

**UNIVERSITI TEKNOLOGI MARA**

**THE ASSOCIATION BETWEEN  
BODY MASS INDEX (BMI) AND  
BLOOD PRESSURE (BP) WITH  
MENTAL HEALTH STATUS AMONG  
PREADOLESCENT PRIMARY  
SCHOOL CHILDREN IN SELANGOR**

**NOR HIDAYU BINTI SUKARDI**

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## ABSTRACT

Mental and physical health problems have become a serious issue and is alarming, not only among adolescent but also among children. Many studies exploring either on mental or physical health have been conducted. But, the studies on both health were limited. Yet, only some explore the relationship between physical and mental health among preadolescent primary school children. Therefore, this cross sectional study was designed in order to examine the association between physical health focusing on BMI and BP with mental health status among preadolescent primary school children. Preadolescent children (n = 386) were randomly selected from 3 primary schools in Selangor. BMI was calculated by using formula: weight (kg) / height (m)<sup>2</sup>. Weight was measured by using OMRON digital weighing scale. Height was measured by using standard microtoise. For BP, OMRON blood pressure monitoring with paediatric cuff was used. All measurement was obtained by following standardized procedures. To assess mental health status, Strength and Difficulties Questionnaire (SDQ) was used. Data analysis was done by using SPSS Version 23.0. As a result, the prevalence of underweight, normal weight and overweight were 14.8%, 58.8% and 26.4%, respectively. For BP, the prevalence of normal and elevated BP was 77.7% and 22.3%. For mental health status, the prevalence of children who at risk for mental health was 8.3%, having peer problems, emotional problems, conduct problems, hyperactivity problems and abnormal prosocial behaviours score were 13.7%, 7.3%, 11.7%, 4.1% and 23.1%, respectively. There was no significant relationship between BMI with any categories of mental health problems among preadolescent primary school children (TDS = 0.093, EP = 0.110, CP = 0.243, HP = 0.916, PP = 0.126, PBS = 0.864). Besides, there was also no significant relationship between SBP with any categories of mental health problems among preadolescent primary school children (TDS = 0.748, EP = 0.091, CP = 0.890, HP = 0.882, PP = 0.202, PBS = 0.805). However, there was a significant relationship between DBP with prosocial behaviour score (p = 0.031) but not with other categories of mental health problems (TDS = 0.302, EP = 0.711, CP = 0.350, HP = 0.415, PP = 0.097). The results suggest for a holistic study explaining the causal relationship between variables and the need for developing mental and physical health intervention programmes. It is hope that the present study can contribute to enrich the existing knowledge regarding school children.

Keywords: body mass index, blood pressure, mental health status, preadolescent

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