

P2-127 Resting cardiovascular function in healthy long-term meditators: A Sri Lankan study

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Introduction

Long-term meditation is associated with physiological benefits. Exploring the association between cardiovascular parameters and meditation practice could provide insight into the effects of meditation on cardiovascular function. This study aimed to compare resting cardiovascular parameters in healthy long-term meditators (LTMs) with age-sex matched healthy non-meditators.

Methods

This cross-sectional, comparative study included 19 healthy, skilled LTMs practicing Buddhist meditation consistently >3 years, selected through a validated intake interview questionnaire. Eighteen age-sex matched healthy non-meditators were selected through purposive sampling as controls.

Resting cardiovascular parameters were measured for 10 minutes, in the supine position after 30 minutes rest. Systolic (SBP) and diastolic (DBP) blood pressure were measured using an automated blood pressure meter calibrated against a standard mercury sphygmomanometer. The least BP from 3 measurements taken at 5 minutes intervals was taken as the resting BP. Heart rate (HR) was measured using the ECG (lead II) analysis recorded by Power Lab / Dual Bio Amp (AD Instrument, Australia).

Data was analyzed using SPSS-23 statistical software. Independent sample t-test was used for between group comparisons, and associations were evaluated with Pearson correlation.

Results

The LTMs (7/19 male; mean (SD) age 47.21 (7.78) years) and the controls (7/18 male; mean (SD) age 46.11 (7.13) years) were comparable. Self-reported total life-time meditation practice duration was 7.44 (7.9) years, with a frequency of 6.28 (6.6) hours per week. Average length of a meditation session per day was 30.47 (28.04) minutes. Mean \pm SD of resting SBP (103.32

± 5.76 vs. 118.67 ± 10.76 mmHg, $p < 0.001$), DBP (64.32 ± 6.38 vs. 71.44 ± 8.27 mmHg, $p < 0.01$) and HR (58.58 ± 6.73 vs. 70.28 ± 8.22 beats. min^{-1} , $p < 0.001$) was significantly lower in LTMs compared to the controls. There was significant negative correlation of resting SBP, DBP and HR with total life-time meditation practice duration in years ($r = -0.636$, $p < 0.001$; $r = -0.486$, $p < 0.01$ and $r = -0.586$, $p < 0.001$), frequency of meditation practice in hours per week ($r = -0.532$, $p = 0.001$; $r = -0.41$, $p = 0.012$ and $r = -0.546$, $p < 0.001$) and average length of a meditation session per day in minutes ($r = -0.659$, $p < 0.001$; $r = -0.411$, $p = 0.011$ and $r = -0.562$, $p < 0.001$).

Conclusion

Long-term meditators show better resting cardiovascular parameters than non-meditators. LTMs who practice frequent and longer duration meditation have better cardiovascular function. The practice of meditation could be useful in the secondary prevention of cardiovascular disease. These findings are to be validated in a larger sample.

Key words: Long-term meditation, cardiovascular, practice duration