

## Role of Complementary Therapies, Self-Help Approaches and Health Coaching in:

### Cardiovascular disease



Vogel J et al. **Integrating Complementary Medicine Into Cardiovascular Medicine: A Report of the American College of Cardiology Foundation Task Force on Clinical Expert Consensus Documents** (Writing Committee to Develop an Expert Consensus Document on Complementary and Integrative Medicine). *Journal of the American College of Cardiology*, Volume 46, Issue 1, 5 July 2005, Pages 184-221 <http://content.onlinejacc.org/cgi/content/full/46/1/184>

Agneta Åkesson et al. **Combined Effect of Low-Risk Dietary and Lifestyle Behaviors in Primary Prevention of Myocardial Infarction in Women.** *Arch Intern Med.* 2007;167(19):2122-2127.

**Background** Limited data are available on the benefit of combining healthy dietary and lifestyle behaviors in the prevention of myocardial infarction (MI) in women.

**Methods** We used factor analysis to identify a low-risk behavior-based dietary pattern in 24 444 postmenopausal women from the population-based prospective Swedish Mammography Cohort who were free of diagnosed cancer, cardiovascular disease, and diabetes mellitus at baseline (September 15, 1997). We also defined 3 low-risk lifestyle factors: nonsmoking, waist-hip ratio less than the 75th percentile (< 0.85), and being physically active (at least 40 minutes of daily walking or bicycling and 1 hour of weekly exercise).

**Results** During 6.2 years (151 434 person-years) of follow-up, we ascertained 308 cases of primary MI. Two major identified dietary patterns, "healthy" and "alcohol," were significantly associated with decreased risk of MI. The low-risk diet (high scores for the healthy dietary pattern) characterized by a high intake of vegetables, fruit, whole grains, fish, and legumes, in combination with moderate alcohol consumption (5 g of alcohol per day), along with the 3 low-risk lifestyle behaviors, was associated with 92% decreased risk (95% confidence interval, 72%-98%) compared with findings in women without any low-risk diet and lifestyle factors. This combination of healthy behaviors, present in 5%, may prevent 77% of MIs in the study population.

**Conclusion** Most MIs in women may be preventable by consuming a healthy diet and moderate amounts of alcohol, being physically active, not smoking, and maintaining a healthy weight.

<http://archinte.ama-assn.org/cgi/content/full/167/19/2122>

Davidson K. **Don't worry, be happy: positive affect and reduced 10-year incident coronary heart disease: The Canadian Nova Scotia Health Survey** *Eur Heart J* (2010) 31 (9): 1065-1070.

**Aims** Positive affect is believed to predict cardiovascular health independent of negative affect. We examined whether higher levels of positive affect are associated with a lower risk of coronary heart disease (CHD) in a large prospective study with 10 years of follow-up.

**Methods and results** We examined the association between positive affect and cardiovascular events in 1739 adults (862 men and 877 women) in the 1995 Nova Scotia Health Survey. Trained nurses conducted Type A Structured Interviews, and coders rated the degree of outwardly displayed positive affect on a five-point scale. To test that positive affect predicts incident CHD when controlling for depressive symptoms and other negative affects, we used as covariates: Center for Epidemiological Studies Depressive symptoms Scale, the Cook Medley Hostility scale, and the Spielberger Trait Anxiety Inventory. There were 145 (8.3%) acute non-fatal or fatal ischaemic heart disease events during the 14 916 person-years of observation. In a proportional hazards model controlling for age, sex, and cardiovascular risk factors, positive affect predicted CHD (adjusted HR, 0.78; 95% CI 0.63–0.96 per point; P 1/4 0.02), the covariate depressive symptoms continued to predict CHD as had been published previously in the same patients (HR, 1.04; 95% CI 1.01–1.07 per point; P 1/4 0.004) and hostility and anxiety did not (both P . 0.05).

**Conclusion** In this large, population-based study, increased positive affect was protective against 10-year incident CHD, suggesting that preventive strategies may be enhanced not only by reducing depressive symptoms but also by increasing positive affect.

<http://eurheartj.oxfordjournals.org/content/31/9/1065.full.pdf+html>

**Yeh GY. Effects of tai chi mind-body movement therapy on functional status and exercise capacity in patients with chronic heart failure: a randomized controlled trial. *Am J Med.* 2004 Oct 15;117(8):541-8.**

**Abstract**

**PURPOSE:** To examine the effects of a 12-week tai chi program on quality of life and exercise capacity in patients with heart failure.

**METHODS:** Thirty patients with chronic stable heart failure and left ventricular ejection fraction < or =40% (mean [+/- SD] age, 64 +/- 13 years; mean baseline ejection fraction, 23% +/- 7%; median New York Heart Association class, 2 [range, 1 to 4]) were randomly assigned to receive usual care (n = 15), which included pharmacologic therapy and dietary and exercise counseling, or 12 weeks of tai chi training (n = 15) in addition to usual care. Tai chi training consisted of a 1-hour class held twice weekly. Primary outcomes included quality of life and exercise capacity. Secondary outcomes included serum B-type natriuretic peptide and plasma catecholamine levels. For 3 control patients with missing data items at 12 weeks, previous values were carried forward.

**RESULTS:** At 12 weeks, patients in the tai chi group showed improved quality-of-life scores (mean between-group difference in change, -25 points, P = 0.001), increased distance walked in 6 minutes (135 meters, P = 0.001), and decreased serum B-type natriuretic peptide levels (-138 pg/mL, P = 0.03) compared with patients in the control group. A trend towards improvement was seen in peak oxygen uptake. No differences were detected in catecholamine levels.

**CONCLUSION:** Tai chi may be a beneficial adjunctive treatment that enhances quality of life and functional capacity in patients with chronic heart failure who are already receiving standard medical therapy.

<http://www.ncbi.nlm.nih.gov/pubmed/15465501>

Blumenthal JA, Sherwood A, Babyak MA, Watkins LL, Waugh R, Georgiades A, Bacon SL, Hayano J, Coleman RE, Hinderliter A. **Effects of exercise and stress management training on markers of cardiovascular risk in patients with ischemic heart disease: a randomized controlled trial. *JAMA* 2005;293:1626–34.**

## Abstract

**Context** Observational studies have shown that psychosocial factors are associated with increased risk for cardiovascular morbidity and mortality, but the effects of behavioral interventions on psychosocial and medical end points remain uncertain.

**Objective** To determine the effect of 2 behavioral programs, aerobic exercise training and stress management training, with routine medical care on psychosocial functioning and markers of cardiovascular risk.

**Design, Setting, and Patients** Randomized controlled trial of 134 patients (92 male and 42 female; aged 40-84 years) with stable ischemic heart disease (IHD) and exercise-induced myocardial ischemia. Conducted from January 1999 to February 2003.

**Interventions** Routine medical care (usual care); usual care plus supervised aerobic exercise training for 35 minutes 3 times per week for 16 weeks; usual care plus weekly 1.5-hour stress management training for 16 weeks.

**Main Outcome Measures** Self-reported measures of general distress (General Health Questionnaire [GHQ]) and depression (Beck Depression Inventory [BDI]); left ventricular ejection fraction (LVEF) and wall motion abnormalities (WMA); flow-mediated dilation; and cardiac autonomic control (heart rate variability during deep breathing and baroreflex sensitivity).

**Results** Patients in the exercise and stress management groups had lower mean (SE) BDI scores (exercise: 8.2 [0.6]; stress management: 8.2 [0.6]) vs usual care (10.1 [0.6];  $P = .02$ ); reduced distress by GHQ scores (exercise: 56.3 [0.9]; stress management: 56.8 [0.9] vs usual care (53.6 [0.9];  $P = .02$ ); and smaller reductions in LVEF during mental stress testing (exercise:  $-0.54\%$  [0.44%]; stress management:  $-0.34\%$  [0.45%]) vs usual care ( $-1.69\%$  [0.46%];  $P = .03$ ). Exercise and stress management were associated with lower mean (SE) WMA rating scores (exercise: 0.20 [0.07]; stress management: 0.10 [0.07]) in a subset of patients with significant stress-induced WMA at baseline vs usual care (0.36 [0.07];  $P = .02$ ). Patients in the exercise and stress management groups had greater mean (SE) improvements in flow-mediated dilation (exercise: mean [SD],  $5.6\%$  [0.45%]; stress management:  $5.2\%$  [0.47%]) vs usual care patients ( $4.1\%$  [0.48%];  $P = .03$ ). In a subgroup, those receiving stress management showed improved mean (SE) baroreflex sensitivity ( $8.2$  [0.8] ms/mm Hg) vs usual care ( $5.1$  [0.9] ms/mm Hg;  $P = .02$ ) and significant increases in heart rate variability ( $193.7$  [19.6] ms) vs usual care ( $132.1$  [21.5] ms;  $P = .04$ ).

**Conclusion** For patients with stable IHD, exercise and stress management training reduced emotional distress and improved markers of cardiovascular risk more than usual medical care alone.

<http://jama.ama-assn.org/content/293/13/1626.full>

## Emani S, Binkley P. **Mind-Body Medicine in Chronic Heart Failure. A Translational Science Challenge.** *Circulation: Heart Failure.* 2010; 3: 715-725.

**Extract** The connection between the mind and body has often been regarded by Western medicine as something ascribed to the mystical and a topic residing outside the scope of scientific thought. However, it has been a long-term integral tenet in the medical practice of many other cultures.<sup>1</sup> It could be argued that the reliance of Western thought on the concept of dualism in which Plato, Aristotle, and other classical philosophers separated the body as a physical entity from the mind as a "spiritual" force has ultimately discouraged health care professionals from serious consideration of what has appeared to be a vague and even mysterious connection between the mind and body.<sup>2</sup> Nevertheless, a growing body of research has progressively identified the mechanistic building blocks that demystify the reciprocal mind-body interaction and show

that it is clearly a physical rather than mystical connection. Descriptions of neurovisceral changes in which readily demonstrated structural alterations in the brain, heart, and other organ systems arise in response to stress and a variety of emotional states provide further demonstration of the true organic mind-body connection. Perhaps the most abundant mechanistic data pertain to the brain-heart interaction under both conditions of health and a variety of cardiovascular disease states. The increasing body of evidence for these important interactions has in fact led to the call for dedicated integrated fields such as neurocardiology or behavioral cardiology.

<http://circheartfailure.ahajournals.org/content/3/6/715.extract>

Steptoe A, Kerry S, Rink E, Hilton S. **The impact of behavioural counselling on stage of change in fat intake, physical activity, and cigarette smoking in adults at increased risk of coronary heart disease.** Am J Public Health. 2001;91:265–269.

Abstract

**OBJECTIVES:** This study assessed stages of change in fat intake, physical activity, and cigarette smoking during a randomized controlled trial of behavioral counseling.

**METHODS:** Twenty general practices (primary health care centers) were randomized to lifestyle counseling by behavioral methods or to usual health promotion. A total of 883 patients were selected for the presence of 1 or more of the following risk factors: cigarette smoking, high cholesterol, or a combination of a high body mass index and low physical activity. Stage of change (precontemplation, contemplation, preparation, and action/maintenance) was assessed at baseline and after 4 and 12 months. **RESULTS:** The odds of moving to action/maintenance for behavioral intervention vs control patients at 4 months were 2.15 (95% confidence interval [CI] = 1.30, 3.56) for fat reduction, 1.89 (95% CI = 1.07, 3.36) for increased physical activity, and 1.77 (95% CI = 0.76, 4.14) for smoking cessation. The likelihood of achieving action/maintenance was related to baseline stage for all 3 behaviors.

**CONCLUSIONS:** Brief behavioral counseling based on advice matched to stage of readiness for change may be valuable in encouraging healthy lifestyles among patients in primary care at raised risk of cardiovascular disease. [http://www.pec-journal.com/medline/record/ivp\\_00900036\\_91\\_265](http://www.pec-journal.com/medline/record/ivp_00900036_91_265)

Gieneke Hospes, Linda Bossenbroek, Nick H.T. ten Hacken, Peter van Hengel, Mathieu H.G. de Greef. **Enhancement of daily physical activity increases physical fitness of outclinic COPD patients: Results of an exercise counseling program.**

Patient Education and Counseling - May 2009 (Vol. 75, Issue 2, Pages 274-278).

Abstract

**Objective** To investigate whether a 12-week pedometer-based exercise counseling strategy is feasible and effectively enhances daily physical activity in outclinic Chronic Obstructive Pulmonary Disease (COPD) patients who do not participate in a rehabilitation program in a controlled way.

**Methods** 35 outclinic COPD patients (21 males, mean age 62 years, GOLD I–III, mean FEV1% predicted 64.7) were randomized for a 12-week individual pedometer-based exercise counseling program promoting daily physical activities or usual care. Daily physical activity (DigiWalker SW-200), physical fitness, health-related quality of life, self-efficacy, fatigue, depression and motivation to be physically active were assessed before and after the intervention.

**Results** After the intervention, COPD patients in the exercise counseling group showed a significant increase in their mean number of steps/day (from 7087 to 7872), whereas the

usual care group showed a decrease (from 7539 to 6172). Significant differences favoring the exercise counseling group were demonstrated in arm strength, leg strength, health-related quality of life and intrinsic motivation to be physically active.

**Conclusion** Our study shows that a 12-week pedometer-based exercise counseling strategy is feasible and effectively enhances daily physical activity, physical fitness, health-related quality of life and intrinsic motivation in outclinic COPD patients who do not participate in a rehabilitation program.

<http://www.pec-journal.com/article/S0738-3991%2808%2900546-6/abstract>