CAM in Review

When reading reports on new research, it is important to remember that no single study should be seen as providing the whole truth. The following reports offer helpful clues but in most cases further research is needed before firm conclusions can be drawn.

Yoga Increases Brain Levels of GABA, Correlated with Improved Mood Decreased and Anxiety

Yoga and exercise have beneficial effects on mood and anxiety. Gamma-aminobutyric acid (GABA)-ergic activity is reduced in mood and anxiety disorders. The practice of yoga postures is associated with increased brain GABA levels. This study addresses the question of whether changes in mood, anxiety, and GABA levels are specific to yoga or related to physical activity. Healthy subjects with no significant medical/psychiatric disorders were randomized to yoga or a metabolically matched walking intervention for 60 minutes 3 times a week for 12 weeks. Mood and anxiety scales were taken at weeks 0, 4, 8, 12, and before each magnetic resonance spectroscopy scan. Scan 1 was at baseline. Scan 2, obtained after the 12-week intervention, was followed by a 60-minute yoga or walking intervention, which was immediately followed by Scan 3.

The yoga subjects reported greater improvement in mood and greater decreases in anxiety than the walking group. There were positive correlations between improved mood and decreased anxiety and thalamic GABA levels. The yoga group had positive correlations between changes in mood scales and changes in GABA levels. The 12-week yoga intervention was associated with greater improvements in mood and anxiety than a metabolically matched walking exercise. This is the first study to demonstrate that increased thalamic GABA levels are associated with improved mood and decreased anxiety. It is also the first time that a behavioral intervention (i.e., yoga postures) has been associated with a positive correlation between acute increases in thalamic GABA levels and improvements in mood and anxiety scales. Given that pharmacologic agents that increase the activity of the GABA system are prescribed to improve mood and decrease anxiety, the reported correlations are in the expected direction. The possible role of GABA in mediating the beneficial effects of yoga on mood and anxiety warrants further study.


Acupuncture Improves Exercise Tolerance of Patients with Heart Failure

Congestive heart failure (CHF) is a complex clinical syndrome with autonomic dysbalance and increased plasma levels of inflammatory cytokines, which further worsen the syndrome. Experimental data have shown that stimulation of certain acupuncture points decreases autonomic dysbalance. Researchers at the University of Heidelberg in Germany tested the therapeutic potential of acupuncture for CHF. Seventeen stable patients with CHF (New York Heart Association class II-III, ejection fraction <40%) receiving optimised heart failure medication were randomized into a verum acupuncture (VA) and placebo acupuncture (PA) group. Cardiopulmonary function, heart rate variability and quality of life were explored.

No improvements of the cardiac ejection fraction or peak oxygen uptake were observed, but the ambulated 6 min walk distance was remarkably increased in the VA group (+32+/-.7 m) but not the PA group (-1+/-.11 m; p<0.01). Accordingly, post-exercise recovery after maximal exercise and the VE/VCO2 slope, marker of ventilatory efficiency, were improved after VA but not PA. Furthermore, heart rate variability increased after VA, but decreased after PA. The
‘general health’ score and ‘body pain’ score of the quality-of-life questionnaire SF-36 tended to be improved after VA. The investigators concluded that acupuncture may become an additional therapeutic strategy to improve the exercise tolerance of patients with CHF, potentially by improving skeletal muscle function.


**NIH Study: Acupuncture Helpful to Cancer Patients with Persistent Hiccups**

The objective of this study was to investigate the effects of acupuncture treatment for persistent hiccups in cancer patients. The study design was a retrospective case series. The study setting was the Clinical Research Center of the National Institutes of Health. The subjects were 16 adult male patients ages 27-71 with cancer, with persistent hiccups. There were one to three acupuncture sessions over a 1-7-day period. Treatment efficacy was measured using a hiccup assessment instrument pre- and post-treatment. The effects of acupuncture on common symptoms reported by all patients were also evaluated.

Thirteen (13) patients experienced complete remission of persistent hiccups (p < 0.0001); 3 patients experienced decreased hiccups severity. Significant improvement was observed in discomfort (p < 0.0001), distress (p < 0.0001), and fatigue (p = 0.0078). This case series demonstrates that acupuncture may be a clinically useful, safe, and low-cost therapy for persistent hiccups in patients with cancer.


**British NHS Study: Acupuncture Improves Cancer Patients’ Hot Flashes and Night Sweats**

Many female cancer patients treated with tamoxifen experience hot flashes and night sweats (HF&NS); acupuncture may offer a nonpharmaceutical method of management. This study explored whether traditional acupuncture (TA)—with points chosen in accord with Five Elements and Eight principles acupuncture traditions—could reduce HF&NS frequency, improve physical and emotional well-being, and improve perceptions of HF&NS. This was a single-arm observational study using before and after measurements, located in a National Health Service cancer treatment center in southern England.

Fifty participants with early breast cancer completed eight TA treatments. Eligible women were >/= 35 years old, >/= 6 months post active cancer treatment, taking tamoxifen >/= 6 months, and self-reporting >/= 4 HF&NS incidents/24 hours for >/= 3 months. Participants received weekly individualized TA treatment using a core standardized protocol for treating HF&NS in natural menopause. The outcome measures were Hot Flash Diaries recorded HF&NS frequency over 14-day periods; the Women’s Health Questionnaire (WHQ) assessed physical and emotional well-being; the Hot Flashes and Night Sweats Questionnaire (HFNSQ) assessed HF&NS as a problem. Measurements taken at five points over 30 weeks included baseline, midtreatment, end of treatment (EOT), and 4 and 18 weeks after EOT.

Results for the primary outcome: Mean frequency reduced by 49.8% (95% confidence interval 40.5-56.5, p < 0.0001, n = 48) at EOT over baseline. Trends indicated longer-term effects at 4 and 18 weeks after EOT. At EOT, seven WHQ domains showed significant statistical and clinical improvements, including Anxiety/Fears, Memory/Concentration, Menstrual Problems, Sexual Behavior, Sleep Problems, Somatic Symptoms, and Vasomotor Symptoms. Perceptions of HF&NS as a problem reduced by 2.2 points (standard deviation = 2.15, n = 48, t = 7.16, p < 0.0001). The investigators concluded that these results compare favorably with other studies using acupuncture to manage HF&NS, as well as
research on nonhormonal pharmaceutical treatments. In addition to reduced HF&NS frequency, women enjoyed improved physical and emotional well-being, and few side-effects were reported. Further research is warranted into this approach, which offers breast cancer survivors choice in managing a chronic condition.


**Functional MRI: Acupuncture Stimulates More Brain Regions than Acupressure**

The objective of this study was to assess differences in brain responses between pressure and acupuncture stimulation at the same acupoint using functional magnetic resonance imaging (fMRI). Ten healthy right-handed volunteers were studied. fMRI was performed with two different paradigms; namely, pressure and acupuncture stimulation at acupuncture points LI11 and ST36 on the left. fMRI data were analyzed using SPM2.

In comparison with the left LI11 pressure stimulation, both sides of the parahippocampal gyrus, cerebellum, left side of thalamus, and right side of posterior cingulate regions were more activated by the left LI11 acupuncture stimulation. In comparison with the left ST36 pressure stimulation, the secondary motor cortex, limbic system (cingulate gyrus, posterior cingulate), primary visual cortex, pons, and medulla regions were more activated by left ST36 acupuncture stimulation. In comparison with the left ST36 pressure stimulation, both sides of BA 4 and BA 6 were more activated by the LI11 pressure stimulation. In comparison with the left LI11 acupuncture stimulation, left BA 6, BA 8, and anterior cingulate cortex (ACC) were more activated by the left ST36 acupuncture stimulation. Researchers concluded that brain signal activation patterns according to the stimulation methods and acupoints were observed to differ. Acupuncture stimulation activated more regions than pressure at the same acupoint. In particular, acupuncture stimulation activated the limbic system, such as the parahippocampal gyrus and ACC.


**Positive Response to Acupuncture for Diabetic Neuropathy**

This study investigated the effects of acupuncture on diabetic peripheral neuropathy, comparing 42 cases treated with acupuncture with 21 cases exposed to sham acupuncture. Both groups also received conventional therapy (diet treatment, hypoglycemic agents, insulin and hypotensive agents). Investigators observed the effects on nerve conduction velocity and a variety of subjective symptoms associated with diabetic peripheral neuropathy. Points used were LI-4, ST-40, LI-11, ST-36, and SP-6, with 30-minute sessions for 15 days. Three of the six measures of motor nerves and two measures of sensory function, demonstrated significant improvement (p < 0.05) over the 15-day treatment period in the acupuncture group, while no motor or sensory function significantly improved in the sham acupuncture group. There were also significant differences in vibration perception threshold between the groups (p < 0.05) and when compared to the baseline levels (p < 0.01) in the acupuncture group. Acupuncture was significantly more effective than sham for treatment of numbness of the lower extremities, spontaneous pain in the lower extremities, rigidity in the upper extremities and alterations in temperature perception in the lower extremities after therapy.

Integrative Dance Therapy Helpful with Fibromyalgia

The objective of this study was to determine in a controlled trial the effects of a 3-month Biodanza intervention (an integrative dance therapy using music, movement and emotions) in women with fibromyalgia (FM). The study was conducted at a research laboratory and social center at the University of Granada in Spain. The study comprised 59 women with FM recruited from a local association of patients with FM. Participants were allocated to the Biodanza intervention group \( n = 27 \) or usual-care group \( n = 32 \). The Biodanza intervention was carried out once a week for 3 months. The outcome measures included the following: Pain threshold, body composition (body mass index and estimated body fat percentage), physical fitness (30-second chair stand, handgrip strength, chair sit and reach, back scratch, blind flamingo, 8 feet up and go, and 6-minute walk test) and psychologic outcomes (Fibromyalgia Impact Questionnaire [FIQ], Short-Form Health Survey 36, Vanderbilt Pain Management Inventory, Hospital Anxiety and Depression Scale, General Self-Efficacy Scale, and Rosenberg Self-Esteem Scale).

There was a significant interaction effect (group time) for pain threshold of several tender points (left [L] and right [R] side of the anterior cervical and supraspinatus, trapezius L and lateral epicondyle R, algometer score, tender points count), body fat percentage, and FIQ total score. In the intervention group, post hoc analysis revealed a significant improvement in pain threshold of the anterior cervical R and L and supraspinatus R and L tender points (all \( p < 0.05 \)), algometer score (\( p = 0.008 \)), tender point count (\( p = 0.002 \)), body fat percentage (\( p = 0.001 \)), and FIQ total score (\( p = 0.003 \)). The investigators concluded that a 3-month (one session per week) Biodanza intervention shows improvements on pain, body composition, and FM impact in female patients.


Antiinflammatory Herbal Formula Aids Asthmatics

Egyptian researchers assessed the efficacy of a combination of Boswellia serrata, licorice root (Glycyrrhiza glabra) and Turmeric root (Curcuma longa) as natural leukotriene inhibitor, antiinflammatory and antioxidant products respectively in controlling bronchial asthma. The study comprised 63 patients with bronchial asthma that are further subdivided into two groups. Group 1 receiving oral capsule (combined herb) in a soft-gelatin capsule 3 times daily for 4 weeks and group 2 receiving placebo. Plasma leukotriene C(4) (LTC(4)), nitric oxide (NO) and malondialdehyde (MDA) levels were measured and pulmonary function was also assessed in all patients enrolled in the study. There was a statistically significant decrease in the plasma levels of LTC(4), (MDA), and NO in target therapy group when compared with placebo group. The used extract contained Boswellia serrata, Curcuma longa and Glycyrrhiza has a pronounced effect in the management of bronchial asthma.