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## Pain Management in Patients with Fibromyalgia

Linsey Fischer  
*University of Central Florida*

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# PAIN MANAGEMENT IN PATIENTS WITH FIBROMYALGIA

by

LINSEY F. FISCHER

A thesis submitted in fulfillment of the requirements  
for the Honors in the Major Program in Nursing  
in the College of Nursing  
and in the Burnett Honors College  
at the University of Central Florida  
Orlando, Florida

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Thesis Chair: Dr. Kelly Allred, PhD, RN-BC, CNE

## **ABSTRACT**

Fibromyalgia is a chronic widespread pain disorder that can also cause fatigue, depression, sleep disturbances, and cognitive symptoms. Because the etiology of fibromyalgia is unknown, it is difficult to treat. Research shows that medication alone is insufficient to treat the symptoms of fibromyalgia and that complementary therapies are required to fully manage this disorder. The purpose of this research was to determine what complementary therapies patients with fibromyalgia were currently using. The sample for the survey was taken from fibromyalgia support groups throughout the state of Florida. A total of 15 people diagnosed with fibromyalgia participated in the survey. The most commonly used complementary therapies included diet and relaxation techniques. The therapies that were rarely or never used were hypnotherapy, Tai Chi, and Chi (Qi) Gong. These findings provide evidence to support client education concerning the use of complementary therapies for individuals with fibromyalgia. Research with larger samples is recommended to provide further evidence of the effectiveness of complementary therapies for this patient population.

## **DEDICATION**

To my mom, thank you for encouraging to pursue my dreams. Thank you for all the love and support you give to me. I could not have done this without you. I love you, my Madre.

## **ACKNOWLEDGEMENTS**

This thesis would not have been possible without my thesis chair, Dr. Kelly Allred. Thank you for your support and guidance throughout this process.

Thank you to my committee members, Dr. Cherill Stockmann and Dr. Gerald Smith for their support and their expertise for this study.

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## **CHAPTER 1: INTRODUCTION**

In America, fibromyalgia is estimated to affect 5 million people with 80-90% of those affected being women (NIH, 2014). Fibromyalgia (FM) is a chronic widespread pain disorder that often result in fatigue, depression, sleep disturbances, and cognitive symptoms. FM can affect someone's ability to work and participate in everyday activities and relationships.

Each individual experiences FM in her or his own unique way. Each has different degrees of pain, dysfunction, and disability (Martín et al., 2014). Treatment challenges with FM are related to its unknown etiology and the wide range of symptoms patients' experience. Therefore, many patients are frustrated and unsatisfied with their FM treatments. Research shows that FM cannot be treated solely with medication and require complementary therapies (Martín et al., 2014).

Miek, Van de Vijver, Busch, Fritsma, and Seldenrijk (2012) conducted a study with 416 primary care patients to examine their use of complementary and alternative medicine (CAM). These patients were diagnosed with either osteoarthritis, rheumatoid arthritis, or fibromyalgia. Findings indicated that 86% of patients used CAM, with 71% visiting a CAM practitioner. Only 30% communicated CAM use with their general practitioner and 92% preferred a general practitioner who provided information about CAM. Many patients dealing with pain disorders want a practitioner who listens, asks about CAM, and refers to or collaborates with CAM, if necessary (Miek, et al., 2012). However, this study did not address what CAM therapies patients were actually using to manage their symptoms.

There are numerous research studies about many different complementary therapies, including yoga, cognitive-behavioral therapy, acupuncture, massage therapy, biofeedback, and even virtual reality, which show to be effective with pain management of FM (Horowitz, 2015). Lauche, Holger, Hauser, Dobos, and Langhorst (2015) examined 25 systematic reviews that investigated the effects of CAM. These included exercised-based CAM therapies, manipulative therapies, mind/body therapies, acupuncture, hydrotherapy, phytotherapy, and homeopathy. Positive results were reported for tai chi, yoga, mind/body interventions, meditation-based interventions, mindfulness-based stress reduction, hypnosis or guided imagery, and hydrotherapy. Mixed results were found for qigong, chiropractic treatments, biofeedback, acupuncture, and nutritional supplements (Lauche et al., 2015). This systematic review supports the effectiveness of CAM. However, are patients with fibromyalgia using these therapies for pain treatment? Are their health care providers recommending these therapies? Or are they using other therapies that are not research based?

Wahner-Roedler et al. (2005) conducted a survey study with 289 FM patients about their CAM use within the previous 6 months. Ninety-eight percent of the patients had used some sort of complementary or alternative therapy. They listed the top 10 therapies used and included exercise, prayer, massage therapy, chiropractic treatments, vitamin C, vitamin E, magnesium, vitamin B complex, green tea, and weight loss programs (Wahner-Roedler et al., 2005). Since this study, new CAM therapies have emerged; therefore, finding out which therapies are most effective for patients with FM will promote patient health outcomes.



## **CHAPTER 2: METHODS**

### **Design and Instrument**

A cross-sectional survey design was used for this study. The survey was electronic, voluntary, and anonymous. The survey was initially developed by Tracey et al. (2005) to determine the use of CAM among critical care nurses; however, the therapies addressed with their survey are also known to be therapies used for patients with chronic pain.

### **Human Subjects**

Approval was requested from the Institutional Review Board (IRB) at the University of Central Florida, and the study was not determined human research. The surveys were not linked with any identifying information. Participants were able to withdraw from the study at any time without penalty. There were no risk associated with the study.

### **Sample and Setting**

A convenience sample of fibromyalgia patients from Florida-based fibromyalgia support groups sponsored by the National Fibromyalgia and Chronic Pain Association were invited to participate in the survey. The survey link was sent to support group leaders for distribution to group members. Participants were required to be over the age of eighteen and be diagnosed with fibromyalgia. A total of 15 participants completed the survey.

### **Procedures**

An email with the survey link was sent to the leaders of the Fibromyalgia support groups. The leaders were asked to share the link with the other support group members. The survey was closed electronically on January 2, 2017 so data analysis could begin.

## **CHAPTER 3: RESULTS**

### **Demographic Data**

A total of 15 people with fibromyalgia completed the survey. This included 3 men and 12 women. The mean age was 57.7 with a range of 35-72 years. Participants were diagnosed with the condition for an average of 13.7 years. Twelve participants reported being White or Caucasian and 3 reported being Hispanic.

### **Quantitative Data**

Twenty therapies were listed in the survey (Appendix B). Participants most commonly reported using diet and relaxation techniques and with 8 reporting they have often tried these therapies. The least popular therapies were hypnotherapy, Tai Ci, and Chi (Qi) Gong.

Participants were asked to rate their pain before and after using each of the listed therapies that they use. More participants reported their use of diet therapy, massage therapy, and exercise in this question. Seven participants reported their pain as a 6 or higher on the 0 to 10 pain intensity scale before using diet therapy, and 4 reported pain at a 6 or higher after diet therapy. Eight participants reported their pain as a 6 or higher before using massage therapy, and 3 reported pain at a 6 or higher after massage therapy. Eight participants reported their pain as a 6 or higher before using exercise, and 6 reported their pain at a 6 or higher after using exercise. When asked how often participants used a therapy they have tried, more participants reported on their use of diet therapy, herbal medicine, exercise, and massage therapy. Of those that have tried diet therapy, 70% use it daily, 10% weekly, 10% monthly, and 10% less than once a month. Of those that tried herbal medicine, 62.5% report using it daily, 12.5% report using it weekly, 0% report using it monthly, and 25% report using it less than once a month.

## **Qualitative Data**

Participants were asked to list their medications they use to help with the pain management of fibromyalgia. Three participants listed gabapentin (Neurontin), with dosages of 100-200 mg daily, 200 mg daily, and 300 mg three times daily. Two participants used 60 mg of duloxetine (Cymbalta) daily. Two participants used 50 mg of tramadol (Ultram) daily. Two participants used 5 mg of cyclobenzaprine (Flexeril) daily. Two participants used ibuprofen (Motrin), but did not report a dosage. Additional comments made were related to trigger point and sound therapy, as one person mentioned they use trigger point therapy and another person mentioned using sound therapy as alternatives to traditional therapies to manage their pain, and these were not asked on the survey.

## **CHAPTER 4: DISCUSSION**

Diet and relaxation were the two most common therapies that survey participants reporting using. Both of these therapies are easy to educate patients about and therefore easier for the patients to implement in their daily lives. Some specific diet therapies include gluten-free diets, vegetarian diets, and adding daily nutritional supplements. Relaxation can include a wide range of activities and is very dependent on the patient. Some relaxation therapies include meditation, music, art, and deep breathing exercises. Relaxation is also easy to educate patients on and many people have a basic understanding of what relaxation is and likely find it simple to add to their routine to help alleviate fibromyalgia symptoms.

The least popular therapies used include hypnotherapy, tai chi, and Chi (Qi) Gong. These therapies require outside resources and additional expenses to integrate into their treatment plan. These therapies are also not as widely available and not as widely known. Therefore, fibromyalgia patients would be less likely to implement these therapies as compared to diet and relaxation therapies.

### **Limitations**

The sample size of the study was small and therefore, the results cannot be applied to all fibromyalgia patients. Another limitation was the method of survey delivery. Since the survey was electronic, it was not possible to be sure who was filling it out and if they understood the directions. Gathering data with the help of the researcher would have likely yielded data that was more reliable. Further information about the impact each therapy had on the patients symptoms would have been beneficial so healthcare providers could recommend therapies based on specific

symptom relief. Narrowing the number of therapies and gathering more specific data on a few might have yielded more usable results.

### **Recommendations for Practice and Education**

Knowing the popular therapies used by fibromyalgia patients provides healthcare practitioners information that can be given to their patients with this condition. Fibromyalgia and its treatment should be included in the curriculum for nurses and physicians so there is increased understanding of the condition and the options available to patients to alleviate symptoms.

### **Recommendations for Future Research**

This study should be duplicated with a larger sample size so results can better represent therapies used by people with fibromyalgia. Future research can be more limited to specific therapies most commonly used by fibromyalgia patients. For example, research can focus on the specific diet changes patients make to help with fibromyalgia pain symptoms, along with the specific impact the diet change had on symptoms. Similarly, research related to the relaxation therapies patients with fibromyalgia use could be done, and information on the impact relaxation has on their symptoms would be helpful to know. With this information, practitioners could recommend specific therapies based on the symptoms the therapies target. Comparative studies could also be designed where 2 or more therapies are studied in similar patients so that conclusions might be drawn as to whether one therapy is more effective than another.

## **CHAPTER 5: CONCLUSION**

Fibromyalgia is a difficult illness to treat due to its unknown etiology. Therefore, many patients rely on complementary and alternative therapies to help manage their fibromyalgia pain and symptoms. Results from this research found the two most common alternative therapies used by patients with fibromyalgia were diet and relaxation. These are easy for nurses to teach patients and fairly simple for patients to integrate into their daily life. Other less popular therapies were not as well-known and required more extensive understanding from the patient perspective, incurred additional expense, and required access to additional resources. Patients with fibromyalgia typically rely on alternative therapies to augment traditional medicine to relieve symptoms of this disease. Health care providers need information about the use of these therapies to relieve symptoms in fibromyalgia patients. Research is needed to support the efficacy of alternative therapies so providers have data to back their recommendations to patients.

## **APPENDIX A: UCF IRB APPROVAL**



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**  
**FWA00000351, IRB00001138**

To: **Kelly D. Allred and Co-PI: Linsey F. Fischer**

Date: **November 07, 2016**

Dear Researcher:

On 11/04/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Pain Management in Patients with Fibromyalgia
Investigator:	Kelly D Allred
IRB Number:	SBE-16-12605
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Patricia Davis on 11/07/2016 09:40:21 AM EST

IRB Coordinator



## **APPENDIX B: SURVEY**

## Demographics

1. Gender (Check one):

- Female ..... 1
- Male..... 2

2. Age in years: \_\_\_\_\_

3. How long have you been diagnosed with fibromyalgia? \_\_\_\_\_years

4. Which group(s) below best describe(s) your racial/ethnic background? (Check all that apply)

- Asian or Pacific Islander ..... a
- American Indian or Alaskan Native..... b
- Black or African American..... c
- Hispanic ..... d
- White or Caucasian ..... e
- Other or wish not to disclose ..... f

5. Circle the most appropriate column reflecting **your use of the following therapies.**

<i><b>Therapy</b></i>	<b>Often</b>	<b>Occasionally</b>	<b>Never</b>
a. Diet	1	2	3
b. Acupuncture	1	2	3
c. Herbal Medicine	1	2	3
d. Exercise	1	2	3
e. Chiropractic/Manipulative Therapy	1	2	3
f. Massage	1	2	3
g. Therapeutic Touch	1	2	3
h. Physical Therapy	1	2	3
i. Music Therapy	1	2	3
j. Behavioral Medicine	1	2	3
k. Biofeedback	1	2	3
l. Relaxation Techniques	1	2	3
m. Counseling/Psychotherapy	1	2	3
n. Hypnotherapy	1	2	3
o. Meditation	1	2	3
p. Tai Chi	1	2	3
q. Chi (Qi) Gong	1	2	3
r. Guided Imagery	1	2	3
s. Aromatherapy	1	2	3
t. Yoga	1	2	3

6. From the following therapies you use, please rate your pain BEFORE the therapy.

<b>Therapy</b>	<b>0-2</b>	<b>3-5</b>	<b>6-8</b>	<b>9-10</b>
a. Diet	1	2	3	4
b. Acupuncture	1	2	3	4
c. Herbal Medicine	1	2	3	4
d. Exercise	1	2	3	4
e. Chiropractic/Manipulative Therapy	1	2	3	4
f. Massage	1	2	3	4
g. Therapeutic Touch	1	2	3	4
h. Physical Therapy	1	2	3	4
i. Music Therapy	1	2	3	4
j. Behavioral Medicine	1	2	3	4
k. Biofeedback	1	2	3	4
l. Relaxation Techniques	1	2	3	4
m. Counseling/Psychotherapy	1	2	3	4
n. Hypnotherapy	1	2	3	4
o. Meditation	1	2	3	4
p. Tai Chi	1	2	3	4
q. Chi (Qi) Gong	1	2	3	4
r. Guided Imagery	1	2	3	4
s. Aromatherapy	1	2	3	4
t. Yoga	1	2	3	4

7. From the following therapies you use, please rate your pain AFTER the therapy.

<b>Therapy</b>	<b>0-2</b>	<b>3-5</b>	<b>6-8</b>	<b>9-10</b>
a. Diet	1	2	3	4
b. Acupuncture	1	2	3	4
c. Herbal Medicine	1	2	3	4
d. Exercise	1	2	3	4
e. Chiropractic/Manipulative Therapy	1	2	3	4
f. Massage	1	2	3	4
g. Therapeutic Touch	1	2	3	4
h. Physical Therapy	1	2	3	4
i. Music Therapy	1	2	3	4
j. Behavioral Medicine	1	2	3	4
k. Biofeedback	1	2	3	4
l. Relaxation Techniques	1	2	3	4
m. Counseling/Psychotherapy	1	2	3	4
n. Hypnotherapy	1	2	3	4
o. Meditation	1	2	3	4
p. Tai Chi	1	2	3	4
q. Chi (Qi) Gong	1	2	3	4
r. Guided Imagery	1	2	3	4
s. Aromatherapy	1	2	3	4
t. Yoga	1	2	3	4

8. Of the following therapies you have tried, how often do you use the therapy?

<b>Therapy</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>	<b>Less than once a month</b>
a. Diet	1	2	3	4
b. Acupuncture	1	2	3	4
c. Herbal Medicine	1	2	3	4
d. Exercise	1	2	3	4
e. Chiropractic/Manipulative Therapy	1	2	3	4
f. Massage	1	2	3	4
g. Therapeutic Touch	1	2	3	4
h. Physical Therapy	1	2	3	4
i. Music Therapy	1	2	3	4
j. Behavioral Medicine	1	2	3	4
k. Biofeedback	1	2	3	4
l. Relaxation Techniques	1	2	3	4
m. Counseling/Psychotherapy	1	2	3	4
n. Hypnotherapy	1	2	3	4
o. Meditation	1	2	3	4
p. Tai Chi	1	2	3	4
q. Chi (Qi) Gong	1	2	3	4
r. Guided Imagery	1	2	3	4
s. Aromatherapy	1	2	3	4
t. Yoga	1	2	3	4

9. If you take medication to treat fibromyalgia, please list them here, along with the dosage and frequency.

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**10. If you have additional comments, please write them on the open area (below) of this survey.**

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*Thank you so much for your participation*

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