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Vagally Mediated Heart Rate Variability: Physiological reactivity to stressors and hypertension.**Dr Spyros Christou-Champi¹, Dr Elena Papadopoulou²**¹*Applied Clinical Neuroscience Research and Development Scientist Cyprus*²*University of Thessaly, Chemist, MSc Cyprus*

Abstract Statement of the Problem: Despite the well documented link between the physiological substratum of stress and blood pressure regulation, stress management is not considered in relevant prevention and management approaches. The aforementioned omission is driven by studies examining psychosocial stressors and hypertension that are hindered by variability in the operational definitions and reactivity measures employed that prohibit the summarization of the evidence for the association between exposure to stressors, subsequent physiological reactivity and hypertension. This is of particular importance as physiological reactivity constitutes a prominent mechanism through which stressors impact blood pressure regulation. The neural substrates of vagally mediated Heart Rate Variability (VMHRV) indicate that it is able to assimilate such an interfacing mechanism. Indeed, relevant research showed that VM-HRV integrates stressors with individuals' reactivity capturing a prominent biological mechanism through which stressors impact blood pressure regulation. The purpose of this meta-analytic study is to assess the strength of evidence presented regarding the association between VM-HRV and hypertension, examine heterogeneity in individual study results and obtain a single summary estimate of the effect. **Methodology & Theoretical Orientation:** We systematically searched and identified relevant cohort and case-controlled studies from six databases, including PubMed, Cochrane Library, Embase, LILACS, and Opengray until Dec 2021 that included participants above 40 years of age with SBP above 130mmHg or DBP above 85 mmHg and healthy controls. **Findings:** Preliminary results show that low VMHRV is associated with significant increases in blood pressure. Similarly, hypertensive patients had a lower VMHRV compared to healthy normotensives. **Conclusion & Significance:** Individuals' physiological reactivity to stressors, measured via VM-HRV, increases the risk for the development of hypertension. As such, its utilization can reinforce current screening initiatives. In addition, current primary prevention and management approaches targeting high blood pressure should consider the utilization of evidence-base interventions for stress management.

Biography

Dr Champi has a strong background in the advancement of multidisciplinary research and more than eight years of hands-on experience in the development of research and innovation initiatives. Through the wide range of research programs Dr. Champi has been involved in, he has worked with both healthy and clinical populations; among others Generalized Anxiety Disorder, Depression, Hypertension on a variety of topics encompassing both basic and applied research aiming to examine and regulate the effects of stress on physical and mental health.