5-2005

The Effect of Anger Management and Communication Training on Functional and Quality-of-Life Status in Fibromyalgia Patients

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THE EFFECT OF ANGER MANAGEMENT AND COMMUNICATION TRAINING ON FUNCTIONAL AND QUALITY-OF-LIFE STATUS IN FIBROMYALGIA PATIENTS

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPY

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

2005

ABSTRACT

The Effect of Anger Management and Communication Training on Functional and Quality-of-Life Status in Fibromyalgia Patients

by

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Fibromyalgia syndrome (FMS) is a debilitating condition that affects millions of individuals throughout the world. As of yet the specific etiology of this condition remains unknown and successful treatments remain in their infancy. Although several studies have focused on the emotional components of fibromyalgia, none have specifically addressed the issues of communication and anger that appear to be important among this patient population. The objectives of this study were to design a 4-week experimental group therapy treatment based on successful cognitive behavioral components and add anger management and communication components in an attempt to increase benefits to the overall well-being of patients.

Subjects were 46 fibromyalgia patients recruited from physicians, chiropractors, and physical therapists as well as through newspaper, radio, and advertising through flyers. Patients who were accepted into the study were randomly assigned to either a treatment group or a wait-list control group, with the control group receiving the treatment in the month following the treatment group. Outcomes were assessed using a repeated measures analysis of variance with one within-

(time) and one-between subjects (group) factor. The five assessment measures utilized in this study were the Fibromyalgia Impact Questionnaire (FIQ), the Short-Form 36 (SF-36) Version 2, the Chronic Pain Self-Efficacy Survey (CPSS), the State Trait Anger Expression Inventory- 2 (STAXI-2) and a communication inventory developed specifically for this intervention. Specific outcomes measured included change on fibromyalgia-specific symptoms and physical and emotional health-related status, improvement in communication, change in anger scores, and changes in levels of self-efficacy.

Analysis of patient outcome data revealed that significant results were achieved in the areas of mental health and communication variables. In addition, several notable effect sizes were also found, particularly in the areas of vitality (-.97), mental health (-.76) and pain management (-1.17). Results demonstrated that a brief, cost-effective 4-week intervention can have a beneficial impact for FMS patients in the area of psychological function. Implications of these findings are discussed within the context of the existing literature on fibromyalgia treatment as well as in terms of possible limitations of the study as it was conducted.

(256 pages)

DEDICATION

To my father and best friend, Arthur McLean Stillman, Ph.D, the original AMS, whose support and wisdom have helped me navigate the roughest of seas. Thank you, BB.

Alexandra Michèle Stillman (SG)

ACKNOWLEDGMENTS

This project represented a significant undertaking as well as a considerable amount of risk. I would like to express my appreciation to all of the individuals who provided me with support throughout this project. I would like to thank my co-chairs for their advice and encouragement throughout this endeavor. Dr. Scott DeBerard was especially generous with his time and guidance. His patient explanations and statistical expertise made this project seem less daunting. Dr. Susan Crowley was also readily available with a firm hand and calming words, which were much appreciated. I am grateful to have had such a wonderful team to guide me through this project. I am also thankful to my committee members (Dr. Kevin Masters, Dr. David Stein, Dr. Dennis O'Dell) for their helpful advice in shaping this project and seeing it to completion. I would also like to extend a special word of thanks to Dr. Kerstin Schroder for her assistance with statistical consultations.

I would like to thank my outstanding research assistant and project coordinator, Kelli Fife, whose efforts above and beyond her assigned responsibilities made this project a true success. To my team of graduate student therapists, Janet Carter, Clayton Manning, Jennifer Fallon, Tera Lensegrav-Benson, Bryan Bushman, and Daniel Hatch, my sincere appreciation for delivering a superb intervention.

Finally, I would like to thank my family and friends for supporting me in a different way. To my mother in particular, for her unending support and making an effort to help me focus on things other than my dissertation (and for refusing to learn the title!), and to my uncles, Joe and Bob, for reasons they both know well, my love and thanks.

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CHAPTER I

INTRODUCTION

Fibromyalgia syndrome is a painful, nonarticular condition that primarily involves skeletal muscles. It has been established as the most common cause of chronic widespread musculoskeletal pain and is characterized by tenderness in at least 11 of 18 specific localized areas known as tender points (Csillag, 1992; Wolfe et al., 1990). Point prevalence calculations find that approximately 3.7 million Americans meet the criteria for this condition, and it is estimated that these patients spend up to $14 billion in medical expenses annually. There remains, however, much uncertainty as to the exact causes of fibromyalgia syndrome (FMS; Lawrence et al., 1998; Wallace & Wallace, 2002).

Patients with FMS often find themselves overwhelmed by the magnitude of symptoms that tend to occur with this syndrome, which appears to wax and wane in a very unpredictable manner even during the course of a single day without apparent reason (Burckhardt & Bjelle, 1996; National Fibromyalgia Partnership, Inc., 2001). Typical symptoms associated with fibromyalgia include stiffness upon awakening or after prolonged periods of inactivity, headaches, facial pain, sleep disturbances, cognitive changes, gastroinstestinal complaints, genito-urinary problems, paresthesia, myofasical trigger points, chest symptoms such as mitral valve prolapse, disequilbrium, restless leg syndrome, allergic symptoms, severe fatigue, widespread pain, skin complaints and psychological concerns such as depression and anxiety (National Fibromyalgia Partnership, Inc.).

Fibromyalgia patients frequently rely on their families and physicians for support (Bolwijn, van Santen-Hoeufft, Baars, Kaplan, & van der Linden, 1996; Hallberg & Carlsson, 1998). Often, however, because many of these patients fail to demonstrate abnormalities upon objective medical testing, some physicians become skeptical that these individuals are actually

experiencing such a wide range of symptoms and tend to view them as "difficult, dysphoric or problem patients" (Malterud, 1998, p. 195). The patient is frequently dismissed as someone who is somatizing or seeking some type of secondary gain, rather than having a "legitimate" problem (Hallberg & Carlsson; Malterund; Okifuji, 1994, p. 37).

This rejection by the medical community is often paralleled by confusion in the families of the patients who also may become perplexed by the amount of pain and distress experienced by their loved one in the absence of a visible and medically testable illness (Roy, 1989). As a result of this lack of understanding by individuals whom they have come to rely upon for support, patients who are already experiencing pain and frustration experience even more disappointment and anger (Hallberg & Carlsson, 1998; Okifuji, Turk, & Curran, 1999).

Anger and frustration have been shown to have a negative impact on many physical health conditions including hypertension, coronary heart disease, diabetes and cancer. These emotions have been similarly hypothesized to play a role in the experience of chronic pain (Kerns, Rosenberg, & Jacob, 1994). It has also been hypothesized that it is especially those individuals who suppress their anger, or experience a conflict in the expression of their anger, that have particularly intense difficulty with pain as this inhibition is thought to increase pain sensitivity by lowering endogenous opioid levels in the body (Beutler, Engel, Oro'-Beutler, Daldrup, & Meredith, 1986). In addition, it is thought that the emotion of anger may be closely tied to the experience of depression felt by many chronic pain patients and that the suppression of anger may be a key to the underlying pathogenesis of depression (Kerns et al.,1994).

Although the literature has not specifically addressed the role of anger in fibromyalgia, it seems reasonable to infer that the same principles apply to this condition as it has to other types of chronic pain. It is especially relevant to note that the emotion of anger is known to create increased tension throughout the body. Empirical evidence supports the relationship between the suppression

of angry feelings and increased peripheral resistance (Schwartz, Weinberger, & Singer, 1981), which leads to a reasonable speculation that many fibromyalgia patients who suppress their anger may experience increased muscle tension, leading to an overall experience of elevated pain levels and a perpetuation of the chronic pain cycle (Kerns et al., 1994).

Interventions that have targeted chronic pain have frequently emphasized improvement of coping skills and have sought to reduce various components of distress through a combination of exercise, relaxation training, psychoeducation and cognitive-behavioral group psychotherapy (Adler, 1980; Basler, 1993; Cole, 1998; Corbishley, Hendrickson, Beutler, & Engle, 1990; Cummings & Trabin, 1980; Dahl & Fallstrom, 1989; Kowarsky & Galzier, 1997; Mobily, Herr, & Kelley, 1993; Pinsky, 1978; Rybarczyk, DeMarco, DeLaCruz, Lapidos, & Fortner, 2001; Toomey & Sanders, 1983; Weir, Woodside, & Crook, 1988). Similar multimodal interventions have been applied to the treatment of fibromyalgia (Bennett et al., 1996; Buckelew et al., 1998; Ferraccioli et al., 1987; Gatchel & Turk, 1999; Goldenberg et al.,1994; Haanen et al.,1991; Keel, Bodoky, Gerhard, & Muller, 1998; Kogstad & Hintringer,1993; Mengshoel, Forseth, Haugen, Walle-Hansen, & Forre, 1995; Nielson, Walker, & McCain, 1992; Wigers, Stiles, & Vogel, 1996). It appears, however, that interventions have not focused specifically on psychotherapy dealing with the problem of anger suppression and with communication between patients, their families and their physicians.

To date there have not been any studies that have explored the possible benefit of adding a specific component to a treatment program for fibromyalgia that addresses the issues of how these individuals experience and either express or suppress anger. Although some studies have acknowledged the presence of anger in these patients, they have not targeted this emotion as a separate component of their intervention (Basler, 1993; Corbishley et al., 1990).

The goal of this study was to address the gap that currently exists in the literature by conducting an intervention that built upon existing work in the area of fibromyalgia therapy. The intervention retained the key components that had demonstrated efficacy in prior studies, namely relaxation skills, psychoeducation and cognitive behavioral therapy, but added an anger management and communication skills component. In so doing it was anticipated that participants would learn skills that would help them to interact more effectively with significant others in their environment and thus gain support and, ultimately, decrease their feelings of isolation and anger.

The proposed intervention consisted of a psychoeducational group therapy intervention designed to enable FMS patients to deal with feelings of anger as well as provide them with coping and communication skill training to assist them in improving their quality of life. Ideally, this intervention would also result in a concurrent reduction in subjective FMS symptoms. The intervention highlighted relaxation training, skill building in the areas of communication, anger awareness, expression and management, cognitive-behavioral group psychotherapy and psychoeducation in coping skills for living with fibromyalgia. If the intervention was successful, subjects would demonstrate reduction in anger; improved communication skills; decreased fibromyalgia symptom distress; a sense of overall improved physical and emotional well-being; and, enhanced quality of life.

The present study sought to determine whether providing FMS patients with a structured psychoeducational group therapy intervention based on relaxation and cognitive behavioral therapy techniques with an added component targeted at improving anger management and communication skills would succeed in reducing reported symptoms as well as improving health-related quality of life. Specific research questions were as follows:

1. What are the characteristics of the study sample patients and are these characteristics comparable to those of FMS patients in the general population?

2. What is the impact of an intervention that targets relaxation, cognitive strategies, anger and communication skills on FMS symptoms as indicated by a change in scores on the Fibromyalgia Impact Questionnaire (FIQ)?

3. What is the impact of the intervention on health-related quality of life as assessed by a change in scores on the Short Form--36 Health Survey (SF-36) version 2 physical and mental health scales?

4. What is the impact of the intervention on participant's anger levels as identified on the State Trait Anger Expression Inventory--2 (STAXI-2)?

5. To what extent would participants feel better equipped to communicate their concerns with significant others in their lives (e.g. spouses, family members, physicians, etc.) as a result of this intervention?

6. What would be the impact of the intervention on participant's report of levels of self-efficacy?

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature is divided into five sections and provides: (a) an overview of fibromyalgia as well as the current controversies surrounding its diagnosis, (b) an examination of the emotional impact of the illness on the patient and her or his support system, (c) an analysis of the role of anger in chronic pain conditions and the significance of this emotion in the exacerbation of these conditions, (d) a review of treatment interventions in chronic pain and FMS, and (e) the rationale for the proposed study.

Description, Prevalence, and Etiology of Fibromyalgia

Description

Fibromyalgia has been a syndrome of great interest since early publications in the 1970s by Smythe and Moldofsky who categorized this disorder, known at the time as "fibrositis" as a "1) widespread aching and stiffness of more than 3 months in duration, 2) tender points in 12 out of 14 [locations in the body], 3) normal [medical] investigations, 4) skin roll tenderness over the upper scapular region, 5) chronic fatigue, 6) emotional disturbance, and 7) morning stiffness" (Cohen & Quintner, 1993, p. 907). Further attempts to refine this diagnosis were made in the 1980s by Yunus and his colleagues who redefined the syndrome as

> 1) generalized aches and pains (or prominent stiffness) in at least three anatomical sites for at least 3 months duration, 2) 5 or more tender points, 3) absence of traumatic injury, structural rheumatic disease, infectious arthropathy, endocrine-related arthropathy, and abnormal laboratory tests, 4) poor sleep, 5) general fatigue, 6) anxiety, 7) headache; irritable bowel; subjective swelling; nonradicular numbness; influence of activity, weather and anxiety. (cited in Cohen & Quintner, 1993, p. 907)

Due to lack of clarity surrounding the definition of this syndrome as well as the lack of

clinical trials in this area, a group of researchers set out to establish a clearer set of criteria by conducting a series of controlled clinical trials in 1986. Out of these investigations came the American College of Rheumatology (ACR) 1990 criteria for the classification of fibromyalgia. According to the newly established criteria, fibromyalgia is diagnosed when a patient demonstrates a history of widespread pain and pain in 11 of 18 tender points (Appendix A; Wolfe et al., 1990). Patients may, therefore, appear very different from one another.

Although these criteria have been established in an attempt to provide diagnostic reliability, there still remains a great deal of controversy surrounding the definition of this syndrome. In particular, the criticism centers around the fact that the final criteria are excessively vague and provide what has been termed a model of "circular causality" without a "pathophysiological explanation" (Cohen & Quintner, 1993, pp. 906-907). Opponents argue that the current criteria are overly inclusive, subject to bias and lack a "gold standard" by which to diagnose and treat patients with this disorder (White & Harth, 2001).

Prevalence

Due in part to the controversies surrounding its diagnosis, it is difficult to obtain accurate statistical measures of the number of individuals who suffer from fibromyalgia. Although some estimates claim that approximately 3-6 million individuals may have FMS and report population-wide prevalences from 2-10 % in the US, it is felt that the higher end estimates may be caused by difficulty in correctly applying the diagnostic criteria. More accurate estimates may in fact be closer to the 2% range (Jacobsen & Bredkjaer, 1992).

To obtain more accurate statistical information regarding the prevalence of FMS in the adult population of the US, a study was conducted in 1995. The researchers examined a sample of 3,006 persons in Wichita, Kansas, according to the presence of pain, widespread pain, and

nonwidespread pain. Their results revealed an overall rate of 2% (95% CI 1.4, 2.7) with 3.4% rate for women and 0.5% rate for men. This study also revealed that the prevalence of FMS increases with age, with the highest values occurring among women in the age group of 60-79 years (> 7.0%; Wolfe, Ross, Anderson, Russell & Hebert, 1995). These estimates were complied by the National Arthritis Data Workgroup based on data obtained from surveys such as the National Health and Nutrition Examination Survey series, which were then linked to the 1990 U.S. Bureau of Census population data in order to calculate national estimates. It was also found that approximately 80% of the persons affected with FMS are female. In addition, although the syndrome is not fatal, symptoms tend to persist over the course of an individual's lifetime and pain levels increase with age (Clauw, 1995; Goldenberg, 1999; Gran, 2003; Mayo Clinic Foundation for Medical Education and Research, 2003; White & Harth, 2001).

Fibromyalgia is one of the most common diagnoses at rheumatology clinics and accounts for 10-20% of new visits each year (Wolfe et al., 1995). In addition, it is believed that a large percentage of new cases may still remain undiagnosed. Estimates of cases seen in primary care practices range from 6-9%. (Affleck et al., 1998; Lindell, Bergman, Petersson, Jacobsson, & Herrstrom, 2000; Schochat, Croft, & Raspe, 1994).

Etiology

The etiology of fibromyalgia is even less understood than its diagnosis. Several theories have been postulated to explain the underlying mechanism behind the symptoms of fibromyalgia. Many of these theories such as the hypervigilance model and the central modulation theory are based on the observation that patients with fibromyalgia tend to exhibit much lower pain thresholds than controls in similar situations (Gatchel & Turk, 1999). Results from such observations have suggested that the basis of FMS may stem from an underlying dysregulation of the central nervous

system or might involve hormonal imbalances in the neuroendocrine system (Gatchel & Turk; Goldstein, 1996; Lindberg & Iwarsson, 2002; Wallace & Wallace, 2000). Other theories posit that fibromylagia could arise from a history of childhood trauma or abuse, occur secondary to an autoimmune disease, result from profound emotional distress, stem from a single major trauma, follow a major infection or occur as a result of poor body mechanics or improper posture (Conley, 1999; Hallberg & Carlsson, 1998; Wallace & Wallace; Walker, Keeegan, Gardner, Sullivan, Bernstein et al., 1997; Walker, Keegan, Gardner, Sullivan, Katon et al., 1997).

Emotional Impact and Ramifications of Fibromyalgia

It is clear that individuals who suffer from FMS experience high levels of distress despite the fact that they may appear to others to be absolutely "normal" from all exterior appearances. This factor is one of the most frustrating aspects of the disorder and one that patients repeatedly find to be most disturbing (Hallberg & Carlsson, 2000; Leake, 2001; Sternbach, 1974). The onset and progression of FMS can be very stressful particularly if the disease results in diminution of work or social life roles (Affleck et al., 1998). In fact, research in the area of personality of chronic pain sufferers has revealed that many felt able to function well premorbidly and were active in almost all areas of their life (Affleck et al.; Hallberg & Carlsson, 2000). In some cases the onset of fibromyalgia can cause feelings of grief and loss that serve to exacerbate a condition that is already difficult to manage (Amir et al., 2000; Kugelmann, 1999; Roy, 1989; Sternbach, 1974).

When faced with an illness that is highly unpredictable and debilitating, many individuals experience a increase in their need for emotional support (Bolwijn et al., 1996). Often times the two primary sources fibromyalgia patients rely on are their families and their physicians (Bolwijn et al.; Hallberg & Carlsson, 2000).

Unfortunately, the confusion and frustration experienced by physicians who find themselves unable to "fix" the problems presented by FMS provides a stark contrast to the desperation of these individuals who need support and reassurance that their pain is real and manageable. At times, physicians who may feel overwhelmed by the needs of FMS patients may react in an impatient and rejecting manner as a result of their own frustration or lack of experience with this illness (Malterud, 1998; Steihaug, Ahlsen, & Malterud, 2002). The impact on FMS patients, however, is that they feel, hurt, rejected, and above all, angry (Malterud).

A major issue that is problematic in the study and treatment of fibromyalgia is the fact that there still remains a tremendous controversy and uncertainty regarding the validity of this syndrome in the medical community. Many physicians remain skeptical that FMS actually exists as a distinct entity or sometimes even at all, especially given the fact that there remains no objective diagnostic measure for this illness (White & Harth, 2001). Although no empirical studies have been conducted at this time to attempt to quantify the exact proportion of physicians who still fail to recognize this illness, many physicians continue to report that they reject the notion of fibromyalgia as a valid diagnosis (Lindberg & Iwarsson, 2002; Quinter, 1992).

Fibromyalgia patients who feel rejected by the health care system may turn to their families for support, but all too often similar frustrations arise in interactions with intimate individuals as well (Roy, 1989). Family members of chronic pain patients are often also "baffled" and "fail to understand the reasons for so much pain and disability in the absence of any visible and discernible pathology. They are often confused and angry, but by and large their emotions towards the patient remain unexpressed" (Roy, 1989, p. 96; Kotarba, 1983). Patients end up feeling blamed, once again, in the absence of a disorder that is seen as legitimate, and the feelings of anger, frustration and isolation may continue to build (Okifuji, 1994).

It stands to reason, therefore, that the onset of this chronic and debilitating illness would bring with it a significant decrease in self-efficacy along with an increase in perceived helplessness and increased levels of anger and frustration (Westbrook & Viney, 1982). A need then exists to provide fibromyalgia patients with new skills to help them negotiate the changes in their lives that have been brought on by this illness, in particular the onslaught of emotions generated by the disabling and frustrating nature of the condition. The objective of these coping skills would be to allow these individuals to empower themselves and regain control over their lives.

Relationship Between Anger and Chronic Pain

Anger has long been implicated as a correlate to poor physical health and as a factor in the experience of chronic pain (Burns, Johnson, Mahoney, Devine, & Pawl, 1996; Gamsa, 1994; Kerns et al., 1994). In terms of primary implications for chronic pain, however, it appears that the focus is more prominent on anger that is suppressed, rather than anger that is expressed outwardly (Okifuji et al., 1999). In addition, from a biological standpoint it has been hypothesized that "blocking of anger and other forms of emotional distress coinciding with chronic stress/pain can deactivate the production of endogenous opioids and natural killer cells; this in turn reduces the body's defense against disease, pain and depression" (Fernandez & Turk, 1995, p. 171; Beutler et al., 1986).

In several instances it has been shown that suppressed anger, whether it occurs due to social or emotional reasons or because individuals lack awareness of the fact that they are feeling angry, appears more common among chronic pain patients than among healthy controls (Okifuji et al., 1999). Individuals who habitually suppress anger also tend to develop somatic symptoms (Catchlove & Braha, 1985). Furthermore it appears that this inhibition of anger is directly related

to pain severity as well as increased emotional concerns (Burns et al., 1996; Corbishley et al., 1990; Fernandez & Turk, 1995; Okifuji et al., 1999).

Given the central role of anger suppression in the proposed perpetuation of the pain cycle, it follows that there would be a link between this dynamic and increases in muscle tension (Schwartz et al., 1981). It seems reasonable to suggest that an intervention to assist fibromyalgia patients in obtaining an improved quality of life should include a component that would address the management and appropriate expression of anger. The challenge in this situation will be to enable the participants to recognize potentially suppressed feelings such as anger in order to be in a position to address them in a manner that is effective.

Communication

Anger among chronic pain patients frequently has a significant impact on those closest to them and causes difficulty in the patterns of communication that occur within these systems (Roy, 1989). As a patient's level of distress increases, so may his or her level of expressed anger. Family members or spouses of these patients may have difficulty adjusting to these varying displays of emotion, may feel alienated themselves and may withdraw their support from these patients at a time when they might in fact need it most (Roy).

Other important issues in terms of communication by chronic pain patients are also noteworthy. In some instances individuals may receive differing levels of support from their families and support systems depending on the way in which their pain or illness is expressed, thus encouraging a more or less adaptive style of interpersonal interaction (Kerns, Haythornthwaite, Southwick, & Giller, Jr., 1990; Turk, Kerns, & Rosenberg, 1992).

Communication patterns that may have been functional during times of health may fray with the onset of illness and pain may become a replacement for other feelings and topics (Roy,

1985; Van Houdenhove, 1991). Thus, for example, while teasing between family members may have been easily accepted prior to the onset of pain or illness, this type of interaction may take on a different connotation once an individual develops a condition that may alter his/her self-concept and ability to interpret this type of attention. Many pain patients experience a decline in their ability to express their needs in an assertive manner and often resort to less effective coping strategies in order to attempt to manage situations over which they no longer feel that they have the control they once experienced (Rueveni, 1990).

It has also been suggested that FMS patients may have trouble with emotional expression in general. This experience, known as alexithymia, refers to "affective deficits in differentiating, identifying, and communicating one's feelings, and to a cognitive style marked by concrete, utilitarian, externally focused thought rather than introspection, fantasy, and daydreaming" (Lumley, Ovies, Stettner, Wehmer, & Lakey, 1996). Alexithymia, understandably, is thought to make interpersonal relationships more difficult and is also hypothesized to further contribute to either the development or maintenance of somatic illnesses (Lumley et al.; Lumley, Stettner, & Wehmer, 1996).

An important objective in an intervention for fibromyalgia patients will be to provide these patients with an understanding of the ways in which their illness has changed the dynamics within their support system. In addition, they will need to learn new skills in order to communicate more effectively with significant others such as family members and physicians, who are also experiencing their own frustration and disappointment at feeling unable to help the individual.

Treatment Interventions in Chronic Pain and Fibromyalgia

Chronic pain conditions are thought to be especially complex as they are often found to be "the endpoint of a dynamic long-standing interaction between biological, psychological, and social

factors" (Hallberg & Carlsson, 1998, p. 11). For this reason the biopsychosocial model of pain, which incorporates all of these factors into the analysis of the pain process, is very valuable to the understanding of both chronic pain conditions and, more specifically, FMS.

Teaching patients how to cope with an illness that is likely to be lifelong, frustrating and touches on almost all aspects of their lives is critical. Much emphasis has been placed in the chronic pain literature on the ways in which patients that suffer from debilitating illnesses cope with these conditions. Particular emphasis has been placed on determining which strategies are more adaptive and which cause exacerbation of such symptoms as pain and depression (Jensen, Turner, Romano, & Karoly, 1991). It is thought that coping strategies in pain patients can be assessed and that typical patterns of coping can predict the level of psychological and physical pain that an individual will experience (Keefe, Affleck, et al., 1997).

Two concepts that appear important in the way in which pain patients cope with their situations are self-efficacy and perceived degree of helplessness (Block, Kremer & Fernandez, 1999). Frequently patients who experience chronic pain tend to report high levels of catastrophizing, which, in turn, tend to raise pain levels and decrease levels of functioning (Geisser, Robinson, & Henson, 1994). In general it has been found that individuals who utilize active coping strategies, such as reinterpreting painful sensations, rather than those who use passive coping strategies such as catastrophizing, experience significantly less pain overall (Keefe, Kasikar-Zuck, et al., 1997; Snow-Turek, Norris, & Tan, 1996).

Attempts to treat fibromyalgia over the past several decades have emerged from a variety of disciplines. Because the syndrome has primarily resided within the medical model, many efforts in treatment have focused on clinical medication trials in an effort to devise a medication regimen that would provide phamacological relief to FMS patients (Rossy et al., 1999; White & Harth, 1996).

More recently, however, focus has been placed on designing multidisciplinary interventions for the treatment of FMS based on the premise that this syndrome encompasses symptoms that require expertise from a variety of disciplines (e.g., medicine, psychology, exercise physiology, etc.). These interventions have frequently been modeled on successful treatments for other types of chronic pain disorders such as rheumatoid arthritis and headaches. Primary components have included: exercise (typically a form of aerobic conditioning or stretching to improve muscle tone and flexibility), relaxation, group therapy (often using a cognitive-behavioral orientation), and some form of psychoeducation directed at providing education about fibromyalgia and its impact on the patient and her or his family or support system (Adler, 1980; Basler, 1993; Cole, 1998; Corbishley et al., 1990; Cummings & Trabin, 1980; Dahl & Fallstrom, 1989; Kowarsky & Glazier, 1997; Mobily et al., 1993; Pinsky, 1978; Rybarczyk et al., 2001; Toomey & Sanders, 1983; Weir et al., 1988).

The rationale for the choice of cognitive-behavioral therapy as well as interpersonal therapy over other treatment modalities in fibromyalgia and other chronic pain interventions is primarily due to the fact that this orientation lends itself well to challenging the often-distorted beliefs held by individuals suffering from chronic pain and depression (Gamsa, 1994; Klerman & Weissman, 1993; Nathan & Gorman, 2002). Several surveys of comorbid psychiatric diagnoses among FMS patients have also revealed that lifetime prevalences of anxiety and depression among this patient population range from 26-71% (Aaron, et al., 1996, Hudson, Goldenberg, Pope, Keck, & Schlesinger, 1992; Hudson, Hudson, Pliner, Goldenberg, & Pope, 1985). Helping patients to improve their adjustment to their pain through appropriate reappraisal strategies is often beneficial as it provides skills that can be used on a long-term basis (Geisser et al., 1994). In addition, the use of group therapy helps to decrease isolation and normalize experiences so individuals can realize that their concerns are not unique.

A review of outcome data from several major FMS intervention studies conducted over the past two decades is provided in Appendix B. In each of these studies either the FIQ or an alternative method of fibromyalgia symptom reporting was utilized in order to monitor change in participant FMS symptoms before and after the intervention. The duration of each study ranged from 3 weeks of daily sessions to weekly meetings for 6 months and follow-up sessions ranged from none to monthly for up to 2 years.

Of the 10 studies reviewed for this analysis, three interventions contained components of exercise, cognitive-behavioral therapy and relaxation, two combined exercise and cognitive behavioral therapy, one combined exercise and relaxation, and one included biofeedback and relaxation. One intervention focused only on cognitive-behavioral therapy, while another included hypnotherapy and biofeedback. A final intervention and relaxation included a specific component of communication skill building and group therapy, in addition to components of relaxation and problem solving.

In terms of FMS symptom improvement as demonstrated by significant effect sizes on either the FIQ or other measure of FMS symptoms, the interventions ranged in efficacy. Two of the three interventions that combined exercise, cognitive-behavioral therapy and relaxation, as well as the intervention that included relaxation, problem solving and a communication component without exercise all failed to find significant results in physical outcomes. The intervention that included the communication, problem solving and group therapy component did report perceived improvements in quality of life in patients versus controls, however. Areas that were notably impacted were: diminished family conflict ($p = 0.03$), increased satisfaction with life ($p = 0.03$), decreased social withdrawal ($p = 0.004$), and an enhanced feeling of relaxation ($p = 0.04$; Kogstad & Hintringer, 1993).

Of the remaining seven interventions, all appeared to have made a significant impact on both the physical and psychological well-being of the patients studied. Effect sizes for FMS symptoms ranged from .40 for the intervention utilizing strictly cognitive-behavioral therapy to 1.46 to the intervention relying on biofeedback and relaxation. Studies measuring outcomes by *p*-values also reported statistically significant results for reduction in FMS symptoms for those studies adding an exercise component to either a purely cognitive-behavioral intervention or one which was combined with relaxation training, In terms of psychological symptoms, a similar pattern of results emerged in which reported effect sizes ranged from .78- 4.33 for intervention that utilized both biofeedback and relaxation. In terms of significant *p*-values for psychological outcomes such as anxiety and depression, only one intervention (Bennett et al., 1996), which combined cognitive-behavioral therapy, exercise and relaxation reported changes in this outcome.

Rationale for Study

The study intended to integrate the needs identified in the review of the literature by creating a structured intervention that would build upon existing work done in the area of fibromyalgia research. Of the studies that have focused exclusively on fibromyalgia, the most effective interventions in terms of symptom reduction (based on reported statistically significant *p*-values or effect sizes as seen in Appendix B), improvement in quality of life, pain, and psychological status, that have not involved medication trials, have all included some component of psychoeducation, exercise, relaxation, and cognitive-behavioral therapy.

The intervention involved the addition of a component that would enable fibromyalgia patients to recognize the anger and frustration that has arisen as a result of the changes in their lives and intended to teach appropriate ways to process anger. There was also a need for these patients to recognize the ways in which their illness may have impacted their interactions with

significant others and to learn skills to communicate more effectively with those who have also been affected by the onset of their illness. By acquiring a sense of mastery over situations that have felt out of control, it was anticipated that these individuals would regain a sense of increased self-efficacy, decreased helplessness and an overall improved quality of life.

CHAPTER III

METHOD

Participants

Participants were recruited by contacting 49 physicians, chiropractors and physical therapists in Logan, Smithfield, Hyde Park and Preston (Appendix C). Advertisements were placed in the local newspapers (*Herald Journal* and *Utah State University Statesman*) over the course of 1 month (Appendix D). Flyers were placed on the Utah State University (USU) campus and in other public places such as local pharmacies and grocery stores. Public service announcements were made on seven local radio stations and run over a period of 1 month. In addition, we had access to 40 potential subjects from a local fibromyalgia support group.

Providers who agreed to participate in this research were provided with preprinted letters signed by the researcher and project co-chairs (Appendix E) for them to mail to their patients. The letter explained the study and asked patients to contact the researcher directly via phone or e-mail. Providers were asked to use their own envelopes to mail out the letters and were reimbursed for the cost as their patients were more likely to open mail sent directly from their providers. Flyers provided a brief description of the study and information about ways to contact the researcher by phone or e-mail. The newspaper ad was similar to the flyer in that it provided a brief description of the intervention and contact information for the researcher. The radio ad followed the same guidelines.

Participants who contacted the researcher were called and asked a few brief screening questions. They were excluded from participation for any of the following reasons: (a) English was not a first language, (b) presence of a major psychotic disorder or schizophrenia, (c) inability to

commit to all four sessions, and (d) desire to participate in an intervention for a disorder other than fibromyalgia.

Based on the fact that Logan is a small community and there is no practicing rheumatologist in the area, it was decided that the specific criteria (i.e., exact number of trigger points) required for the ACR diagnosis of fibromyalgia would be relaxed in favor of a "community" diagnosis of this disorder. The criteria for acceptance into the study, therefore, was self-report by the participant of a positive diagnosis of fibromyalgia by a healthcare provider (physician, physical therapist or chiropractor), which may or may not have occurred according to the ACR criteria.

Participants who called in were told that two groups were being held, one starting in March and one starting in April, and that we were uncertain at this time in which group they would be placed. If a given participant expressed a significant objection (i.e., awareness of an impending vacation) to participation in one or another of the two months, they were assigned to a specific group; otherwise assignment was completely random. This occurred in only one case, and in this specific case the month requested by the participant coincided with the month to which she would have been randomly assigned through the process.

Participants were asked to come to a designated location on the USU campus prior to the start of the intervention to fill out preliminary "registration" paperwork, which included the informed consent form. They were informed that this process would take approximately one hour and they were offered an option of several time slots in which to come in to complete this task. At that time they completed a participant registration and demographic information form (Appendix F), consent forms and the five measures. At that time they were assigned to their group and given the dates to return to the University for their intervention. They were also informed that they would complete the same five measures immediately upon ending the 4-week intervention as well as one

month after completion. At that time the surveys would be mailed to them with a return self-addressed stamped envelope.

In order to determine the minimum number of subjects required to demonstrate a significant interaction effect, a repeated measures power analysis was calculated using an effect size of .40 with a power of 80 and an alpha level of .05. Based on this calculation, it was estimated that a minimum of 40 total participants (20 per condition) would be required in this study overall. It was anticipated that 20 individuals would be assigned to the initial wait list condition and 20 to the intervention. In anticipation of high attrition due to the chronic and difficult nature of FMS, our recruitment goal was 60 participants. The final sample size obtained was 24 for the intervention group and 22 for the control group. Demographic information for the sample is provided in a table presented later in Chapter IV.

Design

This study was a randomized controlled pretest-posttest control-group experimental treatment with repeated measures (pre/post) utilizing one within-subjects (time) and one between-subjects (group) factor. Strengths of this design included the ability for extraneous variables that may have brought about changes in scores other than the actual treatment to be reflected only in the control group, who did not receive the treatment. Only the posttest change scores of the experimental group were able to be attributed to the effects of the treatment. Important limitations to be considered included the fact that the external validity of the design may have been affected by the potential interaction of the pretest with the actual treatment. In other words, the fact that the experiment may have produced significant effects may be due to the mere fact that a pretest was given (Gall, Gall, & Borg, 2003).

The pretest measures were completed for participants in both groups at the initial intake visit. Participants were randomly assigned to a treatment group or a control group. The control group was constructed as a wait list group, which underwent the same intervention as the treatment group as soon as that group had completed the intervention.

All participants were given five measures at the beginning of the study, but only the treatment group underwent the actual intervention in the first 4 weeks. Through process of randomization 27 individuals were initially assigned to the treatment condition and 26 to the control condition, although one participant from the control condition withdrew during the intake interview without completing the intake paperwork and was not able to be replaced.

Procedure

The intervention consisted of a 4-week psychoeducational group therapy intervention. The length of this intervention was chosen due to the difficult and chronic nature of the illness in order to attempt to control for attrition. It was anticipated that even participants who felt as though their FMS symptoms were quite severe would find a 1-month commitment to be a manageable time frame, and that participation would be more likely to be stable by maintaining the duration at this length.

Each session was 2 hours in length and contained 4-10 participants. The time frame was chosen based on the length of a local support group, which runs successfully for 90 minutes, thus indicating that the 2-hour time frame, which included a 10-minute break, was within reason for this group. Three sessions ran concurrently, with two offered in the evening and one in the daytime on a weekend in order to accommodate participant schedules and pain patterns.

Patients were informed that individuals who completed all four sessions would have their names entered into a drawing for a $35 cash prize at the end of the intervention. Two prizes were

awarded at the end of each intervention (i.e., treatment group intervention and control group intervention for a total of four prizes).

Each session was facilitated by a pair (one male and one female) of master's level student therapists. The four sessions were broken down into four parts: review and processing of homework from the previous week, psychoeducation in the topic of the week, instruction in homework for the week, and demonstration and practice in a relaxation technique. The weekly psychoeducational topics were as follows: week 1--basic emotion recognition and relaxation skills; week 2--managing emotions; week 3--communication; week 4--cognitive coping skills. An audiotape containing four different relaxation exercises was provided to each participant during the first session so participants could practice at home.

Material for the relaxation training portions was drawn from a variety of sources including: *The Relaxation & Stress Reduction Workbook (5th Ed.*; Davis, Eshelman, & McKay, 2000); *Thoughts and Feelings: Taking Control of Your Moods and Your Life–A Workbook of Cognitive Behavioral Techniques* (McKay, Davis, & Fanning, 1997); *The Anxiety & Phobia Workbook* (Bourne, 2000); and *The Depression Workbook: A Guide for Living with Depression and Manic Depression* (Copeland, 2001). The therapists demonstrated each exercise in sessions and an audio tape of the recorded exercises, as well as a complete script of the tape was provided for each participant for them to practice on their own at home.

The cognitive-behavioral group therapy portion of the session centered on helping participants to remain focused on their feelings and emotions in the current moment. In addition, the therapists sought to provide direction that included such techniques based in cognitive behavioral theory (CBT), such as reframing and cognitive restructuring, that have proven helpful with chronic pain and fibromyalgia groups in other treatment interventions (Basler, 1993; Goldenberg et al., 1994; Weir et al., 1988).

Material for the "managing emotions" section was drawn primarily from *Overcoming Situational and General Anger: A Protocol for the Treatment of Anger Based on Relaxation, Cognitive Restructuring, and Coping Skills Training* (Deffenbacher & McKay, 2000) and *The Anger Control Workbook* (McKay & Rogers, 2000). Grief and loss information was taken from *Interpersonal Psychotherapy for Depression: Background Concepts* (Klerman & Weissman, 1993). A primary objective was for participants to recognize feelings of anger and loss they were experiencing as a result of their illness and to learn ways to resolve these emotions through effective coping mechanisms rather than suppressing these emotions, which had previously resulted, we hypothesized, in negative outcomes.

The communication skills component was based primarily on material from *Messages: The Communication Skills Book* (McKay et al., 1995) and *The Assertiveness Workbook: How to Express Your Ideas and Stand Up for Yourself at Work and in Relationships* (Paterson, 2000). The final section centering on cognitive coping skills drew on a wide range of resources, primarily from the literature on interventions that have utilized successful coping techniques with fibromyalgia and chronic pain patients (Bennett et al., 1996; Buckelew et al., 1998; Burckhardt & Bjelle, 1999; Ferraccioli et al., 1987; Gatchel & Turk, 1999; Goldenberg, 1999; Goldenberg et al.,1994; Haanen et al., 1991; Keel et al., 1998; Kogstad & Hintringer, 1993; Mengshoel et al., 1995; Nielson et al., 1992; Wigers et al., 1996).

The six therapists were trained in a single 2-hour session by the researcher in a classroom setting. Additional coaching was provided on an individual basis according to the needs of each team/individual following the formal training session. Each therapist was provided with a complete scripted manual of the intervention (Appendix L) as well as a copy of the audio tape containing the recorded relaxation exercises. The researcher was present (although not physically in the treatment

room during the intervention) at each of the 24 intervention sessions to answer participant questions and to provide support to the therapists.

Materials

Each participant received a small binder with an outline of the week's lesson, homework assignments and other miscellaneous handouts such as a list of coping skills and a resource list (Appendix M). They also received an audiocassette containing a recording of the four relaxation exercises (basic breathing, progressive muscle relaxation, body scan, guided imagery) explained and demonstrated by the therapists at the end of each session so they could practice these at home during the course of the study.

Outcome Measures

The following five outcome measures were selected to evaluate the effect of the treatment based on either their widespread use in the literature or their merits as an instrument for measuring the construct under investigation based on their reliability and validity data as well as their fit with the needs of the study. A listing of all outcome variables for this study is provided in Table 1.

The Fibromyalgia Impact Questionnaire (FIQ)

In 1991, a group of researchers began to investigate the question as to whether the existing measures for rheumatoid arthritis and osteoarthritis were sufficient and adequate to capture the unique concerns presented by fibromyalgia patients. Out of this research came the development and validation of the Fibromyalgia Impact Questionnaire (FIQ), which eliminates subscales and items contained in arthritis measures and focuses instead on the more salient features of fibromyalgia such as fatigue and muscle exertion (Burckhardt, Clark, & Bennett, 1991). Since its development,

Table 1

Listing of Study Variables: Descriptive and Outcome Variables

Demographic and illness-related variables	Outcome variables
Demographic variables	Fibromyalgia Impact Questionnaire
Gender	Physical Impairment score
Age	Fibromyalgia impact (total)
Marital status	
Employment status	Chronic Pain Self-Efficacy Scale
	Pain management
Illness-related variables	Physical function
Age of onset	Coping with symptoms
Aware of factors leading to onset	
Diagnosis by provider (type)	State-Trait Anger Expression Inventory-2
Number of symptoms	State anger
Use of exercise	Feeling angry
Use of relaxation	Expressing anger verbally
Use of individual psychotherapy	Expressing anger physically
Use of group psychotherapy	Trait anger
Use of support group	Angry temperament
Use of medication	Angry reaction
Use of alternative/other treatment	Anger expression-out
Are treatments helpful?	Anger expression-in
	Anger control-out
	Anger control-in
	/anger expression index
	Communication Survey
	Family and significant others
	Physicians and other professionals
	Total score
	Short-Form-36 Health Survey
	Physical functioning
	Role-physical
	Bodily pain
	General health
	Vitality
	Social functioning
	Role-emotional
	Mental health
	Physical component summary
	Mental component summary

the FIQ has become an important measure utilized in assessing functional status in fibromyalgia patients (Bennett et al, 1996; Goldenberg et al, 1994) and is an appropriate measure for this study given its emphasis on monitoring physical functioning changes specific to fibromyalgia.

This questionnaire consists of a 20-items. The first 11 items are rated on a 4-point Likert type scale and range from 0 to 3 (0 = always, 1 = most, 2 = occasionally, 3 = never) and ask about tasks that require the use of large muscle groups. These items are combined to yield a single score of physical function, called the physical impairment score, which ranges from 0-33. Items 12 and 13 range from 0-7. Item 12 assesses the number of days during the past week that the patient felt good and item 13 asks the number of days the patient missed work, including housework, due to FMS symptoms, if this item is applicable for them. The last seven items, items 14-20, are rated on numerical scales marked in 10-point increments. Each item asks patients about the severity of a different symptom (problem with work, pain, tiredness, awaking well rested, stiffness, anxiety, and depression) over the past week. The patient is asked to rate his/herself on this scale from the left-hand side of "no problem" to the right-hand side of "great problem" or "very severe problem" depending on the wording of the question.

The second outcome score obtained from the FIQ is the fibromyalgia impact score or total score. This score is obtained by adding a weighted physical impairment score (in order to normalize the scores of itmes 1-11 and express them in units similar to those of the remainder of the questionnaire) to a recoded and weighted item 12 (this item is recoded as 0 days of impairment or missed work are better and it is also recoded to match the units of items 14-20) to the remaining items. Item 13 is excluded from this calculation. Higher scores on the FIQ indicate a greater level of impairment and the total impairment score of the FIQ may range from 0-80. A sample of the FIQ questions are provided in Appendix G.

The FIQ shows evidence of internal consistency as measured by Cronbach's alpha of .72 -.88 and test-retest correlation coefficients of .56-.95 over a 1-week interval. The test also shows a relevant correlation with the six-question Arthritis Impact Measurement Scales (AIMS) depression scale (.38; Burckhardt et al., 1991).

Short Form-36 (SF-36 version 2) Health Survey

Given this study's emphasis on quality of life as a whole and specifically health-related components, it was important to select a measure that would provide indicators that would not only take into account physical aspects, but would also provide some sense of emotional adjustment. In addition, due to the short nature of the intervention, it was important to find a measure that would ask about these concepts over a shorter period of time.

A measure of comprehensive health status is the Short-Form 36 (SF-36), which has been used in a variety of studies including those that have studied chronically ill patients (Ware, 2000). This inventory is designed to assess the participant's general level of health along eight different dimensions and asks about changes in these areas over the past month, in addition to longer time frames (Appendix H). These dimensions, which include physical functioning, role limitations due to physical problems, social functioning, bodily pain, general mental health, role limitations due to emotional problems, vitality, and overall health perception, are especially useful in measuring a wide range of health-related dimensions.

In studies of reliability, the SF-36 has shown to have test-retest reliability ranging from .43-.90 with a median of .64 based on a 6-month delay between administrations (Ware, 2000). Internal consistency studies using Cronbach's alpha have shown median reliability coefficients equal to or exceeding .80, with the exception of the social functioning scale, which exceeded an alpha coefficient of .90.

All eight primary SF-36 primary scales as well as the two component summary scales were utilized as outcomes in this study. The physical functioning scale consists of 10 items, rated on a 3-point Likert scale and asks participants about limitations to physical activities due to health (1 = yes, limited a lot; 2 = yes, limited a little; 3 = no, not limited at all). The total score range of this scale is from 10-30. The role-physical scale consists of four items rated on a 5-point Likert scale and asked participants about problems with work or daily activities due to health (1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time). The total score range of this scale is from 4-8. The bodily pain scale consists of two items rated on a 6- and 7-point Likert scale, respectively, and asked participants about amount of pain over the past 4 weeks (1 = none, 2 = very mild, 3 = mild, 4 = moderate, 5 = severe, 6 = very severe) and limitations due to pain (1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely). The total score range for this scale is 2-12. The general health scale consists of five items rated on a 5-point Likert scale asking participants about their perception of their general health (1 = definitely true, 2 = mostly true, 3 = don't know, 4 = mostly false, 5 = definitely false). The total score range for this scale is 5-25. The vitality consists of four items rated on a 5-point Likert scale asking participants about the amount of energy they have experienced over the past month (1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time). The total score range for this scale is 4-24. The social functioning scale contains two items rated on a 5-point Likert scale. These questions assess the degree to which a participant's physical and emotional difficulties have interfered with his/her social activities (question 1; 1 = not at all, 2 = slightly, 3 = moderately, 4 = quite a bit, 5 = extremely; question 2 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time). The total score range for this scale is 2-10. The role-emotional scale consists of three items rated on a 5-point Likert scale asking participants the degree to which they have experienced

problems with work or other daily activities as a result of emotional problems (1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time). The score range for this scale is 3-6. The final primary scale is the mental health scale, which contains five items and is rated on a 5-point Likert scale and asks participants to what extent they believe their mental health has improved over time (1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time). The total score range for this scale is 5-30.

The mental and physical component summary scales were developed as a result of the observation that the eight primary scales of the SF-36 revealed two distinct clusters when analyzed through factor analytic studies (Ware & Kosinski, 2002). As a result these two scales were derived according to the amount of respective physical or mental health variance each of the primary scales had in common. The resulting analysis identified two dimensions of health status labeled "physical" and "mental" based on their relationship with other variables in the analysis (Ware, 2000; Ware & Kosinski). Despite the fact that the summary components accounted for 81.5% of the reliable variance in the eight primary scales in general US population studies (Ware et al., 1995) and 82.4% in the Medical Outcomes Study (McHorney, Ware, & Raczek, 1993), it was decided to use these two scales as well as all eight primary scales in the study analysis in order to better identify and address specific areas of change for this sample.

State-Trait Anger Expression Inventory-2 (STAXI-2)

The choice of a measure for the anger component of this study was slightly more complex due to the fact that this construct has not been studied in this population or in similar populations to a great extent. In selecting a measure for this study, it was important that the scale examine the experience of anger suppression. It was of interest to investigate how this intervention would

change the experience of anger in terms of expression over the short time of the study and whether this would be different from an overall pattern of anger experience characteristic to an individual.

The State-Trait Anger Expression Inventory (STAXI-2) developed by Spielberger (1999) contains 57 items each on a 4-point Likert scale. The questionnaire is divided into three sections with the first section containing questions 1-15 and is labeled with the heading "how I feel right now." The Likert scale headings for this section read: 1 = not at all, 2 = somewhat, 3 = moderately so, and 4 = very much so. The second section contains items 16-25 and is labeled with the heading "how I generally feel." The Likert scale headings for this section read: 1 = almost never, 2 = sometimes, 3 = often, and 4 = almost always. The third and final section contains items 26-57 and is labeled with the heading "how I generally react or behave when angry or furious...." The Likert scale headings for this section read: 1 = almost never, 2 = sometimes, 3 = often, and 4 = almost always.

The items within these three sections are divided for scoring purposes according to the experience of anger, which is split into six primary scales, five subscales and an Anger Expression Index (32 items; score range 0-96), which provides " an overall measure of the expression and control of anger" (Spielberger, 1999, p. 1). The six primary scales are defined as: (a) State Anger measuring intensity of anger as a "psychobiological state or condition consisting of subjective feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage, with concomitant activation or arousal of the autonomic nervous system" (Spielberger, p. 55) or "measures the intensity of angry feelings and the extent to which a person feels like expressing anger at a particular time" (15 items ; score range: 15-60; Spielberger, p. 4). This scale contains the three subscales of feeling angry (5 items; score range 5-20), feel like expressing anger verbally (5 items; score range 5-20), and feel like expressing anger physically (5 items; score range 5-20); (b) Trait Anger measuring "how often angry feelings are experienced over time" (10 items; score

range: 10-40; Spielberger, p. 55). This scale contains the two subscales of angry temperament (4 items; score range: 4-16) and angry reaction (4 items; score range 4-16); (c) Anger Expression measuring "how often angry feelings are experienced, but not expressed (suppressed)" (8 items; score range: 8-32; Spielberger, p. 4), (d) Anger Expression--Out (8 items; score range 8-32) measuring "how often angry feelings are expressed in verbally or physically aggressive behavior" (Spielberger, p. 4); (e) Anger Control--Out (8 items; score range: 8-32) measuring "how often a person controls the outward expression of angry feelings" (Spielberger, p. 4); and (f) Anger Control--In (8 items; score range: 8-32) measuring "how often a person attempts to control angry feelings by calming down or cooling off" (Spielberger, p. 4).

This instrument was seen as appropriate to this study as it would allow for differentiation between the experience of anger and any changes in this experience over the course of the study (state) in comparison to more stable anger characteristics (trait). An added benefit of using this instrument that was not an initial aim of this study is that the construction of the test allows for a separation of the constructs of "anger in" (internal anger suppression) and "anger out" (external anger expression) in terms of tracking ways in which participants prefer to express their anger (Spielberger, Reheiser, & Sydeman, 1995). For the purposes of this study we looked at scores from all six primary scales as well as the six supplemental scales.

The STAXI-2 has been shown to have significant correlations with the two hostility scales (Hostility and Overt Hostility) on the *Minnesota Multiphasic Personality Inventory* (MMPI-2; Butcher & Megargee, 1989) as well as with the Buss-Durkee Hostility Inventory (BDHI; Spielberger, 1999). Internal consistency values range between .90-.94, depending on the age group evaluated for this instrument (Spielberger).

Chronic Pain Self-Efficacy Scale (CPSS)

One of the core concepts under investigation in this study was the change in the perceived self-efficacy of the participants. A measure that has been utilized in the analysis of self-efficacy in relationship to coping with chronic pain is the Chronic Pain Self-Efficacy Scale (CPSS; Appendix I).This instrument was developed in 1995 to investigate the way in which chronic pain patients perceived self-efficacy for pain management, coping with symptoms and physical function. The construct validity of the instrument was determined by conducting a series of Pearson product-moment correlations between the three subscales. Significant correlations were found between the CPSS and the Beck Depression Inventory (BDI = –0.42 to –0.62), Beck Hopelessness Scale (BHS = -0.34 to –0.57), and the Body Parts Problem Assessment Scale (BPPA= -0.22 to –0.34; Anderson, Dowds, Pelletz, Edwards, & Peeters-Asdourian, 1995). There are no published reliability data for this instrument at this time.

The CPSS consists of 20 items designed to assess a participant's belief that he or she is able to exert control over behaviors that impact his or her level of pain and/or disability. Each item is rated on a 10-point Likert scale ranging from 10 (very uncertain) to 100 (very certain). The questionnaire is divided into three scales, with eight questions addressing self-efficacy for pain management (score range: 50-500), nine targeted towards physical function (score range: 90-900), and eight measuring the ability of a participant to cope with overall symptoms (score range: 80-800). Each scale is scored separately and higher scores indicated greater levels of impairment.

Communication Survey

Given the fact that one of the key constructs targeted in this intervention was the ability to change communication patterns, it was important to assure that this study assessed communication as an outcome. Due to the lack of appropriate instruments available to measure this construct as

specifically examined in this study, a short communication survey was designed. This survey consists of a list of items rated on a 5-point Likert scale, assessing each participant's perception of his or her ability to communicate with significant others in his or her life including family members and physicians (Appendix J). Items were rated as follows: 1 = very often, 2 = often, 3= sometimes, 4 = rarely, and 5 = never.

The questionnaire was divided into two sections, the first addressing relationships with family and significant others and the second interactions with physicians and other professionals. The objective of this instrument was to measure change in participant's ability to engage in effective reciprocal relationships with the two groups of individuals identified in the literature as most important to many FMS patients. The specific questions targeted frequency of expression as well as emotions targeted in the intervention such as feeling frustrated and misunderstood.

The two sections of the questionnaire (communication with family and significant others as well as communication with physicians and other professionals) were scored separately. The first score (communication with family and significant others) was derived by summing the totals of responses 1-4. The range for this scale was 4-20. The second score for this questionnaire (communication with physicians and other professionals) was derived in the same manner, by adding the scores of responses 5-8. The range for this scale was also 4-20. A total communication outcome score was also calculated by summing the responses to all of the items in this survey. The range for this outcome was 8-40.

CHAPTER IV

RESULTS

Internal Consistency of Measures

Despite the fact that internal consistency of the five measures utilized in this study was not considered as an initial research question, an analysis of Cronbach's alpha for each of the 30 outcome variables was conducted at both baseline and follow-up. The results of this analysis are displayed in Table 2. Overall these results show strong reliability from time one to time two (values approximating .70 or higher) and correspond to the reports internal consistency values in the literature. It is noted that results for three outcome variables (physical component summary, mental component summary and the pre-test outcome for expressing anger physically) were not obtained. In the case of the two summary scores it appears that their derivation required calculations that were not provided in order to complete the appropriate reliability analysis. In the case of the STAXI-2 score it appeared that the presence of missing items on this scale at pre-test may have prevented the completion of this specific analysis.

The notable exception to the overall strong reliability findings was in terms of the communication survey, which was an instrument developed specifically for this study. The objective in developing this survey was to measure constructs identified in the literature as important to FMS patients in terms of communicating with significant others in their lives. The Cronbach's alpha values for this measure are all well below the .70 mark and suggest the overall measure is not reliable and/or the measure was assessing multiple different constructs.

Table 2

Internal Consistency Results for All Outcome Variables as Measured by Cronbach's Alpha

Variable	Pretest Cronbach's α	Posttest Cronbach's α
Fibromyalgia Impact Questionnaire (FIQ)		
Physical Impairment Score	.849	.869
Fibromyalgia Impact (total) Score	.790	.779
Short-Form 36 Health Survey		
Physical functioning	.831	.852
Role-physical	.919	.917
Bodily pain	.722	.785
General health	.795	.739
Vitality	.791	.795
Social functioning	.801	.822
Role-emotional	.759	.858
Mental health	.786	.869
Physical component summary	N/A	N/A
Mental component summary	N/A	N/A
State-Trait Anger Expression Inventory-2		
State anger	.773	.866
Feeling angry	.855	.823
Expressing anger verbally	.723	.560
Expressing anger physically	N/A	.724
Trait anger	.897	.895
Angry temperament	.886	.877
Angry reaction	.845	.863
Anger expression-out	.704	.586
Anger expression-in	.760	.806
Anger control-out	.873	.868
Anger control-in	.868	.879
Anger Expression Index	.235	.224
Communication Survey		
Family and significant others	.312	.032
Physicians and other professionals	.381	.403
Communication total score	.292	.505
Chronic Pain Self-Efficacy Scale		
Pain management	.685	.868
Physical function	.898	.888
Coping with symptoms	.856	.964

Descriptive Statistics for Selected Fibromyalgia Patient Variables

A total of 52 individuals who met the criteria for inclusion in this study completed the intake process including the consent form and the five initial surveys. One person scheduled an intake interview, but withdrew prior to completing the initial surveys. Of these 52 individuals, 27 were randomly assigned to the treatment group and 25 to the control group (the individual who withdrew had been scheduled for assignment to the control group). Randomization occurred at intake after a brief phone interview conducted by the researcher in order to screen for exclusion criteria. When each participant arrived at the University for their intake session, they were assigned to either the treatment group or wait-list group. This separation was based on the order of the scheduling with every other intake being assigned to the treatment group (whose intervention was to take place in the month following the intake) and every subsequent intake assigned to the wait-list (which would receive the intervention two months following their intake). Only one person requested placement in a specific group due to a scheduling conflict and this request coincided with the group to which she would have been assigned by chance, thus minimizing internal validity concerns.

Twenty-four of the 27 participants assigned to the treatment group completed the initial five surveys as well as the 4-week treatment and the five surveys posttreatment. Twenty-two of the 25 participants assigned to the control group completed the five surveys at the end of the 4-week waiting period at the start of their intervention. Eighteen of these 22 participants completed the 4-week intervention.

In order to best explore research question 1, which sought to identify the characteristics of the study sample patients and determine the ways in which these characteristics compared to those

of FMS patients in the general population, descriptive statistics were collected on both groups. Additionally analyses were conducted on each of these variables in order to assure equality between the treatment and control groups. The primary analyses utilized were independent sample *t* tests for continuous variables and χ^2 analyses for dichotomous variables. Effect size calculations were also conducted via standardized mean differences (*d*; continuous variables) and Cramer's *V* (dichotomous variables). For the purposes of effect size comparisons we have adopted Cohen's (1988) categorization system for effect sizes, utilizing $d = .20$ as a "small" effect, .50 as a "medium" effect and .80 as a "large" effect. Please refer to Table 3 for the results of these analyses.

As may be seen in Table 3, the mean ages of the treatment group and the control group did not differ greatly and were not statistically significant (treatment group $\bar{x} = 48.42$; control group $\bar{x} = 50.64$; $p = .828$; $d = -0.175$). Gender distribution shows equality between the two groups with 95.8% female in treatment group and 95.5% female in control group ($p = .950$; Cramer's $V = .009$).

Marital status variables, however, show some differences across groups despite randomization and yielded a statistically significant *p*-value ($p = .018$, Cramer's $V = .467$). While approximately equal numbers of the treatment and control group participants reported being married, a slight discrepancy occurred in the categories of "divorced" and "widowed." In the control group 22.7% of participants reported being widowed versus 0% in the treatment group. In contrast 12.5 % of the participants reported being divorced in the treatment group versus 0% in the control group.

The employment status variable was consistent across groups, with 54.2 % of the treatment group reporting present employment versus 40.9% of the control group ($p = .369$; Cramer's $V = .133$). In terms of age of onset of symptoms, most individuals in both groups

Table 3

Demographic Variables on All Participants (N=46)

Variable	Treatment mean (*SD*) (*n* = 24)	Control mean (*SD*) (*n* = 22)	*t*-ratio	*p*-value	Effect size (*d*)
Age, yrs	48.42 (13.37)	50.64 (12.65)	-.577	.828	-0.175
Age onset of symptoms, yrs	34.13 (14.39)	31.2 (13.23)	.708	.852	0.219
Duration of symptoms, yrs	14.29 (10.15)	19.41 (13.25)	-1.48	.343	-0.386
Number of symptoms	12.46 (2.62)	12.45 (2.90)	.005	.534	0.001
Number of trigger points	12.67 (5.20)	11.75 (5.79)	.462	.681	0.158

Variable	Treatment percent (*n* = 24)	Control percent (*n* = 22)	χ^2	*p*-value	Effect size (Cramer's *V*)
Gender					
Female	95.8	95.5	.004	.950	
Male	4.2	4.5			.009
Marital status					
Married	79.2	77.3	10.04	.018*	.467
Single	8.3	0.0			
Divorced	0.0	22.7			
Widowed	12.5	0.0			

(*table continues*)

Variable	Treatment percent ($n = 24$)	Control percent ($n = 22$)	χ^2	p-value	Effect size (Cramer's V)
Employed					
% Yes	54.2	40.9	.809	.369	.133
Awareness of precip. factors					
% Yes	75.0	81.8	.314	.575	.083
Factors contributing to onset					
Traumatic event/injury	45.8	23.8	2.37	.124	.230
Stress	37.5	42.9	.134	.714	.055
Infection	12.5	23.8	.980	.322	.148
Pregnancy	8.3	19.0	1.11	.292	.157
Emotional factors	4.2	9.5	.517	.472	.107
Diagnosis by healthcare provider					
% Physician	91.7	95.5	.008	.927	.013
% Chiropractor	8.3	4.5			
Types of symptoms		95.5	1.115	.291	.156
Stiffness	100	95.5	1.115	.291	.156
Sleep disturbance	100	95.5	.004	.950	.009
Widespread pain	95.8	77.3	3.486	.062	.275
Psychological concerns	95.8	100.	1.917	.384	.204
Fatigue	91.7	90.9	.008	.927	.013
Trigger points	91.7	50.0	8.929	.539	.586
% of participants meeting ACR criterion	41.7	86.4	.33	.564	.085
Cognitive changes	91.7	77.3	.268	.605	.076
Gastrointestinal concerns	83.3	90.9	1.608	.447	.187
Headache	79.2				

(*table continues*)

Variable	Treatment percent (n = 24)	Control percent (n = 22)	χ^2	p-value	Effect size (Cramer's V)
Type of symptoms (continued)					
Neurological concerns	79.2	81.8	.051	.821	.033
Dizziness	75.0	72.7	.031	.861	.026
Skin concerns	62.5	50.0	.730	.393	.126
Restless leg syndrome	50.0	68.2	1.565	.211	.184
Allergic symptoms	50.0	63.6	.869	.351	.137
Facial pain	41.7	40.9	.003	.958	.008
Chest complaints	25.0	50.0	3.079	.079	.259
Other symptoms	29.2	32.6	.271	.603	.077
Exercise					
% Yes	70.8	90.9	2.94	.086	.253
Relaxation					
% Yes	41.7	59.1	1.39	.238	.174
Individual psychotheapy					
% Yes	37.5	31.8	.163	.686	.060
Group psychotherapy					
% Yes	4.2	4.5	.004	.950	.009
Support group					
% Yes	25.0	36.4	.700	.403	.123
Medication					
% Yes	75.0	86.4	.942	.332	.143

(*table continues*)

Variable	Treatment percent ($n = 24$)	Control percent ($n = 22$)	χ^2	p-value	Effect size (Cramer's V)
Types of medication					
Antidepressant	45.8	78.9	4.8864	.027*	.336
Analgesic	29.2	36.8	.285	.594	.081
Alternative medicines	29.2	26.3	.043	.836	.032
NSAID	25.0	26.3	.010	.922	.015
Muscle relaxant	25.0	15.8	.544	.461	.112
Vitamin/mineral	20.8	31.6	.643	.423	.122
Hypnotic	16.7	15.8	.006	.938	.012
Anxiolytic	8.3	15.8	.574	.449	.116
Gastrointestinal	8.3	10.5	.060	.806	.037
Anticonvulsant	8.3	5.3	.154	.695	.060
Altlernative/other treatment					
% Yes	83.3	77.3	.268	.605	.076
Is treatment helpful?					
% Yes	75.0	90.9	2.02	.155	.210

*$p < .05$.

experienced an onset of symptoms in midlife (treatment group $\bar{x}$ = 34.13; control group $\bar{x}$ = 31.20; p = .852; d = .133) and, therefore, have had symptoms for a significant number of years ($\bar{x}$ = 14.29 for treatment and $\bar{x}$ = 19.41 for controls; p = .343; d = -0.386).

In both groups a majority of the participants (75% of the treatment group and 81.8% of the control group; p = .575; Cramer's V = .083) were aware of factors that possibly contributed to the onset of their illness. In the analyses of these factors, the results were somewhat more varied by group. For the treatment group, more individuals reported traumatic event/injury such as car or other accidents, death or severe illness of a child or parent, and sexual or physical abuse as the primary factor contributing to the onset of fibromyalgia than controls (45.8% treatment vs. 23.8% controls; p = .124; Cramer's V =.230). More individuals in the control group stated that stress such as marital conflict and/or work concerns were the primary factors contributing to the onset of their illness, however (37.5% treatment vs. 42.9% control; p = .714; Cramer's V = .055). A third factor listed as a possible contributor for the onset of fibromyalgia was infection especially those acquired during childhood such as viruses that are hypothesized to have weakened the immune system and have predisposed these individuals to acquiring FMS in later life (23.8% controls vs.12.5% treatment; p = .322; Cramer's V = .148). Pregnancy, specifically both the hormonal and physical stresses it causes, (19.0% controls vs. 8.3% treatment; p = .292; Cramer's V = .157) and emotional factors such as anxiety and depression (9.5% controls vs. 4.2% treatment; p = .472; Cramer's V = .107) were listed as the remaining more prevalent suspected factors contributing to the onset of FMS among participants in this study sample.

A majority of individuals in both groups were diagnosed with FMS by a physician (91.7% treatment group and 95.5% controls p = .927; Cramer's V = .013) and a much smaller number by a chiropractor (8.3% treatment group and 4.5% controls; p = .927; Cramer's V = .013). Both groups reported an almost identical mean number of symptoms ($\bar{x}$ = 12.46 treatment group vs.

$\bar{x}$ = 12.45 controls; p = .534; d = .001), with stiffness, sleep disturbances, widespread pain, fatigue, and trigger points occurring in greater than 90% of both the treatment and control groups. The mean number of trigger points in both groups was approximately equivalent ($\bar{x}$ = 12.67 treatment vs. $\bar{x}$ = 11.75 controls; p = .681; = .158). Other symptoms endorsed by participants included: psychological concerns, cognitive changes, gastrointestinal concerns, headache, neurological concerns, dizziness, skin concerns, restless leg syndrome, allergic reaction, facial pain, chest complaints, and other symptoms. While none of the differences between groups attained a statistical difference of $p \leq .05$, some discrepancies in group means do exist, in particular in the areas of psychological concerns (95.8% treatment vs. 77.3% controls; p = .062; Cramer's V = .275) and chest complaints (25.0% treatment vs. 50.0% controls; p = .079; Cramer's V = .259).

It is important to note at this point that, as outlined in Chapters I and II, the diagnostic criteria for FMS have evolved over time. Thus, while an "ideal" sample for this study might have met the ACR criteria of "history of widespread pain" and pain in 11 of 18 tender points, the descriptive characteristics of this sample may, in fact, more closely meet diagnostic criteria established prior to the 1990 advent of the ACR criteria. The Yunus, Masi, Calbro, Miller, & Feigenbaum (1981) criteria, for example, which requires (a) generalized aches and pains (or prominent stiffness) in at least three anatomical sites for at least three months duration (although duration and location is unknown, 100% of the treatment group and 95.5% of controls report stiffness; 95.8% of the treatment group report widespread pain vs. 95.5% of the controls); (b) five or more tender points (using this definition increases the total sample percentage meeting this threshold from 45.6% to 56%); (c) absence of traumatic injury, structural rheumatic disease, infectious arthropathy, endocrine-related arthropathy, and abnormal laboratory tests, poor sleep; (d) general fatigue (91.7% of treatment and 100% of controls); (e) anxiety (95.8% of treatment

"psychological concerns" and 77.3% of controls; (f) headache, irritable bowel, subjective swelling, nonradicular numbness, influence of activity, weather and anxiety (Cohen & Quintner, 1993).

The two groups also showed slight differences in physical activities and medication usage. This occurred most notably when participants were asked whether or not they currently engaged in exercise (70.8% treatment vs. 90.9% controls; $p = .086$; Cramer's $V = .253$) and relaxation (41.7% treatment vs. 59.1% controls; $p = .238$; Cramer's $V = .174$). Most of the participants in the study were using medication to manage their symptoms at the time of the intervention (75.0% treatment vs. 86.4% control; $p = .332$; Cramer's $V = .143$). A significant discrepancy was found between groups in the utilization specifically of antidepressant medications (45.8% treatment vs. 78.9% controls; $p = .027$; Cramer's $V = .336$). The most common medications listed were antidepressants (45.8% treatment, 78.9% controls; $p = .027$; Cramer's $V = .336$), analgesics (29.2% treatment vs. 36.8% controls; $p = .594$; Cramer's $V = .081$), alternative medicines (29.2% treatment vs. 26.3% controls; $p = .836$; Cramer's $V = .032$), nonsteroidal antiinflammatory medications (NSAIDs; 25.0% treatment vs. 26.3% controls; $p = .922$; Cramer's $V = .015$), and muscle relaxants (25.0% treatment vs. 15.8% controls; $p = .461$; Cramer's $V = .112$). Both groups also made use of alternative or additional treatments other than the ones provided by the researcher on the standardized intake list (83.3% treatment vs. 77.3% controls; $p = .605$; Cramer's $V = .076$) and 75.0% of the treatment group and 90.9% of the control group ($p = .155$; Cramer's $V = .210$) felt that the treatment (whatever they had currently chosen to do) was helpful to them.

Overall the major differences between the treatment and control groups in terms of demographic variables are as follows. Statistical significance was found on only two variables, marital status and use of antidepressants. "Small" or "medium" effect sizes were found on the variables of marital status; the precipitating factors of traumatic event/injury, infection, pregnancy, and emotional factors; the symptoms of stiffness, sleep disturbance, psychological concerns,

fatigue, number of trigger points, headache, restless leg syndrome, and chest complaints; and the coping skills of exercise, relaxation, and the use of antidepressant medication. In addition, a "small" effect size was found between groups on the variable of whether or not the participants' current treatment of choice was helpful to them. Although the randomization process was strictly maintained throughout the process it is clear that certain significant discrepancies between groups remained. Despite these findings it was decided to proceed with analysis of these data given the fact that random assignment may not always assure equivalence between groups, but rather strives to remove systematic bias in group comparisons, which was accomplished for this study through the procedure of blind assignment to groups (Gall et al., 2003). Additionally, it was believed that these difference would not have an impact on this specific intervention given the outcome variables under consideration.

Results are now presented for each of the five remaining research questions posed for this study. These five questions seek to quantify change in specific aspects of participants' experience of FMS, specifically physical functioning, health-related quality of life, anger levels, communication, and self-efficacy. The research design utilized to answer the research questions consisted of a randomized controlled pretest-posttest control-group experimental treatment with repeated measures (pre-post) utilizing one within-subjects (time) and one between-subjects (group) factor. Statistical analyses were conducted using a repeated measures factorial ANOVA for each variable to determine whether effects existed by either time, group or time by group interaction. In addition, calculations of effect sizes were conducted utilizing a standardized mean difference calculation for the two groups at both baseline and follow-up. Finally, independent sample *t* tests were conducted for each pair of pre-post mean scores at baseline and at follow-up to determine equivalence between groups.

Statistical Outcomes for Fibromyalgia Symptoms

Research question 2 was posed as follows: What is the impact of an intervention that targets relaxation, cognitive strategies, anger and communication skills on FMS symptoms as indicated by a change in scores on the Fibromyalgia Impact Questionnaire (FIQ)? This question was answered by conducting a repeated measures ANOVA. The ANOVA allowed for separate analyses of main effects (time and group) as well as interaction effects (time by group). The fact that a repeated measures design was utilized allowed for measurement of outcomes for both the treatment and control groups both at time 1 (baseline), prior to the start of the intervention, as well as at time 2 (following the intervention for the treatment group and following the waiting period of no treatment or treatment as usual for the control group). The ability to have the analysis separated by time, group membership and time by group effects allowed for specific identification as to whether effects were due to treatment or rather due to the passage of time alone or group membership alone. Additionally it was important for this study to verify equivalence between the treatment and control group at baseline to maximize the likelihood that any observed effects could be attributed to the impact of treatment versus other internal validity threats.

Description of Tables

Results for all five instruments utilized in this study (FIQ, SF-36, STAXI– 2, Communication Survey, and the CPSS) are presented in separate tables in this section. There are two tables per measure. The first table for each measure lists the name of the outcome variable analyzed, followed by the means (with standard deviations) and effect sizes for first the treatment group at baseline and follow-up and then, similarly for the control group at baseline and follow-up. The second table for the measure displays the results of the independent *t* tests conducted for each

variable at baseline and at follow-up. The final three columns of this table report the outcomes of the repeated measures ANOVA with respective F, p values, and effect sizes by time, group, and time-by-group interactions. All statistically significant scores at the $p < .05$ level are highlighted by asterisks.

The FIQ (as described in detail in Chapter III) provides two separate scores; the first taking into consideration only the level of physical distress of participants (physical impairment score) and the second providing a total score of fibromyalgia disability (fibromyalgia impact). Results for the FIQ are provided in Tables 4 and 5. The first analysis for this instrument consisted of independent sample t tests for each pair of pre-post mean scores at baseline and at follow-up in order to determine if significant differences existed between the groups at baseline and follow-up. No significant differences were found.

Both scores were then analyzed in order to determine if a change had occurred as a result of the treatment. Although the physical impairment score was not found to be significant, the overall fibromyalgia impact score did show one significant main effect. This was determined through the analysis of the repeated measures ANOVA when the within-subjects factor of time was considered, $F(1, 44) = 17.605$, $p \leq .05$; see Table 4. This result would indicate that although the treatment did not appear to produce a change in overall fibromyalgia symptoms, these symptoms remitted to some extent simply due to the passage of time.

In order to provide a measure of statistical difference between the two groups at baseline and follow-up, a standardized mean difference or "effect size" was calculated for each score in the measure as well as for each composite. The effect size was calculated using a modification of Glass's guidelines for calculating d based on the need to devise common denominator for the

Table 4

Baseline, Follow-up, Mean and Change Scores (SD) for Fibromyalgia Impact Questionnaire (FIQ) Outcome Variables (N = 46)

	Treatment group (n = 24)			Control group (n = 22)		
Measure	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-Post Change/(*d*)	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-Post Change/(*d*)
Physical impairment score	4.60 (2.37)	4.15 (2)	0.45 (.13)	5.10 (1.6)	4.51 (2)	0.59 (.20)
Fibromyalgia impact (total) score	44.66 (11.32)	39.60 (10.8)	5.06 (.52)	46.91 (8.43)	42.38 (7.73)	4.53 (.50)

Table 5

Independent t Comparisons and ANOVA Results for Fibromyalgia Impact Questionnaire (FIQ) Outcome Variables (N = 46)

	Independent *t* comparisons		ANOVA results					
Measure	Baseline t_{ind} (p)	Follow-up t_{ind} (p)	Time $F(p)$	Partial Eta^2	Treatment group $F(p)$	Partial Eta^2	Time x group $F(p)$	Partial Eta^2
Physical impairment score	-.786 (.436)	-.629 (.533)	3.546 (.066)	.075	.628 (.432)	.014	.043 (.837)	.001
Fibromyalgia impact (total)	-.762 (.450)	-.995 (.325)	17.605 (.000)**	.286	.907 (.346)	.020	.052 (.821)	.001

*Paired samples t-test of change scores is statistically significant ($p \leq .05$).

**Significant p-value $\leq .05$

treatment and control group and was calculated using the following formula:

$$\frac{\bar{X}_1 - \bar{X}_2}{\frac{(S_1 + S_2 + S_3 + S_4)}{4}}$$

The standardized mean difference was calculated as the difference between means divided by the average of the standard deviations across the four groups (pre- and posttreatment and pre- and postcontrol) by time conditions. This averaged standard deviation was essentially equivalent to values, which would have been obtained by using a pooled average formula. According to Glass's categorizations, the effect size calculations for the FIQ outcome variables are "small" (.20) for the control group on the physical impairment score and "medium" for both groups on the total impact score (.52 treatment vs. .50 controls).

Effect sizes were also calculated in connection with the repeated measures ANOVA by means of the partial Eta squared statistic. This effect size was calculated for each of the three conditions of the ANOVA, considering the differences between groups for treatment group and within groups for time and time by group, respectively. Only one "small" (.286) effect size was noted in the repeated measures ANOVA and was shown in the analysis of the time condition for the physical impairment score, indicating that although the treatment may not have impacted this outcome variable, changes may have occurred due to the passage of time.

Statistical Outcomes for Health-Related Quality of Life Variables

Research question 3 was posed as follows: What is the impact of the intervention on health-related quality of life as assessed by a change in scores on the SF-36 physical and mental health scales? The SF-36 contains eight primary scales as well as two component summary scales derived by factor analyses of correlations between the eight scales to derive a separate "physical"

component of health status and a "mental" component of health status. A brief definition of each of the scales will be provided as it is discussed below. Results for the SF-36 are displayed in Tables 6 and 7.

Physical Functioning

As with the FIQ an initial analysis of independent sample *t* tests was conducted for each pair of pre-post mean scores at baseline and at follow-up for each eight primary scales as well as the two component scales of the SF-36 in order to determine if significant differences existed between the groups at baseline and follow-up. Table 6 contains the cell means for baseline and follow-up of the physical functioning scale, which was designed to assess an individual's ability to perform all basic activities of daily living including bathing and dressing due to health concerns (Ware, Snow, Kosinski, & Gandek, 2000).

There were no significant differences between baseline and follow-up scores for this variable. In terms of the analysis of variance for this scale, the only statistically significant interaction was found in the repeated measures ANOVA by time, $F(1, 42) = 6.592$, $p = .014$ (see Table 7). This result would indicate that although the treatment did not appear to produce a change in this outcome variable, it was impacted as a result of the passage of time.

Role–Physical

The second scale analyzed was role-physical. This scale assesses an individual's difficulties in performing their work responsibilities or other daily activities as a result of physical health concerns (Ware, Snow, et al., 2000). The independent sample *t* tests for this scale between the pre-post mean scores at baseline and at follow-up was not statistically significant. The ANOVA showed only a statistically significant effect for time, $F(1, 44) = 5.539$, $p = .02$. This

Table 6

Baseline, Follow-up, Mean and Change Scores (SD) for Short-Form-36 Outcome Variables (n = 46)

	Treatment group (n = 24)			Control group (n = 22)		
Measure	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-Post Change/(*d*)	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-Post change/(*d*)
Physical function	32.66 (9.20)	34.67 (8.53)	-2.01 (-.23)	29.36 (8.45)	30.80 (8.29)	-1.47 (-.17)
Role-physical	25.93 (8.26)	29.40 (8.36)	-3.47 (-.42)	27.69 (7.96)	28.80 (8.23)	-1.11 (-.14)
Bodily pain	32.64 (4.69)	34.89 (7.95)	-2.25 (-.40)	31.46 (5.23)	30.60 (4.87)	0.83 (.15)
General health	33.21 (7.55)	35.65 (9.82)	-2.44 (-.24)	31.92 (11.92)	34.10 (10.83)	-2.18 (-.22)
Vitality	27.51 (5.70)	35.44 (8.42)	-7.93 (-.97)	29.81 (8.63)	32.37 (10.03)	-2.56 (-.31)
Social functioning	27.31 (8.80)	33.22 (10.75)	-5.91 (-.62)	32.80 (9.47)	31.81 (8.85)	0.99 (.10)
Role-emotional	28.34 (9.72)	35.31 (11.77)	-6.97 (-.67)	35.21 (9.92)	33.09 (10.34)	2.12 (.20)
Mental health	33.11 (8.70)	40.74 (10.49)	-7.63 (-.76)	38.23 (9.54)	38.10 (11.66)	0.13 (.01)
Physical component summary	31.90 (9.41)	32.46 (9.04)	-0.56 (-.06)	28.06 (8.66)	29.90 (9.00)	-1.84 (-.20)
Mental component summary	30.00 (8.58)	39.00 (11.40)	-9.00 (-.91)	37.1 (9.56)	35.73 (10.00)	1.37 (.14)

Table 7

Independent t Comparisons and ANOVA Result for Short-Form-36 Outcome Variables (n = 46)

	Independent *t* comparisons		ANOVA results					
Measure	Baseline T_{ind} (p)	Follow-up t_{ind} (p)	Time $F(p)$	Partial Eta^2	Treatment group $F(p)$	Partial Eta^2	Time x group $F(p)$	Partial Eta^2
Physical functioning	1.227 (.226)	1.380 (.175)	6.592 (.014)**	.136	1.991 (.166)	.045	.160 (.691)	.004
Role-physical	-.732 (.468)	.246 (.807)	5.539 (.023)**	.112	.067 (.797)	.002	1.464 (.233)	.032
Bodily pain	.807 (.424)	2.159 (.036)*	.689 (.411)	.015	3.226 (.079)	.068	3.247 (.078)	.069
General health	.444 (.659)	.509 (.614)	8.538 (.005)**	.163	.245 (.623)	.006	.026 (.873)	.001
Vitality	-1.078 (.287)	1.129 (.265)	17.638 (.000)**	.286	.033 (.856)	.001	4.641 (.037)**	.095
Social functioning	-2.040 (.047)*	.481 (.633)	3.566 (.066)	.076	.676 (.416)	.015	7.023 (.011)**	.138
Role-emotional	-2.368 (.022)*	.678 (.501)	2.078 (.156)	.045	.796 (.377)	.018	7.309 (.010)**	.142
Mental health	-1.902 (.064)	.807 (.424)	8.694 (.005)**	.165	.211 (.649)	.005	9.298 (.004)**	.174
Physical component summary	1.400 (.169)	.946 (.349)	2.629 (.112)	.059	1.483 (.230)	.034	.752 (.391)	.018
Mental component summary	-2.629 (.012)*	.629 (.533)	6.937 (.012)**	.142	.569 (.455)	.013	12.780 (.001)**	.233

*Paired samples *t*-test of change scores is statistically significant ($p \leq .05$).
**Significant p-value $\leq .05$.

result would indicate that although the treatment did not appear to produce a change in this outcome variable, it was impcated as a result of the passage of time.

Bodily Pain

The third scale analyzed, bodily pain, accounts for the intensity that an individual experiences as well as the extent to which pain interferes with her or his ability to perform normal work (Ware, Snow, et al., 2000). The independent sample *t* tests showed a statistically significant difference in the follow-up scores for this scale (t_{ind} = -2.159, p = .036), indicating that the change in these two groups were not equivalent on this outcome variable at follow-up. A closer examination of the results reveals that in fact the treatment group demonstrated an increase in scores on this measure from baseline to follow-up that showed a small effect size (-.42). The repeated measures ANOVA did not reveal statistically significant results in any category.

General Health

The fourth scale, general health, measures an individual's perception of her or his personal health and belief that it will either improve or worsen (Ware, Snow, et al., 2000). The independent *t*-test analyses of this scale failed to demonstrate statistical significance between scores at baseline and follow-up. The ANOVA, however, revealed a statistically significant effect for time, $F(1, 44) = 8.538$, p = .005. This result would indicate that although the treatment did not appear to produce a change in this outcome variable, it was impacted as a result of the passage of time.

Vitality

The fifth scale, vitality, measures the extent to which an individual feels full of energy and life or feels tired and worn out (Ware, Snow, et al., 2000). The independent *t* tests conducted for this scale failed to yield statistical significance. The analysis of variance, however, provided

statistically significant results in both the time, $F(1, 44) = 17.638$, $p = .000$, as well as the time by group, $F(1, 44 = 4.641$, $p = .037$, analyses. The interaction of time by group is displayed graphically in Figure 1. These results indicate that both the treatment as well as the passage of time had an impact on construct measured by this outcome variable. In addition, the effect size for the time condition was small (.286).

As depicted in the graph there was a slight difference in baseline scores between the treatment and control group, although, as indicated previously though analysis of independent t scores, this difference was not found to be statistically significant. While both groups show an improvement in scores from time one to time two (accounted for by the statistical significance found in the ANOVA time condition), the treatment group scores indicate a greater level of improvement than the control group (accounted for by the statistical significance found in the ANOVA time by group interaction).

Social Functioning

The sixth scale, social functioning, assesses the degree to which physical or emotional concerns interfere with an individual's ability to engage in normal social activities (Ware, Snow, et al., 2000). The independent *t* tests for this scale showed a statistically significant difference between scores at baseline ($t_{ind} = -2.040$, $p = .047$), indicating that the two groups were not equivalent at the outset as the control group reported higher scores on this measure initially. The repeated measures ANOVA yielded a statistically significant result in the time by group interaction, $F(1, 44) = 7.023$, $p = .011$, indicating that the treatment yielded positive results for the treatment group on this measure. The interaction between the two groups on this outcome is depicted in Figure 2.

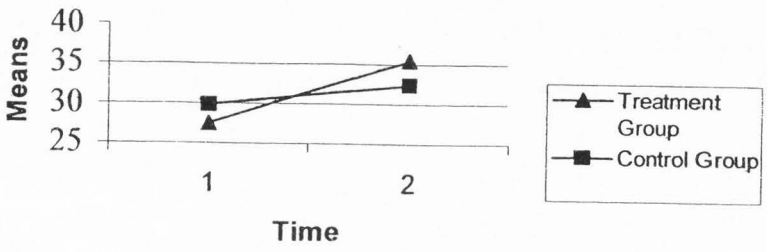

Figure 1. Short Form-36 Vitality scale time by group interaction.

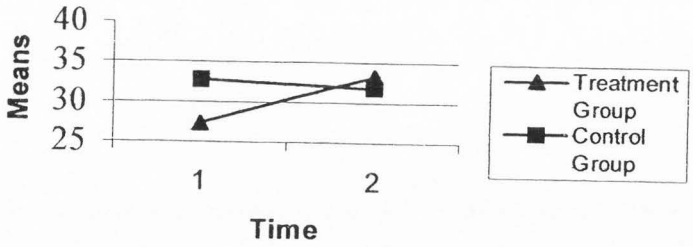

Figure 2. Short Form–36 social functioning scale time by group interaction.

As depicted on this graph, the baseline differences between the treatment and control groups is quite large and was revealed to be statistically significant in the independent *t* test analysis. Nevertheless, the changes from time one to time two were minimal in the control group, whereas they were much larger for the treatment group. Looking to the repeated measures ANOVA we can verify that these differences can be attributed to treatment effects as discussed above.

Role–Emotional

The seventh scale, role–emotional, measures an individual's difficulties with work or daily activities due to emotional concerns (Ware, Snow, et al., 2000). The independent *t* tests for this scale were found to be statistically significant at baseline ($t_{ind} = -2.368$, $p = .022$), indicating that there was a lack of equivalence between the treatment and control group at the outset on this variable. The analysis of variance for this scale revealed statistically significant results in time by group analysis, $F(1, 44) = 7.309$, $p = .010$, indicating that the treatment yielded positive results for the treatment group on this measure. The interaction between the two groups on this outcome variable is depicted in Figure 3.

As depicted on this graph, the baseline differences between the treatment and control groups is quite large and was revealed to be statistically significant in the independent *t* test analysis. Nevertheless, the changes from time one to time two were minimal in the control group (whose scores actually appeared to decrease), whereas they were much larger for the treatment group (who did appear to demonstrate improvement). Looking to the repeated measures ANOVA we can verify that these differences can be attributed to treatment effects as discussed above.

Mental Health

The eighth and final primary scale, mental health, measures the extent to which an individual reports feeling either nervous and depressed or calm, peaceful and happy (Ware, Snow,

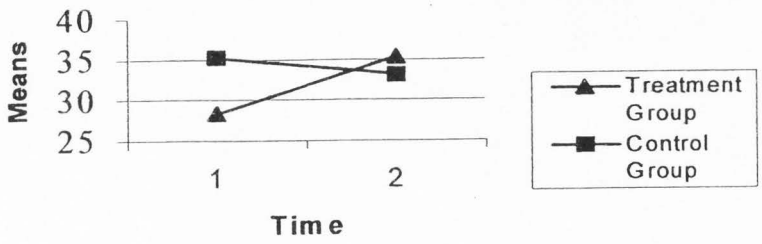

Figure 3. Short Form–36 role-emotional scale time by group interaction.

et al., 2000). The independent *t* tests for this scale were not statistically significant. The ANOVA revealed a statistically significant effect for both time, $F(1, 44) = 8.694$, $p = .005$, as well as for the interaction of time by group, $F(1, 44) = 9.298$, $p = .004$. These results indicate that both the treatment as well as the passage of time had an impact on construct measured by this outcome variable. The interaction between the two groups is depicted in Figure 4.

As depicted in the graph there was a slight difference in baseline scores between the treatment and control group, although, as indicated previously though analysis of independent *t*-scores, this difference was not found to be statistically significant. Although the control group scores remained essentially constant from time one to time two, the treatment group scores showed a noticeable improvement, which can be attributed to the effects of the intervention.

Physical Component Summary

The eight scales of the SF-36 have been found to form two separate higher order clusters, derived from the physical and mental health variance they have in common (Ware, 2000). This

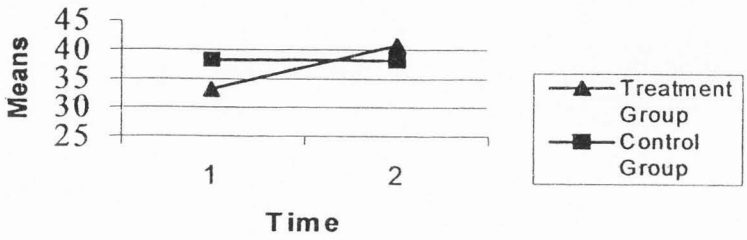

Figure 4. Short Form–36 mental health scale time by group interaction.

scale is the first of these two scales and summarizes the physical components of the eight primary subscales. The scales utilized to construct the physical component scale are: physical functioning, role–physical, bodily pain, and general health.

Both the physical and mental component scales were analyzed in the same manner as the eight primary scales. The independent *t* tests for the Physical Component Summary Scale demonstrated no statistically significant differences across groups for either baseline or follow-up means. The main effects and interaction terms for the analysis of variance were also not statistically significant.

Mental Component Summary

The second summary score, the mental health component summary, consists of the remaining primary scales: vitality, social functioning, role–emotional, and mental health. The independent *t* tests for this component scale showed a significant difference between mean score at baseline ($t_{ind} = -2.629$, $p = .012$), indicating, as discussed previously, that baseline differences existed between the treatment and control groups on some of the primary subscales (specifically

social functioning and role-emotional). The results of the analysis of variance for this scale show statistically significant differences in both the time, $F(1, 42) = 6.937$, $p = .012$, as well as the time by group, $F(1, 42) = 12.780$, $p = .001$, analyses. These results indicate that both the treatment as well as the passage of time had an impact on construct measured by this outcome variable. The effect size for the time by group condition was found to be "small" (.233). The interaction between the two groups is depicted graphically in Figure 5.

As depicted in the graph there was a difference in baseline scores between the treatment and control group, which was found to be statistically significant. Although the control group scores remained essentially constant from time one to time two, the treatment group scores showed a noticeable improvement indicating that the intervention was of benefit to this group on this cluster of variables.

Although all of the primary scales were examined for this study, the component scales were of particular interest in answering research question three. Despite a lack of significant findings on the SF-36 for any of individual primary physical scales or on the physical component summary scale, significant results were found on all primary mental health variables as well as on the mental health component summary scale. The implications of these results will be discussed in the following chapter.

Finally, it is interesting to compare the results of the SF-36 analysis of this sample to populations that may be considered similar in terms of presenting concerns. Table 8 compares the means of the FMS study sample to norms of a group of individuals with rheumatoid arthritis as well as a group of individuals with depression. It is important to note for reference purposes that the general population normative value for each scale is 50 with a standard deviation of 10. As can be seen from the effect size calculations in this table, comparisons between the sample and the rheumatoid arthritis group reveal rather large effect sizes ranging from .89 on the general health

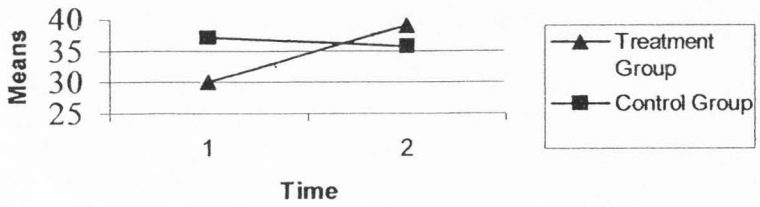

Figure 5. Short Form–36 mental component summary scale time by group interaction.

scale to 1.73 on the vitality scale. This would appear to indicate that the FMS patients report significantly worse physical and mental health subscale scores compared to this normative group. The comparison of the FMS sample with the depressed normative group, however, yields greater variability. While the physical health subscales reveal large effect sizes ranging from .72 to 1.37, the mental health scales show a much greater range from .10 to 1.20. These results would appear to indicate that although FMS patients report worse physical scores compared to the this normative group, they may perceive their mental health concerns as comparable in some areas.

Statistical Outcomes for Anger Variables

Research question 4 was posed as follows: What is the impact of the intervention on participants' anger levels as identified on the State Trait Anger Expression Inventory–2 (STAXI-2)? This question was addressed by conducting a repeated measures ANOVA of the 11 scales and

Table 8

Short-Form 36 Mean Comparisons between FMS Group and Normative Groups

SF-36 Version 2 Scale	FMS group Mean (*SD*)	Normative group Rheumatoid Arthritis mean (*SD*)	Effect size	Normative group depression mean (*SD*)	Effect size
Physical functioning (10 items)	31.16 (8.9)	42.52 (12.65)	-0.90	43.54 (12.72)	-0.97
Role physical (4 items)	26.78 (8.10)	43.17 (12.37)	-1.32	43.04 (11.91)	-1.37
Bodily pain (2 items)	32.10 (4.93)	42.19 (10.25)	-0.98	42.93 (11.91)	-1.01
General health (5 items)	32.60 (9.80)	43.24 (11.97)	-0.89	40.86 (11.41)	-0.72
Vitality (4 items)	28.61 (7.26)	47.11 (10.67)	-1.73	40.51 (9.99)	-1.20
Social functioning (2 items)	29.94 (9.44)	44.75 (12.28)	-1.21	39.01 (11.95)	-0.76
Role emotional (3 items)	31.63 (10.31)	45.40 (13.15)	-1.05	39.27 (12.37)	-0.62
Mental health index (5 items)	35.56 (9.38)	47.46 (11.25)	-1.06	36.51 (11.28)	-0.10
Physical Health Composite Scale	30.15 (9.17)	41.66 (11.37)	-1.01	45.13 (12.54)	-1.20
Mental Health Composite Scale	33.18 (9.63)	48.11 (11.22)	-1.33	36.78 (11.60)	-0.31

Note. Possible range of all scores was 0-100. Higher scores indicate better reported health. A score of 50 represents the average score of a 1998 general US population survey ($N = 6,742$) of males and female ranging in age from 18 to 96.conducting a repeated measures ANOVA of the 11 scales and index of the State-Trait Anger Expression Inventory-2. The results are contained in Table 6.

index of the State-Trait Anger Expression Inventory-2. The results are contained in Table 9 and 10.

The results of the analysis of the time by group interaction do not reveal a significant effect. There is, however, a statistically significant effect for the main effect of time on several of the scales in the instrument. Scores for angry temperament, $F(1, 44) = 14.937$, $p = .002$, anger expression-out, $F(1, 44) = 8.393$, $p = .006$, anger expression-in, $F(1, 43) = 4.943$, $p = .032$, and anger control-out, $F(1, 44) = 12.490$, $p = .001$, all have significance levels $\alpha \leq .05$, indicating that while the treatment may not have had an impact on these outcomes, there was a change based on the passage of time. In addition, two of the scales on the instrument also show a statistically significant effect when analyzed for the main effect of treatment group alone, indicating that group membership had a statistically significant effect on these two variables. These two scales are: angry reaction, $F(1, 41) = 5.842$, $p = .020$, and anger control-out, $F(1, 41) = 5.205$, $p = .028$.

An analysis of the pre-post effect sizes reveals primarily "small" effect sizes for the treatment group. In terms of the control group, only the variable anger control-out (-.47) meets the minimum threshold for "medium" effect sizes according to Cohen (1988). Several of the independent *t*-test analyses, when comparing the baseline scores of the treatment to control group measures, showed statistically significant results, indicating that there were differences between the groups on several variables at the outset. This occurred in the case of angry reaction ($t_{ind} = 2.020$, $p = .050$) where the treatment group reported higher scores, anger control-out ($t_{ind} = -2.142$, $p = .038$) where the control group reported higher scores, and the anger index ($t_{ind} = 2.272$, $p = .029$) where the treatment group reported higher scores. In the analysis of the follow-up scores taken as independent *t* tests the scales that showed statistical significance were trait anger ($t_{ind} = 10.479$, $p = .050$), where the treatment group reported higher scores and angry reaction ($t_{ind} = 2.315$, $p = .025$), where the treatment group also reported higher scores.

Table 9

Baseline, Follow-up, Mean and Change Scores (SD) for State-Trait Anger Expression Inventory-2 (STAXI-2) Outcome Variables (n= 46)

	Treatment group (n = 24)			Control group (n = 22)		
Measure	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-post change/(*d*)	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-post change/(*d*)
State anger	19.63 (5.26)	18.63 (4.89)	1.00 (.20)	18.24 (4.79)	18.29 (5.22)	-0.05 (-.01)
Feeling angry	8.13 (3.10)	7.63 (2.70)	0.50 (.16)	7.64 (3.47)	7.45 (3.43)	0.19 (.06)
Expressing anger verbally	5.92 (1.64)	5.63 (1.24)	0.29 (.10)	6.13 (2.32)	5.50 (1.34)	0.63 (.18)
Expressing anger physically	5.58 (2.17)	5.38 (1.64)	0.2 (.10)	5.10 (0.3)	5.19 (0.68)	-0.09 (-.01)
Trait anger	18.83 (5.04)	17.7 (4.88)	1.13 (.21)	16.05 (6.55)	14.55 (4.62)	1.50 (.28)
Angry temperament	6.83 (2.66)	6.13 (2.47)	0.70 (.17)	6.09 (2.99)	5.23 (1.88)	0.86 (.24)
Angry reaction	9.09 (2.68)	8.91 (2.45)	0.18 (.07)	7.35 (2.96)	6.90 (2.61)	0.45 (.11)
Anger expression–out	14.21 (3.23)	12.71 (2.14)	1.50 (.35)	12.77 (3.32)	12.36 (2.97)	0.41 (.01)
Anger expression–in	18.79 (4.15)	17.08 (4.92)	1.71 (.37)	18.57 (4.73)	17.90 (4.89)	.67 (.14)
Anger control–out	21.09 (4.75)	23.52 (5.17)	-2.43 (-.42)	23.80 (4.76)	26.50 (4.06)	-2.70 (-.47)
Anger control–in	21.09 (4.75)	21.78 (5.29)	-0.69 (-.14)	23.95 (4.7)	24.00 (4.44)	-0.05 (-.01)
Anger index	36.39 (12.89)	32.43 (14.06)	3.96 (.31)	27.94 (12.43)	26.94 (11.39)	1.00 (.08)

Table 10

Independent t Comparisons and ANOVA Results for State-Trait Anger Expression Inventory-2 (STAXI-2) Outcome Variables (n = 46)

	Independent *t* comparisons		ANOVA results					
Measure	Baseline t_{ind} (p)	Follow-up t_{ind} (p)	Time $F(p)$	Partial Eta^2	Treatment group $F(p)$	Partial Eta^2	Time x group $F(p)$	Partial Eta^2
State anger	.920 (.363)	.330 (.743)	.347 (.559)	.008	.459 (.502)	.011	.420 (.520)	.010
Feeling angry	.505 (.616)	.188 (.852)	.482 (.491)	.011	.170 (.682)	.004	.105 (.748)	.002
Expressing anger verbally	-.374 (.710)	.329 (.744)	2.718 (.106)	.058	.014 (.908)	.000	.375 (.543)	.008
Expressing anger physically	1.023 (.312)	.516 (.609)	.032 (.858)	.001	1.272 (.266)	.029	.234 (.631)	.005
Trait anger	1.568 (.124)	2.014 (.050)*	10.479 (.002)**	.204	3.565 (.066)	.080	.207 (.652)	.005
Angry temperament	.890 (.378)	1.379 (.175)	14.937 (.000)**	.253	1.297 (.261)	.029	.146 (.704)	.003
Angry reaction	2.020 (.050)*	2.315 (.025)*	1.469 (.233)	.035	5.842 (.020)**	.125	.288 (.595)	.007
Anger expression–out	1.485 (.145)	.455 (.651)	8.393 (.006)**	.160	1.227 (.274)	.027	2.741 (.105)	.059
Anger expression–in	.166 (.869)	-.513 (.611)	4.943 (.032)**	.103	.054 (.817)	.001	.951 (.335)	.022
Anger control–out	-2.142 (.038)*	-1.911 (.063)	12.490 (.001)**	.001	5.205 (.028)**	.115	.033 (.856)	.001
Anger control–in	-2.010 (.051)	-1.224 (.227)	.403 (.529)	.010	3.652 (.063)	.080	.306 (.583)	.007
Anger index	2.272 (.029)*	1.082 (.285)	2.940 (.094)	.070	3.418 (.072)	.081	1.046 (.313)	.026

*Paired samples *t*-test of change scores is statistically significant ($p \leq .05$)

**Significant p-value $\leq .05$.

Statistical Outcomes for Communication Variables

Research question 5 was posed as follows: To what extent would participants feel better equipped to communicate their concerns with significant others in their lives (e.g., spouses, family members, physicians, etc.) as a result of this intervention?

This research question was answered through the use of a communication survey developed independently for this study. The survey consists of two subscales, one measuring communication with family and significant others and the other communication with physicians and other professionals, as well as an overall total communication score. It is important to note that the communication scale is coded in an opposite direction from the other scales contained in this analysis. In this instance, lower scores are reflective of improved outcomes. The results of the analysis of this measure is provided in Tables 11 and 12.

The repeated measures analysis of variance shows a significant effect for both the total communication score, $F(1, 44) = 6.617$, $p = .014$, and the score for communication with family and significant others, $F(1, 44) = 8.368$, $p = .006$ on a time by group basis. This indicates that the intervention provided beneficial effects for both of these outcomes for the treatment group. In addition, the repeated measures ANOVA analysis for effects by time also reveals a statistically significant effect for communication with family and significant others reaction, $F(1, 44) = 7.268$, $p = .01$, indicating that this variable was also impacted by the passage of time. The interaction of the treatment and control group for the variable of the total communication score is depicted in Figure 6. The interaction of the two groups for communication with family and significant others is depicted in Figure 7.

As depicted in the Figure 7 there was a difference in baseline scores between the treatment and control group, however, this difference was not found to be statistically significant. Although

Table 11

Baseline, Follow-up, Mean and Change Scores (SD) for Communication Survey Outcome Variables (n = 46)

	Treatment group (n = 24)			Control group (n = 22)		
Measure	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-post change/(*d*)	Baseline M/(*SD*)	Follow-up *M*/(*SD*)	Pre-post change/(*d*)
Communication total score	22.88 (2.68)	21.50 (2.73)	1.38 (.32)	22.13 (3.33)	22.50 (4.09)	-.37 (-.01)
Communication family and significant others	11.71 (1.94)	10.42 (1.61)	1.29 (.36)	11.41 (2.22)	11.45 (2.65)	-.04 (-.01)
Communication physicians and other professionals	11.17 (1.76)	11.09 (1.82)	.08 (.04)	10.72 (1.70)	11.05 (1.86)	-.33 (-.10)

Table 12

Independent t Comparisons and ANOVA Results for Communication Survey Outcome Variables (N = 46)

	Independent *t* comparisons		ANOVA Results					
Measure	Baseline t_{ind} (*p*)	Follow-up t_{ind} (*p*)	Time *F*(*p*)	Partial Eta^2	Treatment group *F*(*p*)	Partial Eta^2	Time x group *F*(*p*)	Partial Eta^2
Communication total score	.833 (.409)	-.982 (.331)	2.239 (.142)	.048	.021 (.884)	.000	6.617 (.014)**	.131
Communication family and significant others	.490 (.626)	-1.620 (.112)	7.268 (0.01)**	.005	.403 (.529)	.006	8.368 (.006)**	.015
Communication physicians and other professionals	.860 (.394)	.070 (.945)	.277 (.636)	.005	.262 (.611)	.006	.664 (.420)	.015

*Paired samples *t*-test of change scores is statistically significant ($p \leq .05$).

**Significant *p*-value ≤ .05.

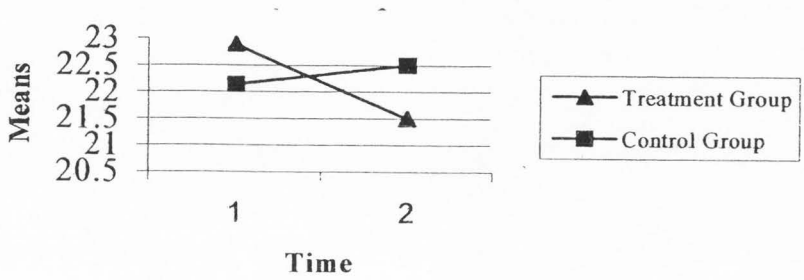

Figure 6. Communication total score time by group inteaction.

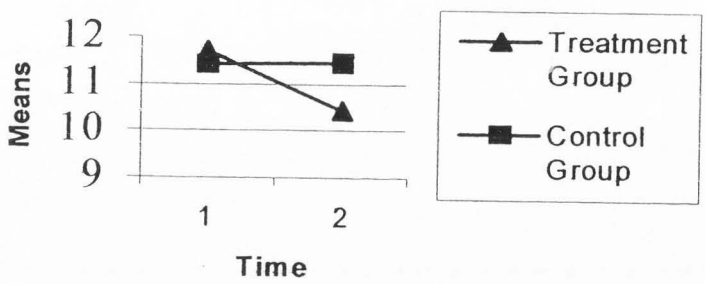

Figure 7. Communication family and significant others time by group interaction.

the control group scores showed a slight increase in scores over time, the treatment group demonstrated a statistically significant decrease in their scores as a result of the intervention.

As depicted in the graph there were minimal differences between the treatment and control groups at baseline on this variable. There was almost no change in scores for the control group, however, from time one to time two, while the treatment group demonstrated a noticeable decrease in scores as a result of the intervention.

In terms of effect sizes, the treatment group showed overall "small" effect sizes in the baseline to follow up comparisons. Independent sample *t* tests were conducted on all three variables for this survey for both the baseline and follow-up scores. No statistical significance was detected on any of the three variables in either case.

Statistical Outcomes for Self-Efficacy Variables

Research question 6 was posed as follows: What would be the impact of the intervention of participant's report of levels of self-efficacy? In order to investigate this question, participants were given the Chronic Pain Self-Efficacy Questionnaire, which provides three separate subscales allowing for an examination of pain management, physical function, and coping with symptoms. The results of the analysis of this measure are provided in Tables 13 and 14.

Each subscale was first analyzed through an independent *t* test to look for differences in groups at baseline and follow-up. These tests failed to reveal statistically significant results. The variables were then analyzed independently through a repeated measures ANOVA in order to seek to identify effects for the interaction of time by group as well as the main effects of time and group membership. No statistically significant effects were found on any of the three scales in the analyses of time by group or by group, but two of the scales showed statistical significance when analyzed based on time. Pain management, $F(1, 44) = 34.926$, $p = .000$, and coping with

Table 13

Baseline, Follow-up, Mean and Change Scores (SD) for Chronic Pain Self-Efficacy Scale (CPSS) Outcome Variables (n = 46)

	Treatment group (n = 24)			Control group (n = 22)		
Measure	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-post change/(*d*)	Baseline *M*/(*SD*)	Follow-up *M*/(*SD*)	Pre-post Change/(*d*)
Pain management	35.00 (12.88)	51.58 (19.77)	-16.58(-1.17)	39.27 (15.52)	53.63 (16.31)	-14.36 (-1.02)
Physical function	53.33 (19.12)	57.36 (18.16)	-4.03 (-.22)	50.00 (19.94)	53.13 (17)	-3.13 (-.17)
Coping with symptoms	36.51(15.41)	48.39 (19.31)	-11.88 (-.73)	43.18 (14.43)	46.60 (16.37)	-3.42 (-.21)

Table 14

Independent t Comparisons and ANOVA Results for Chronic Pain Self-Efficacy Scale (CPSS) Outcome Variables (n = 46)

	Independent *t* comparisons		ANOVA results					
Measure	Baseline T_{ind} (p)	Follow-up T_{ind} (p)	Time $F(p)$	Partial Eta^2	Treatment group $F(p)$	Partial Eta^2	Time x group $F(p)$	Partial Eta^2
Pain management	-1.019 (.314)	-.382 (.704)	34.926 (.000)**	.443	.611 (.439)	.004	.180 (.674)	.014
Physical function	.579 (.566)	.814 (.420)	2.598 (.114)	.056	.568 (.455)	.013	.041 (.841)	.001
Coping with aymptoms	-1.512 (.138)	.338 (.737)	8.136 (.007)**	.156	.358 (.553)	.008	2.496 (.121)	.054

*Paired samples *t*-test of change scores is statistically significant ($p \leq .05$).
**Significant p-value $\leq .05$.

symptoms, $F(1, 44) = 8.136$, $p = .007$, both appeared to have been impacted due to the passage of time rather than any effect due to the intervention.

Effect size calculations of differences between baseline and follow-up scores reveal that the treatment group shows some a "large" effect size in the pain management outcome variable (-1.17) as well as a "moderate" effect size for coping with symptoms (-.73) and a "small" effect size for physical symptoms (-.22). The control group also shows a "large" effect size for the pain management (-1.02) outcome variable, but only "small" effect sizes for the other two categories. Repeated measures ANOVA effect size calculations reveal a medium effect size (.443) for the pain management outcome variable in the time condition.

Alternate Data Analysis

Given the existence of pretreatment differences on several of the dependent variables, additional data analysis was conducted in order to attempt to determine whether controlling for these differences would result in statistically significant different outcomes. An alternate data analysis was conducted on all 30 outcome variables in an attempt to control for pretreatment differences via analysis of covariance (ANCOVA). The baseline dependent variable scores were entered as covariates for this analysis. The results are presented in Table 15.

Based on this alternate analysis it does not appear that the findings are significantly different from those obtained via the repeated measures of variance analysis conducted previously, specifically in terms of the statistically significant outcomes of Vitality, Social Functioning, Role Emotional, Mental Health and Mental Health Component Summary for the SF-36 and the Family and Significant Others Scale as well as the Total Scale for the Communication Survey. Whereas the ANOVA revealed partial eta^2 values for treatment group differences for Vitality, Social Functioning, Role Emotional, Mental Health and Mental Health Component Summary of .001,

Table 15

ANCOVA Results for All Outcome Variables (N = 46)

Variable	Treatment mean	Control mean	Marginal treatment mean	Marginal control mean	(*p*) group difference	Partial Eta^2	Cohen's *d*
FIQ							
Fibro physical	4.1499	4.5134	4.281	4.371	.849	.001	0.0039
Fibro total	39.6024	42.3802	40.301	41.618	.528	.009	0.0572
CPSS							
Pain	51.5833	53.6364	52.689	52.430	.959	.000	-0.0112
Physical	57.3611	53.1313	56.389	54.192	.575	.007	-0.0955
Coping	48.3854	46.5909	N/A	N/A	N/A	N/A	N/A
STAXI-2							
State Anger	18.6250	18.2857	18.350	18.601	.858	.001	0.0109
Feeling Angry	7.6250	7.4545	7.526	7.563	.965	.000	0.0016
Expressing V	5.6250	5.5000	5.651	5.471	.615	.006	-0.0078
Expressing P	5.3750	5.1905	5.385	5.179	.604	.006	-0.009
Trait Anger	17.6957	14.5500	N/A	N/A	N/A	N/A	N/A
Angry Temper	6.1250	5.2273	N/A	N/A	N/A	N/A	N/A
Angry React.	8.9130	6.9000	8.328	7.573	.127	.057	-0.0328
Anger X Out	12.7083	12.3636	12.314	12.794	.373	.018	0.0209
Anger X In	17.0833	17.9048	17.002	17.997	.346	.021	0.0432
Anger C Out	23.8333	26.8500	24.794	25.698	.409	.017	0.0393
Anger C in	21.7826	24.0000	22.742	22.949	.859	.001	0.009
Anger Index	32.4348	26.9444	29.616	30.546	.752	.003	0.1709
COMMUNICATION							
Family	10.4167	11.4545	10.307	11.574	.007	.158	-.57
Physicians	11.0833	11.0455	10.957	11.183	.624	.006	0.0098
Total	21.500	22.5000	21.193	22.835	.020	.120	-.48

(*table continues*)

Variable	Treatment mean	Control mean	Marginal treatment mean	Marginal control mean	(*p*) group difference	Partial Eta^2	Cohen's *d*
SF-36							
Physical functioning	34.6727	30.8320	33.440	32.311	.394	.018	0.1129
Role-physical	29.4039	28.8010	29.985	28.167	.327	.022	0.1818
Bodily pain	34.8773	30.6336	N/A	N/A	N/A	N/A	N/A
General health	35.6538	34.1046	35.098	34.711	.807	.001	0.0387
Vitality	35.4403	32.3656	35.642	31.354	.068	.077	0.4523
Social functioning	33.2153	31.8105	34.845	30.033	.064	.077	0.4812
Role-emotional	35.3089	33.0855	36.845	31.409	.097	.063	0.5436
Mental health	40.7383	38.1036	42.671	35.995	.014	.132	0.6676
MCS	38.9474	35.7317	41.052	33.206	.012	.143	-0.0689
PCS	32.4588	29.8923	30.979	31.668	.640	.005	0.7846

.015, .018, .005, and .013, respectively, the ANCOVA partial eta^2 values for the posttreatment mean differences were .077, .077, .063, .132, and .143, respectively. The results of the ANCOVA analysis are also presented in a slide show format as they were presented in an oral presentation to the Society of Behavioral Medicine 26th Annual Meeting in Boston, Massachussetts on April 15, 2005 (Appendix K).

CHAPTER V

DISCUSSION

Summary

The randomized controlled intervention demonstrated variable efficacy for FMS symptoms, health-related quality of life variables, anger levels, communication skills, and self-efficacy. In terms of the physical status outcome variables, including the Fibromyalgia Impact Questionnaire as well as the SF-36 physical scales, the intervention failed to yield statistically significant results. The anger and self-efficacy scales also did not show statistically significant pre-post differences.

Mental health related quality of life outcomes, as analyzed by the SF-36 scales, provided statistically significant results suggesting that the intervention may have been effective in assisting participants in modifying several aspects of their emotional well-being such as vitality and social functioning. In addition, the outcomes for the communication variables were overall statistically significant with the exception of the measure of communication with physicians and other professionals.

The overall pattern of results obtained in this study suggests that while a psychoeducational intervention of short duration focusing on cognitive coping skills and communication techniques may not have had the desired impact on physical symptoms and anger levels, it nevertheless resulted in significant differences between the treatment and control group on important measures of emotional health and communication. The findings will be discussed in light of existing FMS literature. Limitations and implications for future research will also be discussed.

Discussion

Demographics/Descriptive Statistics

In regards to research question 1, many of the demographic and descriptive statistical findings for this study are very closely aligned with reports in the literature regarding the distribution of fibromyalgia characteristics in the general population. A review of key variables in Table 3 allows for some noteworthy implications to be made regarding this study sample and findings in other research samples.

Symptoms

While it may appear that our sample is consistent between groups in terms of number of symptoms ($\bar{x}$ = 12.46 treatment vs. $\bar{x}$ = 12.45 controls) as well as the mean number of trigger points ($\bar{x}$ = 12.67 treatment vs. $\bar{x}$ = 11.75 controls), the overall symptom picture presented by this specific sample presents somewhat of a dilemma. The American College of Rheumatology Diagnostic Criteria for fibromyalgia requires individuals to have at least 11 out of 18 trigger points as well as a history of widespread pain criteria. The study sample population averaged approximately 12 trigger points per group (*SD* = 5.20 treatment vs. *SD* = 5.79 controls) and widespread pain was consistently present (95.8% treatment vs. 95.5% controls). If we were to apply the ACR criteria to this sample, therefore, only 41.7% of the treatment group and 50% of the control group would meet the criteria and thus qualify for a diagnosis of fibromyalgia (Wolfe et al., 1990; nine individuals did not report any specific number of trigger points on their form).

It is important to note several issues with regard to FMS diagnostic criteria. While a majority of the current studies do utilize the ACR criteria presently in effect, others, namely those for which these criteria were not available at the time of recruitment, made use of earlier systems such as the Smythe and Moldofsky (1977) or the more recent Yunus et al. (1981) criteria. Despite

the fact that the ACR criteria were available, this sample was not selected according to these criteria. There are currently no rheumatologists in Logan and many of the patients in this sample were being treated in primary care settings. Additionally, as our clinic is not a medical facility no independent medical professional was available to verify the diagnosis. As a result we chose to rely on a "community" diagnosis of fibromyalgia by only accepting patients who had received a diagnosis of fibromyalgia from a local healthcare provider, regardless of the specific diagnostic criteria utilized.

If we examine the overall symptom pattern in our sample, however, we can see that while over half of both groups may not meet the trigger point criteria for the ACR diagnosis, over 95% of participants in both categories meet the second ACR criteria of a history of widespread pain. Additionally, if we begin to apply the other two diagnostic criteria (Smythe & Moldofsky, 1977; Yunus et al., 1981) we begin to see that this sample may indeed closely resemble a fibromyalgia sample after all.

Furthermore, if the Yunus et al. (1981) criteria were utilized we would find even more similarities with our sample. Indeed, when the threshold for number of trigger points is lowered to 5 instead of 11 to meet this diagnostic criterion, 84% of the total sample qualify as opposed to only 68% for the 11 of the ACR (87% of the treatment group and 81% of the controls for Yunus vs. only 67% of the treatment group and 69% of the controls according to ACR). Again it is important to consider the fact that 15 individuals in the sample left this question blank on their form, so in this case the total sample considered for the trigger point calculation is 31. One hundred percent of the treatment group and 95.5% of the controls report sleep disturbances; 91.7% of the treatment group and 100% of the controls report fatigue; 95.8% of the treatment group and 77.3% of the controls report psychological concerns; 79.2% of the treatment group and 90.9% of the controls report headaches; 83.3% of the treatment group and 77.3% of the controls report gastrointestinal

concerns, and 79.2% of the treatment group and 81.8% of the controls report neurological concerns.

Despite the fact that this sample may not have met any one specific diagnostic criteria, it appears that the overall symptom pattern of the participants closely resembles that of a "typical" fibromyalgia or "fibrositis" patient with the possible exception of meeting the criterion of having a specific required number of trigger points. Additional implications for external validity will be discussed in greater detail in the limitations section below.

Age and Gender

The mean age of the sample ($\bar{x}$ = 48.42 treatment vs. $\bar{x}$ = 50.64 controls) appears to be consistent with findings of other similar intervention studies conducted with FMS patients, which report similar mean sample ages, indicating that the population targeted for this study was within age limits typical for this disorder (Bennett et al., 1996; Goldenberg et al., 1994; Mengshoel et al., 1995).

In addition, our finding that a majority of the available participants for this study were women (95.8% female in the treatment group as well as 95.5% female in the control group), is also consistent with findings from comparable intervention studies, which indicate that the gender distribution in fibromyalgia studies typically favors women from as much as 69% to 100% (Bennett et al., 1996; Buckelew et al., 1998; Burckhardt & Bjelle, 1999; Ferraccioli et al., 1987; Goldenberg, 1999; Goldenberg et al., 1994; Haanen et al., 1991; Keel et al., 1998; Kogstad & Hintringer, 1993; Mengshoel et al., 1995; Nielson et al., 1992; Wigers et al., 1996).

Employment

In terms of employment, the fact that only approximately half of both the treatment and control groups were employed is consistent with the unpredictable nature of fibromyalgia, which

varies immensely from person to person allowing some to remain active in the workforce, while causing severe disability for others. Functional and work disability studies conducted utilizing the Health Assessment Questionnaire Functional Disability Index confirmed the fact that many FMS patients find it difficult to sustain permanent and stable employment, reporting that 30% of patients studied experienced a need to change jobs as a direct result of their symptoms and 17% retired from the workforce entirely (Cathey, Wolfe & Kleinheksel, 1988). Specific nonwork rates of FMS patients are difficult to obtain due in part to the fact it has been more difficult in the past for patients with this disorder to obtain social security disability benefits and, therefore, the ability to track specific rates has been less reliable (Corliss Neuber, public affairs specialist, Social Security Administration, Salt Lake City, personal communication, May, 2004).

Medication Use

The difference in medication use identified at baseline between the treatment and control group was an issue that was considered carefully. Overall the treatment group reported less medication usage than the control group (75% treatment vs. 86.4%) although this difference was not statistically significant. The control group reported using more antidepressants, analgesics, vitamin/minerals, and anxiolytics than the treatment group although the only statistical difference occurred in the use of antidepressants. The treatment group reported using a higher amount of muscle relaxants. In this particular case, one possible explanation for this discrepancy is that it appears a higher percentage of the individuals in the control group were also members of the local fibromyalgia support group (25% treatment vs. 36.4% controls). This could account for the difference of medication use given the fact all members of the support group use some type of medication and most are patients of the same physicians in Logan.

In some studies in which patients are allowed to continue medication use, there is a potential concern the use of these substances may influence some of the outcome variables, in particular scores on measures involving physical health issues. Because none of the outcomes in fibromyalgia symptoms or other physical outcome scores were found to be significant in the analysis, it was decided that the difference in the medication use between the group was not likely to have influenced the results in any significant manner. A similar study conducted by Nielson et al. (1992), in which antidepressant medication was not controlled due to ethical reasons, also reported that a similar discrepancy did not impact their results to a significant extent. In addition, no specific combination of medications has yet been proven to alleviate all symptoms of fibromyalgia (Mayo Clinic Foundation for Medical Education and Research, 2003; National Fibromyalgia Partnership, Inc. 2001; Rossy et al., 1999; Wallace & Wallace, 2002). Finally, the fact that this study was not concerned with medication trials, drug usage was less of a concern.

Fibromyalgia Specific Outcomes

The first set of variables that were analyzed for this study concerned the specific outcomes relating to fibromyalgia symptoms. Specifically the Fibromyalgia Questionnaire is administered with the intent to determine not only a participant's overall level of impairment due to FMS, but also provides a measure of his or her physical function. Appendix B provides a synopsis of several of the major studies that have been conducted utilizing either the FIQ or other measures of fibromyalgia symptom specific report. These studies also contain treatment elements similar to those provided in this intervention (e.g., cognitive behavioral therapy, relaxation). For the studies in Appendix B that used the FIQ or other fibromyalgia symptom reporting method, a majority (5 out of 8 studies) listed positive outcomes as demonstrated by either statistical significance or medium-to-large effect sizes. All of these studies, however, exceeded the duration of the current study by at

least two weeks (Kogstad & Hintringer, 1993), and some by as many as two years (Buckelew et al., 1998). This difference in duration alone may have been one of the primary reasons that a difference in fibromyalgia symptoms reported on the FIQ, most of which are physical, were not seen in the 4-week period of this study.

In addition, several (8 out of 10) of the studies listed in Appendix B included an exercise or physical therapy component to their intervention, which was not provided in the present study. Given the fact that this intervention was primarily targeted towards emotional objectives and that an active exercise component was not present, it stands to reason that an impact on physical functioning was not found. In addition, the relaxation exercises provided in this intervention, specifically body scan and progressive muscle relaxation, combined with cognitive-behavioral therapy likely served to maintain or increase the focus of participants on their bodies in the short term and the scores on physical function did not change. It is also possible that, had the intervention taken place over a longer time period, participants may have been able to assimilate the relaxation skills more fully and thus may have been able to manage their physical pain more effectively. In this case participants may have been able to achieve results more similar to those studies with a longer intervention duration.

It is interesting to note, however, that the intervention conducted by Kogstad and Hintringer (1993), which is most similar to the one conducted in this study both in terms of duration (6 weeks vs. 4 weeks in the present study) as well as content (psychoeducation including relaxation training and communication and problem-solving skill training), also failed to yield statistically significant differences in pain or other physical indicator scores. Their intervention did, however, similarly, produce improvements in perceived quality of life in treatment participants versus controls.

In terms of reasons provided for success of interventions, researchers stated primarily that a combination of increased understanding of the illness process in FMS as well as an increased sense of mastery of coping skills to manage symptoms appeared to account for a large portion of the improvement seen in the participants (Bennett et al., 1996). In addition, a great deal of emphasis was placed on the role of the therapists or intervention leaders. In some cases it was felt that the improvement seen in participant symptoms could have been attributed more to the attention and concern provided by the research staff than the actual content of the intervention itself (Mengshoel et al., 1995). These positive attentional effects were likely minimal and due to the short duration of the present study.

The intervention for this study followed the format utilized by Goldenberg and colleagues' (1994) group, who proposed that a structured program for FMS patients should include components of meditation, unstructured discussion, formal presentation and instruction in homework to be practiced over the course of the week between sessions. During both the discussion as well as the formal presentation portion of our study, focus was directed towards helping participants increase their understanding of the FMS disease process. In addition, emphasis was placed on building relationships, not only between the participants and the research staff, but also among the participants themselves, in an effort to decrease their sense of isolation and alienation. It follows, therefore, that our results would be in line with those observed by Goldenberg et al., who reported that the largest gains for their group were demonstrated on the global severity index of the SCL-90-R, which is primarily a measure of psychological status.

Furthermore other researchers have hypothesized that, despite having conducted interventions that have included both psychological (CBT) and physiological components, a single intervention (i.e., containing either CBT or exercise, but not both), may be equally effective (Bennett et al., 1996). Indeed, others have questioned the additive benefit of exercise for this group

of patients and suggest that it may be unclear as to the specific characteristics of FMS patients for whom this might be useful (Burckhardt et al., 1994; Keel et al., 1998).

Health-Related Quality of Life Outcomes

It was expected that the physical outcome scales on the SF-36 would yield statistically significant results. This was, however, not the case when analyzed in the time by group interaction. Three of the primary physical scales, physical functioning, role–physical, and general health were statistically significant when analyzed by time alone, but this effect was likely not due to any impact of the intervention and rather simply due to the passage of time alone. As with the disease specific FIQ, the most likely explanations for a lack of significant findings in the area of physical health outcomes is the short duration of the intervention, a raising of awareness of bodily concerns, and a lack of a physical exercise or therapy component to the intervention. In addition, the observation that the increased focus on body sensations may explain the spike that was seen in the bodily pain scale score, which, while not statistically significant, remains noticeable.

The more interesting findings for this study are in terms of the mental health scale scores from the SF-36. All of the mental health scales (vitality, social functioning, role–emotional, mental health) as well as the mental health component summary score yielded statistically significant scores in the analysis of time by group. This finding indicates that the intervention provided a positive effect on the treatment group as opposed to the controls who received no treatment during the same time frame. The vitality, mental health and mental health component summary scores also yielded a statistically significant effect independently for time alone suggesting that the passage of time alone played a role in the change in these variables.

Each of the four SF-36 primary mental health scales (vitality, social functioning, role-emotional, and mental health) as well as the mental health component summary score represents a

crucial component of the inner experience of each of the participants involved in the intervention. As can be seen from Table 8 the sample means for this study as compared to the normative means for a sample of depressed individuals indicate that the FMS group exhibited significantly more impairment as compared to this group as demonstrated by "medium" and "large' effect sizes on almost all SF-36 outcome variables except for the mental health variables. This matches findings in the literature that the prevalence of depression, and most likely other comorbid psychiatric disorders such as anxiety, is especially high in FMS populations (Aaron et al., 1996; Hudson et al., 1985, 1992). Given this finding, it follows that an intervention that was based heavily on cognitive-behavioral therapy would be successful based upon the prior studies mentioned above.

The finding that this study failed to yield significant results in the area of physical outcomes and instead impacted outcomes in the realm of emotional well-being raises the question of whether or not the intervention can be considered a success given the fact that we initially sought to impact variables in both domains. Despite several limitations, we feel this intervention was successful in providing an improvement in the quality of life for FMS patients. Chronic pain patients are individuals who are struggling with several key issues that are central to their sense of self and have often lost a sense of control of mastery over their illness and ever their lives (Jensen et al., 1991). Although the ultimate objective may be to reduce bodily pain and restore physical function, or at a minimum to impact function and perceived quality of life, the primary goal must be to decrease their sense of isolation and address some of the cognitive distortions that stand in the way if any progress (physical or emotional) that will ultimately take place.

Several interventions documented in the fibromyalgia literature have even suggested that it may not be that actual content of the interventions itself that is "curative," but rather the opportunity provided to receive validation and attention and the ability for participants to realize that they are not alone in their experience (Mengshoel et al., 1995; Steihaug et al., 2002). In

addition, other studies, as identified previously, have even questioned the value of including an exercise component within an intervention for fibromyalgia patients, stating that simpler interventions focusing exclusively on emotional components may be equally effective for this population given some of the mixed outcomes and adherence concerns that have been identified (Bennett et al., 1995; Keel et al., 1998).

Two of the primary SF-36 mental health scales, role - emotional (problems or interference with work or daily activities as a result of emotional concerns) and mental health (feeling down and blue or positive and upbeat) are of particular interest. Both of these scales may also be related not only to the content of the intervention itself, but also to other emotional factors including the relief that might be obtained from the knowledge that others are experiencing similar issues and that their concerns are valid. A study conducted by Steihaug et al. (2002) designed to assist women with chronic muscular pain develop a new tool for managing their pain by providing a combined somatic and verbal intervention reported similar results. In this study the researchers combine a physical (movement training) and verbal treatment (group discussions) approach to the management of women with chronic muscular pain disorders. The patients in this study described listening (being taken seriously and respected even if no tangible solutions are forthcoming), understanding (having experiences in common with others and being believed), acceptance and tolerance (in the absence of value judgements or condemnation), and confirmation of the patients' experiences (validation) as some of the most important components of their program. As noted in the above study:

> Being seen, understood, and recognized by others may be a necessary precondition to change your image of self in a more positive direction. Other participants or the group leaders might remind the women of strong sides they were not aware of, or did not dare to employ. (Steihaug et al., 2002, p. 285)

Likewise, Kowarsy and Glazier conducted a study in 1997 designed to address psychosocial needs of patients with arthritis. During the course of this intervention, 182 individuals participated in group therapy sessions in which facilitators utilized a variety of innovative techniques including journaling assignments, reading and discussion in order to address the psychosocial needs of these patients. These researchers also found that the coping skills component combined with the opportunity to connect with others who shared similar concerns was critical in assisting these individuals to "experience normalization and validation of painful feelings and to express strong emotion" (Kowarsky & Glazier, p. 126). Both of these studies support the concept that an intervention for chronic pain patients that effects positive change in emotional domains, even if it is only the beginning of a change in these areas, demonstrates a success for this population.

Specifically, the sessions sought not only to provide skills training in learning to correct cognitive distortions and reframe situations in a more positive and realistic manner, they also intended to bring together a group of individuals who may have previously felt isolated. In many instances it is the experience of fibromyalgia patients and individuals who live with chronic pain in general that they feel a need to either limit social contact or suppress their emotional expression altogether, thus deepening and worsening their feelings of despair, grief, depression and ultimately increasing their physical sensations of pain (Beutler et al., 1986; Fernandez & Turk, 1995; Kugelmann, 1999).

As observed in the intervention by Kosgtad and Hintringer (1993), the most beneficial aspect of the intervention was reported by participants to be the group therapy component, which was thought to be correlated with reported improvements in overall quality of life despite a lack of significant findings on any of the physical outcome variables. It is hypothesized that a similar effect took place during this intervention and accounted for the statistically significant changes in

the SF-36 outcome scores observed for this analysis. Specifically, the vitality and social functioning scales relate directly to the amount of energy as well as the degree to which an individual was able to engage in social activities due to emotional concerns.

In addition, it is important to note that the results of the ANCOVA are also closely aligned with findings in the literature in regards to typical effect sizes in behavioral health intervention studies. Specifically, correlation coefficients for outcomes obtained in other psychological intervention studies examining such variables as psychological health in connection to psychotherapy, depression relating to cadiovascular disease risk, overall mortality and depression, and so forth range from .11 to .32 (Rutledge & Loh, 2004). The clinical implications of these studies have been significant in terms of relating health-related outcomes to psychological factors by demonstrating that correlation coefficients between these variables have been significant. It is important to note that the several of the health-related quality of life effect sizes in this study are commensurate with those discussed in these intervention studies, in particular the SF-36 Vitality, Social Functioning, Role-Emotional, and Mental Health values, which range from .27 to .38.

Anger Outcomes

Anger was an important targeted outcome for which the treatment failed to yield statistically significant results. Specifically we expected the study would effect change in participants' present experience of anger (state) as opposed to their more stable anger characteristics (trait). In addition, we were interested in examining changes in their expression of anger particularly in terms of the variables of anger expression-in and anger expression-out in order to determine if participants who had previously been suppressing their anger might learn to express it in a more positive manner. We had hypothesized additionally that suppression of anger might be an especially important factor in the experience of fibromyalgia as

this may cause an increase in physical tension, specifically in the muscle, and therefore and elevation in the experience of pain (Schwartz et al., 1981).

None of the 11 anger subscales yield statistically significant results on a time by group basis although several yielded significant results on a time basis alone indicating that these outcomes improved solely based on the passage of time rather than based on the impact of the intervention. Several possible explanations for the lack of change on this outcome cluster are possible. First, as stated in the literature, individuals with chronic pain may be more prone to anger suppression than healthy controls in general either due to social or emotional reasons or simply due to lack of awareness that they are angry (Okifuji et al., 1999). Given this fact, one module on anger management may not have sufficed to help these individuals come to terms with an emotion that may have been especially difficult for them to either recognize or feel comfortable in expressing. If the suppression hypothesis is indeed correct, the lack of significant findings on the anger scales may well simply reflect the brief intervention duration. This would be particularly true if many of the participants followed the hypothesis postulated by several researchers who believe that individuals who habitually suppress anger will continue to experience physical discomfort as a result of their inability to express this emotion in an adaptive manner (Catchlove & Braha, 1985). If these individuals did indeed feel anger that they were previously suppressing, acknowledging and beginning to experience this emotion this may have made their perception of this feeling worse in the short term, thus potentially accounting for the lack of improvement in the outcome scores on this measure.

It is also possible, as suggested in the study conducted by Steihaug et al. (2002) that the first step in the process of working with chronic pain patients is to bring them together in a safe and accepting environment where they become in touch with emotions that have been denied, ignored, suppressed or distorted. Perhaps anger represents a level of emotion that was too deep for

a short intervention, whereas a more tangible and cognitive skill, such as communication as we shall see below, represented a more manageable objective for this time frame.

Communication Outcomes

The objective of this intervention, despite its short duration, was to provide the participants with some practical communication skills in specifics areas that had been identified in the literature as especially problematic for chronic pain and fibromyalgia patients. In particular the session devoted to communication skills sought to assist individuals in expressing their needs and wishes in a more assertive and proactive manner; setting appropriate and healthy boundaries for themselves; and learning to interact more effectively with their healthcare providers. Statistical significance was obtained for the time by group interaction for the total communication score and for communication with family and significant others scores.

Many of the individuals in this sample had experienced symptoms for a long period of time ($\bar{x}$ = 14.29 years treatment vs. $\bar{x}$ = 19.41 years controls) thus increasing their chances of difficulties with emotional expression often seen in patients with chronic pain (Beutler et al., 1986; Lumley et al., 1996). It seems possible, as postulated by Steihaug and colleagues' (2002) study, the ability of these participants to receive validation and support may have paved the way for them to become more receptive to learning and implementing the assertiveness and communication skills presented later in the intervention.

The fact that the analysis failed to reveal significant findings in the area of communication with physicians and other professionals could be explained in a number of ways. It is quite possible that the intervention may simply have been too short for the participants to have an opportunity to interact with their providers and to have an opportunity to utilize new skills learned in the intervention.

Self-Efficacy Outcomes

No significant findings were found on any of the three scales of the Chronic Pain Self-Efficacy Scale for time by group, but significant effects were found for time alone for pain management and coping with symptoms. This indicates that the intervention itself did not impact the self-efficacy of participants in terms of pain management, physical functioning or coping with symptoms, as measured by this particular scale. Two possible explanations could justify these findings. The first concerns issues of instrument reliability and validity raised earlier in that it may have been possible that this instrument may not have been appropriate for this sample or that it may have failed to measure the construct of interest. The second possibility is that the intervention may have failed to address the self-efficacy as a skill in terms of the psychoeducational portion of the training provided.

Interventions that have proven successful in increasing self-efficacy or an individual's belief in his or her ability to effect change in pain levels have often either focused on targeting specific beliefs about pain as opposed to more general coping strategies as was the case in this intervention, have included other components such as exercise or have had a longer duration (Arnstein, 2000; Marks, 2001). In addition, this instrument also contained a scale specific to self-efficacy in physical outcomes, which, as noted previously, this intervention did not address, most notably in the context of arthritis pain management, whose interventions compare most closely to those executed in the FMS field; Buckelew et al., 1998)

Therapist Feedback

Interviews with the six therapists (three male and three female) following the end of the intervention revealed several important themes: (a) many of the participants reported the interpersonal nature of the group was one of the most beneficial aspects of the treatment, (b) most

participants expressed a desire to engage in additional sessions beyond the time frame provided by the intervention, (c) several participants expressed gratitude that fibromyalgia was being studied in more detail and being considered as a more significant syndrome by the healthcare community, and (d) many participants reported feeling as though many of the skills provided by the intervention (in particular cognitive coping skills and relaxation skills) would be useful to them in their daily lives.

Implications

The primary implication of the present study is that it is possible to conduct a time-limited cost effective cognitive-behavioral intervention for patients suffering from FMS symptoms and demonstrate a beneficial impact in the area of psychological function. Thus, while longer intervention which incorporation elements of physical exercise may be required in order to demonstrate changes in the area of immediate physical symptom improvement, the changes in emotional well-being may well be the precursors to these changes in the long term.

Another implication of the present study is that while this study may not have been especially representative of FMS patients according to ACR criteria and may not be generalizable to other groups, all of the patients involved in this intervention considered themselves to be FMS patients and spoke a common disease language. So, while it may have been preferable to have obtained a more "pure" FMS sample from a diagnostic perspective, it would appear that as long as a patient group perceives themselves as unified according to a common set of symptoms or conditions, the outcome of any given intervention is likely to be successful.

A related implication is that it is important to consider the aspects of the intervention that were "hidden" and potentially accounted for a large part of the emotional improvement seen in the patients. These factors, such as therapist empathy, the availability of a support network, increased sense of purpose in planning one's day, have also been noted as elements that while not specifically

measured as independent constructs have played an important role in other interventions as they may well have in this one (Kogstad & Hintringer, 1993; Steihaug et al., 2002).

A final implication is the need to carefully select measures that correspond to constructs that are being assessed within the context of any given intervention as well as to be aware of the existence of possible gains that may exist outside of the bounds of existing metrics. The fact that a measure alone does not reveal statistical significance in many cases can fail to capture the social and emotional gains provided to patients by these interventions. A return to case studies and case reports, as has been done repeatedly in the chronic pain literature is especially helpful in capturing information within this domain.

Limitations

Despite several positive findings in this study, there remain important limitations that warrant mention. The first limitation concerns the length of time of the actual intervention. Most interventions in the fibromyalgia and chronic pain literature that have shown positive results have ranged from 6 weeks to 3 months in duration and many have included follow-up sessions (Bennett et al., 1996; Buckelew et al., 1998; Ferraccioli et al., 1987; Goldenberg et al., 1994; Haanen et al., 1991; Keel et al., 1998; Kogstad & Hintringer, 1993; Mengshoel et al., 1995; Wigers et al., 1996). The length of this intervention was chosen due to the difficult and chronic nature of the illness in order to attempt to control for attrition. A major concern with this intervention was the fact that no prior therapeutic relationship had been established with these patients and no infrastructure existed to support a lengthy intervention (i.e., a single graduate student researcher with one undergraduate research assistant). In addition, significant concerns regarding drop out rates due to the unpredictable nature of this illness and the small estimated starting pool of potential participants available in the area limited the study to a maximum of four weeks.

Validity

This study also poses interesting validity issues, in particular regarding questions of internal validity or the extent to which "extraneous variables have been controlled by the researcher" (Borg & Gall, 1989, p. 642). As in all studies, many threats to internal validity were present in intervention. The first concern mentioned by Borg and Gall is the issue of history, which relates experiments that extend over long periods of time and can, therefore, be influenced by other external events in time. In our case it is unlikely that this particular concern was significant due to the very short duration of the intervention. The second issue, maturation, referring to biological or physiological changes that may occur in participants in a treatment over the course of an intervention was also unlikely to have had a significant impact. While it is true that FMS patients were undoubtedly experiencing significant physical and biological symptomatology over the course of the intervention, it is unlikely the process they were undergoing was due to maturation as defined by Borg and Gall. However, it is also well known that FMS patterns can have significant variability in day-to-day symptoms, which clearly increases measurement error and decreases statistical power.

The next issue of testing, may well have been a concern for this study in a number of ways. Not only could the participants potentially have been subjected to a test-retest bias given the short time period during which they were given the two identical tests (although this is less likely given the fact that the tests concerned emotional function and physical assessment rather than factual recall), they may also have been influenced by such issues as face validity and demand characteristics.

In this particular study, it could also be argued that one of the reasons the lack of significant effects found on several of the outcome measures may have been due to the fact that the

initial assessment may actually have served as an intervention in and of itself. Thus, the control group, intended to be solely constructed as a "wait-list," may, in fact, have been sensitized, and potentially even have shown some improvement, merely by the administration of the five instruments at intake.

It is also possible that participants may have been influenced by a number of demand characteristics, in particular a possible desire to please the researcher who was the facilitator of the local support group to whom many of them belonged. In addition, it is possible that participants may have had a desire to "fake good" or to appear more socially desirable than they may actually have felt, especially when answering some of the hostility questions on the STAXI-2. It is also possible that the transparent face validity of the several of the measures, particularly the STAXI-2 may have influenced the way in which the individuals responded to the intervention, in particular because anger was not a word that was highlighted specifically during recruitment. If the participants were in any way attempting to appear less angry than they actually were and if they attempted to respond in a similar manner to the STAXI-2 at time one as they did at time 2, it is possible that this phenomenon could have accounted for the lack of statistical significance found in the results of this study.

The issue of instrumentation as defined by Borg and Gall (1989) is not likely to have been especially relevant to this study since the measurements remained the same. The only possible concern with instrumentation validity is the potential the instruments selected for this study may not have adequately assessed the desired constructs, in particular in terms of the concept of self-efficacy. The communication scale also, as noted earlier, demonstrated poor evidence of reliability despite the fact that it assessed the appropriate constructs for the study.

The threat of statistical regression to the mean is particularly important in a repeated measures design. Simply put, some number of individuals in any intervention will demonstrate

improvement on some outcome measures simply due to a natural statistical movement towards the mean without any type of treatment, thus confusing the results and causing a threat to validity.

The issue of differential selection can also become problematic in designs utilizing a control group. In our case we did have a concern regarding non-equivalence of the treatment and control groups on several of the study variables. Due to the less restrictive inclusion criteria, more variation was present in this sample. However, random assignment should still have roughly apportioned that variance equally across the groups. This was not the case although, as discussed in earlier sections the variables on which nonequivalence was found did not appear to influence the results in a significant manner.

Experimental mortality or attrition could have been one of the more significant issues for this study. In actuality attrition statistics were well within acceptable parameters for our study guidelines (9% to the treatment group and 8% to the control group). In terms of selection-maturation interaction we again had few concerns due to the brief nature of the intervention. Experimental treatment diffusion, defined as having the treatment condition viewed as more desirable than the control condition was not an issue for this study due to the fact that the study was conducted as a wait-list control group with the controls receiving the same treatment immediately following the termination of the treatment group intervention. Similarly there was also no compensatory rivalry by the control group or resentful demoralization of the control group because they were not especially aware that they being treated or evaluated in a different manner than the treatment group. Finally there was no threat of compensatory equalization of treatments as the intervention provided to both groups was the same and the data of interest were not treatment-related for the control group in any event.

Concerns regarding experimenter bias were present during this study and were controlled through several means. The primary concern was the fact, mentioned previously, that the primary

researcher was the facilitator of the local support group to which many of the study participants belonged. Given this conflict, this individual elected not to deliver any of the interventions as a clinical therapist, but to remain in an auxilliary support function. In addition, an undergraduate research assistant was trained and assigned to conduct all of the intake interviews in order to maximize the likelihood of obtaining complete and accurate information. Finally, participants were given numerical codes by the research assistant and data entry was done by code, thus further minimizing accidental bias.

Additional difficulties arose in conducting an intervention in a small town, combined with intermingling a preexisting group of individuals (i.e., the support group) across treatment and control conditions were at times problematic and no easy solution was devised to address these concerns. Specifically the issues centered around the fact that individuals both within each group as well as between groups knew each other well. This could potentially cause a dilemma within a group should individuals choose to form alliances between each other at the expense of other group members or use group time to catch up on their friendship and neglect the content of the module. This appeared to occur only infrequently due to the therapists' ability to monitor and intervene on such interactions. Somewhat more problematic was the issue of individuals in the treatment group passing information on to members of the control group who had not yet undergone the intervention and who were not intended to be exposed to this material. Although the treatment group members were asked not to share their materials with others, it is possible that this may have occurred, although we have no reason to believe that this was the case.

The lack of budget, staff and facilities created additional strain for this project, which may have functioned more effectively with increased advertising and a greater ability to follow up with participants despite the fact that weekly calls were placed to each participant before each session.

Two significant threats to the internal validity of this study, however, concerned the lack of

diagnostic consistency of this sample as well the power constraints due to the small sample size. This diagnostic concern clearly represents an important issue in terms of internal validity and the ability to generalize findings from this sample to other FMS populations.

As discussed previously, the controversy surrounding the diagnosis of fibromyalgia remains active. Although the 1990 American College of Rheumatology Criteria is most widely retained by researchers in the literature, a "community" diagnosis of this disorder, which appears to be more similar in nature to previous iterations of the diagnosis appear to remain in use in several rural communities.

Finally the fact that the final *N* of the study yielded only 46 participants with 24 and 22 participants per group respectively, may have compromised the ability to find statistical significance on some of the outcome variables of interest.

Recommendations

In order to generalize these findings to a larger population, it would be necessary to replicate this study with a larger sample size in other types of settings such as a more urban setting or in an inpatient facility with more chronic patients. It would be important to consider the issues of both population validity in terms of examining the exclusion criteria (or lack thereof) utilized for this study as well as the ecological validity in terms of conducting this study in the small community of Logan, Utah. The most important issue regarding the external validity and generalizability of this study concerns the lack of strict diagnostic criteria for this sample and rather a reliance on a "community" diagnosis by local primary care physicians. We would argue, however, that there the value of this study is in its simplicity and cost-effectiveness in treating individuals who meet most of the established criteria for FMS, but who may not have had access to a professional (and potentially expensive) diagnostician recently. It would also be of value to

provide an independent evaluator to assess the participants in a future study rather than rely exclusively on self-report as was done in the present case.

The study design could also be refined and expanded to include other comparison treatment groups besides a simple control group. It would be helpful, for example, to compare this intervention group to an exercise alone group as well as to a group that would add an exercise component to this intervention. It would also be interesting to conduct additional studies using this original design, but extending the duration of the study itself, specifically the interval between the administration of the initial assessment and the follow-up, and including an expanded anger component in order to determine if this would impact the anger scores. Several studies have supported the merit of including a component of marital or family therapy to a core intervention for the patient (Cano, Weisberg & Gallagher, 2000; Rueveni, 1990).

Based on findings in the literature as well as experience from this intervention, it is apparent that a need exists to improve the assessment of self-efficacy in chronic pain patients (Buckelew et al., 1998). While it seems that the arthritis literature is making headway in the development of scales designed to evaluate and measure this experience in patients with disorders in that area, there is still a large gap in terms of expanding assessment of this construct to other chronic illnesses.

Despite concerns that an intervention that only affects emotions for patients who suffer from chronic pain disorders may be insufficient, we believe that future research should focus on initiating change in these patients, even if this change is small. As with the premise of self-efficacy, tasks should be challenging, but doable and should focus on setting the ground work for the belief that overcoming even more daunting obstacles in the future is possible.

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APPENDICES

Appendix A:

The American College of Rheumatology (ACR) 1990 Criteria for the Classification of Fibromyalgia

History of widespread pain

Definition: Pain is considered widespread when all of the following are present: pain in the left side of the body, pain in the right side of the body, pain above the waist, and pain below the waist. In addition, axial skeletal pain (cervical spine or anterior chest or thoracic pine or low back) must be present. In this definition, shoulder and buttock pain is considered as pain for each involved side. "Low back" pain is considered lower segment pain.

1. Pain in 11 of 18 tender points on digital palpation

Definition: Pain, on digital palpation, must be present in at least 11 of 18 tender point sites:

Occiput:	bilateral, at the suboccipital muscle insertions.
Low cervical:	bilateral, at the anterior aspects of the intertransverse spaces at C5-C7.
Trapezius:	bilateral, at the midpoint of the upper border.
Supraspinatus:	bilateral, at origins, above the scapula spine near the medial border.
Second rib:	bilateral, at the second costochondral junctions, just lateral to the junctions on upper surfaces.
Lateral epicondyle:	bilateral, 2cm distal to the epicondyles.
Gluteal:	bilateral, in upper outer quadrants of buttocks in anterior fold of muscle.
Greater trocanter:	bilateral, posterior to the trochanteric prominence.
Knee:	bilateral, at the medial fat pad proximal to the joint line.

Digital palpation should be performed with an approximate force of 4kg.
For tender point to be considered "positive: the subject must state that the palpation was painful. "Tender" is not to be considered "painful".

(*Source:* Wolfe et al., 1990)

Appendix B:

Review of Fibromyalgia Interventions

Author(s)	Demographics	Study type	Intervention	Outcome measure(s)	Conclusion(s)
Bennett et al. (1996)	104 subjects, all female, mean age 42.3 years	Between subjects	Psychoeducation, behavior modification, aerobic exercise and flexibility training, sleep management, co-morbid symptom management, muscle awareness training, trigger point injection with stretch and spray treatment and teaching of this technique to significant others Duration: 90 minute session once a week for 6 months	Fibromyalgia Impact Questionnaire (FIQ) Tender point examination Fibromyalgia Attitudes Index Quality of Life Scale Beck Depression Inventory Beck Anxiety Inventory Coping Strategies Questionnaire Battery of Physical Fitness Measures	Statistically significant improvement in FIQ and tender point scores as report by p values <0.000001 and <0.0001 respectively. All other measures also showed improvement, with most noticeable changes occurring in addition in depression, anxiety, catastrophizing index, visual analog pain scale and physical training index scores as reported also by p values.

(*table continues*)

Author(s)	Demographics	Study type	Intervention	Outcome measure(s)	Conclusion(s)
Buckelew et al. (1998)	119 subjects, 108 women and 11 men, mean age 43.98 years	Within subjects	Biofeedback/ relaxation Exercise Duration: 6-week initial training weekly 1.5 to 3 hours then once per month for one hour for two years.	Tender Point Index (TPI) Myalgic Scores Physician's rating of disease severity Visual Analog Scale (VAS) Pain behavior observation Arthritis Impact Measurement Scale (AIMS) SCL-90-R Center for Epidemiologic Studies-Depression Scale (CES-D) Lorig et al. self-efficacy scale	Only significant differences as reported by p values noted were in changes in TPI score from baseline to 3 month follow up, physical activity from baseline to all post-treatment follow up points and in self-efficacy measures at all follow-up points.
Ferraccioli et al. (1987)	Open group: 15 subjects, 13 female, 2 male, mean age 47 Controlled study: 12 females, mean age 57	Within subjects	Biofeedback & relaxation Duration: Open study – 1 session biofeedback, 15 sessions progressive relaxation twice (20 min) weekly; 15 follow up sessions distributed over 80 days Controlled study – biofeedback for 15 consecutive sessions only	Physical functioning and self-report of fibromyalgia symptoms including number of tender points, grip strength, morning stiffness.	Significant effect size (4.33) for improvement in physical functioning as well as for self-report of fibromyalgia symptoms (1.46).

(*table continues*)

Author(s)	Demographics	Study type	Intervention	Outcome measure(s)	Conclusion(s)
Goldenberg et al. (1994)	79 subjects, 90% female, mean age 46	Between subjects	Cognitive-behavioral therapy Duration: 10 weeks – 2hours weekly	VAS for pain, global well-being, sleep, fatigue, and tiredness upon awakening FIQ for functional status SCL-90-R for psychological status	Significant effect size for improvement in self-report of fibromyalgia symptoms (.40) as well as psychological status (.86)
Haanen et al. (1991)	20 subjects, 38 female, 2 male, aged 30-65 years	Between subjects	Hypnotherapy and physical therapy Duration: 3 months	Hopkins Symptom Checklist Physician's assessment	Significant effect size (.76) for improvement in self-report of fibromyalgia symptoms as well as improvement in psychological status (.78)
Keel, Bodoky, Gerhard, and Muller (1998)	27 subjects, 24 female, 3 male, mean ages 48 for treatment and 50 for control	Between subjects	Psychoeducation, cognitive-behavioral therapy, relaxation, physical exercises including both aerobic and stretching components. Duration: 2-hour sessions for 15 weeks.	Frieburg Personality Inventory Locus of Control Scale Rosenweig Picture –Frustration Test Dairy of sleep, rest, medication intake, and use of other therapies General symptom checklist	Inconclusive results hypothesized to be due to the fact that the patients who demonstrated improvement may have had symptoms less long and may not have had financial incentives to remain disabled.
Kogstad and Hintringer (1993)	71 subjects, 49 female, 22 male, mean age 43	Between subjects	Psychoeducation including relaxation training and communication and problem solving skill training, group therapy, and psychomotric physiotherapy. Duration: 2-hour sessions once a week for 6 weeks.	Visual Analog Pain Scale McGill Pain Questionnaire Fatigue and sleep disturbance evaluation Norweigian version of the Sickness Impact Profile Tender point evaluation	No significant differences in total pain scores or physical indicators. The group therapy component was seen as the most beneficial and the study reports improvements in perceived quality of life in patients versus controls.

(*table continues*)

Author(s)	Demographics	Study type	Intervention	Outcome measure(s)	Conclusion(s)
Mengshoel, Forseth, Haugen, Walle-Hansen, and Forre (1995)	16 subjects, all female, mean age 46	Within subjects	Nonaerobic exercise and cognitive therapy Duration: 2-hour sessions once a week for ten weeks.	Adjustment to daily life. Fatigue and pain using visual analog scales and McGill Pain Questionnaire	Statistically significant (as reported by p values) reduction in pain intensity and total pain scores after completion of program, but a return to baseline, 6 months after completion of program. No changes in fatigue or sleep.
Nielson, Walker, and McCain (1992)	25 subjects, 6 male, 19 female, mean age 40.88	Within subjects	Cycling or treadmill, stretching, and cognitive-behavioral therapy Duration: 3 week daily inpatient program	Multidimensional Pain Inventory; Pain Experience Scale; CES-D; Locke-Wallace Marital Adjustment Scale; STAI; UAB Pain Behavior Scale	Significant effect size (1.13) for improvement in physical functioning as well as in self-report of fibromyalgia symptoms (1.15), psychological status (1.02), and daily functioning (.63).
Wigers, Stiles, and Vogel (1996)	60 subjects, 55 female, 5 male	Between subjects	Aerobic exercise Stress management (including relaxation and cognitive-behavioral therapy) Duration: 14 weeks of aerobics 45 min 3 times/week and stress management twice a week for 90 minutes the first 6 weeks then once a week for 90 minutes the remaining 8.	Pain distribution Disturbed sleep, lack of energy, depression, pain on visual analog scales Pressure tenderness on all 18 tender points Work capacity Global subjective improvement	No significant effects in any category

Appendix C:

Physician Letter and Interest Form

April 15, 2003

«Title» «FirstName» «LastName»
«Address1»
«City», «State» «PostalCode»

Dear «Title» «LastName»:

I am a clinical psychology Ph.D. student at Utah State University specializing in behavioral medicine and working under the supervision of M. Scott DeBerard, Ph.D., Assistant Professor of Psychology. For my dissertation research, I intend to examine the relationship between various psychosocial factors (e.g. anger and frustration) and fibromyalgia.

Fibromyalgia afflicts 2.1 to 5.7% of the population of the United States and accounts for 10 to 20% of new visits to rheumatology clinics each year. Research suggests that group psychotherapy can make a marked difference on the treatment and management of this condition and thereby enhance the quality of life for these patients. Such a result would not only be beneficial to patients, but to physicians as well.

Ideally I would conduct a four-week long group therapy intervention involving patients diagnosed with fibromyalgia. Alternatively I would design a survey study in which participants would provide answers to a series of questionnaires.

I am writing to inquire about the number of patients in your practice who are currently diagnosed with fibromyalgia and to determine if you would be willing to assist me with this project. If you are willing to assist me, I would provide you with a letter describing the proposed research that you would mail to your patients. This letter would then request them to contact me directly if they are interested in participating in this research. I would cover all costs related to letterhead and postage.

You assistance in completing the attached form indicating your willingness to participate in this research is greatly appreciated. I will come by your office by May 2, 2003 to collect the completed form.

Sincerely,

Alexandra M. Stillman, MA, MPH
Clinical Psychology Doctoral Student

M. Scott DeBerard, Ph.D.
Assistant Professor of Psychology

FIBROMYALGIA RESEARCH INTEREST FORM

Date:_____ **Clinic Name:**_____

Address:_____

Phone Number:_____ **Fax Number:**_____ **E-mail:**_____

Physician Name:_____

Person to Contact for Study Coordination:_____

Estimated Number of Fibromyalgia Patients:_____

Would you be willing to send a letter (provided by USU) to your patients requesting their participation in a research study conducted by Utah State University? (Please note that administrative support as well as all costs relating to this mailing will be covered by the researcher.)

Yes ☐ **No** ☐

Comments:

_____

_____

_____

_____

Fibromyalgia study contact information:

Alexandra M. Stillman, MA, MPH
Utah State University
Department of Psychology
astillman@cc.usu.edu
(435) 797-4008

Appendix D:

Newspaper Advertisement

Fibromyalgia Research Workshop

Utah State University if offering a 4-session research workshop designed to examine the effects of emotions and communication on fibromyalgia. Participants will learn to improve their communication skills with families and healthcare providers, enhance their coping abilities for dealing with the difficult emotions and physical issues that occur with this illness and receive support from other individuals who are experiencing similar concerns. A drawing for cash prizes will be held at the end of the study for individuals who complete all 4 sessions. For more information or to register for this research please call Alexandra at 797-8101 or e-mail astillman@cc.usu.edu.

Appendix E:

Patient Letter

January 15, 2004

Dear Patient,

Utah State University is conducting a study to examine the impact of emotions and communication on fibromyalgia. This study is being conducted by Alexandra Stillman, MA, MPH, a psychology Ph.D. student at Utah State University specializing in behavioral medicine under the supervision of Susan L. Crowley, Ph.D, Associate Professor of Psychology and M. Scott DeBerard, Ph.D., Assistant Professor of Psychology.

This study will consist of four group sessions in which patients may learn coping skills such as relaxation and communication to help you to better manage physical and emotional symptoms related to fibromyalgia. The sessions will be held at Utah State University and each one will last for 2 hours. Participants will also be asked to complete a series of five questionnaires at the beginning and again at the end of the study to determine how their physical and emotional symptoms have changed as a result of participation in the study. The questionnaires will also be provided to the participants one to three months after completion of the study to assess for long term effects of the intervention. Completion of the questionnaires requires approximately one hour. All participants who successfully complete all four sessions will be entered into a drawing for a cash prize of $35.

I would like to invite you to participate in this study if you have been diagnosed with fibromyalgia. If you are interested in participating, please call Alexandra Stillman at 797-8101 or contact her via e-mail at astillman@cc.usu.edu. You will be contacted and asked a few brief questions over the phone to confirm your eligibility for this study and then invited to the University to complete a registration packet prior to the start of the group sessions.

We appreciate your interest in this research and looking forward to working with you.

Sincerely,

Alexandra M. Stillman, MA, MPH
Psychology Doctoral Student

M. Scott DeBerard, Ph.D.
Assistant Professor of Psychology

Susan L.Crowley, Ph.D.
Associate Professor of Psychology

Appendix F:

Fibromyalgia Study

Participant Registration and Demographic Information

Name:_____

Address:_____

Telephone Number:_____ E-mail:_____

Date of Birth:_____ Marital Status:_____

Employed: ❑ Yes ❑ No

Date/Age of onset of fibromyalgia:_____

Are you aware of any factors that contributed to the onset of your illness? ❑ Yes ❑ No

If yes, please specify:_____

Has your fibromyalgia been diagnosed by a health care provider? ❑ Yes ❑ No

If yes, please indicate if that person was a:
❑ Physician (MD, DO)
❑ Chiropractor
❑ Physical Therapist
❑ Other, please specify: _____

Which of the following symptoms do you experience in connection with your fibromyalgia? (Check all that apply)

❑ Stiffness upon awakening or after inactivity
❑ Headaches
❑ Facial pain
❑ Sleep disturbances
❑ Cognitive changes (e.g., difficulty concentrating)
❑ Gastrointestinal complaints (e.g., irritable bowel)
❑ Neurological problems (e.g., numbness or tingling)
❑ Pain in specific trigger points (if yes, please indicate number of trigger points affected_____)
❑ Chest symptoms (e.g., mitral valve prolapse)
❑ Dizziness or disequlibrium
❑ Restless leg syndrome
❑ Allergic symptoms
❑ Fatigue
❑ Widespread pain

❑ Skin problems (e.g., rashes or hives)
❑ Psychological concerns such as depression or anxiety
❑ Other, please specify:_____

What types of treatments of self-care have you tried to manage your symptoms of fibromyalgia? (Check all that apply)

❑ Exercise (please indicate type:_____)
❑ Relaxation
❑ Individual psychotherapy
❑ Group psychotherapy
❑ Support group
❑ Medication (please indicate type and dosage:_____)
❑ Alternative treatments (e.g., acupuncture, herbal remedies, please indicate type: _____)
❑ Other, please specify:_____

Have any of the treatments that you have utilized been especially helpful to you?
❑ Yes ❑ No

If yes, please specify which one(s):_____)

Appendix G:

Fibromyalgia Impact Questionnaire (FIQ)

Name_____
Date_____

FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQ)

Directions: For questions 1 through 11, please circle the number that best describes how you did **overall** for the **past week**. If you don't normally do something that is asked, cross the question out.

	Always	Most	Occasionally	Never
Were you able to:				
1. Do shopping?	0	1	2	3
2. Do laundry with a washer and dryer?	0	1	2	3
3. Prepare meals?	0	1	2	3
4. Wash dishes/cooking utensils by hand?	0	1	2	3
5. Vacuum a rug?	0	1	2	3
6. Make beds?	0	1	2	3
7. Walk several blocks?	0	1	2	3
8. Visit friends or relatives?	0	1	2	3
9. Do yard work?	0	1	2	3
10. Drive a car?	0	1	2	3
11. Climb stairs?	0	1	2	3

---

12. Of the 7 days in the past week, how many days did you feel good?

0 1 2 3 4 5 6 7

13. How many days last week did you miss work, including housework, because of fibromyalgia?

0 1 2 3 4 5 6 7

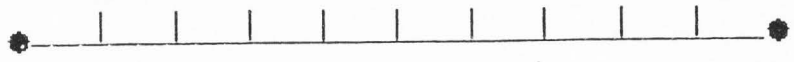
continued on back of page

Name _____
Date _____

FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQ)

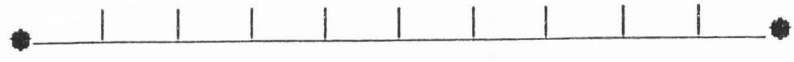
Directions: For the remaining items, mark the point on the line that best indicates how you felt **overall** for the past week.

14. When you worked, how much did pain or other symptoms of your fibromyalgia interfere with your ability to do your work, including housework?



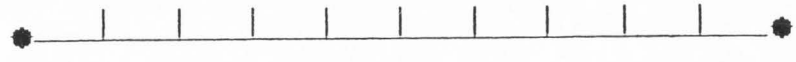
No problem with work — Great difficulty with work

15. How bad has your pain been?



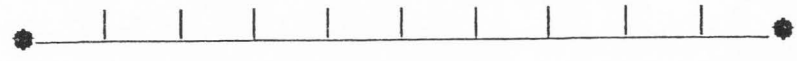
No pain — Very severe pain

16. How tired have you been?



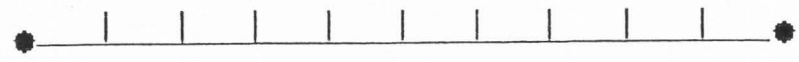
No tiredness — Very tired

17. How have you felt when you get up in the morning?



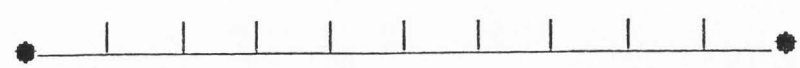
Awoke well rested — Awoke very tired

18. How bad has your stiffness been?



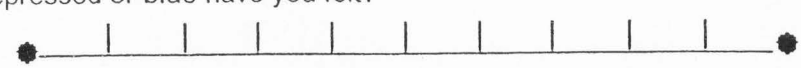
No stiffness — Very stiff

19. How nervous or anxious have you felt?



Not anxious — Very anxious

20. How depressed or blue have you felt?



Not depressed — Very depressed

Appendix H:

Short-Form–36 Version 2 Health Survey (SF–36)

HEALTH AND WELL BEING

Please answer every question. Some questions may look like others, but each one is different. Please take the time to read and answer each question carefully, and mark an ☐ in the one box that best describes your answer.

1. In general, would you say your health is:

Excellent	Very Good	Good	Fair	Poor
☐	☐	☐	☐	☐

2. <u>Compared to one year ago,</u> how would you rate your health in general <u>now</u>?

Much better now than one year ago	Somewhat better now than one year ago	About the same as one year ago	Somewhat worse now than one year ago	Much worse now than one year ago
☐	☐	☐	☐	☐

3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	Yes limited a lot	Yes limited a little	No, not limited at all
Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	☐	☐	☐
Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐	☐	☐
Lifting or carrying groceries	☐	☐	☐
Climbing several flights of stairs	☐	☐	☐
Climbing one flight of stairs	☐	☐	☐
Bending, kneeling, or stooping	☐	☐	☐
Walking more than a mile	☐	☐	☐
Walking several hundred yards	☐	☐	☐
Walking one hundred yards	☐	☐	☐
Bathing or dressing yourself	☐	☐	☐

4. **During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?**

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Cut down on the amount of time you spent on work or other activities	☐	☐	☐	☐	☐
Accomplished less than you would like	☐	☐	☐	☐	☐
Were limited in the kind of work or other activities	☐	☐	☐	☐	☐
Had difficulty performing the work or other activities (for example, it took extra effort)	☐	☐	☐	☐	☐

5. **During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?**

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Cut down on the amount of time you spent on work or other activities	☐	☐	☐	☐	☐
Accomplished less than you would like	☐	☐	☐	☐	☐
Did work or other activities less carefully than usual	☐	☐	☐	☐	☐

6. **During the <u>past 4 weeks</u>, to what extent has you physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?**

Not at all	Slightly	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

7. **How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>?**

None	Very mild	Mild	Moderate	Severe	Very Severe
☐	☐	☐	☐	☐	☐

8. **During the past <u>4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?**

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Did you feel full of life?	☐	☐	☐	☐	☐
Have you been very nervous?	☐	☐	☐	☐	☐
Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐	☐
Have you felt calm and peaceful?	☐	☐	☐	☐	☐
Did you have a lot of energy?	☐	☐	☐	☐	☐
Have you felt downhearted and depressed?	☐	☐	☐	☐	☐
Did you feel worn out?	☐	☐	☐	☐	☐
Have you been happy?	☐	☐	☐	☐	☐
Did you feel tired?	☐	☐	☐	☐	☐

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐	☐	☐	☐	☐

11. How TRUE or FALSE is <u>each</u> of the following statements for you?

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
I seem to get sick a little easier than other people	☐	☐	☐	☐	☐
I am as healthy as anybody I know	☐	☐	☐	☐	☐
I expect my health to get worse	☐	☐	☐	☐	☐
My health is excellent	☐	☐	☐	☐	☐

Appendix I:

Chronic Pain Self-Efficacy Scale (CPSS)

In the following questions, we'd like to know how your pain affects you. For each of the following questions, please circle the number which corresponds to your certainty that you can now perform the following tasks.

1. How certain are you that you can decrease your pain quite a bit?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

2. How certain are you that you can continue most of your daily activities?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

3. How certain are you that you can keep your pain from interfering with your sleep?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

4. How certain are you that you can make a small-to-moderate reduction in your pain by using methods other than taking extra medications?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

5. How certain are you that you can make a large reduction in your pain by using methods other than taking extra medications?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

Self-Efficacy Function

We would like to know how confident you are in performing certain daily activities. For each of the following questions, please circle the number which corresponds to your certainty that you can perform the tasks as of now without help from another person. Please consider what you routinely can do, not what would require a single extraordinary effort.

AS OF NOW, HOW CERTAIN ARE YOU THAT YOU CAN:

1. Walk ½ mile on flat ground?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

2. Lift a 10 pound box?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

3. Perform a daily home exercise program?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

4. Perform your household chores?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

5. Shop for groceries or clothes?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

AS OF NOW, HOW CERTAIN ARE YOU THAT YOU CAN:

6. Engage in social activities?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

7. Engage in hobbies or recreational activities?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

8. Engage in family activities?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

9. Perform the work duties you had prior to the onset of chronic pain?
(For homemakers, please consider your household activities as your work duties.)

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

6. How certain are you that you can deal with the frustration of chronic medical problems?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

7. How certain are you that you can cope with mild to moderate pain?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

8. How certain are you that you can cope with severe pain?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

Self-Efficacy Other Symptoms

In the following questions, we'd like to know how you feel about your ability to control physical symptoms such as fatigue and pain. For each of the following questions, please circle the number which corresponds with the certainty that you can now perform the following activities or tasks.

1. How certain are you that you can control your fatigue?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

2. How certain are you that you can regulate your activity so as to be active without aggravating your physical symptoms (e.g., fatigue, pain)?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

3. How certain are you that you can do something to help yourself feel better if you are feeling blue?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

4. As compared to other people with chronic medical problems like yours, how certain are you that you can manage your pain during your daily activities?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

5. How certain are you that you can manage your physical symptoms so that you can do the things you enjoy doing?

10	20	30	40	50	60	70	80	90	100
very uncertain				moderately certain					very certain

Appendix J:

Communication Survey

Please rate the following questions using the five point scale listed below:

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

I Family and Significant others

How often do you express your needs to your family and significant others?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel that your family and significant others understand your needs?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel that your family and significant others listen to your concerns?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel frustrated that your family and significant others appear to disregard your needs and concerns?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

II Physicians and other professionals

How often do you express your needs to your physicians and other professionals?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel that your physicians and other professionals understand your needs?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel that your physicians and other professionals listen to your concerns?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

How often do you feel frustrated that your physicians and other professionals appear to disregard your needs and concerns?

1	2	3	4	5
Very Often	Often	Sometimes	Rarely	Never

Appendix K:

The Effect of Anger Management and Communication Training on Functional

And Quality of LifeStatus in Fibromyalgia Patients

The Effect of Anger Management and Communication Training on Functional and Quality of Life Status in Fibromyalgia Patients

Society of Behavioral Medicine 26th Annual Meeting

Alexandra M. Stillman, MPH, MHA
M. Scott DeBerard, PhD
Susan L. Crowley, PhD

Utah State University

Fibromyalgia Syndrome (FMS)

American College of Rheumatology (1990)

- history of widespread pain
- pain in 11 of 18 tender points
- remain controversies surrounding diagnostic criteria

Rationale for Present Study

- Prevalence
  - 3-6 million nation-wide
  - 2% (95% CI 1.4, 2.7) with 3.4% rate for women and 0.5% rate for men (Wolfe et al., 1995)
- Need for empirically validated interventions
- Several studies have demonstrated promising results

- Present study: incorporates elements shown to be successful in prior FMS interventions
- Adds: unique component of communication and anger management
- Overall objective: decrease FMS symptoms, regain a sense of increased self-efficacy, and improve health-related quality of life.

Study Hypotheses

1) Are the sample characteristics comparable to those in the general population?

2) What is the impact of this intervention on FMS symptoms?

Study Hypotheses

3) What is the impact of the intervention on health-related quality of life?

4) What is the impact of the intervention on participant's anger levels?

Study Hypotheses

5) To what extent would participants feel better equipped to communicate their concerns with significant others in their lives?

6) What would be the impact on participant's report of levels of self-efficacy?

Methods: Design

Randomized controlled pretest-posttest design with one within (time) and one between (group) factor

Recruitment and Screening

- Recruitment:
  - Forty-nine physicians, chiropractors and physical therapists in Logan, Smithfield and Hyde Park, Utah and Preston, Idaho contacted by letter; newspaper and radio ads; and flyers; FMS support group.

Recruitment and Screening

- Screening:
  - Excluded if 1) English not first language, 2) presence of a major psychotic disorder 3) inability to commit to all sessions, and 4) desire to participate in an intervention for a disorder other than FMS.

Randomization

- Randomization occurred by assigning each recruited participant to either the treatment group or the wait-list (control) group in sequential order

Intervention

- Four-week psychoeducational group therapy intervention
- 2-hour sessions with 4-10 participants
- 6 therapists total; 1male/1female per group

Intervention

- 4 sections: homework review/group process; psychoeducation; homework instruction; relaxation demonstration and practice.
- Psychoeducational topics: managing emotions; relaxation; communication; cognitive coping skills.

Methods: Measures

- Fibromyalgia Impact Questionnaire
  (Burckhardt, C.S., Clark, S.R., & Bennett, R.M., 1991)
- Short-Form 36 Health Survey Version 2
  (Ware, J.E., Snow, K.K., Kosinski, M., & Gandek, B., 2000)
- State-Trait Anger Expression Inventory 2
  (Spielberger, C.D., 1999)
- Communication Survey
  (developed for study)
- Chronic Pain Self-Efficacy Survey
  (Anderson et al., 1995)

Data Analysis

- Some pre-treatment differences on dependent variables
- Controlled for differences via analysis of covariance (ANCOVA)
- Entered baseline dependent variable scores as covariates

Results: Patient Characteristics

- Treatment Group
  - *n* (initial) = 27 *n* (final) = 24
  - 23 female, 1 male
- Control Group
  - *n* (initial) = 25 *n* (final) = 22
  - 21 female, 1 male
- Total *N* = 46
- Mean age treatment = 48.42
- Mean age control = 50.64
- Mean number of symptoms treatment = 12.46
- Mean number of symptoms control = 12.45

Results: FMS Symptoms

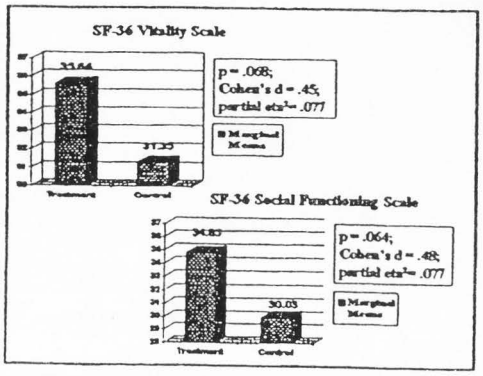
Fibromyalgia Impact Questionnaire

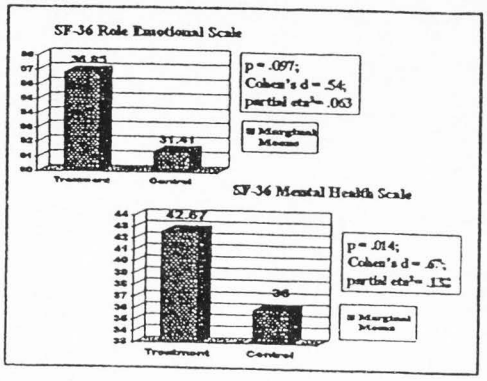
- Two scores
  - physical impairment score
  - fibromyalgia total score
- No significant post-treatment mean differences

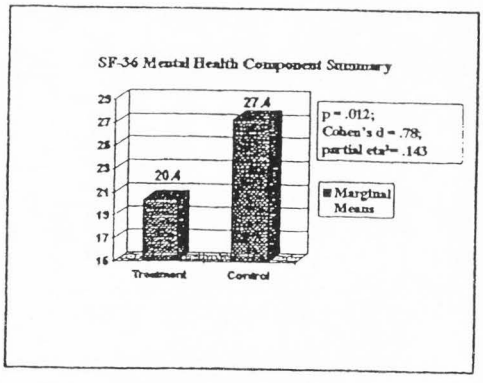
Results : SF-36

Short-Form 36 Health Survey

- Eight scores plus two component summary scales (physical and mental):
  - physical function
  - role-physical
  - bodily pain
  - general health
  - vitality
  - social functioning
  - role-emotional
  - mental health







Results: Anger Levels

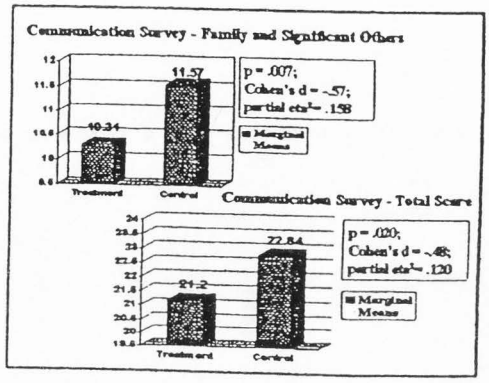
State-Trait Anger Expression Inventory 2

- Eleven scales plus an anger index:
  - State Anger
  - Feeling Angry
  - Expressing Anger Verbally
  - Expressing Anger Physically
  - Trait Anger
  - Anger Control-In
  - Angry Temperament
  - Angry Reaction
  - Anger Expression-Out
  - Anger Expression-In
  - Anger Control-Out
- No significant post-treatment mean differences

Results: Communication

Communication Survey

- Two subscales plus a total scale:
  - Communication with family and significant others
  - Communication with physicians and other professionals
- Lower scores indicate better communication



Results: Self-Efficacy

Chronic Pain Self-Efficacy Scale

- Three scales:
  - Pain management
  - Physical function
  - Coping with symptoms
- No significant post-treatment mean differences

Summary

- No significant post-treatment mean differences on physical status, anger or self-efficacy outcome variables
- Means for mental health quality of life and communication outcome variables were significantly different →
  - a brief and cost-effective four-week intervention can have psychological benefits for FMS patients

Discussion

Patient Characteristics:

- symptoms, age and gender widely consistent with literature

FMS Symptoms:

- minimal impact on physical symptoms

Discussion

Health Related Quality of Life:

- group therapy and coping skills training reported to play a significant role in effecting positive change in quality of life for FMS patients

Anger:

- lack of significant impact possibly due to time constraint, 'dilution' of message or inclusion in other components

Discussion

Communication:

- time constraint or pre-existing positive relationships with providers

Self-Efficacy:

- possible failure to measure or adequately address construct

Limitations

- Internal Validity
  - Diagnosis
  - Demand characteristics
  - Instrumentation
  - Sample size
- External Validity
  - Location and generalizability
- Time and Budget

Recommendations

- Replication with "community" diagnosis in other settings
- Inclusion of other comparison groups than wait-list alone (e.g. exercise)
- Improve communication and self-efficacy assessment measures

Appendix L:

Therapist Manual

The Effect of Anger Management and Communication Training on Functional and Quality of Life Status in Fibromyalgia Patients

Therapist Manual

Utah State University

Spring, 2004

Table of Contents

INTRODUCTION TO THE MANUAL

This manual was designed with the knowledge that the unique talents and skills of the six gifted therapists I selected to deliver this intervention would make the words on the page take on a life of their own. It is my hope that others may find it helpful to them as they struggle to make sense of the devastation that is brought upon the lives of patients living with fibromyalgia. Additionally, this manual was created with the intent that each session would be facilitated by a pair of therapists, one male and one female, and that there would be approximately eight to ten participants in each session.

The complete sources for the information contained in this manual as well as other information pertinent to this intervention is provided in the Appendix. A more complete list of references pertaining to fibromyalgia may be obtained by contacting the author at astillman@cc.usu.edu and is contained in the companion dissertation entitled The Effect of Anger Management and Communication Training on Functional and Quality of Life Status in Fibromyalgia Patients.

Sincerely,

Alexandra M. Stillman, MA, MPH, MHA, MBA

WEEK ONE

THE BASICS

INTRODUCTION

Tasks: 1. Welcome participants and set group rules
2. Introduce therapists and participants
3. Review goals and objectives of the 4 weeks

Goals: 1. Participants understand group rules
2. Participants are familiar with the goals and objectives of the workshop

1. Welcome participants and set group rules

Duration: 10 minutes

Script: Welcome to the USU fibromyalgia study. We are happy/pleased/delighted that you could join us for this 4 week workshop. I am [introduce self] and [co-therapist introduces self] and we will be working with you for the next four weeks of this workshop. Today we would like to begin by giving you an overview of the skills that will be covered in these sessions and then begin working on some core concepts. First a few little housekeeping notes. You have each, hopefully, picked up a packet with today's handouts in it. If not, there are some more available [insert location]. Also the restrooms are located [insert location]. We will be taking a break half way through the session, but if at any time you feel uncomfortable, please feel free to stand, stretch or change positions in any way that is comfortable for you. Also we would outline a few basic rules for how we will work together as a group. Specifically we would like to ask that anything that is said in this room remain in this room. In addition some of the topics we will discuss may be sensitive so we ask that we treat everyone's thoughts and opinions with respect and that we not interrupt one another. Are there any questions we can answer for you before we start?

Notes: Feel free to refer any questions for which you have no clear answer to the PI whose number is listed in the participant manual. In addition either the PI or the Project Coordinator should be available at the beginning and the end of each session to answer any questions for the participants.

2. Introduce participants

Duration: 5 –10 minutes depending on size of group

Script: First we would like to start with some introductions. Let's go around the room and if you are comfortable doing so, please give us just your first name and tell us how long you have had fibromyalgia.

Notes: Be aware that many chronic pain patients will be seeking an opportunity to "tell their story". You may need to provide gentle reminders to move on by making supportive therapeutic statements. This is also an opportunity, however, to say that we hope to be able to assist them with some of these concerns during the workshop. : If the therapists that do not have FMS it is perfectly acceptable to say that you do not have it, but to indicate that you have an interest in working with individuals with chronic pain or any other statement that indicates that you will be supportive and understanding. Therapists also need to remember to model stretching and correct body posture. Whenever convenient, take a 30 second stretch break as a group.

3. Review goals and objectives of the 4 weeks

Duration: 10 minutes

Script: Let's talk a little about how these sessions will work. Each week we will be talking about a different aspect of your experience with fibromyalgia and then providing you with some very concrete skills to help you cope with the difficulties that you have as a result of your illness. We will start each session by reviewing the homework that will be given to you each week that will allow you to put the skills that you learn here into practice. There will then be a section that will consist of education on a different topic each week. We will then give you instructions on exercises that you will have to practice at home for the following week so that you can learn to use the skills you heard, in session, on your own. Finally we will end each week be demonstrating and having you practice a different relaxation technique. You will notice that in your folder each of you has an audio cassette. This cassette contains a recording of a version of the 4 relaxation techniques that you will learn in session to assist you while you learn to practice these techniques at home on your own. These tapes are yours to keep and the scripts for these tapes are also contained in your folders.

The objectives for these 4 weeks, then, are contained in your folder if you would like to open them now and are:

Objectives

- To learn to recognize common emotions that occur in connection with fibromyalgia syndrome
- To obtain comfort in the knowledge that others share the same feelings and difficulties
- To realize that there are skills that you can learn to improve your emotional health and well-being and decrease the symptoms associated with fibromyalgia
- To gain confidence in the ability to apply these skills to your life and increase your quality of life

By the end of the workshop it is hoped that you will be able to…

Goals

- Identify difficult emotions that are likely to increase pain, discomfort and other symptoms of fibromyalgia syndrome
- Utilize skills learned in the workshop to manage these emotions
- Interact more effectively with significant others in your life such as your family and your healthcare providers
- Enjoy a greater sense of emotional and physical well-being and an improvement in your quality of life

PART ONE (in other weeks this section will be a review of last week's homework)

Activity 1: Identification of common/shared emotions experienced by participants

Tasks: 1. Set the stage/tone for the other three weeks
2. Assist participants in identifying common emotions associated with fibromyalgia
3. Group emotions into categories that will (mostly) be addressed by the intervention

Goals: 1. Participants are able to identify some common emotions associated with fibromyalgia
2. Participants are familiar with the categories of emotions that will be addressed during the course of the intervention

Duration: 40 minutes

Materials: Flipchart, markers, masking tape

Script: Let's start our session today with a discussion of your experience with fibromyalgia so that we can develop a common language to serve as a sort of guide for the next few weeks. I am going to write a sentence on the top of this sheet of paper and I would like you to complete it for me.

[Write "Living with fibromyalgia means living with…" at the top of a sheet of flipchart paper.]

Notes: Record responses. Clarify any that are unclear. Do not allow excessive story telling at this time.

[After elapsed time proceed with…]

Script:That's great. Now let's see if we can find some common themes in your answers.

[Put up completed sheet near blank paper with masking tape and ask…]

So what do you see as some key emotions that you have described?

[List them on new sheet. As much as possible try to organize them around larger themes to include at a minimum, anxiety, depression, anger/frustration, grief/loss/sadness, fear, and resentment] **10 MINUTE BREAK**

PART TWO: PSYCHOEDUCATION ON TOPIC OF THE WEEK

WEEK ONE: BASIC RELAXATION SKILLS

Tasks: 1. Introduce the concept of relaxation as helpful in chronic pain disorders
2. Demonstrate basic abdominal breathing relaxation
3. Have participants practice this skill and provide feedback
4. Provide instruction in homework for next session

Duration: 30 minutes

Script: One of the core skills that we will be teaching you over the course of this workshop is a series of basic relaxation skills. Relaxation is helpful for a number of reasons in chronic pain disorders and specifically in fibromyalgia. It helps us to become more in tune with our bodies so that we can begin to identify signs and symptoms of distress and work to alleviate them.

One of the most basic components of any relaxation technique, and the place that we will begin today is, with understanding how to breathe more effectively so that we are increasing the flow of oxygen to our muscles and decreasing the amount of tension we carry with us on a daily basis.

Most of the tension that we carry with us throughout the day tends to gather in our shoulders and our chest. The first thing we are going to do is to sit in a comfortable position with our knees uncrossed, feet on the floor and we are going to make a conscious effort to drop our shoulders down away from our ears. [Therapists demonstrate the difference between having shoulders hunched up around neck and lowering them. Note if participants have attempted to follow this direction, give verbal and facial cues to encourage them to do so while keeping in mind many fibromyalgia patients may not have any range of motion at this point at all and may be trying even though they may not appear to be doing so.]

Next notice how you are breathing. Close your eyes for just a minute and observe what part of your body is rising and falling as the air goes in and out? [Therapists observe how the participants are breathing.] Now open your eyes. Which part was moving?

[Wait for a few responses. If say "abdomen" say "good"].

Well the reality is that if you ever watch a baby breathe they breathe with their bellies and basically they have it right. As we get older though, we tend to tense up and do more of our breathing from our chest, which is actually much more shallow. What we need to do is to relearn to breathe like we did when we were babies.

Let's see what this looks like. [One of the therapists demonstrates the difference between chest and abdominal breathing]. I will place one hand on my chest and one on my abdomen. I can actually breathe either way [take a few breaths just chest breathing and then a few just abdominal breathing], but the difference in the amount of air that I take in is quite different.

Let's see how this actually feels. This works best laying down and you can practice that way at home, but for now, seated in your comfortable position, place one hand on your abdomen and one on your chest, just like I did. Now inhale through your nose so that the air is coming in all the

way down into your abdomen and causing it to inflate and rise up to the ceiling. Now release the

breath again through your nose and your abdomen will deflate. Now try breathing with just your chest to get a sense of the difference between the two.

Now return to the abdomen breathing exercise and this time try to lengthen the amount of time that you spend on both the inhalation and the exhalation. On the inhalation try to expand your abdomen as much as is comfortable for you. On the exhalation focus on emptying as much air out as possible and think about touching your abdomen button to your spine. Let's practice this a few times together.

[After a few rounds move on to homework]

Adapted from Catalano, E.M. & Hardin, K.N.(1996) The Chronic Pain Control Workbook (2nd Ed) and Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

PART THREE: INSTRUCTION IN HOMEWORK FOR THE WEEK

WEEK ONE: BASIC BREATHING RELAXATION

Task: 1. Provide instruction to participants in the homework assignment for the following session.

Goal: 1. Participants have understood their assignment.

Duration: 10 minutes

Script: Your homework assignment for next week is to practice the deep breathing exercise that we have learned in session today. As mentioned previously, each of you has an audio tape in your manual. This tape contains four different relaxation exercises, which will each be demonstrated and practiced each week. The first exercise on the tape is the deep breathing that we practiced today. A script of the tape is also provided in your manual. Over the course of the next week, try to practice this breathing technique, preferably while you are lying down twice a day for at least 15 minutes at a time. Try to focus on gradually making your inhalations and exhalations longer and deeper each time you practice. This exercise will serve as a basis for some of the other relaxation exercises that we will learn in later sessions that will help you with pain management and muscle tension.

Next week we will ask you to share your experiences with this exercise with us.

PART FOUR: RELAXATION DEMONSTRATION AND PRACTICE

OPTIONAL IN WEEK ONE

Note: This is an optional section for this week and can be utilized if time allows as the basic breathing relaxation has already been demonstrated. Although this is slightly redundant for week one as the homework for this week is also relaxation, it is often useful to provide participants with alternatives to basic breathing, which they may find more helpful for them. If you are short on time, draw the participants' attention to the fact that variations to the basic breathing exercise that was demonstrated is provided in their manual.

Tasks: 1. Introduce participants to variations on the deep breathing exercise.

Goals: 1. Participants will learn alternatives to the basic breathing exercise, which may be more suitable to their individual preferences.

Duration: Variable as this is an optional activity and as few or as many of the options may be introduced as time permits.

Script: There are some variations that you can make to the basic abdominal breathing exercise. These are also provided for you in your manual.

The first simply consists of counting quietly to yourself as you observe the breath flowing in and out of your body.

[Breath Counting]

1. Sit or lay in a comfortable position
2. Gently allow your eyes to close
3. As you exhale, say the number "1" either to yourself or softly outloud
4. As you inhale, say "and"
5. On the next exhalation, count "2"
6. As you inhale, say "and"
7. Continue this sequence through the number four and then return to one

During this exercise it is important not to become concerned or distressed if you become distracted or lose your place. Simply return to the number 1 and begin the sequence over. Practice this exercise for 15 to 20 minutes.

[Centered Breathing]

Another helpful exercise is to use calming words to help us remain centered. In this variation of the deep breathing sequence, choose two key words that have special meaning to you and that bring up feelings of peace, serenity and calm. Examples of words you may choose are "joy," "peace," "serenity," "wisdom" or you may use any other word that has a soothing meaning for you.

1. Sit or lay in a comfortable position
2. Gently allow your eyes to close

3. Free you mind from any negative thoughts. If any disturbing thoughts arise at this time, do not attempt to resist them, but rather acknowledge their presence and simply allow them to pass by as though you were watching them float by like pieces of cork in a river.
4. As you exhale, say the first word you have chosen, for example "peace" either quietly to yourself or softly out loud
5. On the next exhalation say the second word for example "joy"
6. Continue this sequence for 15 to 20 minutes

[Ocean Breath]

The next option is a little bit different. This is a technique used in Yoga, which actually means "victorious breath." In this instance you will be breathing in and out deeply through the nose as you have been in the previous versions of this exercise, but in this instance your breath will be making a distinct sound on both the inhalation as well as on the exhalation.

1. Sit or lay in a comfortable position
2. Allow your eyes to close gently
3. Allow your breathing to fall into a gentle regular rhythm
4. Now as you inhale picture the air through the back of your throat through a straw. This should make a distinctive "sa" sound.
5. Now as you exhale, you will feel the air against the back of the throat and hear an aspirating "ha" sound. Some have likened the "sa-ha" combination to the sounds of the ocean or to the character of Darth Vader on Star Wars although your breath need clearly not be as loud!
6. Practice this technique for 10 to 15 minutes.

[Sighing]

Another simple and useful technique to release tension quickly and effectively is deep sighing. Often times during the day when we sign or yawn this may be an indication that our body may be deprived of oxygen. Deep sighing is a good way to help restore this vital element to our organs.

1. Stand or sit up straight.
2. Inhale deeply.(optional)
3. Exhale completely (sigh deeply) and allow your body to relax completely.
4. Repeat 5 to 10 times anytime the need arises.This brings us to the end of session 1. Are there any questions we can answer for you? Great. See you next time.

(Adapted from Catalano, E.M. & Hardin, K.N.(1996) The Chronic Pain Control Workbook (2nd Ed), Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed), and Carrico, M. (1997). Yoga Basics.)

WEEK TWO

MANAGING EMOTIONS

PART ONE: REVIEW OF LAST WEEK'S HOMEWORK

Tasks: 1. Welcome participants to the session and clear up any lingering questions from session 1.
2. Review the homework assignment from the previous session by soliciting active participant feedback.

Goals: 1. Participants are reoriented to the intervention and have remaining questions answered.
2.Participants have shared their experiences with the basic relaxation homework.

Duration: 20 minutes

Script: Welcome to session 2! We are going to cover several things in today's sessions, but before we start, are there any questions about anything that came up from last session that we can answer before we start [if these pertain to the breathing say "we will be talking about that next"].

As we mentioned last time we would like to start each session with a review of the homework from last session, which was the deep abdominal breathing exercise. We will then be talking about a specific topic, which for this week will be managing difficult emotions like frustration and anger. Next, we will provide you with instructions in your homework for this week and then demonstrate a new relaxation technique for you which we will also practice in session. Are there any questions so far?

Let's begin with a review of your breathing homework from last session. How was this exercise helpful for you? [wait for some responses] When might you use this technique? [wait for responses] Did any of you try any of the variations that were provided in your manual? What were these like? [wait for responses] Any other reactions or questions about this relaxation?

Great. Well I am a glad that you have had a chance to practice this technique as we will be using it as the basis for the other relaxation exercises we will learn during this workshop.

PART TWO: PSYCHOEDUCTION ON TOPIC OF THE WEEK

WEEK TWO: MANAGING EMOTIONS (ANGER)

Tasks: 1. Introduce the concept of the impact of emotions on our bodies as a whole
2.Introduce participants to the concept of coping thoughts
2 3.Have participants practice an example of emotional coping with anger

Goals: 1.Participants are familiar with the idea that emotions involve our entire body
2.Participants understand basic emotional coping skills by using an anger example to work though some simple scenarios

Duration: 50 minutes

Materials: Flipchart, paper markers, masking tape

Script: Last week we spent some time identifying emotions that you associated with your experience of fibromyalgia. This week we are going to take a deeper look at some of those emotions and then see what we can do to cope with them more productively.

First I want to read a passage to you:

[Read verbatim with the possible exception of attempting to switch the name "Carol" if possible if a participant's name is Carol so as to avoid singling out this person]

"Carol! You look wonderful! I'm so glad you're feeling better!"

I smile – a wooden smile. Underneath I feel angry and hurt. Just because I look alright, doesn't mean I feel alright. They have no idea how awful I might be feeling...how much pain I'm in...or how hard it is to put that smile on my face. People just assume that because I don't look sick, I'm not sick. I know that people often doubt that I really do have a disease... or they think I'm just lazy. Do they honestly believe that it's my choice to stay home all day and depend on others to do things for me...things I used to do with speed and take for granted? And why on the earth do they ask how I am if they don't really want to know the answer? The phrase "how are you" is certainly not a sincere inquiry...it's simply a greeting. Yet for me, it has become a loaded question. Do I say "fine thank you" when I'm not...or do I answer the question? It seems to me that either way, I can't win. The truth is: I do look fine – so why do they ask? Yet I know that people are tired of listening to my complaints...I don't blame them – I'm tired of listening to myself! Having an invisible condition means feeling as if I'm a fraud. Even though I know I need help to open the door to get into the mall I still feel embarrassed and ashamed. I always feel as if people are watching me and wondering why I can't do things for myself. People who see me out shopping or attending a celebration just can't imagine the price I pay for doing these things. I have to make sure I rest well the day before, and may have to spend the next day in bed recovering. But people don't understand that. *(from Kowarsky, A.& Glazier, 1997, Arthritis Care & Research)*

Does this sound familiar to anyone? [Wait for responses – support feelings]

That's exactly right. A large part of the difficulty of living with fibromyalgia is the issue of

credibility and the fact that although we seem fine to others we are struggling to manage even the most simple tasks on a day to day basis. And to make matters worse some days, completely out of the blue, we do feel better, which makes others in our lives even more confused!

The point we want to make today is that our emotions are whole body experiences, which means that when we have a feeling it does not just occur in our head or our heart, but rather our entire body will respond in some way, whether we are consciously aware of this or not.

In general we do not have as much of a problem for warm or loving thoughts that tend to spread feelings of calm and warmth throughout our bodies, but when it comes to feelings of frustration, anger or feeling discounted like we have just been discussing, this can lead to some more serious consequences, in particular, for those us with fibromyalgia. Experiencing too much negative emotion such as anger or depression over time, for example, can lead to increased muscle tension and even changes in our body chemistry that can affect sleep patterns, pain and other critical components of FMS.

In addition our feelings are greatly influenced by how we think about events and this is a concept that we will come back to quite a bit over the course of this workshop. The way that you interpret a certain situation combined with the way that you talk to your self about that event will influence your mood state as well.

Finally it is important to realize that we are not always aware of our feelings and that often times they come out in strange ways, many times through other symptoms like body pain or sleep disturbances. This why relaxation is so helpful because it allows us to clear our minds of all distractions and to be fully present to experience whatever feelings and emotions may arise in that moment.

For now we are going to talk some more about frustration and anger and then look at some specific coping skills you can use when you find yourself experiencing feelings similar to those of the woman in the story.

First step in gaining mastery over any emotion is recognition of the way we experience that emotion. This will include things such as messages we received about these emotions as children in terms of how they should be expressed and handled, whether it is OK, or "good" or "bad" to feel these emotions. It will also include recognition about how we express our emotions, meaning whether we show them outwardly or whether we tend to keep them bottled up inside. Also, how willing are we to change the way that we experience our feelings?

Anger and frustration serve a number of different purposes in our lives, among those can be a response to an unmet expectation or disappointment, a warning sign that something is amiss in our environment, it can be a new way of learning provided we are open to understanding the source of our frustration and ways of working with the situation. It can be a normal response to a life situation that anyone would experience in the same set of circumstances and is therefore healthy within a certain framework, and anger can also be protective and useful when it alerts to situations in which our boundaries may have been violated or others close to us may be harmed.

The key with anger and frustration, therefore, is maintaining a balance between anger that is healthy and adaptive and anger and resentment that is harmful and stressful. As we mentioned earlier, one of the most important parts of our emotional experience is how we think about a

certain experience and this is often where many of us run into difficulty.

Living with fibromyalgia means, by definition, living with disappointment, hurt and loss on a daily basis, but is it in large part how we think about the events as they occur that will influence how we will feel about the outcome.

Let's look at the following example.

[Draw this example on the flipchart or the white board]

Scenario 1: Your spouse comes home from work and asks you if you had made dinner.

Response 1: You become angry with him/her and say that you have been in bed all day. You are frustrated that no one in your family ever understands you and you are hurt and angry.

This is an example of what we call overgeneralization, a pattern that frequently leads to increased anger and frustration. Instead of taking the question for what is was and simply calming explaining that today was a bad day, a negative pattern jumps in.

[Write on the board or chart: Overgeneralization automatic thoughts: My family never understands me. They always expect more from me.

Write "Coping Thoughts" on the next line then ask]

So how can we "talk back" to this pattern of thinking? [Pause briefly for responses]

[Put these up on the board as you review them]

The first step in handling any difficult emotional situation, in particular anger and frustration, is to remember our relaxation skills especially breathing. So it will help to take a few deep breaths and then to start revisiting our thought patters.

We need to start by counteracting the statements that feed the anger, specifically:

1. Avoid using terms like "always", "all" and "every" [say, but do not write] if you think hard enough you can find exceptions
2. Stick to accurate and specific descriptions of what it is you are upset about [say, but do not write] the statement "my family never understands me" is fairly vague. Break out exactly what it is that you are upset about.
3. Look for exceptions. [say, but do not write] It is unlikely that your family always behaves a certain way.

Let's look at another example.

Scenario 2: I am too tired/ in too much pain to get out of bed today.

Response 2: I am the most tired I have ever been/this pain is the worst pain I have ever felt. I will never get better and my family will leave me.

This is an example of a negative pattern that is called magnifying or catastrophizing. By focusing

on the worst possible situation and making the current problem seems bigger than it actually may be only serves to make you more distressed and unhappy.

Coping thoughts here:

1. Are realistic [say, but do not write] Admittedly you do have severe fatigue and pain, but appraise it realistically. Realize that fibromyalgia symptoms wax and wane and that some days will be better than others. If your family has been supportive throughout your illness it is not likely that they will leave you today.
2. Use accurate language. Do not be catastrophic or alarmist. Avoid using words like "worst" and "never."
3. Look at the whole picture. Fibromyalgia is a syndrome comprised of a variety of symptoms. Try to find evidence that you are making progress in other areas.

On to our third example:

Scenario 3: Your spouse fails to take out the trash as you have asked him/her to do as you are unable to do so due to pain.

Response 3: You are angry because he/she should have done this and demand that he/she remember to do so next time.

Once again having angry thoughts and expectations of others combined with resentment over our own loss of ability of function is a lethal combination in fibromyalgia. Remember that whenever you are feeling overwhelmed by anger, frustration or any other powerful emotion, the first key is to relax your body as much as possible since increased muscle tension and heightened arousal will also increase your pain levels.

In situations where you find that you are being demanding or "commanding" remember that:

1. Your "shoulds" are not those of other people.
2. Rephrase your requests as " I would prefer it if you" or "It would be helpful to me if you" rather than placing ultimatums to which few if any respond well.

In a fourth example:

Scenario 4: My pain is worse now than it has ever been. I am not getting any better.

Response 4: This is all my physician's fault. He/she is incompetent.

The overwhelming amount of symptoms and the pain of fibromyalgia can seem impossible a majority of the time. It is tempting to want to blame others for problems that have no explanation. Avoid making yourself feel even worse by entering into a spiral of blame.

Try to do the following:

1. Develop a solid coping plan for specific problems, for example, how do I want my physician to help me? (note that we will be working on communication skills next session). Make the steps easy and achievable.
2. Walk a mile in their shoes. For the most part others in your world ARE trying to help. Fibromyalgia is overwhelming to them as well. You are the expert on you. Help educate them on your needs.

In a fifth example:

Scenario 5: Your child has made an insensitive comment to you about "laying around the house all the time".

Response 5: You feei hurt and wonder how you could have raised such an insensitive person. You respond by telling them that they are not a very kind individual, which hurts their feelings.

Anger and hurt feelings tend to create a vicious circle of hurt as demonstrated in the example above. Try to avoid this type of situation by managing your own feelings and turning the situation around by:

1. Recognizing that the comment was not meant to be intentionally hurtful
2. Avoiding an inflammatory comeback that will only perpetuate the cycle and increase feelings of hurt and anger between the two parties
3. Separate the person from the behavior or avoid "global labeling." The person him or herself is not "unkind" – the comment was simply not well thought through.

Finally in a sixth example:

Scenario 6: Your physician is only able to spend 15 minutes with you during your visit this week instead of his/her usual 30 and seems unusually gruff.

Response 6: You are hurt and angry and assume that he/she must have "given up" on you, be tired of you or have more important patients to see.

As fibromyalgia patients our connections with our support network members, in particular our families and healthcare providers are critical. As a result we tend to be very tuned into their reactions towards us. We need to be careful, however, not to make mistakes or misinterpret actions of these individuals especially when these actions are upsetting to us since we often do not know what other concerns are going on in their lives.

In the case where someone you feel has hurt you and you are angry:

1. Check out your assumption. The motive you may have assumed may be very incorrect and you may be causing yourself unnecessary distress.
2. Always seek alternative explanations for a person's behavior.

These are six of the main thought patterns that tend to be problematic and exacerbate our emotional states. We have used anger and frustration as an example here, but as you can easily see, you could just as well apply these concepts to any number of other emotions such as depression, anxiety, or grief. Are there any questions at this point?

Good. Let's take a 10 minute break.

10 MINUTE BREAK

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

PART THREE: INSTRUCTION IN HOMEWORK FOR THE WEEK

WEEK ONE: ANGER WORKSHEETS

Tasks: 1. Assure that participants have identified and understood the homework assignments for next session.

Goals: 1. Participants have located the appropriate homework worksheets in their binders
2. Participants understand how to complete the homework assignments

Duration: 10 minutes

Script: As homework for this week we would like you to work with the concepts that we have discussed in the previous section. There are three worksheets provided in your binders that we would like you to look at and complete for next week. The first one is called the Emotion Awareness Worksheet.

1. Emotions Awareness Worksheet

This worksheet asks you to think through a series of questions about your emotions. The objective is to help you develop a better understanding of how you operate as an emotional human being in the world. Complete the questions as best you can. The answers are just for you. You will not be asked to share them with the group or turn them in. They are merely to help you gain a better understanding of yourself and will help you in the work we will be doing in the next sessions.

The second worksheet is the Emotions Coping Worksheet and we would like you to use anger as the emotion again as we did in this session.

2. Emotions Coping Worksheet

On this sheet there are three parts that are similar to the work that we did during this session. In the first section we ask you to list three thoughts or events that trigger anger or frustration for you. In the second section we ask you to list the three distortions that occur in connection with these thoughts or events just like we did today. In the third section we ask you to come up with a counterresponse based on some of the concepts that we discussed today such as avoiding catastrophic thinking or blaming. Finally in the fourth section we would like you to add some additional helpful coping thoughts that you can either take from a list that is provided in your binder that fit the situation or that you come up with on your own that you think may help you with the particular situation that you have identified.

The last one is an Anger Log Sheet. Over the course of the next week, whenever you feel angry or frustrated, we would like you to write it down in this log as follows:

3. Anger Log Sheet

In the first column write down the actual situation as it occurred as objectively as possible

meaning what you actually saw, heard, etc. In the second column, write down your assumptions, beliefs, conclusions and so forth. This is where your first uncensored reactions will go. In the next column, labeled "anger rating" you will rate how upset you felt on a scale of 0-100 with 0 being not angry at all and 100 being as angry as you have ever been. The next column is where you will put the list of the coping strategies you used to reduce your anger. Then in the following column you will put your revised anger score.

Remember that we have worked extensively with anger and frustration in this session, but that this work can easily be applied to any number of strong emotions that you may experience with FMS. Are there any questions we can answer for you?

Notes: It is possible that participants may insist that they are not angry. Emphasize that we are using this emotion as an example. Also if there is significant resistance upfront to the use of this term, perhaps consider the use of frustration or other less controversial terms.

PART FOUR: RELAXATION DEMONSTRATION AND PRACTICE

PROGRESSIVE MUSCLE RELAXATION

Tasks: 1. Introduce participants to the concept of progressive muscle relaxation
2. Demonstrate partial PMR in session
1 3. Have participants practice and provide feedback

Goals: 1. Participants will understand the basic concept behind PMR
2. Participants will learn how to use this technique so that they may practice it at home

Duration: 30 minutes

Script: In every session we will be teaching you a different relaxation technique for you to add to your "toolkit" to help you with your symptoms of fibromyalgia. This is the second recording on your audio tape and is called Progressive Muscle Relaxation or PMR for short.

In PMR we alternate tensing and relaxing parts of our body so that eventually we come to recognize the difference between tension and relaxation during our everyday lives. We also then get to the point where we are able to easily train ourselves to let go of tension in any part of our body by using this technique.

Now we will demonstrate a version of the PMR technique that is on your tape. [Note: do not say this if you are planning on using your own here]. You may choose to use this version or practice on your own once you understand the basic concept of alternating tension and relaxation.

[Note that the following is a modified transcript from the audio cassette provided with the participant binder. It is not necessary that this be the PMR that is demonstrated in session as participants will have access to both the transcript as well as the audio tape as alternatives as well.

Get as comfortable as you can. Allow your eyes to close gently. Let you hands fall gently to your sides. Uncross your legs. Now begin to breathe slowly and deeply. Focus on bringing your breath into your abdomen and out through your chest and your nostrils. Free yourself from any disturbing thoughts as you allow them to gently float by without engaging them.

During this exercise it is important that you not try too hard. If at any point you feel pain or discomfort simply relax that area of your body and move on to the next one.

Now as you allow the rest of your body to relax, clench your fists tightly and bend your wrists...tighter and tighter...notice the tension. Now relax. Let your hands fall limp. Feel the relaxation and notice the contrast from the tension. One more time clench your fists bending at the wrists...tighter and tighter...relax.

Now bend your elbows and bring your forearms up to your biceps. Make big muscles... tighter and tighter. And let your forearms drop back down. Experience the difference from the tension.

Next bring your shoulders up to your ears. Shrug your shoulders as high as you can. Feel the

tension. Release. Let your shoulders drop down and feel the release. Now focus on your forehead. Wrinkle up your brow. That's right, frown. Hold your frown for a second – feel the tension deep in your scalp and forehead. Relax and feel the difference. Keeping your eyes closed, squint as though you were looking into bright sunlight. Relax. Relax your eyes. Notice the difference from the tension.

Take a deep breath in and exhale. Clench your jaw now. Bite your teeth together and experience the tension. Release. Notice how your lips part slightly and enjoy the relaxation. Now press your tongue against the roof of your mouth, Feel the pressure. Relax. Make the letter O with your lips and feel the tension in these muscles. Release. Feel the relaxation in your facial muscles.

Gently drop your head back, taking care not to cause any pain or discomfort. Feel the slight tension. Release now, bringing the head back to its neutral position. Notice the contrast between the tension and the relaxation.

Bring your chin down to your chest now and feel the gentle stretch in your neck muscles. Release. Bring your head back into a neutral position and relax.

Inhale now. Fill your lungs completely and hold your breath. Notice the tension. Exhale and notice the difference. Continue to relax and restore your regular pattern of easy deep breathing.

Now tighten your stomach muscles. Hold the tension. Relax and note the difference. Place one hand on your stomach and breathe deeply bringing air into your belly. Hold. And release allowing your breath to return to its normal and regular pattern. Notice the contrast with the tension.

Gently arch your back now, being careful not to strain this area. Release and notice the relaxation. Tighten your buttocks and thighs. Press your feet down into the floor and feel the tension deep within your thighs. Relax.

Now point your toes towards your head and experience the tension in your calves. Hold. And relax. Feel the difference from the tension. Continue to breathe deeply as your experience the deep feeling of warmth and relaxation as it spreads throughout your body. Allow the tension to leave each area with each breath...deeper and deeper down from your head through your arms...neck...face...chest...abdomen...thighs...calves...and feet.

Continue to breathe slowly and deeply as your entire body becomes comfortably loose, calm and rested.

This ends session #2. Please come and see us if you have any questions. Have a wonderful week.

Notes: Be very conscious in this exercise that fibromyalgia patients may need accommodations due to pain and injury.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

WEEK THREE

COMMUNICATION

PART ONE: REVIEW OF LAST WEEK'S HOMEWORK

Tasks: 1. Greet participants and welcome them to week 3. Answer any questions from last week.
2. Review homework sheets from last week.

Goals: 1. Participants are oriented to the session.
2. Session 2 homework is reviewed and remaining questions are answered.

Duration: 30 minutes

Script: Welcome to Week 3! Are there any questions we can answer for you before we get started? Well let's start by reviewing the homework sheets you had from last session. First we asked you to complete some worksheets on managing your emotions using anger and frustration as an example.

The first sheet we had you look at was the Emotions Awareness Sheet. Did anyone have any comments about this sheet? [Process this sheet for a while asking for themes in what was observed etc, tying into the FMS experience as much as possible].

How about the second sheet, the Emotions Coping Worksheet? Would anybody be willing to share some examples that they came up with with the group? [Process for a while attempting to make bridges within the group such as "Did anyone else have anything similar?" etc]

Good. Now how about the final exercise – the Anger Log Sheet. How did this work for you? What did you notice about using the coping skills? [Process]

Let's move on to today's topic.

PART TWO: PSYCHOEDUCTION ON TOPIC OF THE WEEK

WEEK THREE: COMMUNICATION

PART ONE: COMMUNICATION WITH FAMILY AND SIGNIFICANT OTHERS

Tasks: 1. Introduce participants to the three main communication styles: passive, assertive and aggressive
2. Outline the components of a successful assertive communication process

Goals: 1. Participants will understand the difference between passive, assertive and aggressive communication styles
2. Participants will be able to identify the components of successful assertive communication

Materials: Flipchart, markers, masking tape

Duration: 30 minutes

Script: For the last two weeks we have been talking a lot about emotions and specifically about how we manage those emotions. Last week we looked more in depth at one of those emotions… anger…and looked at some specific coping skills we could use to avoid allowing this emotion, or any other for that matter, to take us hostage in a sense. This week we are going to talk about a different side of emotions – using them in a healthy way in our interpersonal relationships or in other words how to go about healthy communication.

When we become ill or we are in pain, everything in our lives becomes difficult and strenuous. It becomes harder for others to understand what we want and need, because a lot of the time, quite honestly, we don't know what we want or need either. So in order to get the most out of our relationships in a time when we need them the most it really works in our favor to learn to become skilled at communication.

The first step in this process, as it was in understanding our emotions, is to take a good look at how we communicate.

There are essentially three basic communication styles:

[Have one therapist talk as the other writes the word "passive" and key traits on the flipchart. Same with each of the other styles]

Passive: avoids problems, tends to allow other to take charge even if the decisions made are not what he/she would prefer, relinquishes one's rights, and tends to experience a lowering of self-esteem. Opinions, feelings and wants are withheld. The message is "I am weak, you are powerful." "I am wrong, you are right." Individuals with this style avoid offending others at all costs and even sacrifice their own needs to please others. They almost never get what they want and feel overwhelmed by the demands of others. They may carry resentment because no one seems to see or acknowledge what is important to them. They often make dismissive disclaimers such "I'm no good at this" or "I really don't know anything about this." Eye contact is minimal.

We have included a list of additional beliefs that individuals who have a passive communication may have in your binder for this week.

Assertive: tackles problems head on, is respected by others for expressing opinions in an honest and forthright manner, and tends to experience increased self-esteem. Does not violate the rights of others. The message is "We may have differences, but we both have the right to our opinions and to express them". Sets appropriate limits. Clear, direct, nonattacking communication. Eyes communicate openness and honesty.

We have included a list of additional beliefs that individuals who have an assertive communication may have in your binder for this week.

Aggressive: tends to attack others in interactions with them, may seem to take advantage of others and may be hostile. Feelings and needs may be honestly expressed, but at the expense of others. Message is "I am superior and you are inferior". Makes enemies and people avoid them to avoid confrontation. Often they do get their way, but are often not sure if out of love or fear. Others avoid them, which leads to isolation and loneliness. They tend to stare others down.

We have included a list of additional beliefs that individuals who have an aggressive communication may have in your binder for this week.

It should be fairly clear from these descriptions that the style that is the most effective is the assertive style because it allows us to express ourselves in an open and honest manner, while at the same time also allowing others to have their opinions as well.

Part of the reason that in many cases we may not have learned not to express ourselves as assertively as we could may be as a result of mistaken assumptions and beliefs. We have included a list of these in your binder for this week for your review. We will look at these in more detail in connection with one of the homework assignments for next week.

In any successful respectful and assertive communication, especially when we are talking about feelings there are a few simple rules to keep in mind.

The first one has to do with the recipient of the message you are giving and this is:

1. Make sure that the person you are talking to is in the appropriate frame of mind to receive your message

The second one has to do with how you yourself convey your message and this is to:

2. Avoid blaming or belittling the person that you are talking to. No one likes to be criticized or feel like their self-esteem is being damaged. Put yourself in their shoes and consider how you like to be receiving the message.

The basic components of successful assertive communication are then as follows and these are also provided in your binder if you would like to follow along:

1. Decide what your rights, wants, needs and feelings are in a given situation. Remove any blame, desire to inflict revenge or any other negative emotion from the situation before

you engage in the communication. Decide what you would like the ideal outcome of the conversation to be and what you would be willing to settle for. We have included a sample "Personal Bill of Rights" in your binder. Feel free to add any additional items to this list that you feel apply to you and will help you maintain a healthy and positive attitude in your daily interactions with significant others. Place it in a place where you will see it often in your house and read it often.

2. Choose a time that is appropriate if possible. Do not talk volatile or emotional when emotions are already running high, for example, in the middle of an argument. Take a time out and agree to revisit the discussion at a later time when both of you are more calm.
3. Let the person you wish to talk to know you have something important to say and that you would like to be heard without interruptions. Your feelings are important and have the right to be expressed.
4. Be specific. Use examples such as "I felt hurt when you did not take out the trash yesterday morning".
5. Use "I statements" meaning that you take ownership for how you feel about the situation and perceive events rather than making assumptions about the other person. This also helps to avoid the temptation to blame. Remember that you alone are responsible for your feelings and that no one can make you feel anything except yourself.
6. Be sure to articulate your need. When we feel frustrated and misunderstood with significant others in our lives this is often due to the fact that important needs are going unmet. State your need specifically and without being demanding or controlling. These statements begin with words like "I would like, I would appreciate, Would you please" and are firm, simple and to the point, non apologetic, not a judgment of the other, not blaming, a request not a demand.
7. Keep your request short and to the point. Be firm, but kind and caring. If possible keep it limited to one two or three sentences that summarize exactly how you feel and what it is that you need from the other person.
8. Focus on the behavior not the person. Be sure that you are communicating that you still care about the person, but that you would like him or her to work with you to change a certain way (aspect) of your interaction.
9. Be willing to negotiate. Compromise is key to successful relationships. Also be able to say no to things you do not want or are not realistic for you. Create a "win-win" situation. Make sure that the other person knows what will be in it for them, for example, "If you can help me with the housework in the morning I will be less tired during the day and then I will have more energy for us when you come home at night."

Are there any questions about this section? Let's take a 10 minute break.

10 MINUTE BREAK

Adapted from Paterson, R.J. (2000) The assertiveness workbook: How to express your ideas and stand up for yourself at work and in relationships.

PART TWO: COMMUNICATION WITH HEALTHCARE PROVIDERS

Tasks: 1. Create a list of difficulties participants are currently experiencing in relating to their healthcare providers.
2. Outline strategies participants can take to improve their relationships with their
1 healthcare providers and maximize the outcomes of their care.
2

Goals: 1. Participants have reviewed the difficulties that they currently experience with their healthcare providers.
2. Participants understand and are able to identify new ways to interact more effectively with their healthcare providers.

Duration: 30 minutes

Now we are going to include a special section here on communicating with physicians and healthcare providers since this is a very common source of frustration for many fibromyalgia patients. Let's start by reviewing some of the common complaints that FMS patients have in communicating with their providers:

[Show them the list, which will be written out on the **flipchart** ahead of time and ask them to add to it. Write as they do.]

- Does not take the time to listen to me
- Becomes frustrated with me
- Seems overwhelmed by my complaints
- Tells me it's all in my head
- Easily distracted
- Never available
- Does not know much about FMS

This is a pretty depressing list. So what can we do to solve this situation that seems to be pretty much a consensus among most of you?

The reality is, like with most things in life, the only person we really have control over is ourself. So let's take a look at what we can do in our interactions with our healthcare providers that is likely to improve the outcome.

Educate yourself

In general medical personnel do not deal as well with chronic medical conditions like FMS because they prefer conditions that have a clearly defined cause that they can fix easily and quickly so conditions like ours are very frustrating to them. Most times they do want to help, they just don't know how. It then becomes your job to let them know how to help you. You do need to speak up and not assume that they are the expert about you. At this point there are still not many providers who are true experts in fibromyalgia for the very reason that we still do not know what causes it so medicine does not know under what specialization to place the disease. As a result you are likely to be receiving treatment from a physician who is less of an expert in your illness than you are.

Educate your provider

Sometimes a provider may become very upset about the fact that you are not "cured" and he/she may need to understand that your symptoms wax and wane and that you are seeking relief for now, for example, that you may be looking for physical therapy, pain medication or whatever.

Be aware of gatekeepers

Be polite and firm with individuals whose roles are to protect a provider's time. You have legitimate needs as an individual with a chronic illness so be sure that you are establishing good working relationships with the individuals who will allow you access to the provider and be sure that your messages are being relayed to the provider without becoming angry or upset with these individuals. Revisit some of the lessons from week 2 if you find yourself becoming frustrated with these individuals who may be minimizing or disbelieving that you are truly ill. If you are having trouble with the office staff talk to your provider directly about this.

Checklist for provider

In your participant binder we have included a suggested list of questions you may wish to ask yourself about your provider and how he/she relates to you and your illness. If you find that he or she is falling short of your expectations you may wish to find another provider who is better able to provide you with the support you need. Often you may find other providers by contacting local fibromyalgia support groups, hospitals, or speaking with others who have FMS and who are pleased with the treatment they are receiving from their physicians. Other times it may be the case that you may have a friend or family member who has a kind and caring provider who may be willing to help you secure a referral to a new provider who he or she may feel would be equally caring and compassionate.

Do not be intimidated – be an active participant in your care

Your health is your responsibility. While a provider clearly has a great deal of expertise and training in his or her field, when you are in his or her office you have hired him or her as your employee to consult with you on a concern that you have regarding your health. The outcome of the visit must be to your satisfaction. Many times we become very nervous and frightened when we are in the presence of the authority that providers represent for us and forget that they are providing services for us. In order to learn to overcome this **try writing down your questions and concerns at home and then bringing them into the visit with you. If it would help to**

bring a friend or relative along with you as well. This is perfectly acceptable. Remember that you are in control of your health and your visit. **It is also acceptable to hand your provider a list of questions** as you walk in to your visit. Many providers even appreciate this as it helps them to stay focused and know exactly what it is that you need them to answer for you. We will be working through one of these as an example for homework for next week.

Be sure that you understand what is being explained to you

Very often providers use terms that are unfamiliar to patients without realizing that they are doing this. It is not intentional and not intended to make the patient feel dumb or inferior. Remember again that this is your time and your health. If you do not understand what your provider has said, **stop him or her and ask him to explain** what he or she has said in more simple terms and to **ask him/her to write it down** for you on paper. Most providers are more than happy to do this. **Paraphrase and repeat directions back** to your provider to make sure that you have understood what he/she has said.

Don't be afraid to change providers

FMS is a terribly draining illness without having to fight with your health care provider over appropriate treatment decisions or, worse yet debating about the existence of fibromyalgia at all. If you feel in any way that your provider is harmful to your self-esteem or is not providing you with assistance that is conducive to your health and well-being, do not place a misguided sense of loyalty to that individual above your own needs to obtain relief from pain and suffering.

Be reasonable

Realize that fibromyalgia unfortunately still remains a mystery to the medical profession. Try to manage your expectations about what your providers will and will not be able to do for you. At this time there is not a cure, but there are treatments that work, some better than others, depending on your symptoms. If you are willing to search for a good provider, be patient, work with them as a team and communicate openly and honestly.

Does anyone have any suggestions that they would add to this section? Anything that has worked especially well for them?

Are there any questions before we move on? Good. Let's move on then and look at the homework for next week.

Adapted from Starlanyl, D.J. (1999). The Fibromyalgia Advocate.

PART THREE: INSTRUCTION IN HOMEWORK FOR THE WEEK

WEEK THREE: COMMUNICATION SKILLS

Tasks: 1. Explain the homework worksheets for the week.

Goals: 1. Participants are able to identify the appropriate worksheets they are to complete for next session and understand how to complete them.

Duration: 10 minutes

Script: The homework for this week consists of tasks that will help you focus on improving your communication style both in your more intimate relationships as well as in your relationships with your healthcare providers as we just discussed.

PART ONE – ASSERTIVENESS SKILLS

Self –Assessment Handout

In this first handout we would like you answer the questions listed on the sheet so that you can start to think about your own personal communication style.

Assertiveness Script

In this second exercise we would like you to use the steps that we covered in today's session and apply them to an actual situation that you have either encountered or are concerned about. Think about how you would have dealt or plan to deal with that situation from an assertive communication perspective and complete the worksheet.

PART TWO – HEALTHCARE PROVIDER INTERACTIONS

Provider Assessment

In this first exercise we would like you to think about the care that you are receiving from your current provider. Answer the questions provided on the sheet and determine if you are satisfied with the answers that you are able to give about the care that you are receiving.

Office Visit Form

In preparation for your next visit, complete the first part of the form (up through and including "Effects") so that you will have it ready for your next visit.

Are there any questions about this section? Let's move on to the relaxation portion of the session.

PART FOUR: RELAXATION DEMONSTRATION AND PRACTICE

BODY SCAN

Tasks: 1. Demonstrate and ask the participants to partake in a body scan relaxation that they may practice at home.

Goals: 1. Participants are familiar with the body scan relaxation technique and are able to use this technique at home.

Duration: 15 minutes

Script: Now we are going to take you through a third relaxation exercise called a body scan. This is also on your audio tape and you have a written transcript in your binders as well.

[**Note**: Therapists may modify this script provided they inform participants that their version will be different from the one contained in their binder and on the audio tape]

During this relaxation you will gain an awareness of sensations and feelings in all areas of your body. It will help you become more in touch with your mind, body and emotions as you sit or lay quietly and observe yourself in a nonjudgmental manner.

As a fibromyalgia patient you may encounter many areas in your body that are painful to you. As this occurs try not to resist the pain, but rather acknowledge it and focus on softening the area around the pain by breathing deeply into it and imagining the breath moving directly in and out of that area. It may also be helpful to you to visualize your pain as a block of ice that you are watching melt away with each warming breath or as a tight elastic band that is becoming more relaxed on each exhalation.

Remember that your goal during this exercise is to be compassionate and supportive towards yourself, like a warm and loving friend who provides encouragement and acceptance. Do not allow criticism to interrupt this time with yourself. There is no right or wrong way to do this exercise.

Now either lay or sit in a comfortable position. Close your eyes and focus on your breathing. Notice the air as it comes in cool and refreshing, bringing life and energy into your body and leaving warm and moist having healed and nurtured your organs deep inside. Breathe deeply and naturally focusing on each breath as it flows in...and out.

Free yourself from any disturbing thoughts by allowing them to float away down a river and bring your attention gently back to your breathing.

Now focus on your feet and toes. Feel the relaxation deep within this area of your body. Do not force any feelings into this area, but simply experience the sensations that are present there. There may be a sense of tingling, warmth, moisture, pain, cold. You may even experience a lack of feeling in this area completely. Experience whatever is there. Just allow the feeling to happen.

Now move up to your lower legs - the region of your ankles, calves and knees. Again experience the sensations here in a compassionate and gentle manner. If this is an area in which you are experiencing pain, take a few deeper breaths and try some visualization to soothe the pain in this area. Simply experience the feelings. Let go and relax.

Move away from your lower legs now – allow them to dissolve into warmth and relaxation and focus on your upper legs, thighs and hips. What do you notice here? Observe gently and relax.

Now focus on your buttocks, groin, lower abdomen and lower back. Just be mindful of the sensations. Are there areas that are tense, warm, relaxed, painful? Become aware of these feelings so that you may be able to recognize them easily later on. Continue up now through your stomach, chest and upper back. Notice the sensations you are experiencing here. Relax and breathe deeply.

Bring your full attention now to your hands, arms, shoulders and neck. Experience the sensations in each of these areas. Relax now. Relax and observe.

Move upwards to your head and face and observe the muscles of your mouth, nose, eyes, and forehead. Do you have a headache perhaps? Is your jaw tense? Relax any tension in any areas of your face and head. Breathe deeply. Feel the relaxation.

Notice now how the feeling of warmth and relaxation is spreading through your body as you continue to breathe deeply and rhythmically. Notice the feelings of peace within you.

As you practice this exercise you will gradually become more aware of your body, in particular areas that are tense or causing you pain and learn to restore a feeling of peace and calm quickly and effectively.

This concludes session 3. Are there any additional questions we can answer for you? Have a great week!

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed) and Kabat-Zinn, J. Mindfulness Meditation Practice Tapes (Guided Body Scan).

WEEK FOUR

COGNITIVE COPING SKILLS

PART ONE: REVIEW OF LAST WEEK'S HOMEWORK

Tasks: 1. Greet participants and orient them to the topic of the week.
2. Review the homework sheets from last session.

Goals: 1. Participants are oriented to the groups and aware of the topic of the week.
2. All participants' questions regarding the homework from last session are
1 answered.

Duration: 15 minutes

Script: Welcome to week 4. This week our topic will be coping skills and we will be showing you a series of skills that will help you deal with a range of issues that arise in your experience with FMS and that you will be able to add to your "toolkit", but first are there any questions from last week? Let's start this week off as we always do with a review of the homework from last session. Where would you like to start?

Note: Process in any order the participants would like. Make sure you touch on each one of the worksheets for at least part of the time.

Are there any other questions or comments? Then let's move on to today's topic, which as we mentioned earlier is coping.

PART TWO: PSYCHOEDUCTION ON TOPIC OF THE WEEK

WEEK FOUR: COGNITIVE COPING SKILLS

Tasks: 1. Familiarize participants with some basic negative thinking patterns and ways to cope with these patterns
2. Introduce participants to options for controlling worry, specifically problem-solving, visualization/worry exposure and thought stopping
3. Provide participants with some guidelines on what to look for in a healthy support system

Goals: 1. Participants are able to identify some of the basic patterns of negative thinking as well as the positive alternative they may use to counteract these patterns
2. Participants are familiar with three different options for controlling worry
3. Participants are aware of core elements to be aware of in seeking out healthy support networks

Duration: 60 minutes

Materials: Flipchart papers from week 1 with list of emotions, flipchart, markers, masking tape.

Script: What we hope to help you do today is to build what we will call a "personal toolkit" of coping skills to help you with some of the more common and problematic emotional issues that come up for you as fibromyalgia patients. We have already been working on a some of these and we built a fairly good list in session one which is here and we will put it back up to refer to it again. [Tape it up on the wall to refer back to it periodically as appropriate]

We will talk about three specific issues that tend to be important and problematic. Specifically these are: coping with negative thoughts, managing worry and building a support network.

NEGATIVE THINKING – 30 minutes of the total 60

Negative thinking is something that can really get us into trouble especially when we have a lot of pain and a lot of time to think about our pain and illness because we are not able to do anything else. Examples of this type of thinking are things like:

[Write on flipchart]

- I have no control over my pain
- I'll never get better
- This is going to get worse and worse until I go crazy
- This should never have happened to me
- No one else can really understand this pain
- I'll never be able to enjoy life again
- It's all my fault I'm in this mess or it's all someone else's fault I am in this mess
- I'm headed for a lifetime of pain

These thoughts just lead to a downward spiral of negative thinking that builds on itself until you do something to break the pattern. Basically you need to "restructure" or rebuild your thoughts to create a different outcome for yourself.

There are some basic groups or patterns of negative thinking that we can identify and these are:

[Write on flipchart]

- Filtering (filter out the positives)
- Polarized thinking (black or white)
- Overgeneralization
- Mind reading (assuming you know what people are thinking and feeling especially about you)
- Catastrophizing
- Magnifying (making things worse than they are)
- Personalization –(assuming everything is about you)
- "Should" statements/control fallacies

[Explain the ABCD model – the D here is the Disruption they will use to disrupt the negative belief in B to change C]

Fortunately there are ways that we can fight back against each of these patterns by using some of the following coping thought strategies:

All of these are also in your binders as well

[Write on the flipchart]

- Cool thoughts –calm down and relax
- Problem solving thoughts – how can I fix this
- Self-efficacy thoughts – I can do this
- Escape routes – walk away before things get worse
- Reattributions – what is another explanation for the person's behavior or the situation
- See the whole picture – get stuck in the detail
- Be accurate
- I prefer – may not always get exactly what you want
- Remember that people are doing their best to help

So for each pattern the response will look like this:

Filtering

Looks like: Focuses on negative and excludes positive
Instead: Insist on shifting your focus

Polarized thinking

Looks like: Everything is terrible or fantastic with no in between
Instead: Avoid black and white judgements; see situations on a continuum

Overgeneralization

Looks like: Sweeping statements without looking at all of the evidence
Instead: Look at all the facts; ask questions; avoid absolutes and labels

Mind reading

Looks like: Assuming you know what others think and feel without them telling you
Instead: Ask them directly; look for evidence to the contrary; see if there are other explanations for the situation

Catastrophizing

Looks like: Assume the worst will happen and it will be a total disaster
Instead: Ask what the odds are that this will happen and if this should happen would it be so bad?

Magnifying

Looks like: Makes problems larger than they are; hides the positive
Instead: Look at the situation realistically; give things their true proportion

Personalization

Looks like: Assuming the reactions of others have to do with you; comparing yourself to others
Instead: If you are unsure about how you affect others, check it out with them; comparisons are not helpful – everyone has their own unique strengths and weaknesses

Shoulds

Looks like: Having random rules about things you cannot control
Instead: Be realistic and flexible; realize that you have little control over many things in your own life and even less over the lives of others

Are there any questions about this section? Let's take a 10 minute break and then next we will talk about worry.

10 MINUTE BREAK

Adapted from McKay, M., Davis, M., & Fanning, P. (1997). Thoughts & Feelings: Taking Control of Your Moods and Your Life.

WORRY CONTROL – 20 minutes of the 60

Worry is an inevitable part of life, but with an illness like fibromyalgia it is increased exponentially because there are so many unknowns that simply come with the territory that it can easily become overwhelming. It becomes even more important to make a game plan to tackle worry in a systematic manner, then, so that it does not take away the precious energy that you require for that other tasks in your life.

There are several options for handling worry.

A) Problem solving approach

1. Write down the situation that is worrying you
2. Brainstorm solutions
3. Evaluate each idea
4. Rule out the ones that are not feasible, then rank the remaining ones in order of priority
5. Set a date to complete each task
6. If some of the tasks seem more difficult than others, break these down into smaller, more manageable tasks

B) Visualization/worry exposure

1. Start by getting into a comfortable position and breathing deeply. Relax your body completely.
2. Next visualize a situation that has been causing you a great deal of worry recently. Choose only one worry and focus intently on this concern. Do not allow your mind to wander. Picture your worst case scenario outcome of this worry. Keep repeating your worst feared scenario for 25 minutes allowing yourself to go over the scene again and again until you feel your anxiety level begin to subside. If pictures are not the best way to conjure worry for you picture sounds, smells or any other trigger that will help you to remain in the anxiety long enough for it to subside.
3. After the 25 minutes of remaining in the worst case scenario have passed, begin to imagine alternative outcomes to your scenario that are less serious. Do this part for 5 minutes.
4. Practice this exercise with each of your significant worries on a regular basis and you should find that you will be able to tolerate your anxiety better in the long term.

C) Thought Stopping

1. Choose a distressing thought
2. Allow yourself to think about this thought intensely for a set period of time for example three minutes. Set a kitchen timer for this exercise.
3. When the timer goes off, shout "stop" either out loud or in your head and force yourself to stop thinking about the distressing thought and refuse to go back to it. A helpful visualization to accompany this exercise is to think of putting your thought back in a drawer in a chest and closing the drawer so that it no longer is able to be seen or heard.
4. Switch your focus to pleasant thoughts.

Are there any questions on this section? Let's talk about support networks.

BUILDING A STRONG SUPPORT NETWORK – 10 minutes of the total 60

In times of stress it becomes very important to have a solid network of individuals who are able to help and support you. Seek out individuals who will validate you and affirm your self worth. Some of the key qualities to look for may include some of these and you will want to personalize this list.

- Empathy
- Do not belittle or criticize
- Affirm your strengths and individuality
- Are open minded and respect your choices especially when it comes to your treatment needs
- Provide you with energy and are not draining

If you do not feel that you have enough of these individuals in your life good places to find support are support groups and networks (there is a support group in Logan that meets once a month at the main Logan Library on the third Thursday of the month from 12 to 1:30 in the Archives Room), clubs, exercise groups that are tailored to meet the needs of fibromyalgia patients such as the Rusty Joints Aquatics Program at the Logan Sports Academy or church groups.

Are there any questions on this section?

PART THREE: INSTRUCTION IN HOMEWORK FOR THE WEEK

WEEK FOUR: COGNITIVE COPING SKILLS IN PRACTICE

BUILDING A PERSONAL TOOLKIT

Tasks: 1. Familiarize participants with worksheets that are available for practicing skills that were demonstrated during today's session.

Goals: 1. Participants are able to locate worksheets in their binders and understand how to complete them if they wish to practice the skills learned in session on their own.

Duration: 10 minutes

Script: Since this is our last session together we will not have a chance to review the worksheets that we are about to discuss, but they are very helpful in mastering some of the skills we just discussed so if you would like to practice these skills we would encourage you to use them.

Thought Modification Sheet

This sheet is to help you learn to identify and compare both your rational and "irrational" thoughts when you encounter a situation that is upsetting for you. It will help challenge your thought patterns and work you through the process of arriving at an alternative coping strategy that may be more productive for you based on the concepts we covered today.

Thought Journal

This journal is very similar to the exercise you completed in week two for the emotions exercise. In the first column you will simply describe the situation with a statement of the facts as they occurred. Your will then list your feelings with one word per feeling and rate the intensity of your feeling on a scale of one to 100 with 100 being the most intensely that you have felt that particular feeling. In the next column you will list your "automatic thought" or the first thought that came to your mind. Next you will list the negative pattern that this fell into as we described them today. The next column asks you to revise that "automatic thought" with a new statement that provides you with a corrective experience. The last column asks you to rerate the feelings from column 2 to see if you have made improvements in your feelings based on your reevaluation of the situation.

PART FOUR: RELAXATION DEMONSTRATION AND PRACTICE

GUIDED IMAGERY

Tasks: 1. Demonstrate a guided imagery relaxation technique to the participants.

Goals: 1. Participants understand the concept of guided imagery relaxation and are able to practice this technique at home.

Duration: 15 minutes

Script: This is the last relaxation exercise in the workshop, the guided imagery relaxation. Again, it is both on your audio tape and in written format in your binders. We are going to demonstrate it for you now so follow along with us as we take you through it.

Note: Therapists are not restricted to this specific script, however, if another one is chosen it must include an induction, the use of a safe place and the inclusion of a hypnotic pain relief suggestion. Also, if an alternative script is used, inform the participants that this will be different than the one contained in their binder and on their tape.

Sit comfortably in a chair with your legs uncrossed and your feet on the floor. Place your hands in your lap with your palms facing up. Allow your eyes to focus on a spot in front of you at eye level and take a deep breath all the way through your chest down into your abdomen. As you exhale keep focused on that spot and notice that your focus may become a little blurry as you continue to breathe deeply and evenly. Take another breath in and notice that your eyes are getting tied and your eyelids are becoming heavier and heavier as you continue to breathe deeply and rhythmically. Allow your eyelids to close now as it feels comfortable and sink deeply into your chair as you begin to notice the weight of your body in the chair. Relax the muscles in your body and notice the weight of your feet on the floor...heavier and heavier...and of your legs as they rest and relax. Feel the weight of your hips as you sink into the chair deeper and deeper with each breath. You are now calmer and more peaceful with each inhalation.

Notice your hands on your thighs and the weight of your arms and shoulders as they relax. Feel the warmth and tingling as is extends down through your arms into your fingertips and down your legs through your toes and out into the ground.

Your arms and legs feel heavy now, weighted down into the chair...more heavy...more relaxed...breathe deeply now as your face begins to relax and your forehead lets go of tension and becomes sooth...your cheeks and your jaw gently releasing all tension as warmth and relaxation spreads through them down your neck and into your chest...continue to breathe deeply.

Feel yourself drifting deeper and deeper...more drowsy and peaceful...calm as you continue down into total and complete relaxation...deeper and deeper peace.

Now we are going to go to a special place, a place that is safe and unique to you. As I count, picture yourself going down a stairway or a path to this place where you will find yourself even more peaceful and deeply relaxed with each step. Now, grow more relaxed with each step as the

sounds and thoughts of your safe place become more clear and your relaxation deeper and deeper. Ten...nine...eight...seven...six...five...four...three...two...one.

Now see the colors and shapes of the place you have chosen. Smell the fragrances...touch it...hear the sounds. You are safe and calm in this place ...safe and calm.

Drift deeper and deeper into relaxation...more and more drowsy and peaceful...down...down... down...into total and complete relaxation. Now you are completely and totally relaxed, peaceful and calm. Take a deep breath and let the peace and tranquility of your special place spread throughout your entire body. Linger now in your safe place. Enjoy it for a while, let it nourish and relax you.

[Pause silently for 2 minutes]

If you are experiencing pain in you body, give it a shape and a form. Make it into a tunnel that you can enter and exit. Now imagine that you are entering the tunnel. As you enter your pain increases for a few seconds. As you begin to walk through the tunnel, you can see a light ahead and every step you take takes you away from the discomfort and the deeper into the tunnel you go the less discomfort you feel and the light at the end of the tunnel grows larger and larger. You begin to feel better and better. Ever step reduces your discomfort, every step heals and strengthens your body and with every step you feel more comfortable, much more comfortable and as you reach the light you feel relieved of any discomfort. You feel relaxed, stronger, comfortable. From now on each time you enter the tunnel and pass through it the light at the end will grow larger and you will feel more comfortable and as you exit the tunnel you will grow stronger and stronger, heal, and feel better and better. The tunnel is yours, you control it, and can enter it anytime you like, anytime at all, and passing through it will always make you feel better.

Enjoy your safe place for a moment longer and then when I start to count again you can begin coming back to full awareness and will come back feeling refreshed as if you had a long rest. Coming back feeling alert and relaxed. One...two...coming up,
three...four...five...six...seven...eight...nine, begin to open your eyes, and ten, open your eyes and come all the way back. Wiggle your fingers and toes. Feeling great. Very good.

This concludes the instruction portion of the fibromyalgia workshop, we will now take the next 10 minutes to complete the same surveys that you filled out when you came into the study.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

[EVERYONE MUST COMPLETE A SET OF SURVEYS AT THIS TIME!!!!]

APPENDICES

TIPS FOR WORKING WITH PATIENTS WITH FIBROMYALGIA

1. Remember that these patients are constantly in pain and discomfort. Encourage them to stand, stretch, walk around them room or use any type of pain management behavior that is helpful to them. Have them bring a pillow or other item of comfort from home that may help them to sit through the session if this is helpful to them.

2. Fibromyalgia patients are yearning for support and to tell their stories. Provide a safe place for sharing to occur, but discourage negative complaining.

3. Many fibromyalgia patients are living with this painful and devastating illness for many years and are desperate for a cure. Do not provide advice or endorse treatments, but rather encourage them to follow the basic principles of relaxation and healthy emotional regulation as a solid basis for any other work or treatment they may wish to undertake.

4. Realize that patients with fibromyalgia are used to being discounted by others. As with all therapy clients, do not personalize emotions that may appear to be directed at you.

5. Expect the unexpected. Emotions run high and just beneath the surface within this patient population. Many individuals will cry easily, deeply and for long periods of time once they have found a supportive listener and a safe place, even in a large group of people. Anger outbursts are also not uncommon. Be sure that you have checked in with any individual who appears overly distressed prior to the end of the intervention to assure their safety, as suicide, while not necessarily more prevalent in this population than in other chronic pain groups, remains an important concern.

THE AMERICAN COLLEGE OF RHEUMATOLOGY (ACR) 1990 CRITERIA FOR THE CLASSIFICATION OF FIBROMYALGIA

6. History of widespread pain

Definition: Pain is considered widespread when all of the following are present: pain in the left side of the body, pain in the right side of the body, pain above the waist, and pain below the waist. In addition, axial skeletal pain (cervical spine or anterior chest or thoracic pine or low back) must be present. In this definition, shoulder and buttock pain is considered as pain for each involved side. "Low back" pain is considered lower segment pain.

7. Pain in 11 of 18 tender points on digital palpation

Definition: Pain, on digital palpation, must be present in at least 11 of 18 tender point sites:
Occiput: bilateral, at the suboccipital muscle insertions.
Low cervical: bilateral, at the anterior aspects of the intertransverse spaces at C5-C7.
Trapezius: bilateral, at the midpoint of the upper border.
Supraspinatus: bilateral, at origins, above the scapula spine near the medial border.
Second rib: bilateral, at the second costochondral junctions, just lateral to the junctions on upper surfaces.
Lateral epicondyle: bilateral, 2cm distal to the epicondyles.
Gluteal: bilateral, in upper outer quadrants of buttocks in anterior fold of muscle.
Greater trocanter: bilateral, posterior to the trochanteric prominence.
Knee: bilateral, at the medial fat pad proximal to the joint line.

Digital palpation should be performed with an approximate force of 4kg.
For tender point to be considered "positive: the subject must state that the palpation was painful. "Tender" is not to be considered "painful".

(*Source:* Wolfe et al., 1990)

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Appendix M:

Participant Manual

Fibromyalgia Workshop

Participant Manual

Utah State University

2004

WEEK ONE

THE BASICS

INTRODUCTION

Welcome. Thank you for participating in our research. We hope that our workshop will be helpful to you as well as to others who may benefit from the information that you will learn over the course of the next few weeks.

Your **primary contact for this study is Alexandra Stillman**, MA, MPH who is the investigator responsible for this project. Alexandra or the study coordinator, Kelli Fife, will be available at every session to assist you with any needs you may have. Alexandra and Kelli may also be reached at **797-8101** or via e-mail at astillman@cc.usu.edu should you have any additional questions or concerns.

The workshops are scheduled on:

Mondays 5:30 – 7:30, April 5, 12, 19, 26
Wednesdays 5:30 – 7:30, April 7, 14, 21, 28
Saturdays 1 – 3, April 10, 17, 24 & May 1

Please attempt to attend the session for which you are registered, but if you are ill, it is possible to make up the material in another session on the same week. There are, however, no make up sessions available for Saturday sessions. Please contact Alexandra if you need to miss a session.

Also, please feel free to ask questions of your therapists during sessions. The schedule of therapists is as follows:

Mondays 5:30pm – 7:30pm – Jennifer Fallon, MA and Daniel Hatch, BA
Wednesdays 5:30om –7:30om – Janet Carter, MA and Clayton Manning, BA
Saturdays 1pm-3pm – Tera Lensegrav-Benson, MA and Bryan Bushman, MA

GROUP GUIDELINES

It is critical that anything said during the course of your involvement with this research remain confidential. This includes the names of the individuals who are participating with you in this study as well as the information discussed during the course of the sessions. In addition some of the topics we will discuss may be sensitive and we ask that the thoughts and opinions of each individual be treated with respect and that everyone be allowed to express their feelings without interruption. Due to the short timeframe of each session we also ask that you arrive on time and notify Alexandra or Kelli if you will be late or unable to attend your scheduled session.

OUTLINE OF SESSIONS

The general outline of sessions, with the exception of week one, which will not include a review of homework, will proceed as follows:

- Review of homework from the previous week/group processing time
- Discussion/Lecture on topic of week
  - Week One: The Basics
  - Week Two : Managing Emotions
  - Week Three: Communication
  - Week Four: Coping Skills
- Instruction in homework for the following week
- Demonstration and practice of relaxation technique

OBJECTIVES AND GOALS

Objectives

- To learn to recognize common emotions that occur in connection with fibromyalgia syndrome (FMS)
- To obtain comfort in the knowledge that others share the same feelings and difficulties
- To realize that there are skills that you can learn to improve your emotional health and well-being and decrease the symptoms associated with fibromyalgia
- To gain confidence in the ability to apply these skills to your life and increase your quality of life

By the end of the workshop it is hoped that you will be able to…

Goals

- Identify difficult emotions that are likely to increase pain, discomfort and other symptoms of FMS
- Utilize skills learned in the workshop to manage these emotions
- Interact more effectively with significant others in your life such as your family and your healthcare providers
- Enjoy a greater sense of emotional and physical well-being and an improvement in your quality of life

BREATHING EXERCISE SCRIPT

BASIC DEEP ABDOMINAL BREATHING

This is the first relaxation exercise in your fibromyalgia workshop series…basic deep abdominal breathing. Try to find a place free from distractions like the phone or children playing.

First get as comfortable as you can. It is often preferable to lie down for this exercise, but you may also sit quietly in a comfortable chair if this is better for you. Uncross your legs and allow your arms to relax comfortably by your sides. Close your eyes.

Slowly bring your attention to your breathing and notice the path the breath takes in and out of your body. Relax. If any disturbing thoughts enter your mind during this time, just observe them passively and let them go by as though they were pieces of cork floating in a river.

Now place one hand on your chest and the other gently on your abdomen. Inhale slowly though your nostrils and as your breath moves through your chest feel your hand rise slightly. As your breath reaches your abdomen, push it up towards the ceiling as you continue to inhale so that this hand is higher than the one on your chest.

Hold the inhalation for a second.

Now exhale back out through the abdomen deeply bringing the belly button in close almost as though it could touch the spine and allowing the breath out through the chest and then the nostrils. Be sure that your face muscles and jaw remain relaxed.

One more time. Inhale feeling the air move through the chest and then the abdomen as it rises to the ceiling. And…hold…release…exhale…though the abdomen and chest and out the nostrils and relax.

And again. Inhale. Chest…Abdomen…Hold. And exhale…abdomen…chest…and relax.

Work through this sequence for 15 to 20 minutes 2 times a day and you will gradually find that deep breathing will become an effective and easy way to relieve tension throughout your day.

Adapted from Catalano, E.M. & Hardin, K.N.(1996) The Chronic Pain Control Workbook (2nd Ed) and Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

BREATHING ALTERNATIVES

[Breath Counting]

1. Sit or lay in a comfortable position
2. Gently allow your eyes to close
3. As you exhale, say the number "1" either to yourself or softly out loud
4. As you inhale, say "and"
5. On the next exhalation, count "2"
6. As you inhale, say "and"
7. Continue this sequence through the number four and then return to one

During this exercise it is important not to become concerned or distressed if you become distracted or lose your place. Simply return to the number 1 and begin the sequence over. Practice this exercise for 15 to 20 minutes.

[Centered Breathing]

Another helpful exercise is to use calming words to help us remain centered. In this variation of the deep breathing sequence, choose two key words that have special meaning to you and that bring up feelings of peace, serenity and calm. Examples of words you may choose are "joy', "peace", "serenity", "wisdom" or you may use any other word that has a soothing meaning for you.

1. Sit or lay in a comfortable position
2. Gently allow your eyes to close
3. Free your mind from any negative thoughts. If any disturbing thoughts arise at this time, do not attempt to resist them, but rather acknowledge their presence and simply allow them to pass by as though you were watching them float by like pieces of cork in a river.
4. As you exhale, say the first word you have chosen, for example "peace" either quietly to yourself or softly out loud
5. On the next exhalation say the second word for example "joy"
6. Continue this sequence for 15 to 20 minutes

[Ocean Breath]

The next option is a little bit different and is a technique used in Yoga. In this instance you will be breathing in and out deeply through the nose as you have been doing in the previous versions of this exercise, but in this instance your breath will be making a distinct sound on both the inhalation as well as on the exhalation.

1. Sit or lay in a comfortable position
2. Allow your eyes to close gently
3. Allow your breathing to fall into a gentle regular rhythm
4. Now as you inhale picture the air through the back of your throat as coming in through a straw. This should make a distinctive "sa" sound.

5. Now as you exhale, you will feel the air against the back of the throat and hear an aspirating "ha" sound. Some have likened the "sa-ha" combination to the sounds of the ocean or to the character of Darth Vader on Star Wars although your breath need clearly not be as loud!
6. Practice this technique for 10 to 15 minutes.

[Sighing]

Another simple and useful technique to release tension quickly and effectively is deep sighing. Often times during the day when we sigh or yawn this may be an indication that our body may be deprived of oxygen. Deep sighing is a good way to help restore this vital element to our organs.

1. Stand or sit up straight.
2. Inhale deeply (optional)
3. Exhale completely (sigh deeply) and allow your body to relax completely.
4. Repeat 5 to 10 times anytime the need arises.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed) and Carrico, M. (1997). Yoga Basics.

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WEEK TWO

MANAGING EMOTIONS

Selected "automatic" thoughts…

1) Overgeneralization

Examples of distortions:

- You *never* help me.
- *Everybody always* judges me because of my illness.
- *Nobody ever* does it right

Helpful coping thoughts (counter responses):

- Make accurate judgements of the situation. Stay with the facts.
- Sometimes people do give me the benefit of the doubt – I will try to focus on the positive.
- If I do not make this bigger than it is I can relax and it will blow over
- Situations are rarely extremes – think of things as shades of gray versus all black or all white and focus on the whole picture (i.e. what you do well in addition to what you and others do not do so well)

1) Magnifying/ Catastrophizing

Examples of distortions:

- This is the *worst* thing that could *possibly* happen
- My *entire* life is *ruined*
- I *can't stand* this pain and it will *never* end

Helpful coping thoughts (counter responses):

- It's not the end of the world even though it is frustrating in this moment
- I just need to make the best out of the situation that I have
- Hang in there and do your best. It will be over soon. It has worked out before.
- I have better problem solving and coping skills now than I had in the past. I will use them to help myself handle this situation. This is not forever.

3) Being demanding

Examples of distortions:

- They *should have* done this *right*.
- He is not being *fair*; *if he had* listened to me *he would have* understood me.
- She *knows better* than that; *I expected* more from her.

Helpful coping thoughts (counter responses):

- People cannot read your mind and rarely do what you *expect* them to do.
- I am disappointed and wish things were different, but I can make the best of the situation as it is.
- Sometimes I get what I want and sometimes I don't. I can learn to relax and live with not getting my way all of the time.
- *Shoulds* only upset me. I can learn to think more in terms of preferences, which makes things less difficult for me.

1) Blaming

Examples of distortions:

- The house is a mess because *you never* help me clean it.
- I *would never* have become ill *if you would not* have let me be so stressed early on in our marriage.
- I *will never* get better unless *you* help me more.

Helpful coping thoughts (counter responses):

- I am not completely helpless here – I have a lot of power to take care of my own needs.
- I will make a plan to deal with this situation myself.
- Blaming only makes me feel more helpless. What can I do to solve the problem instead?
- I cannot force others to do anything, but I can take care of myself.

1) Inflammatory/Global labeling

Examples of distortions:

- He is a complete jerk.
- People with that type of illness are just lazy.
- She is a mean person.

Helpful coping thoughts (counter responses):

- The person's behavior may be objectionable, but that does not mean that they are a bad person overall.
- Stick to the facts – what exactly is bothering me about the person?
- Redefine the situation as a problem – problems can be solved without resorting to demeaning labels. Is there another explanation for the person's behavior you did not consider before your emotion kicked in?

6) Misattributions/single explanations

Examples of distortions:

- She is just doing that to make me angry.
- He would not have done that if he cared about me.
- Obviously my physician thinks I am faking my illness if she cannot make time to see me today.

Helpful coping thoughts (counter responses):

- Do not jump to conclusions; stick to the facts. Check out your assumptions when you can.
- Getting angry and upset does not allow me to stay rational and gather information.
- Do not assume you can read peoples' minds and do not second guess their motives.

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

General Coping Thoughts

- Take a deep breath and relax
- By getting upset I will not improve matters
- By keeping cool I will be more likely to remain in control
- There is little to be gained by getting upset
- I cannot change the other person with anger or strong emotions and will only end up upsetting myself
- I will not allow him/her to get to me
- I can find a way to say what I wish without excessive emotion
- Stay calm – there is no need for sarcasm or attacks – this will only make me look worse
- I have the power to stay calm and relaxed
- Relax and let go – this is not worth it
- No one is right or wrong here. We simply have different needs.
- Stay cool and avoid judgments
- No matter what is said I will still believe that I am a good person
- I will remain rational – anger and strong emotions do not solve anything
- I will not be forced into losing my cool
- The bottom line is that I am in control of myself – no one can make me do or say anything I do not wish to do or say.
- Some situations do not have good solutions and this may be one of them. There is no use in becoming upset about it.
- This is only a hassle. Nothing more and nothing less and I am used to hassles.
- I became upset and handled myself well. This is great progress for me.
- It is just not worth it to become upset.
- I can manage this; I am in control.
- I can't expect people to act the way I want them to.
- I don't have to take everything so seriously.
- I have a plan to relax and cope.
- This can even be funny if you look at it a certain way.

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

Emotions Awareness Worksheet

1. What messages did you receive as a child about expressing your emotions?

2. What types of situations bring out strong emotions in you? Which ones elicit anger? Sadness? Joy? Fear?

3. Are you comfortable expressing your emotions currently? Are you equally comfortable expressing anger and joy?

4. How do you feel specifically about expressing your angry feelings towards other people? Towards objects? Is there a difference?

5. When you express your anger, how do you go about it? Are you aggressive? Assertive? Complaining? Stubborn? Withdrawing?

6. How would you like to change how you currently deal with your anger? What are some concrete ways you could go about doing this?

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

Emotions Coping Worksheet

1. Thoughts that trigger my anger or strong emotion

   a.

   b.

   c.

2. Corresponding distortion that is affecting my thought pattern (e.g. magnifying, overgeneralization etc) for each of the above examples

   a.

   b.

   c.

3. Counter responses for each of the trigger thoughts (i.e. what will I use to talk back to the automatic negative thought)

   a. Plan: (e.g. I will look for the exception in the person's behavior)

      Rewritten trigger thought: (e.g. They are not always rude to me)

   b. Plan:

      Rewritten trigger thought:

   c. Plan:

      Rewritten trigger thought:

1. List additional coping thoughts here that may help you with the trigger thoughts you had in these scenarios. Refer to the list of general coping thoughts provided in your manual or create new ones for yourself.

   a.
   b.
   c.

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

Anger Log Sheet

Situation When? Where? Who? What happened?	**Assumptions, beliefs, automatic thoughts** What were you thinking and feeling that caused you to become upset?	*Anger rating* Rate your emotion on a scale of 0-100 with 0 being the least angry you have ever felt and 100 being the most angry.	*Coping strategies* What strategies did you use to help yourself get out of your negative thought patters? Write down everything you did including your revised thoughts about the situation.	*Revised anger rating* Rerate your anger on the same 0-100 scale after you have applied your coping strategies.

Adapted from Deffenbacher, J.L. & McKay, M. (2000) Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills training. Oakland, CA: New Harbinger Publications, Inc.

PROGRESSIVE MUSCLE RELAXATION SCRIPT

This is the second relaxation exercise in your fibromyalgia workshop…Progressive Muscle Relaxation. For this exercise it is best if you lie down on your bed or on a comfortable mat or rug. Make sure that you find a time that is free from distractions…a time that is just for you.

Now get as comfortable as you can. Loosen any tight clothing especially around your neck or abdomen area. Remove your shoes and glasses if you are wearing any. Allow your eyes to close gently. Let you hands fall gently to your sides. Uncross your legs. Now begin to breathe slowly and deeply. Focus on bringing your breath into your abdomen and out through your chest and your nostrils. Free yourself from any disturbing thoughts as you allow them to gently float by without engaging them.

During this exercise it is important that you not try too hard. If at any point you feel pain or discomfort simply relax that area of your body and move on to the next one.

Now as you allow the rest of your body to relax, clench your fists tightly and bend your wrists...tighter and tighter...notice the tension. Now relax. Let your hands fall limp. Feel the relaxation and notice the contrast from the tension. One more time clench your fists bending at the wrists…tighter and tighter…relax.

Now bend your elbows and bring your forearms up to your biceps. Make big muscles… tighter and tighter. And let your forearms drop back down. Experience the difference from the tension.

Next bring your shoulders up to your ears. Shrug your shoulders as high as you can. Feel the tension. Release. Let your shoulders drop down and feel the release. Now focus on your forehead. Wrinkle up your brow. That's right, frown. Hold your frown for a second – feel the tension deep in your scalp and forehead. Relax and feel the difference. Keeping your eyes closed, squint as though you were looking into bright sunlight. Relax. Relax your eyes. Notice the difference from the tension.

Take a deep breath in and exhale. Clench your jaw now. Bite your teeth together and experience the tension. Release. Notice how your lips part slightly and enjoy the relaxation. Now press your tongue against the roof of your mouth, Feel the pressure. Relax. Make the letter O with your lips and feel the tension in these muscles. Release. Feel the relaxation in your facial muscles.

Gently press your head back into your pillow now, taking care not to cause any pain or discomfort. Feel the slight tension. Release now, bringing the head back to its neutral position. Notice the contrast between the tension and the relaxation.

Bring your chin down to your chest now and feel the gentle stretch in your neck muscles. Release. Bring your head back into a neutral position and relax.

Inhale now. Fill your lungs completely and hold your breath. Notice the tension. Exhale and notice the difference. Continue to relax and restore your regular pattern of easy deep breathing.

Now tighten your stomach muscles. Hold the tension. Relax and note the difference. Place one hand on your stomach and breathe deeply bringing air into your belly. Hold. And release

allowing your breath to return to its normal and regular pattern. Notice the contrast with the tension.

Gently arch your back now, being careful not to strain this area. Release and notice the relaxation. Tighten your buttocks and thighs. Press your feet down into the floor and feel the tension deep within your thighs. Relax.

Now curl your toes towards your head and experience the tension in your calves. Hold. And relax. Feel the difference from the tension. Point your toes away from your head now and feel the stretch on the top of your feet. Relax. Point your toes inward towards each other and feel the tension on the outside of the feet.

Continue to breathe deeply as your experience the deep feeling of warmth and relaxation as it spreads throughout your body. Allow the tension to leave each area with each breath…deeper and deeper down from your head through your
arms…neck…face…chest…abdomen…thighs…calves…and feet.

Continue to breathe slowly and deeply as your entire body becomes comfortably loose, calm and rested.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

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WEEK THREE

COMMUNICATION

COMMUNICATION STYLES AND BELIEFS THAT INDIVIDUALS WITH THESE STYLES MIGHT HAVE

Passive: avoids problems, tends to allow other to take charge even if the decisions made are not what he/she would prefer, relinquishes one's rights, and tends to experience a lowering of self-esteem. Opinions, feelings and wants are withheld. The message is "I am weak, you are powerful." "I am wrong, you are right." Individuals with this style avoid offending others at all costs and even sacrifice their own needs to please others. They almost never get what they want and feel overwhelmed by the demands of others. They may carry resentment because no one seems to see or acknowledge what is important to them. They often make dismissive disclaimers such "I'm no good at this" or "I really don't know anything about this." Eye contact is minimal.

Common Beliefs:

- Assertiveness means getting your own way all of the time.
- Being assertive = being selfish.
- Passivity is a way to be loved.
- I am only worthwhile if I am doing something for someone else.
- The way to be accepted by others is to give and give.
- It is impolite to disagree.
- If others disagree with me than I am the one who is wrong.
- I must do everything I am asked to do.
- My opinion does not matter.
- It is dangerous to speak up.
- Being nice is important and valued.

Assertive: tackles problems head on, is respected by others for expressing opinions in an honest and forthright manner, and tends to experience increases in self-esteem. Does not violate the rights of others. The message is "We may have differences, but we both have the right to our opinions and to express them". Sets appropriate limits. Clear, direct, non attacking communication. Eyes communicate openness and honesty.

Common Beliefs:

- I decide for myself what I will and will not do.
- I am my own judge.
- Everyone makes mistakes and this does not give people power over others.
- People change their minds.
- I do not have to be logical, nor do others.
- My life is my own and I have the right to turn down requests from others.
- I do not have to justify myself to others and others do not have to justify themselves to me.
- I have my opinions and convictions and others have theirs.
- I have the right to ask for emotional support and help.
- I have the right to protest unfair treatment and criticism.
- I am not responsible for other people's problems and they are not responsible for mine.

Aggressive: tends to attack others in interactions with them, may seem to take advantage of others and may be hostile. Feelings and needs may be honestly expressed, but at the expense of others. Message is "I am superior and you are inferior". Makes enemies and people avoid them to avoid confrontation. Often they do get their way, but are often not sure if out of love or fear. Others avoid them, which leads to isolation and loneliness. They tend to stare others down.

Common Beliefs:

- I am entitled to be angry.
- If I am not aggressive nothing will happen.
- Nice guys finish last.
- If I am quiet I will just fade away and no one will notice me
- Only my opinion matters and I have the right to express it no matter what.
- If I am wronged I will make sure that someone will pay.

Adapted from Paterson, R.J. (2000) The assertiveness workbook: How to express your ideas and stand up for yourself at work and in relationships.

MISTAKEN BELIEFS AND CORRECTIVE MESSAGES ABOUT ASSERTIVE COMMUNICATION

1. Mistaken Belief: It is selfish to put your needs first.
   Corrective Message: Sometimes your needs do need to come first.
2. It is shameful to make mistakes. You should always have a response in every situation.
   Every one makes mistakes.
3. If you cannot convince others that your feelings are right then you must be wrong.
   You alone are the final judge of your feelings, which are always legitimate.
4. You must always defer to the opinions of others especially if they are in a position of authority.
   You have a right to your own opinions and to express them respectfully.
5. You must always be logical and consistent.
   You have the right to change your mind and pursue a different course of action.
6. You must always be flexile and adaptive. You must never question the motives of others.
   You do not need to be treated in a manner that feels unjust or harmful to you and you have the right to speak up if you feel treated unfairly.
7. Asking questions shows that you are stupid and ignorant.
   You have the right to ask for clarification.
8. Don't rock the boat. You will only make things worse.
   Sometimes we need to negotiate in order to make things change.
9. It is not right to take up others' time with your problems.
   You have the right to ask for help and support.
10. If someone offers you advice you should take it seriously.
    If advice does not fit for you it is your right to ignore it.
11. People hate show offs. Be modest when you are complimented.
    It is acceptable to acknowledge praise when you receive it.
12. You must always help others when they need it whether you want to or not otherwise they will not be there for you in the future.
    It is acceptable to say no.
13. It is bad to prefer to spend time alone.
    You have the right to want to spend time by yourself even if others would prefer your company.
14. You must always provide an explanation for the things you feel and do.
    You do not always need to justify yourself to others.
15. When someone is in trouble or is demanding an answer from you, you must respond to them.
    It is acceptable not to take responsibility for others' problems.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

BASIC COMPONENTS OF SUCCESSFUL ASSERTIVE COMMUNICATION

1. Decide what your rights, wants, needs and feelings are in a given situation. Remove any blame, desire to inflict revenge or any other negative emotion from the situation before you engage in the communication. Decide what you would like the ideal outcome of the conversation to be and what you would be willing to settle for. We have included a sample "Personal Bill of Rights" in your binder. Feel free to add any additional items to this list that you feel apply to you and will help you maintain a healthy and positive outlook in your daily interactions with significant others. Place it in a place where you will see it often and read it often.
2. Choose a time that is appropriate if possible. Do not select a time when emotions are already running high for example in the middle of an argument. Take a time out and agree to revisit the discussion at a later time when both of you are more calm.
3. Let the person you wish to talk to know you have something important to say and that you would like to be heard without interruptions. Your feelings are important and have the right to be expressed.
4. Be specific. Use examples such as "I felt hurt when you did not take out the trash yesterday morning".
5. Use "I statements" meaning that you take ownership for how you feel about the situation and perceive events rather than making assumptions about the other person. This also helps to avoid the temptation to blame. Remember that you alone are responsible for your feelings and that no one can make you feel anything except yourself.
6. Be sure to articulate your needs. When we feel frustrated and misunderstood with significant others in our lives this is often due to the fact that important needs are going unmet. State your need specifically and without being demanding or controlling. These statements begin with words like "I would like, I would appreciate, Would you please" and are firm, simple and to the point, non apologetic, not a judgment of the other, not blaming, a request not a demand.
7. Keep your request short and to the point. Be firm, but kind and caring. If possible keep it limited to one two or three sentences that summarize exactly how you feel and what it is that you need from the other person.
8. Focus on the behavior not the person. Be sure that you are communicating that you still care about the person, but that you would like him or her to work with you to change a certain aspect of your interaction.
9. Be willing to negotiate. Compromise is key to successful relationships. Also be able to say no to things you do not want or are not realistic for you. Create a "win-win" situation. Make sure that the other person knows what will be in it for them, for example, "If you can help me with the housework in the morning I will be less tired during the day and then I will have more energy for us when you come home at night."

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

Personal Bill of Rights

1. I have the right to ask for what I want.
2. I have the right to say no to requests or demands I can't meet.
3. I have the right to express all of my feelings, positive or negative.
4. I have the right to change my mind.
5. I have the right to make mistakes and not have to be perfect.
6. I have the right to follow my own values and standards.
7. I have the right to say no to anything when I feel I am not ready, it is unsafe, or it violates my boundaries.
8. I have the right *not* to be responsible for others' behaviors, actions, feelings, or problems.
9. I have the right to determine my own priorities.
10. I have the right to expect honesty from others.
11. I have the right to be angry at someone I love.
12. I have the right to be uniquely myself.
13. I have the right to feel scared and say "I am afraid."
14. I have the right to say "I don't know."
15. I have the right not to give excuses or reasons for my behavior.
16. I have the right to make decisions based on my feelings.
17. I have the right to my own needs for personal space and time.
18. I have the right to be playful and frivolous.
19. I have the right to be healthier than those around me.
20. I have the right to be in a nonabusive environment.
21. I have the right to make friends and be comfortable around people.
22. I have the right to change and grow.
23. I have the right to have my needs and wants respected by others.
24. I have the right to be treated with dignity and respect.
25. I have the right to be happy.

Adapted from Bourne,E.J.(1999). The Anxiety & Phobia Workbook.

GUIDELINES FOR COMMUNICATING WITH HEALTHCARE PROVIDERS

1) Educate yourself

2) Educate your provider

3) Be aware of gatekeepers

4) Checklist for providers

5) Do not be intimidated – be an active participant in your care

6) Be sure that you understand what is being explained to you

7) Don't be afraid to change providers

8) Be reasonable

Adapted from Starlanyl, D.J. (1999). The Fibromyalgia Advocate.

Self-Assessment Handout – Assertiveness Skills

List three areas in your life in which you would like to be more assertive.

1.

2.

3.

Complete the following sentences:

I am most passive when

_____
_____
_____

I am most aggressive when

_____
_____
_____

My biggest fear of being assertive is

_____
_____
_____

The two people in my life that I find it the hardest to be assertive with are

_____

I am already quite assertive when

_____
_____
_____

Adapted from Paterson, R.J. (2000) The assertiveness workbook: How to express your ideas and stand up for yourself at work and in relationships.

Assertiveness Script

Choose one of the areas on the Self-Assessment handout that you have identified as an area in which you would like to become more assertive. Think of a specific situation in this area in which you were recently not as assertive as you would have liked or which you are concerned about for the future. Write this example down in the space provided below.

What do you think you could have done or could do in the future to be more assertive in this situation? Write these ideas in the space below.

Think of a situation that will be similar that may occur in the future that will allow you to practice being more assertive. Describe this situation and how you will approach it differently using your new assertive skills.

Adapted from Paterson, R.J. (2000) The assertiveness workbook: How to express your ideas and stand up for yourself at work and in relationships.

Provider Assessment

Answer the following questions about your healthcare provider in order to determine if he or she is meeting your emotional and physical needs.

- Is he/she knowledgeable and sympathetic to patients with FMS? Y/N
- Does he/she tune you out when you mention certain symptoms? Y/N
- Does he/she attempt to convince you that your symptoms are not "real" Y/N
- Does you provider believe that FMS is an entirely psychological problem? Y/N
- Does your provider give you his/her full attention or is he/she always preoccupied with some other concern (e.g. pager, phone calls, etc) Y/N
- Does he/she believe you? Y/N
- Will your provider schedule extra time to talk with you if you need it? Y/N
- Will your provider advocate on your behalf? Y/N
- Do you trust your provider? Y/N
- Does your provider understand that FMS is treatable? Y/N
- Does your provider understand that as of right now there is no cure for FMS? Y/N
- Do you feel comfortable discussing any and all of your symptoms with your provider? Y/N
- Are the office staff helpful and courteous to you? Y/N
- Do you have the sense that your provider dreads seeing you? Y/N
- Does you have adequate access to your provider? Y/N
- Do you worry about whether or not your provider will receive your messages? Y/N
- Do you feel that your provider ignores your messages? Y/N
- Does your provider treat you like a drug addict when you request pain relief? Y/N
- Are you and your provider frequently at odds over your treatment plan or what constitutes a good quality of life for you? Y/N
- Do you feel as though your provider is unwilling to take the time and effort to experiment or help you find the best combinations of medications to maximize your pain and symptom relief? Y/N
- Does your provider encourage you to try new treatments? Y/N
- Do you always feel free to ask questions and to challenge his/her opinion? Y/N
- Will your provider accept input about new treatment? Is he or she willing to to read reasonable amounts of material about your condition that you bring in? Y/N
- Do you feel that your provider understands the strain and pressure that FMS exerts on yourself and your family? Y/N
- Does your provider follow through on the testing and treatment he/she has agreed to conduct and communicate the results to you? Y/N

Adapted from Starlanyl, D.J. (1999). The Fibromyalgia Advocate.

Office Visit Form

Date:_____ Visit to:_____

Major Reason for Visit:_____

Major Symptoms:_____

Aggravating Factors:_____

What I Have Tried:_____

Effects:_____

_____

Provider
Comments:_____

_____

Anything Else I Can Try To
Help:_____

_____

_____

Suggested
Therapy/Medication:_____

_____

Expected
Results:_____

_____

Possible Side
Effects:_____

_____

Signs and Symptoms for Which I Should
Call:_____

_____

Follow-Up Scheduling Needed:

_____

_____

Comments:_____

_____

Adapted from Starlanyl, D.J. (1999). The Fibromyalgia Advocate

BODY SCAN SCRIPT

This is the third relaxation exercise in your fibromyalgia workshop…Body Scan.

During this relaxation you will gain an awareness of sensations and feelings in all areas of your body. It will help you become more in touch with your mind, body and emotions as you sit or lay quietly and observe yourself in a nonjudgmental manner.

As a fibromyalgia patient you may encounter many areas in your body that are painful to you. As this occurs try not to resist the pain, but rather acknowledge it and focus on softening the area around the pain by breathing deeply into it and imagining the breath moving directly in and out of that area. It may also be helpful to you to visualize your pain as a block of ice that you are watching melt away with each warming breath or as a tight elastic band that is becoming more relaxed on each exhalation.

Remember that your goal during this exercise is to be compassionate and supportive towards yourself, like a warm and loving friend who provides encouragement and acceptance. Do not allow criticism to interrupt this time with yourself. There is no right or wrong way to do this exercise.

So now either lay or sit in a comfortable position. Close your eyes and focus on your breathing. Notice the air as it comes in cool and refreshing, bringing life and energy into your body and leaving warm and moist having healed and nurtured your organs deep inside. Breathe deeply and naturally focusing on each breath as it flows in…and out.

Free yourself from any disturbing thoughts by allowing them to float away down a river and bring your attention gently back to your breathing.

Now focus on your feet and toes. Feel the relaxation deep within this area of your body. Do not force any feelings into this area, but simply experience the sensations that are present there. There may be a sense of tingling, warmth, moisture, pain, cold. You may even experience a lack of feeling in this area completely. Experience whatever is there. Just allow the feeling to happen.

Now move up to your lower legs - the region of your ankles, calves and knees. Again experience the sensations here in a compassionate and gentle manner. If this is an area in which you are experiencing pain, take a few deeper breaths and try some visualization to soothe the pain in this area. Simply experience the feelings. Let go and relax.

Move away from your lower legs now – allow them to dissolve into warmth and relaxation and focus on your upper legs, thighs and hips. What do you notice here? Observe gently and relax.

Now focus on your buttocks, groin, lower abdomen and lower back. Just be mindful of the sensations. Are there areas that are tense, warm, relaxed, painful? Become aware of these feelings so that you may be able to recognize them easily later on. Continue up now through your stomach, chest and upper back. Notice the sensations you are experiencing here. Relax and breathe deeply.

Bring your full attention now to your hands, arms, shoulders and neck. Experience the sensations in each of these areas. Relax now. Relax and observe.

Move upwards to your head and face and observe the muscles of your mouth, nose, eyes, and forehead. Do you have a headache perhaps? Is your jaw tense? Relax any tension in any areas of your face and head. Breathe deeply. Feel the relaxation.

Notice now how the feeling of warmth and relaxation is spreading through your body as you continue to breathe deeply and rhythmically. Notice the feelings of peace within you.

As you practice this exercise you will gradually become more aware of your body, in particular, areas that are tense or causing you pain and learn to restore a feeling of peace and calm quickly and effectively.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed) and Kabat-Zinn, J. Mindfulness Meditation Practice Tapes (Guided Body Scan).

Notes Page

WEEK FOUR

COPING SKILLS

NEGATIVE THINKING PATTERNS

Filtering

Looks like: Focuses on negative and excludes positive
Instead: Insist on shifting your focus

Polarized thinking

Looks like: Everything is terrible or fantastic with no in between
Instead: Avoid black and white judgements; see situations on a continuum

Overgeneralization

Looks like: Sweeping statements without looking at all of the evidence
Instead: Look at all the facts; ask questions; avoid absolutes and labels

Mind reading

Looks like: Assuming you know what others think and feel without them telling you
Instead: Ask them directly; look for evidence to the contrary; see if there are other explanations for the situation

Catastrophizing

Looks like: Assume the worst will happen and it will be a total disaster
Instead: Ask what the odds are that this will happen and if this should happen would it be so bad?

Magnifying

Looks like: Makes problems larger than they are; hides the positive
Instead: Look at the situation realistically; give things their true proportion

Personalization

Looks like: Assuming the reactions of others have to do with you; comparing yourself to others
Instead: If you are unsure about how you affect others, check it out with them; comparisons are not helpful – everyone has their own unique strengths and weaknesses

Shoulds

Looks like: Having random rules about things you cannot control
Instead: Be realistic and flexible; realize that you have little control over many things in your own life and even less over the lives of others

Adapted from McKay, M., Davis, M., & Fanning, P. (1997). Thoughts & Feelings: Taking Control of Your Moods and Your Life.

COPING THOUGHT STRATEGIES

- Cool thoughts –calm down and relax
- Problem solving thoughts – how can I fix this
- Self-efficacy thoughts – I can do this
- Escape routes – walk away before things get worse
- Reattributions – what is another explanation for the person's behavior or the situation
- See the whole picture – avoid becoming stuck in the detail
- Be accurate
- I prefer – be aware that you may not always get exactly what you want
- Remember that people are doing their best to help

Adapted from McKay, M., Davis, M., & Fanning, P. (1997). Thoughts & Feelings: Taking Control of Your Moods and Your Life.

WORRY CONTROL STRATEGIES

A) Problem solving approach

1. Write down the situation that is worrying you
2. Brainstorm solutions
3. Evaluate each idea
4. Rule out the ones that are not feasible, then rank the remaining ones in order of priority
5. Set a date to complete each task
6. If some of the tasks seem more difficult than others, break these down into smaller, more manageable tasks

B) Visualization/worry exposure

1. Start by getting into a comfortable position and breathing deeply. Relax your body completely.
2. Next visualize a situation that has been causing you a great deal of worry recently. Choose only one worry and focus intently on this concern. Do not allow your mind to wander. Picture your worst case scenario outcome of this worry. Keep repeating your worst feared scenario for 25 minutes allowing yourself to go over the scene again and again until you feel your anxiety level begin to subside. If pictures are not the best way to conjure worry for you picture sounds, smells or any other trigger that will help you to remain in the anxiety long enough for it to subside.
3. After the 25 minutes of remaining in the worst case scenario have passed, begin to imagine alternative outcomes to your scenario that are less serious. Do this part for 5 minutes.
4. Practice this exercise with each of your significant worries on a regular basis and you should find that you will be able to tolerate your anxiety better in the long term.

C) Thought Stopping

1. Choose a distressing thought
2. Allow yourself to think about this thought intensely for a set period of time, for example, three minutes. Set a kitchen timer for this exercise.
3. When the timer goes off, shout "stop" either out loud or in your head and force yourself to stop thinking about the distressing thought and refuse to go back to it. A helpful visualization to accompany this exercise is to think of putting your thought back in a drawer in a chest and closing the drawer so that it no longer is able to be seen or heard.
4. Switch your focus to pleasant thoughts.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

Support Networks…

1. Provide empathy
2. Do not belittle or criticize
3. Affirm your strengths and individuality
4. Are open minded and respect your choices especially when it comes to your treatment needs
5. Provide you with energy and are not draining

Thought Modification Sheet

A. In this first section, identify an event that occurred in your life recently that was upsetting to you. Write this in the space below.

_____
_____
_____
_____

What was the irrational or emotional explanation that you gave yourself for this event?

_____
_____

What is a more likely rational explanation?

_____
_____

What could be the consequence of the irrational idea if it was pursued?

_____
_____

B. Return to the irrational explanation for a minute. Write it down again in the space below.

_____
_____
_____

Is there any rational support for this idea?

_____

What evidence exists that it is incorrect?

_____

Does any evidence exist that it is true?

_____

What is the worst think that could happen to me if it were true?

_____

What good might come of this situation if it were true?

_____

C. How did my emotions change as a result of my ability to think through this process differently? _____
_____
_____
_____

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed.)

Thought Journal

Situation When? Where? Who? What happened?	**Feelings** Use one word to describe each emotion you were experiencing. Rate each one on a scale of 0-100 with 0 being low intensity and 100 being high.	**Automatic Thoughts** Write down what you were thinking during the time that you were experiencing the feelings you rated in the previous column.	**Negative Thought Pattern(s)** List the name of the negative thought pattern that corresponds to the thought that you listed in column 3, for example, magnifying or overgeneralization.	**Revised Thought** Restate your thought in a more productive and balanced manner. Circle any actions that you took to resolve the issue, for example, "I relaxed for 10 minutes."	**Rerated Feeling** List each of the feelings you identified in column 2 again and rate them on the scale of 0-100 again to compare how your revised thought pattern has made an impact on your emotional state.

Situation When? Where? Who? What happened?	**Feelings** Use one word to describe each emotion you were experiencing. Rate each one on a scale of 0-100 with 0 being low intensity and 100 being high.	**Automatic Thoughts** Write down what you were thinking during the time that you were experiencing the feelings you rated in the previous column.	**Negative Thought Pattern(s)** List the name of the negative thought pattern that corresponds to the thought that you listed in column 3, for example, magnifying or overgeneralization.	**Revised Thought** Restate your thought in a more productive and balanced manner. Circle any actions that you took to resolve the issue, for example, "I relaxed for 10 minutes."	**Rerated Feeling** List each of the feelings you identified in column 2 again and rate them on the scale of 0-100 again to compare how your revised thought pattern has made an impact on your emotional state.

GUIDED IMAGERY SCRIPT

This is the fourth relaxation exercise in your fibromyalgia workshop series…guided imagery.

Sit comfortably in a chair with your legs uncrossed and your feet on the floor. Place your hands in your lap with your palms facing up. Allow your eyes to focus on a spot in front of you at eye level and take a deep breath all the way through your chest down into your abdomen. As you exhale keep focused on that spot and notice that your focus may become a little blurry as you continue to breathe deeply and evenly. Take another breath in and notice that your eyes are getting tied and your eyelids are becoming heavier and heavier as you continue to breathe deeply and rhythmically. Allow your eyelids to close now as it feels comfortable and sink deeply into your chair as you begin to notice the weight of your body in the chair. Relax the muscles in your body and notice the weight of your feet on the floor…heavier and heavier…and of your legs as they rest and relax. Feel the weight of your hips as you sink into the chair deeper and deeper with each breath. You are now calmer and more peaceful with each inhalation.

Notice your hands on your thighs and the weight of your arms and shoulders as they relax. Feel the warmth and tingling as it extends down through your arms into your fingertips and down your legs through your toes and out into the ground.

Your arms and legs feel heavy now, weighted down into the chair…more heavy…more relaxed…breathe deeply now as your face begins to relax and your forehead lets go of tension and becomes smooth…your cheeks and your jaw, gently releasing all tension as warmth and relaxation spreads through them down your neck and into your chest…continue to breathe deeply.

Feel yourself drifting deeper and deeper…more drowsy and peaceful…calm as you continue down into total and complete relaxation…deeper and deeper peace.

Now we are going to go to a special place, a place that is safe and unique to you. As I count, picture yourself going down a stairway or a path to this place where you will find yourself even more peaceful and deeply relaxed with each step. Now, grow more relaxed with each step as the sounds and thoughts of your safe place become more clear and your relaxation deeper and deeper. Ten…nine…eight…seven…six…five…four…three…two…one.

Now see the colors and shapes of the place you have chosen. Smell the fragrances…touch it…hear the sounds. You are safe and calm in this place …safe and calm.

Drift deeper and deeper into relaxation…more and more drowsy and peaceful…down…down…down…into total and complete relaxation. Now you are completely and totally relaxed, peaceful and calm. Take a deep breath and let the peace and tranquility of your special place spread throughout your entire body. Linger now in your safe place. Enjoy it for a while let it nourish and relax you.

[Pause silently for 2 minutes]

If you are experiencing pain in you body, give it a shape and a form. Make it into a tunnel that

you can enter and exit. Now imagine that you are entering the tunnel. As you enter your pain increases for a few seconds. As you begin to walk through the tunnel, you can see a light ahead and every step you take takes you away from the discomfort and the deeper into the tunnel you go the less discomfort you feel and the light at the end of the tunnel grows larger and larger. You begin to feel better and better. Ever step reduces your discomfort, every step heals and strengthens your body and with every step you feel more comfortable, much more comfortable and as you reach the light you feel relieved of any discomfort. You feel relaxed, stronger, comfortable. From now on each time you enter the tunnel and pass through it the light at the end will grow larger and you will feel more comfortable and as you exit the tunnel you will grow stronger and stronger, heal, and feel better and better. The tunnel is yours, you control it, and can enter it anytime you like, anytime at all, and passing through it will always make you feel better.

Enjoy your safe place for a moment longer and then when I start to count again you can begin coming back to full awareness and will come back feeling refreshed, as if you had a long rest. Coming back feeling alert and relaxed. One…two…coming up,
three…four…five…six…seven…eight…nine, begin to open your eyes, and ten, open your eyes and come all the way back. Wiggle your fingers and toes. Feeling great. Very good.

Adapted from Davis, M., Eshelman, E.R. , & McKay, M.(2000) The Relaxation & Stress Reduction Workbook (5th Ed).

Notes Page

Fibromyalgia Reference/Resource List

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Catalano, E.M, & Hardin, K.N. (1996).*The chronic pain control workbook: A step-by-step guide for coping with and overcoming pain* (2nd ed.). Oakland, CA: New Harbinger.

Chaitow, L. (1995). *Fibromyalgia and muscle pain: What causes it, how it feels and what to do about it.* San Francisco, CA: Thorsons Health Series.

Conley, E.J. (1999). *America exhausted: Breakthrough treatments of fatigue and fibromyalgia.* Flint, MI: Vitality Press.

Copeland, M.E. (2001). *The depression workbook: A guide for living with depression and manic depression.* Oakland, CA: New Harbinger.

Davis, M., Eshelman, E.R., & McKay, M. (2000). *The relaxation and stress reduction workbook* (5th ed.). Oakland, CA: New Harbinger.

Deffenbacher, J.L., & McKay, M. (2000). *Overcoming situational and general anger: A protocol for the treatment of anger based on relaxation, cognitive restructuring, and coping skills: Client manual.* Oakland, CA: New Harbinger.

Farhi, D. (2000). *Yoga mind, body and spirit.* New York: Henry Holt.

Fennell, P.A. (2001). *The chronic illness workbook: Strategies and solutions for taking back your life.* Oakland, CA: New Harbinger.

Fibromyalgia Network: A newsletter for people with fibromyalgia/chronic fatigue. *Syndrome.* P.O. Box 31750 Tuscon AZ 85751-1750; 1-800-853-2929.

Goldstein, J.A. (1996). *Betrayal by the brain.* New York: The Haworth Medical Press.

Hanh, T.N. (1987). *The miracle of mindfulness.* Boston: Beacon Press.

Hanh, T.N. (1991). *Peace is every step: The path of mindfulness in everyday life.* New York: Bantham Books.

Kabat-Zinn, J. (1994). *Wherever you go there you are: Mindfulness meditation in everyday life.* New York: Hyperion.

Logan Fibromyalgia/Chronic Fatigue Support Group – meets in the Logan library Archives room the 3rd Thursday of every month from 12 to 1:30.

McKay, M., Davis, M., & Fanning, P. (1995). *Messages: The communication skills book.* (2nd ed). Oakland, CA: New Harbinger.

McKay, M., Davis, M, & Fanning, P. (1997). *Thoughts and feelings: Taking control of your moods and your life – a workbook of cognitive behavioral techniques.* Oakland, CA: New Harbinger.

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National Fibromyalgia Partnership, Inc. (2001). *FM monograph: Fibromyalgia symptoms, diagnosis, treatment, and research.* Retrieved March 8, 2003 from http://www.fmpartnership.org.

Paterson, R.J. (2000). *The assertiveness workbook: How to express your ideas and stand up for yourself at work and in relationships*. Oakland, CA: New Harbinger.

Romas, J.A., & Sharma, M. (2000). *Practical stress management: A comprehensive workbook for managing change and promoting health.* Needham Heights, MA: Allyn & Bacon.

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Wallace, D.J., & Wallace, J.B. (2002). *All about fibromyalgia: A guide for patients and their families.* New York: Oxford University Press.

CURRICULUM VITAE

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EDUCATION

Ph.D. Candidate 2006.	Utah State University, Logan, Utah Major: Clinical, Counseling and School Psychology (APA Approved) Emphasis: Health Psychology Dissertation Chairs: M. Scott DeBerard, Ph.D. and Susan L. Crowley, Ph.D.
Master's of Arts 2002	St. Mary's University of Minnesota, Minneapolis, Minnesota Major: Counseling and Psychological Services
Master's of Public Health 2001	University of Minnesota, Minneapolis, Minnesota Major: Community Health Education
Master's of Healthcare Administration 2000	Carlson School of Management, University of Minnesota, Minneapolis, Minnesota
Master's of Business Administration 1997	Carlson School of Management, University of Minnesota, Minneapolis, Minnesota Emphasis: Strategic Management
Bachelor of Arts 1989	Wellesley College, Wellesley, Massachusetts Majors: Russian Studies and Political Science

PROFESSIONAL AFFILIATIONS

Student Member, American Psychological Association
(Division 38 – Health Psychology) **2002-present**

FORMAL PRACTICA TRAINING

Clinical Psychology Extern **Aug 2004-present**
Brigham City Community Hospital
Cardiac Rehabilitation and Wellness Center
Quarter-time (10hr/wk)

Responsibilities: Assessment of post-surgical cardiac patients using DUKE Health Profile; behavioral medicine interventions including exercise program adherence and stress management; individual therapy sessions; periodic family sessions for patient support; conduct stress management psychoeducational group.

(Note: Hours are through Nov 1, 2004)
Supervisor: M. Scott DeBerard, Ph.D.
Total Client Contact Hours: 45
Indirect Service Hours: 18
Supervision: 9
Total Hours: 72

Child Clinical Psychology Practicum Therapist **Aug 2004-present**
Center for Persons with Disabilities, Clinical Services
Utah State University, Logan, UT
Quarter-time (10 hr/wk)

Responsibilities: Child assessment, treatment planning, and follow-up; diagnostic test administration and interpretation using a wide range of child assessment instruments; school observations; participation in a multidisciplinary team (medicine, psychology, speech/language); neuropsychological assessment of adults and adolescents for the vocational rehabilitation department using a battery of neuropsychological tests.

(Note: Hours are through Nov 1, 2004)
Supervisor: Pat Truhn, Ph.D.
Total Client Contact Hours: 45
Indirect Service Hours: 23
Supervision and Case Conference Hours: 22
Total Hours: 90

Clinical Psychology Practicum Therapist **Aug 2002-present**
Psychology Community Clinic
Utah State University, Logan Utah

Quarter-time (10hr/wk) (Aug 2002- Aug 2003)
Part-time (5hr/wk) (Aug 2003 – present)

Responsibilities: Individual psychotherapy for individuals and couples with a wide range of clinical concerns (i.e. trauma, health, marital issues, sexual difficulties, OCD); psychological assessment and report writing; participate in a vertical team to train graduate students in basic intake and psychotherapy skills.

(Note: Hours are through Nov 1, 2004)
Supervisors: Susan Crowley, Ph.D.; Carolyn Barcus, Ed.D.; Kevin Masters, Ph.D.
Total Client Contact Hours: 400
Indirect Service Hours: 232
Supervision Hours: 42
Total Hours: 632

Clinical Psychology Extern **Jan 2004-Aug 2004**
Cache Valley Cancer Treatment & Research Clinic, Logan, Utah
(Affiliated with Huntsman Cancer Care Program)
Quarter-time (10hr/wk)

Responsibilities: Consultant-liaison services to physician and staff regarding patient needs; individual therapy for cancer patients; clinical interviewing and assessment; behavioral medicine interventions including treatment adherence, anxiety management and end of life planning.

Supervisor: M. Scott DeBerard, Ph.D.
Total Client Contact Hours: 42
Indirect Service Hours: 28
Supervision: 26
Total Hours: 96

Counseling Psychology Practicum Therapist **Aug 2003-Aug 2004**
Utah State University Counseling Center, Logan, Utah
Quarter-time (10/wk) (Aug 2003 – Apr 2004)
Part-time (5hr/wk) (Apr 2004 – Aug 2004)

Responsibilities: Individual therapy for college students and couples with a wide range of clinical issues (i.e. personality disorders, adjustment concerns, relationship issues); co-facilitation of interpersonal psychotherapy and dialectical behavioral therapy (DBT) groups; outreach presentations to students on topics such as communication and relationships.

Supervisors: Dan Barnes, M.Ed.; Gwena Couillard, Ph.D.; Dave Bush, Ph.D.
Total Client Contact Hours: 54
Indirect Service Hours: 30
Supervision Hours: 28
Total Hours: 112

Behavioral Health Consultant **Jan 2003 – Dec 2003**
Student Health Center, Utah State University, Logan, Utah
Quarter-time (10hr/wk)

Responsibilities: Consultant-liaison services to a primary care clinic serving students on campus; triage and brief behavioral medicine interventions; consultations with physicians concerning emotional correlates of physical illnesses; implementation of an integrated primary care model.

Supervisor: Kevin Masters, Ph.D.
Total Client Contact Hours: 73
Indirect Service Hours: 36
Supervision and Case Conference Hours: 36
Total Hours: 145

Mental Health Intern **Apr 2002-Aug 2002**
Hubert H. Humphrey Job Corps, St. Paul, Minnesota
Part-time (20hr/wk)

Responsibilities: Individual psychotherapy for program participants; consultant-liaison support to medical staff; facilitated weekly stress management psychoeducation group; crisis intervention; assisted with drug and alcohol psychoeducation group.

Supervisor: Jeff Gottlieb, Ph.D.
Total Client Contact Hours: 282
Indirect Service Hours: 134
Supervision: 33
Total Hours: 449

Mental Health Intern **Apr 2002-Aug 2002**
Project Foundation, Minneapolis, Minnesota
Part-time (20hr/wk)

Responsibilities: Individual psychotherapy for youth at two homeless shelters; program development and grant writing; participated in health realization group.

Supervisor: Jeff Gottlieb, Ph.D.
Total Client Contact Hours: 71
Indirect Service Hours: 200
Supervision: 31
Total Hours: 302

ADDITIONAL CLINICAL EXPERIENCES

Clinical Psychology Intern **Sep 2004 – present**
Bear River Mental Health Services, Inc., Logan, Utah
Half-time (20 hr/wk)

Responsibilities: Individual, marital, family and group psychotherapy for clients of all ages with a variety of emotional and behavioral concerns; crisis intervention; adult mental status examinations; group therapy interventions; emphasis on treatment of

severely and persistently mentally ill clients including treatment planning for mentally retarded clients.

(Note: hours are through Nov 1, 2004)
Supervisor: Russ Seigenberg, Ph.D.
Total Client Contact Hours: 60
Indirect Service Hours: 40
Supervision: 9
Total Hours: 109

Support Group Facilitator **Aug 2003-present**
Logan Fibromyalgia Support Group
Less than 10 hours per week

Responsibilities: Monthly meeting facilitation; coordination of guest speakers; periodic psychoeducation sessions as requested by group; serve as group spokesperson/liaison for networking purposes.

(Note: Hours are through Nov 1, 2004)
Supervisor: Carolyn Barcus, Ed.D.
Total Client Contact Hours: 18
Indirect Service Hours: 10
Supervision: 2
Total Hours: 30

Neuropsychology Technician **Aug 2002- Aug 2003**
Cache County Study on Memory, Health in Aging, Logan, Utah
Half-time (20hr/wk)

Responsibilities: Assessment of cognitive decline using a battery of neuropsychological assessments; scoring, editing and data entry; participation in case staffing meetings with physicians from Duke and Johns Hopkins to determine participant dementia status; weekly clinical team meeting with nurses and other research staff to discuss project concerns.

Supervisor: JoAnn Tschanz, Ph.D.
Total Client Contact Hours: 175
Indirect Service Hours: 450
Supervision and Case Conference Hours: 106
Total Hours: 731

Senior Youth Worker **Jan 2000-Aug 2002**
Lutheran Social Services
Karibu House Group Home, Shoreview, Minnesota
Half-time (20 hr/wk)

Responsibilities: Individual therapy for youth ages 10-18; development and delivery of educational sessions on a variety of topics ranging from social skills to sexual relationships; assisted with Independent Living Skills program.

Supervisor: Sean Kinsella, MA
Total Client Contact Hours: 1000
Indirect Service Hours: 680
Supervision Hours: 56
Total Hours: 1680

Behavioral Health Associate **Dec 2000 – Oct 2001**
Abbott Northwestern Hospital Behavioral Health Services
(Adult Mental Health), Minneapolis, Minnesota
Full-time (35 hr/wk)

Responsibilities: Comprehensive treatment planning; counseling on three adult and one adolescent inpatient units; case conferences with physicians from all areas of specialization; conducted daily group check-ins with all patients; assisted with ECT patients; managed individual daily caseload of 4-7 patients.

Supervisor: Sue Heuer, R.N., B.A.
Total Client Contact Hours: 1000
Indirect Service Hours: 500
Supervision Hours: 40
Total Hours: 1540

Emergency Medical Technician/Firefighter **Sep 1994 – Sep 2000**
Saint Anthony Fire & Rescue, St. Anthony, Minnesota
Part-time (Up to 24 hr/wk)

Responsibilities: Support to victims of trauma and their families; executed medical and tactical fire ground operations under incident command; participated in Critical Incident Stress Debriefings (CISD/CISM).

Certifications: Firefighter I, Emergency Medical Technician (Minnesota), American Red Cross Cardio-Pulmonary Resuscitation, Medication Administration, and Certified Nursing Assistant.

Supervisors: Richard Johnson (Fire Chief – retired), John Malenick (current Fire Chief), Jay Olsen (Training Officer)
Total Client Contact Hours: unknown
Indirect Service Hours: unknown
Supervision Hours: unknown
Total Hours: unknown

Domestic Abuse Advocate **Sept 1996- Sept 1997**
Project P.E.A.C.E., Brooklyn Park, Minnesota
Less than 10 hours per week

Responsibilities: Services to female victims of domestic abuse through phone and in-person counseling; devised and implemented safety plans; provided emotional support to women at hospitals or in their homes; facilitated a drop-in support group.

Total Client Contact Hours: 120
Indirect Service Hours: 60
Supervision Hours: 24
Total Hours: 204

Support Group Facilitator **Sept 1996 –Sept 1997**
Chrysalis – A Center for Women, Minneapolis, Minnesota
Less than 10 hours per week

Responsibilities: Group therapy for women covering a wide range of topics including relationships, grief and loss; co-facilitation of recurring sessions.

Total Client Contact Hours: 48
Support Hours: 10
Supervision Hours: 5
Total Hours: 63

RESEARCH EXPERIENCE

Research Fellow **May 1999– Aug 1999**
Community-University Partnership in Education and ServiceAcademic Health Center,
University of Minnesota
Minneapolis, Minnesota
Part-time (20 hr/wk)

Responsibilities: Assessment and recommendations for improvement of the three sites of the Kellogg Foundation Grant to the Academic Health Center; strategic direction to the Board of Directors and assistance to the Project Director.

Supervisor: Linda Ernst (Skogrund), Ph.D.

Intern, Project Lower Infant Death **Sept 1998 – June 1999**
Minneapolis Department of Health & Family Support
Minneapolis, Minnesota
Quarter-time (10 hr/wk)

Responsibilities: Data collection and dissemination; assistance with presentations relating to the project.

Supervisor: Megan Betz

Student Consultant **Sept 1999 – June 2000**
Neighborhood Healthcare Network, St. Paul, Minnesota
Part-time (5 hr/wk)

Faculty Advisor: Robert Connor, Ph.D., Department of Healthcare Management, Carlson School of Management, University of Minnesota

Student Consultant **Sept 1998 – June 1999**
Allina Health Systems, Minneapolis & Buffalo, Minnesota
Part-time (5hr/wk)

Faculty Advisor: Sandra Pothoff, Ph.D., Department of Healthcare Management, Carlson School of Management, University of Minnesota

PUBLICATIONS

Masters, K.S., Stillman, A.M., Browning, A.D., & Davis, J. W. (in press). Primary care psychology on-campus: Collaboration and training between psychology and medicine within a student health center. *Professional Psychology: Research and Practice.*

CURRICULUM DEVELOPMENT

Stillman, A.M. (2004). The effect of anger management and communication training on functional and quality of life status in fibromyalgia patients: Participant manual. (unpublished manuscript)

Stillman, A.M. (2004). The effect of anger management and communication training on functional and quality of life status in fibromyalgia patients: Therapist manual. (unpublished manuscript).

PRESENTATIONS AT PROFESSIONAL CONVENTIONS

Schroder, K.E.E & Stillman, A.M. (2004, July). *The effects of anger and anger coping style on heart patient's quality of life.*
Poster session presented at the 112th annual convention of the American Psychological Association, Honolulu, HI.

Stillman, A.M., DeBerard, M.S., Crowley, S.L. *The effect of anger management and communication training on functional and quality of life status in fibromyalgia patients.*(abstract submitted for a paper or poster to the 26th annual Society of Behavioral Medicine Conference, Boston, MA, 2005)

DISSERTATION

Stillman, A.M. (2004). The effect of anger management and communication training on functional and quality of life status in fibromyalgia patients. Doctoral dissertation, Utah State University, Logan, UT.
Faculty Advisors: M. Scott DeBerard and Susan L. Crowley, Department of Psychology, Utah State University.

THESES/MASTERS PROJECTS

Stillman, A.M. (2001). Analysis of the impact of a Lutheran Social Services group home program on the behaviors of emotionally and behaviorally challenged youth: An outcome study. Masters thesis, University of Minnesota, School of Public Health, Minneapolis, MN. Faculty Advisor: Phyllis Pirie, Department of Epidemiology, University of Minnesota.

Stillman, A.M., Gibbs, M., Joglekar, R, & Mungekar, M. (2000) Development of an after-hours care system for the Neighborhood Health Care Network of Minnesota. Management project, Carlson School of Management, University of Minnesota. Faculty Advisor: Robert Connor, Department of Healthcare Administration, Carlson School of Management, University of Minnesota.

Stillman, A.M. (1999). Analysis of key concerns facing the Community-University Partnership in Education and Service. Clerkship report, Carlson School of Management, University of Minnesota. Faculty Advisor: Ted Litman, Department of Healthcare Administration, Carlson School of Management, University of Minnesota.

Anderson, T., Dao, J., Mungekar, M., Stillman, A., & Thomes, C. (1999) Factors influencing the amount of time spent by patients in the urgent care spent at Buffalo hospital: A quantitative methods projects. Quantitative analysis report, Carlson School of Management, University of Minnesota. Faculty Advisor: Sandra Pothoff, Department of Healthcare Administration, Carlson School of Management, University of Minnesota.

OTHER PROFESSIONAL EXPERIENCE

Project Manager **Sept 1992–Aug 1998**
American Express Financial Advisors, Inc.
Minneapolis, Minnesota
Full-time (40 hr/wk)

TEACHING EXPERIENCE

Abnormal Psychology (four sessions) **Fall 2003–Fall 2004**

General Psychology **Sep 2003-Dec 2004**
Teaching Assistant (one session) Sep 2003-May 2004
Solo Instructor (one session) Sep 2004-Dec 2004

WORKSHOPS AND COMMUNITY PRESENTATIONS

Stillman, A.M., & Manning, C.T. (2004). *Unlocking relationships: Your keys to success.* Outreach presentation to Utah State University students through the Counseling Center, Utah State University, Logan, Utah.

Barnes, D., & Stillman, A.M. (2004). *Communication guidelines.* Outreach presentation to Utah State University students through the Counseling Center, Utah State University, Logan, Utah.

VOUNTEER EXPERIENCE

President, Board of Directors **Sept 1998–Aug 2000**
North End Health Center, St. Paul, Minnesota

Mentor and steering committee member **Sept 1996–Sept 1997**
League of Women Voters
Young Women's Community Leadership Project
Minneapolis, Minnesota

LANGUAGES

Bilingual in French.

Personal and Professional References are Available Upon Request.