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# Lifetime Trauma, posttraumatic stress disorder Symptoms and Early Adolescence Risk Factors for Poor Physical Health Outcome Among Malaysian Adolescents

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## ABSTRACT

**Introduction:** Individuals who experienced traumatic events were more susceptible to non-communicable diseases and adoption of health-harming behaviours. Clearer understanding of the relationship between trauma and PTSD on the risk trajectories of CVD, especially among adolescents are missing in the literature.

**Objective:** This study investigated the associations of posttraumatic stress disorder (PTSD) manifestation and early risk factors for cardiovascular physiological measures, i.e., high blood pressure and heart rate among adolescence.

**Methods:** A total number of 606 adolescents aged 14-19 years old (M=16.9, SD = 1.28) to participate in the present study. Their blood pressure, heart rate and body mass index (BMI) were measured. They were asked to rate their possible trauma experiences and PTSD symptoms via questionnaires.

**Results:** Results showed that PTSD symptoms had a significant effect on blood pressure and heart rate reading. Total PTSD scores and only specific trauma types were significant predictors for the blood pressure and heart rate changes among adolescence.

**Conclusion:** It is concluded that risk factors related to reported associations between trauma, PTSD symptoms, and physiological outcomes among adults might be able to identify in adolescence suggesting early detection and intervention to reduce adverse physical health outcomes are required.

**Key Words:** Adolescence, Blood-pressure, Heart-rate, PTSD, Trauma

## INTRODUCTION

An adverse traumatic experience may lead to Posttraumatic Stress Disorder (PTSD) diagnosis and may affect physical and mental health which persisted into adulthood.<sup>1,2</sup> Individuals with PTSD tend to have difficulties in their later married life; especially problems with social life.<sup>3,4</sup> This may due to the durable changes in human metabolic and homeostasis as well as imbalanced allostatic systems in which lead to progressive physiological damage.<sup>5,6</sup> Thus, individuals who experienced traumatic events were more susceptible to non-communicable diseases and adoption of health-harming behaviours. However, only for the last few decades, additional concern focused on the rising risk for adverse physical health outcomes due to potentially traumatic experiences, and the development and manifestation of PTSD.<sup>7</sup>

The increasing number of cardiovascular diseases (CVD) cases has become a leading health issue globally, including in Malaysia. Trauma exposure and PTSD were hypothesized as one of the risk factors for the CVD development from two different aspects - biological or behavioural alteration or pathway.<sup>8-10</sup> The biological alteration or pathway in explaining the relationship of traumatic exposure, PTSD and CVD involved the elevation of blood pressure and heart rate as well as other biomarkers of inflammation.<sup>11</sup> The behavioural alteration or pathway, on the other hand, involved individuals' health-related behaviours such as alcohol drinking, smoking, physical inactivity, being overweight or obese in which were also known as the traditional risk factors of CVD. However, there was a need for a clearer understanding of the relationship between trauma and PTSD on the risk trajectories of CVD, especially among adolescents. This would

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