



January 1998

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Recommended Citation

Phillips, K. D., & Morrow, J. (1998). Nursing management of anxiety in HIV infection. *Issues in Mental Health Nursing*, 19(4), 375-397.

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NURSING MANAGEMENT OF ANXIETY IN HIV INFECTION

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Anxiety is a universal problem for individuals with AIDS because the disease creates uncertainty and disruptions in every aspect of their lives. Nurses have a wide variety of holistic interventions to help persons living with AIDS (PLWAs) manage anxiety. Orem's self-care theory of nursing provides a framework for assessing, diagnosing, planning, implementing, and evaluating nursing care for an HIV-infected person experiencing anxiety. This article presents an overview of anxiety, the nature of anxiety in HIV-infected individuals, and psychological, pharmacological, and holistic interventions to assist the client in self-care of anxiety.

Rarely in the history of human existence has society encountered a problem as complex as acquired immunodeficiency syndrome (AIDS). In addition to the devastating physical manifestations of the disease, AIDS is characterized by a number of psychological and social issues. Persons living with AIDS (PLWAs) encounter discrimination, stigmatization, hatred, and violence (Beever & Catalan, 1993). The PLWA often is blamed for this illness by others or, even worse, by himself or herself (Phillips, 1994). Anxiety is a universal problem for individuals with AIDS because the disease creates uncertainty and disruption in every aspect of their lives. AIDS provokes anxiety of varying types and degrees for afflicted individuals. The anxiety may be related to the grim

Received September 1997; accepted January 1998.

The authors gratefully acknowledge the editorial advice of Dr. Linda Moneyham and Dr. Sandra Thomas.

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disease process itself, the uncertainty and unpredictability of the course of the disease, as well as numerous losses experienced by those infected (Kiemle, 1994).

Although many anxiety-provoking factors are similar across groups, some may differ. For gay men who are HIV positive, societal stigma or changes in sexual practices may create anxiety. Factors that may lead to anxiety for women may include problems related to current or future child care or prejudice aimed at the child of an HIV-positive parent. In children, separation from parents or loved ones during hospitalization, the feeling of being different from others, or not being part of the peer group may precipitate anxiety.

Nurses have an armamentarium of holistic interventions to help PLWAs manage their anxiety. Nurses in HIV/AIDS care may be particularly focused on using a holistic approach to patient care due to the wide range of physical, social, and psychological needs experienced by these clients. Nursing from the self-care perspective is very important in clients with AIDS. Absence of a cure and treatments with limited effectiveness have resulted in increased use of complementary and alternative self-care behaviors among those who are HIV positive (Abrams, 1990; Anderson, O'Connor, MacGregor, & Schwartz, 1993; Anderson & Swinbanks, 1988; Kassler, Blanc, & Greenblatt, 1991; Sowell et al., 1997). Individuals suffering from any chronic or acute disease, not just those with HIV/AIDS, use a wide range of self-care behaviors (Cassileth, Lusk, Strouse, & Bodenheimer, 1984; Eisenberg et al., 1993), and HIV-positive persons may use self-care behaviors to a greater extent than individuals in the general population (Hand, 1989). Orem's (1980) self-care theory of nursing provides a theoretical framework for planning nursing care that utilizes these holistic nursing interventions for anxiety management. The purpose of this article is to describe a variety of interventions that can be used for self-care by PLWAs to decrease their anxiety.

THEORETICAL FRAMEWORK

Orem's (1980) self-care theory of nursing provides a framework for assessing, planning, implementing, and evaluating nursing care for the anxious PLWA. According to Orem, nursing is "derived from actions deliberately selected and performed by nurses to help individuals or groups under their care to maintain or change conditions in themselves or their environments" (p. 5). Nursing's special concern is "the individual's need for self-care action and the provision and management of it on a continuous basis in order to sustain life and health, recover from

disease or injury, and cope with their effects” (p. 6). Nursing becomes necessary when the person becomes unable “to maintain continuously that amount of and quality of self-care which is therapeutic in sustaining life and health, in recovering from disease or injury or in coping with their effects” (p. 7). Basic assumptions of this framework are (a) self-care is necessary for survival; (b) people want to perform self-care; (c) in most situations people have the ability to perform self-care (self-care agency); (d) people will perform self-care when they are able to do so; (e) people who are unable to perform self-care (self-care deficit) are candidates for nursing; and (f) people who are unable to perform self-care will return to self-care when able. Self-care forms the basis for the nursing interventions presented in this article. The theoretical model is presented in Figure 1.

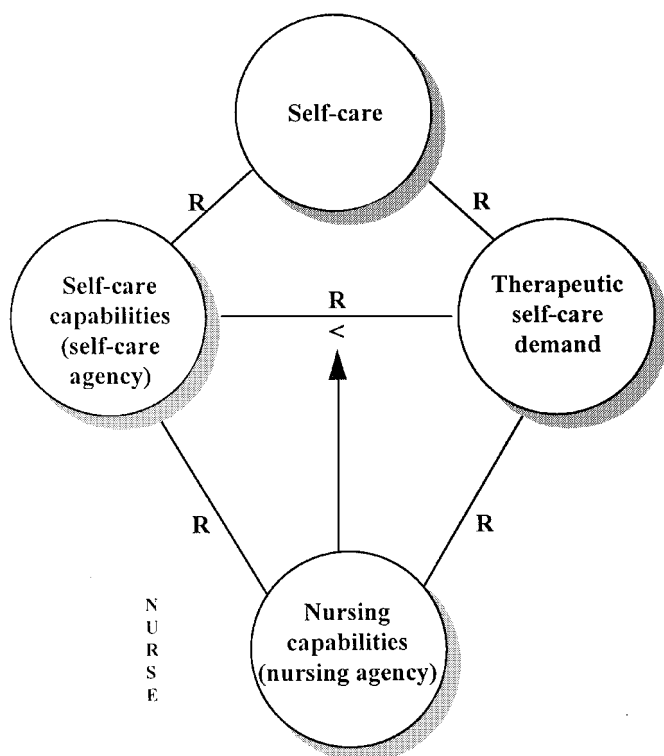


FIGURE 1. Conceptual model: Orem's theory of self-care nursing. *R*, relationship; *<*, deficit relationship, current or projected. Used with permission from Orem, D. E. (1980). *Nursing: Concepts of practice*. New York: McGraw-Hill.

REVIEW OF LITERATURE

Anxiety

Anxiety is a psychological and physiological response to a real or perceived threat (Greene, 1997; Peplau, 1963). Anxiety may be either acute (state anxiety) or chronic (trait anxiety) (Spielberger, 1983). In the classic work on anxiety for nursing, Peplau (1963) identified four levels of anxiety: mild (the person’s abilities are enhanced), moderate (the person becomes more introspective and less aware of the environment), severe (the person loses the ability to focus on details of immediate concern and focuses only on details of specific concern), and panic (the person experiences apprehension, worry, fear, or terror and senses impending doom).

Anxiety manifests itself in every aspect of a person’s being and produces cognitive (confusion, poor concentration, or inability to focus on immediate concerns), affective (apprehension, fearfulness, or dread), and physiological (shortness of breath, insomnia, cardiac palpitations, tension, and fatigue) manifestations. Physiological manifestations are mediated primarily through the sympathetic nervous system (Rauch & Rosenbaum, 1995). See Table 1 for detailed information on subjective and objective indicators.

TABLE 1. Signs and symptoms of anxiety

Subjective findings	Objective findings
Increased tension	Tachycardia
Apprehension	Peripheral vasoconstriction
Helplessness	Pupillary dilatation
Uncertainty	Restlessness
Inadequacy	Insomnia
Loss of control	Glancing about
Fear	Poor eye contact
Overexcitedness	Trembling
Distress	Facial tension
Difficulty breathing	Quivering voice
Tunnel vision	Continuous focus on the self
Blurred vision	Increased perspiration
Paresthesias	Cold hands or feet
Chills or hot flashes	Hypertension
Dizziness and lightheadedness	
Nausea or abdominal discomfort	
Chest discomfort or pain	

Anxiety may occur in the context of other mental states. For instance, anxiety and depression commonly occur together (Hagerty, 1996; Kalichman, Sikkema, & Somlai, 1995). Anxiety may be an indicator of spiritual distress (North American Nursing Diagnosis Association, 1994). Anxiety and anger are frequently commingled in persons who are ill, as shown in outbursts at caregivers and friends (Phillips & Thomas, 1996).

Anxiety in HIV Infection

Research on anxiety in HIV/AIDS is limited. One factor that may influence the anxiety experienced by PLWAs is stage of the disease. Lipsitz et al. (1994), in a study of 85 HIV-positive male and 39 HIV-positive female drug users, reported that anxiety was related to stage of illness. Learning one's HIV serostatus is one of the more anxiety-provoking times (Perry, Jacobsberg, & Fishman, 1990; Perry et al., 1990). The anxiety and depression experienced at this time may lead to either suicide ideation or a suicide attempt (Beckett & Shenson, 1993; Marzuk et al., 1988). Brown et al. (1992) found that during the early stages of HIV infection about 15.9% of respondents between the ages of 18 and 25 and 5.9% of the respondents between the ages of 25 and 44 demonstrated clinically significant levels of anxiety. Hope increases and anxiety decreases during the asymptomatic phase of HIV infection (Kelly & Murphy, 1992). Flaskerud (1995b) identified seven crisis points for greater psychological stress: (a) learning one's seropositive status, (b) receiving the diagnosis of AIDS, (c) beginning a new treatment, (d) discontinuing treatment, (e) the appearance of new symptoms, (f) recurrence and relapse, and (g) terminal illness.

The level of anxiety may vary among groups of HIV-positive individuals. HIV-positive children may experience separation anxiety. Bussing and Burket (1993) found that HIV-positive hemophiliac boys had greater anxiety than comparison groups of children with asthma and healthy children; they attributed this to a higher rate of separation anxiety. Franke, Jager, Thomann, and Beyer (1992) found that women infected through IV drug use suffered greater anxiety than did women infected through other routes.

APPLICATION OF THE NURSING PROCESS

Orem's (1980) self-care theory of nursing provides a useful framework for assessing, diagnosing, planning, implementing, and evaluating the nursing care for an HIV-infected person experiencing anxiety. Nursing activities that support self-care will be presented.

Assessment

First, assess the level and type of anxiety and the individual situation of each patient. This assessment can guide the type of medication or other intervention that is prescribed or administered. For instance, factors such as pre-morbid anxiety disorders, history of substance abuse/addiction, and the general personality type of the patient can determine the effectiveness of the therapy and the risk involved (Fernandez & Levy, 1994). Explore the client's knowledge of AIDS and perceptions and misperceptions of the disease. Determine the stressors in the individual's life, as well as the coping skills used and the effectiveness of coping strategies. Assess the individual resources, including social support so that such resources can be drawn upon to support effective coping.

From Orem's perspective, it is important to assess self-care agency. How able is the client to perform self-care activities to manage anxiety? Will the client's significant other, family member, or friends be able to assist in performing self-care interventions if needed? What psychological, pharmacological, and holistic interventions has the client used in the past? How beneficial does the client see these self-care behaviors to be in managing the anxiety?

Nursing Diagnosis

Anxiety in the person who is HIV positive may be related to a myriad of etiological factors—not just the diagnosis of HIV infection. For example, uncertainty about the course the disease will take is a potent source of anxiety. Possible nursing diagnoses might be:

1. Anxiety related to the perceived impact of HIV infection on lifestyle.
2. Anxiety related to actual or potential losses.
3. Anxiety related to fear or uncertainty about death.

Plan

During the planning phase, goals are mutually established by the client and the nurse. Appropriate interventions are selected based on these goals and the assessment of the client. Goals for increasing self-care behaviors or decreasing the signs and symptoms of anxiety may be established. Some possible goals for a client might be:

1. The client will verbalize his or her feelings, thoughts, beliefs, concerns, or fears.

2. The client will learn and use new self-care behaviors to decrease anxiety.

Specific Nursing Interventions

In the Nursing Interventions Classification (NIC), 24 activities are suggested for anxiety reduction (McCloskey & Bulechek, 1996). Nursing interventions must be selected and individualized to the client. Whereas one nursing intervention may be beneficial for one client, it may not be beneficial or may even be harmful to another client. This section provides an overview of specific therapies that nurses can consider. See Table 2 for general recommendations for working with anxious PLWAs.

TABLE 2. General interventions for the management of anxiety

Explore the client's perceptions of HIV disease.
Provide accurate information about HIV disease and new treatments.
Correct any misconceptions about HIV disease.
Help the client to identify past successful coping mechanisms.
Help the client to identify and make use of available support systems.
Refer the client to HIV/AIDS support groups.
Encourage the client to share his or her thoughts, feelings, beliefs, and concerns with someone who is supportive. Make yourself available to the client.
Listen attentively.
Convey empathy.
Teach the client and his or her family to recognize the symptoms of anxiety.
Teach the client's family basic therapeutic communication skills. For example, teach them to listen to the client's concerns without interruption and to avoid false reassurance.
Teach interventions to the client and his or her family that may be useful in decreasing anxiety (e.g., deep breathing, progressive relaxation, and massage).
Teach the client and his or her family about anxiolytics and other prescribed medications.
Teach the client's family about providing a quiet and calm environment during periods of increased anxiety.
Teach the client's family about the importance of remaining with the client during periods of increased anxiety.

Psychological Interventions

Individual Therapy. Individual therapy for the anxious person who is HIV positive does not differ significantly from therapy for the general population. The concepts of boundary development and maintenance and promotion of safety and trust are of utmost importance. In dealing with anxious clients, it is essential to assess and focus on their strengths and positive aspects. These healthy parts of the individual can be used to heal the more problematic areas (Fortinash & Holoday-Worret, 1996). Often HIV-positive persons feel unable to talk with friends and family about deep-seated fears and anxieties. The therapist acts as an unbiased, yet trained person in whom the HIV-positive individual can confide. The therapeutic relationship provides an outlet for pent-up feelings and an opportunity for self-exploration that can lead to healthy decisions and life changes.

Family Therapy. The family and significant others of PLWAs face unique and challenging situations. Family therapy deals with the most intimate of all groups, the family. It is important to remember that family composition and structure for many clients who are HIV positive may differ from the traditional nuclear family. It is through family therapy that some of the unique issues can be addressed. Family therapy has been demonstrated to be beneficial in reducing anxiety (Barrett, Dadds, & Rapee, 1996). A well-functioning family is reflected in a collaborative power structure, mutual affection among members, acceptance of each other's individuality, and the ability to adapt to changes. These factors constitute the goals of therapy for this group of clients (Fortinash & Holoday-Worret, 1996). Each member of the family brings into therapy his or her own individual feelings such as disappointment, fears, and pain. With the aid of an experienced therapist, suppressed feelings can be brought into light and dealt with in a safe environment where the participants do not feel judged. Issues especially important to family members of the HIV-infected person include stigma, grief, loss of social support, anticipatory loss, and fear of contagion (Temoshok & Baum, 1990; Worden, 1991). If the therapist helps family members deal with their own anxieties about HIV infection and the issues that surround this illness, he or she can provide a less anxiety-producing environment for the HIV-positive client.

Group Therapy. When establishing any therapy group, the clinician must consider: (a) group composition and organization; (b) establishing group norms such as confidentiality, session length, and the rights of individuals in the group; and (c) the group process, which includes: facilitative communication, clarification, sharing of information, working through intense emotions, and encouraging the use of effective coping

styles (Tunley-Crenshaw, 1997). In a group of HIV/AIDS clients, issues such as stigma, homophobia, and isolation arise from the group members. These issues can create anxiety and must be addressed. Because group therapy brings individuals together who under ordinary circumstances may not have made contact (Chung & Magraw, 1997), the HIV-positive person may or may not know other individuals in the group and may feel reluctant to interact and share feelings until he or she feels comfortable with them.

Support Group. Support systems in the natural environment for the HIV-positive individual are often inadequate because of the fear and stigma associated with the disease. However, support groups may assist HIV-positive clients and their families to adapt positive coping skills, such as expressing feelings of anxiety and fear or managing panic attacks.

Several issues surround a newly diagnosed HIV-positive individual's decision to participate in a group. From the authors' experiences, the client may be afraid of meeting new people, may fear that confidentiality will not be maintained, may believe that his or her situation differs significantly from others in the group, and may fear that others will not be understanding. The anxious patient may need additional encouragement to attend the first meeting. In an experimental study, Kelly and associates (1993) found that a social support intervention was more beneficial in decreasing psychiatric symptoms, such as anxiety, depression, and other symptoms of emotional distress, than a cognitive-behavioral intervention.

Group leaders encourage description of feelings and identification of shared problems and fears. In the group members share their experience, strength, hope, and positive outcomes, thus facilitating others to see their own situations in a different and better light. Furthermore, support groups help decrease the feelings of isolation and fear that may accompany AIDS (Ripich, 1997). The autonomy that is provided in such a group allows for a feeling of increased control, which often is lacking in the anxious client. Support groups provide an opportunity for clients to share information about their health care providers and new and existing treatments for HIV infection and its complications. Members share information within the group about available community resources, methods of coping, and solutions to problems commonly faced by HIV-positive individuals (Ripich, 1997).

Holistic Interventions

Nurses have a wide variety of holistic interventions that are proving to be valuable in treating anxiety in the general population. Research

is beginning to validate some of these interventions in people who are HIV positive.

Biofeedback. Biofeedback (BF) is a modality of treatment that involves feeding back physiological information to the client who is involved in a particular activity such as progressive relaxation or autogenic training (Basmajian, 1989). This information is used by the client to monitor and self-regulate behavior. BF has been found to help clients prevent overactivity of the sympathetic nervous system and to decrease anxiety (Stoyva & Budzynski, 1993). For example, Garrett and Silver (1976) found BF to be useful in reducing test anxiety.

Progressive Muscle Relaxation. With progressive muscle relaxation (PMR), the client is taught to tense and relax large muscle groups while focusing attention on the sensations associated with that relaxation and tension (Bernstein & Borkovec, 1973; Jacobsen, 1938; Jacobsen, 1964). According to Scandrett-Hibdon and Uecker (1992), "progressive muscle relaxation is based on the underlying assumption that anxiety and relaxation are mutually exclusive; anxiety cannot exist if the muscles are truly relaxed" (p. 437). PMR has been shown to be effective in reducing anxiety in clients with a variety of medical and surgical conditions (Bowles, Smith, & Parker, 1979; Eppley, Abrams, & Shear, 1989; Lehrer, Schoicket, Carrington, & Woolfolk 1980; Levin, Malloy, & Hyman, 1987; Pender, 1984, 1985).

Exercise. A program of regular aerobic exercise for the HIV-positive person is recommended as a health-promoting activity because of its positive effects, such as increases in lung capacity, endurance, energy, and flexibility (Flaskerud & Ungvarski, 1995). Studies have revealed that for these individuals, aerobic exercise offers even more important benefits, such as improved immunological, physiological, and psychological functioning (Antoni et al., 1990; Carson, 1993; Esterling et al., 1992; MacArthur, Levine, & Birk, 1993; Rigsby, Dishman, Jackson, Maclean, & Raven, 1992). LaPerriere and colleagues (1990), in a study of 50 asymptomatic gay men, found that aerobic exercise prior to notification of seropositive status resulted in stable amounts of depression and anxiety in the exercisers; in contrast, depression and anxiety increased in the control group, which did not exercise. Also noted was a sharp decline in the number of natural killer cells in the nonexercisers, whereas, the exercisers showed only a negligible change (LaPerriere et al., 1990).

A program of 30 to 45 minutes of aerobic exercise 4 days each week is recommended (CDC, 1993). It is important for the HIV-positive person to select a type of exercise that is not only appropriate for the stage of his or her illness, but also enjoyable. There must be a healthy balance

between exercise, rest, sleep, and nutrition. Exercise in the evening hours often leads to wakefulness and disturbs sleep patterns. Therefore, exercise in the early part of the day is recommended (Flaskerud, 1995a).

Massage. Massage has been shown to be effective in reducing anxiety in cancer patients (Ferrell-Torrey & Glick, 1993), elderly institutionalized patients (Fraser & Kerr, 1993), and adolescent psychiatric patients (Field et al., 1992). Groër et al. (1994) noted nonsignificant decreases in state anxiety but increases in salivary secretory immunoglobulin following a back rub in well elders. Ironson et al. (1996), in a study of 20 HIV-positive and 9 HIV-negative gay males, observed significant increases in several immune variables and significant decreases in serum cortisol and anxiety following a massage intervention.

Massage increases blood circulation to an area by dilating the blood vessels. An increase of blood flow brings oxygen and nutrients to the area, producing a feeling of warmth and relaxation, thereby decreasing one's overall anxiety. An increase of blood flow also helps accelerate the lymphatic system. The flow of lymph is aided by the deep pressure and movement of massage, encouraging a more effective filtering and waste elimination. A strong, well-functioning lymphatic system provides the body with a boosted immune system to better fight infection and disease (McGilvery, Reed, Mehta, & Mehta, 1995).

Therapeutic Touch. Therapeutic touch (TT), derived from laying on of hands, is an intervention in which the healer uses his or her hands to alter the client's energy field to heal (Krieger, 1979). The major assumption of those who use this technique is that humans are energy fields. TT practitioners usually never touch the client's physical body, rather the energy field that comprises the client. In TT, the healer (a) focuses attention on healing the client in a process called centering, (b) assesses the client's energy field, and (c) modulates the client's energy field. Two studies have documented the effectiveness of TT in reducing anxiety: Heidt (1981) found that anxiety was decreased by TT in hospitalized patients; Gagne and Toye (1994) reported that TT reduced anxiety in psychiatric inpatients. No studies of the effectiveness of TT in relieving anxiety have been conducted to date with HIV/AIDS clients.

Aromatherapy. Aromatherapy (AT), the inhalation of essential oils to affect certain body systems, is used by some to relieve anxiety. Essential oils, when inhaled, stimulate the limbic system, resulting in improved feelings of well-being and contentment. Among AT's beneficial effects are (a) stress reduction, (b) invigoration, and (c) increased alertness and sensory awareness (Sanderson & Ruddle, 1992). Steel and Tisserand (cited in Vukovic, 1995), both aromatherapists, found that calming oils

such as neroli, jasmine, and lavender produce more alpha and theta brain waves, indicative of relaxation and well-being. In another study, speech anxiety was found to decrease more in the experimental group than in the control group following the use of AT (Spector et al., 1993).

Music Therapy. Music therapy (MT) may use any genre of music including noises such as crickets chirping, ocean, rainfall and thunder, and mountain streams. MT has been used since ancient times to soothe and to heal (Alvin, 1975). Sound stimulates the right hemisphere of the brain, which contains neural centers for intuition, nonverbal communication, pictures, creativity, and healing. In most people the left hemisphere is dominant and controls logic and practical knowledge. The left hemisphere inhibits the right hemisphere (Brydon & Nugent, 1979). MT, then, helps restore balance and communication between the two hemispheres (Brydon & Nugent). Because music preferences are highly individualized, the music should be selected specifically for the client, the need, and the situation. MT has demonstrated effectiveness in reducing anxiety among emotionally challenged adolescents (Hinds, 1980), oncology patients who were receiving radiation therapy (Cook, 1981; Sabo & Michael, 1996), elderly patients with Parkinson's disease (Mason, 1978), intensive care patients (Henry, 1995), and patients undergoing coronary artery bypass grafting (Barnason, Zimmerman, & Nieveen, 1995). It has also demonstrated usefulness in the treatment of anxiety in persons with AIDS (Bruscia, 1992).

Meditation. Meditation has been given different meanings by different people. Meditation is defined as: (a) expansion of good feelings and experiences, (b) development of the heart, (c) meeting God or *ALL THAT IS*, (d) looking at one's mind, (e) adding meaning and value to one's life, (f) experiencing oneness with the universe, and (g) healing and regulating the body (Moore & Moore, 1983). One form of meditation is the six-step relaxation response (Benson, 1975), which allows a person to relax by simply sitting quietly and focusing on his or her breathing. Another form of meditation is transcendental (TM). Studies of this method have consistently demonstrated reduced client anxiety; one metaanalysis found TM to be superior to other techniques (Eppley et al., 1989). With all meditation procedures clients are asked to center on a single stimulus to eliminate thoughts and other stimuli. The stimulus is often a repetitive sound or an object. Frequently used mantras are one-word syllables such as "ohm," short prayers, or religious phrases. Blocking incoming stimuli helps the person achieve a state of profound relaxation, thus relieving stress and decreasing anxiety. Hardiness in long-term survivors of AIDS was found to be positively related to meditation (Carson, 1989).

Spiritual Well-Being and Hope. When someone faces the strong emotions that a diagnosis like AIDS evokes, a sense of spiritual well-being and hope may relieve some of the fear and anxiety the person experiences (Hall, 1994). A relationship of existential well-being to long-term survivorship has been noted (Carson, Soeken, Shanty, & Terry, 1990). In one study of HIV disease, Hall noted four major ways that HIV-infected persons can maintain hope in the crux of the often devastating diagnosis: miracles, involvement in work activities, religion, and support of family and friends. Carson et al. found that HIV-positive persons who scored high on sense of hope also scored high on spiritual well-being, religious well-being, and existential well-being. Further, it was noted that persons with religious affiliation scored higher on religious well-being than those who were not religiously affiliated. HIV-positive persons need to believe that their life still has meaning, that they are needed and loved, and that there is purpose and value in living. Active participation in health care and involvement in spiritual activities such as meditation, prayer, and community is recommended (Carson et al.). Fear of religious persecution or judgment may be a source of anxiety for individuals with HIV/AIDS. Some of these individuals have been asked to leave church congregations because of their disease.

Guided Imagery. In guided imagery (GI), the client is encouraged to focus thoughts on an image to promote peacefulness, contentment, relaxation, or comfort. Images should be specific to the individual. Images may be elicited from any of the senses (sight, sound, smell, taste, or touch). Soft background music of the client's choice may help to achieve the goals of guided imagery (Sodergren, 1985).

Gradually, through a reciprocal cyclic process of visualization and imagery, a bridge is built between conscious and unconscious processes, which includes cortical and subcortical processes, the "conscious" and "unconscious" portions of the brain. Gradually, a measure of conscious control of the unconscious is gained. (Norris, 1989)

GI has been used with a high degree of success in the management of anxiety. It has been used to help patients control pain and relax during anxiety-provoking invasive and noninvasive medical tests, such as magnetic resonance imaging. In a recent study of cancer chemotherapy patients, GI was not found to be beneficial in controlling nausea; however, it was very effective in helping to reduce anxiety (Burish, Carey, Krozely, & Greco, 1987). Although GI is considered a safe technique, it should not be used with clients who have a history of mental illness (Zahourek, 1988).

Systematic Desensitization. Systematic desensitization (SD) is a cognitive-behavioral therapy in which the client is exposed to ever-increasing anxiety-provoking situations while inducing simultaneous relaxation until the stimulus no longer provokes anxiety (Wolpe, 1973). SD has proven successful in reducing anxiety in other populations and may be of benefit to the HIV-positive individual experiencing anxiety.

Psychopharmacologic Interventions

When other strategies fail to supply needed relief from anxiety, pharmacologic management may become necessary. Only advanced practice nurses who have prescriptive privileges will be in the position to select anxiolytics, but generalist mental health nurses must be familiar with the most commonly used anxiolytics and their side effects. Major classifications of anxiolytic drugs are discussed in this section, with suggestions for HIV-positive persons. These drugs are summarized in Table 3. Cognitive-behavioral strategies are usually continued for the duration of pharmacological therapy as an adjunctive treatment (Fernandez & Levy, 1994).

Individuals with HIV infection have been noted to have increased sensitivity to certain psychopharmacologic agents, responding to a much lower dosage than needed by the general population (Fernandez & Levy, 1994). For that reason, a hierarchical treatment plan based on the degree of anxiety may be helpful to the clinician in prescribing or administering anxiolytics. Pharmacokinetic properties must be considered by the clinician prior to prescription or administration of any drug.

Benzodiazepines. Approximately 25% of individuals who are HIV positive take one or more of the benzodiazepines for relief from anxiety or insomnia. Benzodiazepines work by increasing the level of γ -aminobutyric acid (GABA), allowing more chloride to enter neurons (Krupnick, 1996a). In making a decision to administer benzodiazepines, the clinician must carefully consider the possible side effects and the risk to the patient. Dependency, tolerance, withdrawal, oversedation, and drug interactions, as well as suicide, are all potential hazards (Wormser, 1996).

When temporary relief of anxiety symptoms is desired, a high-potency, rapid onset or intermediate-acting agent, such as alprazolam or lorazepam should be used (Fernandez & Levy, 1994; Worth & Halman, 1996). These agents are especially useful in the treatment of panic states and agoraphobia, which are often experienced by HIV-positive individuals. Treatment with these drugs should be limited to the short term and be carefully monitored. If long-term therapy becomes necessary, other classes of antianxiety agents can be used (Valente, 1996). In panic states

TABLE 3. Pharmacologic options for managing anxiety in HIV infection

Classification	Drug	Dosage	Special dosing recommendations
Benzodiazepines	alprazolam	0.25–0.50 mg tid po	Not to exceed 4 mg/day in divided doses; 0.25 mg bid initially for the elderly or debilitated
Azapirones	lorazepam	2–3 mg bid or tid po	1–2 mg daily in 2–3 divided doses in the elderly or debilitated
	bupirone	5 mg tid po	Dosage may be increased by 5 mg/day at 2–3-day intervals not to exceed 60 mg/day; usual effective dose is 20–30 mg/day; not for pm use
Tricyclic antidepressants	imipramine	Initial dose: 75 mg/day po	Gradually increase the dose to 150 mg/day, not to exceed 200 mg/day; 30–40 mg/day, not to exceed 100 mg/day for the elderly or debilitated
Serotonin selective reuptake inhibitors	trazodone	Initial dose: 25–150 mg/day po in divided doses	May increase by 50 mg/day every 3–4 days, not to exceed 400 mg/day po
	fluoxetine	Initial dose: 20 mg/day	Take in the morning to prevent insomnia; the dosage may be increased in several weeks, not to exceed 80 mg/day po; dosage above 20 mg/day po should be administered in two doses—morning and noon
	paroxetine	Initial dose: 20 mg/day po	Take in the morning to prevent insomnia; dosage may be increased by 10 mg/day at 1-week intervals to a maximum dose of 50 mg/day po
	sertraline	Initial dose: 50 mg/day	Administer daily in the morning or evening; may increase the dose at 1-week intervals to a maximum dose of 200 mg/day po

Adapted from Fernandez, 1990; Fernandez & Levy, 1994; Janicak, 1995; Krupnick, 1996a, 1996b; Wormser, 1996.

and in early stages of encephalopathy, delirium, and AIDS dementia complex, neuroleptics may be more beneficial than the benzodiazepines (Fernandez & Levy, 1994; Wyszynski & Wyszynski, 1996).

Azaspirones. Buspirone (Buspar) is a nonbenzodiazepine-nonbarbiturate anxiolytic. It appears that buspirone decreases anxiety by binding to serotonin and dopamine receptors and increasing norepinephrine metabolism in the brain (Deglin & Vallerand, 1995; Krupnick, 1996a). Although sedation or abuse potential risks are minimal, some precautions should be taken when administering these drugs to persons who are HIV positive. Persons who are HIV positive may have increased sensitivity to the dopaminergic effects of buspirone and may exhibit increased confusion (Fernandez & Levy, 1994). This side effect may limit buspirone's usefulness to those individuals who are asymptomatic or are in early stages of the illness. Clients receiving higher doses of zidovudine may require higher doses of buspirone to achieve therapeutic effect. An additional benefit of buspirone is that it may reduce drug-seeking behavior in that subgroup (Batkai, 1995).

Antidepressants. The choice of an antidepressant agent for the treatment of anxiety in the HIV-positive person depends on the clinical experience of the nurse and the health status of the person being treated. For the person experiencing restlessness, insomnia, and agitation that would benefit from a more sedative agent, one might prescribe a tricyclic antidepressant (Fernandez, 1990). One report has shown that, although there is no particular best tricyclic agent, imipramine may be of benefit to the HIV-positive client. No statistically significant side effects have been noted, nor does the drug seem to change the immune function. Trazodone can also be used for HIV-positive persons who need to be free from the anticholinergic and antihistaminic side effects (Fernandez & Levy, 1994). Anxious clients who are concomitantly depressed may be at greater risk for suicide during the early phase of antidepressant therapy.

Although monoamine oxidase inhibitors (MAOIs) are used occasionally to treat anxiety in clients in the general population, they are rarely used to treat anxiety in clients with HIV/AIDS. MAOIs compete with the antiretrovirals for the cytochrome P450 system in the liver. This allows dangerously high levels of both drugs to accumulate, placing the client at risk for a severe drug reaction.

For HIV-positive persons requiring relief for moderate symptoms that, although distressing, do not compromise their ability to function normally, a serotonin selective reuptake inhibitor (SSRI) may be more beneficial. These drugs produce fewer side effects than the tricyclic antide-

pressants in most cases, although they are not totally free of side effects. Fluoxetine, paroxetine, and sertraline possess an antianxiety effect as well as an antidepressant effect. One must be aware of the potential for weight loss with these agents and thus use with caution in clients who are nutritionally compromised. As with all agents administered to the HIV-positive person, the lowest possible dose should be given initially. The drug can then be increased for symptom relief under close supervision (Townsend, 1995).

Evaluation

Evaluation is an ongoing process and is monitored from session to session. Does the client report more participation of self-care behaviors? Is the client reporting fewer symptoms of anxiety? Is the client sleeping an appropriate amount of time? Is the client able to share his or her feelings appropriately with his or her significant other or family members?

SUMMARY

HIV disease and its sequelae commonly produce anxiety. Nursing accomplishes its goal by enabling the client or the client's family to initiate self-care behaviors, when possible. Nursing intervenes when the client and his or her family are no longer able to carry out self-care. Through psychological, pharmacological, and holistic nursing interventions the nurse can offer many tools in the self-care of anxiety for the client with HIV disease.

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