

# YOGA FOR BREAST CANCER

## A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS

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Open-Minded

### AIMS

To systematically review and meta-analyze the effectiveness of yoga in patients with breast cancer.

### METHODS

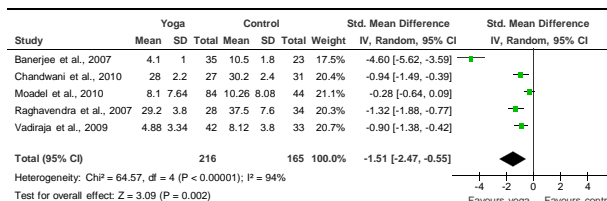
MEDLINE, PsycInfo, EMBASE, CAMBASE, and the Cochrane Library were screened through February 2012. Randomized controlled trials (RCTs) comparing yoga to controls were analyzed when they assessed quality of life or psychological health in breast cancer patients. Risk of bias was assessed using the Cochrane risk of bias tool. Standardized mean differences (SMD) and 95% confidence intervals (CI) were calculated. As a measure of heterogeneity,  $I^2$  and  $Chi^2$  were calculated.

### CONCLUSIONS

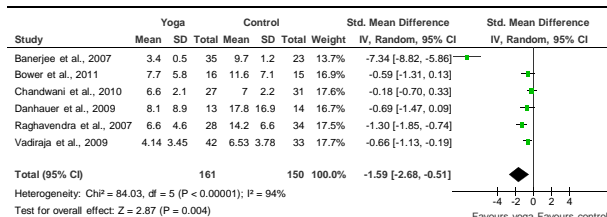
This systematic review found evidence for short-term effects of yoga in improving psychological health in breast cancer patients. The short-term effects on quality of life could not be clearly distinguished from bias. Yoga can be recommended as an adjunct intervention to patients who suffer from psychological problems during breast cancer treatment.

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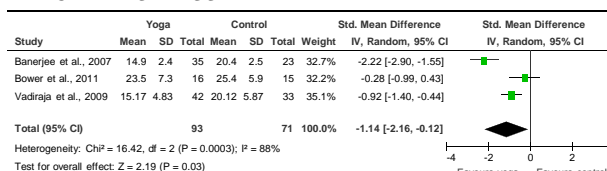
### ANXIETY



### DEPRESSION



### PERCEIVED STRESS



### PSYCHOLOGICAL DISTRESS

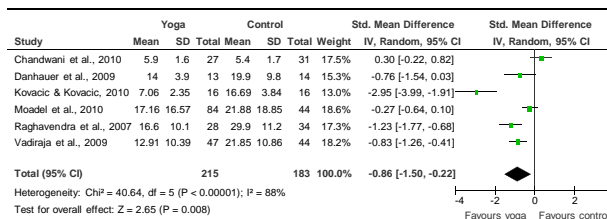


Figure 1: Effect sizes of yoga versus controls on psychological health: anxiety, depression, perceived stress, and psychological distress.

### RESULTS

Twelve RCTs with a total of 742 patients were included. Seven RCTs compared yoga to no treatment; 4 RCTs to supportive therapy; 1 RCT to health education; and 1 RCT compared yoga plus physical therapy to physical therapy alone. Evidence was found for short-term effects on global quality of life (SMD=0.62 [95% CI: 0.04; 1.21];  $P=0.04$ ; heterogeneity:  $I^2=79\%$ ,  $Chi^2= 14.48$ ,  $P<0.01$ ), functional (SMD=0.30 [95% CI: 0.03; 0.57]; heterogeneity:  $I^2=0\%$ ,  $Chi^2= 1.14$ ,  $P=0.77$ ), social (SMD=0.29 [95% CI: 0.08; 0.50];  $P<0.01$ ; heterogeneity:  $I^2=0\%$ ,  $Chi^2= 3.71$ ,  $P=0.59$ ), and spiritual well-being (SMD=0.41 [95% CI: 0.08; 0.74];  $P=0.01$ ; heterogeneity:  $I^2=0\%$ ,  $Chi^2= 0.11$ ,  $P=0.74$ ). These effects were, however, only present in studies with unclear or high risk of selection bias. Short-term effects also were found for anxiety (SMD=-1.51 [95% CI: -2.47; -0.55];  $P<0.01$ ; heterogeneity:  $I^2=94\%$ ,  $Chi^2= 64.57$ ,  $P<0.01$ ), depression (SMD=-1.59 [95% CI: -2.68 to -0.51];  $P<0.01$ ; heterogeneity:  $I^2=94\%$ ,  $Chi^2=84.03$ ,  $P<0.01$ ), perceived stress (SMD=-1.14 [95% CI: -2.16; -0.12];  $P=0.03$ ; heterogeneity:  $I^2=88\%$ ,  $Chi^2= 16.42$ ,  $P<0.01$ ), and psychological distress (SMD=-0.86 [95% CI: -1.50; -0.22];  $P<0.01$ ; heterogeneity:  $I^2=88\%$ ,  $Chi^2= 40.64$ ,  $P<0.01$ ) (Figure 1). Subgroup analyses revealed evidence of effectiveness only for yoga during chemotherapy or radiotherapy but not after completion of active treatment.

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