



P32: BLOOD PRESSURE AND COGNITIVE FUNCTION: A PROSPECTIVE ANALYSIS AMONG ADOLESCENTS IN SEYCHELLES

Tanica Lyngdoh¹, Bharathi Viswanathan², Roni Kobrosly³, Edwin van Wijngaarden³, Brittany Huber⁴, Philip W Davidson⁴, Deborah A Cory-Slechta⁵, Sean Strain⁶, Gary J Myers⁴, Pascal Bovet⁷

¹*Institut de Médecine Sociale et Préventive*

²*Ministry of Health, Section of Noncommunicable Diseases, Victoria, Republic of Seychelles*

³*Department of Community and Preventive Medicine, University of Rochester Medical Center, Rochester, NY, USA*

⁴*Department of Pediatrics, University of Rochester Medical Center, Rochester, NY, USA*

⁵*Department of Environmental Medicine, University of Rochester Medical Center, Rochester, NY, USA*

⁶*Northern Ireland Centre for Food and Health, University of Ulster, Coleraine, Northern Ireland, UK*

⁷*Institute of Social and Preventive Medicine, Lausanne University Hospital, Lausanne, Switzerland*

Objective: An inverse relationship between blood pressure and cognitive function has been found in adults, but limited data are available in adolescents and young adults. We prospectively examined the relation between blood pressure and cognitive function in adolescence.

Methods: We examined the association between BP measured at the ages of 12-15 years in school surveys and cognitive endpoints measured in the Seychelles Child Development Study at ages 17 (n=407) and 19 (n=429) years respectively. We evaluated multiple domains of cognition based on subtests of the Cambridge Neurological Test Automated Battery (CANTAB), the Woodcock Johnson Test of Scholastic Achievement (WJTA), the Finger Tapping test (FT) and the Kaufman Brief Intelligence Test (K-BIT). We used age-, sex- and height-specific z-scores of systolic blood pressure (SBP), diastolic blood pressure (DBP) and mean arterial pressure (MAP).

Results: Six out of the 21 cognitive endpoints tested were associated with BP. However, none of these associations were found to hold for both males and females or for different subtests within the same neurodevelopmental domain or for both SBP and DBP. Most of these associations disappeared when analyses were adjusted for selected potential confounding factors such as socio-economic status, birth weight, gestational age, body mass index, alcohol consumption, blood glucose, and total n-3 and n-6 polyunsaturated fats.

Conclusions: Our findings do not support a consistent association between BP and subsequent performance on tests assessing various cognitive domains in adolescents.