



Physical Activity and its Association with dietary intake Among Adolescents in Malaysia: Findings from the National Health Morbidity Survey (NHMS) 2022



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Introduction

Optimum dietary intake and physical activity are essential for adolescent's healthy growth and development. This study was conducted to determine the association between physical activity and dietary intake among adolescents in Malaysia. Unhealthy eating habits and a lack of exercise are well-known contributors to chronic illnesses. Among adolescents, engaging in regular physical activity and adopting nutritious eating patterns that encompass consistent breakfast consumption and sufficient intake of fruits and vegetables can significantly safeguard both immediate and lasting health. To illustrate, physical activity during youth can positively impact factors related to cardiovascular disease (CVD), body fatness, and bone strength, thereby exerting an influence on overall health during the adult years. Higher levels of physical activity are associated with better physical, psychological, and cognitive health of children and adolescents.

Method

This study utilised data from the nationwide cross-sectional Adolescent Health Survey 2022, with participation from 33,523 school-going adolescents. This self-administered survey utilised the Global School-based Student Health Survey (GSHS) core questionnaire modules & core-expanded questions which include measures of physical activity and dietary intake. Multiple logistic regression for complex sampling analyses was performed using SPSS version 26.0.

Results

The prevalence of physical activity was found to be 21.4% (95% CI: 20.45, 22.37), while the rates of fruit intake and carbonated soft drink consumption were 37.3% (95% CI: 36.20, 38.41) and 32.4% (95% CI: 30.93, 33.87) respectively. Multivariate analysis showed that healthy dietary intake such as consuming milk (aOR=1.33; 95% CI:1.23,1.45), fruits (aOR=1.18; 95% CI:1.10,1.27), vegetables (aOR=1.34; 95% CI:1.25,1.44) and plain water (aOR=1.69; 95% CI:1.55,1.85) were positively associated with physical activity. On the other hand, the analysis also revealed that individuals who consumed carbonated soft drinks (aOR=1.22; 95% CI:1.11,1.33) and had a fast-food diet (aOR=1.19; 95% CI:1.07,1.33) were positively associated with physical activity

Table : Simple and Multiple Logistic Regression for Physical Activity_ Dietary Intake

Variable Physical Activity	Crude OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Sex				
Female	1		1	
Male	2.27 (2.08, 2.47)	<0.001	2.26 (2.07, 2.46)	<0.001
Ethnicity				
Malay	1		1	
Cina	0.79 (0.68, 0.93)	0.005	0.77 (0.65, 0.90)	0.002
India	1.68 (1.43, 1.98)	<0.001	1.71 (1.44, 2.02)	<0.001
Sabahan	1.02 (0.83, 1.25)	0.844	1.03 (0.85, 1.25)	0.699
Lain-Lain	0.91 (0.71, 1.15)	0.428	0.89 (0.71, 1.10)	0.291
Sarawakian	0.70 (0.58, 0.85)	<0.001	0.68 (0.56, 0.83)	<0.001
Body Mass Index (BMI)				
Normal	1		1	
Overweight	0.92 (0.83, 1.02)	0.135	0.84 (0.76, 0.94)	0.002
Obese	0.83 (0.75, 0.91)	<0.001	0.65 (0.59, 0.73)	<0.001
Thinner	0.78 (0.67, 0.91)	0.002	0.66 (0.56, 0.78)	<0.001
Plain Water Intake				
Less than 6 glasses per day	1		1	
6 glasses and more per day	1.95 (1.79, 2.12)	<0.001	1.69 (1.55, 1.85)	<0.001
Milk Intake				
Less than 2 times per day	1		1	
At least 2 times per day	1.51 (1.41, 1.62)	0.000	1.33 (1.23, 1.45)	<0.001
Fruits Intake				
Less than 2 times per day	1		1	
At least 2 times per day	1.45 (1.35, 1.55)	<0.001	1.18 (1.10, 1.27)	<0.001
Vegetables Intake				
Less than 3 times per day	1		1	
At least 3 times per day	1.63 (1.52, 1.75)	<0.001	1.34 (1.25, 1.44)	<0.001
Soft Drink Intake				
Less than 1 time per day	1		1	
At least 1 time per day	1.06 (0.98, 1.15)	0.108	1.22 (1.11, 1.33)	<0.001
Fast Food Intake / 7 days				
Less than 3 days	1		1	
At least 3 days	1.22 (1.09, 1.37)	<0.001	1.19 (1.07, 1.33)	0.002

Discussion and Conclusions

This study demonstrated that dietary habits both healthy and unhealthy, had a significant impact on physical activity among adolescents. Therefore, it is necessary to create impactful health programs and interventions in schools to promote physical activity and encourage healthy dietary habits among adolescents in Malaysia. Sufficient amounts of physical activity along with a healthy diet are essential prerequisites for achieving optimal physiological and cognitive growth. Additionally, they play a crucial role in sustaining favourable physical well-being and overall health. Striking a harmonious equilibrium between physical activity and dietary choices can also serve as a preventive measure or reduction strategy against obesity

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