

EFFICACY OF A CARDIOVASCULAR BEHAVIORAL INTERVENTION PROGRAM ON PROGRESSION OF ATHEROSCLEROSIS

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Background. Limited data exist on the efficacy of multifactorial lifestyle programs on impacting the progression of atherosclerosis. We examined the efficacy of a lifestyle intervention program on progression of coronary artery calcium (CAC). *Methods.* We studied 235 subjects (mean age 49.7, 24.9% female), 123 randomized to the RENEW Program and 112 to standard of care. The RENEW[™] Program consisted of 9 bi-monthly face-to-face web sessions over 16-18 weeks followed by 13 monthly check-in sessions (maintenance) over 80 weeks and included modules on responding to stress, enhancing the effects of relaxation, nourishing the immune system, physical activity, and social support. Participants also received baseline and 2-year follow-up measures of risk factors and coronary calcium measures (volume and Agatston score) from whole body computed tomography (CT); intervention group participants also received a comprehensive physician consultation regarding the CT scan results. Among 87 subjects (34 control and 43 intervention) who completed the program, we examined baseline-follow-up changes in CAC (natural log transformed) using the paired t-test within groups and Student's t-test for comparisons between groups, with analysis of covariance for adjustment of baseline CAC scores and risk factors.

Results. Over 2 year follow-up there were CAC increases (natural log units) both in volume (0.48, $p=0.001$) and score (0.57, $p<0.001$) in the control group, but not in the intervention group (0.04, $p=0.79$ for volume and 0.05, $p=0.72$ for score) ($p=0.04$ for volume and $p=0.01$ for score changes between groups). After

adjustment for baseline CAC, age, gender, and risk factors, these differences between control and intervention groups persisted (p=0.049 for volume and p=0.042 for score).

Conclusions. Our findings suggest a beneficial impact of a multifactorial behavioral program on retarding progression of atherosclerosis measured by CAC. Larger scale trials are needed to confirm findings and implications on cardiovascular outcomes.