

EP 7

CARDIOVASCULAR AUTONOMIC FUNCTION IN HEALTHY LONG-TERM MEDITATORS: A COMPARATIVE CROSS-SECTIONAL STUDY

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Introduction: Meditation is thought to modulate the autonomic nervous system. There is a paucity of data on autonomic function in Sri Lankan meditators.

Objectives: We aimed to assess cardiovascular autonomic function in a group of Sri Lankan healthy long-term meditators (LTMs).

Methods: This study included eighteen skilled LTMs (14M) practicing Buddhist meditation consistently >3 years, selected through a validated intake-interview. Eighteen age-sex matched non-mediator controls were selected through purposive sampling. Cardiovascular autonomic function was assessed using a standard battery of tests; Heart rate (HR) and blood pressure (BP) response to active standing (LTS), deep breathing test, Valsalva maneuver and isometric hand grip (IHG) test. Testing started following 30-minutes supine rest in a controlled environment at same time each day, using Power Lab / Dual Bio Amp (AD Instruments, Australia) and LabChart 8 software. HR, respiration and BP were recorded by Lead II ECG, respiratory belt transducer and calibrated automated BP meter respectively. Data were analyzed using parametric and non-parametric tests.

Results: The LTMs (50% male; mean (SD) age 41.44 (12.28) years) and the controls (50% male; mean (SD) age 43.39 (8.51) years) were comparable. LTMs had meditated mean (SD) 12.28 (7.18) years. Sympathetic parameters; Mean (SD) of SBP change in response to LTS [5.89 (7.25) vs. 10.17 (5.01) mmHg, $p=0.007$] and rise in DBP in response to IHG [21.78 (5.07) vs. 28.67 (7.87) mmHg, $p=0.012$] were lower in LTMs and parasympathetic parameters; Delta HR, E: I ratio, Valsalva ratio and 30:15 ratio were higher ($p >0.05$) in LTMs than controls. Delta HR ($r=0.532$, $p=0.023$) and E: I ratio ($r=0.538$, $p=0.021$) of LTMs correlated with frequency of meditation practice, mean (SD) 10.17 (4.57) hours per week.

Conclusions: Autonomic function test parameters observed suggest an increased parasympathetic and decreased sympathetic activity in LTMs compared to controls.

Keywords: Autonomic function, Cardiovascular reflex testing, Long-term meditation



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