Abstracts of Research Articles on Meditation and Qigong

Meditation: Application

Cognitive Behavioral Therapy (CBT) and Meditation Awareness Training (MAT) for the Treatment of Co-occurring Schizophrenia and Pathological Gambling: A Case Study

Edo Shonin, William Van Gordon, Mark D. Griffith

International Journal of Mental Health and Addiction

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2013

There is a paucity of interventional approaches that are sensitive to the complex needs of individuals with co-occurring schizophrenia and pathological gambling. Utilizing a single-participant design, this study conducted the first clinical evaluation of a novel and integrated non-pharmacological treatment for a participant with dual-diagnosis schizophrenia and pathological gambling. The participant underwent a 20-week treatment course comprising: (i) an initial phase of second-wave cognitive behavioral therapy (CBT), and (ii) a subsequent phase employing a meditation-based recovery model (involving the administering of an intervention known as Meditation Awareness Training). The primary outcome was diagnostic change (based on DSM-IV-TR criteria) for schizophrenia and pathological gambling. Secondary outcomes were: (i) psychiatric symptom severity, (ii) pathological gambling symptom severity, (iii) psychosocial functioning, and (iv) dispositional mindfulness. Findings demonstrated that the participant was successfully treated for both schizophrenia and pathological gambling. Significant improvements were also observed across all other outcome variables and positive outcomes were maintained at 3-month follow-up. An initial phase of CBT to improve social coping skills and environmental mastery, followed by a phase of meditation-based therapy to increase perceptual distance from mental urges and intrusive thoughts, may be a diagnostically-syntonic treatment for co-occurring schizophrenia and pathological gambling.

Effects of Single Session Mindfulness Meditation on Mood

Ravid Gur

The Undergraduate Journal Of Psychology

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Studies using three and four day ses-sions of mindfulness meditation have found sig-nificant improvements on cognition and mood measures. The current study examines the im-mediate effects of a single session of mindful-ness. Effects of mood were specifically exam-ined using measures of anxiety, depression, and a multiple mood measure. Ninety two partici-pants from a large Southeastern university were randomized into three conditions: mindfulness meditation (MM), sham meditation and a control. MM scores were compared to both sham and control scores for all measures. One session of MM showed significant effects on mood measures and state mindfulness. One session sham was also significant in increasing state mindfulness and some specific mood measures. There were no significant effects on anxiety or depression scales. These results suggest that a single session mindfulness intervention may be adequate in elevating immediate mood. Implications of this study and suggestions for future research are also further dis-cussed.

Meditation Awareness Training (MAT) for Psychological Well-being in a Sub-clinical Sample of University Students: A Controlled Pilot Study

William Van Gordon, Edo Shonin, Alex Sumich, Eva C. Sundin, Mark D. Griffiths

Mindfulness

02/2013; DOI:10.1007/s12671-012-0191-5

2013

Mindfulness has been practiced in the Eastern world for over twenty-five centuries but has only recently become popular in the West. Today, interventions such as “Mindfulness-Based Cognitive Therapy” are used within the Western health setting and have proven to be successful techniques for reducing psychological distress. However, a limitation of such interventions is that they tend to apply the practices of mindfulness in an “out of context” manner. To overcome this, a newly formed Meditation Awareness Training (MAT) program focusses on the establishment of solid meditative foundations and integrates various support practices that are traditionally assumed to effectuate a more sustainable quality of well-being. The aim of this pilot study was to assess the feasibility and effectiveness of MAT for improving psychological well-being in a sub-clinical sample of higher education students with issues of stress, anxiety, and low mood. Utilizing a controlled design, participants of the study (n=14) undertook an 8-week MAT program and comparisons were made with a control group (n=11) on measures of self-assessed psychological well-being (emotional distress, positive affect, and negative affect) and dispositional mindfulness. Participants who received MAT showed significant improvements in psychological well-being and dispositional mindfulness over controls. MAT may increase emotion regulation ability in higher education students with issues of stress, anxiety, and low mood. Individuals receiving training in mindfulness meditation may benefit by engendering a broader, more ethically informed, and compassionate intention for their mindfulness practice.

Meditation for stress reduction in Indian Army: An Experimental Study

Col S S Cheema and Col D S Grewal

IOSR Journal of Business and Management

Volume 10, Issue 2 (May. - Jun. 2013), PP 27-37

2013

Conclusion:
The stress has affected armed forces in a major way. The peculiar environment and operating conditions provide a breeding ground for stress. In order to reduce stress level there is a need to manage physiological and psychological effects of the stress. There is no single particular method to eliminate all the stress levels. Apart from the physical incentives/concessions being now given to Armed Forces in term of leave, accommodation, ration and free education for children requirement exists for reduction of stress level or convert the existing stress into a productive use. No other method than meditation has yet proved to be effective in permanent reduction of stress. By incorporating the relaxation technique through meditation in a regular system suitably in the morning coupled with morning exercise which army personnel routinely perform. Meditation for half an hour daily will certainly reduce the stress level and armed personnel will be in a state give their optimal performance. This reduction of stress level will reduce the fratricide and suicide cases to a great extent.
Scope for future research The „quality of work life‟ varies from work place to workplace and with the type of work and the stress on a worker varies accordingly. The soldiers work under the most difficult conditions and do not have the quality of work life as does a teacher or a professor. The harsh conditions cause heavy stress on the soldiers taking life in number of cases. This is why there are much more suicide cases in Army than in civil. Nothing much has been done to improve the quality of work life of these soldiers; their remuneration too does not match the quality of work life. It is very important that a detailed study of various parameters of quality of work life and the remuneration paid to the soldier in relation to a civilian be compared and alternatives suggested. Also recommended is the study of stressed conditions in peace and field conditions of a soldier. Similarly the study can also be carried out through a comparison of quality of work life of a soldier with that of an officer in Army.

Compassion meditation enhances empathic accuracy and related neural activity

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Social Cognitive & Affective Neuroscience

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2013

The ability to accurately infer others' mental states from facial expressions is important for optimal social functioning and is fundamentally impaired in social cognitive disorders such as autism. While pharmacologic interventions have shown promise for enhancing empathic accuracy, little is known about the effects of behavioral interventions on empathic accuracy and related brain activity. This study employed a randomized, controlled and longitudinal design to investigate the effect of a secularized analytical compassion meditation program, cognitive-based compassion training (CBCT), on empathic accuracy. Twenty-one healthy participants received functional MRI scans while completing an empathic accuracy task, the Reading the Mind in the Eyes Test (RMET), both prior to and after completion of either CBCT or a health discussion control group. Upon completion of the study interventions, participants randomized to CBCT and were significantly more likely than control subjects to have increased scores on the RMET and increased neural activity in the inferior frontal gyrus (IFG) and dorsomedial prefrontal cortex (dmPFC). Moreover, changes in dmPFC and IFG activity from baseline to the post-intervention assessment were associated with changes in empathic accuracy. These findings suggest that CBCT may hold promise as a behavioral intervention for enhancing empathic accuracy and the neurobiology supporting it.

Exploring an intensive meditation intervention for incarcerated youth

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Child and Adolescent Mental Health

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2013

Background: We examined the experiences of incarcerated adolescent males (N = 29) who participated in a one-day meditation retreat and 10-week meditation programme.
Method: Self-report surveys assessing mindfulness, self-regulation, impulsivity and stress; behavioural assessments; and focus group data were examined.
Results: We observed significantly higher scores in self-regulation (p = .012) and psychometric markers demonstrated psychological enhancement. No behavioural change was observed. Six themes emerged: enhanced well-being, increased self-discipline, increased social cohesiveness, expanded self-awareness, resistance to meditation and future meditation practice.
Conclusions: Early evidence suggests that meditation training for incarcerated youth is a feasible and promising intervention.

Comparison of higher order heart rate signals during two techniques of meditation: Chi and Kundalini meditation

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Cognitive Neurodynamics

February 2013, Volume 7, Issue 1, pp 39-46

2013

The human heartbeat is one of the important examples of complex physiologic fluctuations. For the first time in this study higher order spectra of heart rate signals during meditation have explored. Specifically, the aim of this study was to analysis and compares the contribution of quadratic phase coupling of human heart rate variability during two forms of meditation: (1) Chinese Chi (or Qigong) meditation and (2) Kundalini Yoga meditation. For this purpose, Bispectrum was estimated by using biased, parametric and the direct (FFT) method. The results show that the mean Bispectrum magnitude of heart rate signals increased during Kundalini Yoga meditation, but it decreased significantly during Chi meditation. However, in both meditation techniques phase-coupled harmonics are shifted to the higher frequencies during meditation. In addition, it has shown that not only there are

significant differences between rest and meditation states, but also heart rate patterns appear to be influenced by different types of meditation.

Effects of meditation on anxiety, depression, fatigue, and quality of life of women undergoing radiation therapy for breast cancer

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Complement Ther Med

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2013

OBJECTIVE: To investigate the effects of meditation on anxiety, depression, fatigue, and quality of life in women who are receiving radiation therapy for breast cancer.
DESIGN: Randomized, non-program controlled, parallel intervention clinical trial.
SETTING: The ASAN Cancer Center located in Seoul, Korea.
NTERVENTION: The subjects of this study included 102 female breast cancer patients who had undergone breast-conserving surgery; these female patients were randomized into equally assigned meditation control groups, with each group consisting of 51 patients. The test group received a total of 12 meditation therapy sessions during their 6-week radiation therapy period, and the control group underwent only a conventional radiation therapy.
OUTCOME: The tools used to evaluate the effects of meditation were Hospital Anxiety and Depression scale, Revised Piper Fatigue scale, and European Organization for Research and Treatment of Cancer-Quality of Life Core-30. The results were analyzed based on the principles of intention-to-treat analysis, and, as a corollary analysis, per-protocol analysis was conducted.
RESULTS: The breast cancer patients who received meditation therapy compared with the non-intervention group saw improvements in reduction of anxiety (p=.032), fatigue (p=.030), and improvement in global quality of life (p=.028).
CONCLUSIONS: Based on the results of this study, an affirmation can be made that meditation can be used as a non-invasive intervention treatment for improving fatigue, anxiety, quality of life, and emotional faculties of women with breast cancer.

Change in physiological signals during mindfulness meditation

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Neural Engineering (NER), 2013 6th International IEEE/EMBS Conference on 6-8 Nov. 2013. Page(s): 1378 - 1381.

2013

Mindfulness meditation (MM) is an inward mental practice, in which a resting but alert state of mind is maintained. MM intervention was performed for a population of older people with high stress levels. This study assessed signal processing methodologies of electroencephalographic (EEG) and respiration signals during meditation and control condition to aid in quantification of the meditative state. EEG and respiration data were collected and analyzed on 34 novice meditators after a 6-week meditation intervention. Collected data were analyzed with spectral analysis and support vector machine classification to evaluate an objective marker for meditation. We observed meditation and control condition differences in the alpha, beta and theta frequency bands. Furthermore, we established a classifier using EEG and respiration signals with a higher accuracy at discriminating between meditation and control conditions than one using the EEG signal only. EEG and respiration based classifier is a viable objective marker for meditation ability. Future studies should quantify different levels of meditation depth and meditation experience using this classifier. Development of an objective physiological meditation marker will allow the mind-body medicine field to advance by strengthening rigor of methods.

Buddhist-Inspired Meditation Increases the Value of Calm

Birgit Koopmann-Holm, Jocelyn Sze, Camaron Ochs, and Jeanne L. Tsai

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2013

Most studies of meditation have focused on “actual affect” (how people actually feel). We predict that meditation may even more significantly alter “ideal affect” (how people ideally want to feel). As predicted, meditators ideally wanted to feel calm more and excited less than nonmeditators, but the groups did not differ in their actual experience of calm or excited states (Study 1). We ruled out self-selection and nonspecific effects by randomly assigning participants to meditation classes, an improvisational theater class, or a no class control (Study 2). After eight weeks, meditators valued calm more but did not differ in their actual experience of calm compared with the other groups. There were no differences in ideal or actual excitement, suggesting that meditation selectively increases the value placed on calm. These findings were not due to expectancy effects (Study 3). We discuss the implications of these findings for understanding how meditation alters affective life.

Brief meditation training induces smoking reduction

Yi-Yuan Tang , Rongxiang Tang , and Michael I. Posner

Proceedings of the National Academy of Sciences of the United States of America

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2013

More than 5 million deaths a year are attributable to tobacco smoking, but attempts to help people either quit or reduce their smoking often fail, perhaps in part because the intention to quit activates brain networks related to craving. We recruited participants interested in general stress reduction and randomly assigned them to meditation training or a relaxation training control. Among smokers, 2 wk of meditation training (5 h in total) produced a significant reduction in smoking of 60%; no reduction was found in the relaxation control. Resting-state brain scans showed increased activity for the meditation group in the anterior cingulate and prefrontal cortex, brain areas related to self-control. These results suggest that brief meditation training improves self-control capacity and reduces smoking.

Awakening is not a metaphor: the effects of Buddhist meditation practices on basic wakefulness

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Annals of the New York Academy of Sciences

Volume 1307, Advances in Meditation Research: Neuroscience and Clinical Applications pages 64–81, January 2014

2014

Buddhist meditation practices have become a topic of widespread interest in both science and medicine. Traditional Buddhist formulations describe meditation as a state of relaxed alertness that must guard against both excessive hyperarousal (restlessness) and excessive hypoarousal (drowsiness, sleep). Modern applications of meditation have emphasized the hypoarousing and relaxing effects without as much emphasis on the arousing or alertness-promoting effects. In an attempt to counterbalance the plethora of data demonstrating the relaxing and hypoarousing effects of Buddhist meditation, this interdisciplinary review aims to provide evidence of meditation's arousing or wake-promoting effects by drawing both from Buddhist textual sources and from scientific studies, including subjective, behavioral, and neuroimaging studies during wakefulness, meditation, and sleep. Factors that may influence whether meditation increases or decreases arousal are discussed, with particular emphasis on dose, expertise, and contemplative trajectory. The course of meditative progress

suggests a nonlinear multiphasic trajectory, such that early phases that are more effortful may produce more fatigue and sleep propensity, while later stages produce greater wakefulness as a result of neuroplastic changes and more efficient processing.

Acute Pain Relief After Mantram Meditation in Children With Neuroblastoma Undergoing Anti-GD2 Monoclonal Antibody Therapy

Ahmed M, Modak S, Sequeira S

Journal of Pediatric Hematology/oncology [2013]

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2013

Nonpharmacologic, mind-body interventions are used to reduce anxiety in pediatric patients. Anti-ganglioside GD2 monoclonal antibody (anti-GD2 MoAb 3F8) therapy is the standard of care for high-risk neuroblastoma and pain is its major side effect. We performed a retrospective analysis of children undergoing anti-GD2 MoAb 3F8 treatment who received guided meditation. Meditation involved concentrating on the repetition of rhythmic, melodic sounds purported to slow breathing and induce a relaxation response. A total of 71% patients completed a session at first (n=19) or second attempt (n=5). Patients received fewer analgesic doses to manage anti-GD2 MoAb 3F8-induced pain when participating in meditation (n=17, mean=-0.4 dose, P<0.01). Mantram meditation is a feasible outpatient intervention associated with reduced analgesic requirements.

A prospective pilot clinical trial of “The work” meditation technique for survivors of breast cancer

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European Journal of Integrative Medicine

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2013

Introduction
“The work” meditation technique was developed by Byron Katie in 1986 and has been practiced worldwide. To date, there has been no empirical evaluation of its efficacy among cancer survivors.
Cancer diagnoses and treatments may have short and long term negative effects on individuals’ health status and wellbeing. This study assessed the feasibility and effectiveness of “The work” meditative technique in improving psychological and physical wellbeing in breast cancer survivors.
Methods
Twenty-nine breast cancer survivors participated in a prospective pilot clinical trial of “The work” intervention. Sleep quality, level of fatigue and breast cancer health-related quality of life assessment was conducted before and after the intervention. The intervention consisted of 12 weekly 3.5 h group sessions in addition to individual practice for a minimum of 60 min per week.
Results
A total of 24 women (82.75%) completed the program with no adverse effects reported at any time suggesting that the technique can be implemented in this population of survivors of breast cancer. Sleep quality, levels of fatigue as well as physical, social, familial, emotional and functional wellbeing improved significantly after the intervention. The sense of coherence scores were not affected by the intervention.
Conclusions
The physical and mental health of these breast cancer survivors was improved after the practice of “The work” meditation technique. The encouraging results of this pilot study highlight the potentially beneficial effects of this intervention for this population and warrant further investigation in randomized controlled trials.

A pilot study of yogic meditation for family dementia caregivers with depressive symptoms: effects on mental health, cognition, and telomerase activity

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International Journal of Geriatric Psychiatry

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2013

Background
This study examined the effects of brief daily yogic meditation on mental health, cognitive functioning, and immune cell telomerase activity in family dementia caregivers with mild depressive symptoms.
Methods
Thirty-nine family dementia caregivers (mean age 60.3 years old (SD = 10.2)) were randomized to practicing Kirtan Kriya or listening to relaxation music for 12 min per day for 8 weeks. The severity of depressive symptoms, mental and cognitive functioning were assessed at baseline and follow-up. Telomerase activity in peripheral blood mononuclear cells (PMBC) was examined in peripheral PBMC preintervention and post-intervention.
Results
The meditation group showed significantly lower levels of depressive symptoms and greater improvement in mental health and cognitive functioning compared with the relaxation group. In the meditation group, 65.2% showed 50% improvement on the Hamilton Depression Rating scale and 52% of the participants showed 50% improvement on the Mental Health Composite Summary score of the Short Form-36 scale compared with 31.2% and 19%, respectively, in the relaxation group ($p < 0.05$). The meditation group showed 43% improvement in telomerase activity compared with 3.7% in the relaxation group ($p = 0.05$).
Conclusion
This pilot study found that brief daily meditation practices by family dementia caregivers can lead to improved mental and cognitive functioning and lower levels of depressive symptoms. This improvement is accompanied by an increase in telomerase activity suggesting improvement in stress-induced cellular aging. These results need to be confirmed in a larger sample.

Effect of pranayama and meditation as an add-on therapy in rehabilitation of patients with Guillain-Barré syndrom: a randomized control pilot study

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Disability and Rehabilitation

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2013

Objective:
To study the add-on effects of pranayama and meditation in rehabilitation of patients with Guillain-Barré syndrome (GBS). Patients and Method: This randomized control pilot study was conducted in neurological rehabilitation unit of university tertiary research hospital. Twenty-two GBS patients, who consented for the study and satisfied selection criteria, were randomly assigned to yoga and control groups. Ten patients in each group completed the study. The yoga group received 15 sessions in total over a period of 3 weeks (1 h/session), one session per day on 5 days per week that consisted of relaxation, Pranayama (breathing practices) and Guided meditation in addition to conventional rehabilitation therapeutics. The control group received usual rehabilitation care. All the patients were
assessed using Pittsburgh Sleep Quality Index, Numeric pain rating scale, Hospital Anxiety and Depression scale and Barthel index score. Mann–Whitney U test and Wilcoxon's signed rank test were used for statistical analysis.
Results:
Quality of sleep improved significantly with reduction of PSQI score in the yoga group ($p = 0.04$). There was reduction of pain scores, anxiety and depression in both the groups without statistical significance between

groups (pain p > 0.05, anxiety p > 0.05 and depression p > 0.05). Overall functional status improved in both groups without significant difference (p > 0.05). Conclusions: Significant improvement was observed in quality of sleep with yogic relaxation, pranayama, and meditation in GBS patients.
Implications for Rehabilitation:
GBS is an inflammatory demyelinating polyneuro radiculopathy with multiple complications requiring long term care. Yoga and other rehabilitation measures contribute in improving functional abilities, pain and sleep quality in GBS patients. This randomized control trial showed that short term yoga practice can improve the quality of sleep as compared to other rehabilitation measures in GBS patients.

'I was so done in that I just recognized it very plainly, "You need to do something"': Men's narratives of struggle, distress and turning to meditation

Tim Lomas, Tina Cartwright, Trudi Edginton, Damien Ridge

Health

January 2014, 18 (1)

2014

Traditional masculinities can mean men are unable or unwilling to deal constructively with distress. However, researchers increasingly acknowledge that men and masculinities (including hegemonic styles) are diverse. Moreover, men can positively manage their well-being, although little research explores how they do so. Uniquely, our study sought to find men who report finding ways to care for themselves to examine narratives about how such self-care originated. We aimed to do this by exploring issues underpinning men's journeys towards meditation, focusing on implications for well-being. In-depth interviews were conducted in 2009 with 30 meditators, selected using principles of maximum variation sampling, and analysed with a modified 'constant comparison' approach. Men's journeys towards meditation were fraught with difficulties. Men described crossing a threshold from boyhood into 'manhood' where they encountered traditional forms of masculinity (e.g. stoicism), and most described subsequent strategies to disconnect from emotions. While men eventually found ways to engage more constructively with their emotions and wellbeing, this article explores the struggle and distress of their journeys.

Migraines and Mindfulness Meditation: Does Engaging Spirituality Make A Difference?

Feuille, Margaret H.

2013, Master of Arts (MA), Bowling Green State University, Psychology/Clinical.

2013

Studies suggest that mindfulness training improves quality of life among persons with chronic pain (e.g., Kabat-Zinn, Lipworth & Burney, 1985), and researchers have begun examining how and why mindfulness training may be effective in this regard (e.g., Sauer & Baer, 2010). This is one of the first studies to examine whether spirituality is an active ingredient in mindfulness interventions (Kristeller, 2010; Rosch, 2007). Migraineurs were randomly assigned to training in one of three techniques: relaxation (R), regular mindfulness (RM), and spiritual mindfulness (SM). The R group was given little instruction other than to clear the mind and release tension; the RM group was trained using a mindfulness-of-breathing script; and the SM group was trained using a spiritual version of the RM script, encouraging participants to conceptualize mindfulness in a manner that is consistent with their own spiritual background and beliefs. After two weeks of practicing their assigned technique for 20 minutes a day, participants completed measures assessing pain, headache, psychological well-being, spirituality and mindfulness. In light of results from similar studies on secular and spiritual mantra meditation (Wachholtz & Pargament, 2005 & 2008), it was hypothesized that the SM group will experience the greatest benefits, followed by the RM group, and lastly the R group.

Meditation as medication: are attitudes changing?

Edo Shonin, William Van Gordon, Mark D Griffiths

British Journal of General Practice

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2013

Until recently, the consensus-backed medical operationalisation of meditation was an unlikely prospect. However, 72% of GPs in the UK now believe that patients can derive health benefits by practising meditation.1 Furthermore, two-thirds of GPs are willing to support a public campaign to promote the health benefits of meditation.1 Secularised Buddhist-derived meditation interventions (BDMIs) were first introduced into the medical setting in the 1970s,2 and scientific interest has significantly increased since that time. In 2012, approximately 500 scientific papers concerning a form of meditation known as 'mindfulness' were published.3 This was more than the entire number of papers concerning mindfulness published between 1970 and 2000. In recent years, BDMIs have been shown to be effective treatments for a broad range of medical illnesses including, for example, mood disorders, schizophrenia, chronic pain, cancer, and HIV (via the buffering of CD4+ lymphocyte declines).2,3 As already indicated, the most popular meditation variant is mindfulness that (in the form of mindfulness-based cognitive therapy)4 is now advocated by both the National Institute for Health and Care Excellence and the American Psychiatry Association for the treatment of specific forms of depression. A primary treatment mechanism of these techniques involves the regulation of psychological and autonomic arousal by increasing perceptual distance from somatic pain and maladaptive thoughts and emotions. A 'meditative anchor', such as observing the breath, is typically used to aid concentration and to help maintain an open-awareness of present moment sensory and cognitive affective experience. The ongoing medical deployment of BDMIs has been heavily influenced by lifestyle-driven changes in service-user attitudes and needs. For example, over 80% of British adults believe that contemporary pressured lifestyles cause stress and/or illness and that their health can be improved by slowing down and learning to live in the present moment. Over 50% of British adults are interested in attending meditation classes to help them do this. It is not only service users who are becoming increasingly interested in practicing meditation, but also medical professionals. Indeed, approximately two-thirds of GPs believe that meditation can help them personally. This is consistent with findings from a growing number of empirical studies involving medical professionals where, for example, BDMIs have been shown to improve burnout and patient-focused empathy in primary care physicians.5 It appears that the medical operationalisation of meditation is becoming gradually more acceptable. However, what remains to be seen is whether the necessary infrastructure and clinician competencies can be developed to improve service-user access and the wider credibility of BDMIs.

Meditation and Health: The Search for Mechanisms of Action

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Social and Personality Psychology Compass

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2013

Psychological interest in the impact of mental states on biological functioning is growing rapidly, driving a need for new methods for inducing mental states that last long enough, and are sufficiently impactful, to have significant effects on physical health. The many traditions of meditative practice are one potential pathway for studying mind-body interactions. The purpose of this review is to introduce personality and social psychologists to the field of meditation research. Beginning with a brief introduction to meditation and the heterogeneity of meditative practices, we showcase research linking meditative practice to changes in immune and cardiovascular functioning and pain perception. We then discuss theoretical and empirical evidence that meditation works by inducing changes in psychological capacities such as emotion regulation and self-regulation or through repeated induction of specific mental states such as love or meta-cognitive awareness. At the frontier of the science of meditation is the need to empirically test whether meditation-driven changes in cognitive and affective processes are the cause

of improvements in physical health. Emerging challenges in meditation research include a need for large studies using randomized controlled and dual-blind designs with active control groups and an increased focus on measuring mechanisms of action as well as outcomes. Meditation represents a potentially powerful tool for generating new knowledge of mind-body interactions.

Loving-Kindness Meditation and Prosocial Construct Activation

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Thesis. June 5, 2013

2013

Both Buddhist and psychological theory postulate that present actions will influence future perceptions, judgments, and behaviors in a concordant manner. While Buddhists explain these effects in the context of karmic theory, psychologists consider these effects of construct activation and chronic construct accessibility. The present study sought to apply social psychological theory to Buddhist meditation practice, specifically to examine if loving-kindness meditation (LKM) increases prosocial construct accessibility over time, as compared to mindfulness meditation. University students practiced either mindfulness meditation or LKM for eight weeks. Measures were administered at baseline and after the eight weeks of practice. Although results did not demonstrate changes in prosocial construct accessibility, all participants experienced increases in mindfulness, satisfaction with life, emotional reappraisal abilities, and emotion management. These effects were also accompanied decreases in illness symptoms over time. Analyses yielded mixed results for measures of wisdom. The current experiment failed to replicate some known effects of mindfulness meditation, such as increases in attentional control and decreases in depressive symptoms. Limitations of the study and future directions are discussed.

From the Five Aggregates to Phenomenal Consciousness: Toward a Cross-Cultural Cognitive Science

Jake H. Davis & Evan Thompson

In Steven M. Emmanuel (ed.), A Companion to Buddhist Philosophy. John Wiley & Sons (2013)

2013

Buddhism originated and developed in an Indian cultural context that featured many firstperson practices for producing and exploring states of consciousness through the systematic training of attention. In contrast, the dominant methods of investigating the mind in Western cognitive science have emphasized third-person observation of the brain and behavior. In this chapter, we explore how these two different projects might prove mutually beneficial. We lay the groundwork for a cross-cultural cognitive science by using one traditional Buddhist model of the mind – that of the five aggregates – as a lens for examining contemporary cognitive science conceptions of consciousness.

Impact of meditation training on the default mode network during a restful state

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Social Cognitive and Affective Neuroscience. Special Issue on Mindfulness Neuroscience

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2013

Mindfulness meditation has been shown to promote emotional stability. Moreover, during the processing of aversive and self-referential stimuli, mindful awareness is associated with reduced medial prefrontal cortex (MPFC) activity, a central default mode network (DMN) component. However, it remains unclear whether mindfulness practice influences functional connectivity between DMN regions and, if so, whether such impact persists beyond a state of meditation. Consequently, this study examined the effect of extensive mindfulness training on functional connectivity within the DMN during a restful state. Resting-state data were collected from 13 experienced meditators (with over 1000 h of training) and 11 beginner meditators (with no prior experience, trained for 1 week before the study) using functional magnetic resonance imaging (fMRI). Pairwise correlations and partial correlations were computed between DMN seed regions' time courses and were compared between groups utilizing a Bayesian sampling scheme. Relative to beginners, experienced meditators had weaker functional connectivity between DMN regions involved in self-referential processing and emotional appraisal. In addition, experienced meditators had increased connectivity between certain DMN regions (e.g. dorso-medial PFC and right inferior parietal lobule), compared to beginner meditators. These findings suggest that meditation training leads to functional connectivity changes between core DMN regions possibly reflecting strengthened present-moment awareness.

Impact of Meditation on Alienation and Locus of Control of IT Professionals

Ramyashilpa .D. Nayak

International Journal of Humanities and Social Science Invention

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2013

This present study examined the effects of meditation on alienation and locus of control of software professionals. Hundred and eight software professionals with age range 25 - 45 participated in this study. In the present study, it was hypothesized that the alienation will be higher and locus of control will be more external before the inducement of meditation than after the practice of meditation for three months. To test this, the present study was conducted on 108 software professionals from Bangalore City of Karnataka state sample drawn from randomly selected IT companies. Alienation and locus of control scales were administered group wise. The self-reported responses of the subjects were recorded, scored and subjected to 't' analysis and correlation analysis. It was found that after the practice of meditation subjects had lower level of alienation, and more internal locus of control.

Executive control and felt concentrative engagement following intensive meditation training

Anthony P. Zanesco, Brandon G. King, [...], and Clifford D. Saron

Frontiers in Human Neuroscience

2013; 7: 566.

2013

Various forms of mental training have been shown to improve performance on cognitively demanding tasks. Individuals trained in meditative practices, for example, show generalized improvements on a variety of tasks assessing attentional performance. A central claim of this training, derived from contemplative traditions, posits that improved attentional performance is accompanied by subjective increases in the stability and clarity of concentrative engagement with one's object of focus, as well as reductions in felt cognitive effort as expertise develops. However, despite frequent claims of mental stability following training, the phenomenological correlates of meditation-related attentional improvements have yet to be characterized. In a longitudinal study, we assessed changes in executive control (performance on a 32-min response inhibition task) and retrospective reports of task engagement (concentration, motivation, and effort) following one month of intensive, daily Vipassana meditation training. Compared to matched controls, training participants exhibited improvements in response inhibition accuracy and reductions in reaction time variability. The training group also reported increases in concentration, but not effort or motivation, during task performance. Critically, increases in

concentration predicted improvements in reaction time variability, suggesting a link between the experience of concentrative engagement and ongoing fluctuations in attentional stability. By incorporating experiential measures of task performance, the present study corroborates phenomenological accounts of stable, clear attentional engagement with the object of meditative focus following extensive training. These results provide initial evidence that meditation-related changes in felt experience accompany improvements in adaptive, goal-directed behavior, and that such shifts may reflect accurate awareness of measurable changes in performance.

Evidence-based stress management: focusing on nonpharmacological procedure which reduce stress and promote health

Minseon Park

Journal of the Korean Medical Association

2013 Jun;56(6):478-484.

2013

In modern society, stress is one of the most significant problems affecting physical as well as mental health. Stress, which is defined as a situation in which the homeostasis of the physiological system of one's mind and body is threatened, is composed of two concepts: stressors and stress reactions. A stressor is the stimulus that is perceived as a threat and arouses a stress reaction, such as a disaster or serious life event. Stress reactions are physical and mental symptoms, for example, chest tightness, dizziness, abdominal pain, dyspepsia, headache, and agitation, which are mediated by the sympathetic nervous system and stress hormones such as cortisol. These reactions, along with stress-related unhealthy behaviors, result in serious chronic diseases, including cancers and cardiovascular disease. Stress coping methods are classified into two components: cognitive behavioral interventions for stressors and mind-body interventions to reduce the stress response. Various interventions have been identified: progressive muscle relaxation, autogenic training, relaxation response, biofeedback, the emotional freedom technique, guided imagery, diaphragmatic breathing, transcendental meditation, and mindfulness-based stress reduction. Meditation and progressive muscular relaxation are well-known and widely used procedures to reduce the stress response and to improve quality of life. Further studies to establish an evidence-based standardized program that can be easily applied at the individual level are needed.

Event-related delta, theta, alpha and gamma correlates to auditory oddball processing during Vipassana meditation

B. Rael Cahn, Arnaud Delorme and John Polich

Social Cognitive & Affective Neuroscience

Volume 8, Issue 1, Pp. 100-111.

2013

Long-term Vipassana meditators sat in meditation vs. a control (instructed mind wandering) states for 25 min, electroencephalography (EEG) was recorded and condition order counterbalanced. For the last 4 min, a three-stimulus auditory oddball series was presented during both meditation and control periods through headphones and no task imposed. Time-frequency analysis demonstrated that meditation relative to the control condition evinced decreased evoked delta (2–4 Hz) power to distracter stimuli concomitantly with a greater event-related reduction of late (500–900 ms) alpha-1 (8–10 Hz) activity, which indexed altered dynamics of attentional engagement to distracters. Additionally, standard stimuli were associated with increased early event-related alpha phase synchrony (inter-trial coherence) and evoked theta (4–8 Hz) phase synchrony, suggesting enhanced processing of the habituated standard background stimuli. Finally, during meditation, there was a greater differential early-evoked gamma power to the different stimulus classes. Correlation analysis indicated that this effect stemmed from a meditation state-related increase in early distracter-evoked gamma power and phase synchrony specific to longer-term expert practitioners. The findings suggest that Vipassana meditation evokes a

brain state of enhanced perceptual clarity and decreased automated reactivity.

Meditation Awareness Training (MAT) for Improved Psychological Well-being: A Qualitative Examination of Participant Experiences

Edo Shonin, William Van Gordon, Mark D. Griffiths

J Relig Health

DOI 10.1007/s10943-013-9679-0

2013

Mindfulness-based interventions are reported as being efficacious treatments for a variety of psychological and somatic conditions. However, concerns have arisen relating to how mindfulness is operationalized in mindfulness-based interventions and whether its 'spiritual essence' and full potential treatment efficacy have remained intact. This qualitative study used interpretative phenomenological analysis to examine participant experiences regarding the acceptability and effectiveness of a newly designed secularized intervention called meditation awareness training (MAT) that follows a more traditional Buddhist approach to meditation. Participants (with issues of stress and low mood) reported experiencing improvements in psychological well-being due to receiving MAT. The wider implications are discussed.

Effects of Collaboratively Fostered and Integrated Spiritual Maturation in a Meditation Group Known as the Process Group

MacLeod, Cynthia J., Psy.D.

Dissertation DAI/B 74-11(E), p. , Sep 2013

Michigan School Of Professional Psychology, 2013, 292 Pages; 3587933

2013

This qualitative case study of a meditation group known as the Process Group examines the group's collaboration on practices that foster spiritual maturation following spiritual opening into the first phase of enlightenment. Twenty-one participant accounts provide an intimate portrait of stabilizing and integrating Unity consciousness, maintaining a co-creative relationship with the Divine, and actively expressing this in the world, especially through creative altruism. Using the hermeneutical research method known as intuitive inquiry, analysis of the data employed traditional and non-traditional approaches that were supported with member validity checks. Findings generated a clear picture of optimal group functioning in higher stages of consciousness, practices that lead to and sustain nondual awareness in day-to-day interaction, and conditions that generate creative altruism. Findings are distilled into lenses that can be operationalized into training programs for teams interested in altruistic activity. The Process Group demonstrates that peak spiritual experiences can be supported with group practices that deepen the spiritual opening process and the mutually affecting relationship with the Divine over time, increasing relational intelligence and creative expression. Findings also demonstrated that spiritual maturation can increase individuation and communion simultaneously and interactively. This is a portrait of spiritual practice that facilitates fully embodied enlightenment, active incarnation in the world, presenting the healed versions of what is possible in the clearest human interaction, and maturation that proceeds in cooperation with the Divine.

Effect Of Selected Pranayama, Asana, And Meditation Practices In Enhancing Running Ability In Kho-Kho Playing

Dipak B. Chavhan

Academic Sports Scholar

Vol. 2 , Issue. 10 , Oct 2013

2013

The objective of the present study was to analyze the effect of selected yogic
practices in enhancing the Running ability among the men Kho-Kho players. With the assistance and help of the experts in the field of yoga, sports and previous researches on these areas a comprehensive and suitable yoga package was evolved. Thirty men Kho-Kho players at the High School level were selected at random to be treated under the designed training package to find out the training impacts and outcomes. The selected Kho-Kho players underwent ten weeks of intensive yogic training besides their regular sports training. The Running ability was measured before and after the treatment by
administering the Warner Test of Kho-Kho Skills. The data were analyzed by using 't' ratio for interpretation. The designed training package was suitable and made positive training impacts on running ability among the Kho-Kho players.

Effect of “SOHAM” meditation on the human brain: An fMRI study

Anupam Guleria, Uttam Kumar , Sadguru Sri Kunal Kishan, Chunni Lal Khetrapal

Psychiatry Research: Neuroimaging

Volume 214, Issue 3 , Pages 462-465, 30 December 2013

2013

The effect of “SOHAM” meditation has been investigated using functional magnetic resonance imaging (fMRI) in long-term meditators while they were meditating and not meditating. The results have revealed activation in left middle prefrontal cortex (MPFC) (Brodmann's area, BA 46), left inferior frontal gyrus (LIFG) (BA 44), left supplementary motor area (SMA) (BA 6) and left precuneus (BA 5) during the meditation period compared to the control period (no-meditation period). The results have been interpreted in terms of regulation of the emotional state, attention and working memory of the meditators.

Effects of long-term dharma-chan meditation on cardiorespiratory synchronization and heart rate variability behavior

Chang CH, Lo PC

Rejuvenation Research

2013, 16(2):115-123. DOI: 10.1089/rej.2012.1363

2013

Remarkable changes in cardiorespiratory interactions are frequently experienced by Chan meditation practitioners following years of practice. This study compares the results of our study on cardiorespiratory interactions for novice (control group) and experienced (experimental group) Chan meditation practitioners. The effectual co-action between the cardiac and respiratory systems was evaluated by the degree of cardiorespiratory phase synchronization (CRPS). In addition, an adaptivefrequency- range (AFR) scheme to reliably quantify heart rate variability (HRV) was developed for assessing the regulation of sympathetic-parasympathetic activity and the efficiency of pulmonary gas exchange. The enhanced HRV method, named HRVAFR, can resolve the issue of overestimating HRV under the condition of slow respiration rates, which is frequently encountered in studies on Chan meditation practitioners. In the comparison of the three data sets collected from the two groups, our findings resulted in innovative hypotheses to interpret the extraordinary process of the rejuvenation of cardiorespiratory functions through long-term Dharma-Chan meditation practice. Particularly, advanced practitioners exhibit a continuously high degree of cardiorespiratory phase synchronization, even during rapid breathing. Based on our post-experimental interview with advanced practitioners, the activation of inner Chakra energy, during the course of Chan-detachment practice, frequently induces perceptible physiological-mental reformation, including an efficient mechanism for regulating cardiorespiratory interactions.

Meditation Increases Compassionate Responses to Suffering

Paul Condon, Gaëlle Desbordes, Willa Miller, & David DeSteno

In Press, Psychological Science

2013

Results and Discussion

Confirming the view that meditation directly enhances compassionate responding, meditators more frequently offered their seats to the sufferer than did non-meditators from the waitlist control, $\chi 2(1)=5.13$, $p=.02$, $\phi=0.36$ (see Table 1). Of import, this enhanced prosocial responding did not differ as a function of meditation protocol; those practicing mindfulness meditation were as equally likely to aid the sufferer as were those practicing compassion meditation (see SOM for analyses). That eight weeks of meditation resulted in such a large effect – increasing the odds of acting to relieve another's pain by more than five times (odds ratio=5.33), is all the more striking given that it occurred in a social context whose features should attenuate such behavior. The simple presence of the two confederates and their total disregard for the pain of the sufferer constitutes a classic "bystander effect" manipulation where both diffusion of responsibility and norms suggesting an acceptance of nonintervention are heightened (cf. Darley & Latané, 1968). Additional work will be needed to isolate the specific causal mechanism more narrowly, as several meditation-induced mediators (e.g., heightened awareness, increased perspective taking) stand as possible candidates (cf. Hölzel, Lazar, et al., 2011). Nonetheless, the current finding is the first to clearly show the power of meditation to increase compassionate responding to suffering, even in the face of social pressures to avoid so doing. As such, it provides scientific credence to ancient Buddhist teachings that meditation increases spontaneous compassionate behavior.

Meditation States and Traits

B. Rael Cahn, John Polich

Psychology of Consciousness: Theory, Research, and Practice

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2013

Neuroelectric and imaging studies of meditation are reviewed. Electroencephalographic measures indicate an overall slowing subsequent to meditation, with theta and alpha activation related to proficiency of practice. Sensory evoked potential assessment of concentrative meditation yields amplitude and latency changes for some components and practices. Cognitive event-related potential evaluation of meditation implies that practice changes attentional allocation. Neuroimaging studies indicate increased regional cerebral blood flow measures during meditation. Taken together, meditation appears to reflect changes in anterior cingulate cortex and dorsolateral prefrontal areas. Neurophysiological meditative state and trait effects are variable but are beginning to demonstrate consistent outcomes for research and clinical applications. Psychological and clinical effects of meditation are summarized, integrated, and discussed with respect to neuroimaging data.

Meditation, mindfulness and executive control: the importance of emotional acceptance and brain-based performance monitoring

Rimma Teper and Michael Inzlicht

Social Cognitive & Affective Neuroscience

Volume 8, Issue, Pp. 85-92.

2013

Previous studies have documented the positive effects of mindfulness meditation on executive control. What has been lacking, however, is an understanding of the mechanism underlying this effect. Some theorists have described mindfulness as embodying two facets—present moment awareness and emotional acceptance. Here, we examine how the effect of meditation practice on executive control manifests in the brain, suggesting that emotional acceptance and performance monitoring play important roles. We investigated the effect of meditation practice on executive control and measured the neural correlates of performance monitoring, specifically, the error-related negativity (ERN), a neurophysiological response that occurs within 100 ms of error commission. Meditators and controls completed a Stroop task, during which we recorded ERN amplitudes with electroencephalography. Meditators showed greater executive control (i.e. fewer errors), a higher ERN and more emotional acceptance than controls. Finally, mediation pathway models further revealed that meditation practice relates to greater executive control and that this effect can be accounted for by heightened emotional acceptance, and to a lesser extent, increased brain-based performance monitoring.

Meditation-prayer as a healing complement for human spiritual and physical suffering

Sanou, Lucien, Ph.D.

Walden University, Dissertation

2013, 238 pages; 3558886

2013

Relieving pain and suffering while waiting for standard medical mediations to be efficient is a key global health goal. Mindful meditation through the use of prayer that focuses on healing was used by mystics through the ages; yet no primary medical care protocol exists to prepare a patient to face a pain crisis using spiritual means with or without medication. Guided by the constructivist and the pragmatic worldview, the purpose of this phenomenological study was to describe online university students' experiences with using a type of meditation-prayer to serve as a possible standard medical model in those times of pain crises or suffering. A mixed, purposeful sampling design was used to select a total of 15 students following posting the study on the university website. A final sample of 13 responded to the research questions interested in (a) types of meditation-prayer used in times of suffering, (b) types of suffering alleviated, (c) the effects of meditation-prayer on suffering, and (d) feelings about integrating meditation-prayer into conventional primary health care interventions. Transcribed data, collected using email interviews, were validated via triangulation, member checking, rich description, and researcher bracketing; these data were also inclusive of discrepant information. Findings revealed that participants used different types of meditation-prayer in conventional health care that may be effective in restoring autonomic balance and adaptability in times of suffering. These findings can be used to inform leadership for health care institutions on faith-based care of suffering. They may also guide leadership in conventional health care in developing a possible faith-based model and in integrating meditation-prayer as a complement to alleviate suffering.

Meditation effects within the hippocampal complex revealed by voxel-based morphometry and cytoarchitectonic probabilistic mapping

Eileen Luders, Florian Kurth, Arthur W. Toga, Katherine L. Narr and Christian Gaser

Front. Psychol.

4:398. doi: 10.3389/fpsyg.2013.00398. 4:398. doi: 10.3389/fpsyg.2013.00398.

2013

Scientific studies addressing anatomical variations in meditators' brains have emerged rapidly over the last few years, where significant links are most frequently reported with respect to gray matter (GM). To advance prior work, this study examined GM characteristics in a large sample of 100 subjects (50 meditators, 50 controls), where meditators have been practicing close to 20 years, on average. A standard, whole-brain voxelbased morphometry approach was applied and revealed significant meditation effects in the vicinity of the hippocampus, showing more GM in meditators than in controls as well as positive correlations with the number of years practiced. However, the hippocampal complex is regionally segregated by architecture, connectivity, and functional relevance. Thus, to establish differential effects within the hippocampal formation (cornu ammonis, fascia dentata, entorhinal cortex, subiculum) as well as the hippocampal-amygdaloid transition area, we utilized refined cytoarchitectonic probabilistic maps of (peri-) hippocampal subsections. Significant meditation effects were observed within the subiculum specifically. Since the subiculum is known to play a key role in stress regulation and meditation is an established form of stress reduction, these GM findings may reflect neuronal preservation in long-term meditators— perhaps due to an attenuated release of stress hormones and decreased neurotoxicity.

Dynamic correlations between heart and brain rhythm during Autogenic meditation

Dae-Keun Kim, Kyung-Mi Lee, [...], and Seung Wan Kang

Frontiers in Human Neuroscience

2013; 7: 414

2013

This study is aimed to determine significant physiological parameters of brain and heart under meditative state, both in each activities and their dynamic correlations. Electrophysiological changes in response to meditation were explored in 12 healthy volunteers who completed 8 weeks of a basic training course in autogenic meditation. Heart coherence, representing the degree of ordering in oscillation of heart rhythm intervals, increased significantly during meditation. Relative EEG alpha power and alpha lagged coherence also increased. A significant slowing of parietal peak alpha frequency was observed. Parietal peak alpha power increased with increasing heart coherence during meditation, but no such relationship was observed during baseline. Average alpha lagged coherence also increased with increasing heart coherence during meditation, but weak opposite relationship was observed at baseline. Relative alpha power increased with increasing heart coherence during both meditation and baseline periods. Heart coherence can be a cardiac marker for the meditative state and also may be a general marker for the meditative state since heart coherence is strongly correlated with EEG alpha activities. It is expected that increasing heart coherence and the accompanying EEG alpha activations, heart brain synchronicity, would help recover physiological synchrony following a period of homeostatic depletion.

Men developing emotional intelligence through meditation? Integrating narrative, EEG, and cognitive evidence

Tim Lomas, Trudi Edginton, Tina Cartwright, and Damien Ridge

2013

Traditional masculine norms around emotions (e.g., inexpressiveness) can mean men have difficulties managing their emotions, contributing to potential mental health problems. However, it is recognized that men and masculinities are diverse, and that some men can positively self-manage their mental health, although this has received little attention in the literature. Uniquely, we sought to find men who had discovered ways to engage constructively with their emotions, in this case through meditation. Thirty male meditators, recruited using a maximum variation sampling strategy, participated in a longitudinal mixed method study in the UK. Participants undertook two cognitive neuroscience sessions – approximately one year apart – comprising cognitive assessments of attention, in combination with EEG measurement during task performance and meditation. In-depth narrative interviews exploring men's experiences of meditation were also conducted at both time points, analyzed using a modified constant comparison approach. Taken together, the quantitative and qualitative results suggested men developed attention skills through meditation, although there were variations according to previous meditation experience (e.g., a sharper longitudinal increase in theta amplitude under meditation for novice practitioners). Moreover, development of attention appeared to enhance men's emotional intelligence, which in turn could be conducive to wellbeing. The paper has implications for psychologists working with men, pointing to the potential for teaching men about better regulating their emotions for improved wellbeing.

Qigong: Application

Evaluation of the Sustaining Effects of Tai Chi Qigong in the Sixth Month in Promoting Psychosocial Health in COPD Patients: A Single-Blind, Randomized Controlled Trial

Aileen W. K. Chan et al.

The Scientific World Journal

Volume 2013 (2013), Article ID 425082, 11 pages

2013

Objectives. To evaluate the sustaining effects of Tai Chi Qigong (TCQ) in improving the psychosocial health in chronic obstructive pulmonary disease (COPD) patients in the sixth month. Background. COPD affects both physical and emotional aspects of life. Measures to minimize patients' suffering need to be implemented. Methods. 206 COPD patients were randomly assigned into three groups: TCQ group, exercise group, and control group. The TCQ group completed a three-month TCQ program, the exercise group practiced breathing and walking exercise, and the control group received usual care. Results. Significant group-by-time interactions in quality of life (QOL) using St. George's respiratory questionnaire ($P = 0.002$) and the perceived social support from friends using multidimensional scale of perceived social support ($P = 0.04$) were noted. Improvements were observed in the TCQ group only. Conclusions. TCQ has sustaining effects in improving psychosocial health; it is also a useful and appropriate exercise for COPD patients.

The sustaining effects of Tai chi Qigong on physiological health for COPD patients: A randomized controlled trial

Aileen W.K. Chan et al.

Complementary Therapies in Medicine

Volume 21, Issue 6, December 2013, Pages 585–594

2013

Objectives
To evaluate the sustaining effects of Tai chi Qigong in improving the physiological health for COPD patients at sixth month.

Design
A randomized controlled trial. Subjects were in three randomly assigned groups: Tai chi Qigong group, exercise group, and control group.

Setting
The 206 subjects were recruited from five general outpatient clinics.

Interventions
Tai chi Qigong group completed a 3-month Tai chi Qigong program. Exercise group practiced breathing and walking as an exercise. Control group received usual care.

Main outcome measures
Primary outcomes included six-minute walking distance and lung functions. Secondary outcomes were dyspnea and fatigue levels, number of exacerbations and hospital admissions.

Results
Tai chi Qigong group showed a steady improvement in exercise capacity (P < .001) from baseline to the sixth month. The mean walking distance increased from 298 to 349 meters (+17%). No significant changes were noted in the other two groups. Tai chi Qigong group also showed improvement in lung functions (P < .001). Mean forced expiratory volume in 1 s increased from .89 to .99 l (+11%). No significant change was noted in the exercise group. Deterioration was found in the control group, with mean volume decreased from .89 to .84 l (−5.67%). Significant decreased in the number of exacerbations was observed in the Tai chi Qigong group. No changes in dyspnea and fatigue levels were noted among the three groups.

Conclusions
Tai chi Qigong has sustaining effects in improving the physiological health and is a useful and appropriate exercise for COPD patients.

Levels of fatigue and distress in senior prostate cancer survivors enrolled in a 12-week randomized controlled trial of Qigong

Rebecca A. Campo, Neeraj Agarwal, Paul C. LaStayo, Kathleen O'Connor, Lisa Pappas, Kenneth M. Boucher, Jerry Gardner, Sierra Smith, Kathleen C. Light, Anita Y. Kinney

Journal of Cancer Survivorship

October 2013

2013

Purpose
Fatigue is a commonly reported symptom by prostate cancer survivors and is associated with significant distress and declines in quality of life. Qigong is a mind–body activity that consists of both physical activity and meditative aspects. This 12-week randomized controlled trial examined the feasibility and efficacy of a Qigong intervention for improving older prostate cancer survivors' levels of fatigue and distress.

Methods
Forty older (median age = 72, range = 58–93), fatigued (cut-off value of ≥1 on the CTCAEv4.0, >20 on a fatigue grading scale), and sedentary (<150 min of moderate exercise/week) prostate cancer survivors were randomized to 12 weeks of Qigong or stretching classes. Primary outcomes were feasibility (i.e., retention and class attendance rates) and fatigue [Functional Assessment of Chronic Illness Therapy—Fatigue (FACIT-Fatigue)], and secondary outcome was distress [Brief Symptom Inventory-18 (BSI-18)].

Results
Study retention rates did not significantly differ between study groups (Qigong = 80 %, stretching = 65 %, p = 0.48). The Qigong group had significantly higher class attendance than the stretching group (p = 0.04). The Qigong group had significantly greater improvements in the FACIT-Fatigue (p = 0.02) and distress (i.e., BSI-18 Somatization, Anxiety, & Global Severity Index, p's < 0.05), than the Stretching group.

Conclusions
This 12-week Qigong intervention was feasible and potentially efficacious in improving senior prostate cancer survivors' levels of fatigue and distress levels. Future, larger definitive randomized controlled trials are needed to confirm these benefits in older prostate cancer survivors and in racially and ethnically diverse populations.
Implications for cancer survivors

Qigong may be an effective nonpharmacological intervention for the management of senior prostate cancer survivors' fatigue and distress.

Extension Trial of Qigong for Fibromyalgia: A Quantitative and Qualitative Study

Jana Sawynok, Mary Lynch, and Dana Marcon

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 726062, 12 pages

2013

This extension trial is an open-label observational trial of 20 subjects with fibromyalgia who undertook level 2 Chaoyi Fanhuan Qigong (CFQ) training following an earlier controlled trial of level 1 CFQ. Subjects practiced 60 min/day for 8 weeks and continued some daily practice for 6 months. Quantitative measures, assessed at baseline, 8 weeks, 4 and 6 months, were of pain, impact, sleep, physical and mental functions, and practice time. Qualitative comments also were recorded. Compared to baselines, CFQ practice led to significant improvements in pain, impact, sleep, and physical function in the 13 subjects (65%) who completed the trial; changes were present at 8 weeks and were maintained for the 6-month trial duration. A highly motivated subgroup of , who practiced the most, had the best outcomes in terms of end symptomology, and qualitative comments indicated health benefits in other domains as well. Qualitative comments by the remaining trial completers and withdrawals indicate different experiences with the practice. This extension trial indicates that diligent CFQ practice over time produces significant health gains in fibromyalgia in a subset of individuals. Future studies will need to address factors that might predispose to favourable outcomes.

The Benefits of Medical Qigong in Patients With Cancer: A Descriptive Pilot Study

Janine Overcash et al.

Clinical Journal of Oncology Nursing

Volume 17, Number 6 / December 2013

2013

Medical Qigong (MQ) is a mind-body exercise that includes movement and meditation and is beneficial in reducing high blood pressure, high cholesterol, anxiety, stress, pain, and incidence of falls. The purpose of the current study was to determine whether patients with cancer and survivors who participated in an MQ class experienced a change in fatigue, depression, and sleep from a preintervention evaluation to a postintervention evaluation. Participants were patients diagnosed with cancer who participated in MQ classes. Some were actively undergoing cancer treatment (e.g., surgery, hormone therapy, radiation therapy, chemotherapy) and some were receiving no treatment. Patients diagnosed with cancer and enrolled in an MQ class were invited to participate. A packet of surveys was completed before the first class and before the final class. Scores showed a reduced depression score after completing the five-week MQ course. Those findings indicate that MQ is helpful in reducing some of the problems associated with cancer and cancer treatment.

The Treatment of Depressed Chinese Americans Using Qigong in a Health Care Setting: A Pilot Study

Albert Yeung et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 168784, 5 pages

2013

Background. This pilot study examined the feasibility and efficacy of providing Qigong treatment in a health center to Chinese Americans with major depressive disorder (MDD). Methods. Fourteen Chinese Americans with MDD were enrolled, and they received a 12-week Qigong intervention. The key outcome measurement was the 17-item Hamilton Rating Scale for Depression (HAM-D17); the Clinical Global Impressions-Severity (CGI-S) and -Improvement (CGI-I), the Quality of Life Enjoyment and Satisfaction Questionnaire, Short Form (Q-LES-Q-SF), and the Multidimensional Scale of Perceived Social Support (MSPSS) were also administered. Positive response was defined as a decrease of 50% or more on the HAM-D17, and remission was defined as HAM-D17 ≤ 7. Patients' outcome measurements were compared before and after the Qigong intervention. Results. Participants ( ) were 64% female, with a mean age of 53 (±14). A 71% of participants completed the intervention. The Qigong intervention resulted in a positive treatment-response rate of 60% and a remission rate of 40% and statistically significant improvement, as measured by the HAM-D17, CGI-S, CGI-I, Q-LES-Q-SF, and the family support subscale of the MSPSS. Conclusions. The Qigong intervention provided at a health care setting for the treatment of primary care patients with MDD is feasible. Further studies with larger sample sizes are warranted.

External Qi of Yan Xin Qigong Inhibits Activation of Akt, Erk1/2 and NF-κB and Induces Cell Cycle Arrest and Apoptosis in Colorectal Cancer Cells

Yan, X. et al.

Cell Physiol Biochem

2013;31:113-122

2013

Background/Aims: Colorectal cancer (CRC) is the second leading cause of cancer death in the Western countries. Novel approaches of treatment are needed for CRC. The purpose of the present study was to investigate cytotoxic effect of external Qi of Yan Xin Qigong (YXQ-EQ) on human colorectal cancer cells. Methods: The effect of YXQ-EQ on viability, cell cycle progression and apoptosis in colorectal cancer HT-29 cells was investigated. Phosphorylation of Akt and Erk1/2, activation of NF-κB and the expression of proteins involved in regulation of cell cycle and apoptosis were examined by Western blot analysis. Results: YXQ-EQ markedly decreased viability and blocked colony formation of HT-29 cells. YXQ-EQ downregulated cyclin D1 expression and increased accumulation of cyclin-dependent kinase inhibitors p21Cip1 and p27Kip1, resulting in G1 cell cycle arrest. YXQ-EQ induced apoptosis in HT-29 cells in association with decreased expression of antiapoptotic proteins Bcl-xL, XIAP, survivin and Mcl-1 and elevated expression of proapoptotic protein Bax. YXQ-EQ significantly repressed phosphorylation of Akt and Erk1/2 and NF-κB activation in HT-29 cells, suggesting that YXQ-EQ may exert cytotoxic effect through regulating signaling pathways critical for cell proliferation and survival. Furthermore, YXQ-EQ treated PBS and an YXQ-EQ treated plant extract induced apoptosis in HT-29 cells. Conclusion: These findings show that YXQ-EQ has potent cytotoxic effect on HT-29 cells and suggest that YXQ-EQ could be potentially used for colorectal cancer treatment either directly or indirectly via carriers.

Psychological Effects of Yi Ren Medical Qigong and Progressive Resistance Training in Adults With Type 2 Diabetes Mellitus: A Randomized Controlled Pilot Study

Putiri, Amy L.; Lovejoy, Jennifer C.; Gillham, Sara; Sasagawa, Masa; Bradley, Ryan; Guan-Cheng Sun

Alternative Therapies in Health & Medicine

Jan/Feb2012, Vol. 18 Issue 1, p30-34. 5p.

2012

Background Previous studies suggest that qigong therapy has physiological benefits for adults with type 2 diabetes; however, information about the psychological benefits of qigong therapy in this population is limited.
Objective The objective of this research project was to identify psychological responses to qigong vs control interventions in adults with type 2 diabetes.
Design The research team designed a randomized, controlled, three-arm clinical trial comparing 12 weeks of Yi Ren Medical Qigong (YRMQ), progressive resistance training (PRT), and standard care.
Setting The study was performed at Bastyr University Research Institute, Kenmore, Washington.
Participants Participants were 13 men and 19 women (N = 32) with diagnosed type 2 diabetes, a mean age of 56.3 ± 8.1 (standard deviation) years, glycated hemoglobin >7.5%, and fasting blood glucose >7 mmol/dL (126 mg/dL). Intervention • For 12 weeks, participants in the YRMQ and PRT group attended a 1-hour weekly group session that a certified instructor led and were instructed to practice at least twice a week for 30 minutes.
Primary Outcome Measures The research team used the Perceived Stress Scale and the Beck Depression Inventory scores to analyze the data.
Results YRMQ decreased perceived-stress scores by 29.3% (P< .05) and depression scores by 14.3% (not significant [NS]). The active control group, PRT, also decreased stress scores by 18.6% ENS) and decreased depression scores by 50% (P< .03). Stress and depression measures remained unchanged in the standard care group.
Conclusion YRMQ and PRT may be beneficial in reducing perceived stress and improving depression in patients with type 2 diabetes, although verification of the clinical significance of these findings requires a longer study with a larger sample size.

Benefit of Qigong Exercise in Patients With Fibromyalgia: A Pilot Study

Wen Liu et al.

International Journal of Neuroscience

November 2012, Vol. 122, No. 11 , Pages 657-664

2012

Objective: Fibromyalgia (FM) patients present with widespread chronic pain and other symptoms. Some studies in the literature have reported inconsistent results after a Qigong exercise intervention in patients with FM. The purpose of this study was to test the feasibility of a home-based Qigong exercise in patients with FM. Methods: A total of 14 subjects were randomly assigned into one of two groups. The experimental group went through a six-week Qigong exercise program involving meditation, deep breathing, and synchronized rhythmic body movements. The control group took part in a sham Qigong exercise program using the same body movements also for six weeks. Clinical assessments at baseline and end of intervention used the Short-Form McGill Pain Questionnaire, Multidimensional Fatigue Inventory, Pittsburgh Sleep Quality Index, and Fibromyalgia Impact Questionnaire. Results: Group mean scores of four measurements were significantly ($p < .0125$) reduced in the intervention group, but not in the control group. The percentage changes in the four measurements were 44.2%, 24.8%, 37.3%, and 44.3% in the intervention group, and 10.1%, 6.3%, 9.9%, and 11.8% in the control group. Conclusion: Qigong exercise may potentially be an effective self-management approach in controlling FM symptoms. In this pilot study, regular daily Qigong exercise, accumulated number of exercise sessions, and the specific form of Qigong exercise may all be important factors for the significant improvement in the study subjects. Future research is required to determine whether the same benefit can be obtained in a larger sample.

A preliminary study of the effects of Tai Chi and Qigong medical exercise on indicators of metabolic syndrome, glycaemic control, health-related quality of life, and psychological health in adults with elevated blood glucose

X Liu, Y D Miller, N W Burton, W J Brown

Br J Sports Med

Volume 44, Issue 10

2010

Objectives To evaluate the feasibility, acceptability and effects of a Tai Chi and Qigong exercise programme in adults with elevated blood glucose.

Design, Setting, and Participants A single group pre–post feasibility trial with 11 participants (3 male and 8 female; aged 42–65 years) with elevated blood glucose.

Intervention Participants attended Tai Chi and Qigong exercise training for 1 to 1.5 h, 3 times per week for 12 weeks, and were encouraged to practise the exercises at home.

Main Outcome Measures Indicators of metabolic syndrome (body mass index (BMI), waist circumference, blood pressure, fasting blood glucose, triglycerides, HDL-cholesterol); glucose control (HbA1c, fasting insulin and insulin resistance (HOMA)); health-related quality of life; stress and depressive symptoms.

Results There was good adherence and high acceptability. There were significant improvements in four of the seven indicators of metabolic syndrome including BMI (mean difference −1.05, $p<0.001$), waist circumference (−2.80 cm, $p<0.05$), and systolic (−11.64 mm Hg, $p<0.01$) and diastolic blood pressure (−9.73 mm Hg, $p<0.001$), as well as in HbA1c (−0.32%, $p<0.01$), insulin resistance (−0.53, $p<0.05$), stress (−2.27, $p<0.05$), depressive symptoms (−3.60, $p<0.05$), and the SF-36 mental health summary score (5.13, $p<0.05$) and subscales for general health (19.00, $p<0.01$), mental health (10.55, $p<0.01$) and vitality (23.18, $p<0.05$).

Conclusions The programme was feasible and acceptable and participants showed improvements in metabolic and psychological variables. A larger controlled trial is now needed to confirm these promising preliminary results

A randomized controlled trial for the use of qigong in the treatment of pre and mild essential hypertension

J Park, et al.

BMC Complement Altern Med

2012; 12(Suppl 1): P192.

2012

Purpose
Hypertension is a risk factor for cardiovascular disease, and the prevalence of hypertension tends to increase with age. Current treatments for hypertension have side effects and poor adherence. Qigong has been studied as an alternative therapy for hypertension; however, the types of qigong used in those studies were diverse, and there have not been many well-designed randomized controlled trials. Our objective is to evaluate the effects of qigong on blood pressure, health status and hormone levels for pre- or mild hypertension.

Methods
Forty subjects with pre- or mild hypertension were randomized to either the qigong exercise group or the non-treated group. Participants in the qigong group conducted qigong exercises 5 times per week for 8 weeks, and participants in the non-treated group maintained their current lifestyle, including diet and exercise. The use of antihypertensive medication was not permitted. The primary endpoint was a change in patient blood pressure. Secondary endpoints were patient health status (as measured by the MYMOP2 questionnaires) and changes in hormone levels.

Results
Of the 40 participants that were randomized, 35 completed the study. Systolic and diastolic blood pressures were significantly decreased after qigong treatment compare to baseline only in the qigong group ($p<.001$ in SBP, $p<.0001$ in DBP). In the non-treated group, there was no significant difference in blood pressure. Change of blood pressure between the qigong and the non-treated group was significant ($p<.01$ in SBP and DBP). The score of MYMOP2 showed a more significant decrease in the qigong group than the non-treated group ($p=.035$). Any

differences in the hormones renin, angiotensin, cortisol, or norepinephrine were not significant between the two groups.

Conclusion
Qigong appears safe and has a positive effect on blood pressure and health status in pre and mild hypertension patients. Further long-term studies with a larger number of subjects are warranted.

Effects of Qigong Therapy on Alleviating Symptoms in Cancer Patients: An Overview of Systematic Reviews

Myeong Soo Lee, Byeongsang Oh, David Rosenthal, Edzard Ernst

Evidence-based Anticancer Complementary and Alternative Medicine

Volume 4, 2013, pp 113-125

2013

Owing to the limitations and side effects of conventional cancer treatment, especially in relation to quality of life, patients are increasingly utilizing complementary and alternative medicine to supplement health-related outcomes. However, evidence for the safety and efficacy of such treatments is lacking. Qigong is often used to improve the symptoms of cancer patients, although scientific evidence is unclear. The aim of this chapter was to critically evaluate all systematic reviews (SRs) of Qigong for the symptomatic treatment of cancer. We searched 11 electronic databases including MEDLINE, Embase, AMED, the Cochrane Library, six Korean Medical Databases, and a Chinese Database and our departmental files without restrictions on time or language. The search terms involved the following MeSH terms: “Qigong” AND “systematic review OR meta-analysis” AND “cancer”. The methodological quality of all SRs was evaluated using the Overview Quality Assessment Questionnaire. Of 26 potentially relevant publications, five met our inclusion criteria. Three SRs evaluated the effects of both internal and external Qigong. One SR evaluated the effect of internal Qigong, and another evaluated external Qigong. The quality of the SRs was mixed but two SRs had minor flaws only. All SRs noted that the quality of most primary studies was poor. The conclusions of the five SRs were inconsistent. The poor quality SRs tended to draw positive conclusions, while the higher quality SRs failed to do so. More than 50% of the primary studies included in the SRs were not randomized and thus open to selection bias, which may be the primary reason for the inconsistency in the conclusions of the SRs. Overall, no clearly positive conclusions were identified. It follows that Qigong as a symptomatic treatment for cancer is currently not supported by sound evidence.

The Effects of Health Qigong Training of Elderly Single Women on Pain Consciousness and Depression

Liang Dong; Jae-Bum Lee; Yong-Kuk Kim; Young-Sook Kim

International Journal of Applied Sports Sciences

Dec2013, Vol. 25 Issue 2, p118-126. 9p.

2013

The purpose of this study was to identify the effects of Qigong training of elderly single women on their pain consciousness and depression. To achieve the goal of this study, 102 female elder's were randomly placed into three groups of Health Qigong such as YiJinJing training group, LiuZiJue training group and control group with no training. They were trained for 12 weeks and the changes in their pain consciousness and depression were observed. After identifying the difference among three groups, the following conclusions were made. First, pain consciousness and depression were significantly improved in YiJinJing training group and LiuZiJue training group in pre and post assessments, while there was no difference in the control group. Second, in one-way ANOVA analysis of three groups on pain consciousness, there was significant difference between control group and YiJinJing training group, between control group and LiuZiJue training group, and between YiJinJing training group and LiuZiJue training group. Third, in ANOVA analysis of three groups on depression, there was significant difference between control group and YiJinJing training group, and between control group and LiuZiJue training group. The results show that YiJinJing training and LiuZiJue training of Health Qigong made effects on pain consciousness and depression of elderly single women, in particular YiJinJing training was more effective than LiuZiJue on pain

consciousness.

Shoulder Mobility, Muscular Strength, and Quality of Life in Breast Cancer Survivors with and without Tai Chi Qigong Training

Shirley S. M. Fong et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 787169, 7 pages

2013

Objectives. To compare the shoulder mobility, muscular strength, and quality of life (QOL) among breast cancer survivors with and without Tai Chi (TC) Qigong training to those of healthy individuals and to explore the associations between shoulder impairments and QOL in breast cancer survivors with regular TC Qigong training. Methods. Eleven breast cancer survivors with regular TC Qigong training, 12 sedentary breast cancer survivors, and 16 healthy participants completed the study. Shoulder mobility and rotator muscle strength were assessed by goniometry and isokinetic dynamometer, respectively. QOL was assessed using the Functional Assessment of Cancer Therapy-Breast (FACT-B) questionnaire. Results. Goniometric measurements of the active range of motion in the flexion, abduction, and hand-behind-the-back directions were similar among the three groups. The TC Qigong-trained breast cancer survivors had significantly higher isokinetic peak torques of the shoulder rotator muscles (at 180/s) than untrained survivors, and their isokinetic shoulder muscular strength reached the level of healthy individuals. Greater shoulder muscular strength was significantly associated with better functional wellbeing in breast cancer survivors with TC Qigong training. However, no significant between-group difference was found in FACT-B total scores. Conclusions. TC Qigong training might improve shoulder muscular strength and functional wellbeing in breast cancer survivors.

Tai chi Qigong improves lung functions and activity tolerance in COPD clients: A single blind, randomized controlled trial

Aileen W.K. Chan et al.

Complementary Therapies in Medicine

Volume 19, Issue 1, February 2011, Pages 3–11

2011

Objective

To evaluate the effectiveness of a Tai chi Qigong (TCQ) program in enhancing respiratory functions and activity tolerance in clients with chronic obstructive pulmonary disease (COPD).
Design

A single-blind, randomized controlled trial.
Setting

Five general outpatient clinics in Hong Kong.
Intervention

In total, 206 COPD clients were randomly assigned into one of the three groups, namely, TCQ, exercise, and control group. Subjects in the TCQ group received a TCQ program consisting of two 60-min sessions each week for three months. Subjects in the exercise group were taught to practice breathing techniques combined with walking as an exercise. Subjects in the control group were instructed to maintain their usual activities. Data collection was performed at baseline and at the 6-week and 3-month marks.
Outcomes

Lung functions, 6-min walk test, and COPD exacerbation rate.
Results

Results of repeated measures of analysis of covariance demonstrated that there were significant interaction effects between time and group in forced vital capacity ($p = .002$, $\eta 2 = .06$), forced expiratory volume in 1 s ($p < .001$, $\eta 2 = .02$), walking distance ($p < .001$), and exacerbation rate ($p = .006$, $\eta 2 = .06$) at 3 months. Improvements were noted in the TCQ group. No changes were observed in the exercise group, while a decline in lung functions was noticed in the control group.
Conclusion

Tai chi Qigong was able to improve respiratory functions and activity tolerance level in COPD clients. The breathing and walking exercise helped maintain lung functions and slow down disease progression.

Impact of Medical Qigong on quality of life, fatigue, mood and inflammation in cancer patients: a randomized controlled trial

B. Oh et al.

Annals of Oncology

Volume 21, Issue 3. Pp. 608-614.

2010

Background: Substantial numbers of cancer patients use complementary medicine therapies, even without a supportive evidence base. This study aimed to evaluate in a randomized controlled trial, the use of Medical Qigong (MQ) compared with usual care to improve the quality of life (QOL) of cancer patients.

Patients and methods: One hundred and sixty-two patients with a range of cancers were recruited. QOL and fatigue were measured by Functional Assessment of Cancer Therapy—General and Functional Assessment of Cancer Therapy—Fatigue, respectively, and mood status by Profile of Mood State. The inflammatory marker serum C-reactive protein (CRP) was monitored serially.

Results: Regression analysis indicated that the MQ group significantly improved overall QOL ($t144 = -5.761$, $P < 0.001$), fatigue ($t153 = -5.621$, $P < 0.001$), mood disturbance ($t122 = 2.346$, $P = 0.021$) and inflammation (CRP) ($t99 = 2.042$, $P < 0.044$) compared with usual care after controlling for baseline variables.

Conclusions: This study indicates that MQ can improve cancer patients' overall QOL and mood status and reduce specific side-effects of treatment. It may also produce physical benefits in the long term through reduced inflammation.

A Randomized Controlled Trial of Qigong Exercise on Fatigue Symptoms, Functioning, and Telomerase Activity in Persons with Chronic Fatigue or Chronic Fatigue Syndrome

Rainbow T. H. Ho et al.

ann. behav. med.

(2012) 44:160–170

2012

Background Chronic fatigue is common in the general population. Complementary therapies are often used by patients with chronic fatigue or chronic fatigue syndrome to manage their symptoms.
Purpose This study aimed to assess the effect of a 4-month qigong intervention program among patients with chronic fatigue or chronic fatigue syndrome.
Methods Sixty-four participants were randomly assigned to either an intervention group or a wait list control group. Outcome measures included fatigue symptoms, physical functioning, mental functioning, and telomerase activity.
Results Fatigue symptoms and mental functioning were significantly improved in the qigong group compared to controls. Telomerase activity increased in the qigong group from 0.102 to 0.178 arbitrary units ($p<0.05$). The change was statistically significant when compared to the control
group ($p<0.05$).
Conclusion Qigong exercise may be used as an alternative and complementary therapy or rehabilitative program for chronic fatigue and chronic fatigue syndrome.

Qigong training and effects on stress, neck-shoulder pain and life quality in a computerised office environment

L. Skoglund et al.

Complementary Therapies in Clinical Practice

Volume 17, Issue 1, February 2011, Pages 54–57

2011

Background
Qigong is a Chinese health promoting exercise with a rhythmic pattern of slow movements and breathing affecting the autonomous nervous system.

Objectives
To examine the implementation of Qigong for half an hour daily in a computerised office, and to study effects on health state, general health, neck-shoulder and lumbar spine symptoms and stress after six weeks training

Design
A crossover intervention study with 37 employees randomised in two groups. A questionnaire was completed one week before starting study and every second week during the training period. After 6 weeks the first group stopped and the second group started the training.

Results
There was a small significant improvement of neck pain and disability following therapy.

Conclusion
Qigong training may reduce neck disability in office workers. A longer training period might be needed in further Qigong studies in healthy, normal populations.

Qigong improves quality of life in women undergoing radiotherapy for breast cancer

Zhen Chen MD et al.

Cancer

Volume 119, Issue 9, pages 1690–1698, 1 May 2013

2013

BACKGROUND:
Radiotherapy may lead to side effects that undermine patients' quality of life (QOL). Although mind-body practices like qigong appear to improve QOL in cancer survivors, little is known about their benefits for patients who are receiving radiotherapy. Thus, in the current randomized controlled trial, the authors examined the efficacy of a qigong intervention on QOL in women with breast cancer during and after treatment.

METHODS:
Ninety-six women with breast cancer were recruited from a cancer center in Shanghai, China, and were randomized to a qigong group (N = 49) or a waitlist control group (N = 47). Women in the qigong group attended 5 weekly classes over 5 or 6 weeks of radiotherapy. QOL outcomes (ie, depressive symptoms, fatigue, sleep disturbance, and overall QOL) and cortisol slopes were assessed at baseline, during treatment, at the end of treatment, 1 month later, and 3 months later.

RESULTS:
The mean age of the women was 46 years (range, 25-64 years). Seven percent of women had stage 0 disease, 25% had stage I disease, 40% had stage II disease, and 28% had stage III disease. Fifty-four percent of women underwent mastectomy. Multilevel analyses revealed that women in the qigong group reported less depressive symptoms over time than women in the control group ($P = .05$). Women who had elevated depressive symptoms at the start of radiotherapy reported less fatigue ($P < .01$) and better overall QOL ($P < .05$) in the qigong group compared with the control group, and these findings were clinically significant. No significant differences were observed for sleep disturbance or cortisol slopes.

CONCLUSIONS:
The current results indicated that qigong may have therapeutic effects in the management of QOL among women who are receiving radiotherapy for breast cancer. Benefits were particularly evident for patients who had preintervention elevated levels of depressive symptoms.

Qigong Versus Exercise Versus No Therapy for Patients With Chronic Neck Pain: A Randomized Controlled Trial

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Spine

15 March 2011 - Volume 36 - Issue 6 - p 419–427

2011

Study Design. Randomized controlled trial.

Objective. To evaluate whether qigong is more effective than no treatment and not inferior to exercise therapy.

Summary of Background Data. Lifetime prevalence of chronic neck pain is close to 50%. Qigong is often used by patients, although, the evidence is still unclear.

Methods. Patients (aged 20–60 years) with chronic neck pain (visual analog scale, VAS ≥40 mm) were randomized to 1) qigong or 2) exercise therapy (18 sessions over 6 months) or 3) waiting list (no treatment). At baseline and after 3 and 6 months, patients completed standardized questionnaires assessing neck pain (VAS), neck pain and disability, and quality of life (Short Form SF-36 questionnaire, SF-36). The primary endpoint was average pain in the last 7 days on VAS at 6-month follow-up. Statistical analysis included generalized estimation equation models adjusted for baseline values and patient expectation.

Results. A total of 123 patients (aged 46 ± 11 years, 88% women) suffering from chronic neck pain for 3.2 (SD ±

1.6) years were included. After 6 months, a significant difference was seen between the qigong and waiting list control groups (VAS mean difference: −14 mm [95% CI = −23.1 to −5.4], P = 0.002). Mean improvements in the exercise group were comparable to those in the qigong group (difference between groups −0.7 mm [CI = −9.1 to 7.7]) but failed to show statistical significance (P = 0.092). Neck pain and disability, and SF-36 results also yielded superiority of qigong over no treatment and similar results in the qigong and exercise therapy groups.

Conclusion. Qigong was more effective than no treatment in patients with chronic neck pain. Further studies could be designed without waiting list control and should use a larger sample to clarify the value of qigong compared to exercise therapy.

Effect of medical Qigong on cognitive function, quality of life, and a biomarker of inflammation in cancer patients: a randomized controlled trial

Byeongsang Oh, Phyllis N. Butow, Barbara A. Mullan, Stephen J. Clarke, Philip J. Beale, Nick Pavlakis, Myeong Soo Lee, David S. Rosenthal, Linda Larkey, Janette Vardy

Support Care Cancer

(2012) 20:1235–1242

2012

Purpose Cancer patients often experience diminished cognitive function (CF) and quality of life (QOL) due to the side effects of treatment and the disease symptoms. This study evaluates the effects of medical Qigong (MQ; combination of gentle exercise and meditation) on CF, QOL, and inflammation in cancer patients.
Methods Eighty-one cancer patients recruited between October 2007 and May 2008 were randomly assigned to two groups: a control group (n=44) who received the usual health care and an intervention group (n=37) who participated in a 10-week MQ program. Self-reported CF was measured by the European Organization for Research and Treatment of Cancer (EORTC-CF) and the Functional Assessment of Cancer Therapy—Cognitive (FACT-Cog). The Functional Assessment of Cancer Therapy—General (FACT-G) was used to measure QOL. C-reactive protein (CRP) was assessed as a biomarker of inflammation.
Results The MQ group self-reported significantly improved CF (mean difference (MD)=7.78, t51=−2.532, p=0.014) in the EORTC-CF and all the FACT-Cog subscales [perceived cognitive impairment (MD=4.70, t43=−2.254, p=0.029), impact of perceived cognitive impairment on QOL (MD=1.64, t45=−2.377, p=0.024), and perceived cognitive abilities.

Health-related quality of life in persons with long-term neck pain after treatment with qigong and exercise therapy respectively

Birgitta Lansinger, Jane Y. Carlsson, Margareta Kreuter & Charles Taft

European Journal of Physiotherapy

September 2013, Vol. 15, No. 3 , Pages 111-117

2013

The aims of this study were to evaluate health-related quality of life (HRQoL) in individuals with long-term, non-specific neck pain before and after treatment with qigong versus exercise therapy and to compare their HRQoL with an age and sex-matched reference population. A total of 122 persons were randomly assigned to either qigong or exercise therapy. HRQoL was measured with the 36-item Short Form Health Survey (SF-36) and pain intensity was assessed with a visual analogue scale (VAS) before and immediately after treatment, and at 12-month follow-up. Both treatment groups improved on all subscales; however, no differences were observed between the treatment groups either before or after treatment. Those who experienced pain relief (at least 10 mm change on VAS; 53%) also significantly improved from baseline on all SF-36 subscales. Persons with chronic neck pain had significantly lower scores on all SF-36 subscales than normative reference values both before and after treatment. The results of this study indicate no differences between qigong and exercise therapy in HRQoL outcome; however, broad HRQoL improvements seem to be contingent on significant pain reduction. As pain

reduction was achieved in roughly half of the study group, more work is needed to refine these therapies, to identify neck pain persons most likely to benefit from them and to develop other physiotherapy treatment strategies suitable to non-responders.

A randomized controlled trial of qigong for fibromyalgia

Mary Lynch, Jana Sawynok, Chok Hiew and Dana Marcon

Arthritis Research & Therapy

14:R178, doi:10.1186/ar3931, 3 August 2012

2012

Introduction

Fibromyalgia is difficult to treat and requires the use of multiple approaches. This study is a randomized controlled trial of qigong compared with a wait-list control group in fibromyalgia.
Methods

One hundred participants were randomly assigned to immediate or delayed practice groups, with the delayed group receiving training at the end of the control period. Qigong training (level 1 Chaoyi Fanhuan Qigong, CFQ), given over three half-days, was followed by weekly review/practice sessions for eight weeks; participants were also asked to practice at home for 45 to 60 minutes per day for this interval. Outcomes were pain, impact, sleep, physical function and mental function, and these were recorded at baseline, eight weeks, four months and six months. Immediate and delayed practice groups were analyzed individually compared to the control group, and as a combination group.
Results

In both the immediate and delayed treatment groups, CFQ demonstrated significant improvements in pain, impact, sleep, physical function and mental function when compared to the wait-list/usual care control group at eight weeks, with benefits extending beyond this time. Analysis of combined data indicated significant changes for all measures at all times for six months, with only one exception. Post-hoc analysis based on self-reported practice times indicated greater benefit with the per protocol group compared to minimal practice.
Conclusions

This study demonstrates that CFQ, a particular form of qigong, provides long-term benefits in several core domains in fibromyalgia. CFQ may be a useful adjuvant self-care treatment for fibromyalgia.

Qigong exercise improves the sleep quality of the patients with chronic fatigue syndrome: A waitlist randomized controlled trial

Jessie SM Chan et al.

141st APHA Annual Meeting

Monday, November 4, 2013 : 3:10 PM - 3:30 PM

2013

Background: Our previous studies showed Qigong exercise may reduce fatigue level of patients with chronic fatigue syndrome (CFS). Sleep disturbance is a common complaint in CFS. However, few studies investigated it. Objectives: Effects of Qigong exercise on sleep quality and fatigue were assessed. The correlations between changes of sleep quality and fatigue were assessed as well as dosage of Qigong practice.

Methods: A RCT was conducted with Qigong (n = 75) and control (n = 75) groups. 16 sessions (twice a week for 8 weeks) of Baduanjin Qigong of 1.5 hours each was delivered. Fatigue was measured by Chalder's fatigue and sleep quality was measured by Pittsburgh sleep quality index (PSQI) at baseline (T0), post-intervention (T1) and 3-

month post-intervention (T2). The interaction effect of group and time in sleep quality and fatigue between two groups were compared by ANOVA. The correlations between changes of outcomes (T1 – T0) with dosage of Qigong were assessed. Results: PSQI were 10.0 (3.7) at T0, 8.2 (3.4) at T1 and 8.3 (3.4) at T2 for intervention group, and 10.2 (3.8), 9.5 (3.7) and 9.3 (3.5) for control group respectively. F-values for effect of group x time were 3.006 (p=0.048) for PSQI and 10.376 (p<0.001) for fatigue. Change of PSQI had significantly positive association (R=0.569, p< 0.001) with that of fatigue, and significantly negative with attendance rate of Qigong class (R=-0.288, p=0.013)

Conclusion: It suggested Qigong exercise can improve sleep quality of CFS and dosage of Qigong practice had a close relationship with improvement of sleep quality.

Physical health benefits of health Qigong and Energize programs in American elementary school classrooms

C Wang et al.

BMC Complement Altern Med.

2012; 12(Suppl 1): O52

2012

Purpose
With the increasing use of complementary and alternative medicine, mind-body exercises (i.e., Tai Chi, Yoga, and Qigong) have become more popular in the United States. In particular, numerous recent investigations have suggested the positive benefits of Qigong for cardiovascular fitness, musculoskeletal conditions, and stress. However, such research is largely limited to adults and the elderly. Few studies have explored the benefits of Qigong in the pediatric population. Thus, the purpose of this study is to investigate: (1) whether Health Qigong is effective, and (2) how effective it is compared with conventional exercise among elementary school children.

Methods
A pre- and post-test quasi-experimental design was used to assess the effects of three different modes of exercise: (1) aerobic exercise (Energize), (2) mind-body exercise (Health Qigong), and (3) conventional physical education (PE) activities, in terms of improving health during a 16-week intervention, as measured by Heart Rate (HR), Sit-and-Reach (SR), and Body Mass Index (BMI) in children.

Results
One hundred and five children provided valid data from two elementary schools in Southern Indiana. Of the 105 students, 57 (35.2%) were boys. The average age was 9 years old. The repeated measures analyses of variance revealed a significant decrease in HR ($F=70.54$, $p<.001$, $\eta 2 =.409$), SR ($F=11.68$, $p<.001$, $\eta 2 =.103$), and BMI ($F=41.97$, $p<.001$, $\eta 2 =.292$). In particular, BMI decreased more quickly from the Health Qigong group, with a mean change of 0.698 ($p<.001$), than the Energize (0.197, $p<.05$) and the PE group (0.224, $p<.05$).

Conclusion
Health Qigong can be as effective as aerobic exercise and physical education activities in reducing HR and increasing SR among elementary school children. Given the significant reduction in BMI, Health Qigong should be further investigated on a possible mechanism to help lose body weight.

The Effects of Qigong on Anxiety, Depression, and Psychological Well-Being: A Systematic Review and Meta-Analysis

Fang Wang et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 152738, 16 pages

2013

Introduction. The effect of Qigong on psychological well-being is relatively unknown. This study systematically reviewed the effects of Qigong on anxiety, depression, and psychological well-being. Methods. Using fifteen studies published between 2001 and 2011, a systematic review was carried out and meta-analyses were performed on studies with appropriate homogeneity. The quality of the outcome measures was also assessed. Results. We categorized these studies into three groups based on the type of subjects involved as follows: (1) healthy subjects, (2) subjects with chronic illnesses, and (3) subjects with depression. Based on the heterogeneity assessment of available studies, meta-analyses were conducted in three studies of patients with type II diabetes in the second group, which suggested that Qigong was effective in reducing depression (ES= -0.29; 95% CI, −0.58–0.00) and anxiety (ES= -0.37; 95% CI, −0.66–0.08), as measured by Symptom Checklist 90, and in improving psychological well-being (ES= -0.58 ; 95% CI, −0.91–0.25) as measured by Diabetes Specific Quality of Life Scale. Overall, the quality of research methodology of existing studies was poor. Conclusions. Preliminary evidence suggests that Gigong may have positive effects on psychological well-being among patients with chronic illnesses. However the published studies generally had significant methodological limitations. More high-quality studies are needed.

Functional and Psychosocial Effects of Health Qigong in Patients with COPD: A Randomized Controlled Trial

Bobby H.P. Ng, Hector W.H. Tsang, Alice Y.M. Jones, C.T. So, and Thomas Y.W. Mok

The Journal of Alternative and Complementary Medicine

March 2011, 17(3): 243-251

2011

Context: The initial gain from a Pulmonary Rehabilitation Program (PRP) among patients with chronic obstructive pulmonary disease (COPD) begins to fade away 6 months after the completion of a rehabilitation program. One possible reason may be due to the poor compliance of the patients to the existing forms of home exercise program (e.g., walking, weight training activities, etc.).

Objectives: This study tested the efficacy of health qigong (HQG), a traditional Chinese exercise, as an adjunct home exercise program in optimizing the gains obtained from PRP until 6 months after discharge.

Design: This was a randomized controlled trial (RCT) on a mind–body exercise intervention.

Participants: Eighty (80) patients with COPD receiving conventional PRP pulmonary rehabilitation program were randomized to the HQG intervention group (n = 40) and control group (n = 40).

Outcome measures: Assessments were undertaken by blinded assessors at baseline, discharge from training, and follow-up (FU) at 3 and 6 months. Primary outcomes involved functional capacity scales and secondary outcomes involved quality-of-life scales.

Results: Intention-to-treat analysis identified trends of improvement in all outcome measures in the HQG group, whereas lesser improvement and trends of deteriorations were identified in the control group. Ancillary analysis using a per-protocol method, however, identified significantly better improvements in functional capacity measures among the HQG at the 6-month FU.

Conclusions: This RCT provided some evidence to support the positive effect of HQG as an adjunct home exercise for rehabilitation among people with COPD and to support further related research.

Effects of Qigong Exercise on Upper Limb Lymphedema and Blood Flow in Survivors of Breast Cancer. A Pilot Study

Shirley S. M. Fong et al.

Integr Cancer Ther

January 2014 vol. 13 no. 1 54-61

2014

Hypothesis. Qigong exercise is a popular method for relieving the side effects of conventional cancer treatments in survivors of breast cancer, yet its effects are not empirically assessed. This study aimed to investigate the effects of qigong exercise on upper limb lymphedema, arterial resistance, and blood flow velocity in survivors with breast cancer and mastectomy. Study Design. This study was conducted as a prospective clinical trial. Methods. Eleven survivors of breast cancer with qigong experience (mean age = 58.3 ± 10.1 years) were assigned to the experimental group and 12 survivors of breast cancer without qigong experience (mean age = 53.8 ± 4.2 years) were assigned to the control group. They all had breast cancer–related lymphedema. All procedures were completed within one session. After baseline measurements were taken, the experimental group performed 18 Forms Tai Chi Internal Qigong for approximately 6 minutes while the control group rested for similar duration in a sitting position. Both groups were then reassessed. All participants were measured on their affected upper limb circumference (by using tape measures), peripheral arterial resistance, and blood flow velocities (using a Doppler ultrasound machine). Results. The between-group differences were not significant for all outcome measures at baseline ($P > .05$). The circumferences of the affected upper arm, elbow, forearm and wrist decreased after qigong exercise ($P < .05$). However, no significant difference was found in the circumference measures between the 2 groups posttest ($P > .0125$). In terms of vascular outcomes, the resistance index decreased and the maximum systolic arterial blood flow velocity (SV) and minimum diastolic arterial blood flow velocity (DV) increased significantly after qigong exercise ($P < .05$). The between-group difference was close to significant for SV ($P = .018$) and was significant for DV ($P < .001$) posttest. Conclusion. Qigong exercise could reduce conventional cancer therapy side effects such as upper limb lymphedema and poor circulatory status in survivors of breast cancer. However, such effects may be temporary, and further studies must be conducted to explore longer term effects.

Effects of Qigong on Depression: A Systemic Review

Byeongsang Oh et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 134737, 8 pages

2013

Physical exercises and relaxation have been found to be beneficial for depression. However, there is little evidence on the use of Qigong, a mind-body practice integrating gentle exercise and relaxation, in the management of depression. The aim of this paper is to evaluate the effects of Qigong on depression. The paper examined clinical trials measuring the effect of Qigong on depression within six large-scale medical research databases (PubMed, Medline, ProQuest, Science Direct, EMBASE, and PsycInfo) till October 2011. Key words "Qigong," "depression," and "mood" were used. Ten studies were identified as original randomized controlled trial (RCT) studies investigating the effect of Qigong on depression as primary (n=2) or secondary outcome (n=8). Four studies reported positive results of the Qigong treatment on depression; two reported that Qigong effect on depression was as effective as physical exercise. One study reported that Qigong was comparable to a conventional rehabilitation program, but the remaining three studies found no benefits of Qigong on depression. While the evidence suggests the potential effects of Qigong in the treatment of depression, the review of the literature shows inconclusive results. Further research using rigorous study designs is necessary to investigate the effectiveness of Qigong in depression.

External Qi of Yan Xin Qigong induces cell death and gene expression alterations promoting apoptosis and inhibiting proliferation, migration and glucose metabolism in small-cell lung cancer cells

Xin Yan, Feng Li, Igor Dozmorov, Mark Barton Frank, Ming Dao, Michael Centola, Wei Cao, Dan Hu

Molecular and Cellular Biochemistry

April 2012, Volume 363, Issue 1-2, pp 245-255

2012

Small-cell lung cancer (SCLC) is a highly malignant carcinoma with poor long-term survival. Effective treatment remains highly demanded. In the present study, we demonstrated that External Qi of Yan Xin Qigong (YXQ-EQ) exerted potent cytotoxic effect towards SCLC cell line NCI-H82 via induction of apoptosis. Global gene expression profiling identified 39 genes whose expression was altered by YXQ-EQ in NCI-82 cells. Among them, semi-quantitative RT-PCR and real-time qPCR analyses confirmed that the gene expression levels of apoptotic proteins death-associated protein kinase 2 and cell death-inducing DFFA-like effector b were upregulated, whereas that of oncoproteins DEK and MYCL1, cell migration-promoting proteins CD24 and integrin-alpha 9, and glycolytic enzyme aldolase A were downregulated. These findings suggest that YXQ-EQ may exert anticancer effect through modulating gene expression in a way that facilitates cancer cell apoptosis while represses proliferation, metastasis, and glucose metabolism.

The Effect of Qigong Exercise on Immunity and Infections: A Systematic Review of Controlled Trials

Chong-Wen Wang et al.

The American Journal of Chinese Medicine

Volume 40, Issue 06, 2012

2012

The objective of this review was to summarize and critically evaluate the clinical evidence of the effect of qigong exercise on immunity and its efficacy in the prevention or treatment of infectious diseases. Thirteen databases were searched from their respective inceptions through January 2011, and all controlled clinical trials of qigong exercise on immunity and infections were included. Quality and validity of the included studies were evaluated using standard scales. Seven studies including two randomized controlled trials (RCTs), two controlled clinical trials (CCTs) and three retrospective observational studies (ROSs) met the inclusion criteria. One study focused on functional measures of immunity (antigen-induced immunity) and six studies on enumerative parameters of immunity. No study on clinical symptoms relevant to infectious diseases could be identified. Overall, the included studies suggested favorable effects of qigong exercise on immunity, but the quality of research for most of the studies examined in this review was poor. Further rigorously designed studies are required, which should adhere to accepted standards of methodology for clinical trials.

Qigong as a Novel Intervention for Service Members With Mild Traumatic Brain Injury

Terri L. Yost, Ann Gill Taylor

EXPLORE: The Journal of Science and Healing

Volume 9, Issue 3, May–June 2013, Pages 142–149

2013

Purpose
To describe the experience of internal qigong practice in service members diagnosed with mild traumatic brain injury (mTBI).

Theoretical Framework
The study used qualitative descriptive phenomenological methods originally described by Husserl and later refined by Giorgi.

Methodology
Participants were interviewed about their experiences while learning qigong to determine their level of interest,

benefits, and/or adverse effects; ease of learning/performing the routine; and any barriers to practice.

Sample
Six service members with mTBI receiving outpatient neurorehabilitation at the Defense and Veterans Brain Injury Center–Charlottesville Rehabilitation Center.

Intervention
Participants learned Reflective Exercise Qigong, a form of qigong developed specifically to require less complex movement and balance than most forms of qigong, making it ideal for those with potential coordination and balance issues.

Data Collection
Semistructured interviews took place after four weeks of formal qigong instruction, then again after the subjects completed eight weeks. Interview data were analyzed with phenomenological methods described by Giorgi.

Results
Four themes emerged from the interview data: “the physical experience of qigong,” “regaining control,” “no pain, a lot of gain,” and “barriers to qigong practice.” Participants offered examples of how qigong enabled them to control refractory symptoms after mTBI while decreasing reliance on pharmacotherapy. All agreed that qigong was uniquely conducive to the disciplined mindset of military service members and that the simplicity of Reflective Exercise qigong, compared with similar modalities such as tai chi and yoga, was well suited to individuals with decreased balance, cognition, and memory related to mTBI.

A Pilot Study of Qigong Practice and Upper Respiratory Illness in Elite Swimmers

Peggy A. Wright et al.

The American Journal of Chinese Medicine

Volume 39, Issue 03, 2011

2011

Upper respiratory tract infections (URIs) are a common complaint in competitive swimmers and can adversely affect performance. No intervention has yet been shown to reduce URI incidence in intensively trained athletes. The University of Virginia varsity swim team received three weeks of training in qigong for the purpose of reducing stress and improving health. Our primary objective was to assess the relationship between qigong practice and symptoms of URI during a time when swimmers would be at high URI risk. Secondary objectives were to assess degree of compliance with a qigong practice regimen, to evaluate differences between qigong practitioners and non-practitioners, and to determine the response-rate and reliability of a newly developed internet-based, self-report survey. The design was observational, cross-sectional, and prospective. Weekly data on cold and flu symptoms, concurrent health problems and medication use, and qigong practice were gathered for seven weeks. Retrospective information on health and qigong training response was also collected. Participants were 27 of the 55 members of the University of Virginia Swim Team in the Virginia Athletic Department. Main outcomes were measures of aggregated cold/flu symptoms and Qigong practice. Survey completion was 100%, with no missing data, and reliability of the instrument was acceptable. Cold and flu symptoms showed a significant non-linear association with frequency of qigong practice ($R2 = 0.33$, $p < 0.01$), with a strong, inverse relationship between practice frequency and symptom scores in swimmers who practised qigong at least once per week ($R2 = 0.70$, $p < 0.01$). Qigong practitioners did not differ from non-practitioners in demographic or lifestyle characteristics, medical history, supplement or medication use, or belief in qigong. These preliminary findings suggest that qigong practice may be protective against URIs among elite swimmers who practice at least once per week.

Early Intervention for Autism With a Parent-Delivered Qigong Massage Program: A Randomized Controlled Trial

Louisa M. T. Silva, Mark Schalock and Kristen Gabrielsen

American Journal of Occupational Therapy

September/October 2011 vol. 65 no. 5 550-559

2011

A recent randomized controlled trial (RCT) of a dual parent and trainer-delivered qigong massage intervention for young children with autism resulted in improvement of measures of autism as well as improvement of abnormal sensory responses and self-regulation. The RCT evaluated the effects of the parent-delivered component of the intervention. Forty-seven children were randomly assigned to treatment and wait-list control groups. Treatment group children received the parent-delivered program for 4 mo. Trained therapists provided parent training and support. Improvement was evaluated in two settings—preschool and home—by teachers (blind to group) and parents. Results showed that the parent-delivered program was effective in improving measures of autism (medium effect size) and sensory and self-regulatory responses (large effect size). Teacher data on measures of autism were confirmed by parent data. Results indicate that the parent-delivered component of the program provided effective early intervention for autism that was suitable for delivery at home.

Chaoyi Fanhuan Qigong and Fibromyalgia: Methodological Issues and Two Case Reports

Jana Sawynok, Chok Hiew, and Dana Marcon

The Journal of Alternative and Complementary Medicine

April 2013, 19(4): 383-386

2013

Background: Qigong, which has many forms, was recently described as “meditative movement,” and represents a self-care technique that can contribute to improved health. There are challenges involved in research into qigong, including defining the amount of instruction required for threshold effects, and whether there is a relationship between amount of practice and outcomes. Recent clinical trials examining Chaoyi Fanhuan Qigong (CFQ) for fibromyalgia have used a standardized regimen of practice over an 8-week period.

Case report: Between a pilot trial and a subsequent larger controlled trial, 2 individuals with fibromyalgia of over 20 years' duration undertook levels 1–4 CFQ training involving movements and meditation at a community-based event and then practiced regularly over a 1-year period. They subsequently both undertook further training, and consolidated their health gains. Both observed major reductions in pain, improvements in sleep, mood, emotions, food and other allergies, and consider their condition essentially resolved. They have ceased taking several medications and have resumed their lives.

Results: The information provided by these individuals could not be derived from a clinical trial, as it is unlikely people would commit to this amount of practice.

Conclusions: The case study approach provides data with respect to extent of practice, perseverance and long-term outcomes, and provides valuable insight into the potential of this self-care practice.

Effect of Qigong on quality of life: a cross-sectional population-based comparison study in Taiwan

sung-Jung Ho et al.

BMC Public Health

2011, 11:546

2011

Background
Qigong, similar to Tai Chi Chuan, is beneficial to health. In Taiwan, Waitankung, a type of Qigong, is as popular as Tai Chi Chuan. This population-based comparison study compares the health-related quality of life between people practicing Waitankung and their comparable community residents.

Methods
A total of 165 individuals practicing Waitankung were matched by age and sex with 660 general individuals for comparison. Information about health-related quality of life, measured by the SF-36, and other basic and health conditions was obtained from the questionnaires. This study used the linear mixed-effect regression model to examine the association between health-related quality of life and the practice of Waitankung.

Results
Compared with either sedentary individuals or individuals practicing other types of exercise, the Waitankung group scored higher for eight and five out of ten SF-36 components, respectively. The Waitankung group scored better in general health, vitality, and physical component summary compared to individuals participating in other types of exercise, even when considering the energy expended by exercise.

Conclusion
The results suggest that Waitankung exercising is significantly associated with health-related quality of life. Waitankung may serve as an exercise choice for middle-aged and older people to improve overall quality of life.

A Critical Review of the Effects of Medical Qigong on Quality of Life, Immune Function, and Survival in Cancer Patients

Byeongsang Oh, PhD, Phyllis Butow, PhD, Barbara Mullan, PhD, Amanda Hale, Myeong Soo Lee, PhD, Xinfeng Guo, PhD, Stephen Clarke, MBBS, PhD

Integr Cancer Ther

June 2012 vol. 11 no. 2 101-110

2012

Background. Due to the limitations and side effects of conventional cancer treatment, especially in relation to quality of life (QOL), patients are increasingly utilizing complementary and alternative medicine (CAM) to supplement health-related outcomes. However, evidence for the safety and efficacy of such treatments is lacking. The purpose of the current review was to investigate evidence for the role of one CAM, medical Qigong (MQ), in supportive care. Methods. The literature was searched for reported effects of MQ in improving QOL, immune function, and survival in cancer patients. Results. Although many studies possessed methodological limitations and small sample sizes, encouraging evidence was found for the effects of MQ on these health-related outcomes. More robust evidence in the form of randomized controlled trials with larger sample sizes also reflected positive results for the role of MQ in improving QOL, mood and fatigue parameters, and reducing inflammation. Conclusion. Given such encouraging results, further research is recommended in methodologically sound approaches to further delineate the action of MQ. These findings support the utilization of MQ by cancer patients and the place for such programs in comprehensive cancer care.

Effects of Scheduled Qigong Exercise on Pupils' Well-Being, Self-Image, Distress, and Stress

Yvonne Terjestam, John Jouper, and Caroline Johansson

The Journal of Alternative and Complementary Medicine

September 2010, 16(9): 939-944

2010

Objectives: Psychologic problems is increasing among pupils and has become a major problem in Sweden as well as in other Western countries. The aim of this study was to explore whether scheduled qigong exercise could have an effect on well-being at school, psychologic distress, self-image, and general stress.

Subjects: Pupils, 13–14 years, were assigned to either a qigong group or a control group.

Intervention: The qigong group had scheduled qigong 2 times a week for 8 weeks.

Measures: Self-reported well-being at school, psychologic distress, self-image, and stress were measured pre- and postintervention.

Results: The control group had reduced well-being at school during the semester and the qigong group was stable. The qigong group reduced psychologic distress and stress, and had a tendency to improved self-image, whereas no changes were found in the control group. Self-image explains 47% (R2 = 0.47) of well-being at school, and stress explains 29% (R2 = 0.29) of psychologic distress.

Tai Chi and Qigong for the treatment and prevention of mental disorders

Abbott R, Lavretsky H

The Psychiatric Clinics of North America

[2013, 36(1):109-119]

2013

Tai Chi and Qigong are traditional Chinese exercises that are widely practiced for their health benefits and as martial arts. Evidence suggests that these practices may be effective at treating a range of physical health conditions, and at improving health-related quality of life. There is growing interest in the use of Tai Chi and Qigong to treat mental disorders, because they are noninvasive, exercise-based therapies, and because patients with mental disorders frequently use complementary and alternative medicine. Evidence is promising that these treatments may be effective in reducing depressive symptoms, stress, anxiety, and mood disturbances.

A Pilot Study of Qigong for Reducing Cocaine Craving Early in Recovery

David Smelson, Kevin W. Chen, Douglas Ziedonis, Ken Andes, Amanda Lennox, Lanora Callahan, Stephanie Rodrigues, and David Eisenberg

The Journal of Alternative and Complementary Medicine

February 2013, 19(2): 97-101

2013

Objectives: This pilot study examined the feasibility, preliminary efficacy, and determined the effect sizes of external qigong therapy (EQT) in reducing cue-elicited cocaine craving and associated symptoms among recently abstinent cocaine-dependent (CD) individuals.

Methods: This study randomized 101 CD subjects to either a real EQT (n=51) or sham EQT control (n=50) group. Subjects underwent a baseline assessment and a weekly cue-exposure session for 2 weeks. Total EQT or sham treatments ranged from 4 to 6 sessions in 2 weeks.

Results: EQT-treated subjects displayed a greater reduction in cue-elicited craving ($p=0.06$) and symptoms of depression ($p<0.05$) with medium effect sizes.

Conclusions: This study demonstrated the feasibility of delivering EQT among CD individuals early in residential

treatment. Future research should include a larger sample and examine the mechanisms and potential longitudinal benefits of EQT

Does Parent and Therapist Delivered Qigong Massage Therapy Decrease Sensory and Self-Regulation Impairments in Children Ages 3-6 Years Old with Autism?

Lisa A. White

PCOM Physician Assistant Studies Student Scholarship

2013

2013

OBJECTIVE: The objective of this selective EBM review is to determine whether or not parent and therapist delivered Qigong massage therapy decreases sensory and self-regulation impairments in children ages 3-6 years old with autism.

STUDY DESIGN: Reviewed three English primary studies published in 2005, 2009 and 2011.

DATA SOURCES: All studies were randomized controlled trials that compared a group of children with autism who received Qigong massage treatments to a controlled group of children with autism who did not receive the treatments. All studies were found using PubMED and Cochrane research databases.

OUTCOMES MEASURED: Overall reduction in sensory and self-regulation, as well as the general autistic behaviors of the children, were measured by the utilization of different combinations of professional behavioral tests to evaluate the children before and after the intervention. For example, the Autism Behavior Checklist (ABC) and the Childhood Autism Rating Scale (CARS) were utilized to determine the general autistic behaviors of the children. The Sense and Self-
Regulation Checklist (SSC) was utilized to measure the sensory and self-regulation impairments of the children.

RESULTS: All three randomized controlled trials included in this review indicated that the Qigong massage treatments decreased the sensory and self-regulation impairments of the children as compared to the control group.

CONCLUSIONS: Based on the three randomized controlled trials reviewed, there is measurable evidence to indicate that the incorporation of Qigong massage into the treatment plans of children with autism aids in a reduction of sensory and self-regulation impairments. This review only analyzed the effects of the massage on small sample sizes of children between ages 3 and 6 years old. Further research should include larger sample sizes and included individuals of other ages. Additionally, further research should specify which disease on the autism spectrum the patient possesses.

The Effect of Qigong on Depressive and Anxiety Symptoms: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Chong-Wen Wang et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 716094, 13 pages

2013

Objective. To evaluate clinical trial evidence of the effectiveness of qigong exercise on depressive and anxiety symptoms. Methods. Thirteen databases were searched from their respective inception through December 2012. Relevant randomized controlled trials (RCTs) were included. Effects of qigong across trials were pooled. Standardized mean differences (SMDs) were calculated for the pooled effects. Heterogeneity was assessed using the I2 test. Study quality was evaluated using the Wayne Checklist. Results. Twelve RCTs met the inclusion criteria. The results of meta-analyses suggested a beneficial effect of qigong exercise on depressive symptoms when compared to waiting-list controls or usual care only (SMD = −0.75; 95% CI, −1.44 to −0.06), group newspaper reading (SMD = −1.24; 95% CI, −1.64 to −0.84), and walking or conventional exercise (SMD = −0.52; 95% CI, −0.85 to −0.19), which might be comparable to that of cognitive-behavioral therapy ( ). Available evidence did not suggest a beneficial effect of qigong exercise on anxiety symptoms. Conclusion. Qigong may be potentially beneficial for management of depressive symptoms, but the results should be interpreted with caution due to the limited number of RCTs and associated methodological weaknesses. Further rigorously designed RCTs are warranted.

Effect of qigong training on fatigue in haemodialysis patients: A non-randomized controlled trial

Chin-Yen Wu et al.

Complementary Therapies in Medicine

Available online 10 January 2014

2014

Background
Fatigue is a debilitating symptom in haemodialysis patients. Qigong presents a potentially safe modality of treatment for chronic fatigue patients but has not yet been evaluated in haemodialysis patients.

Objective
The aim of this study is to investigate whether qigong exercise affects fatigue in haemodialysis patients.

Design
A 6-month non-randomized control trial with six measurement periods was conducted. The qigong group was taught to practice qigong three times per week for six months. The control group received usual routine care.

Main outcome measure Fatigue, as measured by the “Haemodialysis Patients Fatigue Scale”.

Results
A total of 172 patients participated in this study, with 71 patients in the qigong group and 101 patients in the control group. The results indicated that all patients experienced mild to moderate fatigue. There was no difference between the qigong and control groups in fatigue at baseline. However, fatigue was lower in the qigong group than in the control group at 8 weeks (43.5 vs. 53.9), 12 weeks (44.7 vs. 53.6), 16 weeks (43.2 vs. 50.8), 20 weeks (42 vs. 50.2), and 24 weeks (41.4 vs. 48.4). The results, based on the generalized estimating equation method, showed that fatigue was significantly lower in the qigong group than in the control group (odds ratio = 0.004, p = 0.005).

Conclusion
Fatigue in the qigong group showed a continuous decrease, which was maintained until the end of data collection at 24 weeks. Thus, qigong presents a potentially effective and safe method to reduce fatigue in haemodialysis patients.

A Systematic Review of the Effectiveness of Qigong Exercise in Cardiac Rehabilitation

Cecilia Lai-Wan Chan et al.

The American Journal of Chinese Medicine

Volume 40, Issue 02, 2012

2012

The objective of this study was to assess evidence for the efficacy and effectiveness of Chinese qigong exercise in rehabilitative programs among cardiac patients. Thirteen databases were searched through to November 2010, and all controlled clinical trials on Chinese qigong exercise among patients with chronic heart diseases were included. For each included study, data was extracted and validity was assessed. Study quality was evaluated and summarized using both the Jadad Scale and the criteria for levels of evidence. Seven randomized controlled trials (RCTs) and one non-randomized controlled clinical trial (CCT) published between 1988 and 2007 met the inclusion criteria. In total, these studies covered 540 patients with various chronic heart diseases including atrial fibrillation, coronary artery disease, myocardial infarct, valve replacement, and ischemic heart disease. Outcome measures emerged in these studies included subjective outcomes such as symptoms and quality of life; and objective outcomes such as blood pressure, ECG findings, and exercise capacity, physical activity, balance, co-ordination, heart rate, and oxygen uptake. Overall, these studies suggest that Chinese qigong exercise seems to be an optimal option for patients with chronic heart diseases who were unable to engage in other forms of physical activity; however, its efficacy and effectiveness in cardiac rehabilitation programs should be further tested.

Effects of Qigong Exercise on Fatigue, Anxiety, and Depressive Symptoms of Patients with Chronic Fatigue Syndrome-Like Illness: A Randomized Controlled Trial

Jessie S. M. Chan et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 485341, 8 pages

2013

Background. Anxiety/depressive symptoms are common in patients with chronic fatigue syndrome- (CFS-) like illness. Qigong as a modality of complementary and alternative therapy has been increasingly applied by patients with chronic illnesses, but little is known about the effect of Qigong on anxiety/depressive symptoms of the patients with CFS-like illness. Purpose. To investigate the effects of Qigong on fatigue, anxiety, and depressive symptoms in patients with CFS-illness. Methods. One hundred and thirty-seven participants who met the diagnostic criteria for CFS-like illness were randomly assigned to either an intervention group or a waitlist control group. Participants in the intervention group received 10 sessions of Qigong training twice a week for 5 consecutive weeks, followed by home-based practice for 12 weeks. Fatigue, anxiety, and depressive symptoms were assessed at baseline and postintervention. Results. Total fatigue score [$F(1, 135) = 13.888$, $P<0.001$], physical fatigue score [$F(1, 135) = 20.852$, $P<0.001$] and depression score [$F(1, 135) = 9.918$, $P=0.002$] were significantly improved and mental fatigue score [$F(1, 135) = 3.902$, $P=0.050$] was marginally significantly improved in the Qigong group compared to controls. The anxiety score was not significantly improved in the Qigong group. Conclusion. Qigong may not only reduce the fatigue symptoms, but also has antidepressive effect for patients with CFS-like illness.

Qigong: Explanation

Acute Effects of Qigong Exercise on Mood and Anxiety

Mattias Johansson, Peter Hassm, John Jouper

Sport, Exercise, and Performance Psychology

Volume 1, Supplement 1 / August 2011, 60-65

2013

Psychosocial stress may lead to increased rates of anxiety and depression. Aerobic exercise and mind-body therapies are frequently described as having positive effects on psychological well-being by enhancing mood and reducing anxiety. Few studies, however, have investigated the acute psychological effects of qigong exercise. Fifty-nine regular qigong exercisers (mean age 50.8 years) were randomized to a Qigong or Control group. Pre- and postmeasurements were then compared. POMS-Depression, Anger, and Fatigue, and STAI-State Anxiety scores decreased significantly in the Qigong group but not in the Control group. Results thereby suggest that qigong exercise can produce desirable psychological effects, and Qigong exercise may therefore be included among other activities performed to boost resistance to daily stressors.

A Comprehensive Review of Health Benefits of Qigong and Tai Chi

Roger Jahnke, Linda Larkey, Carol Rogers, Jennifer Etnier, and Fang Lin

American Journal of Health Promotion

July/August 2010, Vol. 24, No. 6, pp. e1-e25

2010

Objective Research examining psychological and physiological benefits of Qigong and Tai Chi is growing rapidly. The many practices described as Qigong or Tai Chi have similar theoretical roots, proposed mechanisms of action, and expected benefits. Research trials and reviews, however, treat them as separate targets of examination. This review examines the evidence for achieving outcomes from randomized controlled trials (RCTs) of both.

Data Sources The key words Tai Chi, Taiji, Tai Chi Chuan, and Qigong were entered into electronic search engines for the Cumulative Index for Allied Health and Nursing (CINAHL), psychological literature (PsycINFO), PubMed, Cochrane database, and Google Scholar.

Study Inclusion Criteria RCTs reporting on the results of Qigong or Tai Chi interventions and published in peer-reviewed journals from 1993 to 2007.

Data Extraction Country, type and duration of activity, number/type of subjects, control conditions, and reported outcomes were recorded for each study.

Synthesis Outcomes related to Qigong and Tai Chi practice were identified and evaluated.

Results Seventy-seven articles met the inclusion criteria. The nine outcome category groupings that emerged were bone density (n = 4), cardiopulmonary effects (n = 19), physical function (n = 16), falls and related risk factors (n = 23), quality of life (n = 17), self-efficacy (n = 8), patient-reported outcomes (n = 13), psychological symptoms (n = 27), and immune function (n = 6).

Conclusions Research has demonstrated consistent, significant results for a number of health benefits in RCTs, evidencing progress toward recognizing the similarity and equivalence of Qigong and Tai Chi.

Qigong Exercise for the Treatment of Fibromyalgia: A Systematic Review of Randomized Controlled Trials

Cecilia L. W. Chan, Chong-Wen Wang, Rainbow T. H. Ho, Siu-Man Ng, Eric T. C. Ziea, and Vivian Taam Wong

The Journal of Alternative and Complementary Medicine

July 2012, 18(7): 641-646

2012

Objectives: The study objective was to summarize and critically assess the evidence available from randomized controlled trials (RCTs) of qigong exercise for patients with fibromyalgia (FM).

Methods: Thirteen (13) databases were searched up to February 2011. RCTs testing the effects of qigong exercise among patients with FM were included. For each included study, data were extracted and study quality was evaluated using the Jadad Scale.

Results: Four (4) RCTs met the inclusion criteria. One (1) RCT demonstrated beneficial effects of qigong exercise for FM. Two (2) RCTs testing the effectiveness of qigong as a part of a treatment package compared with group education or daily activities failed to show favorable effects of qigong exercise for adult patients with FM. Another RCT comparing qigong with aerobic exercise among children with FM showed effects in favor of aerobic exercise.

Conclusions: Given methodological flaws in the included studies, it is still too early to draw a conclusion about the effectiveness of qigong exercise for FM. Further rigorously designed RCTs are warranted.

EEG source imaging during two Qigong meditations

Pascal L. Faber, Dietrich Lehmann, Shisei Tei, Takuya Tsujiuchi, Hiroaki Kumano, Roberto D. Pascual-Marqui, Kieko Kochi

Cognitive Processing

August 2012, Volume 13, Issue 3, pp 255-265

2012

Experienced Qigong meditators who regularly perform the exercises “Thinking of Nothing” and “Qigong” were studied with multichannel EEG source imaging during their meditations. The intracerebral localization of brain electric activity during the two meditation conditions was compared using sLORETA functional EEG tomography. Differences between conditions were assessed using t statistics (corrected for multiple testing) on the normalized and log-transformed current density values of the sLORETA images. In the EEG alpha-2 frequency, 125 voxels differed significantly; all were more active during “Qigong” than “Thinking of Nothing,” forming a single cluster in parietal Brodmann areas 5, 7, 31, and 40, all in the right hemisphere. In the EEG beta-1 frequency, 37 voxels differed significantly; all were more active during “Thinking of Nothing” than “Qigong,” forming a single cluster in prefrontal Brodmann areas 6, 8, and 9, all in the left hemisphere. Compared to combined initial–final no-task resting, “Qigong” showed activation in posterior areas whereas “Thinking of Nothing” showed activation in anterior areas. The stronger activity of posterior (right) parietal areas during “Qigong” and anterior (left) prefrontal areas during “Thinking of Nothing” may reflect a predominance of self-reference, attention and input-centered processing in the “Qigong” meditation, and of control-centered processing in the “Thinking of Nothing” meditation.

A systematic review of the effectiveness of qigong exercise in supportive cancer care

Cecilia L. W. Chan, Chong-Wen Wang, Rainbow T. H. Ho, Siu-Man Ng, Jessie S. M. Chan, Eric T. C. Ziea, Vivian C. W. Wong

Support Care Cancer

(2012) 20:1121–1133

2012

Purpose Qigong as a complementary and alternative modality of traditional Chinese medicine is often used by cancer patients to manage their symptoms. The aim of this systematic review is to critically evaluate the effectiveness of qigong exercise in cancer care.
Methods Thirteen databases were searched from their inceptions through November 2010. All controlled clinical trials of qigong exercise among cancer patients were included. The strength of the evidence was evaluated for all included studies using the Oxford Centre for Evidence-based Medicine
Levels of Evidence. The validity of randomized controlled trials (RCTs) was also evaluated using the Jadad Scale.
Results Twenty-three studies including eight RCTs and fifteen non-randomized controlled clinical trials (CCTs) were identified. The effects of qigong on physical and psychosocial outcomes were examined in 14 studies and the effects on biomedical outcomes were examined in 15 studies. For
physical and psychosocial outcomes, it is difficult to draw a conclusion due to heterogeneity of outcome measures and variability of the results in the included studies. Among reviewed studies on biomedical outcomes, a consistent tendency appears to emerge which suggests that the patients treated with qigong exercise in combination with conventional methods had significant improvement in immune function than the patients treated with conventional methods alone.
Conclusions Due to high risk of bias and methodological problems in the majority of included studies, it is still too early to draw conclusive statements. Further vigorously designed large-scale RCTs with validated outcome measures are needed.

A Systematic Review and Meta-Analysis of Qigong for the Fibromyalgia Syndrome

Romy Lauche et al.

Evidence-Based Complementary and Alternative Medicine

Volume 2013 (2013), Article ID 635182, 12 pages

2013

Objectives. The fibromyalgia syndrome (FMS) is a chronic condition with only few evidence-based complementary and alternative therapies available. This paper presents a systematic review and meta-analysis of the effectiveness of Qigong for fibromyalgia syndrome. Methods. The PubMed/MEDLINE, Cochrane Library, Embase, PsycINFO, and Cambase databases were screened in December 2012 to identify randomized controlled trials comparing Qigong to control interventions. Major outcome measures were pain and quality of life; and secondary outcomes included sleep quality, fatigue, depression, and safety. Standardized mean differences (SMD) and 95% confidence intervals were calculated. Results. Seven trials were located with a total of 395 FMS patients. Analyses revealed low quality evidence for short-term improvement of pain, quality of life, and sleep quality and very low quality evidence for improvement of fatigue after Qigong for FMS, when compared to usual care. No evidence was found for superiority of Qigong compared to active treatments. No serious adverse events were reported. Discussion. This systematic review found that Qigong may be a useful approach for FMS patients. According to the quality of evidence, only a weak recommendation for Qigong can be made at this point. Further high quality RCTs are required for the conclusive judgment of its long-term effects.

Carrying body and soul and embracing the one: Qigong group in a day-care psychiatric department

David Potika and Shaul Schreiber

Body, Movement and Dance in Psychotherapy: An International Journal for Theory, Research and Practice

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2013

Qigong is an ancient Chinese art of movement, breathing and energy cultivation, which became a focus for medical research in the western world in the last decades. This article presents a module of qigong group in a psychiatric day-care department as the rationale of the group relies on the evidence-based multiple physical and mental benefits of qigong practice. The interface between different qigong elements and psychotherapy is discussed in order to emphasise the beneficial effect of implementation of qigong practice in mental health settings, and the authors suggest that qigong practice should receive more attention from clinicians and body and movement therapists.

Bigu State: Can Meditation Trigger Alternate Metabolic Pathways Through Epigenetic Changes?

Lian Sidorov, Matti Pitkanen, Kean Hin Ooi

Journal of Nonlocality

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2013

Based on preliminary reports, case studies (Roy, 2000; Yan et al., 2002b) as well as an in vitro experiment conducted at University of California, San Diego (Yan et al, 2002a) we propose several new tests designed to confirm and further investigate the ability of human cell cultures treated with Yan Xin Qigong to survive for extended periods of time, in the absence of medium nutrients, when compared to controls. Specifically, our supplementary experimental protocol is intended to ask the following questions: 1. Are there changes in gene expression following the Yan Xin treatment when compared to controls, what physiological/metabolic processes are these genes associated with, and how does the gene expression profile evolve throughout the duration of the experiment under conditions of nutrient deprivation? 2. Is ambient light necessary for the extended survival of the treated cells? 3. Are there biophoton emission (BPE) changes noted at the test culture after the External Qi (EQ) treatment and how does that BPE profile evolve throughout the duration of the experiment, compared to controls? 4. Finally, is there any evidence of information or energy transmission between different cell cultures, that might support the hypothesis of a “remote metabolism” as described by Pitkanen (2013b)?
Conclusion
The above discussion and proposed experiments are just a tentative step toward unlocking the mechanisms behind the mind-body connection from a quantum biological perspective. Much of the existing scientific literature dealing with the effects of meditation has focused on neurophysiological and neuroendocrine responses. However, with the advent of quantum biology and epigenetics, we feel that the time has come to ask more incisive questions. The health benefits of meditation are wide-spread and amply documented – but Qigong and DMILS evidence suggests that we have only scratched the surface. If different types of meditation and targeted visualization can indeed achieve specific physiological effects, as documented above, then we have an obligation to understand the significance of these different protocols and customize them to patients’ specific needs. Furthermore, the potential applications of Yan Xin/ Bigu mental techniques extend beyond the short-term adjunctive cancer interventions (He and Chen 2002; He 2001; He and Zhong 2001) or longevity-promoting lifestyle modifications advocated by current practitioners. Understanding the genetic and physiological mechanisms behind this phenomenon could unlock the door to better diabetes management interventions (Balaji 2012), reduce the overall health costs associated with ROS-related conditions and help undernourished populations supplement their metabolic needs through the application of specific meditation practices, at least on an emergency basis.

Affective responses to qigong: A pilot study of regular practitioners

Mattias Johansson, Peter Hassménc

Journal of Bodywork and Movement Therapies

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Single sessions of Qigong have been associated with increased positive affect/emotional benefits. In the present study the aim was to refine the present understanding by using newly developed research methodologies. Therefore, affective reactions were studied in a group performing Qigong through pre-, during, and post-assessments using a modified version of the short Swedish Core Affect Scale complemented with open-ended questions. Affect was measured on a group and individual level. The results showed a shift during Qigong toward increased pleasant activated and deactivated affect in the group of 46 women who regularly practice Qigong. Inter-individual responses displayed positive affective responses, which also increased as the bout proceeded for the majority of practitioners. Acknowledging some limitations, these findings have practical implications for the enhancement of positive affect and subjective well-being.

Qigong for healthcare: an overview of systematic reviews

Myeong Soo Lee et al.

Journal of the Royal Society of Medicine

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2011

Objectives Qigong has been recommended to improve health and prevent disease but the evidence is inconclusive. The aim of this overview was to critically evaluate all systematic reviews (SRs) of qigong for the treatment of any condition or symptom.

Design Literature searches were carried out in 11 electronic databases for all systematic reviews of the effectiveness of qigong in any indication. Reviews were defined as systematic if they included an explicit and repeatable methods section describing the search strategy and explicit inclusion/exclusion criteria.

Setting Retrospective review of medical database.

Participants Participants with any type of medical conditions of any severity were included.

Main outcome measures Evidence from each systematic review.

Results Ten systematic reviews were included. They related to a wide range of conditions. The primary studies and several of the reviews were associated with a high risk of bias. Five reviews concluded that qigong is effective and five reviews were inconclusive.

Conclusion The effectiveness of qigong is based mostly on poor quality research. Therefore, it would be unwise to draw firm conclusions at this stage.

Psycho-physical and neurophysiological effects of qigong on depressed elders with chronic illness

Hector W.H. Tsang et al.

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This randomized controlled trial examined the psychological, physical, and neurophysiological effects of a qigong exercise program on depressed elders with chronic medical illness. The experimental group (n = 21, 80 ± 7 years) was given a 12-week qigong exercise program, while the comparison group (n = 17, 81 ± 8 years) participated in a newspaper reading program with the same duration and frequency. Measurement of depression symptoms, psychosocial functioning, muscle strengths, salivary cortisol, and serum serotonin was conducted. At 12 weeks, the qigong group had significant reduction in depressive symptoms ($F = 11.68$; $p < 0.025$). Improvement in self-efficacy ($F = 4.30$; $p < 0.050$), self-concept of physical well-being ($F = 6.82$; $p < 0.025$), and right-hand grip strength

(F = 5.25; p = 0.034) was also found when compared with the comparison group. A change in salivary cortisol level was found marginally insignificant between groups (F = 3.16; p = 0.087). However, a decreasing trend of cortisol level was observed. The results provided preliminary evidence for the hypotheses that the antidepressive effect of qigong exercise could be explained by improvement in psychosocial functioning and possibly down-regulation of hyperactivity of the hypothalamic–pituitary–adrenal axis.

Managing stress and anxiety through qigong exercise in healthy adults: a systematic review and meta-analysis of randomized controlled trials

Chong-Wen Wang et al.

BMC Complementary and Alternative Medicine

2014, 14:8

2014

Background
An increasing number of studies have documented the effectiveness of qigong exercise in helping people reduce psychological stress and anxiety, but there is a scarcity of systematic reviews evaluating evidence from randomized controlled trials (RCTs) conducted among healthy subjects.

Methods
Thirteen databases were searched for RCTs from their inception through June 2013. Effects of qigong exercise were pooled across trials. Standardized mean differences (SMDs) were calculated for the pooled effects. Heterogeneity was assessed using the I2 test. The risk of bias was assessed using the Cochrane criteria.

Results
Seven RCTs met the inclusion criteria. Two RCTs suggested that qigong exercise immediately relieved anxiety among healthy adults, compared to lecture attendance and structured movements only. Four RCTs suggested qigong exercise relieved anxiety (pooled SMD = -0.75; 95% CI, -1.11 to -0.40), and three RCTs suggested that qigong exercise reduced stress (pooled SMD = -0.88; 95% CI, -1.22 to -0.55) among healthy subjects following one to three months of qigong practice, compared to wait-list controls.

Conclusions
The available evidence suggests that qigong exercise reduces stress and anxiety in healthy adults. However, given the limited number of RCTs and their methodological flaws, further rigorously designed RCTs are needed.

Developing a Health Qigong program for children: a 16-week curriculum

C Wang, D Seo, R Geib, N Wroblewski, and M Van Puymbroeck

BMC Complement Altern Med

2012; 12(Suppl 1): P268

2012

Purpose
With the increasing use of Traditional Chinese Medicine (TCM) in the West, Qigong has gained popularity for a variety of chronic health issues. However, there is a paucity of available literature that has systematically described the details and teaching strategies of Qigong. The purpose of this paper is three-fold: to demonstrate how to structure lesson content, to provide efficient teaching strategies, and to increase understanding of the underlying mechanisms of such programs' potential benefits.

Methods
A comprehensive literature review and a five-step process based on a theoretical framework (i.e., a formative evaluation approach) were used to develop a Health Qigong for Children program. The procedures include: (1)

identifying the program, (2) developing educational strategies, (3) teaching pilot lessons, (4) consulting experts, and (5) drafting the curriculum.

Results
Sixteen theme-based lesson plans were generated based on two traditional Health Qigong forms. Five promising teaching strategies were synthesized: (1) using theme-based lesson plans, (2) building mind-body connections, (3) balancing repetition and creativity, (4) interweaving pictures, stories, volunteers, and teamwork, and (5) involving parents and school teachers. Suggestions from an expert panel and student volunteers were solicited and incorporated into the program, that is, changing TCM-Based names for each Qigong movement into new names related to plants, animals, or interesting objects, and integrating some fun facts about the plants or animals into each lesson.

Conclusion
The use of a theoretical framework was not only innovative but also effective. The Health Qigong for Children program has been successfully applied at several local elementary schools. Theme-based lessons and effective teaching strategies helped the Health Qigong program to be fun and age-appropriate for children. Suggestions from experts in a variety of fields strengthened the program design. The newly developed curriculum needs to be replicated with larger and various pediatric populations.

Sit, breathe, smile: Effects of single and weekly seated Qigong on blood pressure and quality of life in long-term care

Shane R. Freeman et al.

Complementary Therapies in Clinical Practice

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Long-term care (LTC) facilities house individuals with diverse combinations of cognitive and physical impairments, and the practice of Seated Qigong eliminates common exercise barriers. This study hypothesized: 1) a single session would lower blood pressure (BP) and improve quality of life (QOL) in a generalized LTC population, and 2) these responses would be attenuated with chronic (weekly) Seated Qigong practice. Ten residents (6 female; 86 ± 7 years) participated in 1X/week Seated Qigong sessions for 10-weeks. BP and QOL were assessed pre- and post-session at baseline and following 5- and 10-weeks of Qigong. Systolic BP was significantly reduced immediately post-session after 10-weeks of Qigong ($P = 0.03$), yet unchanged at baseline and after 5-weeks (all $P > 0.05$). Diastolic BP and QOL remained unchanged ($P > 0.05$). A session of Seated Qigong elicits a hypotensive response with exposure, supporting the notion that repeated sessions may provide advantageous health benefits.