Fibromyalgia and CFS
Integrative Approaches

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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

Boswell, Arthritis Care Res. 1996,
Dinmore, Clin Rheumatol. 1996,
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


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


**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

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
  1st: physical function
  2nd: social & emotional function, self-efficacy

- All interventions helped but:
  Exercise + self-ed (#4) > Exercise (#1,2) > Self-ed (#3)


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

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.


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

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


S-adenosylmethionine (SAMe)

- SAMe: has analgesic, anti-inflammatory and antidepressant 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

5-hydroxy-tryptophan (5-HTP)

- 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


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

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


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


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)

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

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**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)

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**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

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.

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

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.

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


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

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


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


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

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


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

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.

Spirituality

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

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


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.


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

- Acknowledge
- Chronic condition
- Challenge
- Educate
- Partner
- Trust

Step 2: HEAL

- Healthy lifestyle
- Experiment
- Alternative Therapies
- Live, love, laugh

Thank you!