing: A practice-derived model. Advances in Nursing Science, 9, 51-61.

Grassi, L., Righi, R., Sighinolfi, L., Makoui, S., & Ghinelli, F. (1998). Coping styles and psychosocial-related variables in HIV-infected patients. Psychosomatics, 39, 350-359.

Green, L.W. & Lewis, F.M. (1986). Measurement and evaluation in health education and promotion. Palo Alto, California: Mayfield Publishing Company.

Greenberg, L.S. (1993). Emotion and change processes in psychotherapy. In M. Lewis & J.M. Haviland (Eds.), Handbook of emotions (pp.499-511). New York: The Guilford Press.

Greenberg, L.S. & Safran, J.D. (1987). Emotion in psychotherapy: Affect, cognition, and the process of change. New York: Guilford Press.

Griffin, K.W., & Rabkin, J.G. (1998). Perceived control over illness, realistic acceptance, and psychological adjustment in people with AIDS. Journal of Social and Clinical Psychology, 17, 407-424.

Gross, D., Fogg, L., & Conrad, B. (1993). Designing interventions in psychosocial research. Archives of Psychiatric Nursing, 7, 259-264.

Guidano, V.F. (1991). Affective change events in a cognitive therapy system approach. In J.D. Safran & L.S. Greenberg (Eds.), Emotion, psychotherapy, and change (pp.50-80). New York: The Guilford Press.

Hall, B.A. (1994a). Ways of maintaining hope in HIV disease. Research in Nursing and Health, 17, 283-293.

Hall, K. (1994b). Peplau's model of nursing: Caring for a man with AIDS. British Journal of Nursing, 3, 418-422.

Harrison, L. (1993). Issues related to the protection of human research participants. Journal of Neuroscience Nursing, 25, 187-193.

Haviland, L. (1993). Handbook of emotions. New York: The Guilford Press.

Hays, R.B., Turner, H., & Coates, T.J. (1992). Social support, AIDS-related symptoms and depression among gay men. Journal of Consulting and Clinical Psychology, 60, 463-469.

Health Canada. (1998, June). Le VIH et le SIDA au Canada. Rapport de surveillance.

Hill, A.B. (1971). Principles of medical statistics. London: Oxford University Press.

Hollon, S.D., & Najavits, L. (1988). Review of empirical studies on cognitive therapy. In A.J. Frances & R.E. Hales (Eds.), Review of psychiatry (vol.7, pp.643-666). Washington, D.C.: American Psychiatric Press.

Horowitz, M. (1973). Phase oriented treatment of stress response syndromes. American Journal of Psychotherapy, 27, 506-515.

Horowitz, M. (1974). Stress response syndromes: Character style and brief psychotherapy. Archives General Psychiatry, 31, 768-781.

Horowitz, M. (1986). Stress response syndromes: A review of post-traumatic and adjustment disorders. Hospital and Community Psychiatry, 37, 241-249.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective stress. Psychosomatic Medicine, 41, 209-218.

Huesler, G., Werlen, E., & Sigrist, M. (1998, July). Do new medications change coping with HIV and AIDS? Paper presented at the International Conference AIDS, Geneva.

Inouye, J., Flannelly, K.J., & Flannelly, L. (1998, July). Effects of self-management training on quality of life, mood, coping and CD4 levels. Paper presented at the International Conference AIDS, Geneva.

Ironson, G., Friedman, A., Klimas, N., Antoni, M.H., Fletcher, M.A., & Schneiderman, N. (1994). Distress, denial and low adherence to behavioral interventions predict faster disease progression in gay men infected with human immunodeficiency virus. International Journal of Behavioral Medicine, 1, 90-105.

Izard, C.E. (1977). Human emotions. New York: Plenum Press.

Izard, C.E. (1991a). The psychology of emotions. New York: Plenum Press.

Izard, C.E. (1991b). Perspectives on emotions in psychotherapy. In J.D. Safran & L.S. Greenberg (Eds.), Emotion, psychotherapy, & change (pp.280-289). New York: The Guilford Press.

JoBanks, L. (1992). Counseling. In G.B. Bulechek & J.C. McCloskey (Eds.), Nursing Interventions (pp.279-291). Philadelphia: W.B. Saunders Company.

Joseph, J.G., Caumartin, S.M., Tal, M., Kirscht, J.P., Kessler, R.C., Ostrow, D.G., & Wortman, C.B. (1990). Psychological functioning in a cohort of gay men at risk for AIDS: A three-year descriptive study. Journal of Nervous and Mental Disease, 178, 607-615.

Joyce, C.R.B, Zutshi, D.W., Hrubes, v., & Mason, R.M. (1975). Comparison of fixed interval and visual analogue scales for rating chronic pain. European Journal of Clinical Pharmacology, 8, 415-420.

Kalichman, S.C., Rompa, D., & Coley, B. (1997). Lack of positive outcomes from a cognitive-behavioral HIV and AIDS prevention intervention for inner-city men: Lessons from a controlled pilot study. AIDS Education and Prevention, 9, 299-313.

Kalichman, S.C., & Sikkema, K.J. (1994). Psychological sequelae of HIV infection and AIDS: Review of empirical findings. Clinical Psychology Review, 14, 611-632.

Kalodner, C.R., & DeLucia, J.L. (1991). The individual and combined effects of cognitive therapy and nutrition education as additions to a behavior modification program for weight loss. Addict Behavior, 16, 255-263.

Karasu, T.B. (1982). Psychotherapy research: Methodological and efficacy issues. U.S.A.: American Psychiatric Association.

Keefe, F.J., Caldwell, D.S., Williams, D.A., Gil, K.M., Mitchell, D., Robertson, D., Robertson, C., Martinez, S., Nunley, J., Beckham, J.C., Crisson, J.E., & Helms, M. (1990). Pain coping skills training in the management of osteoarthritic knee pain: A comparative study. Behavior Therapy, 21, 49-62.

Kelly, B., Dunne, M., Raphael, B., Buckham, C., Zournazi, A., Smith, S., & Stathan, D. (1991). Relationship between mental adjustment to HIV diagnosis, psychological morbidity, and sexual behavior. British Journal of Clinical Psychology, 30, 370-372.

Kelly, J.A., & Murphy, D.A. (1992). Psychological interventions with AIDS and HIV: Prevention and treatment. Journal of Consulting and Clinical Psychology, 60, 576-585.

Kelly, J.A., Murphy, D.A., Bahr, G.R., Kalichman, S.C., Morgan, M.G., Stevenson, L.Y., Koob, J.J., Brasfield, T.L., & Bernstein, B.M. (1993a). Outcome of cognitive behavioral and support group brief therapies for depressed HIV-infected persons. American Journal of Psychiatry, 150, 1679-1686.

Kelly, J.A., Murphy, D.A., Bahr, G.R., Koob, J., Morgan, M., Kalichman, S.C., Stevenson, L.Y., Brasfield, T.L., Bernstein, B., & St. Lawrence, J. (1993b). Factors associated with severity of depression and high-risk sexual behavior among persons diagnosed with human immunodeficiency virus (HIV) infection. Health Psychology, 12, 215-219.

Kermode, M. (1995). Patients' experiences of nursing interventions during hospitalisation with an AIDS-defining illness. Australian Journal of Advanced Nursing, 12, 20-30.

Kessler, R.C., Foster, C., Joseph, J., Ostrow, D., Wortman, C., Phair, J., & Chmiel, J. (1991). Stressful life events and symptom onset in HIV infection. American Journal of Psychiatry, 148, 733-738.

Kissane, D.W., Bloch, S., Miach, P., Smith, G.C., Seddon, A., & Keks, N. (1997). Cognitive-existential group therapy for patients with primary breast cancer - techniques and themes. Psycho-Oncology, 6, 25-33.

Kravitz, M., & Frey, M. (1989). The Allen nursing model. In J. Fitzpatrick & J.J. Whall (Eds.), Conceptual models of nursing (pp.313-329). Norwalk, Conn.: Appleton & Lange.

Krikorian, R., Kay, J., & Liang, W.G. (1995). Emotional distress, coping, and adjustment in human immunodeficiency virus infection and acquired immune deficiency syndrome. The Journal of Nervous and Mental Disease, 183, 295-298.

Lam, D.C.K., & Cheng, L. (1998). Cognitive behaviour therapy approach to disputing automatic thoughts: a two-stage model. Journal of Advanced Nursing, 27, 1143-1150.

Lamping, D.L., Abrahamowicz, M., Edgar, L., Gilmore, N., Grover, S.A., Tsoukas, C., Falutz, J. & Lalonde, R. (1993). The impact of a social support intervention for persons with symptomatic HIV

infection: psychosocial, clinical and economic outcomes. Final Report. NHRDP Project No. 6605-3291-AIDS.

Lazarus, R.S. (1966). Psychological stress and the coping process. Toronto: McGraw-Hill.

Lazarus, R.S. (1976). Patterns of adjustment. New-York: McGraw-Hill.

Lazarus, R.S. (1991a). Emotion theory and psychotherapy. In J.D. Safran & L.S. Greenberg (Eds.), Emotion, psychotherapy, & change (pp.290-301). New York: The Guilford Press.

Lazarus, R.S. (1991b). Progress on a cognitive-motivational-relational theory of emotion. American Psychologist, 46, 819-834.

Lazarus, R.S. (1991c). Emotion and adaptation. New York: Oxford University Press.

Lazarus, R.S. (1993). Coping theory and research: Past, present, and future. Psychosomatic Medicine, 55, 234-247.

Lazarus, R.S. (1995). Emotions express a social relationship, but it is an individual mind that creates them. Psychological Inquiry, 6, 253-265.

Lazarus, R.S. (1995). Cognition and emotion from the ret viewpoint. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 13, 29-53.

Lazarus, R.S. (1995). Vexing research problems inherent in cognitive-mediational theories of emotion-and some solutions. Psychological Inquiry, 6, 183-196.

Lazarus, R.S., & Folkman, S. (1984). Stress, appraisal and coping. New-York: McGraw-Hill.

Lazarus R.S., Kanner, A.D., & Folkman, S. (1980). Emotions: A cognitive-phenomenological anaysis. In R. Plutchik & H. Kellerman (Eds.), Theories of emotion. New York: Academic Press.

Leiberich, P., Engeter, M., Olbrich, E., Rubbert, A., Schumacher, K., Brieger, M., Kalden, J.R., Joraschky, P. (1997). Longitudinal development of distress, coping and quality of life in HIV-positive persons. Psychotherapy and Psychosomatics, 66, 237-247.

Leitenberg, H., Rosen, J.C., Gross, J., Nudelman, S., & Vara, L.S. (1988). Exposure plus response prevention treatment of bulimia nervosa: A controlled evaluation. Journal of Consult Clinical Psychology, 56, 535-541.

Lenz, E.R. (1984). Information seeking: a component of client decisions and health behavior. ANS, 13, 59-72.

Leserman, J., Perkins, D.O., & Evans, D.L. (1992). Coping with the threat of AIDS: The role of social support. American Journal of Psychiatry, 149, 1514-1520.

Leserman, J., Petitto, J.M., Perkins, D.O., Folds, J.D., et al. (1997). Severe stress, depressive symptoms, and changes in lymphocyte subsets in human immunodeficiency virus-infected men. Archives Gen Psychiatry, 54, 279-285.

Levine, R.J. (1993). Ethics of clinical trials. Cancer, 72, 2805-2810.

Lichtenstein, E., & Glasgow, R.E. (1992). Smoking cessation: What have we learned over the past decade. Journal of Consulting Clinical Psychology, 60, 518- 527.

Lincoln, N.B., Flannaghan, T., Sutcliffe, L., & Rother, L. (1997). Evaluation of cognitive behavioural treatment for depression after stroke: a pilot study. Clinical Rehabilitation, 11, 114-122.

Linn, J.G., Anema, M.G., Hodess, S., Sharpe, C., & Cain, V.A. (1996). Perceived health, HIV illness, and mental distress in African-American Clients of AIDS counseling centers. JANAC, 7, 43-51.

Linn, M.W., Linn, B.S., Harris, S. (1982). Effects of counselling for late stage cancer patients. Cancer, 49, 1048-1055.

Little, J.C., & McPhail, N.I. (1973). Measures of depressive mood at monthly intervals. British Journal of Psychiatry, 122, 447-452.

Lovejoy, N.C., & Matteis, M. (1997). Cognitive-behavioral interventions to manage depression in patients with cancer: research and theoretical iniatives. Cancer Nursing, 20, 155-167.

Luria, R.E. (1975). The validity and reliability of the visual analogue mood scale. Journal of Psychiatric Research, 12, 51-57.

Lutgendorf, S.K., Antoni, M.H., Ironson, G., Klimas, N., Kumar, M., Starr, K., McCabe, P., Cleven, K., Fletcher, M.A., & Schneiderman, N. (1997). Cognitive-behavioral stress management decreases dysphoric mood and herpes simplex virus-type 2 antibody titers in symptomatic HIV-seropositive gay men. Journal of Consulting and Clinical Psychology, 65, 31-43.

Lutgendorf, S.K., Antoni, M.H., Ironson, G., Starr, K., Costello, N., Zuckerman, M., Klimas, N., Fletcher, M.A., & Schneiderman, N. (1998). Changes in Cognitive Coping Skills and Social Support During Cognitive Behavioral Stress Management Intervention and Distress Outcomes in Symptomatic Human Immunodeficiency Virus (HIV)-Seropositive Gay Men. Psychosomatic Medicine, 60, 204-214.

Lyketsos, C.G., Hoover, D.R., Guccione, M., Dew, M.A., Wesch, J.E., Bing, E.G., & Treisman, G.J. (1996). Changes in depressive symptoms as AIDS develops. American Journal Psychiatry, 153, 1430-1437.

Lyketsos, C.G., Hoover, D.R., Guccione, M., Senterfitt, W., Dew, M.A., Wesch, J., VanRaden, M.J., Treisman, G.J., & Morgenstern, H. (1993). Depressive symptoms as predictors of medical outcomes in HIV infection. JAMA, 270, 2563-2567.

Mahoney, M.J. (1993). Introduction to special section: Theoretical developments in the cognitive psychotherapies. Journal of Consulting and Clinical Psychology, 61, 187-193.

Mandler, G. (1984). Mind and body: Psychology of emotion and stress. New York: Norton.

Mandler, G. (1990). A constructivist theory of emotion. In N.L. Stein, B. Leventhal & T. Trabasso (Eds.), Psychological and biological approaches to emotion. London: Erlbaum.

Martelli, M.F., Auerbach, S.M., Alexander, J., & Mercuri, M. (1987). Stress management in the health care setting: Matching interventions with patient coping styles. Journal of Consulting and Clinical Psychology, 55, 201-207.

Massey, J.A., & Pesut, D.J. (1991). Self-regulation strategies of adults. Western Journal of Nursing Research, 13, 627-634.

McCain, N.L., & Cella, D.F. (1995). Correlates of stress in HIV disease. Western Journal of Nursing Research, 17, 141-155.

McCain, N.L., Zeller, J.M., Cella, D.F., Urbanski, P.A., & Novak, R.M. (1996). The influence of stress management training in HIV disease. Nursing Research, 45, 246-253.

Meades, S. (1993). Suggested community psychiatric nursing interventions with clients suffering from anorexia nervosa and bulimia nervosa. Journal of Advanced Nursing, 18, 364-370.

Meichenbaum, D. (1983). Coping with stress. Toronto: John Wiley & Sons Canada Limited.

Meleis, A.I. (1991). Theoretical nursing: Development and progress. Philadelphia: J.B. Lippincott Company.

Meyerowitz, B.E., Heinrich, R.L., & Schag, C.C. (1983). A competency-based approach to coping with cancer. In T.G. Burish & L.A. Bradley (Eds.), Coping with chronic disease (pp.137-158). New York: Academic Press.

Miller, S.M., Rodoletz, M., Schroeder, C.M., Mangan, C.E., Sedlacek, T.V. (1996). Applications of the monitoring process model to coping with severe long-term medical threats. Health Psychology, 15, 216-225.

Mintz, S., & Collins, A. (1991). Cognitive restructuring as a tool to facilitate mourning the loss of self: One man's struggle with his impending death. Perspectives, 15, 13-18.

Moneyham, L., Seals, B., Sowell, R., Hennessy, M., Demi, A., & Brake, S. (1997). The impact of HIV on emotional distress of infected women: Cognitive appraisal and coping as mediators. Scholarly Inquiry for Nursing Practice: An International Journal, 11, 125-145.

Moorey, S., Greer, S., Bliss, J., Law, M. (1998). A comparison of adjuvant psychological therapy and supportive counselling in patients with cancer. Psycho-Oncology, 7, 218-228.

Mulder, C.L., Antoni, M.H., Emmelkamp, P.M.G., Veugelers, P.J., Sandfort, T.G.M., Van de Vijver, F.A.J.R., De Vries, M.J. (1995). Psychosocial group intervention and the rate of decline of immunological parameters in asymptomatic HIV-infected homosexual men. Psychotherapy and Psychosomatics, 63, 185-192

Mulder, C.L., De Vroome, E.M.M., Van Griensven, G.J.P., Antoni, M.H., & Sandfort, T.G.M. (1999). Avoidance as a predictor of the biological course of HIV infection over a 7-year period in gay men. Health Psychology, 18, 107-113.

Mulder, C.L., Emmelkamp, P.M.G., Antoni, M.H., Mulder, J.W., Sandfort, T.G.M., & De Vries, M.J. (1994). Cognitive-behavioral and experiential group psychotherapy for HIV-infected homosexual men: A comparative study. Psychosomatic Medicine, 56, 423-431

Munkres, A., Oberst, M.T., & Hughes, S.H. (1992). Appraisal of illness, symptom distress, self-care, burden, and mood states in patients receiving chemotherapy for initial and recurrent cancer. Oncology Nursing Forum, 19, 1201-1209.

Murray, E.J., Lamnin, A.D., & Carver, C.S. (1989). Emotional expression in written essays and psychotherapy. Journal of Social and Clinical Psychology, 8, 414-429.

Namir, S., Wolcott, D.L., Fawzy, I., & Alumbaugh, M.J. (1987). Coping with AIDS: Psychological and health implications. Journal of Applied Social Psychology, 17, 309-328.

National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research. (1978). Report and Recommandation: Ethical Guidelines for the Delivery of Health Services, DHEW Publication No. (OS) 78-008.

Neimeyer, R.A. (1993). An appraisal of constructivist psychotherapies. Journal of Consulting and Clinical Psychology, 61, 221-234.

Newell, R. (1991). Body-image disturbance: Cognitive behavioural formulation and intervention. Journal of Advanced Nursing, 16, 1400-1405.

Nichols, M., & Efran, J. (1985). Catharsis in psychotherapy: A new perspective. Psychotherapy: Theory, Research and Practice, 22, 46-58.

Nicholson, W.D., & Long, B.C. (1990). Self-esteem, social support, internalized homophobia, and coping strategies of HIV+ gay men. Journal of Consulting and Clinical Psychology, 58, 873-876.

Nunes, E.V., Frank, K.A., & Kornfeld, D.S. (1987). Psychological treatment for the type A behavior pattern and for coronary heart disease: A meta-analysis of the literature. Psychosomatic Medicine, 48, 159-173.

O'Brien, M.E., & Pheifer, W.G. (1993). Physical and psychosocial nursing care for patients with HIV infection. Advances in Clinical Nursing Research, 28, 303-315.

O'Dowd, M.A., Biderman, D.J., & McKegney, F.P. (1993). Incidence of suicidiality in AIDS and HIV positive patients attending a psychiatry outpatients program. Psychosomatics, 34, 33-40.

O'Neill, K., Baker, A., Cooke, M., Collins, E., Heather, N., & Wodak, A. (1996). Evaluation of a cognitive-behavioural intervention for pregnant injecting drug users at risk of HIV infection. Addiction, 91, 1115-1126.

Ortony, A., Clore, G.L., & Collins, A. (1988). The cognitive structure of emotions. New York: Cambridge University Press.

Ostrow, D.G., Monjan, A., Joseph, J., VanRaden, M., Fox, R., Kingsley, L., Dudley, J., & Phair, J. (1989). HIV-related symptoms and psychological functioning in a cohort of homosexual men. American Journal Psychiatry, 146, 737-742.

Padilla, G.V., Presant, C., Grant, M.M, Metter, G., Lipsett, J., & Heide, F. (1983). Quality of life index for patients with cancer. Research in Nursing and Health, 6, 117-126.

Pakenham, K.I., Dadds, M.R., & Terry, D.J. (1994). Relationships between adjustment to HIV and both social support and coping. Journal of Consulting and Clinical Psychology, 62, 1194-1203.

Palsson, M-B.E., & Norberg, A. (1995). Breast cancer patients' experiences of nursing care with the focus on emotional support: the implementation of a nursing intervention. Journal of Advanced Nursing, 21, 277-285.

Parloff, M.B. (1986). Placebo controls in psychotherapy research: A sine qua non or a placebo for research problems? Journal of Consulting and Clinical Psychology, 54, 79-87.

Parse, R.R. (1991). Nursing knowledge for the 21st century: An international commitment. Nursing Science Quaterly, 5, 8-12.

Patterson, T.L., Semple, S.J., Temoshok, L.R., et al. (1995). Stress and depressive symptoms prospectively predict immune changes among HIV-seropositive men. Psychiatry, 58, 299-312.

Peacock, E.J., & Wong, P.T.P. (1990). The stress appraisal measures (SAM): A multidimensional approach to cognitive appraisal. Stress Medicine, 6, 227-236.

Pelchat, D., Ricard, N., Lévesque, P-A, Perreault, M., Polomeno, V. (1994). Validation française du stress appraisal measure (SAM). Mesure et évaluation en éducation, 17, 95-117.

Pepler, C. (1995). Preliminary qualitative analysis of nurse and AIDS patient interactions.

Pepler, C., Seguin, E., Edgar, L., Gilmore, N., Ladd, H., Sampalis, J., & Gravel, R. (1998, July). Coping skills: the effectiveness of one-day workshops for persons living with HIV\AIDS. Paper presented at the International Conference AIDS, Geneva.

Perdices, M., Dunbar, N., Grunseit, A., Hall, W., et al. (1992). Anxiety, depression and HIV-related symptomatology across the spectrum of HIV disease. Aust N Z J Psychiatry, 26, 560-566.

Perry, S., & Fishman, B. (1993). Depression and HIV: How does one affect the other? JAMA, 270, 2609-2610.

Perry, S., Fishman, B., Jacobsberg, L., & Frances, A. (1992). Relationships over 1 year between lymphocyte subsets and psychosocial variables among adults with infection by human immunodeficiency virus. Archives of General Psychiatry, 49, 396-401.

Perry, S., Fishman, B., Jacobsberg, L., Young, J., & Frances, A. (1991). Effectiveness of psychoeducational interventions in reducing emotional distress after human immunodeficiency virus antibody testing. Archives of General Psychiatry, 48, 143-147.

Perry, S.W., & Tross, S. (1984). Psychiatric problems of AIDS in patients at the New-York hospital: A preliminary reports. Public Health Report, 99, 200-205.

Philips, H.C. (1987). The effects of behavioural treatment on chronic pain. Behavior Research Therapy, 25, 365-377.

Philips, J.R. (1988). The reality of nursing research. Nursing Science Quaterly, 1, 48-49.

Pierce, R.A., Nichols, M.P., & Dubrin, J.R. (1983). Emotional expression in psychotherapy. New York: Gardner Press.

Plutchik, R. (1980). Emotion: A psychoevolutionary synthesis. New York: Harper & Row.

Pocock, S. (1983). Clinical trials: A practical approach. Chichester, England: John Wiley & Sons.

Rabkin, J.G., Goetz, R.R., Remien, R.H., Williams, J.B.W., Todak, G., & Gorman, J.M. (1997). Stability of mood despite HIV illness progression in a group of homosexual men. American Journal Psychiatry, 154, 231-238.

Rabkin, J., Williams, JBW, Neugebauer, R., Remien, R, Goetz, R. (1990). Maintenance of hope in an HIV sample. American Journal of Psychiatry, 147, 1322-1326.

Rabkin, J.G., Williams, J.BW., Remien, RH., Goetz, R., Kertzner, R., & Gorman, J.M. (1991). Depression, distress, lymphocyte subsets and human immunodeficiency virus symptoms on two occasions in HIV-positive homosexual men. Archives General Psychiatry, 48, 111-119.

Ragsdale, D., Kotarba, J.R., & Morrow, J. (1992). Quality of life of hospitalized persons with AIDS. Image, 24, 259-265.

Reed, G.M., Kemeny, M.E., & Taylor, S.E. (1990, July). Coping responses and psychological adjustment in gay men with AIDS: A longitudinal analysis. Paper presented at the VI International Conference on AIDS, San Francisco.

Reed, G.M., Kemeny, M.E., Taylor, S.E., Wang, H-Y.J., & Visscher, B.R. (1994). Realistic acceptance as a predictor of decreased survival time in gay men with AIDS. Health Psychology, 13, 299-307.

Reed, G.M., Taylor, S.E., & Kemeny, M.E. (1993). Perceived control and psychological adjustment in gay men with AIDS. Journal of Applied Social Psychology, 23, 791-824.

Reeder, D.M. (1991). Cognitive therapy of anger management: Theoretical and practical considerations. Archives of Psychiatric Nursing, 5, 147-150.

Remis, R.S., Leclerc, P., & Vandal, A.C. (1999). La situation du SIDA et de l'infection au VIH au Québec. Direction de la santé Publique de Montréal-Centre. Ministère de la Santé et des Services Sociaux.

Revill, S.I., Robinson, J.O., Rosen, M., & Hogg, M.I.J. (1976). The reliability of a linear analogue for evaluating pain. Anesthesia, 31, 1191-1198.

Robins, C.J., & Hayes, A.M. (1993). An appraisal of cognitive therapy. Journal of Consulting and Clinical Psychology, 61, 205-214.

Roffman; R.A., Downey, L., Beadnell, B., Gordon, J.R., Craver, J.N., Stephens, R.S. (1997). Cognitive-behavioral group counseling to prevent HIV transmission in gay and bisexual men: Factors contributing to successful risk reduction. Research on Social Work Practice, 7, 165-186.

Roskies, E. (1987a). Stress management for the healthy type A: Theory and practice. New York: Guilford.

Roskies, E. (1987b). Sress management for the healthy type A: A skills-training program. New York: Guilford.

Roskies, E. (1992). Notes de cours. Stress et coping: Les programmes de gestion de stress.

Rozman, D., Whitaker, R., Beckman, T., Jones, D. (1996). A pilot intervention program that reduces psychological symptomatology in individuals with human immunodeficiency virus. Complementary Therapies in Medicine, 4, 226-232

Safran, J.D., & Greenberg, L.S. (1991). Emotion, psychotherapy, & change. New York: The Guilford Press.

Sarna, L., Van Servellen, G., Padilla, G. (1996). Comparison of emotional distress in men with acquired immunodeficiency syndrome and in men with cancer. Applied Nursing Research, 9, 209-212.

Scherer, K.R., & Ekman, P. (1984). Approaches to emotion. Hillsdale: Erlbaum.

Segal, D.L., & Murray, E.J. (1994). Emotional processing in cognitive therapy and vocal expression of feeling. Journal of Social and Clinical Psychology, 13, 189-206.

Sensky, T. (1989). Cognitive therapy with patients with chronic physical illness. Psychotherapy & Psychosomatics, 52, 26-32.

Sieber, J.E. (1993). Ethical considerations in planning and conducting research on human subjects. Academic Medicine, 68, S9-S13.

Silverman, W.A. (1985). Human experimentation: A guided step into the unknown. New York: Oxford University Press Inc.

Smith, M.C. (1992). The distinctiveness of nursing knowledge. Nursing Science Quaterly, 5, 148-149.

Solano, L., Costa, M., Salvati, S., Coda, R., Aiuti, F., Mezzaroma, I., & Bertini, M. (1993). Psychosocial factors and clinical evolution in HIV-1 infection: A longitudinal study. Journal of Psychosomatic Research, 37, 39-51.

Spiegel, D., Bloom, J.R., & Yalom, I. (1981). Group support for patients with metastatic cancer: a randomized prospective outcomes study. Arch Gen Psychiatry, 38, 527-533.

Stein, N.L., Leventhal, B., & Trabasso, T. (1990). Psychological and biological approaches to emotion. London: Erlbaum.

Stewart, B.J., & Archbold, P.G. (1992). Focus on psychometrics nursing intervention studies require outcome measures that are sensitive to change: Part one. Research in Nursing and Health, 15, 477-481.

Stewart, B.J., & Archbold, P.G. (1993). Focus on psychometrics nursing intervention studies require outcome measures that are sensitive to change: Part two. Research in Nursing and Health, 16, 77-81.

Stewart, J.E., Jacobs-Schoen, M., Padilla, M.R., Maeder, L.A. Wolf, G.R., Hartz, G.W. (1991). The effect of a cognitive behavioral intervention on oral hygiene. Journal of Clinical Periodontology, 18, 219-222.

Stiles, W.B., Shapiro, D.A., Elliott, R. (1986). Are all psychotherapies equivalent. American Psychologist, 41, 165-180.

Storosom, J., Van den Boom, F., Van Beauzekom, M., Sno, H. (1990, July). Stress and coping in people with HIV infection. Paper presented at the VI International Conference on AIDS, San Francisco.

Suls, J., David, J.P., & Harvey, J.H. (1996). Personality and coping: Three generations of research. Journal of Personality, 64, 711-735.

Taylor, D.N. (1995). Effects of a behavioral stress-management program on anxiety, mood, self-esteem, and T-cell count in HIV-positive men. Psychological Reports, 76, 451-457.

Thompson, S.C., Nanni, C., & Levine, A. (1996). The stressors and stress of being HIV-positive. AIDS Care, 8, 5-14.

Tomkins, S.S. (1980). Affect as amplification: Some modifications in theory. In R. Plutchik & H. Kellerman (Eds.), Emotion: Theory, research, and experience. New York: Academic Press.

Turner, J.A. (1982). Comparison of group progressive-relaxation training and cognitive-behavioral group therapy for chronic low back pain. Journal of Consulting and Clinical Psychology, 50, 757-765.

Tuschen-Caffier, B., Florin, I., Krause, W., & Pook, M. (1999). Cognitive-behavioral therapy for idiopathic infertiles couples. Psychotherapy & Psychosomatics, 68, 15-21.

Vachon, M.L.S., Lyall, W.A.L., Rogers, J. et al. (1983). The effectiveness of psychosocial support during post-surgical treatment of breast cancer. International Journal Psychiatry Medicine, 11, 365-372.

Van Dulmen, A.M., Fennis, J.F.M., & Bleijenberg, G. (1996). Cognitive-behavioral group therapy for irritable bowel syndrome: effects and long-term follow-up. Psychosomatic Medicine, 58, 508-514.

Vogelsang, J. (1988). The visual analog scale: An accurate and sensitive method for self-reporting preoperative anxiety. Journal of Post Anesthesia Nursing, 3, 235-239.

Watson, D. (1988). Intraindividual and interindividual analyses of positive and negative affect: Their relation to health complaints perceived stress, and daily activities. Journal of Personality and Social Psychology, 54, 1020-1030.

Watson, D. & Clark, L.A. (1984). Negative affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 465-490.

Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Watson, D., & Kendall, P.C. (1989). Understanding anxiety and depression: Their relation to negative and positive affective states. In P.C. Kendall & D. Watson (Eds.), Anxiety and depression distinctive and overlapping feature (pp.3-25). San Diego: Academic.

Williams, J.B.W., Rabkin, J.G., Remien, R.H., Gorman, J.M., & Ehrhardt, A.A. (1991). Multidisciplinary baseline assessment of homosexual men with and without human immunodeficiency virus infection. Archives of General Psychiatry, 48, 124-130.

Wolcott, D.L., Namir, S., Fawzy, F., Gottlieb, M., & Mitsuyasu, R. (1986). Illness concerns, attitudes towards homosexuality, and social support in gay men with AIDS. General Hospital Psychiatry, 8, 395-403.

Wolf, T.M., Balson, P.M., Morse, E.V., Simon, P.M., Gaumer, R.H., Dralle, P.W., & Williams, M.H. (1991). Relationship of coping style to affective state and perceived social support in asymptomatic and symptomatic HIV-infected persons: Implications for clinical management. Journal of Clinical Psychiatry, 52, 171-173.

Wolf, G.R., Stewart, J.M., Maeder, L.A., & Hartz, G.W. (1996). Use of dental coping beliefs scale to measure cognitive changes following oral hygiene interventions. Community Dental Oral Epidemiology, 24, 37-41.

Yates, A.S., & Sambrailo, F. (1984), Bulimia nervosa: A descriptive and therapeutic study. Behavior Research Therapy, 22, 503-517.

Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. American Psychologist, 35, 171-175.

Zajonc, R.B. (1984). The interaction of affect and cognition. In K.R. Scherer & P. Ekman (Eds.), Approaches to emotion (pp.239-246). New Jersey: Lawrence Erlbaum Associates Publishers.

Zauszniewski, J.A. (1997). Teaching resourcefulness skills to older adults. Journal of Gerontological Nursing, 23, 14-20.

Zerhusen, J., Boyle, K., & Wilson W. (1991). Out of the darkness: Group cognitive therapy for depressed elderly. Journal of Psychosocial Nursing, 29, 16-21.

Zilberg, N.J., Weiss, D.S., & Horowitz, M.J. (1982). Impact of event scale: A cross-validation study and some empirical evidence supporting a conceptual model of stress response syndromes. Journal of Consulting and Clinical Psychology, 50, 407-413.

Appendix A
Description of Cognitive Coping Intervention

Description of sessions

1ière SESSION: Sensibilisation

-Le client est encouragé à verbaliser son vécu (émotions et perceptions) à l'égard de cette épisode de symptômes.

-Le client exprime comment il a vécu et perçu les dernier jours en termes d'émotions et de perceptions.

-L'infirmière met en lumière les perceptions et pensées exprimées par le client et les émotions vécues.

-Les propos du client sont utilisés pour illustrer ce lien entre "pensées-perceptions et émotions-états d'âme".

-L'infirmière explique au client qu'il peut gérer ses émotions en travaillant sur ses pensées s'il les juge non-aidantes.

-L'infirmière explique au client qu'il peut modifier ses pensées si elles lui donnent le cafard comme il peut maintenir des pensées qui lui font du bien.

-L'infirmière renforce la notion de contrôle, soit que le client à le pouvoir de maintenir et changer ses pensées dépendamment de son jugement.

2ième SESSION: Illustration-Application

-L'infirmière illustre d'un exemple la démarche cognitive: soit 1) le lien "événement et émotions" versus "perceptions de l'événement et émotions"; 2) d'autres perceptions de l'évènement sont générées et l'émotion est étudiée (échelle graduée sur dix points: aucunement versus extrêmement).

L'exemple suivant est utilisé:

Événement	Émotion
-Début d'infection	-"J'ai le cafard"
-Présence des symptômes	-"Ça me rend nerveux"
-Hospitalisation	-"Ça me déprime"

Perceptions de l'événement	Émotion
-"Je ne suis pas sûr que les traitements vont fonctionner..."	-"J'ai le cafard" (8\10)
"Je ne sais pas comment et si je vais finir par m'en sortir..."	-"Ça me rend nerveux" (9\10)
-"Je pense que je vais rester ici très longtemps..."	-"Ça me déprime" (7\10)

-L'infirmière guide le client à utiliser la même démarche avec une situation qu'il vit. Le client est appelé à générer d'autres pensées. Ultimement si le client ne peut générer d'autres pensées des pistes de pensées sont suggérées par l'infirmière.

3ième SESSION: Consolidation

-L'infirmière consolide les notions vues et les acquis réalisés. Il met l'accent sur la notion: "goodness of fit". Une feuille résumé est transmise et revue avec ces notions:

Stratégie d'adaptation

*Situations & événements que tu évalues qui bouleversent ton bien-être: Stress
*Ces situations ou événements tu peux les évaluer comme difficilement modifiables ou changeables: Quoi Faire?

1) Si tu juges avoir peu d'impact sur la situation, tu peux prendre en main ton bien-être psychologique, tes émotions en regard de cette situation: Comment?

2) Les émotions, les "feelings", et les états d'âme sont le fruit en partie de ce qui se passe dans notre tête soit les pensées qu'on a.

3) Si il est difficile de changer ce qui nous arrive et on vit beaucoup de détresse face à cela, alors notre seul contrôle est de travailler sur nos pensées.

4) En effet nos perceptions et pensées maintiennent nos états d'âme. Si vous jugez que ces pensées ne vous aident pas, qu'elles ne sont pas "aidantes" vous pouvez les remplacer par d'autres que vous jugez plus "aidantes" et qui vous occasionnent alors moins de détresse.

5) Donc il faut premièrement être à l'écoute de nos émotions, deuxièment examiner nos pensées associées à la situation qui nous bouleverse et enfin changer les pensées non-aidantes par des pensées qui nous font du bien. Alors on contrôle la situation!

Appendix B
Grid of Evaluation

Indicate when the nurse demonstrate this behavior

1) Encourage the client
to express his feelings.

2) Provide information to the
client about his condition.

3) Encourage the client to explore
other way to see the situation.

4) Guide the clients in becoming
aware of how his thoughts
mediate emotional arousal.

5) Encourage the client to verbalize
his proeccupations and concerns.

6) Guide the client in becoming
aware of his self-perceived
non-helpful thoughts.

7) Guide the client in becoming aware
of his self-perceived helpful thoughts.

*** Items3, 4, 6 and 7 are specifics for cognitive group.

Appendix C
Ethics Clearances

Centre de Recherche
Hôtel-Dieu
de Montréal

3850, rue Saint-Urbain
Pavillon Marie de la Ferre
Montréal, (Québec)
Canada H2W 1T8
Tél.: (514) 843-2700
Fax: (514) 843-2715
Affilié à l'Université de Montréal

Madame José Côté, infirmière
Candidate au doctorat
School of Nursing
McGill University
a/s de : M^me^ Johanne Roy
Directrice des soins infirmiers
Hôtel-Dieu de Montréal
Montréal

Madame,

Le Comité d'éthique de la recherche de l'Hôtel-Dieu de Montréal s'est réuni **le mardi 9 janvier 1996** et a approuvé le projet intitulé :

> **« APPROCHES DE SOINS INFIRMIERS AUPRÈS DE PERSONNES VIVANT AVEC LE VIH HOSPITALISÉES (A RANDOMIZED CONTROLLED TRIAL OF NURSING INTERVENTION CENTERED ON COGNITIVE COPING SKILLS FOR HIV-POSITIVE INDIVIDUALS EXPERIENCING AN EXACERBATION OF SYMPTOMS) » (HDM-960109-169),**

ainsi que la *FORMULE DE CONSENTEMENT ÉCLAIRÉ* qui l'accompagnait.

Cette lettre d'approbation est valide pour une période d'un an du 9 janvier 1996 au 8 janvier 1997.

Veuillez agréer, Madame, l'expression de nos sentiments les meilleurs.

MC Michoud

Marie-Claire Michoud, Ph.D.
Présidente par intérim
Comité d'éthique de la recherche

Date : le 13 2.1996

MCM/db

Centre de Recherche
Hôtel-Dieu
de Montréal

3850, rue Saint-Urbain
Pavillon Marie de la Ferre
Montréal, (Québec)
Canada H2W 1T8
Tél.: (514) 843-2700
Fax: (514) 843-2715
Affilié à l'Université de Montréal

Madame José Côté
School of Nursing
McGill University
Hôtel-Dieu de Montréal
Montréal

Docteur,

Lors de sa réunion du mardi 3 décembre 1996, le Comité d'éthique de la recherche de l'Hôtel-Dieu de Montréal a réapprouvé pour une période d'un an le projet intitulé :

> « **APPROCHES DE SOINS INFIRMIERS AUPRÈS DE PERSONNES VIVANT AVEC LE VIH HOSPITALISÉES (A RANDOMIZED CONTROLLED TRIAL OF NURSING INTERVENTION CENTERED ON COGNITIVE COPING SKILLS FOR HIV-POSITIVE INDIVIDUALS EXPERIENCING AN EXACERBATION OF SYMPTOMS)** » **(HDM-960109-169)**.

Veuillez agréer, Docteur, l'expression de nos sentiments les meilleurs.

Mc Michoud

Marie-Claire Michoud, Ph.D.
Présidente par intérim
Comité d'éthique de la recherche

Date : le 10 décembre 1996

c.c. : M^me^ Maryse Beaulieu, directeur associé de l'administration, centre de recherche de l'Hôtel-Dieu de Montréal

MCM/db

Institut de Recherche de l'Hôpital Royal Victoria
Research Institute of the Royal Victoria Hospital

January 9, 1996

Ms. José Côté
620 De Lanoue
Verdun (PQ)
H3E 1W1

RE: RESEARCH ETHICS BOARD APPROVAL

Dear Ms. Côté:

Thank you for submitting the revisions to your protocol entitled, *"A Randomized Controlled Trial of Nursing Intervention Centered or Cognitive Coping Skills for HIV-Positive Individuals Experiencing an Exacerbation of Symptoms"* as requested by the Psychosocial Subcommittee of the REB.

These revisions were reviewed by Dr. S. Young, Chairman of the Psychosocial Subcommittee and found to be acceptable. We are pleased to inform you that the protocol and revised Consent Form have been approved.

A review of all research involving human subjects is required on an annual basis in accord with the date of initial approval. Should any modification to the study occur over the next twelve months, please advise the IRB accordingly.

We trust this will be satisfactory.

Sincerely,

Joanne Turner
REB Coordinator

Institut de Recherche de l'Hôpital Royal Victoria
Research Institute of the Royal Victoria Hospital

December 19, 1996

Dr. Carolyn J. Pepler
Dept. of Nursing
F2.27
RVH

RE: RESEARCH ETHICS BOARD APPROVAL

Dear Dr. Pepler:

Thank you for submitting the Interim Report form related to your study entitled, *"A Randomized Controlled Trial of Nursing Intervention Centered on Cognitive Coping Skills for HIV+ Individuals Experiencing an Exacerbation of Symptoms"*, for review by the Psychosocial Subcommittee of the Research Ethics Board.

In accordance with his mandate, Prof. Annable has provided expedited approval to the Interim Report. This decision was subsequently ratified at the Psychosocial Subcommittee meeting held on December 17, 1996. Please take note that a review of all research involving human subjects is required on an annual basis in accord with the date of initial approval. Should any modification to the study occur over the next twelve months, please advised the REB accordingly.

We trust this is to your satisfaction.

Sincerely,

Joanne Turner
REB Coordinator

Certification of Human Ethics Review Committee of

School of Nursing, McGill University has examined the research proposal by: Jose Kathleen Cote

(Name of applicant)

entitled A RCT of Nursing Intervention Centered on Cognitive Coping Skills for HIV-positive Individuals Experiencing an Exacerbation of Symptoms

(Title of project)

and concludes that, in all respects, the proposed project meets appropriate standards of ethical acceptability.

MEMBERS OF THE COMMITTEE

Name (optional)	*Position held*	*Department or discipline*
SrBA Boarding	Assoc Professor	Nursing
Lise Bruneau	student	Bioethics
A Gilmore	Professor	Medicine
Jean Shilling	Associate + Adjunct Prof	Nursing + Sociology
Jean Clarke	PhD Candidate	School of Nursing

Signatures

	Jacqueline J. Pepler	SrBA Boarding
Date: 20 octobre 95	*Thesis Advisor*	*Chairman of Department or Deputy*

dtc:(ef-85)

Appendix D
Consent Form

Hôtel-Dieu de Montréal
3840, rue Saint-Urbain
Montréal (Québec)
H2W 1T8

FEUILLET D'INFORMATION DESTINÉ AU PATIENT

Titre du projet: Approches de soutien psychologique infirmier auprès de personnes vivant avec le VIH hospitalisées.
Chercheure: José Côté, infirmière, candidate au doctorat en sciences infirmières, School of Nursing, McGill University,767-7962
Dr. Carolyn Pepler, professeure et chercheure, School of Nursing, McGill University.

Une étude est présentement réalisée auprès des personnes vivant avec le VIH afin de comparer l'efficacité d'approches de soutien infirmier visant à les aider à faire face à l'hospitalisation.

Les infirmières qui prodiguent des soins de façon quotidienne aux personnes vivant avec le VIH hospitalisées sont préoccupées par le bien-être de ceux-ci. Elles désirent de par leur soutien aider ces personnes à faire face à cette période d'hospitalisation. C'est dans ce but que, dans un premier temps, j'ai développé une approche de soutien psychologique et que, dans un deuxième temps, je désire comparer l'efficacité de cette approche à une approche plus traditionnelle.

Votre participation à cette étude consiste principalement à recevoir l'une des deux approches de soutien d'une durée de 20 à 30 minutes et ce trois séances successives soit une séance quotidienne. Et également, de répondre à des questionnaires sur votre état général, ce qui signifie pour vous cette épisode d'hospitalisation et de quelle façon vous y faites face.

Le temps requis pour compléter ces questionnaires est environ 30 minutes par jour et ce pour deux jours et quelques minutes lors des séances. Une infirmière chercheure vous aidera à répondre à ces questionnaires en lisant pour vous les questions. Pour étudier les approches de soutien de l'infirmière, les séances où se dérouleront ces approches seront audio-enregistrées.

Afin d'obtenir des résultats qui ont une valeur scientifique, il est nécessaire de déterminer au hasard votre place dans une ou l'autre des approches de soutien. Certains participants auront l'approche de soutien immédiatement et d'autres auront le soutien psychologique dans la semaine qui suit. Ces deux approches de soutien ont le même but soit d'aider les personnes à faire face à l'hospitalisation toutefois elles offrent des avenues différentes d'intervenir.

La réalisation de cette étude générera des connaissances permettant de juger la valeur thérapeutique d'une approche de soutien psychologique additionnelle dont le but est d'aider les personnes vivant avec le VIH à vivre ces moments à l'hôpital. Les retombées prévues toucheront les personnes hospitalisées pour qui la venue d'une approche de soutien psychologique additionnelle sera évaluée et les infirmières pour qui un outil d'intervention sera étudié.

Il est possible que vous retirerez des bénéfices à participer à cette étude bien qu'ils ne sont pas connus à l'heure actuelle. Le désavantage associé à votre participation est que vous allez peut-être exprimé des émotions qui vous sont difficiles. Si vous avez besoin d'aide supplémentaire, avec votre permission votre infirmière en sera avisée et un suivi et une assistance vous seront prodigués.

Je vous assure que les renseignements obtenus ainsi que le matériel enregistré seront gardés confidentiels et ne seront utilisés qu'à des fins de recherche par la chercheure. Le matériel d'enregistrement sera utilisé pour le but de l'étude et sera détruit dans les deux ans

suivant la fin de l'analyse. Votre identité n'apparaîtra pas sur le questionnaire, elle sera substituée par un numéro. Vous aurez le droit de revenir sur votre décision à tout moment et de vous retirer de cette étude, en communiquant avec la chercheure ou en le disant à votre infirmière, sans que cela n'affecte en aucune façon les soins que vous recevez.

Bien que votre collaboration soit importante pour l'avancement des connaissances dans ce domaine et l'amélioration de la qualité des soins infirmiers, vous devez vous sentir entièrement libre d'accepter ou de refuser d'y participer sans que cela n'affecte les soins que vous recevez et les soins que vous recevrez dans le futur. Soyez assuré que je respecterai votre décision.

Je demeure entièrement disponible pour répondre à toutes vos questions, vous pouvez me rejoindre au numéro de téléphone suivant: 767-7962.

Toute nouvelle information qui pourrait influencer votre décision de participer à l'étude vous sera communiquée par votre médecin verbalement et par le biais d'un *FEUILLET D'INFORMATION RÉVISÉ DESTINÉ AU PATIENT* et-ou d'une *FORMULE DE CONSENTEMENT ÉCLAIRÉ RÉVISÉE* sur lesquels les nouvelles mentions ou changements ou ajouts seront surlignés.

Pour tout renseignement concernant vos droits en tant que participant à l'étude, vous pouvez vous adresser à Madame Yolande Audette, porte-parole des malades, 843-2761.

c.c. : patient

D:-USAGER-WP51-ETHIQUE-PROCEDURE

1995-12-19

-db

Hôtel-Dieu de Montréal
3840, rue Saint-Urbain
Montréal (Québec)
H2W 1T8

FORMULE DE CONSENTEMENT ÉCLAIRÉ

Titre du projet: Approches de soutien psychologique infirmier auprès de personnes vivant avec le VIH hospitalisées.
Chercheure: José Côté, infirmière, candidate au doctorat en sciences infirmières, School of Nursing, McGill University, 767-7962.
Dr. Carolyn Pepler, professeure et chercheure, School of Nursing, McGill University.

Après avoir pris connaissance du *FEUILLET D'INFORMATION DESTINÉ AU PATIENT* j'accepte de participer à l'étude menée par l'infirmière, José Côté, portant sur les approches de soutien infirmier auprès des personnes vivant avec le VIH.

J'ai reçu les explications nécessaires et toutes mes questions ont été répondues à ma satisfaction.

Je comprends que ma participation consiste à recevoir l'une des deux approches de soutien psychologique d'une durée de 20 à 30 minutes et ce trois séances successives soit une séance quotidienne et de répondre à des questionnaires soit 30 minutes par jour et ce pour deux journées.

J'ai été assuré que les données obtenues seront gardées confidentielles et ne seront utilisées qu'à des fins de recherche. De plus, mon identité n'apparaîtra pas sur le questionnaire; elle sera substituée par un numéro.

Je consens à la publication des résultats de cette étude pour des fins scientifiques en autant que les informations demeurent anonymes et qu'aucune identification ne puisse être faite.

J'ai été informé que ma participation à l'étude est volontaire et que je suis entièrement libre de refuser d'y participer ou de me retirer de cette étude à tout moment sans que cela n'affecte en aucune façon les soins que je reçois et que je recevrais dans le futur.

J'ai également été informé que le directeur de la recherche et le Comité d'éthique de la recherche de l'hôpital ont approuvé le protocole de l'étude.

J'ai lu la présente formule et je consens volontairement à participer à cette étude.

Je reconnais avoir reçu un exemplaire de la présente formule et du *FEUILLET D'INFORMATION DESTINÉ AU PATIENT.*

Toute nouvelle information qui pourrait influencer ma décision de participer à l'étude me sera communiquée par mon médecin verbalement et par le biais d'un *FEUILLET D'INFORMATION RÉVISÉ DESTINÉ AU PATIENT* et ou d'une *FORMULE DE CONSENTEMENT ÉCLAIRÉ RÉVISÉE* sur lesquels les nouvelles mentions ou changements ou ajouts seront surlignés.

Pour de plus amples informations concernant l'étude, je peux communiquer avec José Côté au numéro suivant: 767-7962.

Pour tout renseignement concernant mes droits en tant que participant à l'étude, je peux m'adresser à Madame Yolande Audette, porte-parole des malades, 843-2761.

Hôtel-Dieu de Montréal
3840, rue Saint-Urbain
Montréal (Québec)

FORMULE DE CONSENTEMENT ÉCLAIRÉ

Titre du projet: Approches de soutien psychologique infirmier auprès de personnes vivant avec le VIH hospitalisées.
Chercheure: José Côté, infirmière, candidate au doctorat en sciences infirmières, School of Nursing, McGill University, 767-7962.
Dr. Carolyn Pepler, professeure et chercheure, School of Nursing, McGill University.

Nom du patient: _____

Signature: _____ Date: _____

Nom du témoin: _____

Signature: _____ Date: _____

Nom du chercheur: _____

Signature: _____ Date: _____

***un exemplaire de la formule sera remis au client, un au dossier du client, et un sera gardée par la chercheure.

D:-USAGER-WP51-ETHIQUE-PROCEDURE
1995-12-19
-db

Hôpital Royal Victoria
687 avenue des Pins ouest
Montréal, Québec
H3A 1A1

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Chercheures: José Côté, infirmière, candidate au doctorat en sciences infirmières, School of Nursing, McGill University, 767-7962.
Dr. Carolyn Pepler, professeure et chercheure, School of Nursing, McGill University.

Information

Une étude est présentement réalisée auprès des personnes vivant avec le VIH afin de comparer l'efficacité d'approches de soins infirmiers visant à les aider à faire face à l'hospitalisation.

Les infirmières qui prodiguent des soins de façon quotidienne aux personnes vivant avec le VIH hospitalisées sont préoccupées par le bien-être de ceux-ci. Elles désirent de par leurs soins aider ces personnes à composer avec cette période d'hospitalisation. C'est dans ce but que, dans un premier temps, j'ai développé une approche infirmière et que, dans un deuxième temps, je désire comparer l'efficacité de cette approche à une approche plus traditionnelle.

Votre participation à cette étude consiste principalement à recevoir l'une des deux approches de soins d'une durée de 20 a 30 minutes et ce trois séances successives soit une séance quotidienne. Et également de répondre à des questionnaires sur votre état général, ce qui signifie pour vous cette épisode d'hospitalisation et de quelle façon vous y faites face.

Hôpital Royal Victoria
687 avenue des Pins ouest
Montréal, Québec
H3A 1A1

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Le temps requis pour compléter ces questionnaires est environ 30 minutes par jour et ce pour deux jours et quelques minutes lors des séances. Une infirmière chercheure vous aidera à répondre à ces questionnaires en lisant pour vous les questions. Pour étudier les approches de l'infirmière, les séances où se dérouleront les soins seront enregistrées.

Afin d'obtenir des résultats qui ont une valeur scientifique, il est nécessaire de déterminer au hasard votre place dans une ou l'autre des approches de soins. Certains participants auront les soins immédiatement et d'autres auront ces soins plus tard dans la semaine qui suit. Ces deux approches de soins ont le même but soit d'aider les personnes à composer avec l'hospitalisation toutefois elles offrent des avenues différentes d'intervenir.

Il est possible que vous retiriez des bénéfices à participer à cette étude bien qu'ils ne soient pas connus à l'heure actuelle. Le désavantage associé à votre participation est que vous allez peut-être exprimer des émotions qui vous sont difficiles. Si vous avez besoin d'une aide supplémentaire, avec votre permission, votre infirmière en sera avisée et un suivi et une assistance vous seront prodigués.

La réalisation de cette étude générera des connaissances permettant de juger la valeur thérapeutique d'une approche de soins additionnelle dont le but est de vous aider à vivre ces moments.

Hôpital Royal Victoria
687 avenue des Pins ouest
Montréal, Québec
H3A 1A1

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Les retombées prévues de cette étude toucheront les personnes hospitalisées pour qui la venue d'une approche de soins additionnelle sera évaluée et les infirmières pour qui un outil d'intervention sera étudié.

Je vous assure que les renseignements obtenus ainsi que le matériel enregistré seront gardés confidentiels et ne seront utilisés qu'à des fins de recherche par la chercheure. Le matériel d'enregistrement sera utilisé pour le but de l'étude et sera détruit dans les deux ans suivant la fin de l'analyse. Votre identité n'apparaîtra pas sur le questionnaire, elle sera substituée par un numéro. Vous aurez le droit de revenir sur votre décision à tout moment et de vous retirer de cette étude, en communiquant avec la chercheure ou en le disant à votre infirmière, sans que cela n'affecte en aucune façon les soins que vous recevez.

Bien que votre collaboration soit importante pour l'avancement des connaissances dans ce domaine et l'amélioration de la qualité des soins infirmiers, vous devez vous sentir entièrement libre d'accepter ou de refuser d'y participer sans que cela n'affecte les soins que vous recevez et les soins que vous recevrez dans le futur. Soyez assuré que je respecterai votre décision.

Je demeure entièrement disponible pour répondre à toutes vos questions, vous pouvez me rejoindre au numéro de téléphone suivant: 767-7962.

Hôpital Royal Victoria
687 avenue des Pins ouest
Montréal, Québec

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.
Chercheures: José Côté & Dr. Carolyn Pepler, McGill University.

Consentement

J'accepte de participer à l'étude menée par l'infirmière, José Côté, portant sur les approches de soins auprès des personnes vivant avec le VIH. J'ai reçu les explications nécessaires et toutes mes questions ont été répondues.

Je comprends que ma participation consiste à recevoir l'une des deux approches de soins d'une durée de 20 à 30 minutes et ce trois séances successives soit une séance quotidienne et de répondre à des questionnaires soit 30 minutes par jour et ce pour deux journées.

J'ai été assuré que les données obtenues seront gardées confidentielles et ne seront utilisées qu'à des fins de recherche. De plus, mon identité n'apparaîtra pas sur le questionnaire; elle sera substituée par un numéro.

J'ai le droit de revenir sur ma décision à tout moment et de me retirer de cette étude sans que cela n'affecte en aucune façon les soins que je reçois.

Signature du participant: _____

Signature du chercheure: _____

Date: _____

Institut Thoracique de Montréal
3650 St-Urbain
Montréal, Québec
H2X 2P4

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Chercheures: José Côté, infirmière, candidate au doctorat en sciences infirmières, School of Nursing, McGill University, 767-7962.
Dr. Carolyn Pepler, professeure et chercheure, School of Nursing, McGill University.

Information

Une étude est présentement réalisée auprès des personnes vivant avec le VIH afin de comparer l'efficacité d'approches de soins infirmiers visant à les aider à faire face à l'hospitalisation.
Les infirmières qui prodiguent des soins de façon quotidienne aux personnes vivant avec le VIH hospitalisées sont préoccupées par le bien-être de ceux-ci. Elles désirent de par leurs soins aider ces personnes à composer avec cette période d'hospitalisation. C'est dans ce but que, dans un premier temps, j'ai développé une approche infirmière et que, dans un deuxième temps, je désire comparer l'efficacité de cette approche à une approche plus traditionnelle.

Votre participation à cette étude consiste principalement à recevoir l'une des deux approches de soins d'une durée de 20 à 30 minutes et ce trois séances successives soit une séance quotidienne. Et également de répondre à des questionnaires sur votre état général, ce qui signifie pour vous cette épisode d'hospitalisation et de quelle façon vous y faites face.

Institut Thoracique de Montréal
3650 St-Urbain
Montréal, Québec
H2X 2P4

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Le temps requis pour compléter ces questionnaires est environ 30 minutes par jour et ce pour deux jours et quelques minutes lors des séances. Une infirmière chercheure vous aidera à répondre à ces questionnaires en lisant pour vous les questions. Pour étudier les approches de l'infirmière, les séances où se dérouleront les soins seront enregistrées.

Afin d'obtenir des résultats qui ont une valeur scientifique, il est nécessaire de déterminer au hasard votre place dans une ou l'autre des approches de soins. Certains participants auront les soins immédiatement et d'autres auront ces soins plus tard dans la semaine qui suit. Ces deux approches de soins ont le même but soit d'aider les personnes à composer avec l'hospitalisation toutefois elles offrent des avenues différentes d'intervenir.

Il est possible que vous retiriez des bénéfices à participer à cette étude bien qu'ils ne soient pas connus à l'heure actuelle. Le désavantage associé à votre participation est que vous allez peut-être exprimer des émotions qui vous sont difficiles. Si vous avez besoin d'une aide supplémentaire, avec votre permission, votre infirmière en sera avisée et un suivi et une assistance vous seront prodigués.

La réalisation de cette étude générera des connaissances permettant de juger la valeur thérapeutique d'une approche de soins additionnelle dont le but est de vous aider à vivre ces moments.

Institut Thoracique de Montréal
3650 St-Urbain
Montréal, Québec
H2X 2P4

Titre du projet: Approches de soins infirmiers auprès de personne vivant avec le VIH hospitalisées.

Les retombées prévues de cette étude toucheront les personnes hospitalisées pour qui la venue d'une approche de soins additionnelle sera évaluée et les infirmières pour qui un outil d'intervention sera étudié.

Je vous assure que les renseignements obtenus ainsi que le matériel enregistré seront gardés confidentiels et ne seront utilisés qu'à des fins de recherche par la chercheure. Le matériel d'enregistrement sera utilisé pour le but de l'étude et sera détruit dans les deux ans suivant la fin de l'analyse. Votre identité n'apparaîtra pas sur le questionnaire, elle sera substituée par un numéro. Vous aurez le droit de revenir sur votre décision à tout moment et de vous retirer de cette étude, en communiquant avec la chercheure ou en le disant à votre infirmière, sans que cela n'affecte en aucune façon les soins que vous recevez.

Bien que votre collaboration soit importante pour l'avancement des connaissances dans ce domaine et l'amélioration de la qualité des soins infirmiers, vous devez vous sentir entièrement libre d'accepter ou de refuser d'y participer sans que cela n'affecte les soins que vous recevez et les soins que vous recevrez dans le futur. Soyez assuré que je respecterai votre décision.

Je demeure entièrement disponible pour répondre à toutes vos questions, vous pouvez me rejoindre au numéro de téléphone suivant: 767-7962.

Institut Thoracique de Montréal
3650 St-Urbain
Montréal, Québec

Titre du projet: Approches de soins infirmiers auprès de personnes vivant avec le VIH hospitalisées.

Chercheures: José Côté & Dr. Carolyn Pepler, McGill University.

Consentement

J'accepte de participer à l'étude menée par l'infirmière, José Côté, portant sur les approches de soins auprès des personnes vivant avec le VIH. J'ai reçu les explications nécessaires et toutes mes questions ont été répondues.

Je comprends que ma participation consiste à recevoir l'une des deux approches de soins d'une durée de 20 à 30 minutes et ce trois séances successives soit une séance quotidienne et de répondre à des questionnaires soit 30 minutes par jour et ce pour deux journées.

J'ai été assuré que les données obtenues seront gardées confidentielles et ne seront utilisées qu'à des fins de recherche. De plus, mon identité n'apparaîtra pas sur le questionnaire; elle sera substituée par un numéro.

J'ai le droit de revenir sur ma décision à tout moment et de me retirer de cette étude sans que cela n'affecte en aucune façon les soins que je reçois.

Signature du participant: _____

Signature du chercheure: _____

Date: _____

Appendix E
Assistant Effect

Table E1

Analysis of Variance of Positive, Negative Affect and Distress by Assistants.

Source	SS	df	MS	F	p
Positive Affect					
-Interaction					
Assist. by time	.07	1	.07	.29	.591
-Time-Within					
Subject Effect	.30	1	.30	1.22	.272
-Assist-Between					
Subjects Effects	.60	1	.60	.55	.459
Negative Affect					
-Interaction					
Assist. by time	.36	1	.36	1.69	.197
-Time-Within					
Subject Effect	4.18	1	4.18	19.41	.000*
-Assist-Between					
Subjects Effects	.02	1	.02	.02	.887
Distress					
-Interaction					
Assist. by time	.01	1	.01	.05	.824
-Time-Within					
Subject Effect	.25	1	.25	1.77	.188
-Assist-Between					
Subjects Effects	.00	1	.00	.00	.975

*$p<.05$

Appendix F
English and French Version of
Positive and Negative Affect Schedule
Permission Letter

English Version of Positive and Negative Affect Schedule
(Watson, Clark and Tellegen, 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

	very slightly or not at all	a little	moderately	quite a bit	extremely
Interested	1	2	3	4	5
Distressed	1	2	3	4	5
Excited	1	2	3	4	5
Upset	1	2	3	4	5
Strong	1	2	3	4	5
Guilty	1	2	3	4	5
Scared	1	2	3	4	5
Hostile	1	2	3	4	5
Enthusiastic	1	2	3	4	5
Proud	1	2	3	4	5
Irritable	1	2	3	4	5
Alert	1	2	3	4	5

Ashamed	1	2	3	4	5
Inspired	1	2	3	4	5
Nervous	1	2	3	4	5
Determined	1	2	3	4	5
Attentive	1	2	3	4	5
Jittery	1	2	3	4	5
Active	1	2	3	4	5
Afraid	1	2	3	4	5

Version française de Positive and Negative Affect Schedule

Voici une liste de mots qui servent à décrire différentes émotions et divers sentiments. Lisez chacun des items et encerclez la réponse qui vous convient le mieux. Indiquez dans quelle mesure vous vous sentez de cette façon à ce moment précis

	pas du tout	un peu	modérément	passablement (pas mal)	extrêmement
Intéressé	1	2	3	4	5
Angoissé	1	2	3	4	5
Emballé	1	2	3	4	5
Bouleversé	1	2	3	4	5
Solide	1	2	3	4	5
Coupable	1	2	3	4	5
Effrayé	1	2	3	4	5
Hostile	1	2	3	4	5
Enthousiaste	1	2	3	4	5
Fier	1	2	3	4	5
Irritable	1	2	3	4	5
Alerte	1	2	3	4	5

	pas du tout	un peu	modérément	passablement (pas mal)	extrême-ment
Honteux	1	2	3	4	5
Inspiré	1	2	3	4	5
Nerveux	1	2	3	4	5
Determiné	1	2	3	4	5
Attentif	1	2	3	4	5
Agité	1	2	3	4	5
Actif	1	2	3	4	5
Apeuré	1	2	3	4	5

Appendix G
English and French Version of Impact Event Scale and Permission Letter

English Version of Impact of Event Scale
(Horowitz, Wilner and Alvarez, 1979)

Below is a list of comments people might make about ... Thinking about ..., please circle each items, indicating how frequently these comments were true for you during the past seven days. If they did not occur during that time, please circle the not at all column.

	Not at all	rarely	sometimes	often
I thought about it when I didn't mean to.	1	2	3	4
I avoided letting myself get upset when I thought about it or was reminded of it.	1	2	3	4
I tried to remove it from memory.	1	2	3	4
I had trouble falling asleep or staying asleep, because of pictures or thoughts about it that came into my mind.	1	2	3	4
I had waves of strong feelings about it.	1	2	3	4
I had dreams about it.	1	2	3	4
I stayed away from reminders of it.	1	2	3	4
I felt as if it hadn't happened or it wasn't real.	1	2	3	4
I tried not to talk about it.	1	2	3	4

Pictures about it popped into my mind.	1	2	3	4
Other things kept making me think about it.	1	2	3	4
I was aware that I still had a lot of feelings about it, but I didn't deal with them.	1	2	3	4
I tried not to think about it.	1	2	3	4
Any reminder brought back feelings about it.	1	2	3	4
My feelings about it were kind of numb.	1	2	3	4

Version française de Impact of Event Scale
(Edgar et al., 1992)

Voici une liste de commentaires faits par des gens par rapport au fait de vivre avec le VIH et d'avoir un épisode de symptômes. Pour chacun des items, veuillez encercler le chiffre qui correspond à la fréquence à laquelle ces commentaires étaient vrais pour vous durant la dernière semaine. Si vous n'avez pas eu de telles pensées, veuillez encercler le chiffre dans la colonne "pas du tout".

	pas du tout	rarement	parfois	souvent
J'y pensais malgré moi.	1	2	3	4
J'évitais de devenir bouleversé lorsque j'y pensais ou encore lorsque quelque chose me rappelait cela.	1	2	3	4
J'essayais de l'effacer de ma mémoire.	1	2	3	4
J'avais de la difficulté à dormir parce que des pensées ou des images surgissaient dans mon esprit.	1	2	3	4
Il m'arrivait d'être très conscient de cela.	1	2	3	4
J'en rêvais.	1	2	3	4
J'évitais tout ce qui pouvait me rappeler cela.	1	2	3	4

	pas du tout	rarement	parfois	souvent
J'y pensais malgré moi.	1	2	3	4
Je me sentais comme si cela ne s'était pas produit ou était irréel.	1	2	3	4
J'essayais de ne pas en parler.	1	2	3	4
Des images me rappelant cela surgissaient dans mon esprit.	1	2	3	4
Différentes choses me rappelaient continuellement cela.	1	2	3	4
J'étais conscient que j'éprouvais encore beaucoup d'émotions par rapport à cela mais je n'y faisais pas face.	1	2	3	4
J'essayais de ne pas y penser.	1	2	3	4
Tout ce qui me rappelait cela éveillait à nouveau des sentiments.	1	2	3	4
Mes sentiments à propos de cela étaient froids.	1	2	3	4

Appendix H
English and French Version of Stressfulness Subscale and Permission Letter

English Version of Stressfulness Subscale
(Peacock & Wong, 1990)

This questionnaire is concerned with your thoughts about various aspects of the situation identified previously. There are no right or wrong answers. Please respond according to how you view this situation right now. Please answer all questions. Answer each question by circling the appropriate number corresponding to the following scale.

	not at all	sligh-tly	modera-tely	conside-rably	extre-mely
Does this situation create tension in me?	1	2	3	4	5
Does this situation tax or exceed my coping resources?	1	2	3	4	5
To what extent do I perceive this situation as stressful?	1	2	3	4	5
To what extent does this event require coping efforts on my part?	1	2	3	4	5

Version française de la sous-échelle "stressfulness"
(Pelchat, Ricard, Lévesque, Perreault and Polomeno, 1994)

Ce questionnaire se rapporte à vos opinions et vos attitudes concernant le fait de vivre avec le VIH et d'avoir cet épisode de symptômes. Il n'y a pas de bonne ou de mauvaise réponse. Répondez à chacune des questions suivantes en tenant compte de vos perceptions actuelles face à cette situation. S.V.P., répondez à toutes les questions. À chaque question, n'encerclez qu'une seule réponse.

	pas du tout	un peu	passa-blement	beau-coup	excessi-vement
Est-ce que cette situation me rend tendu?	1	2	3	4	5
Est-ce que cette situation dépasse mes capacités de m'y adapter?	1	2	3	4	5
À quel point je perçois cette situation comme étant stressante?	1	2	3	4	5
Est-ce que cette situation me demande de faire des efforts inhabituels d'adaptation?	1	2	3	4	5

Appendix I
French Version of
Subjective Health Perception and Anxiety

Échelle de perception de la santé

Pour la question suivante, nous vous demandons de faire un X sur la ligne pour nous indiquer comment vous évaluez votre santé aujourd'hui.

Comment évaluez-vous votre santé aujourd'hui?

Aucunement en santé ---------- Extrêmement en santé

Échelle de perception de l'anxiété

Pour la question suivante, nous vous demandons de faire un X sur la ligne pour nous indiquer comment vous évaluez votre niveau d'anxiété présentement.

Comment évaluez-vous votre anxiété à ce moment précis?

Aucunement anxieux ---------- Extrêmement anxieux

Appendix J
Demographic Questionnaire

Questionnaire démographique

1. Votre âge?

_____

2. Quel est le plus haut niveau de scolarité que vous avez complété?

-primaire	1
-secondaire	2
-collégial	3
-université, 1 er cycle	4
-université, études graduées	5

3. À quel groupe ethnique ou culturel vous identifiez-vous?

-Asiatique	1
-Noir	2
-Latino-Américain-Hispanique	3
-Amérindien-Inuit	4
-Blanc	5
-Je ne m'identifie à aucun groupe culturel ou ethnique	6
-Autre (précisez)_____	7

4. De quelle façon vivez-vous?

-vit avec mon conjoint	1
-vit seul	2
-vit avec un ami - colocataire	3
-vit avec la famille	4
-vit en centre d'hébergement	5

5. À l'heure actuelle (faire un choix seulement):

-Vous avez un emploi salarié à temps plein	1
-Vous avez un emploi salarié à temps partiel	2
-Vous travaillez bénévolement	3
-Vous vous occupez de la maison	4
-Vous êtes étudiant	5
-Vous êtes incapable de travailler	6
-Vous êtes chômeur	7
-Vous êtes à la retraite	8

6. Avez-vous dû changer d'emploi ou cesser de travailler à cause de votre maladie?

-Non	1
-Oui; un changement pour le mieux	2
-Oui; un changement pour le pire	3
-Oui; un change qui n'a pas amélioré ni empiré ma situation	4

7. Quelles sont vos sources de revenus en ce moment?

-Emploi	1
-Assurance-invalidité-pension	2
-Bien-être social	3
-Soutien de personnes extérieures	4
-Assurance-chômage	5

8. Dans quelle catégorie se situe votre revenu?

-moins de 10 000$	1
-10 000$ à 19 999$	2
-20 000$ à 29 999$	3
-30 000$ à 39 999$	4
-40 000$ à 49 999$	5
-50 000$ et plus	6

9. Est-ce que votre situation financière a changé à cause de votre maladie?

-Non	1
-Oui; un changement pour le mieux	2
-Oui; un changement pour le pire	3
-Oui; un changement qui n'a pas amélioré ni empiré ma situation	4

10. À quelle date avez vous reçu votre diagnostic de séropositivité?

_____

11. Combien d'infections reliées au VIH avez-vous développées (y compris celle-ci)?

_____

12. Combien d'hospitalisations reliées au VIH avez vous eu (y compris celle en cause)?

_____

13. Pour quel raison (type d'affection) vous êtes hospitalisé?

_____

14. Participez vous à un groupe de support?

-oui	1
-non	2

15. Vous y participez à quelle fréquence?

-occasionnellement	1
-régulièrement	2

16. Comment décririez-vous le support que vous recevez de votre entourage?

-très supportant	1
-supportant	2
-peu supportant	3
-pas supportant	4

Appendix K

Table K1

Comparison of Distribution of Demographic Variables between Cognitive, Expression and Control Groups.

Variable	Chi-value	df	p value
Age	7.04	6	.317
Education	3.17	4	.530
Ethnicity	2.15	2	.342
Living	7.31	6	.293
Occupation	2.47	4	.650
Sources of salary	2.06	6	.914
Salary	2.44	6	.875
Time since HIV	7.59	6	.270
Number of infections	5.19	8	.737
Number of hospitalizations	6.88	6	.332
Support	.65	4	.957
Reasons for hospitalization	6.91	6	.329

Appendix L

Table L1

Comparison of Distribution of Demographic Variables between Settings

Variable	chi-value	df	p value
Age	6.89	3	.075
Education	4.97	2	.083
Ethnicity	.18	1	.670
Living	3.62	3	.305
Occupation	.63	2	.731
Sources of salary	1.32	3	.724
Salary	3.74	3	.290
Time since HIV	3.92	3	.270
Number of infections	3.74	4	.443
Number of hospitalizations	5.07	3	.166
Support	4.90	2	.086

Appendix M
Confounders

Table M1

Comparison of the Health and Anxiety Scores between Groups in each Time Frame.

	Mean (SD)	t value	df	p value
Health Time 1				
Cognitive G.	2.46 (1.03)			
Expression G.	2.62 (1.15)			
		-.54	53	.592
Cognitive G.	2.46 (1.03)			
Control G.	2.77 (.971)			
		-1.14	54	.259
Control G.	2.77 (.971)			
Expression G.	2.62 (1.15)			
		.53	57	.599
Health Time 2				
Cognitive G.	2.90 (1.01)			
Expression G.	2.67 (1.11)			
		.81	54	.421
Health Time 3				
Cognitive G.	3.05 (1.08)			
Expression G.	2.53 (1.06)			
		1.4	32	.170
Health Time 5				
Cognitive G.	3.07 (1.07)			
Expression G.	2.86 (1.09)			
		.73	56	.469
Cognitive G.	3.07 (1.07)			
Control G.	3.00 (1.03)			
		.25	58	.800

(Continued on next page)

Table M1 Continued

	Mean (SD)	t value	df	p value
Health Time 5				
Control G.	3.00 (1.03)			
Expression G.	2.86 (1.09)			
		.50	58	.617
Anxiety Time 1				
Cognitive G.	3.16 (1.43)			
Expression G.	2.93 (1.49)			
		.57	51	.568
Cognitive G.	3.16 (1.43)			
Control G.	2.55 (1.50)			
		1.52	52	.136
Control G.	2.55 (1.50)			
Expression G.	2.93 (1.49)			
		-.95	55	.346
Anxiety Time 2				
Cognitive G.	2.33 (1.36)			
Expression G.	2.58 (1.42)			
		-.64	51	.526
Anxiety Time 3				
Cognitive G.	2.26 (1.36)			
Expression G.	2.62 (1.61)			
		-.84	45	.407
Anxiety Time 5				
Cognitive G.	2.54 (1.29)			
Expression G.	2.75 (1.40)			
		-.59	54	.555
Cognitive G.	2.54 (1.29)			
Control G.	2.72 (1.28)			
		-.55	55	.582
Control G.	2.72 (1.28)			
Expression G.	2.75 (1.40)			
		-.07	55	.942

Appendix N
Outliers

Table N1

Analysis of Variance of Positive Affect and Negative Affect by Group: Cognitive, Expresssion & Control.

Source	SS	df	MS	F	p
Positive affect (without case 39)					
-Interaction					
Trx by time	.37	2	.19	.83	.442
-Time-Within					
Subject Effect	.66	1	.66	2.91	.092
-Trx-Between					
Subject Effect	1.78	2	.89	.84	.437
Negative affect (without case 15)					
-Interaction					
Trx by time	1.41	2	.70	3.47	.036*
-Time-Within					
Subject Effect	3.76	1	3.76	18.49	.000*
-Trx-Between					
Subject Effect	3.29	2	1.65	2.11	.127

*p<.05

Table N2

Analysis of Variance of Positive Affect and Negative Affect by Group: Cognitive & Expression.

Source	SS	df	MS	F	p
Positive affect (without case 39)					
-Interaction					
Trx by time	.49	2.45	.16	.70	.529
-Time-Within					
Subject Effect	.17	2.45	.06	.24	.826
-Trx-Between					
Subject Effect	6.22	1	6.22	2.86	.099
Negative affect (without 15 and 39)					
-Interaction					
Trx by time	.82	2.66	.27	1.51	.220
-Time-Within					
Subject Effect	3.88	2.66	1.29	7.14	.000*
-Trx-Between					
Subject Effect	.75	1	.75	.54	.465

*$p<.05$

Appendix O
Dropout characteristics

Table O1

Summary of the Background Characteristics of Dropouts

Variable	Frequency
Age	
20-29	2
30-39	1
40-49	2
50-59	1
Education	
Secondary	2
Collegial	3
University	1
Ethnicity	
White	4
Latino	2
Living with	
Partner	2
Alone	2
Family	1
Friend	1
Occupation	
Work part time	1
Work at home	1
Unable to work	4

(Continued in the next page)

Table O1 continued

Variable	Frequency
Salary	
Less than 10 000$	4
10 000$ - 19 999$	1
20 000$ - 29 999$	1
Time since HIV diagnosis	
Less than one year	1
1-2 years	1
2-4 years	1
4-6 years	1
6-8 years	1
8-10 years	1
Number of infections	
Less than one	1
Two	1
Three	3
Ten	1
Number of hospitalization	
Less than one	1
Two	1
Three	3
Six	1