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## Therapeutic Touch for Treatment of Chronic Pain Related to Fibromyalgia

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THERAPEUTIC TOUCH FOR TREATMENT OF  
CHRONIC PAIN RELATED TO FIBROMYALGIA

By

Lois M. Christian

A THESIS

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## ABSTRACT

### THERAPEUTIC TOUCH FOR TREATMENT OF CHRONIC PAIN RELATED TO FIBROMYALGIA

By

Lois M. Christian

Therapeutic touch (TT) has been used to treat persons with many different illnesses, especially those with chronic pain. The purpose of this study was to determine if TT reduces fibromyalgia pain.

In this study five TT treatments were given to each of 10 female subjects with fibromyalgia from 36 to 59 years old using a quasi-experimental single-subject design.

Using a Visual Analogue Scale (VAS) to measure the subject's pain before and after each of 5 TT treatments, a repeated measures ANOVA was employed to analyze the data. A significant difference in pain levels was found between the pre and post test scores  $F(9,1)=9.35$ ,  $p=0.01$ , supporting the hypothesis that TT decreased pain for fibromyalgia sufferers. No significant change was noted in consecutive pre-test pain levels,  $F(36, 4)=1.71$ ,  $p=0.17$ , showing no long term benefit from each TT treatment.

To my husband, Douglas R. Christian,  
for standing by me through all my pain, both physical and mental.

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## Chapter I

### INTRODUCTION

"Fibromyalgia is a form of muscular rheumatism characterized by tenderness, soreness, pain, and muscle spasms" (Williamson, 1996, p. 20). Fibromyalgia has been described as "a common condition of unknown etiology, characterized by generalized musculoskeletal pain in association with the presence of multiple tender points at characteristic locations" (Carette et al., 1994, p. 32). A large number of people with fibromyalgia experience muscle aches and pains most of the time, defined tender points, unrefreshing sleep, and chronic fatigue (Schuck, Chappell, & Kindness, 1997); but there is more to fibromyalgia than this. There are many other signs and symptoms that are associated with fibromyalgia syndrome. Some of these symptoms are: numbness and tingling; muscle twitching; water retention and swelling; dizziness; skin sensitivity, itching, and burning; impaired coordination; dysuria; chest wall pain and pressure beneath the breast bone; migraine headaches; irritable bowel syndrome; Raynaud's syndrome; and intermittent hearing problems and low-frequency hearing loss. But no two people will experience fibromyalgia the same way (Williamson, 1996).

The most definitive physical finding in people with fibromyalgia is sore or tender feelings in some or all of eighteen specific places on their body. Most of these tender points are near the place where a muscle attaches to a bone (Williamson, 1996). The sites of pain are symmetric on the body, but pain does not always occur on both sides

concurrently. Appendix F shows these tender points with a brief description (Williamson, 1996, p. 10).

Fibromyalgia is the second most frequently diagnosed musculoskeletal disorder today (Dunkin, 1997). "Fibromyalgia is not new: only the name is" (Williamson, 1996, p.16). Although fibromyalgia had been described in literature in the early 1800's, it had no name until 1904 when it was called fibrositis (Goldenberg, Felson, & Dinerman, 1986; Williamson, 1996). It was not until 1987 that Donald L. Goldenberg, M. D. coined the name fibromyalgia and this designation has been used ever since. Whatever this disease is called, it is a common, disabling disorder that affects 2 to 4 percent of the population (Nye, 1996).

The exact cause of fibromyalgia is not known, but sleep disturbance is the most common factor among fibromyalgia sufferers (Carette et al., 1994; Nye, 1996). Studies done on people with fibromyalgia have shown that 90 percent of those studied have an alpha-delta sleep anomaly in which alpha waves intrude as soon as the subject reaches delta sleep. One theory purports a central role for growth hormone. This theory states that when delta sleep, or rapid eye movement sleep (REM), is not attained or sustained not enough growth hormone is secreted to meet a person's needs. Growth hormone is needed to remove the lactic acid which accumulates in muscles during exertion. If lactic acid remains within the muscles, it slows the repair of micro-trauma which occurs in the muscles during normal usage. When fibromyalgia sufferers are able to increase the quality and quantity of their sleep, symptoms of the disease seem to decrease (Carette et al., 1994; Williamson, 1996).

Much research has been done on different medications used to treat fibromyalgia.

Many of these medications are used to increase the amount of REM sleep (Carette et al., 1994; Goldenberg, Felson, & Dinerman, 1986; Jaeschke, Adachi, Guyatt, Keller, & Wong, 1991; Williamson, 1996). For many people, increasing REM sleep is the key to decreasing muscle pain and other symptoms such as: headache, memory and concentration problems, dizziness, numbness and tingling, itching, fluid retention, crampy abdominal or pelvic pain, and diarrhea (Nye, 1996).

Many people cannot take the medications prescribed for fibromyalgia symptoms, including: vitamin and mineral supplements, aspirin and other non-steroidal anti-inflammatory drugs (NSAID), acetaminophen, amitriptyline, cyclobenzaprine, tramadol, metaxalone, sumatriptan, and propranolol (Williamson, 1996). Such people are often taking medications for other chronic diseases which put them at higher risk for adverse drug reactions including renal or liver failure (Peck, 1997). Medication costs can also be prohibitive (Williams, 1996).

Therapeutic touch (TT) is a method of using the hands to direct human energy to help or heal someone who is ill. The technique was derived from the laying on of hands (Krieger, 1979). TT has been found to decrease the need for narcotic analgesia in terminal cancer patients (Mentgen, 1996). It has also been used as an adjunct for treatment of other diseases manifested by pain (Heidt, 1990) such as in childbirth, quadriplegia, post-operative pain, and severe asthma. When these persons received TT, they become aware of their bodies as a whole and were better able to relax thus decreasing pain and stimulating the healing process.

The purpose of this study was to examine the effects of TT as an alternative therapy to reduce the pain of fibromyalgia. Therapeutic touch has been found to help

people become tuned in to their inner self, to relax, and to allow a healing energy to flow between the facilitator and the client (Heidt, 1990).

This research study was built on studies using therapeutic touch to treat other diseases (Quinn, 1983; Heidt, 1990; Simington & Laing, 1993; Meechan, 1993; Green, 1996; Peck, 1996, 1997; Sneed, Olson, & Bonnadonna, 1997; Gordon, Merenstein, D'Amico, & Judgens, 1998; Rosa, Rosa, Sarner, & Barrett, 1998) and contributes to fibromyalgia research (Carette et al., 1994; Goldenberg, Felson, & Dinerman, 1986; Jaeschke, Adachi, Guyatt, Keller, & Wong, 1991; Schaefer, 1997; Shaver, 1997; Jacobs et al., 1996; Buckelew, Murray, Hewett, Johnson, & Huyser, 1995; Buckelew et al., 1996; Henriksson, 1995; Norregaard, Lykkegaard, Mehlsen, & Danneskiold-Samsoe, 1997; Kaplan, Goldenbrg, & Galvin-Nadeau, 1993; Piro-Boisser, Esdaile, & Fitzcharles, 1996). The design of this study was inspired by Susan D. (Eckes) Peck (1997) who adjured: "(t)he efficacy of the use of therapeutic touch in persons with pain from fibromyalgia . . . needs to be investigated" (p.194).

## Chapter II

### CONCEPTUAL FRAMEWORK AND LITERATURE

#### Conceptual Framework

The concept of therapeutic touch (TT) has been explored from a Rogerian perspective (Meechan, 1990; Ferguson, 1986; Sayre-Adams & Wright, 1995; Mulloney & Wells-Federman, 1996). The majority of research on TT has been based on Rogers' theory of unitary human beings (Ferguson, 1986).

Rogers (1970) conceptualized an energy field as the essential unit of the living system. According to Rogers (1970), energy fields are a single wave of energy with multiple frequencies. Rogers (1986) considered energy fields as the fundamental unit of the life. Rogers (1970, 1980) believed both humans and their environment were energy fields that flowed in a mutual process with each other. She saw no real boundaries to humans or their environment but identified them by the pattern and organization of the fields themselves (Ferguson, 1986). Rogers believed that it is "the mutual simultaneous interaction of these two energy fields through which healing occurs" as cited in Ferguson, 1986 (p. 8).

Rogers' (1970) model was developed from the quantum field theory of contemporary physics and von Bertalanffy's (1968) general system theory. The primary assumptions of the Rogers' model according to Mulloney and Wells-Federman (1996) are:

(1) a person is a unified whole rather than the sum of his or her parts: (2) a person is characterized as a complex human energy field: (3) a person and the environment are open systems that are continually, simultaneously and mutually in process with each other: and (4) the identity and integrity of the human energy field is maintained through patterning and organization. (p. 29)

Rogers (1980) identified three principles of homeodynamics inherent in the conceptual framework of unitary human being. These principles are cited by Ferguson (1986) and Fawcett (1995) as helicy, resonancy, and integrality. Rogers (1980) felt these principles have validity only within the context of the conceptual system of unitary human being.

Rogers' theory has gone through "an evolutionary change since its inception in 1970" (Ferguson, 1986, p. 9). There were originally four principles: reciprocity, synchrony, helicy, and resonancy (Rogers, 1970). In 1980 these principles changed to helicy, resonancy, and complementarity (Rogers, 1980; Ferguson, 1986). By 1986 the principles had changed to their present form: helicy, resonancy, and integrality (Fawcett, 1995). Complementarity changed to integrality to eliminate the "false connotation of separate human and environmental fields" (Fawcett, 1995, p. 377).

The principle of integrality is explained as a communication of open energy fields through continuous mutual processes. The human field and environmental fields are reciprocal systems. As one field is changed, the other also becomes changed (Ferguson, 1986). This reciprocal change is incorporated in the working together of the facilitator and the client during therapeutic touch. "Simultaneous mutual interaction of energy fields is an important concept during the working of therapeutic touch" (Ferguson,

1986, p.10). This interpretation also agrees with Capra's (1980) explanation of the eastern world view of the unity and interrelatedness of all things.

Rogers' principle of helicy is discussed next because the principle of intergality is included within it. Helicy hypothesizes an explanatory and predictive function of Rogers' theory (Ferguson, 1986). Helicy describes life process "as proceeding unidirectionally in stages along a spiraling curve rather than on a single plane" (p. 10). Rogers (1983) saw person-environment mutual processes as continuous, with increasing complexities of pattern and organization as a person develops. She explained these processes as characterized by non-repeating rhythmicities. Krieger (1979) relates the intent of the therapeutic touch facilitator to help or heal the subject by returning harmony to rhythmic interference. The principle of helicy "explains the intent of healing behaviors which is continuous innovative probabilistic diversity of fields (healer and subject) in the direction of field integrity or wholeness" (Rawnsley, 1985).

The principle of resonancy postulates that pattern and organizational changes in the human and environmental fields are facilitated by energy waves. These waves encompass many frequencies, such as light, sound, heat, gravity, magnetic and many others. Although not visible to the human eye, humans are influenced by the rhythms of these waves. Krieger (1979) sees illness as a disruption or change in energy flow within an individual. Rogers' (1990) principle of resonancy hypothesizes that there is "continuous change from lower to higher frequency: in energy wave patterns in human and environmental fields" (p. 8). The facilitator of therapeutic touch tries to redirect or rechannel the subject's energy into a more organized or healthy pattern (Peck, 1996).

Changes in "the ever-developing nature of the Science of Unitary Human

Beings over the years since 1970" (Sayre-Adams & Wright, 1995, p. 63) have lead to the emergence of four critical elements that describe the person and the life process. These critical elements are now regarded as basic to the proposed system . These elements are energy fields, open systems, pattern and pandimensionality (Sayre-Adams & Wright, 1995).

Therapeutic touch is defined by Mulloney and Wells-Federman (1996) as "a consciously directed process of energy modulation during which the . . . (facilitator) uses the hands as a focus to facilitate healing" (p. 23). The healing process involves "the innate ability to integrate and balance body, mind and spirit. . . The . . . (facilitator) facilitates the healing process through knowledgeable caregiving" (p. 27).

Martha Rogers' science of unitary human beings provides "conceptual support for the clinical practice and research of TT" ( Mulloney and Wells-Federman, 1996, p. 29). Meechan (1990) depicts TT as a "purposeful patterning of the mutual energy field process in which the (facilitator) uses his her hands to meditate patterning of the patient-environmental energy field process" (p. 74). Therefore, any change in a client's energy field promoted by TT occurs in the human-environmental energy field.

### Review of Literature

The theoretic framework for this study has already been discussed. No published literature was found related to the use of therapeutic touch for the treatment of the chronic pain of fibromyalgia, therefore a discussion of the literature that was reviewed will build a foundation for this study. The literature reviewed included research studies into Rogers' theory of unitary human beings, fibromyalgia research, the effectiveness of therapeutic touch, and tools used to measure pain.



Rogers' theory of unitary human beings. The research into Rogers' theory of unitary human beings strengthens "the belief that health and healing evolve within the context of the mutual human-environment field process" (Mulloney & Wells-Federman, 1996, p. 29). Correlational research conducted by McDonald (1986) used the Rogerian conceptual system to examine the relationship between visible light waves and the experience of pain. McDonald hypothesized that women with rheumatoid arthritis would show a greater decrease in pain levels after exposure to blue lightwaves, than if exposed to red lightwaves or full spectrum light. Although the results of her study were not significant ( $p=0.274$  and  $p=0.506$  respectively comparing blue to red and full spectrum light waves), a decrease in pain was found to be associated with exposure times. Longer exposure times significantly decreased pain ( $p=0.028$ ) to all 3 light waves.

Several experimental studies based on the science of unitary human beings have focused on the effects of noninvasive alternative therapies, including TT (Heidt, 1990; Krieger, 1974; Quinn, 1984, 1989, 1992; Quinn & Strelkauska, 1986; Keller & Bzdek, 1986; Meehan, 1993; Peck, 1996, 1997) and guided imagery (Butcher & Parker, 1988, 1990). The studies which relate to TT will be discussed under that heading.

Butcher and Parker (1988, 1990) used Rogers' theory of the science of unitary human beings as the basis for their studies into guided imagery. Using a pre-test post-test control group design, Butcher and Parker (1988) examined the subjective feelings of timelessness, motion, boundarylessness, transcendence, and increased imagination experienced during pleasant guided imagery. Sixty subjects were randomly assigned to experience an 11-minute pleasant guided imagery tape or an 11-minute educational tape. The hypothesis that the subjects experiencing the pleasant guided imagery tape would

have lower time metaphor test scores was supported ( $p \leq 0.05$ ). The second hypothesis that the pleasant guided imagery subjects would have higher human field motion tool scores was not supported ( $p > 0.05$ ). This later resulted in the authors' questioning the validity of the human field motion tool.

Fibromyalgia research. Early fibromyalgia research was related to pain relief. Some studies compared the effects of medications such as amitriptyline, alone or in combination with other medications. Other areas of research included sleep patterns, quality of life, self-efficacy, the results of exercise, and the use of alternative medicine for treatment of fibromyalgia .

Carette et al. (1994) confirmed that amitriptyline and cyclobenzaprine have "short-term efficacy . . . in a small percentage of patients with fibromyalgia" (p. 32). Goldenberg, Felson, and Dinerman (1986) studied the use of amitriptyline and naproxen, for their effect on fibromyalgia. Their conclusion was "that amitriptyline alone, or amitriptyline and naproxen given over a 6-week period, is an effective treatment for patients with fibromyalgia" (p.1376). A study done by Jaeschke, Adachi, Guyatt, Keller and Wong (1991) suggested that if a patient was going to benefit from amitriptyline therapy, the results would be favorable within one or two weeks of beginning the drug. One third of the 23 subjects of their study found relief from pain using amitriptyline therapy.

Schaefer (1997) studied eight women with fibromyalgia. By using diaries, the women had documented how they were living with their disease on a daily basis for a three month period. Cross-correlations revealed that significant patterns related to pain, sleep, and weather conditions existed for each woman.

Shaver et al. (1997) analyzed an existing data base to clarify the relationship of psychological distress, sleep quality, and physiological stress to the diagnosis of fibromyalgia. Ninety-seven women were included in this study using self-report from the Specific Health Symptom Questionnaire (SHSQ), somnographic sleep quality studies, a Stroop Color Conflict stress challenge test, and urine catecholamines and cortisol assays. Since this study was based on a small group of women, the authors advise caution in interpretation of the data. This study supported the researchers' postulate that early night, fragmented, lighter sleep exists in fibromyalgia sufferers, thereby creating a rationale for sleep-related hormone alterations. The authors recommend that sleep studies of people with fibromyalgia should continue.

Quality of life experiences of persons with fibromyalgia has been studied by many researchers. Jacobs et al. (1996) of the Netherlands studied the validity and nature of self-assessed symptoms among subjects with fibromyalgia and compared their results with findings reported in the United States. The correlation study compared a self-report survey of 113 consecutive subjects with fibromyalgia counting tender point scores with assessment of existing pain. These researchers concluded that the use of a self-report questionnaire for subjects with fibromyalgia is feasible and appears valid and comparable with those subjects in America. They also concluded that tender point scores and self-reported pain represent very different aspects of pain in fibromyalgia.

Buckelew, Murray, Hewett, Johnson, and Huyser (1995) studied the effects of self-efficacy of self-reported pain and physical activities among subjects with fibromyalgia. Seventy-nine subjects participated in this research by completing a Visual Analogue Scale for Pain, an Arthritis Impact Measurement Scale (AIMS), and the

Arthritis Self-Efficacy Scale. When the data were analyzed, it was noted that higher self-efficacy was associated with less pain and less impairment on the physical activities measure after controlling for demographic and disease severity measures.

Buckelew et al. (1996) studied self-efficacy before and post treatment related to a training intervention with 109 subjects. They concluded that higher levels of self-efficacy are associated with better outcomes, and may mediate the effectiveness of rehabilitation-based treatment programs for fibromyalgia.

Henriksson (1995) used qualitative semi-structured interviews to explore, analyze, and describe how women with fibromyalgia, living in two different cultural, health care, and social security settings, managed their everyday life in spite of the limitations imposed by the condition. The populations compared were 40 women, 20 from the USA and 20 from Sweden. The findings were very similar in the two nations, but differences in the medico-legal compensation systems influenced the women's opportunities to reduce working hours. Changes necessitated by fibromyalgia sufferers in respect to habits, roles, lifestyles, and ergonomic considerations were found to take time and required support from the environment. The authors concluded that more research into the consequences of fibromyalgia would be necessary to plan successful treatment and support programs.

The results of work and exercise on fatigue in fibromyalgia sufferers is another area of research. Norregaard, Lykkegaard, Mehlsen, and Danneskiold-Samsøe (1997) evaluated a steady exercise program and an aerobic dance program in treatment of fibromyalgia. Of 176 subjects invited to participate, only 38 volunteers with fibromyalgia took part in a 12 week program. Fifteen were randomly assigned to a

slowly increasing dance program three times a week. 15 were assigned to a steady exercise program twice a week, and 8 received hot packs twice a week as a control intervention. At the end of the study there was no improvement in pain, fatigue, general condition, sleep, Beck's depression score, functional status, muscle strength, or aerobic capacity in any of the groups. The authors concluded that the low percentage of volunteers, a high percentage of withdrawals, and the absence of improvement in aerobic capacity showed that there is difficulty in treating fibromyalgia with physical modalities.

Two fibromyalgia research studies using alternative medicine were reviewed. The first study was done using a meditation-based stress reduction program (Kaplan, Goldenberg, & Galvin-Nadeau, 1993). In this study 51% of the 59 subjects who completed the study showed moderate to marked improvement in symptoms when they had completed the program.

A more recent study was an interviewer-based questionnaire used to determine if alternative medicine was being used by 221 rheumatology and 80 fibromyalgia subjects (Pioro-Boisset, Esdaile, & Fitzcharles, 1996). The subjects were asked if they ever had used alternative medicine to treat their symptoms. The result of this study showed that: "(a)lternative medicine interventions were . . . being used extensively by rheumatology patients overall, and by (fibromyalgia syndrome) FMS patients in particular" (p.13).

Measurement tools. Burckhardt, Clark, and Bennett (1991) tested a new instrument, the Fibromyalgia Impact Questionnaire (FIQ), for reliability and validity in two separate studies done in 1987-1988 and 1989. The FIQ was developed using items comparable to the Health Assessment Questionnaire (HAQ) and the Arthritis Impact

Measurement Scales (ADMS) along with some unique items. The first study included 64 outpatient women diagnosed with fibromyalgia. The FIQ was self-administered weekly 7 times and an ADMS was done initially and on week 3 and 6. Thirteen of the 64 women had tender points measured on clinic visits weeks 1,3, and 6. The other subjects mailed their questionnaires to the research team. The second study used 25 women with fibromyalgia who were tested in the same manner. Results of these two studies were mixed. The ADMS was found to have construct validity for fibromyalgia patients, but content validity of the physical functioning component was problematic. Because of the lack of content validity, the FIQ was administered to 25 women. By administering both the ADMS and the FIQ, the results of these two tools could be compared for convergent construct validity. The comparison between the two samples and between the ADMS and FIQ of the samples showed consistent correlation. The authors felt that longitudinal clinical studies are needed to provide reliability of the instrument versus the stability or instability of fibromyalgia syndrome and more evidence of construct validity needs to be gathered. They suggested that the FIQ be compared to the Beck Depression and Anxiety Inventories or the McGill Pain Questionnaire.

Neumann, Smythe, and Buskila (1996) studied the measurement of tender points by two methods in children, manual palpation and dolorimetry. Dolorimetry was described by McCarty (1968) as the "quantification of articular tenderness (pain threshold)" (p. 686) with an instrument. The instrument was a spring plunger gauge with a threaded metal plate tipped with a soft rubber pad (McCarty, 1968). The foot plate of the dolorimeter was placed vertically over the body surface to be tested, and pressure was increased at the rate of 1kilogram per second until the sensation was no longer perceived

as pressure and became definite pain. The subject indicated this by saying "yes" at the time of sensational change (Neumann, Smythe, & Buskila, 1996). Using 338 healthy children, the two methods were evaluated by McNemar's test (Green, Salkind, & Akey, 1997), and by validity measures, sensitivity and specificity. The preliminary findings suggest that in children the dolorimetry threshold for defining tenderness should be 3 kilograms, and not 4 kilograms as in adults (Neumann, Smythe, & Buskila, 1996).

Schanberg, Keefe, Lefebvre, Kredich and Gil (1996) studied coping strategies and their relationship to measures of pain, disability/function, psychological distress, and pain behavior in 16 children with juvenile primary fibromyalgia (JPFS). Using the Child Version of the Coping Strategies Questionnaire (CSQ-C), the visual analogue for pain, the McGill Pain Questionnaire, the Fibromyalgia Impact Questionnaire modified for children, the Arthritis Impact Measurement Scales 2, and the Symptom Checklist-90-Revised, the researchers found that the CSQ-C may provide a reliable measure for assessing variations of coping with pain in JPFS patients. Another finding presented was that behavioral interventions aimed at increasing the perception of pain control may be beneficial in treating JPFS.

Effectiveness of therapeutic touch. The study of the effectiveness of TT has been built on the research of Dorothy Krieger (1974, 1976). Krieger's work inspired research into descriptive studies (Green, 1996; Sneed, Olson, & Bonadonna, 1997) of the experience of giving and receiving TT. Green (1996) found the central theme of the study was the process of reflection-in-action. By providing a description of the TT interaction, the facilitator was able to expand and develop the knowledge and skills of TT. Green was then able to "analyze this information in a more critical way through

reflective thinking" (p.122). The reflective thinking enabled the author to appreciate the appropriateness of using the abstract concepts and theories of Rogers' (1994) as a conceptual framework for therapeutic nursing practice.

In the second study, Sneed, Olson and Bonadonna (1997) explored the experience of TT from the point of view of novice recipients as the basis for their study. Using the transcripts of 11 female graduate students, five categories were consistently found. The categories were "relaxation, physical sensations, cognitive activity, emotional (feelings), and spiritual transcendent" (p. 243). The authors concluded relaxation and physical sensations happened in initial TT treatments and that the deeper, spiritual feelings came after receiving subsequent TT.

Quinn (1983) examined the effects of TT on cardiac patients immediately post-op, following open heart surgery. The sample was composed of 37 men and 23 women hospitalized in a cardiovascular unit of a medical center. Using a self-evaluation questionnaire pre and post test to measure anxiety, the subjects were randomly assigned to receive non-contact therapeutic touch (NCTT) or no contact (NC). The hypotheses that there would be a greater decrease in post-test state anxiety scores in subjects treated with NCTT than in those treated with NC was supported ( $p= 0.0005$ ).

Similarly, the effects of TT on anxiety was also studied by Simington and Laing (1993). One hundred five volunteer elderly residents from long term care facilities were randomly divided into three groups. The first group received TT, control group 1 received a back rub from a TT trained facilitator who made a conscious effort not to center or transfer energy by silently counting backward from 100 by threes, and control group 2 received a back rub from a nurse without knowledge of TT. The Spielberger-



State-Trait Anxiety Inventory (STAI) was used to measure anxiety only after the treatment. The group which received TT had the lowest STAI scores. The STAI scores of control group 1 fell midway between the other two scores. Control group 2 had the highest STAI scores. Using the data from a one-way analysis of variance (ANOVA), a significant difference resulted among the groups. A post-hoc Scheffe test was used to determine which groups were significantly different. The group which received TT showed a significantly lower anxiety score than control group 2 who received a back rub from a non-TT provider. No significant difference in STAI scores was demonstrated between control groups 1 and 2. There was no significant difference between the group which received TT and control group 1. The researchers speculate that once a person has developed the ability to transfer energy through TT, it might be impossible for them to discontinue the process at will.

Heidt (1990) did a qualitative analysis of nurses' and patients' experiences of TT. Seven nurses experienced in TT and 7 patients willing to be observed and interviewed were co-participants in this study. One TT treatment was observed between each nurse and one co-participant. Continuous notes were made of all verbal and nonverbal

expressions and all body movements of both nurse and patient. Verbal and nonverbal interactions before, during and after treatment were written. The experiences of the nurses and patients in this research were found to support all the phases of treatment described by Krieger (1979). The experiences were found to open the flow of the Universal Life Energy through the phases of quieting, affirming, intending, attuning, planning, unblocking, engaging, and enlivening.

Meehan (1993) used Rogers' science of unitary human beings as a framework for her study of the effect of TT on postoperative pain. The study was a single trial, single-

blind, three-group design in which 108 postoperative subjects received TT, a placebo control intervention mimicking TT, or a standard analgesic. The results did not support the hypothesis that TT would significantly decrease postoperative pain ( $0.05 < p < 0.06$ ). Secondary analysis did suggest that TT may decrease patients' need for analgesic medication, but further research will be necessary to confirm that hypothesis.

A study by Susan D. (Eckes) Peck (1996) supports the need for research into the use of TT with fibromyalgia. Dr. Peck examined the effect of TT or progressive muscle relaxation (PMR) on 82 non-institutionalized elderly subjects with degenerative arthritis. The subjects measured pain and distress before and after treatments using a visual analogue scale (VAS). The results of Dr. Peck's study were that both TT and PMR reduced pain and anxiety from baseline after the first administration of either treatment. Further decreases were seen after each subsequent treatment.

Rosa, Rosa, Sarner, and Barrett (1998) tested the ability of therapeutic touch practitioners to tell which hand was closer to the hand of a nine-year-old girl. The 21 TT practitioners were able to identify the correct hand 44% of the time in 280 trials, when the girl used a screen and chose the hand by flipping a coin. The result was considered to be no better than chance.

Gordon, Merenstein, D'Amico, and Judgens (1998) studied the effects of therapeutic touch on patients with osteoarthritis of the knee. A single-blinded randomized control trial was used in a family practice center of a community hospital family practice residency program in Pennsylvania. Twenty-five patients completed the study. In spite of the small number of subjects in the study, significant differences ( $p < .05$ ) were found in improvement in function and pain for subjects who received therapeutic

touch. The function and pain were measured using the West Haven-Yale Multidimensional Pain Inventory (MPI), the Stanford Health Assessment Questionnaire (HAQ) and two visual analogue scales to measure pain and well-being.

Summary and implications for study. Much research has been done on medications used for relief of fibromyalgia pain. Very little research has been found using alternative therapies in fibromyalgia treatment. The field of alternative medicine in general, and therapeutic touch in particular, is increasingly accepted by both the medical community (Williams, 1996) and fibromyalgia sufferers (Pioro-Boisset, Esdaile, & Fitzcharles, 1996) for reduction of symptoms. Many people with fibromyalgia can not, because of adverse reactions, or will not, for personal reasons, use pharmacological treatment for relief of their symptoms (Williams, 1996).

No research was found by this author using TT in the treatment for relief of symptoms in fibromyalgia. This study has examined the effects of TT on perception of pain in patients suffering with fibromyalgia.

### Hypothesis

The following hypothesis has been tested in a sample population of women diagnosed with fibromyalgia:

One hour after starting TT by a facilitator, fibromyalgia sufferers will have a lower pain score on the VAS compared to the pain score before the administration of TT.

### Operational Definitions

Therapeutic touch is an intervention in which the facilitator assumes a meditative form of awareness and uses her hands (with no physical contact) to pattern the mutual facilitator-subject-environmental energy field process (Heidt, 1990; Meechan, 1990;

Quinn. & Stralkauskas. 1993). The technique outlined by Krieger (1997) was used (Appendix B).

Fibromyalgia is a common, chronic painful syndrome characterized by generalized musculoskeletal pain in association with the presence of multiple tender points at characteristic locations (Carette et al., 1994; Williams, 1996).

Pain is an unpleasant sensory and emotional experience arising from actual or potential damage (Rothenberg, & Chapman, 1989). Pain will be measured by self-report of pain on visual analogue scales (VAS) for pain intensity.

Facilitator is the person performing the TT. (The facilitator was also the investigator of the study.)

Chapter III  
METHODS

Research Design

A quasi-experimental single-subject design in which subjects functioned as their own control (Polit & Hungler, 1995) was used for this study. A pre and post test was administered at the time of each intervention.

Sampling

A sample of 10 female subjects meeting the following criteria were selected: 1) medical diagnosis of fibromyalgia as defined by the American College of Rheumatology (1990). 2) age 18 to 60 years. 3) speak English. 4) read English at a 6<sup>th</sup> grade level. and 5) live within an 80 mile radius of a mid-western rural setting. Each subject received 5 treatments at weekly intervals. All of the subjects were white females.

Statistics analyses are listed on Tables 1 and 2.

Table 1

Demographic Statistics

Group	<u>n</u>	<u>M</u>	<u>SD</u>	<u>Range</u>
Age*	10	44.5	7.8	23 (36-59)
Education*	10	12.6	2.9	12 (8-20)
Fibromyalgia**	10	65	25.4	78 (18-96)

\*length of time in years

\*\*length of time in months since initial diagnose with fibromyalgia by a rheumatologist

Table 2

Marital Status & Comorbid Diseases

<u>Group</u>	<u>Type</u>	<u>n</u>	<u>Percent</u>
Marital Status	Single	1	10
	Married	6	60
	Divorced	3	30
Comorbid Diseases	None	2	20
	1	2	20
	2	1	10
	3	4	40
	4	1	10

Thirty percent of the sample smoked tobacco and 50% stated that they drank alcoholic beverages.

Setting

Five TT treatments were done in each subject's home at a time of her convenience. Six subjects, to reduce the influence of analgesic medicines, chose to receive their TT treatment in the early morning, before any medication had been taken. Three other subjects chose to have their TT treatments in the evening, having not taken any analgesic medication for eight hours before the TT. One subject was not taking any pain modifying medicine and chose to have her TT treatment in the evening. Each subject sat in a chair in a quiet room without background music, noise, or other distractions.

## Instruments

A visual analogue scale (VAS) was administered to each subject just prior to and 45 minutes after the completion each TT treatment. The VAS was a 100 mm vertical line with endpoints that are anchored by No Pain and Unbearable Pain (Bradley, 1993; Huskisson, 1974; Peck, 1997)(Appendix E). Subjects responded to the VAS by putting a mark at the point along the line that best represented the intensity of their pain at that time. The scale was scored by measuring the distance from the lower endpoint to the mark made by the subject. The distance represents the quantitative measure of the subject's pain (Bradley, 1993).

Clarke and Spear (1964) used a VAS to measure well-being. They concluded that the VAS was both reliable and sensitive. Berry and Huskisson (1972) tested the VAS against a graphic method of pain severity reporting. In their study the VAS was found to have a uniform distribution, while the graphic ratings were neither normal nor uniform. After evaluating these tests, along with others, Huskisson felt that the VAS "is the most sensitive method for measuring pain" (p. 1128).

Another test of the VAS reliability was conducted by Ferraz et al. (1990) using test-retest with Brazilian patients with rheumatoid arthritis. The reliability coefficients of three measures taken were quite similar ( $r=0.90-0.96$ ) with literate patients and  $r=0.71$  with illiterate patients.

VAS validity has been tested among persons with arthritis as a component of pain measure of the Arthritis Impact Measure Scales (AIMS) (Meecham, Gertman, & Mason, 1980). Validity has also been examined by Gaston-Johansson and Gustafsson (1990) in association with joint counts among patients with rheumatoid arthritis. In both studies the

VAS was found valid for measuring the pain of arthritis.

The other instruments used for the study were a demographic information sheet (Appendix D) and a general health history (Appendix J). The demographic tool asked for subject's age, racial orientation, marital status, educational background, and how long they had been diagnosed with fibromyalgia. The health history questionnaire asked if the subject smokes, drinks alcoholic beverages, or has any of a number of co-morbid illnesses.

### Procedure

This research was conducted using a convenience sampling of 10 female subjects diagnosed with fibromyalgia. The volunteer subjects were recruited by placing an advertisement in the local newspaper (Appendix B).

Upon receipt of addresses from each prospective participant, an invitation to participate (Appendix A, p. 38) was mailed to her.

All subjects who volunteered to participate in the study met the criteria for subject selection. The subjects were provided with a detailed description of the TT protocol (Appendix A). After the research was explained, subjects were asked if they had any questions. They were also informed that they could decline to participate at anytime during the research period. They were further informed that refusal to participate in this study would in no way affect their relationship with Grand Valley State University, their primary health care provider, or any other organizations.

A copy of the TT protocol (Appendix K) was given to each prospective subject to read and a tape demonstrating TT was shown to all prospective subjects at the first meeting with the facilitator (Quinn, 1997). The time for the first TT session was to be selected by the subject. An informed consent was signed, demographic instrument



completed, and general health history filled out at this first meeting. The protocol for TT was adapted from the works of Meechan (1992), Malinski (1993), and Peck (1996).

The preliminary VAS was explained in detail. Each subject was asked to fill out a VAS upon arising each morning for three days, date the sheet, and place the response into an envelope provided. Then each subject was asked to sit down and rest for 15 minutes, fill out another VAS, date it and annotate that it is number 2 for that day, and place it into the same envelope. Since most fibromyalgia sufferers are very stiff in the early morning, this process was suggested to control for placebo effect.

Before the beginning of the first treatment, the facilitator collected the trial VAS from the subject. The subjects were asked about any particular changes in her fibromyalgia which occurred since the trial VAS (Appendix H) was filled out. Such information assisted the facilitator in directing the treatment. With each subsequent treatment, the facilitator asked the subject if there were any changes in the subject's health, fibromyalgia or functional ability since the last treatment. Each subject was asked if she had filled out the pre test for that day, dated the sheet, and placed it into the envelope.

A brief reminder of what would occur during treatment was given at the first treatment and subsequent treatments. Any questions about the protocol were answered. The facilitator told the subject that she would be focusing her attention on her hands and would not be talking during the treatment except to validate a finding or to answer a specific question the subject had about the treatment. Otherwise the subject was asked not to talk to the facilitator. The subject was reminded that if she became too tired to continue the treatment, she need only to raise a finger to obtain the attention of the facilitator and

end the session. Only one TT treatment was ended before the expected time for this reason.

Next, subjects were settled into a comfortable chair in the room chosen for the TT. The room was quiet. The subject did not disrobe, as the TT treatments are done over clothing.

The facilitator centered herself by shifting her awareness to an inner focus, a center of calm and balance, through which the facilitator perceived herself and each subject as unitary wholes. The facilitator's attitude became one of clear, gentle, and compassionate attention to each subject and of knowledgeable participation in health patterning to help each subject, but detached from any personal feelings or emotions.

The assessment of each subject's energy field was made. The facilitator assessed for openness and symmetry of the flow of energy. The facilitator held her hands with the palm facing each subjects, two to six inches from the body. The hands of the facilitator were moved from above the head toward the feet in a smooth, light movement, while remaining attuned to each subject's condition by perceiving the pattern of energy flow and areas of imbalance or impeded flow, to which the treatment phase was subsequently directed. The initial assessment took about 30 seconds. Subsequent assessments were made throughout the intervention in similar fashion.

The assessment was occasionally shared with each subject if the facilitator had questions, or if the facilitator needed to validate a finding. No other conversation occurred during the treatment except to validate findings in the energy field with each subject. For example, if the facilitator felt an energy disruption over a knee joint, she might have asked the subject about problems the subject may have had with that knee.

Deliberative mutual patterning (smoothing, mobilizing, and redirecting energies) followed the initial assessment. The facilitator moved her hands in gentle, sweeping movements, from the midline of the subject's body outward, and from the head moving to the feet, one or more times, knowingly participating to dissipate areas of imbalance and to open areas of impeded flow. When the facilitator reached the feet with the first sweeping motions, the facilitator noted whether there was an open flow of energy in the legs and feet. If there was no or diminished flow, the facilitator would continue moving her hands over the legs and feet to assist energy flow through the bottoms of the feet. The facilitator knowingly patterned areas where perceived imbalances or impeded flow were assessed, and moved her hand repeatedly through these areas to achieve balance. At any point in the treatment where the facilitator felt congestion of energy clinging to her hands, she shook her hands gently into the air, then proceeded with the treatment. An image of opposite sensation was patterned into the areas of imbalance or impediment: coolness was patterned into areas of heat, smoothness into areas of congestion, fullness into areas of deficit. A sensation of smoothness and balance, and rebound of energy into the hands of the facilitator was noted as a sign that patterning was complete. When the facilitator felt the subject's energy was balanced, the final step of patterning energy over the solar plexus area was done. Energy was patterned over the solar plexus, just above the umbilicus, until rebound of the energy was felt by the facilitator. The length of the treatment was 14 to 16 minutes, but occasionally varied with the individual subject's needs. At the end of the treatment, the subject was encouraged to rest for five minutes before getting up. The facilitator and subject shared what each sensed during the treatment.

If the subject asked questions, the facilitator answered them, but offered no other

information beyond the direct question(s) asked. If the subject asked any questions not directly related to the treatment, the subject was directed to her health care provider. No teaching occurred.

The subject was reminded to complete the post test, date it, and place it into the envelope provided for that purpose. The TT procedure was repeated on five separate occasions with each subject.

After the five TT treatments had been completed, subjects returned the completed VAS forms in a stamped addressed envelope for processing by the researcher.

### Human Subjects

There was little risk of physical harm to the subjects, since in TT the facilitator does not actually touch the subjects. The subject could have lost his/her balance and fall from the treatment chair, but this was monitored by the facilitator for prevention. The following areas of risk were considered:

- 1) The subject could become over tired, so the facilitator watched for signs of fatigue and if fatigue occurred, would discontinue the intervention immediately. Subjects were instructed to signal with a raised finger to alert the facilitator to finish the therapy quickly.
- 2) There could have been differences in methods of providing TT by different providers, so only one facilitator (the investigator) was used, and could assure that the exact same procedure each time.
- 3) Subject bias was controlled by using subjects unknown to the facilitator.
- 4) Facilitator bias was controlled by using a facilitator unknown to the subjects.
- 5) The facilitator was a nurse trained in TT. The investigator was this same person. In

order to reduce bias, the data analysis was done by a statistician from Grand Valley State University.

## Chapter IV

### RESULTS

The purpose of this study was to examine the effects of TT as an alternative to drug therapy in reducing the symptoms of fibromyalgia. It was hypothesized that one hour after each TT treatment was started by the facilitator, fibromyalgia sufferers would have a lower pain score on the VAS compared to pain score before the administration of TT.

Verification of diagnosis was received from the rheumatologist or other health care professional who originally diagnosed each of the subjects in the study. Five TT treatments were given to each of the subjects. The pre and post test VAS forms were filled out at the time of the treatments. The completed VAS forms were mailed to the investigator. The VAS scores (Appendix E) were measured carefully in millimeters for use in the analysis table.

The Statistical Package for the Social Studies (SPSS) was used to analyze the data collected in this research study. The data were analyzed using repeated measures ANOVA. Repeated measures ANOVA allowed the data to be analyzed to see if TT makes a significant difference in pain levels from pre to post treatment. Repeated measures also analyses the data to see if there is a difference in pre test data and post test data over time. The alpha for accepting the hypothesis that fibromyalgia sufferers had

lower pain scores 45 minutes after receiving TT was significant at  $p=0.05$ .

Statistical analysis of the pre and post test data is presented on Table 3. The results of the subjects' pre and post-test scores were grouped for each test time.

Table 3

Pre and Post Test Data

Group	Test Number	M	SD	Range	Minimum*	Maximum*
Pre Test	1	65.1	26.0	74	26	100
	2	51.3	24.8	68	18	86
	3	60.8	25.1	79	21	100
	4	51.2	24.1	72	22	94
	5	52.5	25.5	76	20	96
Post Test	1	46.6	19.4	73	13	86
	2	45.0	21.0	65	7	72
	3	46.0	21.9	80	9	89
	4	38.9	20.9	77	14	91
	5	36.6	20.2	70	12	82

\*measured in millimeters

As seen on the table the range of the pre tests was 72 (18-100) and of the post test was 82 (9-91). The average of the pre test means was 56.2 and of the post test was 42.6. The average standard deviation of the pre and post tests were 25.1 and 20.7 respectively.

The analysis of the data showed a significant difference between pre and post test scores with  $F(9,1)=9.35$ ,  $p=0.01$ . This supports the hypothesis that the subjects had lower pain scores one hour after the start of a TT treatment.

Table 4 is a graph of the mean results of the VAS. Numbers 1,3,5,7,and 9 represent the pre-tests and 2,4,6,8,and 10 represent the post-tests in time sequence order.

Table 4

Graph of VAS Results

---

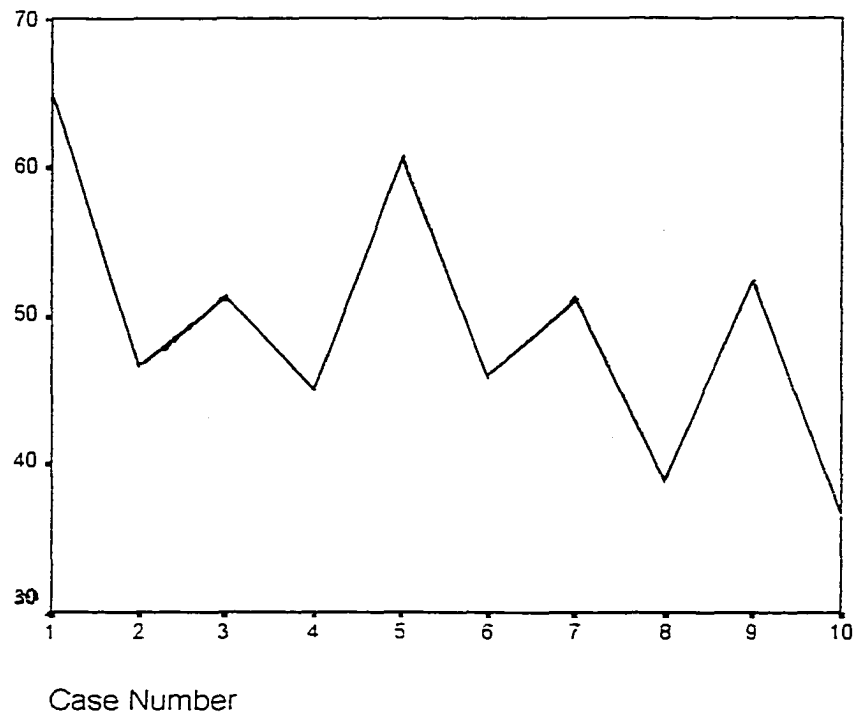


Table 4 shows that the pain increases again before the next TT treatment. This data displays an additional finding of interest. Within the group over time there was no difference in perceived pain.  $F(36.4)$  with  $p=0.17$ . The subjects experienced a significant change in pain after each treatment, but there was no difference in the pre test pain levels over time. This means that although the pain decreased after TT, the relief did not last over the time interval between treatments, but returned to pre test levels before the next treatment was given.



## Chapter V

### DISCUSSION AND IMPLICATIONS

#### Discussion

This study supports previous research on the effects of TT on pain such as post operative pain (Meechan, 1993; Quinn, 1983) and osteoarthritis (Peck, 1996; Gordon, Merenstein, D'Amico, & Judgens, 1998). By decreasing the pain of the subjects, the facilitator illustrated Rogers' (1990) principle of resonancy redirecting or rechanneling the subject's energy into a more organized or healthy pattern (Peck, 1996). The pain felt by the subjects in these studies was decreased.

The purpose of this study was to examine the effects of TT as an alternative to drug therapy in reducing the symptoms of fibromyalgia. The symptom studied was pain. The result of this study show that TT can decrease the pain associated with fibromyalgia. Whether the relief from TT is sufficient enough to allow a fibromyalgia sufferer to stop taking analgesic medication, is a question not answered. TT did decrease pain for a limited time interval.

The repatterning of energy fields between the facilitator and the subject was not sufficient to maintain the integrity of the human energy field (Mulloney & Wells-Federman, 1996). The facilitator was not able to repattern all of the disrupted energy flow in the subjects (Kreiger, 1979). Whether this was because

the facilitator was a novice practitioner of TT (Sneed, Olson, & Bonadonna, 1997), or some other lack of communication within the open energy fields can only be speculated. The facilitator may not have been able to rechannel all of the subject's energy into a more organized, healthier pattern (Peck, 1996).

This study has added to the growing volumes of research into the use of alternative therapy for the treatment of symptoms of fibromyalgia (Kaplan, Goldenberg, & Gavin-Nadeau, 1993; Piro-Boisset, Esdaile, & Fitzcharles, 1996). The findings of this study support the continuation of research into alternative therapy for pain reduction in fibromyalgia and other illnesses characterized by chronic pain.

#### Limitations

The major threats to internal validity in this study were placebo effect, Hawthorne effect (Polit, & Hunger, 1995) and desire to please the facilitator. Placebo effect may have changed a subjects' perception of her pain and fatigue over time. In order to control for this threat, subjects were asked not to take any medication, including herbal and other over the counter medications, in the morning before TT was performed or within 8 hours preceding the treatment. Also the 3 initial VAS (Appendix H) recorded by the subjects were done upon arising and then again after resting for 15 minutes. They were also asked not to begin any new therapeutic milieu during the research period. Maintaining a consistent therapeutic regimen prevented the potential effects of new medications, different exercise programs, and altered sleep patterns. All ten subjects answered that they had not taken analgesic medication before the TT was performed.

The Hawthorne effect was not controlled. Possible suggestions would have been to change the design of the study to one with a control, mock therapeutic touch (MTT), and TT.

The desire to please the facilitator was controlled by having the pre and post tests on separate sheets of paper. The pre test VAS was dated, completed, and placed in a collection envelope before the TT began. This reduced the chance of bias by insuring the subject did not see the line drawn on the VAS pre test thus prejudicing the subject to make the line in a different place for the post test.

The external threats to validity included history, treatment, and experimental effect. Subject's pain and fatigue could have been influenced by changes in the weather, personal changes in activities of daily living, or psycho-social events that occur during the research period. The subjects were asked not to do any strenuous physical activity during the treatment periods. One subject related that she felt so much better after the first treatment that she spent the following day cleaning her whole house. She hurt so much the next two days she could hardly move. She stated that she did not do this again, and understood why she had been advised not to change her activity level. The weather and psycho-social events such as illness of a family member could not be controlled and were possible limitations of the study. Another subject had a major stressor occur with two family members becoming gravely ill. She missed 2 TT sessions and had to be rescheduled.

Another limitation of this study is that the TT treatments were not given on 5 consecutive days. Most treatments were done on a weekly basis to fit into the

subjects' schedules. Some of the TT treatments were done 2 days in a row, but no subject received 5 treatments on consecutive days.

Poor short term memory, a symptom experienced by some fibromyalgia sufferers (Williamson, 1996), limited this study because two subjects forgot to mail in their results. A telephone call from the investigator prompted them to send their envelopes. The local mail service also limited the study because it sometimes took the envelopes 2 weeks to be delivered.

One subject of this study expressed concern about her ability to receive TT from a professional if she found TT beneficial. In the rural setting where this study took place there are only three TT facilitators, and only one does TT on a professional level.

#### Implications

This study supports previous studies (Quinn, 1983; Meechan, 1993; Peck, 1996; Gordon, Merenstein, D'Amico, & Judgens, 1998) concluding that TT decreases pain. The subjects experienced a decrease in pain after the TT treatments.

Any nurse who has learned TT can use it to help a client to reduce pain. It can be used in the hospital, clinic, home setting, or anywhere the client and nurse feel comfortable. TT can be a valuable addition to each nurse's knowledge and skills. TT is being taught as a part of many nursing programs. TT practitioners are found in health care facilities where alternative therapy is being offered.

More research into the many uses of TT, especially for reduction of chronic pain, is needed. Some areas which would be valuable are discussed in the

following section.

### Recommendations

This study was limited by its small size. Since only ten subjects were used for this study, it would not be advisable to consider its conclusion alone. A larger group of subjects, receiving more than five treatments, would strengthen the study. A longitudinal study of subjects with fibromyalgia who continue to receive TT for a longer period of time on a regular basis has been considered. A larger sample size would strengthen this type of research study. A study of this type could be conducted in several ways. The subjects could receive TT daily for a specific length of time, or the TT could be done once a week. Another possible study would be daily TT treatments for 2 weeks, then reduce to every other day for 2 weeks, and continue to reduce frequency.

### Summary.

The effect of therapeutic touch (TT) on the chronic pain of fibromyalgia was the focus of this study. Ten female subjects 36 to 59 years old participated. Each subject received 5 TT treatments. A Visual Analogue Scale (VAS) was used to score pain before and one hour after each treatment was started. A significant difference was found between the pre and post test scores [ $F(9, 1)=9.35, p=0.01$ ]. An additional finding of the study was that over time there was no significant difference in perceived pain [ $F(36, 4)=1.71, p=0.17$ ]. Pain returned to pre-test levels before the next treatment was given.

## APPENDICES

APPENDIX A

## APPENDIX A

### Research Protocol

#### Invitation to Participate

You are invited to participate in a research study to determine if Therapeutic Touch is effective in decreasing pain in persons with fibromyalgia.

Therapeutic Touch is a nursing therapy that is used to balance the energy field around the body. The treatment is done without touching. The nurse holds her hands about 2-6 inches from the body. Research has found that Therapeutic Touch is effective in reducing certain types of pain, decreasing anxiety, and facilitating healing.

If you have been diagnosed with fibromyalgia and are interested in participating, please call me to get further information to enter this study. There is no cost to you to participate, and you may feel better after participating. You will be free to withdraw from the study at any time.

A video tape showing a Therapeutic Touch treatment is available for you to view before participation begins (Quinn, 1992).

Sincerely,

Lois Christian Masters Candidate, RN  
home phone 616-898-3155



When a possible subject is identified, the facilitator will arrange for an initial visit with the subject. At this time any questions which the prospective subject has will be answered. Other items to be discussed at this time are:

- 1) A general health history will be discussed (Appendix J).
- 2) The demographic questionnaire will be shown (Appendix D).
- 3) The VAS will be explained in detail. A preliminary VAS (Appendix H) will be completed by the subject for three days before the actual treatments begin. The reasoning behind the pre and post treatment VAS will be explained and any questions will be answered.
- 4) A copy of the Therapeutic Touch Protocol (Appendix K) will be given to the subject, and a video tape of a TT demonstration will be shown to the prospective participant. Any further questions will be answered.
- 5) The place where the TT treatments will be performed will be discussed, and a place of convenience decided upon. This place will be in a room in which the environment can be controlled to obtain subdued light and a quiet atmosphere.
- 6) The informed consent will be read, discussed, and signed by the subject (Appendix C).
- 7) An appointment for the first TT treatment will be arranged.

APPENDIX B

APPENDIX B

Newspaper Advertisement

ATTENTION: WOMEN WITH FIBROMYALGIA

You are wanted to participate in an alternative pain reduction study conducted by a graduate student in Nursing. Interested persons please contact Lois Christian at (616) 898-3155.

APPENDIX C

## APPENDIX C

### Informed Consent

I understand that this is a study of the effects of therapeutic touch in reducing the pain of fibromyalgia sufferers and that the knowledge gained is expected to help nurses and physicians to provide health care in a manner which will be responsive to the needs of people with fibromyalgia.

I also understand that:

1. Participation in this study will involve five one hour treatments within the next 3 months. I will need to complete a Visual Analogue Scale one hour after beginning each treatment.
2. That I have been selected for participation because I have been diagnosed with fibromyalgia.
3. It is not anticipated that this study will lead to physical or emotional risk to myself and it may be helpful to receive this treatment.
4. The information I provide will be kept strictly confidential and the data will be coded so that identification of individual participants will not be possible.
5. A summary of the results will be available to me upon my request.

I acknowledge that:

"I have been given an opportunity to ask questions regarding this research study,

and that these questions have been answered to my satisfaction.”

“In giving my consent, I understand that my participation in this study is voluntary and that I may withdraw at any time using the postcard provided by Lois M Christian, RN, BSN, without affecting the care I receive from my health care provider.”

“The investigator, Lois M. Christian, RN, BSN has my permission to verify my diagnosis of fibromyalgia with my health care provider (Appendix I).”

“I hereby authorize the investigator to release information obtained in this study to scientific literature. I understand that I will not be identified by name.”

“I have been given the phone numbers of the researcher and the chairperson of the Grand Valley State University Human Research Review Committee: Lois M. Christian, RN (616) 898-3155 and Paul Huizinga (616) 895-2472 respectively. I may contact them at any time if I have questions.”

I acknowledge that I have read and understand the above information, and that I agree to participate in this study.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

I am interested in receiving a summary of the study results.

APPENDIX D

APPENDIX D

Demographic Instrument

Demographic Data

Please answer the following questions about yourself:

1. What is your age? \_\_\_\_\_
2. What is your racial background? \_\_\_\_\_
3. What is your marital status? \_\_\_\_\_
4. What is the highest school grade you completed? \_\_\_\_\_
5. How long have you had fibromyalgia? \_\_\_\_\_ years \_\_\_\_\_ months

Thank you for completing this questionnaire.



APPENDIX E

APPENDIX E

VISUAL ANALOGUE SCALE

VISUAL ANALOGUE SCALE

Date \_\_\_\_\_  
Pre test

Pain before Therapeutic Touch

Date \_\_\_\_\_  
Post test

Pain 1 hour after Therapeutic Touch

Worst Pain I Can Imagine



No Pain

Did you take your first analgesic  
medicine today?    Yes    No

Worst Pain I Can Imagine

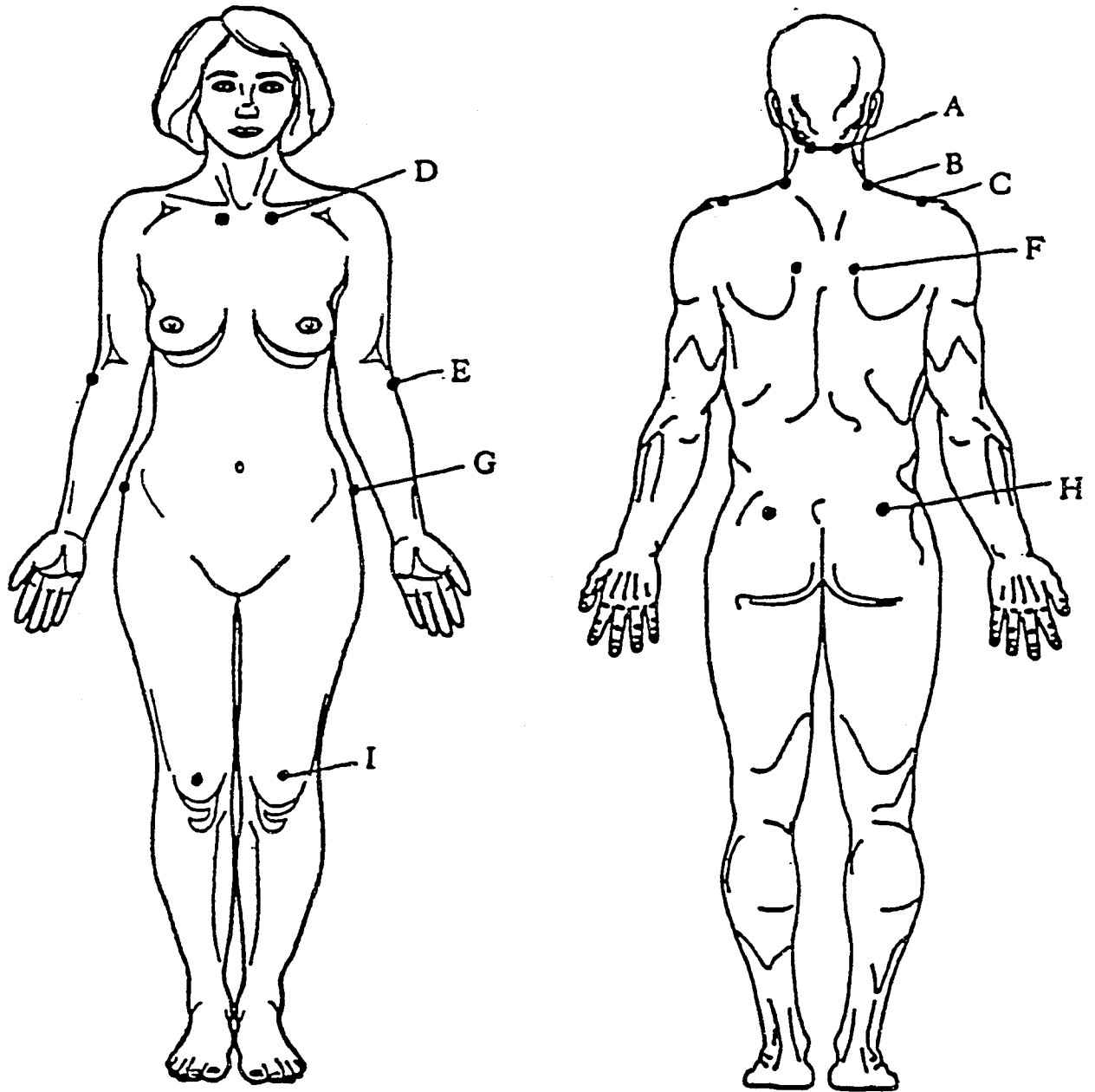


No Pain

APPENDIX F

APPENDIX F

FIBROMYALGIA TENDERPOINTS



Key on next page.

## APPENDIX F

### Description Key

Key	Lay Description	Medical Terminology
A	at the base of the skull beside the spinal cord	suboccipital muscle insertions at occiput
B	at the base of the neck in the back	lower cervical paraspinals
C	on the top of the shoulder toward the back	trapezius at midpoint of the upper border
D	on the breast bone	2 <sup>nd</sup> costochondral junction
E	on the outer edge of the forearm about 1 inch below the elbow	2 cm distal to lateral epicondyle in forearm
F	over the shoulder blade	supraspinatus at its origin above medial scapular spine
G	at the top of the hip	greater trochanter
H	on the outside of the hip	upper outer quadrant of buttock
I	on the fat pad over the knee	knee just proximal to the medial joint line

APPENDIX G

Appendix G

Permission to use figure on Appendix F

6223 S. Branch Road  
Branch, MI 49402  
August 18, 1998

Walker Publishing Company  
435 Hudson Street  
New York, NY 10014

Sirs:

I am working on my Master's Degree in nursing at Grand Valley State University in Michigan. As part of the graduation requirements, I am doing a research project and thesis.

I am studying the effects of Therapeutic Touch on fibromyalgia pain. I would like to include Figure 1-1 from Fibromyalgia: A comprehensive approach (page 10) by Miryam Ehrich Williamson in the appendix of my thesis.

May I have your permission to do so. If permission is also needed from M. E. Williamson, could you send her address in return mail.

This letter will become an appendix in the thesis.

Thank you for your cooperation.

Sincerely,

Lois M. Christian, RN  
GVSU graduate student



Permission granted.  
No fee charged.  
Please credit Walker  
& the book.



Permissions manager  
8/24/98

APPENDIX H



APPENDIX H

Visual Analogue Scale

Primary Evaluation  
Upon Arising

Day 1

Date \_\_\_\_\_

Worst Pain I Can Imagine



No Pain

Visual Analogue

Primary Evaluation  
Upon Arising

Day 2

Date \_\_\_\_\_

Worst Pain I Can Imagine



No Pain

Visual Analogue

Primary Evaluation  
Upon Arising

Day 3

Date \_\_\_\_\_

Worst Pain I Can Imagine



No Pain

Visual Analogue Scale

Secondary Evaluation  
After 15 minute rest

Day 1

Date \_\_\_\_\_  
Worst Pain I Can Imagine



No Pain

Visual Analogue

Secondary Evaluation  
After 15 minutes rest

Day 2

Date \_\_\_\_\_  
Worst Pain I Can Imagine



No Pain

Visual Analogue

Secondary Evaluation  
After 15 minutes rest

Day 3

Date \_\_\_\_\_  
Worst Pain I Can Imagine



No Pain

APPENDIX I

APPENDIX I

Verification of Diagnosis

I. \_\_\_\_\_ (health care provider of \_\_\_\_\_ )  
verify that \_\_\_\_\_ has been diagnosed with fibromyalgia as  
defined by the American College of Rheumatology.

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(signature)

APPENDIX J

APPENDIX J

General Health History

Please circle yes or no in answer to these questions.

- |   |     |    |
|---|-----|----|
| 1. Do you smoke?                                | Yes | No |
| 2. Do you drink alcoholic beverages?            | Yes | No |
| 3. Do you have any of the following conditions: |     |    |
| heart trouble?                                  | Yes | No |
| high blood pressure?                            | Yes | No |
| diabetes mellitus?                              | Yes | No |
| emphysema?                                      | Yes | No |
| asthma?   | Yes | No |
| epilepsy?                                       | Yes | No |
| kidney disease?                                 | Yes | No |
| bowel problems?                                 | Yes | No |
| liver disease?                                  | Yes | No |
| osteoporosis?                                   | Yes | No |
| rheumatoid arthritis?                           | Yes | No |
| osteoarthritis?                                 | Yes | No |
| allergies?                                      | Yes | No |

APPENDIX K

## APPENDIX K

### Therapeutic Touch Protocol

The protocol for Therapeutic Touch was adapted from the works of Meechan (1992), Malinski (1993), and Peck (1996).

1. Before the beginning of the first treatment, the facilitator will collect the trial VAS from the subject. The subject will be asked about any particular changes in her fibromyalgia which have occurred since the trial VAS (Appendix H) was filled out. This will help to direct the treatment. With each subsequent treatment, the facilitator will converse with subjects as to any changes in their health, fibromyalgia or functional ability since the last treatment. The subject will be asked if she had filled out the pre test for that day, dated the sheet, and placed into the envelope.
2. The facilitator will settle the subject in the treatment room on a chair. The room will be quiet and esthetically pleasing. Since the treatments will be done in the place of subject's choice, the facilitator will make every attempt to eliminate noise and distraction in the treatment area.
3. The subject will sit in a chair.
4. A brief explanation/reminder of what will occur during treatment will be given at the first treatment and subsequent treatments. If the subject has questions about the protocol, they will be answered. The facilitator will say that she will be focusing her



attention on her hands and will not be talking during the treatment except to validate a finding or to answer a specific question the subject has about the treatment. Otherwise the subject will be asked not to talk to the facilitator. If the subject should become too tired to continue the treatment, she need only to raise a finger to obtain the attention of the facilitator and end the session.

5. It is not necessary for the subject to disrobe. The treatment will be done over clothing.
6. The facilitator centers herself. Centering is a shifting of awareness to an inner focus, a center of calm and balance, through which the facilitator perceives herself and the subject as unitary wholes. The facilitator's attitude becomes one of clear, gentle, and compassionate attention to the subject and of knowledgeable participation in health patterning to help the subject, but is detached from any personal feelings or emotions.
7. The assessment of the subject's energy field is made. The facilitator assesses for openness and symmetry of the flow of energy. The facilitator holds her hands with the palm facing the subject, two to six inches from the body. The hands of the facilitator are moved from above the head toward the feet in a smooth, light movement, while she attunes to the subject's condition by perceiving the pattern of energy flow and areas of imbalance or impeded flow, to which the treatment phase is subsequently directed.
8. The initial assessment takes about 30 seconds. Subsequent assessments are made throughout the intervention in similar fashion.
9. The assessment may be shared with the subject if she has questions, or if the facilitator needs to validate a finding.
10. No conversation will go on during the treatment except to validate findings in the energy field with the subject. For example, if the facilitator feels an energy disruption over

a knee joint. she may ask the subject about problems she may have with that knee.

11. Deliberative mutual patterning (smoothing, mobilizing, and redirecting energies)

follows the initial assessment. The facilitator moves her hands in gentle, sweeping movements, from the midline outward, and from the head moving to the feet, one or more times, knowingly participating to dissipate areas of imbalance and to open areas of impeded flow. When the facilitator reaches the feet with the first sweeping motions, she notes whether there is an open flow of energy in the legs and feet. If there is no or diminished flow, she will continue moving her hands over the legs and feet, or assist energy flow through the bottoms of the feet. The facilitator knowingly patterns areas where perceived imbalances or impeded flow were assessed, and moves her hand repeatedly through these areas to achieve balance.

12. At any point in the treatment where the facilitator feels congestion of energy clinging to her hands, she will shake her hands gently into the air, then proceed with the treatment.

13. An image of opposite sensation is patterned into the areas of imbalance or impediment, coolness is patterned into areas of heat, smoothness into areas of congestion, fullness is patterned into areas of deficit. A sensation of smoothness and balance, and rebound of energy into the hands of the facilitator is noted as a sign that patterning is complete.

14. When the facilitator feels the subject's energy is balanced, the final step of patterning energy over the solar plexus area is done. Energy is patterned over the solar plexus, just above the umbilicus, until rebound of the energy is felt by the facilitator.

15. The length of the treatment is usually 15 to 20 minutes. Treatment length will vary

with the individual subject's needs.

16. At the end of the treatment, the subject will be encouraged to rest for five minutes before getting up. The facilitator and the subject will share what each felt sensed during the treatment.

17. If the subject asks questions, the facilitator will answer the question, but offer no other information beyond the direct question(s) asked. If the subject should ask any questions not directly related to the treatment, the subject will be directed to her health care provider. No teaching will occur.

18. The subject will be reminded to complete the post test, date it, and place it into the envelope provided for that purpose.

19. After the fifth TT treatment is completed, the envelope will be mailed to the investigator.

APPENDIX L

APPENDIX L

Human Research Committee Approval



GRAND VALLEY  
STATE UNIVERSITY

1 CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

January 14, 1999

Lois Christian  
6223 S. Branch Road  
Branch, MI 49402

Dear Lois:

The Human Research Review Committee of Grand Valley State University is charged to examine proposals with respect to protection of human subjects. The Committee has considered your proposal, "*Therapeutic Touch for Treatment of Chronic Pain Related to Fibromyalgia*", and is satisfied that you have complied with the intent of the regulations published in the Federal Register 46 (16): 8386-8392, January 26, 1981.

Sincerely,

[Redacted signature]

Paul Huizenga, Chair  
Human Research Review Committee

LIST OF REFERENCES

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