1997

# The effects of cognitive-behavioral therapy on anxiety among the elderly in a nursing home setting

Lawrence David Parker

# THE EFFECTS OF COGNITIVE-BEHAVIORAL THERAPY ON ANXIETY AMONG THE ELDERLY IN A NURSING HOME SETTING

BY

LAWRENCE DAVID PARKER

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE

MASTER OF ARTS

IN PSYCHOLOGY

MARSHALL UNIVERSITY GRADUATE COLLEGE

1997

**MASTER OF ARTS THESIS**

**OF**

**LAWRENCE DAVID PARKER**

**Approved:**

**Thesis Committee**

**Major Professor:** Roger P. Mooney

**Roger Mooney, Ed.D**

p/w per phone

**Paul Wiese, Ph.D.**

Francis G Anderson

**Francis Anderson, M.A.**

**Program Director:** Stephen O'Keefe

**Stephen O'Keefe, Ph.D.**

**Marshall University Graduate College**

**1997**

# The Effects of Cognitive-Behavioral Therapy On Anxiety Among the Elderly In a Nursing Home Setting

Lawrence David Parker

Marshall University Graduate College

## Abstract

This study evaluated the effects of cognitive-behavioral therapy on the severity of anxiety among the elderly in a nursing home setting. Eighteen adults were involved in the research. The Beck Anxiety Inventory (BDI) was used for a pre-test, post-test, and delayed post-test measures. The results of the t-test indicated a significant difference between the pre-test and the post-test measures in the experimental group. The significant difference was not, however, maintained over time. The results of t-test between the pre-test delayed post-test for the experimental group was non-significant. The results of the study suggested that cognitive-behavioral therapy training did have a positive effect on the severity of anxiety. In order to maintain the positive effects of training there may need to be periodic reinforcement of the skills. The author makes recommendations for future research.

## Acknowledgments

This manuscript could have not been completed without the effort of many individuals. I would like to take this opportunity to thank those individuals that participated in my efforts to complete this project. First, I would like to thank my thesis committee for their support and guidance. I would like to express my appreciation to Francis Anderson for taking time to participate on my thesis committee. I also would like to acknowledge the efforts of Dr. Paul Wiese in helping me complete the statistical analysis for this project. I would especially like to thank the efforts of Roger Mooney for his encouragement, patience, and emotional support during the completion of this manuscript. I also owe him a great deal of gratitude for his guidance in my endeavors to complete the graduate program. I would like to thank my family and friends for their support and sacrifices they provided that allowed me to pursue my academic interest.

Also, I would like to thank the residents and staff of Pinecrest Hospital for their support and time which allowed me to complete this project.

Table of Contents

## Lists of Tables

Page

# THE EFFECTS OF COGNITIVE-BEHAVIORAL THERAPY ON ANXIETY AMONG THE ELDERLY IN A NURSING HOME SETTING

Anxiety disorders post a significant mental health problem for older Americans. Himmelfarb and Murrell (1984) stated that 17.1% of elderly men and 21.5 % of elderly women have sufficient anxiety symptoms to warrant treatment. More recent studies indicate a prevalence rate of 19.7% and a lifetime rate of 34.1% in older adults (Blazer, George, & Hughes, 1991). Anxiety disorders are four to seven times more prevalent than are depressive disorders in older adults (Reiger, Boyd, Burke, Rae, Myers, Kramer, Robins, George, Karno, & Locke, 1988; Weissman, Myers, Tischler, Holzer, Leaf, Orvaschel & Brody, 1985). According to the authors, research suggests that anxiety disorders are among the most common psychiatric disorders experienced by the elderly. Despite the amount of research available on the anxiety disorders, however, the impact in older adults has been understudied.

According to the Sheikh (1995), generalized anxiety is one of the most common psychiatric disorders in the elderly. Older individuals,

however, tend to deny anxiety symptoms. Blazer et al. (1991) stated that the denial of the anxiety symptoms accounts for the inconsistencies often cited in the prevalence rates between older adults and other age groups. Anxiety in older adults is associated with health problems (Himmelfarb & Murrell, 1984), use of health services (Blazer et al., 1991), morbidity, and mortality (Kay, Bergmann, 1996, & Lader, 1982).

People with chronic physical illness are particularly vulnerable to psychiatric disorders. Persons with chronic medical conditions have a 41% increased risk of psychiatric problems, and more than 11% have been diagnosed with an anxiety disorder (Wells, Golding, & Burman, 1988). Anxious clients with chronic mental illness use health care services at a significantly higher than expected rate (Hocking & Koening, 1995). According to Katon, Korff, Lipscomb, Russo, Wagner, and Polk (1990), 21.8% of distressed high utilizers of medical care have a generalized anxiety disorder. Hocking and Keoning (1995) found that older adults become anxious when anticipating problems with a new illness or the functional limitations associated with the illness, and when undergoing unpleasant diagnostic or therapeutic procedures. Concern over the cost of new

treatments, especially the medication, often leads to considerable anxiety. The authors stated that psychiatric consultation positively influences both the diagnosis and the treatment of anxiety in the elderly. Consultation led to an improved diagnostic assessment for 40% of the clients and a revision in the treatment programs for 67% of the clients.

Significant psychosocial losses, financial losses, failing health and cognition, feelings of helplessness, and loss of control make the elderly more susceptible to anxiety. Anxiety may be a reasonable reaction to negative life events, such as hospitalization (Shader & Greenblatt, 1982), or the transition to a nursing home or institutional care (Thomasma, Yeaworth, McCabe, & Day, 1990). According to the authors, there is an overlap between the anxiety and the depression syndromes. Alexopoulos (1991) found that of forty-five geriatric patients consecutively admitted to an outpatient psychiatric clinic only 2% had an anxiety disorder alone, but 38% of the patients with major depression also met the American Psychiatric Association, Diagnostic and Statistical Manuel of Mental Disorders, third edition revised (1987) criteria for an anxiety disorder. Morgan, Dallosso, Arie, Byrne, Jones and Waite (1987), and Swearer, Drachman, O'Donnel,

and Mitchell (1988) also found that a large proportion of demented older persons display significant symptoms of anxiety.

Little research has been done to evaluate the efficacy of therapy in the treatment of the anxiety disorders among the elderly. Steuer, Mintz, Hammen, Hill, Jarvik, McCarley, Motoike, and Rosen (1984) found that when cognitive-behavioral and insight therapies were used together in the treatment of depression in elderly patients the level of the anxiety and depression were lowered. Cognitive-behavioral therapy focuses on changing the clients' behavior and restructuring the interactions that occurred in the real world (Hocking & Koening, 1995). The cognitive-behavioral therapist uses a number of techniques in the treatment of the anxiety disorders (Jacobsen, 1995). Progressive muscle relaxation which involves systematically tensing and relaxing muscle groups is often used in combination with rhythmic breathing and visualization to reduce the anxiety symptoms. Systematic desensitization involving muscle relaxation, controlled breathing, visualization of the anxiety-provoking stimulus, and desensitization of the stimulus by associating it with a deeply relaxed state has also been effective in the treatment of the anxiety disorders. Wolpe

(1973) recommends thought-stopping to disrupt prolonged worry. The therapist ask the client to begin worrying. Once the worrying is in progress the client signals the therapist. At that point the therapist shouts "Stop!" to disrupt the worrying thought process. Cognitive-behavioral therapy aims to provide the client with skills that enable him or her to challenge and replace distorted thought patterns with more rational constructions (Thompson, 1996). Behavioral therapy (Cautella & Mansfield, 1977), operant conditioning (Hussian, 1981), token economies (Mishara, 1978), and a variety of other structured behavioral programs (Gallagher & Thompson, 1981) have also been used to change behavior and lessen anxiety.

Studies of the treatment of anxiety in primary care indicate that drug therapy with antidepressants or benzodiazepines is the most common mode of therapy (Anderson, & Harthorn, 1989; Sallis, & Lichstein, 1982; and Tyrer, Casey, Seivewright, & Seivewright, 1988). According to Solomon (1976), the elderly have twice as many adverse side-effects and drug interactions with psychotropic medications. The use of psychotropic medications by the elderly may trigger cognitive impairments, confusion, or disorientation. Many physicians, however, continue to utilize the

benzodiazepines as the main treatment approach for patients who present with anxiety regardless of age. Research indicates for chronic anxiety that the benzodiazepines have only a marginal effect (Solomon, 1976). Smith, Sherrill, and Colenda (1995) found little evidence that benzodiazepines are convincingly superior to a placebo or spontaneous improvement. Beta blockers and antidepressants have also been used to treat anxiety, however, no controlled clinical trails have been done to demonstrate the efficacy in anxious elderly outpatients (Hart, Colenda, & Hamer, 1991). Neuroleptics have been used with anxious agitated patients with dementia, however, according to Smith et al. (1995), the use is controversial. The use has been further complicated by the Omnibus Reconciliation Act of 1987, which places strict guidelines on the use of neuroleptics in nursing home settings. In a double-blind study of short term neuropletic use with agitated patients with dementia, Schneider, Pollock, and Lyness (1991) found that neuropletics were superior to placebo in only 18% of the patients.

Purpose

There is little research which deals with the treatment of anxiety with the elderly. The purpose of this study was to examine the effect of

cognitive-behavioral therapy on the severity of anxiety among the elderly population in a nursing home setting. The detection and treatment of anxiety will enhance both cognitive and functional abilities among the elderly. This study tested the following hypotheses:

Null Hypothesis: Cognitive-behavioral therapy will not significantly reduce the severity of anxiety among the elderly in a nursing home.

Hypothesis: Cognitive-behavioral therapy will significantly reduce the severity of anxiety among the elderly in a nursing home.

## Method

### Subjects

Eighteen subjects from an intermediate nursing home facility in Southern West Virginia were randomly selected to participate in the study. All subjects were diagnosed with an anxiety disorder by a board certified psychiatrist. There were six males and three females in the experimental group, and four males and five females in the control group. The mean age for the experimental group was 52 and the mean age for the control group was 59.

## Instruments

### Beck Anxiety Inventory (Appendix B).

The Beck Anxiety Inventory (BAI) is a 21-item self-report instrument for measuring the severity of anxiety and was especially developed to minimize its relationship with depression (Beck & Steer, 1993). The items in the BAI were chosen to measure unique symptoms of anxiety that were minimally related to depression. Fourteen of its items represent somatic complaints, whereas the other seven items reflect cognitions associated with the subjective aspects of anxiety and panic. The BAI represents general symptoms of anxiety not those attributable to specific disorders, such as phobias and panic disorders. In using the BAI the patients rate the severity of each symptom on a 4-point scale ranging from "Not at all" (0) to "Severity - I could barely stand it" (3). A total score is calculated by summing across severity ratings for all 21 items.

## Procedure

All 18 subjects were administered the BAI before treatment was initiated, immediately after ten sessions, and two weeks later. Training was done on an individual basis. Training involved controlled breathing

exercises to induce relaxation and self-instructional training to modify negative self-statements. The subjects were taught to notice when they became tense, and to use the feelings of tension as a sign to relax.

## RESULTS

The study used a mixed repeated measures experimental design. Subjects were randomly assigned to the experimental or control group. The dependent variable was anxiety and the independent variable was the cognitive-behavioral training. There were two levels of the independent variable (training and no training). Each person in the experimental group was involved in 10 individual training sessions. Pre-test measures were obtained prior to training. Post-test measures were obtained one day after the last training session. Delayed post-test measures were obtained two weeks after the training was completed. T-tests were used for comparing the differences between the means. Alpha was set at .05.

The results of the t-tests are shown in table I. The results indicated there was no significant difference between the pre-test measures, $t\,(17) = -.611$, $p < .05$. However, the results indicated there was a significant difference between the pre-test and the post-test measures within the

experimental group, $t$ (17) = 2.130, $p$ = .05. There was no significant difference between the pre-test and post-test measures in the control group, $t$ (17) = .676, $p$ < .05. The results indicated there was no significant difference between the pre-test and the delayed post-test measures of the severity of anxiety within the experimental group, $t$ (17) = 1.210, $p$ < .05. The null hypothesis was rejected and the alternative hypothesis I was accepted. Cognitive-behavioral therapy had a significant effect on the severity of anxiety reported by those in the experimental group. The significant difference between the pre-test and the post-test measures of the severity of anxiety in the experimental group was not, however, maintained two weeks latter.

TABLE 1

Relationship Among t-Test Values

| Variables | t Values | Critical Values |
|---|---|---|
| Pre-test control / Pre-test exp | -.611 | t .05 (17) = ± 2.110 |
| Pre-test exp / Post-test exp | *2.130 | t .05 (17) = ± 2.110 |
| Pre-test control / Post-test control | .676 | t .05 (17) = ± 2.110 |
| Pre-test exp / Delayed Post-test exp | 1.210 | t .05 (17) = ± 2.110 |

Note. * Indicates statistical significant difference.

## Discussion

There is little research that focuses on the use of cognitive-behavioral therapy in the treatment of anxiety with elderly patients in nursing homes. The results of this study indicate that controlled breathing techniques and self-instructional training significantly reduced the severity of anxiety among the elderly patients in the nursing home. The results are consistent with the research of Hocking and Koening (1995) and Steuer et al. (1984). The authors found that cognitive-behavioral therapy lead to significant reductions in anxiety. Controlled breathing techniques and relaxation training reduced arousal and enhanced cognitive performance. Self-instructional training modified negative self statements and significantly reduced anxiety. Cognitive-behavioral therapy is based on the theory that anxious individuals are dominated by themes of danger. The individual's unrealistic fears are based on exaggerated views of a specific harmful situation. The anxious person becomes upset and continually worries about the situation. Therapy helps the person to identify distorted automatic thoughts and effectively face the unrealistic fear. Many anxious people believe they are helpless and unable to cope with new situations. Rather than challenging the feelings of

helplessness, teaching coping skills helps the anxious person learn to deal with the anxiety more effectively. In this study training reduced the anxiety which would make exposure more comfortable and enhance the person's confidence making him or her more willing to confront fears. The positive effects of training were not, however, maintained over time. The difference may have been due to the make-up of the sample as well as the limited number of training sessions. According to Freeman, Pretzer, Fleming, and Simon (1990) cognitive-behavioral therapy for treating anxiety can take between six months and a year to be completed.

Cognitive-behavioral training can be performed easily by paraprofessionals which minimizes the cost of providing the services. Elderly adults can be trained in anxiety reduction techniques in the office or at the bedside in a hospital setting. Elderly may have difficulties with adjustment when they are taken out of their homes and placed in a nursing home environment. They may tend to worry excessively and feel helpless in the situation. Cognitive-behavioral training can help reduce the worry by teaching the elderly effectively cope with the thoughts and feelings. The present study supports the use of cognitive-behavioral techniques. After five

weeks of intervention between pre-test and post test, a significant reduction in the severity of anxiety was noted. However, the significant difference was not maintained between post test and delayed post-test. This finding is in contrast with that of Hocking and Koening (1995) and Steuer et al. (1984). The author would recommend future research involving a more heterogenous sample and extending the number of training samples.

# REFERENCES

Alexopoulos, G. S. (1991). The epidemiology of anxiety disorders in the elderly: An age comparison. In Salzman, C., & Lebowitz B. D. (Eds.), Anxiety disorders in the elderly: Treatment and research (pp. 131-150). New York: Springer.

American Psychiatric Association. (1987). Diagnostic and statistical manual of mental disorders. (3rd. Ed., rev.). Washington, DC: Author

Anderson, S. M., & Harthorn, B. H. (1989). The recognition, diagnosis, and treatment of mental disorders by primary care physicians. Medical Care, 27, 869-886.

Beck, A. T., & Steer, R. A. (1993). Manual for the Beck Anxiety Inventory. San Antonio, TX: The Psychology Corporation.

Blazer, D. G., George, L. K., & Hughes, D. (1991). The epidemiology of anxiety disorders in the elderly: An age comparison. In Salzman, C. & Lebowitz, B. D. (Eds.), Anxiety disorders in the elderly: Treatment and research (pp. 17-30). New York, Springer.

Cautella, J. R., & Mansfield, L. A. (1977). A model of training and

clinical service: Behavioral approach to geriatrics: In Gentry, W. D. (Ed.), Geropsychology, pp. 21-42. Cambridge: Balinger Press.

Freeman, A., Pretzer, J., Fleming, B., & Simon, K. M. (1990). Clinical Applications of Cognitive Therapy. New York: Plenum Press.

Gallagher, D., & Thompson, L. W. (1981). Depression in the elderly: A behavioral treatment manual. Los Angles: University of Southern California Press.

Hart, R. P., Colenda, C. C., & Hamer, R. M. (1991). Effects of buspirone and alprazolam on cognitive performance of normal elderly subjects. American Journal of Psychiatry, 148, 73-77.

Himmelfarb, S., & Murrell, S. A. (1984). The prevalence and correlates of anxiety symptoms in older adults. Journal of Psychology, 116, 159-167.

Hocking, L. B., & Koening, H. G. (1995). Anxiety in medically ill older patients: A review and update. The International Journal of Psychiatry in Medicine, 25 (3), 221-238

Hussian, R. A. (1981). Geriatric Psychology: A behavioral perspective. New York: Van Nostrand Reinhold.

Jacobsen, E. (1995). Progressive Relaxation (2nd Edition). Chicago: Chicago University Press.

Katon, W., Von Korff, M., Lin, E., Lipscomb, P., Russo, J., Wagner, E., & Polk, E. (1991). Distressed high utilizers of medical care, DSM-III-R diagnosis and treatment needs. General Hospital Psychiatry, 12, 355-362.

Kay, D. W. K., & Bergmann, K. (1966). Physical disability and mental health in old age. A follow-up of a random sample of people seen at home. Journal of Psychosomantic Research, 10, 3-12.

Lader, M. (1982). Differential diagnosis of anxiety in the elderly. Journal of Clinical Psychiatry, 43, (9), 4-7.

Mishara, B. L. (1978). Geriatric patients who improve in token economy and general milieu treatment programs: A multivariate analysis. Journal of Consulting and Clinical Psychology, 46, 1340-1348.

Morgan, K., Dallosso, H. M., Arie, T., Byrne, E. J., Jones, R., & Waite J. (1987). Mental health and psychological well being among the old and very old living at home. British Journal of Psychiatry, 42, 28-33.

Reiger, D. A., Boyd, J.H., Burk, J.D., Rae, D. S., Myers, J. K., Kramer, M., Robins, L. N., George, L. K., Karno, M., & Locke, B. Z.

(1988). One-month prevalence of mental disorders in the United States: Based on five Epidemiologic Catchment Area sites. Archives of General Psychiatry, 45, 976-977.

Reynolds, C. F., III, Lebowitz, B. D., & Schneider, L. S. (1993). Diagnosis and treatment of depression in late life. Psychopharmacology Bulletin, 29, 83-85.

Sallis, J. F., & Lichstein, K. L. (1982). Analysis and management of geriatric anxiety. International Journal of Aging and Human Development, 15, 197-211.

Schneider, L. S., Pollock, V. E., & Lyness, S. A. (1990). A meta-analysis of controlled trials of neuroleptic treatment in dementia. Journal of the American Geriatrics Society, 38, 553-563.

Scogin, F., & McElreath, L. (1994). Efficacy of psychosocial treatments for geriatric depression: A quantitative review. Journal of Consulting and Clinical Psychology, 62, 69-74.

Shader, R. I., & Greenblatt, D. J. (1982). Management of anxiety in the elderly: The balance between therapeutic and adverse effects. Journal of Clinical Psychiatry, 43, 8-16.

Shiekh, J. I., King, R. J., & Taylor, C.B. (1991). Comparative phenomenology of early-onset versus late-onset panic attacks: A pilot survey. American Journal of Psychiatry, 148, 1231-1233.

Smith, L. S., Sherrill, K. A., & Colenda, C.C. (1995). Assessing and treating anxiety in elderly persons. Psychiatric Services, 46, 36-42.

Solomon, K. (1976). Benzodiazepines and neurotic anxiety. New York State Journal of Medicine, 76, 2156-2164.

Steuer, J. L., Mintz, J., Hammen, C. L., Hill, M. A., Jarvick, L. F., McCarley, T., Motoike, P., & Rosen, R. (1984). Cognitive-behavioral and psychodynamic group psychotherapy in treatment of geriatric depression. Journal of Consulting and Clinical Psychology, 52, 180-189.

Swearer, J. M., Drachman, D. A., O'Donnell, B. E., & Mitchell, A. L. (1988). Troublesome and disruptive behaviors in dementia: Relationships to diagnosis and disease severity. Journal of American Geriatric Society, 36, 784-790.

Thomasma, M., Yeaworth, R. C., & McCabe, B. W. (1990). Moving day: Relocation and anxiety in institutionalized elderly. Journal of Gerontological Nursing, 16, 18-25.

Thompson, L. W. (1996). Cognitive-Behavioral therapy and treatment for late life depression. Journal of Clinical Psychiatry, 57, (suppl 5), 29-37.

Tyrer, P., Casey, P. R., Seivewright, H., & Seivewright, N. (1988). A survey of the treatment of anxiety disorders in general practice. Postgraduate Medical Journal, 64 (suppl 2), 27-31, 1988.

Weissman, M. M., Myers, J. K., Tischler, G. L., Holzer, C. E., Leaf, P. J., Orvalschel, H., & Brody, J. A. (1985). Psychiatric disorders (DSM-III) and cognitive impairment among the elderly in a U. S. urban community. Acta Psychiatrica Scandanavia, 71, 366-379.

Wells, K., Golding, J., & Burnam, M. (1988). Psychiatric disorder in a sample of the general population with and without chronic medical conditions. American Journal of Psychiatry, 145, 976-981.

Wolpe, J. (1973). The practice of behavioral therapy (2nd ed.). New York: Pengamon.

# Appendix A

## Literature Review

The elderly population has steady increased over the last decade. In the early 1900's 4% of the population in the United States was over the age 65. Today nearly 13% of the population is over the age 65. By the year 2020 the number of adults over 65 should grow to at least 15% of the population (Park, 1991). Anxiety disorders pose a significant mental health problem for older Americans. According to Reiger, Boyd, Burke, Rae, Wyers, Krammer, Robins, George, Karno, and Locke (1988), and Weissman, Myers, Tichler, Holzer, Leaf, Orvaschel and Brody (1985), anxiety disorders are four to seven times more prevalent than depressive disorders in older adults. Although there has been an increased interest in the impact and treatment of anxiety disorders in the younger age groups, few studies are available on the impact and treatment of anxiety disorders in the elderly. The review of literature will discuss the symptoms of anxiety in the elderly, the etiology of the anxiety, and the treatment of the anxiety disorders.

## Anxiety in the Elderly

Anxiety is a mood state characterized by marked negative affect and somatic symptoms of tension in which a person apprehensively anticipates

future danger or misfortune. The response originates in the brain and typically involves a subjective sense of unease and a physiological response such as an elevation in heart rate or muscle tension (Barlow & Duran, 1995). The fundamental purpose of anxiety seems to be to help one plan for the future, taking into consideration everything that might go wrong so that one will be prepared. Liddell (1949) described anxiety as the "shadow of intelligence." The author purported that the ability to plan in some detail for the future was connected to the experience of anxiety.

Anxiety in primary care patient populations ranges from 5% to 30% (Oxman, Barrett, Barrett, & Gerber 1987; Zung, Magruder-Habib, Valez, Alling 1986). Prevalence rates of anxiety among the elderly in long term acute-care facilities without cognitive impairment is approximately 10% to 20% of those aged 60 years or older (Jenike, 1994).

Research lists multiple reasons for the prevalence of anxiety in the elderly (Smith et al. 1995). For some, old age is a time for retirement, relaxation, and pursuing forgotten or neglected hobbies. For others, it is a time of intense anxiety resulting from feelings of loneliness, worthlessness, and uselessness. The elderly may experience sadness due to multiple losses

and fear isolation or death. Chronic illness, financial difficulties, and diminished sensory and general functional capacities also take a toll. These and other problems challenge the elderly's sense of security, self-esteem, and poise, and increase the risk of experiencing the subjective symptoms of anxiety.

Etiology of Anxiety

Identifying those at the greatest risk depends on the clinician's theoretical perspective. Each perspective provides a somewhat different etiological understanding. Traditional psychodynamic theory states that anxiety results from conflicts over unconscious wishes. Freud introduced the theory of "signal anxiety," in which the symptoms of anxiety alerts the individual to the need for invoking defense mechanisms, to lessen the anxiety (Smith, Sherrill & Colenda (1995). An object relations approach suggests that anxiety originates from the child's experience of separation from the mother (Fairbairn, 1963; Guntrip, 1969; & Spitz, 1965). When a satisfying object is not available in later life, the individual may re-experience the original separation anxiety. The feelings are primal and experienced with great intensity.

The behavioral approach states that anxiety stems from classical conditioning. An unconditioned stimulus is paired with a conditioned stimulus which then initiate the unconditioned response. The theory of conditioned responses can be applied in the clinical setting to several types of anxiety disorders. A relatively neutral event through paired association triggers an intense anxiety or panic response in the individual. Instrumental conditioning occurs when the individual's behavior is linked to an outcome (Pavlov, 1927). Through instrumental conditioning individuals learn which behaviors and which coping mechanisms will be most effective in diminishing anxiety. When behaviors have both positive and negative consequences the conflict intensifies (Bachrach, 1985).

According to the cognitive model the anxious individual's thinking is dominated by themes of danger. The patient anticipates threats to self or their family. The threats can be physical, psychological, or social in nature. The fears are based on the person's exaggerated conception of specific harmful attributes of a situation. The thinking of the anxious individual is characterized by repetitive thoughts about danger that takes the form of verbal or pictorial cognitions about the occurrence of harmful events. A

number of cognitive factors work together in the development and maintenance of the anxiety. An individual's perception of each situation is shaped by their beliefs and assumptions, and can be biased by any cognitive distortions that occurs. If the individual feels threaten he or she will automatically evaluate the degree of the threat as well as his or her ability for handling the situation. If one perceives a stimulus as dangerous but is convinced he or she will be able to safely deal with the danger, the stimulus is less of a threat and causes less anxiety. However, if one has low self-efficacy and feels incapable of dealing with the danger, the anxiety is increased.

Recent advances in neurobiology show that four neurotransmitter systems, the noradrenergic system, the mesocortical dopaminergic system, the serotonergic, and the gammaminobutyric acid (GABA) system, are linked to the bio-chemistry of anxiety states and disorders (Dubovisky, 1990; Hommer, Skolnick, & Paul, 1987). Recent research suggests that over activity of the nucleus locus ceruleus and the ascending noradrenergic system may be causally linked to anxiety attacks (Paul, 1988). The alternations of the neurotransmitter systems may directly contribute to an individual's

perception and modulation of anxiety.

Diagnosis of Anxiety Disorders

According to Smith, et al. (1995), the symptoms of an anxiety disorder may stem from symptoms that are associated with a medical illness, symptoms that are appropriate to a given life stressor, or symptoms that are associated with a specific anxiety disorder or other psychiatric disorder. Elderly anxious clients may present with cognitive, emotional, or physical complaints. Often the person reports trouble with memory, feelings of dizziness or faintness, difficulty sleeping, and problems with appetite. Some complain of "going crazy" or fear of having a heart attack. Anxiety can mimic a medical illness, be a secondary complication of it, or be the manifestation of a significant underlying medical or psychiatric disorder (Hocking & Koening, 1995). According to Blazer, George and Hughes (1991) drug abuse or withdrawal may be manifested as anxiety disorders.

The initial assessment of the anxious elderly must include a medical history, mental status, and a functional status report. The medical history should include information about past medical and psychiatric illnesses as well as information on current medications. A through mental status exam

needs be performed with special attention to cognition, affect, and psychotic symptoms. The functional status needs to be obtained from both the patient and family to assess the impact of the anxiety symptoms and to monitor treatment. A family and social history helps identify stressors or losses that might contribute to the symptoms. According to Jenkie (1989), the client needs to be observed for physiological signs or symptoms of tachycardia, diaphoresis, and trembling. Basic laboratory test including a complete blood count, vitamin B 12 and folate levels, electrocardiogram, thyroid function test, blood glucose, blood gases, and alcohol and drug levels are helpful in differentiating the diagnosis. Elderly patient may present for the first time in late life with an anxiety disorder, such as generalized anxiety disorder or panic disorder, however, late-onset anxiety is often associated with an underlying illness.

Those with a chronic physical illness are particularly vulnerable to developing psychiatric disorders. According to the National Institute of Mental Health (NIMH) those with chronic medical conditions are nearly twice as likely to develop anxiety disorders. More than 11% of those individuals with chronic medical conditions involved in the research had

recently been diagnosed with an anxiety disorder (Wells, Golding, & Burnam 1988). Stein, Heuser, Juncos, and Uhde (1990), found that 38 percent of patients with idiopathic Parkinson's disease fulfilled the criteria for an anxiety disorder. Patients with early dementia also had a significant risk of developing of an anxiety disorder (Wands, Merskey, Hachinski, Fisman, Fox, & Boniferro, 1990). The chronically medically ill patients with an anxiety disorder use health care services at a higher than expected rate. Mental health consultation has been shown to positively influence both the diagnosis and treatment of these patients. Katon, Korff, Lipscomb, Russo, Wagner and Polk (1990) found that 21.8% of distressed high utilizers of medical care were found to have generalized anxiety disorder. Mental health consultation led to an improved diagnostic assessment for 40% of the patients and a revision in the treatment plans for 67% (Hocking & Hocking 1995).

Panic attacks frequently occur in patients with medical illnesses such as chronic obstructive pulmonary disease (Yellowlees & Alpers 1987), Parkinson's disease (Stein, Heuser, et al, 1990), chronic pain (Katon, Egan, & Miller 1985), post-myocardial infraction (Kahan, Drusin & Klein 1987), and biliary cirrhosis (Tarter, Hayes, Carra, Edwards & Van-Thiel 1989).

According to the authors panic attacks aggravate the medical conditions and often result in increased mortality. The increased mortality mainly stems from suicides. Patients with panic attacks have impairments in physical health and used health care facilities, emergency rooms, and psychoactive drugs at an increased rate (Klerman, Weissman, Ouellette, Johnson & Greenwald 1991). The panic disorders are generally chronic. Late-onset is typically characterized by fewer symptoms. According to Blazer et al. (1991) the panic disorders are often characterized by excessive fear. The fear develops as a consequence of illness or the circumstances related to treatment. The fear is persistent and often isolates the elderly. Isolated, the elderly do not avail themselves to treatment. The majority of elderly never receive any treatment for the fear, despite the severe social impairment associated with the symptoms.

The elder population may also be at risk for post-traumatic stress disorder (PTSD) due to traumatic medical experiences. The disorder may develop after cardiac arrest and resuscitation, or after other traumatic diagnostic or therapeutic procedures. Sheikh (1992) found that PTSD in the elderly was virtually overlooked. The author stated that the disorder was not

accurately or adequately detected in the elderly.

Blazer et al, (1991) found that the hospitalization of the elderly for medical problems disrupts the daily routine and causes significant anxiety. Anticipating the disruption the elderly often resist hospitalization. Other disorders such as alcohol abuse or withdrawal after hospitalization may manifest as an anxiety disorder.

Treatment

Generalized anxiety disorder, panic disorders, phobias or fears of medical procedures, post-traumatic stress disorder, and obsessive-compulsive disorder are particularly responsive to cognitive-behavioral techniques (Hocking & Koening 1995). Cognitive-behavioral therapies focus on changing behavior and restructuring interactions that occur in the real world here and now. The clinician is less concerned with the origins of the behaviors. The basic principle is that no matter when or why a behavior started, its persistence depends on feedback from the experiences with situations or people in the present environment (Beck, Emery & Greenberg 1985). According to Cautella and Mansfield (1997), although it takes more sessions cognitive-behavioral therapy has been shown to be effective in older

adults.

Progressive muscle relaxation has been useful in treating the anxiety disorders (Jacobsen, 1938). Progressive muscle relaxation involves systematically tensing and relaxing the muscle groups, typically in combination with rhythmic breathing and visualization. The technique has been used to reduce the dyspnea, anxiety, and airway obstruction in patients with chronic pulmonary disease (Gift, Moore & Socken 1992). Systematic desensitization has also been used successfully in the treatment of the anxiety disorders (Wolpe 1973). The method combines muscle relaxation, visualization of the anxiety-provoking stimulus, and desensitization of the stimulus by associating it with a deeply relaxed state. Systematic desensitization has been most successful in the treatment of phobias, obsessions, and compulsions.

Hypnosis and environmental manipulation have also been helpful in the reduction of anxiety (Hocking & Koening 1995; Kaye & Schindler 1990). Hypnosis has been demonstrated to be effective in a broad range of medically ill hospitalized patients in the reduction of the symptoms of anxiety. Environmental manipulation such as memory aids, orienting devices, and

time structuring also has been effective in managing the anxiety in elderly adults.

Psychopharmacologic treatment of anxiety in elderly patients should be an option when the underlying causes of the anxiety are associated with medical illnesses and nonpharmacological approaches have not been helpful (Anderson & Harthorn 1989; Sallis & Lichstein 1982; and Tyrer, Casey, Seivewright, Seivewright 1988). According to the authors, surveys of the treatment of anxiety indicate that drug therapy with antidepressants or benzodiazepines is the most common mode of therapy. The clinician must remember that older patients have twice as many as adverse side effects and drug interactions compared to younger patients (Thompson, Moran, & Neis 1983). The use of drugs often result in increased hip injuries, cognitive impairments, confusion, and disorientation. Buspirone has been demonstrated to have the therapeutic efficacy equivalent to that of the benzodiazepines with less potential for excess sedation and no adverse effects on cognition (Levine, Napoliello & Domantary 1989; Napoliello 1986; and Sing, & Beer 1988).

Antidepressants such as imipramine and the monoamine oxidase

inhibitor phenelzine have been shown to be effective in the treatment of anxiety disorders ( Pollack & Otto 1994). Although beta-blockers and antidepressants are commonly used to treat anxiety, no controlled clinical trials have been done to demonstrate efficacy in anxious elderly patients. The prevalence of co-morbid depression and anxiety, however, suggests that antidepressants therapy may result in a significant reduction of symptoms.

Overall there is a limited amount of research which deals with anxiety in the elderly. Some studies support a psychological approach while others recommend a pharmacological approach. Given the negative effects of drugs, research is needed that evaluates the efficacy of psychological approaches in the treatment and the elimination of the anxiety disorders.

## REFERENCES

Bachrach, A. J. (1985). Learning theory. In comprehensive textbook of psychiatry (4th ed.). Baltimore: Williams & Wilkins.

Blazer, D. G., George, L. K., & Hughes, D. (1991). The epidemiology of anxiety disorders in the elderly: An age comparison. In Salzman, C. & Lebowitz, B. D. (Eds.), Anxiety disorders in the elderly: Treatment and research (pp. 131-150). New York: Springer.

Barlow, D. H., & Durand, V. M. (1995). Abnormal psychology: An integrative approach. Pacific Grove: Brooks/Cole.

Beck, A. T., Emergy, G., & Greenberg, R. L. (1985). Anxiety Disorders and Phobias: A Cognitive Perspective. New York: Basic Books.

Cautella, J. R., & Mansfield, L. A. (1977). A model of training and clinical service: Behavioral approach to geriatrics: In Gentry, W. D. (Ed.), Geropsychology, pp. 21-42. Cambridge: Balinger Press.

Dubovisky, S. L. (1990). Generalizes anxiety disorder: New concepts and psychopharmacological therapies. Journal of Clinical Psychiatry, 51, 3-10.

Fairbairn, W. (1963). Synopsis of object relations theory of the personality. International Journal of Psychoanalysis, 44, 224-226.

Gift, A. G., Moore, T., & Soeken, K. (1992). Relaxation to reduce dyspnea and anxiety in COPD patients. Nursing Research, 41, 242-246.

Guntrip, H. (1969). Schiziod Phenomena, Object Relations and the Self. New York, International Press.

Hocking, L. B., & Koening, H. G. (1995). Anxiety in medically ill older patients: A review and update. The International Journal of Psychiatry in Medicine, 25, (3), 221-238.

Hommer, D. W., Skolnick, P., & Paul, S. M. (1987). The benzodiazepine/GABA receptor complex and anxiety, in psychopharmacology: The Third Generation of Progress. New York: Raven.

Jenike, M. A. (1989). Anxiety disorders of old age. Geriatric Psychiatry and Psychopharmacology, pp. 248-271. Chicago: Yearbook Publishers.

Jenike, M. A. (1994). Psychiatric disorders in the elderly. In Albert, M. L., Knoefel, J. E., (Eds.). Clinical Neurology of Aging, (2nd ed.). New York: Oxford University Press.

Kahan, J. P., Drusin, R. E., & Klein, D. F. (1987). Idiopathic cardiomyopathy and panic disorder: Clinical association in cardiac transplant candidates. American Journal of Psychiatry, 144, 1327-1330.

Kaye, J. M. & Schindler, B. A. (1990). Hypnosis on a consultation-liaison service. General Hospital Psychiatry, 12, 379-383.

Katon, W., Egan, K., & Miller, D. (1985). Chronic pain: Lifetime psychiatric diagnoses and family history. American Journal of Psychiatry, 142, 1156-1160.

Klerman, G., Weissman, M., Ouellette, R., Johnson, J. & Greenwald, S. (1991). Panic attacks in the community. Social morbidity and health care utilization. Journal of the American Medical Association, 265, 742-746.

Katon, W., Von Kroff, M., Lin, E., Lipscomb, P., Russo, J., Wagner, E., & Polk, E. (1991). Distressed high utilizers of medical care, DSM-III-R diagnosis and treatment needs. General Hospital Psychiatry, 12, 355-362.

Levine, S., Napoliello, M. J. & Domantary, A. G. (1989). Open study of buspirone in octogenarians with anxiety. Human Psychopharmacology, 4, 51-53.

Liddell, H. S. (1949). The role of vigilance in the development of

animal neurosis. In P. Hoch & J. Zubin (eds.), Anxiety. New York: Grune & Stratton.

Napoliello, M. J. (1986). An interim multicentre report on 677 anxious geriatric outpatients treated with buspirone. British Journal of Clinical Practice, 40, 71-73.

Oxman, T.E., Barrett, J. E., Barrett, J., & Gerber, P. (1987). Psychiatric symptoms in the elderly in a primary care practice. General Hospital Psychiatry, 9, 167-173.

Parks, D. (1991). Aging cognition and work. Human Performance. 7, 181-205.

Paul, S. M. (1988). Anxiety and depression: A common neurobiologic substrate. Journal of Clinical Psychiatry, 49, 13-16.

Pavlov, I. V. (1927). Conditioned Reflexes. Translated by Anrep G. London: Oxford University Press.

Pollack, M. H., & Otto, M. W. (1994). Long-termed pharmacological treatment of panic disorder. Psychiatric Annals, 24, 291-298.

Reiger, D. A., Boyd, J. H., Burk, J. D., Rae, D. S., Myers, J. K., Kramer, M., Robins, L. N., George, L. K., Karno, M., & Locke, B. Z.

(1988). One-month prevalence of mental disorders in the United States: Based on five Epidemiologic Catchment Area sites. Archives of General Psychiatry, 45, 976-977.

Sheikh, J. I. (1992). Anxiety disorders and their treatment. Clinics in Geriatric Medicine, 8, 411-426.

Singh, A. N. & Beer, M. (1988). A dose range finding study of buspirone in geriatric patients with symptoms of anxiety. Journal of Clinical Psychopharmacology, 8, 73-77.

Smith, L. S., Sherrill, K. A., & Colenda, C. C. (1995). Assessing and treating anxiety in elderly persons. Psychiatric Services, 46, 36-42.

Spitz, R. (1965). The First Year of Life. New York: International Universities Press.

Stein, M. B., Heuser, I. J., Juncos, J. L. & Uhde, T. W. (1990). Anxiety disorders in patients with parkinson's disease. American Journal of Psychiatry, 147, 217-220.

Tarter, R. E., Hays, A. L., Carra, J., Edwards, K. L. & Van-Theil (1989). Sjogren's syndrome: Its contribution to neuropsychiatric syndrome in patients with primary biliary cirrhosis. Digestive Diseases and Sciences,

34, 9-12.

Thompson, T. L., Moran, M. G. & Neis, A.S. (1983). Psyhcotropic drug use in the elderly part 1. New England Journal of Medicine, 308, 134-138.

Tyrer, P., Casey, P. R., Seivewright, H. & Seivewright N., (1988). A survey of the treatment of anxiety disorders in general practice. Post Graduate Medical Journal, 64, (suppl 2), 27-31.

Wands, K., Merskey, H., Hachinski, V., Fisman, M., Fox, F., & Boniferro, M. (1990). A questionnaire investigation of anxiety and depression in early dementia. Journal of the American Geriatrics Society, 38, 535-362.

Weissman, M. M., Myers, J. K., Tischler, G. L., Holzer, C. E., Leaf, P. J., Orvalschel, H., & Brody, J. A. (1985). Psychiatric disorders (DSM-III) and cognitive impairment among the elderly in a U. S. urban community. Acta Psychiatrica Scandanavia, 71, 366-379.

Wells, K., Golding, J., & Burnam, M. (1988). Psychiatric disorder in a sample of the great population with and without chronic medical conditions. American Journal of Psychiatry, 145, 976-981.

Wolpe, J. (1973). The Practice of Behavior Therapy (2nd ed). New York: Pergamon Press..

Yellowlees, P. M., Alpers, J. H., Bowden, J. J., & Bryant, G. D., & Ruffin, R. E. (1987). Psychiatric morbidity in subjects with chronic airflow obstruction. Medical Journal of Australia, 146, 305-307.

Zung, W. K., Magruder-Habib, K., Valez, R., & Alling, W. (1990). The comorbidity of anxiety and depression in general medical patients: A longitudinal study. Journal of Clinical Psychiatry, 51, (June suppl), 77-81.

# Appendix

## Beck Anxiety Inventory

BAI®

NAME _____ DATE _____

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY, by placing an X in the corresponding space in the column next to each symptom.

| | NOT AT ALL | MILDLY<br>It did not bother me much. | MODERATELY<br>It was very unpleasant, but I could stand it. | SEVERELY<br>I could barely stand it. |
|---|---|---|---|---|
| 1. Numbness or tingling. | | | | |
| 2. Feeling hot. | | | | |
| 3. Wobbliness in legs. | | | | |
| 4. Unable to relax. | | | | |
| 5. Fear of the worst happening. | | | | |
| 6. Dizzy or lightheaded. | | | | |
| 7. Heart pounding or racing. | | | | |
| 8. Unsteady. | | | | |
| 9. Terrified. | | | | |
| 10. Nervous. | | | | |
| 11. Feelings of choking. | | | | |
| 12. Hands trembling. | | | | |
| 13. Shaky. | | | | |
| 14. Fear of losing control. | | | | |
| 15. Difficulty breathing. | | | | |
| 16. Fear of dying. | | | | |
| 17. Scared. | | | | |
| 18. Indigestion or discomfort in abdomen. | | | | |
| 19. Faint. | | | | |
| 20. Face flushed. | | | | |
| 21. Sweating (not due to heat). | | | | |

THE PSYCHOLOGICAL CORPORATION®
Harcourt Brace & Company
SAN ANTONIO
Orlando • Boston • New York • Chicago • San Francisco • Atlanta • Dallas
San Diego • Philadelphia • Austin • Fort Worth • Toronto • London