

Fibromyalgia Case Analysis

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Medical Condition

This is a 27-year-old female with chronic lower back pain that began after a motor vehicle accident three years ago. The subsequent multiple pregnancies and deliveries most likely exacerbated the ongoing back pain issues. She has a sedentary lifestyle and does not exercise, follow a healthy diet, or pursue interests outside the home. She receives care both on and off post, including a civilian pain clinic. Her primary diagnosis is fibromyalgia.

Family Stressors

The patient is a spouse of an active duty member with the rank of private first class. Due to rank and Military Occupational Specialty, he has many training and deployment duties that cause family separation. She has a child from a previous marriage and is working through the expected difficulties of integrating a now blended family. Additionally, she is now separated from her extended family members and familiar support system. She took narcotics during pregnancy, which may incline her to do so again with another pregnancy and she delivered a child prematurely at 30 weeks. There are also other ongoing childcare and family issues, for which she has been prescribed Xanax as needed.

Community Support Needed

Patients with fibromyalgia already deal with stress, anxiety, and a disease that is not always understood and accepted (Fibromyalgia Fact Sheet, 2016). Support groups specific to this diagnosis can be a difficult find in suburban and rural communities around many military posts. However, with the advent of the Internet, patients can be referred to online support groups such as PatientsLikeMe.com. There are also support and resources online through the National Fibromyalgia & Chronic Pain Association and the National Fibromyalgia Association. In certain

locations, local facilities could expand their efforts with local social services or behavioral health providers to establish a local support group for these patients.

Population Health

Fibromyalgia is a diagnosis of exclusion and affects women seven times greater than men (Glennon, 2010). The malady is thought to be autoimmune in nature but is not fully understood at this point since it resides in the realms of both a physical and behavior health areas. The population health issue that is most pertinent to this disease and difficult to address is the complex nature of recognizing and treating the anomaly appropriately. Fibromyalgia only affects about two percent of the overall population (Arnold, Clauw, Dunegan, & Turk, 2012). The initial symptoms which are numbness, tingling, and pain is often treated like acute injuries with traditional medications. The history that involves episodes of insomnia, anxiety, depression, vague neurological symptoms, headache syndromes, and irritable bowel are often treated as the primary issues, instead of pieces of the very complicated puzzle (Binkiewicz-Glińska et al., 2015). Patients often fail multiple treatment regimens before providers can connect the in-depth history to the symptomology of the disease, which often does not occur until the disease is quite advanced. This situation can lead to patient dissatisfaction with treatment, poor outcomes, and increased hospitalizations (about one every three years), which adds to the already soaring costs of healthcare (Centers for Disease Control and Prevention [CDC], 2015).

Systems Challenges/Barriers

Being that fibromyalgia is a diagnosis of exclusion and affects such a small percentage of the population, patients often see several providers in various specialties over a period of many months or even years pass before a final diagnosis is made (Fibromyalgia Fact Sheet, 2012). This includes enduring multiple exams, lab tests, radiologic studies, and trials of different medications

(such as SNRIs and non-opioid analgesics) to rule out other possible disease processes (Fibromyalgia, 2015). Because it can take such a long time to diagnosis, the patient endures skepticism from medical providers and even friends and family, creating mental/social isolation and cynicism (Fibromyalgia and Isolation, 2016; Fibromyalgia Fact Sheet, 2016). In the military system, a patient may find the need to explain his or her story several times as PCMs often change due to PCS and deployment, which often creates a setback for the patient as the new provider changes the direction of the care or resorts to trying initial care the patient may have already received and which didn't work. As the patient endures the process, the story may seem to change over time, and the person may even be labeled a drug seeker as he or she seeks stronger medications to control the pain and depression. These labels only serve to hinder care.

PICO(T)

Are acupuncture and acupressure effective methods for controlling pain in fibromyalgia patients?

Literature Summary and Synthesis

Bastos, Pires, Silva, Araujo, and Silva (2013) performed weekly acupuncture on the upper body tender point of eight patients over a two-month period, measuring the pain sensitivity at each of those points both before and after treatment using a pressure algometer. The algometer results, in conjunction with patient questionnaires performed after the treatment period, indicated pain sensitivity was reduced and the overall quality of life was improved. Martin, Sletten, Williams, and Berger (2006) conducted a randomized control study on fifty patients, administering acupuncture to twenty-five people and sham acupuncture to the other twenty-five. After six weeks of treatment, they found significant improvement in reported pain on questionnaires conducted one month post-procedure.

Mayhew and Ernst (2006) conducted a systematic review of seven electronic databases and selected five RCTS to assess the efficacy of acupuncture as an effective treatment for fibromyalgia. The end results of three studies indicated acupuncture was an effective short-term treatment for pain relief, but two of the less rigorous studies showed negative results for the long treatment of fibromyalgia pain. The Langhorst, Klose, Musial, Irnich, and Hauser (2010) article was also a systematic review of nine RCTs that included over 385 patients. The study followed patients for an average of nine acupuncture treatments with follow up at weekly intervals up to week 26. The review resulted in similar results as Mayhew and Ernst (2006), in that acupuncture is not a good long-term treatment for fibromyalgia, but has definite short-term benefits for pain relief.

Fibromyalgia is difficult to diagnosis, challenging to treat, and is often treated inappropriately in the early stages. Due to the uniqueness of the individual condition and how they present on the treatment continuum, it is difficult to find a single approach to obtain pain relief for this diverse population. The results of the articles we reviewed all supported the use of acupuncture to alleviate fibromyalgia pain, even though all authors had varied results in the length of time of pain relief. With this knowledge, all options must be presented to patients seeking relief from years of debilitating pain. Even if the benefit is a short-term management technique, there is no harm in trying acupuncture as the risks are minimal and it may just bring the relief the patient seeks.

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Appendix A

Systematic Evidence Evaluation Table

Citation	Relevance to Clinical Question	Design Type	Sample / Size	Outcome Variables & Definitions	Measures	Analytical Approach	Findings	Limitations	Evidence Rating/ Level of Quality
Bastos et al. (2013)	+++	Case Series	8	IV: Acupuncture of upper body tender points DV: Symptoms of fibromyalgia	-Pressure algometer -Fibromyalgia Impact Questionnaire (FIQ) -Health Assessment Questionnaire (HAQ) -Beck Depression Inventory (BDI) -Beck Anxiety Inventory (BAI)	-Pressure algometer scores readings were done before and after each treatment -Questionnaires were completed both prior to and after all treatment period was finished	-Decreased sensitivity recorded at all 10 tender points after acupuncture was performed -FIQ, BDI, and BAI all revealed that there was a reduction in pain threshold and sensitivity, and improvement in the areas of anxiety, depression, and quality of life -HAQ showed average score was decreased, but not significantly	-Small sample size -Self-reporting -Convenience sample	IV/ C
Langhorst et al. (2010)	+++	Systematic review of RCTs	7	IV: Traditional Chinese acupuncture DV: Symptoms pain, fatigue, sleep disturbances, reduced physical function and side effects at post-treatment	- McGill Pain Questionnaire (MPQ) -Visual Analogue Scale pain score (VAS) -Fibromyalgia Impact Questionnaire (FIQ) -Healthy Days Core Module (CDC HRQL- 4)	-Calculation of standardized mean differences (SMDs) -Unit of analysis if studies had two or more control arms - Missing data points or SMDs were obtained or calculated by: a) Obtain the data from the author b) Calculated from t-values, CIs or S.E.S, if reported in the articles c) If no SMD data is available use the data in meta-analyses of acupuncture r/t chronic pain d) Use non-parametric tests (Mann-Whitney	-Moderate evidence for the efficacy of manual acupuncture in FMS -The pain reduction findings are not in line with other systematic reviews on acupuncture in FMS -The use of classical acupuncture and sham are both equally effective treatments for pain but overestimated in most studies	-The review did not consider all available studies or outcomes -Authors did not analyze all outcomes -Studies included for the review had known internal and external validity issues -The limited number of studies the heterogeneity could not be	I/ B

						<p>U-test) for the comparison of continuous variables</p> <p>e) Heterogeneity was tested using the I2-statistic with values >50%</p> <p>f) Sensitivity analyses tools were used to clarify: -(i) inadequate or unclear vs adequate sequence generation; (ii) inadequate or unclear allocation vs adequate concealment; (iii) inadequate or unclear blinding of the patient and the outcome assessor vs adequate blinding; and (iv) studies with low, moderate and high van Tulder scores.</p>		properly assessed.	
Martin et al. (2006)	+++	RCT	50	<p>IV: Traditional Chinese acupuncture</p> <p>DV: Symptoms of fibromyalgia</p>	<p>-Fibromyalgia Impact Questionnaire (FIQ)</p> <p>-Multidisciplinary Pain Inventory (MPI)</p>	<p>-Comparison of FIQ and MPI scores between both arms of the study</p>	<p>-FIQ revealed significant improvement in fatigue and anxiety in the test group when compared to the control group at both the 1-month and 7-month intervals</p> <p>-MPI revealed significant pain improvement in the test group when compared to the control group at the one-month interval</p>	<p>-Small sample size</p> <p>-Self-reporting</p>	II/ B
Mayhew et al. (2006)	+++	Systematic review of RCTs	5	<p>IV: Traditional Chinese acupuncture versus Sham acupuncture</p>	<p>- Fibromyalgia Impact Questionnaire (FIQ)</p> <p>-Multidisciplinary Pain Inventory (MPI)</p>	<p>- Comparing pre and post treatment scores r/t the relief of symptoms using a combination of survey tools (FIQ, MPI, VAS, & SF-36)</p>	<p>- FIQ showed significant improvement in all symptoms at 1 and 7-month intervals. This tool was only used in 1 study.</p>	<p>- Convenience</p> <p>Sample Bias r/t possible overstatement of the results</p>	I/ B

				<p>DV: Symptoms of fibromyalgia</p>	<p>-Visual Analogue Scale pain score (VAS)</p> <p>-SF-36 Health Survey</p>		<p>- VAS showed no significant effects in one study. Short term relief in one study and no differences in the intervention and control groups in the remaining studies</p> <p>-The SF-36 proved no significant differences were between the acupuncture and control group for any of the outcomes.</p> <p>- MPI result was only used in 1 study but the results were discussed.</p>		
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Appendix B

Evidence Synthesis Table

Article	LOE	Traditional Acupuncture	Pain
Langhorst et al. (2010)	I/B	Yes	↓
Mayhew et al. (2006)	I/B	Yes	↓
Martin et al. (2006)	II/B	Yes	↓
Bastos et al. (2013)	IV/C	Yes	↓

Note. LOE = level of evidence