

Effectiveness of Mental and Physical Training on Blood Pressure and Resting Heart rate among Prehypertensive Young Adults

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Abstract – Mental and physical training (MAP) has been reported to improve outcomes related to mental health issues, but there is scarcity in current literature with regards to its effect on blood pressure (BP) in prehypertensive population. Therefore, aim of this study was to evaluate the effect of MAP on BP and resting heart rate (RHR) among prehypertensive young male adults. **Methods** – A single blinded randomized controlled trial with 43 prehypertensive (BP 120-139/80-89 mmHg) participants were divided into 2 experimental and 1 control groups. Mental training group (MT) participated in mindfulness meditation, while physical training group (PT) engaged in moderate intensity aerobic exercise. Both groups underwent training for 6-weeks, 3 sessions/week, each session lasting for 20 minutes. Control group did not participate in any training and was debriefed about Dietary Approaches to Stop Hypertension (DASH) eating plan. Participants in all 3 groups were instructed not to engage in any type of relaxation training or physical activity throughout this study. Systolic BP, diastolic BP, and RHR were assessed at baseline, at end of 3-weeks and 6-weeks intervention. **Results** – Mean age of participants in MT, PT and DASH group were 20.8±1.5, 20.1±1.8 and 19.8±1.8 respectively. Within group time effect demonstrated a significant difference in SBP (F=42.392, P=0.000), DBP (F=1836.863, P=0.000) and a non-significant difference in RHR (F=1.856, P=0.171), while between group analysis did not show significant difference in SBP (F=0.222, P=0.802); DBP (=0.325, P=0.739), and RHR (=0.63, P=0.939). **Conclusions** – All 3 interventions are equally effective in reducing the BP in pre-hypertensive young adults, however they did not have any effect on RHR.

Keywords – Blood Pressure, Mental Training, Prehypertension, Physical Training, Resting Heart Rate