

Abstract

Background: Hypertension (HTN) is a major public health problem and a leading cause of morbidity and mortality worldwide. Autonomic dysfunction, poor mental health & cognitive decline are frequently observed in HTN. Integrated Approach of Yoga Therapy (IAYT) is a residential yoga based lifestyle intervention shown to be beneficial in several chronic health problems.

Objectives: This study was intended to assess the impact of IAYT on cardiovascular variables, mental health & cognitive function in hypertensive patients.

Methods: Forty hypertensive subjects within age range 30-60 years (average age; 46.80 ± 9.1 years) were considered for the study. Twenty subjects were included in IAYT group who received one week residential IAYT intervention consisted of sessions of yogasana practices, pranayama techniques, yoga based relaxation techniques, devotional sessions. Twenty subjects in non-IAYT group followed their daily routines. All the subjects of both groups were on regular anti-hypertensive medication. We excluded the subjects if they had; diabetes mellitus, resistant hypertension, secondary hypertension, recent surgery, pregnancy, under antipsychotic medication, severe cardiac disability. All the subjects were assessed for cardiac variables (blood pressure, mean arterial pressure, baroreflex sensitivity, cardiac output, stroke volume and total peripheral vascular resistance) mental health parameters (anxiety & depression) and cognitive function (attention, concentration, processing speed, short term & working memory) at the baseline and after one week, using standard assessment tools. Data was analyzed using SPSS version 16. Within group and between group differences was calculated by applying suitable statistical tests.

Results: There was a significant improvement in systolic ($p=0.008$), diastolic ($p=0.004$) & mean arterial blood pressure ($p=0.003$), baroreflex sensitivity ($p=0.001$), total peripheral

vascular resistance ($p=0.003$), anxiety ($p<0.001$), depression ($p<0.001$), cognitive parameters (DLST score ($p<0.001$), digit forward score ($p<0.001$) & digit backward score ($p<0.001$) in IAYT group. No significant change was found in any of the same variables assessed in Non-IAYT group. Between groups comparison revealed a significant reduction in systolic BP ($p<0.04$), baroreflex sensitivity ($p<0.01$), total peripheral vascular resistance ($p<0.027$), anxiety ($p<0.001$), depression ($p<0.04$), cognitive (DLST score ($p<0.001$), digit forward score ($p<0.001$) & digit backward score ($p<0.001$) variables in IAYT group compared to Non-IAYT group.

Conclusion: Present study indicates the positive role of IAYT intervention on cardiac parameters, psychopathologies and cognitive functions among the subjects with essential hypertension. However, future studies should be done with larger sample size and with a robust research design to confirm the findings of present study.

Keywords: Hypertension, Yoga, Integrated Approach of Yoga therapy, Mental health, Cognition, Blood Pressure.