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Effect of long-term physical exercise on blood pressure in African Americans

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Long-term physical exercise has been shown to noticeably reduce blood pressure (BP) and remarkably attenuate symptoms of hypertension. It is believed that physical exercise induces these beneficial effects by increasing the blood supply to the brain, enhancing the release of growth factors from skeletal muscles into the bloodstream, facilitating neurogenesis, stimulating angiogenesis, and influencing endothelial cell proliferation and subsequent endothelial cell membrane permeability. Previous findings also revealed that physical exercise significantly elevates brain-derived neurotrophic factor (BDNF) concentrations which appear to increase dramatically in BP-sensing neurons during hypertension. Elevating BDNF levels is the proposed mechanism by which physical exercise reduces BP and lowers hypertension risk. Relatively effective measures exist today to prevent or delay much of the burden of hypertension and curtail or remediate the devastating consequences of chronic elevated BP over time. Nevertheless, this medical problem contributes to excess risk for morbidity and mortality and is a major public health concern, especially among minority populations. To date, however, it appears as though few studies have focused on the impact of effective non-pharmacological, behavioral interventions such as physical exercise on BP in minorities. Therefore, the purpose of the present study was to examine the effect of long-term physical exercise on BP in an African American sample. Specifically, the aim was to determine whether a 12-week moderate intensity physical exercise program would significantly decrease BP. Because data provided evidence to support the hypothesis tested, it was concluded that physical exercise resulted in a significant reduction in BP in the African Americans sampled.

Biography

Taunjah P Bell completed her PhD in Experimental Psychology specializing in Behavioral Neuroscience/Brain and Cognitive Sciences at Southern Illinois University in 2007. In August 2008, she began teaching at Jackson State University (JSU) where she serves as Graduate Faculty and Assistant Professor of Psychology. She also is the founder and advisor of the Anxiety Study Group Research Laboratory in the JSU Psychology Department. She has received numerous awards and honors as both Graduate and Undergraduate Faculty, she has presented her research at numerous regional, national, and international conferences, and she has published multiple papers in reputed journals.

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