

## Anxiety

<b>Title</b>	Three- year follow- up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders.
<b>Author</b>	Miller JJ, Fletcher K, Kabat-Zinn J Department of Psychiatry, University of Massachusetts Medical Center, Worcester 01655, USA.
<b>Abstract</b>	<p>A previous study of 22 medical patients with DSM-III-R-defined anxiety disorders showed improvements in symptoms of anxiety and panic following an 8-week outpatient intervention based on mindfulness meditation. In this study, 3-year follow up data were collected on 18 of the original 22 subjects to probe long-term effects. Measures analysis showed maintenance of the gains obtained in the original study on the Hamilton and Beck Anxiety and Depression scores as well as on the number and severity of panic attacks, and on the Mobility Index-Accompanied and the Fear Survey. Comparison of these results with a larger group of subjects from the intervention suggests generalizability of the results. The majority of subjects had continued the meditation practice at 3 years.</p> <p><b>"We conclude that an intensive but time-limited group stress reduction intervention based on mindfulness meditation can have long-term beneficial effects in the treatment of people diagnosed with anxiety disorders."</b></p>
<b>Journal</b>	Gen Hosp Psychiatry 1995 May;17(3):192-200
<b>Database ID</b>	Medline PMID: 7649463, UI: 95377627

## Chronic pain

<b>Title</b>	The clinical use of mindfulness meditation for the self-regulation of chronic pain.
<b>Author</b>	Kabat-Zinn J, Lipworth L, Burney R
<b>Abstract</b>	<p>Ninety chronic pain patients were trained in mindfulness meditation in a 10-week Stress Reduction and Relaxation Program. Improvement appeared to be independent of gender, source of referral, and type of pain. A comparison group did not show significant improvement on these measures after traditional treatment protocols. At up to 15 months follow-up, improvements were maintained for all measures except present-moment pain.</p> <p><b>"Statistically significant reductions were observed in measures of present-moment pain, negative body image, inhibition of activity by pain, symptoms, mood disturbance, and psychological symptomatology, including anxiety and depression. Pain-related drug utilization decreased and activity levels and feelings of self-esteem increased."</b></p>
<b>Journal</b>	J Behav Med 1985 Jun;8(2):163-90
<b>Database ID</b>	Medline PMID: 3897551, UI: 85293071

## Coronary risk

<b>Title</b>	Trial of relaxation in reducing coronary risk: four year follow up.
<b>Author</b>	Patel C, Marmot MG, Terry DJ, Carruthers M, Hunt B, Patel M
<b>Abstract</b>	<p>In this study, 192 men and women aged 35-64 were identified as having two or more risk factors for high blood pressure, high plasma cholesterol concentration, and current smoking habit of 10 or more cigarettes per day. Randomly allocated to treatment and control groups, both groups were given health education leaflets containing advice to stop smoking, reducing fatty diet and reducing blood pressure. The treatment group was taught eight weekly one-hour sessions on breathing exercises, relaxation, meditation and managing stress. After four years of follow-up, lower blood pressure was maintained in the treatment group but not plasma cholesterol concentration or number of cigarettes smoked. At four years, more subjects in the control group reported having had angina and treatment for hypertension.</p> <p><b>"Incidence of ischaemic heart disease, fatal myocardial infarction, or electrocardiographic evidence of ischaemia was significantly greater in the control group. If the results of this study could be obtained in a larger study the financial and health care implications would be enormous."</b></p>
<b>Journal</b>	Br Med J (Clin Res Ed) 1985 Apr 13;290(6475):1103-6
<b>Database ID</b>	Medline PMID: 3921124, UI: 85175851

## Mental health

<b>Title</b>	Yoga as therapy in psychosomatic medicine.
<b>Author</b>	Goyeche JR
<b>Abstract</b>	<p>The medical benefits of yoga are 'side-effects' of traditional yogic practice, which consists of technology which restores optimal homeostatis by techniques not found in other approaches. Clinical observations of psychosomatic patients indicate that their distorted somatopsychic functioning necessitates their practice of yoga-like therapy.</p> <p><b>"A review of the clinical evidence available indicates that yoga practice has proven most effective with a wide range of psychosomatic and psychiatric disorders."</b></p>
<b>Journal</b>	Psychother Psychosom 1979;31(1-4):373-81
<b>Database ID</b>	Medline PMID: 482559, UI: 80013753

## Psychological changes

<b>Title</b>	Physiological and psychological effects of Hatha-Yoga exercise in healthy women.
<b>Author</b>	Schell FJ, Allolio B, Schonecke OW Department of Internal Medicine, University of Wurzburg, Germany.
<b>Abstract</b>	<p>We measured heart rate, blood pressure, the hormones cortisol, prolactin and growth hormone and certain psychological parameters in a yoga practicing group and a control group. The yoga group had a significant decrease in heart rate during the yoga practice.</p> <p><b>"In the personality inventory the yoga group showed markedly higher scores in life satisfaction and lower scores in excitability, aggressiveness, openness, emotionality and somatic complaints. Significant differences could also be observed concerning coping with stress and the mood at the end of the experiment. The yoga group had significant higher scores in high spirits and extravertedness."</b></p>
<b>Journal</b>	Int J Psychosom 1994;41(1-4):46-52
<b>Database ID</b>	Medline PMID: 7843867, UI: 95146233

## Stress

<b>Title</b>	Mindfulness-based stress reduction in the inner city.
<b>Author</b>	Roth, Beth
<b>Abstract</b>	<p>Studies mindfulness meditation in inner-city settings.</p> <p><b>"Comparing the outpatient medical insurance charges six months prior to and following the mindfulness-based intervention at the University of Massachusetts Stress Reduction Clinic, patients who completed the program demonstrated a statistically significant threefold reduction in average charges per patient, compared to patients who did not complete the program."</b> (Kabat-Zinn J. 1987. "Six-month Hospital Visit Cost Reductions in Medical Patients Following Self-regulatory Training." Washington, D.C.: Society of Behavioral Medicine).</p> <p>At the Harvard Community Health Care Plan, there was a reduction in the number of office visits among patients who completed a behavioral medicine intervention that included training in mindfulness meditation. (Hellman C, Budd M, et al. 1990. "A Study of the Effectiveness of Two Group Behavioral Medicine Interventions for Patients With Psychosomatic Complaints." Journal of Behavioral Medicine. Winter 1990: 165-73.)</p> <p>At a hospital-based program in Utah, six months after completion of the program, patients demonstrated a 60 percent decrease in outpatient clinic visits, a 50 percent decrease in length of hospital stays, and a 90 percent reduction in work absenteeism. (Tate D. 1994. "Mindfulness Meditation Group Training: Effects on Medical and Psychological Symptoms and Positive Psychological Characteristics." Brigham Young University.)</p>
<b>Journal</b>	Advances: The Journal of Mind - Body Health, Fall97, Vol. 13 Issue 4, p50, 9p
<b>Database ID</b>	EBSCO AN: 9711071687, ISSN: 0741-9783

## Reducing Insomnia and Chronic Pain

The Institute for Medical Yoga in Sweden (IMY) part is active in supporting scientific research on yoga and its effects. In the first Swedish research project on the measurable effects of regular yoga practice, some scientists at the Karolinska Institute investigated a number of people with chronic backache problems in 1998. Twenty-seven persons recruited from one of the insurance company's sick leave databases participated in the project that lasted for six months. Details on this study are provided on the next page.

*"In March of 1998, I became a participant in a research project at the Karolinska Institute providing Kundalini Yoga for persons with chronic back problems. After two to three sessions I started to feel the effect that I was improving, both physically and mentally. I now practice Kundalini Yoga every day and I always long for the next opportunity to practice my yoga. After having been on sick leave for 8 months prior to the project, I have not had one day of sick leave since then."*

--Jan Andersson, medical study participant,  
Stockholm, Sweden

Another Swedish yogic research project in the town of Sodertalje in October 1998 investigated the effects of yoga on people with chronic insomnia problems. After six weeks of yoga practice, 77% of the participants showed measurable improvement in their sleeping habits. In one example, a woman who had not slept a full night in 25 years began to sleep every night.

*"Tonight I slept all through the night. During the last 25 years, I have never slept more than two to three hours per night. I am always up at least three times per night. But I feel now that I sleep much better, thanks to yoga. I have slept all through the night for several nights in a row. I feel great."*

-- Jane Berulf, medical study participant,  
Sodertalje, Swede

## To Prevent Chronic Spinal Pain

In 1998, IMY provided Kundalini Yoga classes as part of a medical research project into the prevention of chronic spinal pain at the Karolinska Institute. The project resulted in significant reduction of chronic pain for the participating group.

Title: Prevention of chronic spinal pain - Project Yoga  
Conducted by: Erik Hammarstrom  
Date: January 1999

### **Background**

The Yoga project is a behavior medicine oriented prospective experimental study. It inquires whether yoga is suitable for secondary prevention of non-specific spinal pain (symptom diagnosis is present but not diagnosis of pathology), which leads to periods of sick listing.

### **Purpose**

The purpose of this study was to inquire whether Kundalini Yoga is suitable as a secondary preventative measure for alleviation of non-specific spinal pain among the participants.

### **Method**

The sample comprised twenty-seven persons (fourteen men and thirteen women). The participants were allocated in a gender stratified random fashion to one intervention group and one control group. The intervention consisted of six weeks Yoga training with an instructor, at a total of nine gatherings. The instructor encouraged the trainees to perform the training at home, whereupon they were provided with an audiotape and written instructions. The control group did not perform any Yoga training until the last measurement of the intervention group was completed.

Measurements were performed at four occasions: (1) before the commencement of training; (2) directly after intervention; (3) three months after intervention; and (4) six months after intervention. The measuring instrument comprised the OEQ (Outcome Evaluation Questionnaire), a pain diary and sick-listing data. The OEQ consists of fourteen questions regarding pain intensity, medication, emotional disturbances and behaviors related to pain. The pain diary comprises four questions regarding occupation, pain intensity, emotional distress and sleep quality.

Analysis of covariance (with pre-treatment measures as covariates) was used in calculation of group differences. Question #3 (regarding number of days on medication) and question #5 (regarding quality of sleep) on the OEQ was, additionally, analyzed using non-parametric signed test.

### **Results**

Significant differences between the intervention group and the control group were obtained for pain, quality of sleep and emotional distress. Pain intensity, measured with the pain diary, differed significantly between intervention and control group at post-treatment ( $p < 0.001$ ) and at six months follow-up ( $p < 0.01$ ). Quality of sleep, measured with OEQ, showed significant difference at post-treatment ( $p < 0.001$ ). Emotional distress (in terms of "anxiety-nervousness-irritation") measured with the pain diary, was significantly different between the groups at post-treatment ( $p < 0.01$ ) and at six months follow-up ( $p < 0.05$ ). All of the differences were to the benefit of the intervention group. Sick listing also decreased to a higher extent in the intervention group than in the control group, however not significantly.

### **Conclusion**

The results indicate that Kundalini Yoga, in the form that has been employed in the intervention, can be used for alleviation of spinal pain conditions that lead to periods of sick listing.