

Fibromyalgia and CFS Integrative Approaches

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Nothing to disclose

Integrative Therapy Use

66-90% of patients
with FM use at least
one form of CAM

Users tend to self-
report higher pain
and disability



Boisset. *Arthritis Care Res.* 1996.
Dimmock. *Clin Rheumatol.* 1996.
Logan. *Arthritis Rheum.* 2002.

Why Do FM Patients Use Integrative Therapies?

- Limitations of conventional therapies
 - Only mild-moderate efficacy
 - Significant side effects
- Heterogenous symptomatology
 - "One size fits all" doesn't work
- Multidisciplinary approach provides superior outcomes compared to monotherapy

Noller. J Negat Results Biomed. 2003.

Integrative Approach

- Education
- Pharmacologic and biologic therapies
 - Supplements
 - Medications
- Lifestyle Approaches
 - Diet
 - Physical Activity
 - Sleep
- Integrative Therapies
 - Acupuncture
 - Bodywork
 - Energy Medicine
- Mind-Body
 - Relaxation Therapy
 - Psychotherapy/CBT
 - Spirituality

Education: A Central Principle of Integrative Medicine

- ⇒ Patient-centered care
- ⇒ Partnership between provider and patient

- Self-help groups and education are central to arthritis management guidelines... *do those benefits translate to fibromyalgia?*

Educational Approaches

- Provide a core set of information
 - Give the patient the diagnosis
 - Explain the pathophysiology mechanism in the context of the bio-psychological model
- Consequences of being diagnosed with fibromyalgia?
 - May actually improve function over 18 months in prospective studies

Goldenberg, JAMA. 2004.

Education Benefits

- Internet-Based Arthritis Self-Management Program (ASMP)
 - 70% Americans use internet
 - over 80% for health research
- 6 wks program:
 - Internet program 3x per wk for 1-2 hrs
 - + activities (reading, action plan, self-tests)
 - ASMP mirrors original small group programs
- Patients with FM had some but fewer benefits than RA or OA at 6, 12 m

Lorig, Arthritis Rheum. 2008.

Education: Best as Part of a Whole

- 207 pts RCT
 1. Aerobic + flexibility
 2. Strength training + aerobic + flexibility
 3. Fibromyalgia Self-Help Group
 4. Combination of all
- Outcomes
 - 1°: physical function
 - 2°: social & emotional function, self-efficacy
- All interventions helped but:
 - Exercise + self-ed (#4) >
 - Exercise (#1,2) >
 - Self-ed (#3)

Rooks. *Arch Intern Med.* 2007.

Integrative Therapies



Evidence for Integrative Rx and FM: *Know the Limits*

- Several systematic reviews reveal:
- Few RCTs score high on the Consolidated Standards of Reporting Trials
 - Often times only one study published on a particular Rx
 - Different outcome measures among trials
 - Small enrollment

Holdcraft. *Best Pract Res Clin Rheumatol.* 1994.
Baranowsky. *Rheumatol Int.* 2009.
Hassett. *Rheum Dis Clin N Am.* 2009.

Dietary Supplements



D-Ribose

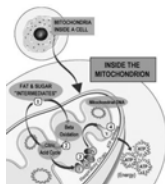


- D-ribose: naturally occurring pentose carb
- Theory: mitochondrial energy is issue
- 1 study: n=41
 - 5 grams 3x a day for a total of 280 grams
 - 66% showed significant improvement in 5 visual analog scale (VAS) categories: energy, sleep, mental clarity, pain intensity, well-being.

Tettelbaum. *J Alter Complem Med.* 2006.

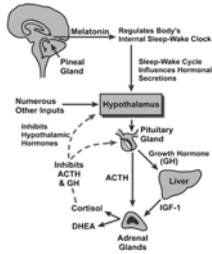
L-carnitine & propionyl-L-carnitine

- L-carnitine: amino acid
- Theory: Affects mitochondrial energy production, by supporting free fatty acid transfer across mitochondrial membrane
- 2 studies
 - 2 grams daily suggestive of benefit for general fatigue in CFS after 4-8 weeks



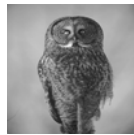
Plioplys. *Neuropsychobiology.* 1997.
Vermeulen. *Psychosom Med.* 2004.

Melatonin



- Chronobiotic drug
- Theory: CFS/FM patients often have delayed circadian rhythmicity, contributing to sleep disturbances

Melatonin



- Pilot study (n=29)
 - Melatonin 5 mg po qhs x 3 mo
 - Significant improvement in scores for fatigue, concentration, and activity in 8 patients

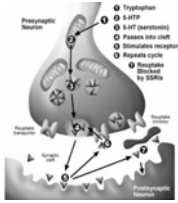
van Heukelom. *Eur J Neurol*. 2006.

S-adenosylmethionine (SAME)

- SAME: has analgesic, anti-inflammatory and anti-depressant effects
- PCT
 - 800 mg qd for 6 weeks
 - statistically significant improvements in pain, fatigue and morning stiffness, but not in tender point score, isokinetic muscle strength, or mood
- Crossover study n=17
 - reduced number of trigger points and improved scores on Hamilton and SAD scales

Tavoni. *Amer J Med*. 1987.
Jacobsen. *Scand J Rheumatol*. 1991.

5-hydroxy-tryptophan (5-HTP)



Puttini. *J Intern Med Res.* 1992; Nicolodi. *Adv Exp Med Biol.* 1996; Caruso. *J Intern Med Res.* 1990

- 5-HTP: precursor compound in the synthesis of serotonin
- Data:
 - 50-150 mg po qhs
 - Reduced number of tender points, and improved anxiety, pain, sleep, and fatigue
 - Concern? Eosinophilia-myalgia syndrome (EMS) in the 1980's from contaminated tryptophan products; but no instances of toxicity with 5-HTP

Dehydroepiandrosterone (DHEA)

- DHEA: adrenal hormone
- Theory: may work in the limbic system to regulate excitatory neurotransmission
- In some people low DHEA levels create memory impairment and decreased concentration, which improve after supplementation

Kuratsune. *Int J Molec Med.* 1998.
Himmel. *J Clin Rheum.* 1999.

Eat your M&Ms

- Magnesium and malate
- Theory: needed for ATP formation
- When low red blood cell magnesium is documented, intramuscular magnesium sulfate 1 gram weekly may improve energy levels and mood, and reduce pain

Russell. *J Int Med Res.* 1995.
Cox. *Lancet.* 1991.

Nicotinamide adenine dinucleotide hydrate (NADH)

- NADH: a coenzyme essential to the production of ATP
- Study
 - 10 mg daily NADH for 4 weeks
 - Some patients: improved fatigue, other symptoms and quality of life

Forsyth. *Ann Allergy Asthma Immunol*. 1999.

IV Micronutrient Therapy (Myers' Cocktail) for FM

- RCT; N=31 subjects; 8 weekly treatments
- Outcome measures
 - Tender Point Index (TPI), Beck Depression Index (BDI), and Health Status Questionnaire (HSQ).
- Results:
 - Improved pain, depression, and quality of life directly following intervention.
 - Effects persisted at 3 months post-intervention for pain, but not for quality of life and depression

Ali. *J Altern Complement Med*. 2009.

Dietary Soy Supplement

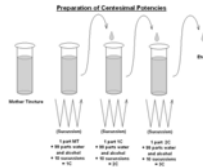


- Mayo Study 2008
- Theory: dietary soy reduces neuropathic pain in animals and reduces pain and ROM in humans with OA
- 6-week study: no improvement compared to casein placebo and high drop out rate

Wahner-Roedler. *eCAM*. 2008

Homeopathy

- 18th century- Samuel Hahnemann
- Principle
 - Principle of similars
 - Like cures like
 - Serial dilutions



Homeopathy



- Fisher et al trial on FM (n=30)
- Double selected to fit both
 - the conventional FM dx and
 - Rhus tox homeopathic category (the indicated homeopathic in 42% of patients)
- Intervention:
 - Rhus tox (tincture of poison ivy) 6C 2 tabs 3x a day for 1 month/1 month placebo
- Outcome measures:
 - Tender points, VAS of pain and sleep, overall status.
- Results:
 - All variables improved with active Rx
 - Tender spots reduced by 25% (p<0.005)

Fisher. *BMJ*. 1989.

Homeopathy: Individualization matters



- U of Arizona RPCT (n= 62 fibromyalgia pts)
- Design:
 - randomized to daily dose of an individually chosen homeopathic medicine vs placebo
 - Unique feature: first dose given by inhalation. Resulted in significant difference in the EEG readings in patients inhaling the real homeopathic medicine vs placebo
- Results:
 - Active treatment showed significantly greater improvements in tender point count and pain, quality of life, global health and a trend toward less depression

Bell. *Rheumatology*. 2004.

Nutrition

- Disease management
- Weight management



Vegan Diet

- A 3-month study in Finland
 - vegan diet consisting of fruits, legumes, seeds, nuts and vegetables
 - no coffee, tea, alcohol, sugar, salt
 - improvement: pain, sleep and overall wellness
 - symptoms returned to baseline with return to full diet

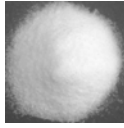


Kaartinen. *Scand J Rheumatol*. 2000.

Elimination Diet Food sensitivities

- Can contribute to fatigue, mental sluggishness, GI and GU complaints
- Options:
 - IgG testing for sensitivities (controversial)
 - Elimination diet to identify the most frequent offending foods (sugar, alcohol, dairy, wheat, eggs, citrus, soy, chocolate, coffee and artificial sweeteners and additives)

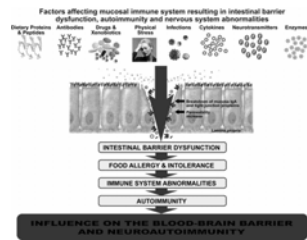
Additive Elimination



- MSG (monosodium glutamate)
 - labels as MSG, gelatin, hydrolyzed or textured protein and yeast extract
 - digested into the excitatory amino acid glutamate. Glutamate activates the NMDA receptors involved in CNS wind-up sensitization
- Aspartame
 - converted into aspartate, an excitatory amino acid that can induce pain-amplifying receptors
- Other: nitrates, nitrites, sulfites, preservatives, color/ flavor additives

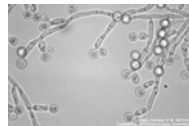
Candida Diet

- Overgrowth of *Candida albicans*, or the yeast syndrome, is a controversial diagnosis with scant scientific data



Candida Diet

- CFS study: low sugar, low yeast diet (LSLY) vs. healthy eating diet (n=52)
- Intention to treat analysis showed no statistically significant differences on levels of fatigue or quality of life.



Hobday. J Human Nutr Diet. 2008.



Exercise: Aerobic

- Graded exercise reliably shown to have benefit in CFS/FM
- Reduced number of tender points, improved sleep and sense of well-being, increased serotonin and reduced depression

Fulcher. *BMJ*. 1997.
Powell. *BMJ*. 2001.
Busch. *Cochrane Database*. 2002.

Exercise: Strength

- Muscle strengthening: free weights or elastic bands
- Improvements in pain, number of tender points, and muscle strength, as well as a decrease in the mean score on the Beck Depression Inventory
- A small number of patients experienced worsening symptoms during the study.

Jones. *J Rheumatol*. 2002.

Yoga/Tai Chi:



- 8 weekly sessions of relaxing yoga showed improvement in pain and functional assessments over time
- Tai Chi appears to benefit varied chronic conditions such as rheumatoid arthritis; a pilot study in FM is currently underway

da Silva. J Altern Complem Med. 2007.

Integrative Therapies



Acupuncture

- A 2007 systematic review: 5 randomized clinical trials met criteria for inclusion
- Two trials yielded negative results and three using electroacupuncture were positive



Mayhew. Rheumatology (Oxford). 2007.

Massage



- 5 weeks of biweekly gentle massage:
 - may lower anxiety
 - better sleep quality
 - substance P levels decreased
 - physicians assigned lower disease ratings and noted fewer tender points

Field. *J Clin Rheumatol*. 2002.

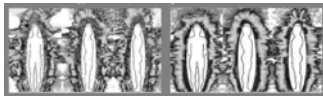
Balneotherapy



- Natural mineral water
- 4 RCTs
 - 3 showed benefit immediately after end of Rx and at F/U up to 6 months
 - 1 proved equal to pool exercise
 - Reduced pain, tender point counts, and FIQ (FM impact questionnaire), Beck depression Inventory
- Other promising areas: hydroelectric therapy and infrared hyperthermia

Donmez. *Rheum Int*. 2005; Neumann. *Clin Rheum*. 2001
Evcik. *Rheum Int*. 2001; Altan. *Rheum Int*. 2004.

Energy Healing



- Qi gong:
 - pilot study of 10 patients
 - 5-7 qigong treatments over 3 weeks led to complete recovery in 2 patients and improvements in pain, depression, and function in the rest
- Distance healing:
 - distance healing vs. wait list (n=400)
 - no effect on mental and physical health

Chen. *J Altern Complem Med*. 2006; Walach. *Psychother Psychosom*. 2008.

Energy Healing: Reiki



- Randomized sham controlled trial in which participants, data collection staff, and analysts were blinded (n=100 FM)
- 4 groups: twice a week x 8 weeks
 - Reiki master: direct touch or distant therapy
 - Trained actor: direct touch or distant therapy
- Outcome measures:
 - 1: subjective pain by VAS at 4, 8, and 20 weeks
 - 2: physical/mental function, med use, provider visits
- Results: no impact by Reiki or touch

Nassim. *Journ of Alt and Compl Med.* 2008.

Energy Healing: Magnet Rx

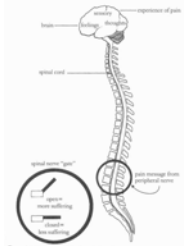
- 6 mo. study magnetic vs sham sleeping pads
- significant decrease in pain intensity in active group, non-significant trends toward improvement in FIQ scores and other symptoms

Alfano. *J Altern Compl Med.* 2001.



Melzack and Wall's Gate Control Theory

- Gating system at the dorsal horn of the spinal cord can control pain transmission from the periphery to the somatosensory cortices, neural centers that govern thoughts, emotions, and behaviors
- Explains why emotional issues worsen pain, while factors like active coping, positive affect, and social support moderate pain experience



Mind-Body Therapies



- Cochrane review:
 - 13 eligible trials on autogenic training, relaxation exercises, mindfulness meditation, cognitive-behavioral training, hypnosis, guided imagery, biofeedback, or education
- Conclusion:
 - Strong evidence for self-efficacy
 - Moderate evidence for improved quality of life
 - Inconclusive evidence for outcomes such as pain

Hadhazy. *J Rheumatol*. 2000.

Spirituality



- Individuals experiencing persistent pain often report they turn to their religion or spirituality to cope with pain.

McCaughey. *Arthritis Care Res*. 2008; Moreira-Almeida. *Curr Pain Headache Rep*. 2008.

Positive vs Negative Religious Coping

- Positive religious coping tended to be adaptive, where one looks to a higher power for comfort and guidance
- Negative religious coping is maladaptive and consists of two subtypes:
 - "Punishing God" view: saw the pain as retribution
 - "Absent God" view: felt abandoned when they most needed support

Bush. *Appl Psychophysiol Biofeedback*. 1999; Rippentrop. *Journal of Pain*. 2005.

Spirituality & Psychology

- Canadian Community Health Survey analyzed fibromyalgia, back pain, CFS & migraines in relation to spirituality
- Findings: chronic pain/fatigue sufferers who were both religious and spiritual were more likely to have better psychological well-being and use positive coping strategies

Baetz. *Pain Res Manag*. 2008.

Exploring Spirituality

- It is important to attend to patients' descriptions of how they use spiritual and religious resources to cope with pain
- Explain religious or spiritual practices can help in managing pain in several ways
 - practices such as daily prayer may serve as a distraction
 - actively participating in a religious community may provide opportunities for social or spiritual support
 - religious/spiritual practices such as meditation and prayer may create feelings of relaxation that directly alter the pain experience

First Step: ACCEPT

- A**cknowledge
- C**hronic condition
- C**hallenge
- E**ducate
- P**artner
- T**rust

Step 2: HEAL

- H**ealthy lifestyle
- E**xperiment
- A**lternative Therapies
- L**ive, love, laugh



Thank you!
