

Blood pressure biofeedback exerts intermediate-Term effects on Blood pressure and pressure reactivity in individuals with mild hypertension: A randomized controlled study.

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Abstract

OBJECTIVE: This randomized controlled study examined whether a 4-week blood pressure (BP) biofeedback program can reduce BP and BP reactivity to stress in participants with mild hypertension. **METHODS:** Participants in the active biofeedback group (n=20) were trained in 4 weekly laboratory sessions to self-regulate their BP with continuous BP feedback signals, whereas participants in the sham biofeedback group (n=18) were told to manipulate their BP without feedback signals. BP, skin temperature, skin conductance, BP reactivity to stress, body weight, and state anxiety were assessed before training and repeated at the eighth week after the training. **RESULTS:** The decreases in systolic (12.6 +/- 8.8 versus 4.1 +/- 5.7) and mean BP (8.2 +/- 6.9 versus 3.3 +/- 4.9) from baseline at week 12 follow-up were significantly greater in the active biofeedback group compared with the sham biofeedback group (p=0.001 and 0.017, respectively). Results from analysis of covariance with the follow-up systolic blood pressure (SBP) (or mean arterial pressure [MAP]) as the dependent variable, baseline SBP (or MAP) as the covariate, and group as the independent variable showed that biofeedback training effectively lowered SBP and MAP (p=0.013 and 0.026, respectively). The pre-to-post differences in skin conductance and SBP reactivity were statistically significant for the biofeedback group (p=0.005 and 0.01, respectively), but not for the control group. For the sample as a whole and for the biofeedback group, the state anxiety score and body weight remained unchanged. **CONCLUSIONS:** BP biofeedback exerts a specific treatment effect in reducing BP in individuals with mild hypertension, possibly through reducing pressor reactivity to stress..