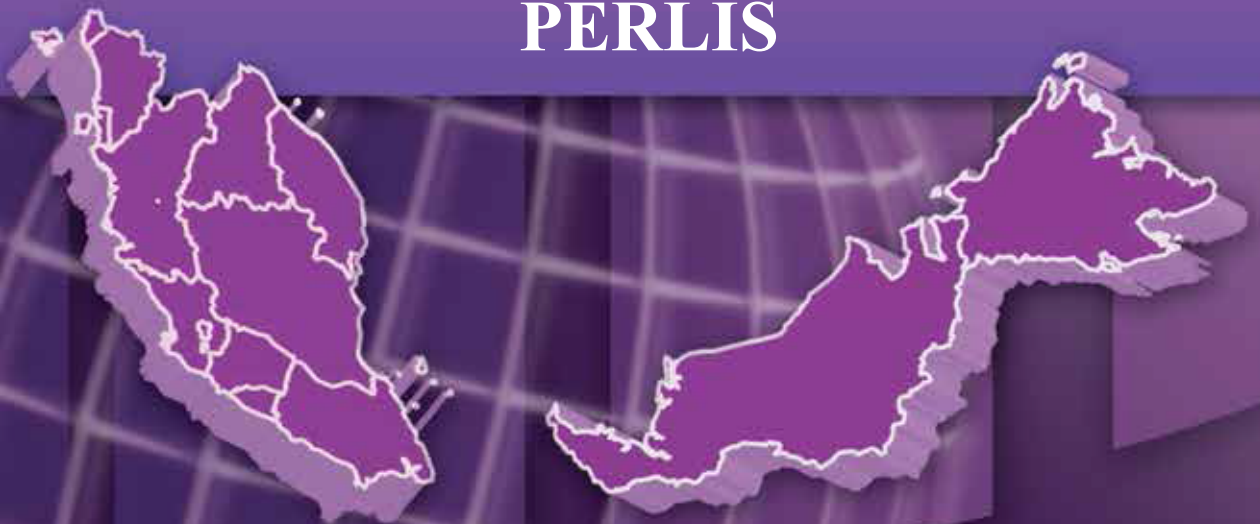


# NATIONAL HEALTH AND MORBIDITY SURVEY 2017

# ADOLESCENT NUTRITION SURVEY

PERLIS



Ministry of Health Malaysia



# THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

## ADOLESCENT NUTRITION SURVEY 2017

### **Contributors**

The following persons had contributed in the interpretation of findings, discussion on implication, conclusion and/or drawing recommendations for this report.

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## Executive Summary

The Adolescent Nutrition Survey (ANS) is the second nation-wide study among adolescents in Malaysia after the Malaysia School-based Nutrition Survey (MSNS) 2012. There are three main scopes in this survey which are Adolescent Nutrition Survey (ANS), Habitual Food Intake and Dietary Intake. ANS consists of six topics such as nutritional status, body weight perception, meal pattern, physical activity, vitamin/mineral, food supplement intakes and food and nutrition labelling. This survey was conducted at 311 randomly selected schools in all states including three federal territories in Malaysia. This school-based survey was a cross-sectional study involving school-going adolescents aged Primary 4 to Secondary 5 attending school in Malaysia. A multistage stratified cluster sampling design was used to recruit national representative samples from students in Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age). The survey was conducted using self-administered questionnaires and face-to-face-interviews. Total response rates for self administered questionnaire were 89.5% for ANS, 96.4% for habitual food intake and 96.6% for dietary intake assessment.

Based on the indicator height for age (HAZ), the prevalence of normal height ( $HAZ \geq -2SD$ ) was 90.5% and stunting was 9.5%. The prevalence of stunting was higher in rural areas (9.8%) as compared to urban areas (8.1%). In terms of BMI for age (BAZ), the prevalence of thinness was 5.3%, overweight was 14.9% and obesity was 17.5%.

Among those school-going adolescents who had actual normal weight, 50.8% correctly perceived their weight to be normal. Among those who were actually thin, 70.1% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 44.0% and 12.3% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 53.8% preferring exercise as an option to lose weight; 53.9% wanted to increase quantity of food to gain weight.

As for meal pattern, the prevalence of breakfast intake for seven days per week among adolescents was 23.0%. The majority of them had breakfast one to six days per week (66.2%) and some of them did not having breakfast in a week (10.8%). Among those who had breakfast, 53.3% had it at home. Adolescents from urban areas (24.7%) reported having breakfast daily (seven days per week), higher than rural areas (22.6%). The two main reasons of skipping breakfast were no appetite (46.9%) and no time (30.9%).

The prevalence of having lunch seven days per week among school-going adolescents was 44.8%; 52.3% had lunch up to six days per week and 2.9% did not have lunch in a week. No appetite (50.1%) and no time (18.5%) were the two main reasons for skipping lunch. As for dinner, 45.3% of school-going adolescents had dinner seven days per week, 51.8% 1-6 days per week and 2.8% did not have dinner in a week. Only 7.1% took heavy meals after dinner seven days per week.

There were 3.1% who had fast food daily and 8.5% did not have fast food. Social media (YouTube, Facebook, Instagram, etc.) and television were reported as the main sources which affected dietary pattern in 41.4% and 40.1%. A percentage of 21.8% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Perlis was 50.1%. Boys and younger adolescents were more active than girls and older adolescents. The most favourite activities during spare time were walking for exercise, jogging / running, badminton, tagging and cycling. More adolescents watched television, played computer or video games over the weekend compared to schooling days.

The prevalence of vitamin/minerals and food supplements intake among Perlis adolescence was 40.5% and 26.4%. There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, school classes and. In average, the vitamin/mineral and food supplements were consumed everyday by 14.4 and 10.5% (adolescents in Perlis respectively). The most commonly consumed vitamin/minerals and food supplements were Vitamin C 34.3% and Bee product 25.0%. The main reason for taking vitamin/minerals and food supplements was due to parent's advised with 39.3% and 14.7% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 38.2% always reading food and nutrition labelling. Another 50.3% reported as sometimes and only 11.5% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 40.8% of adolescents both answered correctly on nutrition facts and 22.7% of adolescents answered correctly questions regarding the front of pack labelling and only 8.2% answered both correctly regarding the most and least ingredients based on the food ingredient list.

## 1.0 Introduction

Adolescence is a period of transition between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19 (WHO, 2014). Adolescence is a critical period because major biological and psychological changes occur during a very short period of time.

Adolescent health should be given attention because adolescents are the future generation of any country and their health statuses are critical for the well-being of society. Chronic malnutrition is one of the major health problems encountered by adolescents living in developing countries (World Health Organization, 2006). The high rate of malnutrition in girls not only contributes to increased morbidity and mortality associated with pregnancy and delivery but also to increased risk of delivering low birth-weight babies (World Health Organization, 2006). This contributes to the intergenerational cycle of malnutrition.

The nutritional issue in adolescents should be prioritized because growth during adolescence is at a fast pace. Adequate nutrition during adolescence is important to cover the deficits suffered during childhood. Moreover, extra micro and macro-nutrients are required to meet the demands of physical and cognitive growth, as well as provide adequate stores of energy for illnesses and pregnancy. To a more important extent, epidemiological evidence proved that there is a link between child and adolescent poor nutritional status and increased risk of various chronic diseases during adulthood (Case, Fertig, & Paxson, 2005).

Due to the targets of the first Millennium Development goal to "eradicate extreme poverty and hunger, the underweight prevalence in children was projected to decline from 26.5% in 1990 to 17.6% in 2015 across the world and specifically in developing regions; the prevalence was forecasted to decline from 30.2% to 19.3% (Onis, Blossner, Borghi, Frongillo, & Morris, 2004). Undernutrition rate in Malaysian children also showing a decreasing pattern. Data from the Third National Health and Morbidity Survey (NHMS III) 2006 in Malaysia found that the prevalence of underweight, stunted and thinness in children below 18 years old were 13.2%, 15.8% and 7.8% respectively (Institute of Public Health (IPH), 2008). However, these conditions were generally improved when NHMS 2015 showed that the prevalence of underweight, stunting and thinness were reduced to 13.0%, 13.4% and 7.8% respectively (IPH, 2015). NHMS 2011 reported that the national prevalence of thinness among adolescents specifically was 9.7% (IPH, 2011)

Recently, a systematic review reported that the prevalence of overweight and obesity among adolescents worldwide is high, and obesity is higher among boys (Bibiloni, Pons, & Tur, 2013) and Malaysia is showing a similar pattern as well. The prevalence of obesity among children was only 5.7% in the year 2006 (IPH, 2008) and it drastically increased to 11.9% in the year 2015 (IPH, 2015). NHMS in the year 2011 showed that the nationwide prevalence of obesity in adolescent age 10 – 17 was 5.7% (IPH, 2011).

High-calorie intake and sedentary lifestyle are two common behavioural factors related to childhood obesity. Childhood and adolescent obesity are an epidemic and should be given attention because they are associated with various medical chronic conditions in adulthood (Sahoo et al., 2015). Reading food labelling prior to food purchasing can help adolescents in making healthier choices on packaged snacks. However, use of nutritional labelling was found to be low among adolescents (Wojcicki & Heyman, 2012). Thus, Adolescent Nutrition Survey NHMS 2017 aims age 10 – 17 years old to continue exploring issues pertaining to nutrition related component in adolescents in Malaysian such as nutritional status, body weight perception, meal pattern, habitual food intake, dietary intake, physical activity level, vitamin/mineral and food supplement intake and food and nutrition labelling.

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## **1.1 Objectives**

### **1.1.1 General Objectives**

To determine the prevalence of nutritional status, body weight perception, habitual food intake, dietary intake, meal pattern, physical activity level, vitamin/mineral and food supplements and food and nutrition labelling among adolescents in Malaysia.

### **1.1.2 Specific Objectives**

1.1.2.1 To determine the prevalence of nutritional status among of adolescents (Standard 4 to Form 5).

1.1.2.2 To assess self-perception on body weight and intentions on weight management among adolescents (Primary 4 to Secondary 5).

1.1.2.3 To determine the meal pattern among of adolescents (Primary 4 to Secondary 5).

1.1.2.4 To assess physical activity pattern of adolescents (Primary 4 to Secondary 5).

1.1.2.5 To determine the pattern of use of vitamin/mineral and food supplements among adolescents (Primary 4 to Secondary 5).

1.1.2.6 To determine the prevalence of reading food and nutrition labelling among adolescents (Secondary 1 to Secondary 5).

## **1.2 The NHMS 2017 Organisation Team**

The organisation of NHMS 2017 was set up at various levels of the Ministry of Health and Ministry of Education in order to conduct this survey.

### **1.2.1 NHMS Steering Committee**

The NHMS Steering Committee, chaired by the Director-General of Health was set up at the national level to approve scopes of the NHMS 2015-2018 and to facilitate implementation of the survey. The members and terms of reference of this committee are shown in Appendix 1 and Appendix 2.

### **1.2.2 Central Coordinating Team (CCT)**

A working committee within the Institute for Public Health was established to coordinate implementation of the survey according to the scheduled Gantt chart. The Operation Centre was set up and led by the CCT team for coordinating and monitoring progress of the survey.

The list of CCT members and terms of reference are shown in Appendix 3 and Appendix 4. Figure 1 detailed the organisation chart at the Institute for Public Health level. Adolescent Nutrition Survey was part of NHMS 2017 using the sample from primary and secondary schools.

### **1.2.3 Research Team Members**

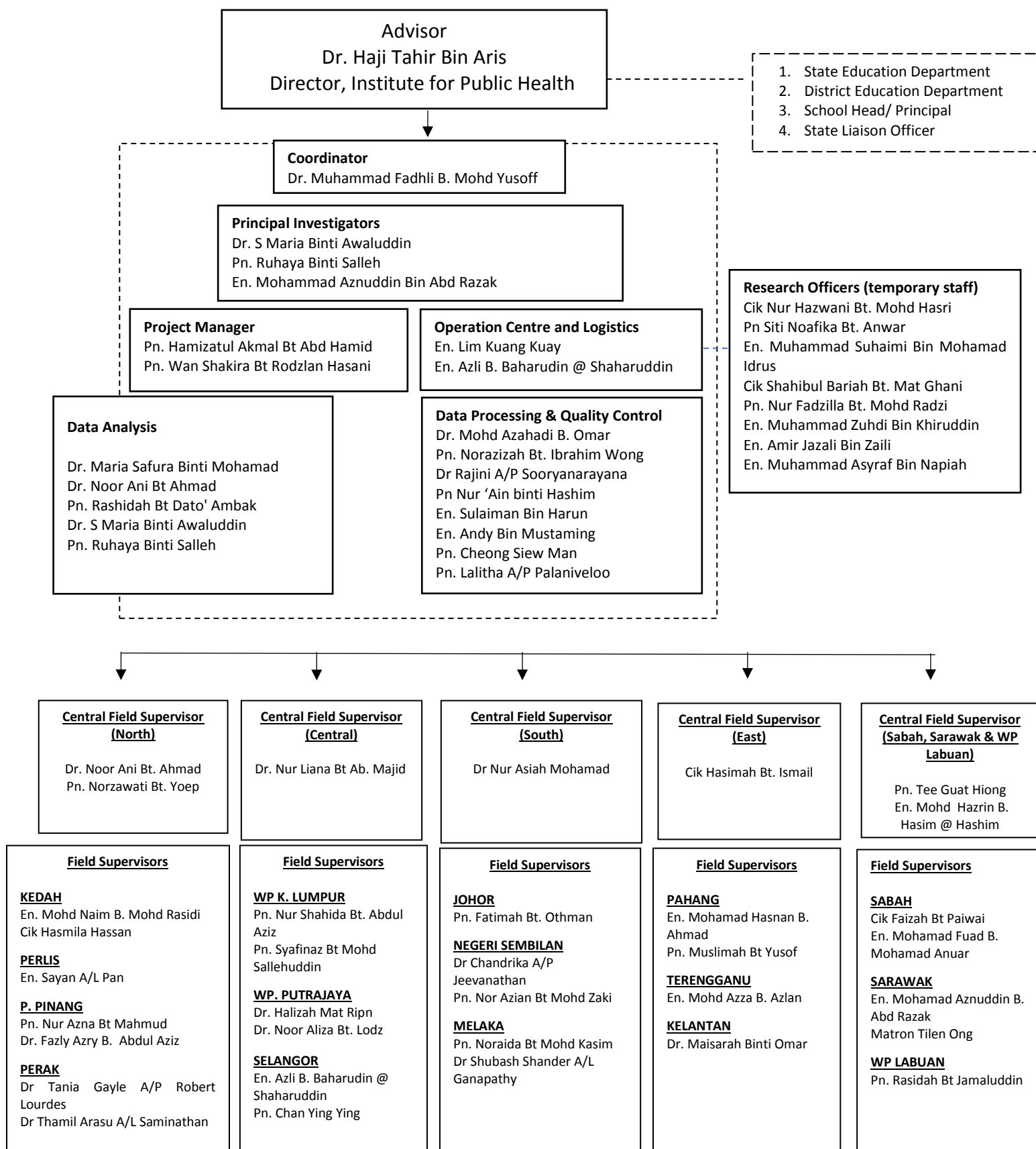
Research team members for each sub-scope were established and headed by a key-person (among IPH officers) together with the relevant stakeholders and universities. Research team members were responsible for the technical input in development of the questionnaire manual, variable definition, data analysis and writing of the final report.

The list of members for each research teams are shown in Appendix 5.

### **1.2.4 State Liaison Officers and Data Collection Team**

A State Liaison Officer (Nutritionist) was appointed in each State to facilitate planning and implementation of data collection within the States. The list of State Liaison Officers and Data Collection Teams are shown in Appendix 6.

# NATIONAL HEALTH AND MORBIDITY SURVEY 2017



## 2.0 Methodology

### Methodology and Sampling Design

Three main scopes of research were incorporated in the survey, namely the Adolescent Nutrition Survey (ANS), Habitual food intake and Dietary Intake.

#### 2.1 Target Population

Generally, the Adolescent Nutrition Survey 2017 was conducted at all 16 states including three federal territories in Malaysia. This school-based survey was a cross-sectional study involving school-going adolescents aged 10 to 17 years old attending public and private schools.

#### 2.2 Sampling Frame

The sampling frame in this survey was a list of primary and secondary schools from the Ministry of Education. Students' enrolment data of 2016 from Standard 4 until Standard 6 (primary school) and Form 1 until Form 5 (secondary school) were used. There were 7926 primary schools and 2688 secondary schools in 2016. Both public and private schools were included in the sampling frame.

#### 2.3 Sample Size Determination

Sample size was calculated using a single proportion formula for estimation of prevalence.

$$n_{SRS} \geq \frac{Z^2_{\alpha/2} (p)(1-p)}{e^2}$$

The sample size calculation was based on a few criteria as below:

1. Variance of proportion of the variable of interest (Based on Malaysia School-Based Nutrition Survey 2012)
2. Margin of error (e) (Between 0.01 to 0.05)
3. Confidence Interval of 95%

To ensure optimum sample size, a few adjustments were made as follows:

1. Adjusted  $n(srs)$  for the total number of target population (N) (based on the population size for schoolchildren in 2016)

$$n \geq \frac{n_{SRS}}{1 + \frac{n_{SRS}}{N}}$$

2. Adjusted for the design effect (deff) (based on previous survey: MSNS 2012),  $n(\text{complex}) = n * \text{deff}$
3. Adjusted the  $n(\text{complex})$  taking into account expected non-response rate of 25%,  $n(\text{adj}) = n(\text{complex}) * (1 + \text{non-response rate})$

4. The sample size was then adjusted according to the need of the analysis, whether the estimate was going to be done at the national or the state level.

Based on the requirements for the objectives and abovementioned considerations, the optimum sample size required was 30,496 respondents for secondary schools and 14,000 respondents for primary schools (Table 2.1).

**Table 2.1: Distribution of Secondary and Primary Schools Sampled by State, NHMS 2017**

No.	State	Secondary			Primary		
		Total Number of Schools	Number of Schools Sampled	Number of students sampled	Total Number of Schools	Number of Schools Sampled	Number of students sampled
1	Johor	306	14	1906	921	6	875
2	Kedah	219	14	1906	552	6	875
3	Kelantan	193	14	1906	423	6	875
4	Melaka	87	14	1906	236	6	875
5	Negeri Sembilan	139	14	1906	352	6	875
6	Pahang	209	14	1906	543	6	875
7	Pulau Pinang	141	14	1906	275	6	875
8	Perak	275	14	1906	852	6	875
9	Perlis	33	14	1906	73	6	875
10	Selangor	345	14	1906	727	6	875
11	Terengganu	162	14	1906	354	6	875
12	Sabah	246	14	1906	1,090	8	875
13	Sarawak	220	14	1906	1,274	7	875
14	WP Kuala Lumpur	133	14	1906	227	6	875
15	WP Labuan	19	8	1906	12	6	875
16	WP Putrajaya	11	8	1906	14	6	875
<b>Total</b>		<b>2,738</b>	<b>212</b>	<b>30,496</b>	<b>7,925</b>	<b>99</b>	<b>14,000</b>

#### 2.4 Sampling Design

This survey implemented a multistage stratified cluster sampling design to ensure nationally representative sample of Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age). Malaysia was stratified into 16 states (including Federal Territory of Kuala Lumpur, Putrajaya and Labuan). The first stage of sampling involved a random selection of school from list of eligible schools provided by Ministry of Education. Schools were selected randomly with probability proportional to school enrolment size. A total of 311 schools were selected to participate in this survey. The second stage of sampling was selection of classes. All classes in each selected school were included in the sampling frame. Systematic random sampling was

used to select classes from each selected school. All students in the selected classes were eligible to participate in the survey. The third stage of sampling was applied for Habitual food intake module and Dietary Intake. Students were selected randomly from each selected class.

## **2.5 Ethical Approval**

This study was approved by the Ministry of Health, Research and Ethics Committee and Ministry of Education Ethics Committee. Approval was also obtained from the relevant Ministry of Education officials at the state and district levels including the selected school itself. Prior to the survey, several meetings with the relevant Ministry of Education officers and person in-charge at the selected school were carried out. Consent form were obtained from parents and the students.

## **2.6 Data Collection**

A total 36 teams were set up, 4 teams for Sabah and Sarawak and the remaining states 2 teams per state. They consist of a field supervisor, research assistants and a driver. The field supervisor was a permanent staff in Ministry of Health.

An initial data collection by the core team members was initiated to observe the flow of data collection on 06 March 2017. The data collection training was conducted for Peninsular in Kuala Lumpur and Sabah, Sarawak and WP Labuan in Kuching, Sarawak simultaneously. Data collection was conducted from 26 March to 03 May 2017.

## **2.7 Data Management**

Quality check on data was conducted throughout the survey based on specific identification (ID) numbers; from the state ID until individual student ID (generated for the study). Upon completing the survey, each student placed his / her answer sheet in an envelope. All answer sheets from the same school were wrapped together to make a bundle. These bundles were collected by assigned drivers for schools in Peninsular Malaysia or using tracked postage for schools in Sabah, Sarawak and WP Labuan.

### **2.7.1 Data Operation Centre**

An operation centre with several stations was set up to receive data “bundles” from the field:

Station 1: Respondent ID checking

Station 2: Scanning

Station 3: Verification

Station 4: Storage

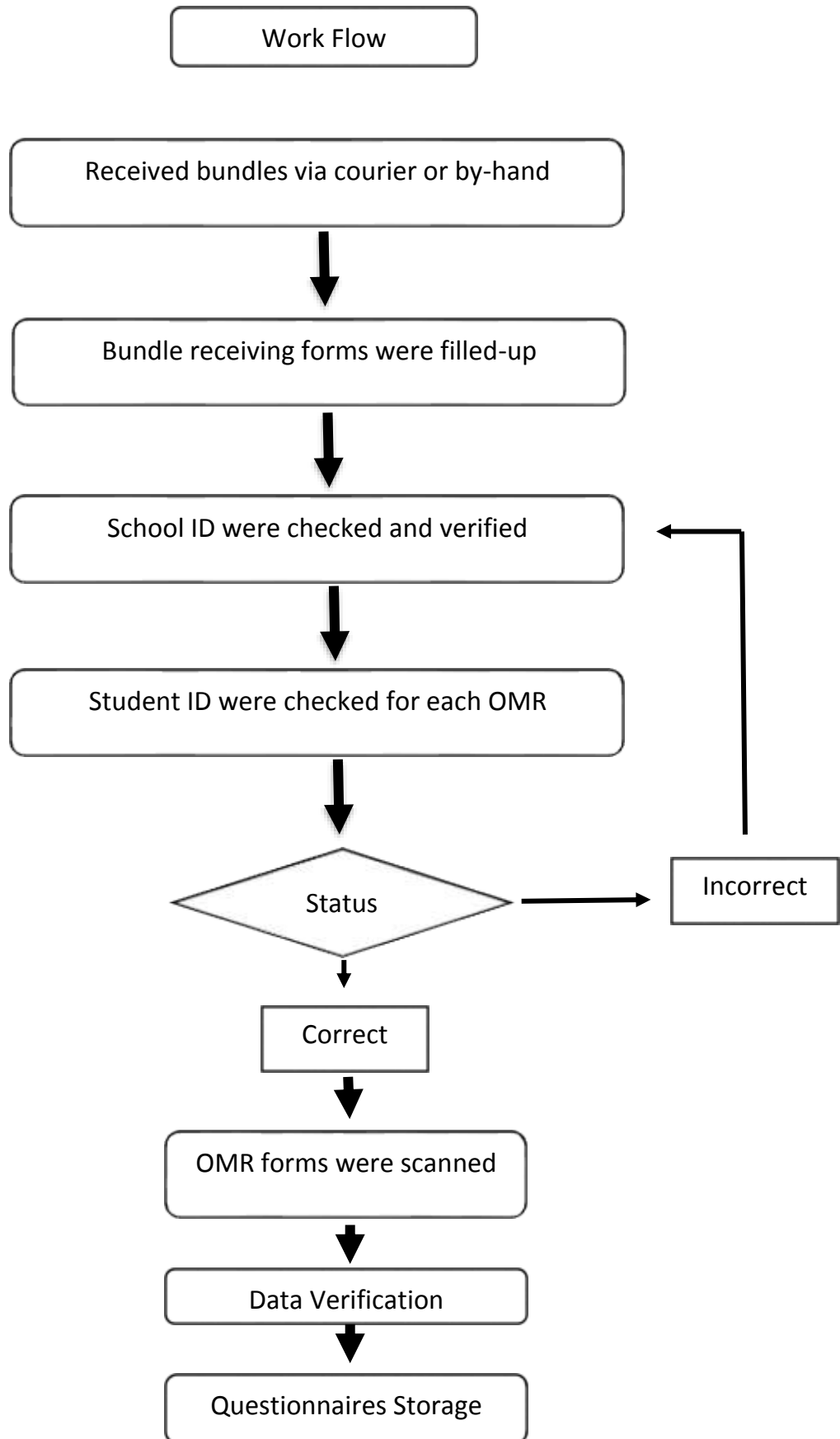


Figure 2: Work Flow of NHMS 2017



### 2.7.2 Data Analysis

The data set was checked, cleaned and edited for inconsistencies. Data analysis was done using SPSS version 21 by importing the raw dataset which normally in CSV form or excel. The analysis was done according to the objectives, and dummy tables prepared. Complex samples analysis procedures were used in the analysis and was carried out at 95% confidence interval. Finally, the data is representative of all students attending school from Standard 4 to Form 5 in Malaysia.

A weighting factor was applied to each student record to adjust the varying probabilities of selection and for the non-response. The weight used for estimation is given by:

$$W = W1 \times W2 \times W3 \times F \times PS$$

Where;

W1 = the inverse of the probability of selecting the school

W2 = the inverse of the probability of selecting the class within the school

W3 = the inverse of the probability of selecting the student within the class

F = the inverse of a school, class and student level non-response adjustment factor

PS = a post stratification adjustment factor calculated by class and gender

### 2.8 Survey Instruments

Validated self-administered questionnaires with computer-scanned answer sheets were used. Students' privacy was ensured as the answer sheet were anonymous. The majority of the students completed the survey within two class periods.

The ANS questionnaire contained sub topic which is nutritional status, body weight perception, meal pattern, physical activity level, Vitamin/Mineral and Food Supplement and Food and Nutrition Labelling.

### 3.0 Findings

#### 3.1 General Findings

A total of 40,087 questionnaires for adolescent nutrition survey were completed by the respondents. The school and class response rate was 100% respectively, while the student response rate for adolescent nutrition survey was 89.5%. Overall, the response rate was 89.5% (Table 3.1.1).

**Table 3.1.1: Response Rate at Student Level for Adolescent Nutrition Survey by State, NHMS 2017**

State	Selected School	Eligible Student	Interviewed Student	Response Rate (%)
<b>Malaysia</b>	<b>311</b>	<b>44,773</b>	<b>40,087</b>	<b>89.5</b>
Johor	20	2,829	2,565	90.7
Kedah	20	2,790	2,490	89.2
Kelantan	20	2,776	2,464	88.8
Melaka	20	2,862	2,685	93.8
Negeri Sembilan	20	2,823	2,431	86.1
Pahang	20	2,822	2,563	90.8
Pulau Pinang	20	2,846	2,547	89.5
Perak	20	2,832	2,527	89.2
Perlis	20	2,869	2,496	87.0
Selangor	20	2,721	2,503	92.0
Terengganu	20	2,738	2,437	89.0
Sabah	22	2,855	2,437	85.4
Sarawak	21	2,791	2,534	90.8
WP Kuala Lumpur	20	2,699	2,410	89.3
WP Labuan	14	2,789	2,525	90.5
WP Putrajaya	14	2,731	2,473	90.6

Comparison of total estimated population (weighted) with the national school enrolment is shown in Table 3.1.2 Geographic information system (GIS) on the mapping of selected primary and secondary schools is shown in Figure 3.

**Table 3.1.2: Comparison between NHMS 2017 respondents and national enrolment of school students in Malaysia 2017**

	NHMS 2017			School Enrolment 2017	
	n	Estimated Enrolment (weighted)	Prevalence (%)	Total Enrolment	Prevalence (%)
<b>MALAYSIA</b>	40087	3,480,500	100	3,480,439	100
<b>State</b>					
Johor	2565	439,369	12.6	439,406	12.6
Kedah	2490	250,426	7.2	250,388	7.2
Kelantan	2464	207,201	6	207,206	6
Melaka	2685	106,254	3.1	106,253	3.1
Negeri Sembilan	2431	139,235	4	139,242	4
Pahang	2563	174,713	5	174,721	5
Pulau Pinang	2547	178,446	5.1	178,453	5.1
Perak	2527	281,354	8.1	281,352	8.1
Perlis	2496	38,004	1.1	37,999	1.1
Selangor	2503	651,976	18.7	651,925	18.7
Terengganu	2437	158,658	4.6	158,645	4.6
Sabah	2437	331,295	9.5	331,298	9.5
Sarawak	2534	321,046	9.2	321,063	9.2
WP Kuala Lumpur	2410	177,937	5.1	177,902	5.1
WP Labuan	2525	9,604	0.3	9,602	0.3
WP Putrajaya	2473	14,982	0.4	14,984	0.4
<b>Sex</b>					
Male	19677	1,746,339	50.2	1,746,326	50.2
Female	20410	1,734,161	49.8	1,734,113	49.8
<b>Form</b>					
Standard 4	4617	448,352	12.9	448,329	12.9
Standard 5	4205	442,371	12.7	442,339	12.7
Standard 6	3777	443,262	12.7	443,262	12.7
Form 1	5702	450,996	13	451,024	13
Form 2	5499	426,921	12.3	426,908	12.3
Form 3	5834	431,004	12.4	431,043	12.4
Form 4	5536	414,703	11.9	414,653	11.9
Form 5	4917	422,891	12.2	422,881	12.2

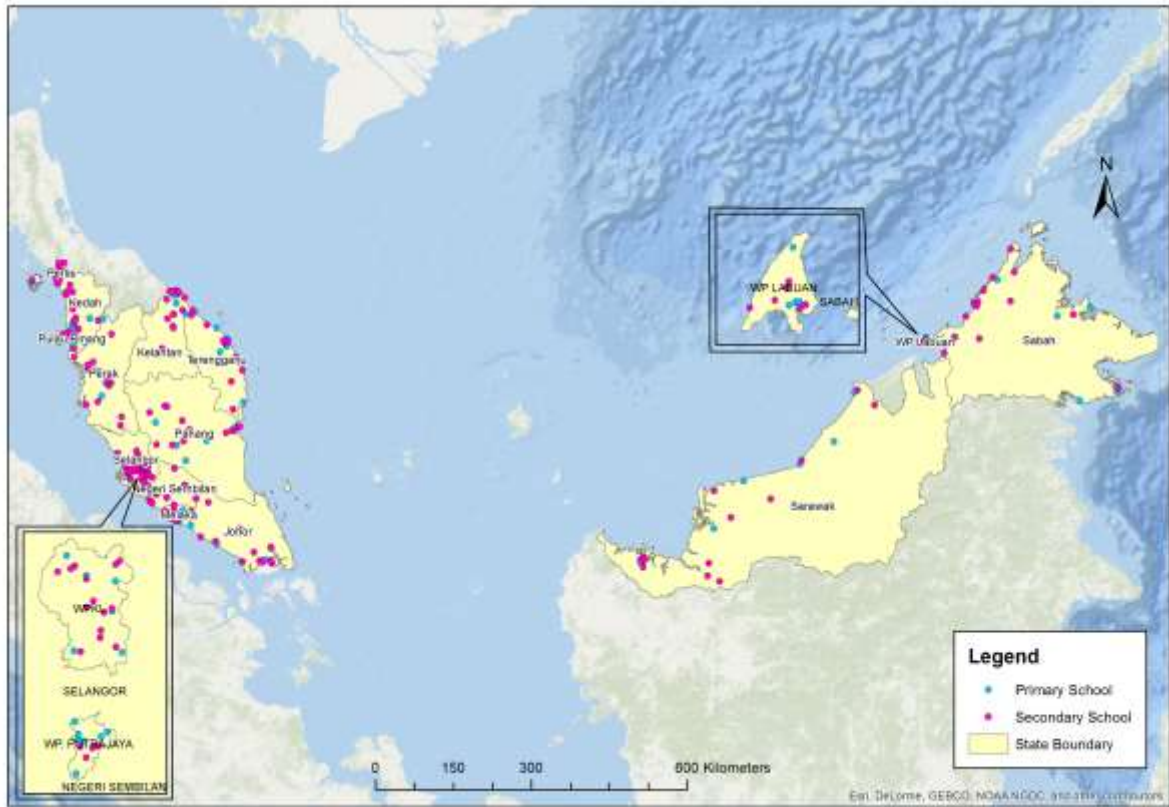


Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017

### 3.2 Nutritional status among adolescents (Primary 4 to Secondary 5) in Perlis

Contributors: Azli Baharudin, Junidah Raib, Chan Ying Ying, Poh Bee Koon, Tan Beng Chin, Suhaidi Sudin, Mohamad Hasnan Ahmad

#### 3.2.1 Introduction

Good nutritional status contributes to healthy development of children. Anthropometric measurements are part of nutritional status components to assess body size and composition; and reflect adequate, inadequate or excessive food intake. It is also a reflection of individual activity level and disease states. Nutritional deprivation and excess may coexist, not only within household or the community but also across the country. Performing simple body measurements also helps to identify individuals, families or the community for intervention, which could improve not only nutritional status but also their health as a whole.

#### 3.2.2 Objectives

##### General objective:

To determine the nutritional status of adolescents (Primary 4 to Secondary 5).

##### Specific objective:

To determine the prevalence of stunting, thinness, normal weight, overweight and obesity among adolescents (Primary 4 to Secondary 5) in Malaysia according to socio-demographic characteristics.

#### 3.2.3 Variable definition

The nutritional status of adolescents was identified based on the World Health Organization Growth Reference 2007 (WHO 2007)<sup>1</sup>. The major indices referred to were:

- a. Height-for-Age z-score (for adolescents between (Primary 4 to Secondary 5), and
- b. BMI-for-Age z-score (for adolescents between Primary 4 to Secondary 5)

#### 3.2.4 Findings

##### 3.2.4.1 Height-for-Age z-score

The finding of the survey showed that 90.5% (95% CI: 88.82, 92.04) of the adolescents had normal height-for-age status (HAZ:  $\geq -2SD$  to  $\leq +2SD$ ). The prevalence was lower than national level [91.8% (95% CI: 91.19, 92.29)]. Comparing between strata, rural area had higher percentage of total stunting [9.8% (95% CI: 8.04, 11.93)] compared to urban area [8.1% (95% CI: 6.85, 9.58)]. In term of sexes, girls had higher percentage of total stunting [11.4% (95% CI: 9.46, 13.61)] compared to boys [7.5% (95% CI: 5.95, 9.44)]. Comparing class category, primary level had higher percentage of total stunting [9.7% (95% CI: 7.05, 13.21)] compared to secondary level [9.3% (95% CI: 7.67, 11.35)].

### 3.2.4.2 BMI-for-Age z-score

In terms of BMI-for-age status, the findings showed that 62.3% (95% CI: 59.76, 64.80) of the population was in the normal range ( $\geq -2SD$  to  $\leq +1SD$ ). The prevalence was lower than national level [62.9% (95% CI: 61.84, 64.02)]. Comparing between strata, rural area had higher percentage of thinness [5.4% (95% CI: 4.25, 6.93)] compared to urban area [4.6% (95% CI: 2.66, 8.00)]. According to sexes, more boys [6.2% (95% CI: 4.93, 7.78)] were thinner than girls [4.3 (95% CI: 3.03, 6.18)]. In term of class category, primary level had higher percentage of thinness [6.9% (95% CI: 5.80, 8.20)] compared to secondary level [4.6% (95% CI: 3.34, 6.30)].

On the other hand, the prevalence of overweight in Perlis (BMI-for-age:  $> +1SD$  to  $\leq +2SD$ ) was 14.9% (95% CI: 13.11, 16.95). The state prevalence was lower than national prevalence [15.6% (95% CI: 15.06, 16.19)]. In term of strata, urban strata had higher prevalence of overweight [15.1% (95% CI: 13.74, 16.51)] compared with rural strata [14.9% (95% CI: 12.64, 17.46)]. Comparing sexes, girls had higher prevalence of overweight [15.1% (95% CI: 12.20, 18.60)] than boys [14.7% (95% CI: 12.82, 16.87)]. According to class category, secondary level had higher prevalence of overweight [15.1% (95% CI: 12.78, 17.75)] compared with primary level [14.5% (95% CI: 12.33, 17.00)].

For the prevalence of obesity (BMI-for-age:  $> +2SD$ ), the state prevalence was 17.5% (95% CI: 16.03, 19.07), whereas the prevalence was higher than national prevalence [14.8 (95% CI: 14.00, 15.73)]. Between strata, rural strata showed slightly higher prevalence of obesity [17.5% (95% CI: 15.99, 19.19)] than urban strata [17.4% (95% CI: 13.75, 21.66)]. Comparing between sexes, boys had much higher prevalence of obesity [19.9% (95% CI: 17.31, 22.88)] than girls [15.1% (95% CI: 12.64, 17.86)]. In term of class category, 20.3% (95% CI: 17.59, 23.38) primary level were obese compared to secondary level [16.3% (95% CI: 14.90, 17.87)].

### 3.2.5 Conclusion

The prevalence of stunted for adolescent aged 10 to 17 years in Perlis was 9.5%. On the other hand, the prevalence of overweight and obesity among this population were 14.9% and 17.5% respectively. In contrast, 5.3% of the population were found to be thinness. High demand of energy and nutrient are very important for physical growth and development at this age. However, the concept of healthy eating and living should be practised at younger age to ensure healthy physical and mental development. In consequences, it is hope reduce the prevalence of stunted, thinness, overweight and obesity.

### 3.2.6 Recommendation

Thinness, overweight and obesity is still a problem to be addressed for adolescent aged 10 to 17 years in Perlis. Various agencies have to take the initiative to set up plan of action to overcome such problem. Healthy eating and living concept should be carry out at an earlier

stage. It can be implemented by develop pro-health policies and regulation to create health promoting environment in work place, school, public area and even at home.

One of the suggested initiatives that involve collaboration between Ministry of Health and Ministry of Education is to empower Parental and Teacher Association in school to disseminate and implement healthy eating programs in schools. With that, it can give the concept of healthy eating and living to the children during schooling time and further practise and implement it at home and daily life. Eventually, it hopes to reduce the prevalence of thinness, overweight and obesity in the country.

Anthropometry is the measurement of physical dimensions such as height or weight, as well as the fat mass composition of the human body to provide information about a person's nutritional status. An index is a combination of two anthropometric measurements or an anthropometric measurement plus age. Anthropometry is a practical and immediately applicable technique for assessing person's development patterns. An evaluation also provides useful insights into the nutrition and health situation of entire population groups.

## References

1. World Health Organization, & World Health Organization. (2007). Growth reference data for 5-19 years. Geneva: WHO.
2. WHO Child Growth Standards: Methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age, World Health Organization, Switzerland, 2006

**Table 3.2.1: Distribution of adolescents according to Height-For-Age (HAZ) Z-score by sociodemographic characteristics in Perlis**

Characteristic	Stunting (<-2SD)					Normal (≥-2SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	226	3574	9.5	7.96	11.18	2260	34245	90.5	88.82	92.04
<b>Locality of School</b>										
Urban	55	654	8.1	6.85	9.58	666	7413	91.9	90.42	93.15
Rural	171	2920	9.8	8.04	11.93	1594	26832	90.2	88.07	91.96
<b>Sex</b>										
Boys	81	1413	7.5	5.95	9.44	1062	17405	92.5	90.56	94.05
Girls	145	2161	11.4	9.46	13.61	1198	16839	88.6	86.39	90.54
<b>Class</b>										
Standard 4	26	491	13.2	7.42	22.30	298	3235	86.8	77.70	92.58
Standard 5	20	341	9.6	7.58	12.05	229	3219	90.4	87.95	92.42
Standard 6	18	234	6.3	4.78	8.32	237	3469	93.7	91.68	95.22
Form 1	36	528	9.8	6.63	14.15	337	4880	90.2	85.85	93.37
Form 2	23	415	7.4	4.87	10.97	279	5226	92.6	89.03	95.13
Form 3	28	396	7.2	4.82	10.54	315	5135	92.8	89.46	95.18
Form 4	39	657	12.4	9.27	16.28	264	4661	87.6	83.72	90.73
Form 5	36	512	10.4	7.37	14.44	301	4419	89.6	85.56	92.63
<b>Class Category</b>										
Primary Level	64	1066	9.7	7.05	13.21	764	9923	90.3	86.79	92.95
Secondary Level	162	2508	9.3	7.67	11.35	1496	24322	90.7	88.65	92.33
<b>Ethnicity</b>										
Malay	212	3351	9.6	7.96	11.42	2108	31725	90.4	88.58	92.04
Chinese	9	154	8.3	4.26	15.65	98	1691	91.7	84.35	95.74
Indian	3	47	18.2	5.60	45.57	18	210	81.8	54.43	94.40
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100.0	100.00	100.00
Others	2	23	3.7	0.52	22.32	34	590	96.3	77.68	99.48



**Table 3.2.2: Distribution of adolescents according to BMI-For-Age status by sociodemographic characteristics in Perlis (Cont.)**

Characteristic	Thinness (< -2SD)					Normal BMI ( $\geq$ -2SD to $\leq$ +1SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	132	1991	5.3	4.19	6.61	1522	23560	62.3	59.76	64.80
<b>Locality of School</b>										
Urban	36	375	4.6	2.66	8.00	440	5071	62.9	57.72	67.84
Rural	96	1617	5.4	4.25	6.93	1082	18489	62.1	59.22	64.98
<b>Sex</b>										
Boys	70	1167	6.2	4.93	7.78	651	11126	59.1	55.56	62.59
Girls	62	824	4.3	3.03	6.18	871	12435	65.5	61.88	68.89
<b>Class</b>										
Standard 4	28	427	11.5	8.45	15.36	188	2124	57.0	52.95	60.98
Standard 5	13	185	5.2	4.35	6.22	123	2067	58.2	46.58	68.94
Standard 6	17	146	3.9	1.18	12.39	146	2206	59.6	56.03	63.00
Form 1	11	175	3.2	1.84	5.66	249	3596	66.5	61.20	71.39
Form 2	17	332	5.9	3.49	9.77	182	3394	60.2	55.03	65.08
Form 3	13	200	3.6	1.68	7.64	217	3548	64.1	59.67	68.39
Form 4	14	250	4.7	2.23	9.65	196	3360	63.2	55.35	70.36
Form 5	19	275	5.6	3.37	9.12	221	3266	66.2	58.79	72.96
<b>Class Category</b>										
Primary Level	58	758	6.9	5.80	8.20	457	6396	58.2	53.54	62.81
Secondary Level	74	1233	4.6	3.34	6.30	1065	17164	64.0	60.92	66.92
<b>Ethnicity</b>										
Malay	124	1859	5.3	4.20	6.67	1417	21820	62.2	59.53	64.84
Chinese	1	13	0.7	0.19	2.41	68	1159	62.8	56.69	68.55
Indian	4	55	21.5	11.85	35.81	12	159	62.0	42.32	78.33
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100.0	100.00	100.00
Others	3	64	10.5	3.56	27.04	23	394	64.3	52.44	74.66

**Table 3.2.2: Distribution of adolescents according to BMI-For-Age status by sociodemographic characteristics in Perlis**

Characteristic	Overweight (> +1SD to ≤ +2SD)					Obese (> +2SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	378	5644	14.9	13.11	16.95	453	6615	17.5	16.03	19.07
<b>Locality of School</b>										
Urban	109	1215	15.1	13.74	16.51	135	1399	17.4	13.75	21.66
Rural	269	4430	14.9	12.64	17.46	318	5216	17.5	15.99	19.19
<b>Sex</b>										
Boys	168	2772	14.7	12.82	16.87	254	3753	19.9	17.31	22.88
Girls	210	2872	15.1	12.20	18.60	199	2862	15.1	12.64	17.86
<b>Class</b>										
Standard 4	45	439	11.8	6.01	21.81	63	736	19.7	15.40	24.95
Standard 5	46	603	17.0	14.60	19.62	66	698	19.7	11.51	31.51
Standard 6	38	552	14.9	11.81	18.65	54	799	21.6	18.46	25.06
Form 1	45	658	12.2	8.68	16.78	68	980	18.1	14.42	22.50
Form 2	52	963	17.1	13.37	21.54	51	952	16.9	14.39	19.70
Form 3	59	884	16.0	12.31	20.49	54	899	16.2	12.47	20.89
Form 4	48	890	16.7	10.62	25.36	45	819	15.4	11.74	19.94
Form 5	45	656	13.3	9.99	17.53	52	733	14.9	10.47	20.66
<b>Class Category</b>										
Primary Level	129	1593	14.5	12.33	17.00	183	2233	20.3	17.59	23.38
Secondary Level	249	4051	15.1	12.78	17.75	270	4382	16.3	14.90	17.87
<b>Ethnicity</b>										
Malay	348	5157	14.7	12.79	16.85	430	6232	17.8	16.25	19.40
Chinese	23	420	22.8	13.71	35.40	15	253	13.7	8.74	20.89
Indian	4	35	13.6	4.50	34.45	1	8	2.9	0.36	20.43
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	3	32	5.2	2.15	12.17	7	123	20.0	9.18	38.16

### **3.3 Perception on body weight management Adolescent (Primary 4 To Secondary 5) In Perlis**

Contributors: Nur Shahida Abdul Aziz, Safiah Md.Yusof, Rohana Yaakof, Ruby Zainureen, Noor Ani Ahmad, Norlida Zulkafly, Rashidah Ambak

#### **3.3.1 Introduction**

Body weight perception refers to the personal evaluation of one’s weight as “underweight” or “normal weight” or “overweight” irrespective of actual body mass index. Adolescent estimation of weight status may reflect an adolescent’s perception of where they are on the spectrum of body weight relative to their peers.

#### **3.3.2 Objective**

##### **General objective:**

To assess self-perception on body weight and intentions on weight management among Malaysian adolescents aged 10 to 17 years

##### **Specific Objectives**

- I. To determine body weight perception among adolescents
- II. To determine body weight perception among adolescents in comparison to actual BMI- for-age status
- III. To describe intended action on their perceived body weight status
- IV. To describe motivating factors to change their body weight.
- V. To identify preferred options to change their body weight.

#### **3.3.3 Variable definition**

- Body weight perception: An interpretation or impression; an opinion or belief
- (Ref: Collins English Dictionary – Complete and Unabridged, 12th Edition 2014 © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003, 2006, 2007, 2009, 2011, 2014)
- Actual body weight: Body weight that was measured during the survey.
- Misperception: - a wrong perception

(Ref: (Collins English Dictionary – Complete and Unabridged, 12th Edition 2014 © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003, 2006, 2007, 2009, 2011, 2014)

### 3.3.4 Findings

Results shows, 41.4% (95% CI: 38.59, 44.26) of the adolescents in Perlis perceived that they have normal weight. Both urban and rural adolescents had similar perceptions of being normal weight; 41.6% (95%CI: 38.42, 44.77) and 41.4% (95%CI: 37.91, 44.89) respectively. Boys had a higher perception of being normal weight at 45.0% (95%CI: 41.46, 48.70) compared to girls at 37.8% (95%CI: 33.56, 42.22). However, girls had a higher perception of being overweight at 32.4% (95%CI: 25.69, 39.96), compared to boys at 18.6% (95%CI: 13.64, 24.73) (Table 3.3.1).

Among the actual normal 50.8% (95% CI: 46.37, 55.31) correctly perceived their weight to be normal, 32.7% (95% CI: 25.59, 40.76) underestimated their body weight, perceived to be thin, while 14.9% (95% CI: 10.52, 20.66) and 1.5% (95% CI: 0.99, 2.39) overestimated to be overweight and obese respectively. However, among the actual overweight, 44.0% (95% CI: 30.99, 57.88) correctly perceived their weight to be overweight, but 13.4% (95% CI: 8.51, 20.40) and 36.0% (95% CI: 25.46, 48.06), underestimated their body weight to be thin and normal respectively (Table 3.3.2).

Among all the adolescents who correctly perceived normal and have actual normal body weight, 31.4% (95% CI: 24.33,39.43) reported that they have no plan to change their weight while adolescents who correctly perceived overweight and actual overweight 89.9% (95% CI: 84.58,93.48) wanted to reduce their body weight. There were no significant different in school locality, sex and school category among adolescent who correctly perceived thin and overweight between four categories of action taken. However, there was significant different in sex among adolescents correctly perceived normal which more boys 12.8% (95%CI: 9.77, 16.48) than girls 4.8% (95% CI: 2.79, 8.02) wanted to increase their body weight (Table 3.3.3).

However, among the adolescents whom make a wrong perception, perceived thin but actually in overweight and obese categories most of them 60.4% (95% CI: 46.85, 72.50) wanted to lose weight while 20.4% (95% CI: 13.19, 30.23) wanted to increase their weight. Among adolescents who wanted to lose weight, there were higher in urban 63.9% (95% CI: 29.23, 88.32), girls 74.4% (95% CI: 52.86, 88.32) and primary scholars 66.2% (95% CI: 54.10, 76.52) (Table 3.3.4).

Health become main factor that motivate to lose weight, 68.4% (95% CI: 61.60, 74.50) and most boys choose health purpose as their main factor that motivate them to lose weight, 68.9% (95% CI: 62.32, 74.82) as compared than girls. However beauty purpose become the main factor to lose body weight among girls, 7.7% (95% CI: 5.39, 10.78) (Table 3.3.5).

Among adolescents who want to increase body weight, health purpose was the highest main factor followed by increase self-confidence, 54.5% (95% CI: 48.63, 60.19), 30.1% (95% CI: 23.68, 37.44) respectively. Primary scholars were found to be higher in choosing health

purpose as the main factor to increase body weight compared with the secondary adolescent (Table 3.3.6).

Exercise was the highest option preferred by adolescent to lose body weight 53.8% (95% CI: 46.51,60.86) followed by reduce high fat foods, 28.0% (95%CI: 22.97, 33.74). Adolescent in urban, 54.2% (95% CI: 48.90, 59.38), boys, 60.1% (95% CI: 52.36, 67.36), primary scholars 64.6% (95% CI: 56.48, 72.01) were the higher who choose exercise as their option to lose body weight (Table 3.3.7).

Increase quantity of food was the highest option preferred by adolescents to increase their body weight, 53.9% (48.23, 59.54) followed by taking supplement, 27.8% (95% CI: 23.57, 32.42) and take high calorie foods, 10.1% (95% CI: 6.50, 15.39). Adolescents in rural, 55.6% (95% CI:49.00, 61.94) , girls 62.7% (95% CI: 57.79, 67.43 ) and primary scholars 56.5% (46.27, 66.12) were the higher who choose increase quantity of food as a preferred option to increase body weight (Table 3.3.8).

### 3.3.5 Discussion/Conclusion

The prevalence of perception on being normal weight in Perlis is same with the national prevalence, 41.4 %. In Perlis, secondary school adolescents had the highest perception of being normal weight compared with the national prevalence 41.3 % and 41.2% respectively.

The prevalence of the adolescent who correctly perceived thin and have actual thin body weight was higher in Perlis compared with the national prevalence 76.6 % and 69.8% respectively.

31.4% adolescents who perceived normal and have normal body weight have no plan to change their body weight and it was lower compared with the national prevalence, 31.9 %.

In Perlis, the trend of main factors to lose body weight among adolescent are similar with the national trend. Health purpose is the highest 68.4% main factor to lose body weight; followed by to increase self confidence 24.8 %, beauty purpose 5.4 % and to have more friends 1.4 %

Health purpose became the highest main factor to increase body weight . But it was lower compared with the national prevalence 54.5% and 62.5% respectively. Its followed by increase self confidence 30.1%, beauty purpose 11.2% and to have more friends 4.2%.

Exercise became the preferred option to lose weight. It was lower compared with the national prevalence 53.8% and 56.3% respectively. Followed by reduce consumption of high fat foods 28.0%, reduce intake of high sugar foods 4.9 % and increase intake of fruits and vegetables 4.7 %.

Adolescents choose to increase quantity of food 53.9 % as the preferred option to increase body weight. It was higher compared with the national prevalence 53.9% and 52.4%

respectively. Followed by taking supplement 27.8 %, take high calorie foods 10.1 % and others 8.2 % . The trend is similar with the national trend of prevalence.

### 3.3.6 Recommendation

Body weight perception is a rather complex concept affected by `ideal` as well as `normative` body image. Our adolescents live in a society where increasingly larger proportions of the populations are overweight and obese. They are surrounded by overweight and obese peers, hence leading to them developing an inaccurate perception of healthy body weight or image. On the other hand, mass media often portray unusually thin models, especially among females, emphasizing `thin` rather than `healthy` body shapes.

Findings from this study should be utilised by relevant programme managers. Intervention to promote healthy lifestyles should be one of the approaches undertaken to halt this problem from worsening. Nutrition education should be systematically conducted in all school, utilizing educational modules. Parents should act as role models and be actively involved in all efforts to promote healthy eating and active living among children. The media should also play important role, by broadcasting more information to adolescent and families about healthy eating and active lifestyles.

In addition, a school- based health promotion programme incorporating a holistic curriculum may prove to be a good platform from which to tackle body image problems, encourage good eating habits and instil a healthy body image amongst adolescents.

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## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

**Table 3.3.1 : Body weight perception among adolescents by socio-demographic characteristics (Cont.)**

Characteristics	Perceived thin					Perceived Normal				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	712	10915	28.8	22.80	35.56	1008	15714	41.4	38.59	44.26
<b>Locality of School</b>										
Urban	221	2252	28.0	20.61	36.79	293	3344	41.6	38.42	44.77
Rural	491	8663	29.0	21.84	37.31	715	12369	41.4	37.91	44.89
<b>Sex</b>										
Boys	394	6149	32.6	27.42	38.23	478	8499	45.0	41.46	48.70
Girls	318	4766	25.0	17.61	34.12	530	7215	37.8	33.56	42.22
<b>School Category</b>										
Primary	330	4562	41.5	35.90	47.43	322	4569	41.6	37.99	45.33
Secondary	382	6353	23.6	19.50	28.15	686	11145	41.3	37.67	45.05
<b>Class</b>										
Standard 4	168	2183	58.6	46.79	69.47	105	1140	30.6	23.72	38.49
Standard 5	91	1336	37.5	31.03	44.48	99	1759	49.4	36.50	62.41
Standard 6	71	1044	28.2	25.97	30.65	118	1669	45.2	39.37	51.15
Form 1	107	1595	29.5	22.05	38.22	161	2325	43.0	37.95	48.18
Form 2	78	1567	27.9	19.83	37.65	112	2076	36.9	29.03	45.60
Form 3	70	1175	21.2	16.11	27.48	140	2324	42.0	36.42	47.83
Form 4	53	921	17.3	12.21	23.95	135	2353	44.2	35.82	52.93
Form 5	74	1095	21.5	17.92	25.58	138	2067	40.6	35.45	45.93
<b>Ethnicity</b>										
Malay	675	10312	29.3	23.01	36.46	938	14530	41.3	38.11	44.49
Chinese	19	323	17.5	14.10	21.48	39	704	38.1	31.55	45.19
Indian	8	84	32.8	10.73	66.36	10	146	57.0	24.45	84.41
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	7	23.6	1.46	86.52	1	21	76.4	13.48	98.54
Others	9	190	31.0	15.05	53.19	20	312	51.0	37.97	63.80



**Table 3.3.1 : Body weight perception among adolescents by socio-demographic characteristics**

Characteristics	Perceived Overweight					Perceived Obese				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	668	9689	25.5	19.92	32.08	105	1638	4.3	3.52	5.28
<b>Locality of School</b>										
Urban	178	2138	26.6	20.81	33.26	28	312	3.9	3.37	4.46
Rural	490	7550	25.2	18.51	33.43	77	1326	4.4	3.45	5.68
<b>Sex</b>										
Boys	232	3500	18.6	13.64	24.73	41	718	3.8	2.98	4.85
Girls	436	6188	32.4	25.69	39.96	64	920	4.8	3.35	6.89
<b>School Category</b>										
Primary	152	1518	13.8	8.26	22.23	23	331	3.0	2.34	3.88
Secondary	516	8171	30.3	26.57	34.29	82	1307	4.8	3.95	5.93
<b>Class</b>										
Standard 4	40	279	7.5	3.53	15.22	11	123	3.3	2.83	3.86
Standard 5	52	394	11.1	2.90	34.15	7	71	2.0	0.59	6.58
Standard 6	60	844	22.9	18.43	27.98	5	137	3.7	1.99	6.80
Form 1	90	1271	23.5	18.09	29.95	15	217	4.0	2.78	5.76
Form 2	97	1731	30.8	24.25	38.22	14	247	4.4	2.48	7.66
Form 3	114	1719	31.1	24.12	39.02	19	313	5.7	3.23	9.72
Form 4	105	1867	35.1	27.83	43.10	10	181	3.4	1.69	6.75
Form 5	110	1582	31.1	26.72	35.77	24	349	6.9	4.86	9.59
<b>Ethnicity</b>										
Malay	617	8850	25.1	19.35	31.96	97	1521	4.3	3.47	5.37
Chinese	42	709	38.4	34.30	42.69	7	110	6.0	4.59	7.74
Indian	3	26	10.3	2.58	33.18	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	6	104	16.9	6.74	36.37	1	7	1.2	0.10	12.50

**Table 3.3.2: Body weight perception among adolescent by actual BMI for age status (Cont.)**

Perceived	Actual thin															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Perlis	93	70.1	60.27	78.32	34	26.4	18.34	36.33	1	0.9	0.11	7.37	4	2.6	0.76	8.75
<b>Locality of school</b>																
Urban	21	55.8	37.53	72.68	15	44.2	27.32	62.47	-	-	-	-	-	-	-	-
Rural	72	73.4	64.43	80.74	19	22.2	15.49	30.85	1	1.1	0.13	9.00	4	3.3	0.92	10.88
<b>Sex</b>																
Boys	47	63.4	48.67	75.98	19	31.2	19.33	46.28	1	1.6	0.18	12.79	3	3.8	0.93	14.14
Girls	46	79.5	63.12	89.80	15	19.5	9.48	35.79	-	-	-	-	1	1.0	0.12	8.00
<b>School Category</b>																
Primary	39	70.0	63.15	76.09	17	28.2	21.98	35.45	-	-	-	-	2	1.8	0.34	8.63
Secondary	54	70.1	54.42	82.16	17	25.2	13.85	41.43	1	1.5	0.18	11.16	2	3.2	0.67	13.84

**Table 3.3.2: Body weight perception among adolescent by actual BMI for age status (Cont.)**

Perceived	Actual normal															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Perlis	482	32.7	25.59	40.76	774	50.8	46.37	55.31	243	14.9	10.52	20.66	22	1.5	0.99	2.39
<b>Locality of school</b>																
Urban	149	30.3	21.00	41.56	219	51.6	49.12	54.03	64	16.7	9.60	27.32	7	1.5	0.66	3.19
Rural	333	33.4	24.97	43.01	555	50.6	45.03	56.24	179	14.4	9.50	21.25	15	1.6	0.93	2.60
<b>Sex</b>																
Boys	253	36.9	31.88	42.15	337	54.4	50.48	58.22	51	7.2	4.72	10.87	9	1.5	0.73	3.23
Girls	229	29.0	19.33	41.11	437	47.7	40.86	54.60	192	21.7	15.72	29.28	13	1.5	0.79	2.96
<b>School Category</b>																
Primary	203	47.2	38.01	56.62	210	45.6	38.09	53.26	38	5.6	2.56	11.63	6	1.7	1.05	2.60
Secondary	279	27.3	22.81	32.34	564	52.8	48.63	56.95	205	18.4	14.46	23.05	16	1.5	0.83	2.69

**Table 3.3.2: Body weight perception among adolescent by actual BMI for age status (Cont.)**

Perceived	Actual overweight															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
<b>Perlis</b>	62	13.4	8.51	20.40	117	36.0	25.46	48.06	176	44.0	30.99	57.88	22	6.6	4.38	9.94
<b>Locality of school</b>																
Urban	23	21.4	13.56	32.04	32	28.5	19.33	39.94	49	46.1	37.70	54.78	5	4.0	1.59	9.54
Rural	39	11.2	6.18	19.35	85	38.0	25.34	52.62	127	43.4	27.46	60.86	17	7.4	4.81	11.15
<b>Sex</b>																
Boys	43	20.5	12.53	31.76	67	47.9	37.44	58.58	53	27.5	17.73	39.95	4	4.1	0.94	16.11
Girls	19	6.5	3.35	12.33	50	24.6	13.71	39.99	123	59.8	45.06	73.03	18	9.1	6.06	13.37
<b>School Category</b>																
Primary	39	23.0	12.54	38.35	45	49.9	27.42	72.41	37	16.8	5.53	40.94	8	10.3	5.65	18.18
Secondary	23	9.6	5.01	17.53	72	30.5	23.25	38.85	139	54.8	46.07	63.17	14	5.2	3.51	7.58

**Table 3.3.2: Body weight perception among adolescent by actual BMI for age status**

Perceived	Actual obese															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
<b>Perlis</b>	73	15.6	9.81	23.79	79	17.2	12.29	23.46	245	55.0	47.15	62.53	55	12.3	7.87	18.76
<b>Locality of school</b>																
Urban	28	18.1	12.97	24.62	26	15.7	7.98	28.43	65	52.7	42.37	62.78	16	13.6	7.04	24.62
Rural	45	14.9	8.06	25.87	53	17.6	12.04	24.92	180	55.6	45.93	64.81	39	12.0	6.93	19.89
<b>Sex</b>																
Boys	51	20.0	11.23	33.13	52	19.3	14.55	25.12	125	50.3	38.86	61.68	25	10.4	6.62	15.96
Girls	22	9.7	6.25	14.82	27	14.4	8.21	23.99	120	61.1	54.60	67.17	30	14.8	8.49	24.59
<b>School Category</b>																
Primary	49	29.0	23.77	34.82	49	28.6	25.98	31.48	77	40.2	34.50	46.28	7	2.1	0.49	8.80
Secondary	24	8.7	5.74	13.11	30	11.3	8.07	15.70	168	62.4	57.21	67.37	48	17.5	13.56	22.25

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents (Cont.)**

Characteristic	Perceived thin - actual thin									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	9	84	6.0	2.52	13.73	64	1069	76.6	60.21	87.67
<b>Locality of school</b>										
Urban	2	11	5.1	1.47	16.45	15	172	82.3	51.25	95.38
Rural	7	73	6.2	2.30	15.56	49	897	75.6	56.55	88.10
<b>Sex</b>										
Boys	3	30	4.1	1.16	13.39	34	590	79.7	56.07	92.34
Girls	6	54	8.2	3.03	20.43	30	480	73.2	54.48	86.17
<b>School category</b>										
Primary	7	53	10.0	2.41	33.33	21	398	75.0	41.13	92.78
Secondary	2	31	3.6	1.16	10.59	43	671	77.7	58.74	89.46

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents (Cont.)**

Characteristic	Perceived thin - actual thin									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	12	165	11.8	4.61	27.06	8	77	5.5	1.67	16.83
<b>Locality of school</b>										
Urban	2	16	7.5	2.10	23.39	2	11	5.0	1.44	16.16
Rural	10	149	12.6	4.42	30.84	6	67	5.6	1.41	19.86
<b>Sex</b>										
Boys	6	98	13.3	3.05	42.57	4	22	3.0	0.73	11.38
Girls	6	67	10.2	4.76	20.39	4	55	8.4	1.81	31.47
<b>School category</b>										
Primary	6	53	9.9	3.16	27.05	5	27	5.1	1.04	21.58
Secondary	6	112	13.0	3.68	36.76	3	50	5.8	1.12	24.99

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents (Cont.)**

Characteristic	Perceived normal - actual normal									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	215	3015	25.2	20.96	29.95	64	1052	8.8	7.08	10.87
<b>Locality of school</b>										
Urban	81	877	33.7	23.59	45.50	17	223	8.6	5.68	12.74
Rural	134	2138	22.8	18.85	27.37	47	829	8.9	6.88	11.33
<b>Sex</b>										
Boys	75	1248	20.7	15.76	26.62	45	770	12.8	9.77	16.48
Girls	140	1767	29.8	23.51	36.96	19	282	4.8	2.79	8.02
<b>School category</b>										
Primary	73	714	24.5	13.24	40.85	16	248	8.5	5.71	12.47
Secondary	142	2300	25.4	21.85	29.33	48	805	8.9	6.86	11.45

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents (Cont.)**

Characteristic	Perceived normal - actual normal									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	218	3757	31.4	24.33	39.43	277	4144	34.6	28.98	40.74
<b>Locality of school</b>										
Urban	60	743	28.5	22.27	35.75	61	761	29.2	23.32	35.92
Rural	158	3014	32.2	23.53	42.27	216	3383	36.1	29.25	43.64
<b>Sex</b>										
Boys	102	1997	33.1	25.41	41.75	115	2024	33.5	29.73	37.52
Girls	116	1760	29.7	22.44	38.11	162	2121	35.8	27.10	45.46
<b>School category</b>										
Primary	67	1298	44.5	30.38	59.64	54	655	22.5	16.92	29.16
Secondary	151	2459	27.2	21.99	33.02	223	3490	38.5	33.24	44.14

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents (Cont.)**

Characteristic	Perceived overweight - actual overweight									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	159	2224	89.9	84.58	93.48	-	-	-	-	-
<b>Locality of school</b>										
Urban	45	520	92.9	84.33	96.94	-	-	-	-	-
Rural	114	1703	89.0	82.91	93.07	-	-	-	-	-
<b>Sex</b>										
Boys	49	701	92.8	81.35	97.42	-	-	-	-	-
Girls	110	1522	88.6	82.37	92.80	-	-	-	-	-
<b>School category</b>										
Primary	35	254	95.0	85.68	98.36	-	-	-	-	-
Secondary	124	1970	89.2	83.55	93.13	-	-	-	-	-

**Table 3.3.3: Action taken according to correctly perceived body weight among adolescents**

Characteristic	Perceived overweight - actual overweight									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	11	158	6.4	2.84	13.67	6	93	3.8	1.71	8.07
<b>Locality of school</b>										
Urban	3	32	5.7	2.02	14.94	1	8	1.4	0.17	11.01
Rural	8	126	6.6	2.49	16.24	5	85	4.4	1.95	9.84
<b>Sex</b>										
Boys	3	37	4.8	1.37	15.77	1	18	2.4	0.29	16.81
Girls	8	121	7.0	3.10	15.21	5	75	4.4	1.83	10.13
<b>School category</b>										
Primary	1	5	2.0	0.27	13.42	1	8	3.0	0.50	16.00
Secondary	10	152	6.9	3.06	14.83	5	85	3.9	1.65	8.74

Table 3.3.4: Action taken according to misperception of body weight among adolescents (Cont.)

Characteristic	Perceived thin -Actual overweight/obese									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	84	1075	60.4	46.85	72.50	22	364	20.4	13.19	30.23
<b>Locality of school</b>										
Urban	36	327	63.9	29.23	88.32	7	79	15.4	7.76	28.25
Rural	48	748	59.0	45.73	71.05	15	285	22.5	13.71	34.53
<b>Sex</b>										
Boys	54	728	55.4	40.27	69.61	15	281	21.3	11.93	35.20
Girls	30	347	74.4	52.86	88.32	7	83	17.8	8.40	33.94
<b>School category</b>										
Primary	59	670	66.2	54.10	76.52	15	247	24.5	14.89	37.48
Secondary	25	406	52.7	30.05	74.33	7	116	15.1	7.82	27.17

Table 3.3.4: Action taken according to misperception of body weight among adolescents (Cont.)

Characteristic	Perceived thin -Actual overweight/obese									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	21	236	13.3	6.43	25.38	8	106	5.9	1.87	17.26
<b>Locality of school</b>										
Urban	5	58	11.3	4.03	27.87	3	48	9.4	1.85	36.55
Rural	16	178	14.0	5.52	31.37	5	57	4.5	1.04	17.59
<b>Sex</b>										
Boys	17	200	15.2	6.84	30.51	8	106	8.0	2.58	22.41
Girls	4	36	7.7	2.18	23.89	-	-	-	-	-
<b>School category</b>										
Primary	11	77	7.6	2.11	24.18	3	17	1.7	0.34	7.75
Secondary	10	159	20.6	10.88	35.62	5	89	11.5	3.62	31.21

Table 3.3.4: Action taken according to misperception of body weight among adolescents (Cont.)

Characteristic	Actual Normal - Perceived thin/overweight/obese									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	333	5100	44.1	38.64	49.79	223	3474	30.1	25.20	35.43
<b>Locality of school</b>										
Urban	94	1001	40.9	25.51	58.37	66	794	32.5	21.13	46.29
Rural	239	4099	45.0	39.85	50.26	157	2680	29.4	24.39	35.02
<b>Sex</b>										
Boys	106	1732	34.2	26.66	42.58	116	1783	35.2	23.34	49.20
Girls	227	3368	51.9	46.56	57.24	107	1691	26.1	21.08	31.76
<b>School category</b>										
Primary	117	1705	49.0	45.14	52.84	60	752	21.6	19.45	23.91
Secondary	216	3394	42.1	35.07	49.36	163	2722	33.7	28.65	39.20

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**Table 3.3.4: Action taken according to misperception of body weight among adolescents**

Characteristic	Actual Normal - Perceived thin/overweight/obese									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	118	1913	16.6	14.14	19.29	72	1067	9.2	7.29	11.63
<b>Locality of school</b>										
Urban	32	360	14.7	10.35	20.51	28	291	11.9	8.63	16.17
Rural	86	1552	17.0	14.37	20.11	44	776	8.5	6.34	11.36
<b>Sex</b>										
Boys	51	904	17.8	14.39	21.91	40	648	12.8	8.56	18.67
Girls	67	1009	15.5	12.66	18.94	32	419	6.5	3.63	11.25
<b>School category</b>										
Primary	37	633	18.2	14.37	22.70	33	391	11.2	8.92	14.09
Secondary	81	1280	15.9	13.10	19.06	39	676	8.4	5.92	11.72

**Table 3.3.5 : Main factors that motivate to lose body weight among adolescents by socio-demographic characteristics (Cont.)**

Characteristics	Health purpose					Beauty purpose				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	815	11925	68.4	61.60	74.50	67	938	5.4	3.81	7.56
<b>Locality of school</b>										
Urban	259	2630	66.3	58.34	73.48	26	289	7.3	3.08	16.28
Rural	556	9295	69.0	60.58	76.35	41	649	4.8	3.67	6.30
<b>Sex</b>										
Boys	334	5178	68.9	62.32	74.82	14	178	2.4	1.19	4.65
Girls	481	6747	68.0	59.98	75.11	53	760	7.7	5.39	10.78
<b>School category</b>										
Primary	328	4155	80.5	72.78	86.40	20	208	4.0	2.73	5.93
Secondary	487	7770	63.3	58.46	67.93	47	730	5.9	3.99	8.79
<b>Class</b>										
Standard 4	115	1111	73.1	67.55	78.03	11	139	9.1	5.52	14.77
Standard 5	119	1758	89.5	71.37	96.68	4	30	1.6	0.39	5.91
Standard 6	94	1286	76.6	64.64	85.41	5	39	2.3	0.86	6.11
Form 1	122	1745	74.4	63.85	82.76	7	98	4.2	1.60	10.44
Form 2	106	1933	68.8	59.83	76.50	8	129	4.6	2.12	9.63
Form 3	98	1544	57.6	50.86	64.09	11	157	5.9	3.24	10.37
Form 4	73	1281	56.0	43.27	67.96	11	200	8.7	3.47	20.34
Form 5	88	1268	59.0	48.26	68.99	10	146	6.8	3.18	13.90
<b>Ethnicity</b>										
Malay	765	11138	69.0	61.80	75.44	55	741	4.6	3.62	5.81
Chinese	33	552	55.1	46.95	63.07	10	172	17.2	9.00	30.29
Indian	7	84	67.3	23.37	93.26	2	25	20.3	5.06	54.84
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	10	151	91.3	63.40	98.45	-	-	-	-	-

**Table 3.3.5 : Main factors that motivate to lose body weight among adolescents by socio-demographic characteristics**

	To increase self-confidence					To have more friends				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	295	4323	24.8	19.14	31.48	17	246	1.4	0.79	2.53
<b>Locality of school</b>										
Urban	82	976	24.6	19.19	30.97	6	70	1.8	0.43	7.08
Rural	213	3348	24.9	17.87	33.46	11	176	1.3	0.71	2.39
<b>Sex</b>										
Boys	122	2012	26.8	20.85	33.70	10	145	1.9	0.84	4.34
Girls	173	2311	23.3	17.04	30.99	7	102	1.0	0.41	2.55
<b>School category</b>										
Primary	70	669	13.0	8.02	20.30	10	130	2.5	1.86	3.40
Secondary	225	3654	29.8	25.33	34.64	7	116	0.9	0.35	2.55
<b>Class</b>										
Standard 4	23	189	12.4	7.78	19.24	3	81	5.3	2.30	11.86
Standard 5	16	134	6.8	2.12	19.97	6	41	2.1	0.52	8.19
Standard 6	31	346	20.6	13.32	30.52	1	8	0.5	0.06	3.82
Form 1	33	460	19.6	13.88	27.01	3	41	1.8	0.58	5.15
Form 2	38	692	24.6	16.32	35.35	3	57	2.0	0.44	8.81
Form 3	60	961	35.8	29.62	42.59	1	18	0.7	0.08	5.30
Form 4	45	807	35.3	24.19	48.19	-	-	-	-	-
Form 5	49	734	34.2	24.31	45.66	-	-	-	-	-
<b>Ethnicity</b>										
Malay	277	4034	25.0	18.94	32.24	15	222	1.4	0.73	2.58
Chinese	15	259	25.9	19.38	33.62	1	18	1.8	0.23	12.92
Indian	1	16	12.5	1.76	53.08	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	7	100.0	100.00	100.00
Others	2	14	8.7	1.55	36.60	-	-	-	-	-



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Table 3.3.6 : Main factor that motivate to increase body weight among adolescents by socio-demographic characteristics (Cont.)

Characteristics	Health purpose					Beauty purpose				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	193	3056	54.5	48.63	60.19	41	629	11.2	8.03	15.43
<b>Locality of school</b>										
Urban	61	718	57.1	41.59	71.40	12	167	13.3	7.30	23.11
Rural	132	2339	53.7	47.58	59.70	29	461	10.6	7.24	15.25
<b>Sex</b>										
Boys	95	1621	50.3	41.98	58.69	29	462	14.4	9.67	20.77
Girls	98	1435	60.0	50.96	68.43	12	167	7.0	3.15	14.73
<b>School category</b>										
Primary	60	816	58.3	48.46	67.47	12	136	9.7	6.91	13.57
Secondary	133	2240	53.2	45.97	60.30	29	492	11.7	7.81	17.16
<b>Class</b>										
Standard 4	31	459	60.9	54.43	67.06	9	112	14.9	10.19	21.30
Standard 5	16	241	82.7	55.19	94.87	1	7	2.3	0.32	14.51
Standard 6	13	115	32.6	7.74	73.53	2	17	4.9	0.54	33.22
Form 1	26	391	54.8	36.97	71.45	4	60	8.4	3.47	19.14
Form 2	26	521	56.3	40.47	71.00	7	154	16.6	7.98	31.50
Form 3	27	483	56.3	38.61	72.52	6	106	12.4	4.39	30.28
Form 4	20	339	58.5	45.18	70.74	2	33	5.6	0.74	32.31
Form 5	34	507	44.6	32.06	57.86	10	140	12.3	5.15	26.52
<b>Ethnicity</b>										
Malay	178	2780	52.4	46.92	57.83	41	629	11.9	8.60	16.12
Chinese	9	157	100.0	0.00	100.00	-	-	-	-	-
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	6	119	100.0	0.00	100.00	-	-	-	-	-

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Table 3.3.6 : Main factor that motivate to increase body weight among adolescents by socio-demographic characteristics

Characteristics	To increase self-confidence					To have more friends				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	109	1690	30.1	23.68	37.44	9	236	4.2	1.32	12.66
<b>Locality of school</b>										
Urban	28	340	27.1	13.58	46.76	2	31	2.4	0.77	7.46
Rural	81	1350	31.0	24.00	38.96	7	206	4.7	1.29	15.85
<b>Sex</b>										
Boys	67	1073	33.3	25.39	42.33	4	64	2.0	0.68	5.62
Girls	42	617	25.8	18.07	35.37	5	173	7.2	1.58	27.43
<b>School category</b>										
Primary	22	283	20.2	14.65	27.14	5	165	11.8	4.62	26.97
Secondary	87	1407	33.4	26.08	41.65	4	71	1.7	0.68	4.16
<b>Class</b>										
Standard 4	10	110	14.6	8.83	23.22	3	72	9.5	5.16	17.00
Standard 5	5	37	12.8	4.51	31.30	1	7	2.3	0.32	14.51
Standard 6	7	135	38.1	23.97	54.57	1	87	24.4	6.10	61.67
Form 1	17	262	36.8	21.99	54.56	-	-	-	-	-
Form 2	13	250	27.0	16.34	41.25	-	-	-	-	-
Form 3	15	246	28.7	14.90	48.07	1	23	2.6	0.40	15.40
Form 4	11	191	32.9	23.08	44.57	1	17	2.9	0.36	19.52
Form 5	31	458	40.3	29.72	51.88	2	32	2.8	1.19	6.54
<b>Ethnicity</b>										
Malay	107	1660	31.3	24.57	38.89	9	236	4.5	1.40	13.30
Chinese	-	-	-	-	-	-	-	-	-	-
Indian	2	30	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-

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Table 3.3.7 : Preferred option to lose body weight among adolescents by socio-demographic characteristics (Cont.)

Characteristics	Exercise					Reduce consumption of high fat foods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	635	9380	53.8	46.51	60.86	344	4892	28.0	22.97	33.74
<b>Locality of school</b>										
Urban	205	2145	54.2	48.90	59.38	107	1141	28.8	25.47	32.39
Rural	430	7234	53.6	44.39	62.64	237	3752	27.8	21.48	35.19
<b>Sex</b>										
Boys	284	4542	60.1	52.36	67.36	122	1857	24.6	18.80	31.44
Girls	351	4838	48.9	40.32	57.59	222	3035	30.7	25.35	36.61
<b>School category</b>										
Primary	262	3324	64.6	56.48	72.01	102	1084	21.1	14.92	28.91
Secondary	373	6056	49.2	42.37	56.10	242	3808	31.0	25.95	36.44
<b>Class</b>										
Standard 4	95	1013	65.3	55.31	74.13	26	205	13.2	8.61	19.83
Standard 5	94	1304	66.9	61.31	72.08	34	360	18.5	10.51	30.41
Standard 6	73	1006	61.3	49.99	71.46	42	518	31.6	24.96	39.01
Form 1	77	1092	46.3	36.97	55.95	57	815	34.6	27.82	41.98
Form 2	86	1596	56.3	45.60	66.52	43	749	26.4	17.09	38.54
Form 3	86	1388	51.3	43.70	58.78	55	831	30.7	23.13	39.50
Form 4	56	992	42.6	30.47	55.62	43	760	32.6	22.88	44.08
Form 5	68	988	47.6	38.40	56.91	44	654	31.5	21.57	43.41
<b>Ethnicity</b>										
Malay	585	8597	53.2	45.37	60.86	324	4571	28.3	22.89	34.38
Chinese	35	618	62.5	44.47	77.63	16	256	25.9	13.00	45.09
Indian	5	46	36.7	13.80	67.78	4	64	51.5	21.88	80.11
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	7	23.6	1.46	86.52	-	-	-	-	-
Others	9	112	78.9	56.17	91.62	-	-	-	-	-

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Table 3.3.7 : Preferred option to lose body weight among adolescents by socio-demographic characteristics (Cont.)

Characteristics	Reduce intake of high sugar foods					Increase intake of fruits & vegetables				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	52	852	4.9	3.82	6.22	67	821	4.7	3.67	6.02
<b>Locality of school</b>										
Urban	17	175	4.4	3.33	5.88	23	230	5.8	4.38	7.69
Rural	35	676	5.0	3.72	6.73	44	591	4.4	3.21	5.96
<b>Sex</b>										
Boys	24	422	5.6	3.77	8.19	25	336	4.4	2.92	6.72
Girls	28	430	4.3	2.78	6.75	42	485	4.9	3.20	7.44
<b>School category</b>										
Primary	19	262	5.1	3.72	6.97	30	264	5.1	3.09	8.38
Secondary	33	589	4.8	3.47	6.57	37	558	4.5	3.38	6.05
<b>Class</b>										
Standard 4	10	123	7.9	5.97	10.42	16	140	9.0	6.66	12.09
Standard 5	7	125	6.4	3.78	10.64	6	60	3.1	0.95	9.47
Standard 6	2	15	0.9	0.22	3.63	8	64	3.9	1.34	10.73
Form 1	5	71	3.0	1.41	6.34	14	193	8.2	5.94	11.14
Form 2	12	228	8.0	4.28	14.59	5	79	2.8	1.23	6.26
Form 3	6	114	4.2	2.05	8.37	6	93	3.4	1.53	7.49
Form 4	6	113	4.8	2.28	10.01	7	121	5.2	2.53	10.30
Form 5	4	64	3.1	1.31	7.07	5	72	3.5	1.36	8.66
<b>Ethnicity</b>										
Malay	49	807	5.0	3.81	6.51	65	788	4.9	3.77	6.29
Chinese	2	30	3.0	0.85	10.09	2	33	3.3	1.01	10.32
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	15	10.8	1.45	49.63	-	-	-	-	-

**Table 3.3.7 : Preferred option to lose body weight among adolescents by socio-demographic characteristics (Cont.)**

Characteristics	Skip main meals					Consume dieting pills/use slimming cream				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	29	330	1.9	1.07	3.32	9	132	0.8	0.31	1.80
<b>Locality of school</b>										
Urban	8	65	1.6	0.98	2.73	1	5	0.1	0.02	1.05
Rural	21	265	2.0	0.97	3.93	8	126	0.9	0.38	2.27
<b>Sex</b>										
Boys	11	105	1.4	0.64	3.03	3	42	0.6	0.14	2.23
Girls	18	225	2.3	1.07	4.76	6	90	0.9	0.29	2.76
<b>School category</b>										
Primary	13	93	1.8	0.67	4.79	1	5	0.1	0.01	0.91
Secondary	16	237	1.9	0.97	3.79	8	126	1.0	0.44	2.38
<b>Class</b>										
Standard 4	8	54	3.5	1.18	9.87	1	5	0.3	0.04	2.72
Standard 5	1	8	0.4	0.05	3.26	-	-	-	-	-
Standard 6	4	31	1.9	0.55	6.27	-	-	-	-	-
Form 1	4	54	2.3	0.74	6.95	1	14	0.6	0.08	4.28
Form 2	-	-	-	-	-	-	-	-	-	-
Form 3	6	87	3.2	1.20	8.38	2	27	1.0	0.24	4.13
Form 4	2	40	1.7	0.44	6.65	1	24	1.0	0.12	8.34
Form 5	4	55	2.6	0.74	8.94	4	60	2.9	0.96	8.46
<b>Ethnicity</b>										
Malay	28	315	2.0	1.07	3.55	7	93	0.6	0.20	1.61
Chinese	-	-	-	-	-	1	24	2.5	0.31	16.96
Indian	-	-	-	-	-	1	15	11.8	1.27	58.13
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	15	10.3	1.94	40.21	-	-	-	-	-

**Table 3.3.7 : Preferred option to lose body weight among adolescents by socio-demographic characteristics**

Characteristics	Fasting					Professional advise				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	51	847	4.9	2.69	8.62	11	192	1.1	0.49	2.45
<b>Locality of school</b>										
Urban	8	98	2.5	1.00	5.99	6	99	2.5	0.94	6.54
Rural	43	750	5.6	2.92	10.33	5	93	0.7	0.24	1.97
<b>Sex</b>										
Boys	10	154	2.0	0.96	4.28	5	99	1.3	0.44	3.87
Girls	41	693	7.0	3.67	12.98	6	93	0.9	0.31	2.80
<b>School category</b>										
Primary	4	111	2.1	0.77	5.82	-	-	-	-	-
Secondary	47	737	6.0	3.12	11.21	11	192	1.6	0.76	3.21
<b>Class</b>										
Standard 4	2	11	0.7	0.08	5.46	-	-	-	-	-
Standard 5	1	92	4.7	1.20	16.87	-	-	-	-	-
Standard 6	1	8	0.5	0.06	3.50	-	-	-	-	-
Form 1	8	118	5.0	2.09	11.50	-	-	-	-	-
Form 2	7	126	4.5	1.78	10.68	3	54	1.9	0.39	8.84
Form 3	7	95	3.5	1.50	7.90	4	73	2.7	1.12	6.29
Form 4	13	229	9.8	4.13	21.59	3	51	2.2	0.50	9.11
Form 5	12	170	8.2	3.67	17.18	1	14	0.7	0.09	5.04
<b>Ethnicity</b>										
Malay	49	811	5.0	2.73	9.04	10	180	1.1	0.47	2.60
Chinese	1	15	1.5	0.18	11.36	1	12	1.3	0.36	4.28
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	21	76.4	13.48	98.54	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-

**Table 3.3.8 : Preferred option to increase body weight among adolescents by socio-demographic characteristics (Cont..)**

Characteristics	Increase quantity of food					Taking supplement				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	193	3114	53.9	48.23	59.54	98	1604	27.8	23.57	32.42
<b>Locality of school</b>										
Urban	51	609	48.1	42.96	53.32	29	374	29.5	25.19	34.31
Rural	142	2505	55.6	49.00	61.94	69	1230	27.3	22.16	33.10
<b>Sex</b>										
Boys	91	1578	47.5	38.97	56.08	53	867	26.1	20.88	32.06
Girls	102	1536	62.7	57.79	67.43	45	737	30.1	23.17	38.06
<b>School category</b>										
Primary	54	825	56.5	46.27	66.12	28	464	31.8	25.79	38.40
Secondary	139	2289	53.1	46.66	59.39	70	1140	26.4	21.89	31.54
<b>Class</b>										
Standard 4	29	454	58.2	48.39	67.35	14	245	31.4	21.85	42.77
Standard 5	10	159	48.8	20.90	77.41	11	118	36.1	15.38	63.73
Standard 6	15	212	59.8	46.58	71.68	3	102	28.6	10.41	58.04
Form 1	19	277	37.8	23.16	55.07	18	266	36.4	23.58	51.39
Form 2	26	503	53.2	32.32	72.93	11	233	24.6	11.20	45.79
Form 3	32	548	60.6	47.07	72.68	11	185	20.5	13.23	30.39
Form 4	23	392	65.6	55.24	74.70	6	104	17.4	9.27	30.15
Form 5	39	569	50.3	40.80	59.73	24	352	31.1	23.44	39.88
<b>Ethnicity</b>										
Malay	183	2925	53.7	47.87	59.38	91	1484	27.2	22.80	32.16
Chinese	5	97	66.4	43.74	83.44	3	49	33.6	16.56	56.26
Indian	-	-	-	-	-	2	22	59.3	9.11	95.48
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	5	93	65.3	16.93	94.58	2	49	34.7	5.42	83.07

**Table 3.3.8 : Preferred option to increase body weight among adolescents by socio-demographic characteristics**

Characteristics	Take high calorie foods					Others				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	42	584	10.1	6.50	15.39	33	472	8.2	4.88	13.38
<b>Locality of school</b>										
Urban	16	197	15.6	11.62	20.58	8	86	6.8	4.44	10.16
Rural	26	387	8.6	4.76	14.95	25	386	8.6	4.57	15.50
<b>Sex</b>										
Boys	31	452	13.6	9.18	19.65	29	428	12.9	7.58	21.03
Girls	11	132	5.4	2.58	10.91	4	44	1.8	0.51	6.06
<b>School category</b>										
Primary	16	107	7.3	1.90	24.23	9	66	4.5	1.16	15.95
Secondary	26	477	11.1	7.54	15.97	24	406	9.4	5.74	15.09
<b>Class</b>										
Standard 4	7	38	4.9	0.99	20.90	6	43	5.6	0.94	26.91
Standard 5	4	27	8.3	1.98	28.93	3	22	6.8	1.51	25.92
Standard 6	5	41	11.6	2.74	38.01	-	-	-	-	-
Form 1	3	59	8.0	1.89	28.22	8	131	17.8	8.08	34.89
Form 2	6	130	13.7	4.88	32.98	4	81	8.5	3.52	19.24
Form 3	7	127	14.1	5.96	29.78	2	43	4.8	1.29	16.23
Form 4	4	69	11.6	5.14	24.03	2	32	5.4	0.62	34.77
Form 5	6	92	8.1	4.75	13.64	8	119	10.5	5.02	20.68
<b>Ethnicity</b>										
Malay	42	584	10.7	6.92	16.22	32	457	8.4	4.87	14.03
Chinese	-	-	-	-	-	-	-	-	-	-
Indian	-	-	-	-	-	1	15	40.7	4.52	90.89
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-



### 3.4 Meal pattern among adolescents (Primary 4 to Secondary 5) in Perlis

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#### 3.4.1 Introduction

The term 'meal patterns' is often used to describe individuals' eating patterns at the level of a 'meal', such as a main meal (for example, breakfast, lunch or dinner) or a smaller-sized meal (for example, supper or snack). It also can be described in three constructs, which is patterning (frequency, spacing, regularity, skipping, timing), format (types of food combinations, sequencing of foods, nutrient profile/content); and context (eating with others or with the family, eating in front of the television or out of the home). Understanding the ways in which different meal patterns make an impact on diet quality is very important as it believed to affect the growth of the individual and elucidate important diet–disease relationships, especially among adolescents. Therefore, meal pattern based approach could complement current nutrition advice to enhance healthy eating campaign strategies.

#### 3.4.2 Objective

##### General objective:

To determine the meal pattern of adolescent in Perlis (Primary 4 to Secondary 5).

##### Specific objective:

- To determine the prevalence consumption of individual main meals (breakfast, lunch, dinner) and intermeal (during recess, afternoon tea and heavy meal after dinner).
- To identify the sources of food and/or drink consume for main meals (breakfast, lunch, dinner) and intermeals (during recess, afternoon tea and heavy meal after dinner).
- To identify reasons for skipping main meals (breakfast, lunch and dinner).
- To determine the prevalence of practice bringing food or drinks to school.
- To identify common type of food or drink brought to school.
- To determine the prevalence of eating out in adolescents.
- To determine the prevalence of snacking and practice of buying snack out of school area.
- To identify common type of snack consumed and bought out of school area.
- To identify source of media that affect meal pattern among adolescents.

#### 3.4.3 Variable Definition

- Main meal: the traditional meal; breakfast, lunch, dinner.

- **Breakfast:** defined as the first food taken after waking from sleep, food intake in the early morning, between 6.00 am to 8 am.
- **Lunch:** defined as food consumed or meal between 11.00 am to 3.00 pm.
- **Dinner:** defined as foods consumed or meal between 6.00 pm to 10.00 pm.
- **Afternoon tea:** defined as food and/ or drinks taken between lunch and dinner, between 3.00 pm to 6.00 pm.
- **Heavy meal after dinner:** food taken at night after the dinner after 10.00 pm. Examples of foods that are considered heavy meal is high calorie food such as *nasi lemak*, *roti canai*, fried mee, burger, fried chicken and so on. It does not include two small snacks like crackers and/or a glass of milk.
- **Skipping meal:** the omission or lack of consumption of one or more of the traditional main meals (breakfast, lunch or dinner) throughout the day.
- **Dieting:** to limit food intake in terms of the amount of frequency of eating for weight loss purposes.
- **Fast food:** meant in this question, including ready-to-eat food. Ready-to-eat foods are foods that can be eaten immediately after purchase. It consists of cooked food, food either hot or cold foods and foods that can be eaten without further cooking or heating.
- **Snacking:** consumption of energy outside of traditional meals such as breakfast, lunch, and dinner.
- **Eating during school break time:** Eating time between the intervals of classes after school started.
- **Eating out:** either eating at restaurant or hawker stall, and does not includes buying outside food and eat it at home.
- **Snack food:** snack food such as bun, biscuits, fruits, nuts, crackers, ice cream, junk foods, pickles, flavoured/carbonated drink, fries/ nugget/sausage, candy or chocolate.

#### 3.4.4 Findings

A total of 2,496 respondents of 38,004 adolescents in Perlis were selected to participate in the study. The study shows that percentage of adolescents taking breakfast (23.0%; 95% CI: 18.59, 28.19) on daily basis are low compared to lunch (44.8%; 95% CI: 38.95, 50.74) and dinner (45.3%; 95% CI: 40.50, 50.22). Most of them take heavy lunch for 1 to 6 days per week

and about half of the meal sources are prepared at home. The reason the adolescent skip their heavy meals intake is mainly due to no appetite followed by insufficient time. However, nearly a quarter of the adolescents skip dinner to control body weight. About 61.0% (95% CI: 56.30, 65.44) of them eat and drink during recess time every day on weekdays. Most of the food (74.5%; 95% CI: 67.28, 80.57) are obtained from the school canteen. Meanwhile, majority of the adolescents take afternoon tea and heavy meal after dinner for 1 to 6 days a week [57.7% (95% CI: 52.87, 62.47) and 75.3% (95% CI: 72.36, 78.06) respectively]. Most of the food are prepared/taken at home. About 35.7% (95% CI: 30.31, 41.48) of the adolescents take their heavy meal after dinner at restaurant/kiosk. Fast food is frequently consumed by 88.4% (95% CI: 86.27, 90.22) of the adolescents for 1 to 6 days per week. The research revealed that the practice of bringing food and drinks to school daily is only done by 5.5% and 31.0% of adolescents. Nearly half of the adolescents (45.9%; 95% CI: 38.95, 53.09) never bring food to school. The most popular food frequently brought to school is nasi lemak/fried rice/mixed rice (55.35; 95% CI: 44.78, 65.30) whereas 89.1% (95% CI: 85.85, 91.72) claims they usually bring plain water. About 64.5% (95% CI: 61.37, 67.58) adolescents spend their pocket money to buy food/drinks. It was found that they occasionally eating out as most of the adolescents reported they eating out around 1 to 3 times per week. In terms of snacking, most adolescents snacking around 1-3 times per week and the categories of food with the highest consumption are bread/ bun/ sandwich and biscuits. Most of them also buy snack food and/or drink out of school area 1 to 4 times per week with the highest preference are French fries/nugget/sausage (22.1%; 95% CI: 18.77, 26.15) and flavoured drink/carbonated drink (33.6%; 95% CI: 27.59, 40.23). Social media and television constitute the highest percentage of media sources which affected dietary pattern among adolescents in Perlis [41.4% (95% CI: 37.46, 45.39) and 40.1% (95% CI: 36.79, 43.52) respectively].

### **3.4.5 Discussions/Conclusion**

The study reveals that adolescents tend to skip main meals intake during day time. This might due to the result where they do not have appetite and no time to take the meals during and after schooling hours. There is also a portion of adolescents that skip meal as they are on diet. The benefit, priority on taking main meals and the misunderstanding knowledge on reducing body weight need to be educated to the adolescents in order to achieve and maintain better health status. Importance of good hydration should also be emphasized to the adolescents as the percentage of those practising bringing water to school is very low. The unhealthy dietary practice can be observed highly practiced by the adolescents. It was found that more than a quarter of adolescents having heavy meals after dinner frequently and a considerable high proportion take fast food frequently in a week. The main food and drink preference outside the school also includes high caloric meals. Thus, further regulations regarding the sales of food/drink outside school compound should be strengthened and creative healthy dietary practice messages targeting adolescents should be targeted through the main media i.e. television and media socials.

### 3.4.6 Recommendation

Taken together from the survey, several recommendations were proposed. Advocacy on proper meal pattern practice among adolescent is crucial therefore, a holistic and comprehensive nutrition intervention should be implemented nation-wide, where every stakeholder must work together. Current adolescent is the future adult, thus healthier adolescent generation is warranted for a healthier nation. As the most of adolescents are school-aged individuals, therefore, more health promotion such as healthy eating habits in house, school and eating out must be addressed systematically. Positive behavioural changes on dietary pattern need a longer time but the support and intervention must be continuous. Ministry of Health and Ministry of Education together with support and cooperation from Parents and Teacher Association and also professional bodies (Nutrition Society of Malaysia, Malaysian Dietitians' Association, Malaysian Association for the Study of Obesity), that are related to diet and lifestyle should work hand-in-hand to educate and empower the adolescent on proper nutrition intakes daily especially on main meals.

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Table 3.4.1 : Prevalence of breakfast per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Breakfast frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	646	8754	23.0	18.59	28.19	1580	25138	66.2	61.18	70.80
<b>Locality of school</b>										
Urban	201	1993	24.7	18.81	31.77	435	5007	62.1	55.84	67.99
Rural	445	6761	22.6	17.33	28.87	1145	20131	67.2	61.42	72.58
<b>Sex</b>										
Boys	294	4392	23.2	19.58	27.31	741	12659	66.9	62.62	70.97
Girls	352	4362	22.9	16.75	30.38	839	12478	65.4	58.29	71.85
<b>Ethnicity</b>										
Malay	597	7987	22.7	17.95	28.17	1488	23593	66.9	61.67	71.78
Chinese	35	577	31.3	24.29	39.27	54	953	51.6	44.15	59.04
Indian	6	57	22.1	5.50	57.96	13	165	64.3	29.48	88.60
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	28	100.0	100.00	100.00
Others	8	133	21.7	16.04	28.79	23	399	65.1	55.92	73.21
<b>School level</b>										
Primary school	251	2469	22.5	14.08	33.91	496	7505	68.3	55.16	79.10
Secondary school	395	6285	23.3	18.39	28.97	1084	17633	65.3	61.37	68.97
<b>Class</b>										
Standard 4	112	1092	29.3	21.35	38.84	194	2509	67.4	54.14	78.42
Standard 5	80	821	23.1	12.46	38.67	143	2540	71.4	49.00	86.59
Standard 6	59	557	15.0	7.13	29.00	159	2456	66.3	58.43	73.39
Form 1	109	1552	28.7	20.80	38.13	240	3509	64.9	55.97	72.85
Form 2	78	1448	25.7	16.83	37.09	177	3383	60.0	52.42	67.09
Form 3	74	1144	20.7	15.73	26.68	225	3656	66.1	57.86	73.46
Form 4	53	902	16.9	11.92	23.36	199	3554	66.5	58.68	73.54
Form 5	81	1240	24.4	15.58	35.96	243	3531	69.3	59.57	77.63
<b>School session</b>										
Morning session	309	4238	22.5	15.65	31.30	779	12606	67.0	60.33	73.03
Evening session	3	29	12.1	2.41	43.40	17	196	80.9	44.70	95.69
Morning and evening session	333	4472	23.7	19.46	28.50	780	12293	65.1	59.76	70.09
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	38	613	30.8	18.94	45.86	89	1318	66.2	52.47	77.59
Normal (≥-2sd - ≤+1sd)	392	5286	22.4	17.43	28.40	962	15772	67.0	59.60	73.57
Overweight (>+1sd - ≤+2sd)	106	1408	24.9	18.49	32.74	226	3452	61.2	57.61	64.60
Obese (>+2sd)	104	1340	20.3	15.39	26.18	298	4511	68.2	62.19	73.64
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	56	776	21.7	14.66	30.91	145	2451	68.6	56.74	78.39
Normal (≥-2sd)	584	7871	23.0	18.69	27.93	1431	22609	66.0	61.55	70.25

**Table 3.4.1 : Prevalence of breakfast per week among adolescents by socio-demographic characteristics and nutritional status**

	Did not take breakfast				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	269	4107	10.8	8.39	13.81
<b>Locality of school</b>					
Urban	84	1062	13.2	9.93	17.26
Rural	185	3045	10.2	7.44	13.76
<b>Sex</b>					
Boys	113	1862	9.8	7.14	13.44
Girls	156	2244	11.8	8.14	16.70
<b>Ethnicity</b>					
Malay	244	3676	10.4	7.94	13.57
Chinese	18	315	17.1	15.19	19.13
Indian	2	35	13.6	2.20	52.43
Bumiputera Sabah					
Bumiputera Sarawak					
Others	5	81	13.2	7.51	22.15
<b>School level</b>					
Primary school	80	1009	9.2	6.79	12.31
Secondary school	189	3098	11.5	8.48	15.33
<b>Class</b>					
Standard 4	194	2509	67.4	54.14	78.42
Standard 5	143	2540	71.4	49.00	86.59
Standard 6	159	2456	66.3	58.43	73.39
Form 1	240	3509	64.9	55.97	72.85
Form 2	177	3383	60.0	52.42	67.09
Form 3	225	3656	66.1	57.86	73.46
Form 4	199	3554	66.5	58.68	73.54
Form 5	243	3531	69.3	59.57	77.63
<b>School session</b>					
Morning session	129	1974	10.5	7.18	15.08
Evening session	1	17	7.0	0.67	45.55
Morning and evening session	139	2116	11.2	8.89	14.03
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	5	61	3.0	1.03	8.66
Normal (≥-2sd - ≤+1sd)	167	2497	10.6	7.62	14.56
Overweight (>+1sd - ≤+2sd)	46	785	13.9	9.35	20.18
Obese (>+2sd)	51	764	11.6	8.37	15.74
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	25	348	9.7	5.30	17.18
Normal (≥-2sd)	244	3759	11.0	8.71	13.76

Table 3.4.2 : Source of food for breakfast among adolescents by socio-demographic characteristics and nutritional status (Cont..)

	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	1206	17782	53.3	41.72	64.61	398	6304	18.9	14.16	24.80
<b>Locality of school</b>										
Urban	459	5008	72.7	64.25	79.71	98	1049	15.2	8.16	26.62
Rural	747	12775	48.3	34.94	61.93	300	5255	19.9	14.48	26.66
<b>Sex</b>										
Boys	552	9058	53.7	43.35	63.66	222	3610	21.4	17.31	26.12
Girls	654	8725	53.0	37.32	68.15	176	2694	16.4	10.23	25.16
<b>Ethnicity</b>										
Malay	1111	16283	52.5	40.27	64.35	370	5843	18.8	13.79	25.15
Chinese	60	992	65.6	50.40	78.22	13	218	14.4	6.09	30.45
Indian	13	148	66.7	44.18	83.48	5	58	26.3	9.21	55.67
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54	1	7	23.6	1.46	86.52
Others	21	338	63.6	36.52	84.17	9	178	33.4	15.47	57.90
<b>School level</b>										
Primary school	490	6375	66.0	58.00	73.16	186	2656	27.5	21.35	34.63
Secondary school	716	11407	48.2	34.30	62.35	212	3648	15.4	10.75	21.60
<b>Class</b>										
Standard 4	188	1871	53.5	41.85	64.70	77	1219	34.8	23.69	47.91
Standard 5	138	2113	62.9	47.37	76.11	71	1114	33.2	22.90	45.30
Standard 6	164	2391	85.4	62.94	95.27	38	323	11.5	3.25	33.60
Form 1	188	2723	54.8	38.13	70.42	50	773	15.5	8.89	25.78
Form 2	122	2275	47.5	31.70	63.80	41	840	17.5	11.24	26.28
Form 3	137	2227	46.7	30.28	63.89	39	665	13.9	9.08	20.80
Form 4	116	2009	45.6	32.40	59.40	31	554	12.6	6.64	22.53
Form 5	153	2173	45.9	28.19	64.64	51	817	17.2	7.82	33.81
<b>School session</b>										
Morning session	512	7845	47.3	30.82	64.45	181	2794	16.9	10.71	25.53
Evening session	7	80	40.3	27.00	55.29	4	56	27.9	8.40	62.15
Morning and evening session	684	9819	59.5	49.90	68.41	212	3449	20.9	15.16	28.09
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	76	1032	54.7	43.80	65.24	28	528	28.0	19.03	39.17
Normal (≥-2sd - ≤+1sd)	741	11223	54.1	41.60	66.14	222	3662	17.7	12.82	23.82
Overweight (>+1sd - ≤+2sd)	170	2460	51.6	35.62	67.18	53	714	15.0	9.41	22.95
Obese (>+2sd)	217	3031	52.7	43.45	61.84	90	1321	23.0	16.98	30.33
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	108	1526	47.8	35.33	60.52	31	770	24.1	11.91	42.73
Normal (≥-2sd)	1096	16220	54.1	41.94	65.88	363	5462	18.2	13.95	23.47



Table 3.4.2 : Source of food for breakfast among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Source of food for breakfast									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	197	2890	8.7	5.36	13.72	362	5788	17.4	6.69	38.10
<b>Locality of school</b>										
Urban	53	595	8.6	7.58	9.84	5	69	1.0	0.33	2.98
Rural	144	2295	8.7	4.73	15.38	357	5718	21.6	8.23	45.93
<b>Sex</b>										
Boys	122	1847	10.9	6.32	18.28	111	2102	12.5	4.42	30.42
Girls	75	1043	6.3	3.93	10.05	251	3685	22.4	7.54	50.52
<b>Ethnicity</b>										
Malay	184	2629	8.5	5.23	13.42	362	5788	18.6	7.25	40.19
Chinese	11	230	15.2	3.24	49.03	-	-	-	-	-
Indian	1	16	7.0	0.95	37.22	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	16	3.0	0.91	9.23	-	-	-	-	-
<b>School level</b>										
Primary school	47	416	4.3	2.01	8.99	2	66	0.7	0.24	1.96
Secondary school	150	2474	10.5	6.49	16.40	360	5722	24.2	9.71	48.57
<b>Class</b>										
Standard 4	26	243	6.9	3.39	13.67	1	59	1.7	0.54	5.21
Standard 5	10	87	2.6	0.85	7.60	1	7	0.2	0.02	1.60
Standard 6	11	86	3.1	0.99	9.07					
Form 1	22	315	6.3	2.99	12.91	80	1119	22.5	7.54	50.89
Form 2	21	437	9.1	4.57	17.39	66	1174	24.5	8.64	52.71
Form 3	41	683	14.3	7.73	25.01	77	1139	23.9	8.11	52.76
Form 4	32	574	13.0	7.08	22.70	66	1198	27.2	11.65	51.40
Form 5	34	466	9.8	4.82	19.02	71	1091	23.0	10.80	42.48
<b>School session</b>										
Morning session	104	1631	9.8	5.48	17.04	258	4011	24.2	7.31	56.38
Evening session	4	39	19.5	4.70	54.32	2	19	9.3	2.32	30.76
Morning and evening session	88	1206	7.3	4.45	11.78	102	1758	10.6	4.58	22.84
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	11	194	10.3	5.73	17.76	7	113	6.0	2.34	14.60
Normal (≥-2sd - ≤+1sd)	123	1795	8.7	5.10	14.31	237	3732	18.0	6.90	39.37
Overweight (>+1sd - ≤+2sd)	28	396	8.3	4.23	15.61	66	1052	22.0	7.58	49.38
Obese (>+2sd)	35	506	8.8	4.70	15.88	49	830	14.5	5.65	32.25
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	19	305	9.5	6.00	14.84	35	527	16.5	5.61	39.66
Normal (≥-2sd)	178	2585	8.6	5.21	13.96	324	5201	17.4	6.64	38.29

Table 3.4.2 : Source of food for breakfast among adolescents by socio-demographic characteristics and nutritional status

Socio-demographic Characteristics	Source of food for breakfast				
	Count	Estimated Population	Prevalence (%)	Others	
				95% CI Lower	95% CI Upper
<b>Perlis</b>	35	571	1.7	1.06	2.77
<b>Locality of school</b>					
Urban	12	171	2.5	1.04	5.80
Rural	23	400	1.5	0.88	2.61
<b>Sex</b>					
Boys	16	263	1.6	0.70	3.42
Girls	19	308	1.9	0.95	3.66
<b>Ethnicity</b>					
Malay	31	500	1.6	1.02	2.54
Chinese	4	71	4.7	2.47	8.86
Indian	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	-	-	-	-	-
<b>School level</b>					
Primary school	9	148	1.5	0.77	3.00
Secondary school	26	424	1.8	0.98	3.25
<b>Class</b>					
Standard 4	6	108	3.1	1.71	5.47
Standard 5	3	40	1.2	0.26	5.34
Standard 6					
Form 1	3	41	0.8	0.25	2.67
Form 2	3	64	1.3	0.30	5.85
Form 3	3	54	1.1	0.39	3.25
Form 4	4	72	1.6	0.52	5.07
Form 5	13	192	4.1	2.40	6.76
<b>School session</b>					
Morning session	19	292	1.8	0.93	3.32
Evening session	1	6	2.9	0.29	23.58
Morning and evening session	15	274	1.7	0.89	3.07
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	1	18	1.0	0.11	7.86
Normal (≥-2sd - ≤+1sd)	18	326	1.6	0.91	2.69
Overweight (>+1sd - ≤+2sd)	9	151	3.2	1.39	7.00
Obese (>+2sd)	6	59	1.0	0.42	2.48
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	4	66	2.1	0.72	5.76
Normal (≥-2sd)	30	488	1.6	1.01	2.61

Table 3.4.3 : Reasons for skipping breakfast among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	115	2009	7.5	5.35	10.43	770	12551	46.9	41.41	52.41
<b>Locality of school</b>										
Urban	38	512	9.3	4.73	17.42	212	2407	43.7	40.14	47.27
Rural	77	1497	7.0	4.74	10.33	558	10144	47.7	41.11	54.38
<b>Sex</b>										
Boys	61	951	7.1	4.65	10.82	328	6004	45.1	35.93	54.64
Girls	54	1058	7.9	3.91	15.15	442	6547	48.6	42.70	54.58
<b>Ethnicity</b>										
Malay	107	1874	7.5	5.24	10.52	738	11983	47.7	42.15	53.33
Chinese	4	76	6.8	1.49	25.98	23	415	37.3	25.91	50.39
Indian	1	8	4.2	0.45	30.09	1	15	8.6	1.29	40.40
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54	1	7	23.6	1.46	86.52
Others	2	30	8.9	2.68	25.66	7	131	38.2	22.14	57.42
<b>School level</b>										
Primary school	38	761	10.0	6.76	14.43	244	4031	52.7	44.36	60.93
Secondary school	77	1248	6.5	4.44	9.48	526	8521	44.5	39.40	49.80
<b>Class</b>										
Standard 4	17	315	13.3	7.69	21.96	102	1338	56.4	51.65	60.95
Standard 5	12	170	6.9	4.78	9.91	64	1497	60.8	37.32	80.14
Standard 6	9	275	9.8	5.47	16.96	78	1196	42.6	36.83	48.55
Form 1	20	281	7.8	4.13	14.42	133	1936	54.1	47.51	60.56
Form 2	10	200	5.6	1.97	14.80	95	1753	48.9	37.84	59.99
Form 3	17	303	7.5	4.60	12.14	103	1670	41.5	31.83	51.90
Form 4	11	200	4.8	2.52	8.81	104	1848	43.9	34.83	53.46
Form 5	19	263	7.0	3.63	13.20	91	1314	35.2	29.01	41.86
<b>School session</b>										
Morning session	55	943	7.2	4.79	10.64	368	5845	44.5	39.97	49.15
Evening session	5	60	31.5	11.06	62.95	3	36	19.1	4.66	53.41
Morning and evening session	54	1000	7.5	4.22	12.81	398	6656	49.6	40.36	58.81
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	89	7.2	1.54	27.76	43	610	49.6	36.41	62.83
Normal (≥-2sd - ≤+1sd)	76	1334	8.0	5.95	10.58	497	8223	49.1	43.32	54.92
Overweight (>+1sd - ≤+2sd)	13	165	4.3	2.24	8.23	109	1801	47.5	38.13	56.97
Obese (>+2sd)	22	422	8.6	4.46	15.79	120	1894	38.4	31.78	45.50
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	16	291	11.8	5.82	22.40	83	1301	52.8	43.59	61.76
Normal (≥-2sd)	99	1718	7.1	5.21	9.57	686	11226	46.3	40.51	52.25

Table 3.4.3 : Reasons for skipping breakfast among adolescents by socio-demographic characteristics nutritional status (Cont..)

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	546	8277	30.9	25.71	36.65	109	1522	5.7	3.84	8.33
<b>Locality of school</b>										
Urban	158	1908	34.6	32.29	37.03	27	290	5.3	3.60	7.64
Rural	388	6369	29.9	23.72	37.02	82	1231	5.8	3.59	9.22
<b>Sex</b>										
Boys	254	4133	31.1	26.08	36.52	60	851	6.4	3.91	10.30
Girls	292	4143	30.8	23.10	39.67	49	670	5.0	3.22	7.63
<b>Ethnicity</b>										
Malay	512	7743	30.8	25.36	36.89	104	1428	5.7	3.73	8.57
Chinese	18	326	29.3	21.97	37.87	3	54	4.8	2.28	9.90
Indian	8	95	53.3	27.75	77.19	1	17	9.6	1.64	40.26
Bumiputera Sabah										
Bumiputera Sarawak										
Others	8	113	33.0	15.30	57.21	1	23	6.7	0.99	34.03
<b>School level</b>										
Primary school	149	1876	24.5	18.98	31.11	38	337	4.4	1.26	14.31
Secondary school	397	6400	33.5	27.84	39.58	71	1185	6.2	4.79	7.97
<b>Class</b>										
Standard 4	44	365	15.4	8.28	26.84	7	37	1.6	0.35	6.74
Standard 5	41	432	17.6	7.34	36.44	14	136	5.5	1.34	20.14
Standard 6	64	1078	38.4	27.66	50.39	17	164	5.8	1.78	17.52
Form 1	62	928	26.0	19.45	33.72	14	204	5.7	2.99	10.64
Form 2	53	979	27.3	20.01	36.05	15	274	7.6	4.90	11.75
Form 3	87	1418	35.2	24.39	47.87	17	283	7.0	3.98	12.13
Form 4	92	1599	38.0	29.00	47.92	14	257	6.1	3.72	9.90
Form 5	103	1476	39.5	30.98	48.71	11	166	4.4	2.38	8.11
<b>School session</b>										
Morning session	273	4361	33.2	26.48	40.70	56	836	6.4	4.39	9.14
Evening session	5	62	32.3	11.33	63.99	2	27	14.3	4.49	37.17
Morning and evening session	267	3847	28.6	21.12	37.58	51	659	4.9	2.74	8.64
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	25	349	28.4	21.25	36.78	6	85	6.9	2.48	17.83
Normal (≥-2sd - ≤+1sd)	319	4903	29.3	23.54	35.77	49	703	4.2	2.59	6.74
Overweight (>+1sd - ≤+2sd)	85	1330	35.1	28.79	41.89	18	268	7.1	4.33	11.30
Obese (>+2sd)	117	1695	34.4	27.21	42.33	36	466	9.5	5.75	15.16
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	40	573	23.2	12.92	38.15	6	101	4.1	1.60	10.05
Normal (≥-2sd)	506	7704	31.8	27.03	36.96	103	1421	5.9	3.97	8.58

**Table 3.4.3 : Reasons for skipping breakfast among adolescents by socio-demographic characteristics and nutritional status**

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	67	1125	4.2	2.64	6.62	87	1293	4.8	3.21	7.21
<b>Locality of school</b>										
Urban	8	68	1.2	0.59	2.57	25	326	5.9	2.60	12.92
Rural	59	1057	5.0	3.16	7.73	62	967	4.5	2.88	7.10
<b>Sex</b>										
Boys	44	719	5.4	3.21	8.94	40	651	4.9	3.12	7.58
Girls	23	406	3.0	1.44	6.20	47	642	4.8	2.83	7.93
<b>Ethnicity</b>										
Malay	65	1080	4.3	2.68	6.83	69	1007	4.0	2.68	5.97
Chinese	1	17	1.5	0.37	5.89	14	225	20.3	9.86	37.08
Indian	1	28	15.6	1.67	66.79	1	16	8.7	1.30	40.92
Bumiputera Sabah										
Bumiputera Sarawak										
Others						3	45	13.2	4.93	30.93
<b>School level</b>										
Primary school	26	387	5.1	3.93	6.50	21	253	3.3	1.42	7.51
Secondary school	41	738	3.9	1.95	7.48	66	1040	5.4	3.60	8.13
<b>Class</b>										
Standard 4	12	178	7.5	4.90	11.29	8	140	5.9	2.36	14.08
Standard 5	11	184	7.5	5.91	9.43	6	43	1.7	0.32	8.66
Standard 6	3	25	0.9	0.16	4.86	7	70	2.5	0.63	9.28
Form 1	8	122	3.4	1.55	7.36	8	106	3.0	1.26	6.84
Form 2	8	169	4.7	1.77	11.97	11	212	5.9	3.23	10.51
Form 3	5	94	2.3	0.93	5.80	17	254	6.3	2.88	13.30
Form 4	5	96	2.3	0.95	5.39	12	206	4.9	2.57	9.15
Form 5	15	256	6.8	1.65	24.36	18	262	7.0	4.76	10.24
<b>School session</b>										
Morning session	18	391	3.0	1.63	5.37	18	391	3.0	1.63	5.37
Evening session	1	5	2.8	0.28	22.68					
Morning and evening session	48	728	5.4	3.01	9.60	38	537	4.0	2.47	6.40
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	50	4.1	1.00	15.23	3	47	3.8	1.12	12.29
Normal (≥-2sd - ≤+1sd)	44	839	5.0	3.21	7.75	52	742	4.4	2.55	7.61
Overweight (>+1sd - ≤+2sd)	5	38	1.0	0.32	3.08	14	193	5.1	2.93	8.70
Obese (>+2sd)	11	144	2.9	1.05	7.78	18	310	6.3	4.21	9.31
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	4	119	4.8	1.17	17.90	6	81	3.3	1.18	8.86
Normal (≥-2sd)	60	952	3.9	2.55	6.01	81	1212	5.0	3.34	7.43

Table 3.4.4 : Prevalence of lunch per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	1142	16910	44.8	38.95	50.74	1281	19758	52.3	46.88	57.69
<b>Locality of school</b>										
Urban	366	4095	50.9	44.06	57.78	338	3780	47.0	40.12	54.01
Rural	776	12814	43.1	36.44	50.03	943	15979	53.7	47.47	59.90
<b>Sex</b>										
Boys	501	8064	42.9	36.47	49.63	601	10007	53.3	46.46	59.97
Girls	641	8845	46.6	40.44	52.85	680	9751	51.4	45.65	57.04
<b>Ethnicity</b>										
Malay	1048	15367	43.9	37.90	50.02	1220	18747	53.5	47.87	59.06
Chinese	70	1202	65.2	53.24	75.44	31	530	28.7	24.52	33.31
Indian	9	100	40.0	25.49	56.42	11	150	60.0	43.58	74.51
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100.0	100.00	100.00
Others	15	240	39.2	24.33	56.39	17	303	49.5	30.55	68.54
<b>School level</b>										
Primary school	334	3904	36.2	29.32	43.62	459	6449	59.7	52.47	66.60
Secondary school	808	13005	48.2	42.53	53.94	822	13309	49.3	44.15	54.54
<b>Class</b>										
Standard 4	124	1236	33.8	24.55	44.49	190	2373	64.9	53.06	75.16
Standard 5	102	1363	39.4	34.04	45.12	132	1875	54.3	50.38	58.08
Standard 6	108	1306	35.4	25.46	46.84	137	2202	59.8	50.15	68.65
Form 1	157	2248	41.6	31.94	51.88	212	3093	57.2	47.23	66.61
Form 2	146	2687	47.8	38.00	57.79	149	2821	50.2	39.50	60.88
Form 3	176	2836	51.5	43.12	59.71	155	2476	44.9	36.74	53.41
Form 4	150	2606	48.8	40.85	56.77	142	2504	46.9	39.60	54.29
Form 5	179	2629	51.6	45.34	57.86	164	2414	47.4	41.52	53.35
<b>School session</b>										
Morning session	594	9081	48.4	41.68	55.24	580	9022	48.1	42.50	53.79
Evening session	3	38	15.5	3.04	51.80	17	198	81.8	46.39	95.87
Morning and evening session	543	7761	41.5	35.13	48.08	681	10510	56.1	49.51	62.56
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	59	911	45.7	34.81	57.10	70	1035	51.9	42.03	61.72
Normal (≥-2sd - ≤+1sd)	695	10540	45.1	39.20	51.14	781	12134	51.9	46.44	57.36
Overweight (>+1sd - ≤+2sd)	191	2695	48.1	39.70	56.64	173	2645	47.2	40.49	54.05
Obese (>+2sd)	189	2620	39.6	31.76	48.04	254	3895	58.9	50.00	67.22
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	98	1333	38.0	26.70	50.76	121	2014	57.4	48.39	65.97
Normal (≥-2sd)	1036	15433	45.3	39.75	50.95	1158	17702	51.9	46.53	57.32

**Table 3.4.6 : Prevalence of lunch per week among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Lunch frequency per week				
	Count	Estimated Population	Prevalence (%)	Did not take lunch	
				Lower	Upper
<b>Perlis</b>	63	1102	2.9	2.07	4.10
<b>Locality of school</b>					
Urban	15	165	2.1	1.27	3.32
Rural	48	937	3.2	2.15	4.60
<b>Sex</b>					
Boys	39	714	3.8	2.40	5.98
Girls	24	388	2.0	1.20	3.47
<b>Ethnicity</b>					
Malay	53	919	2.6	1.85	3.70
Chinese	6	113	6.1	1.43	22.73
Indian	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	4	69	11.3	3.33	32.15
<b>School level</b>					
Primary school	27	443	4.1	2.66	6.27
Secondary school	36	659	2.4	1.55	3.84
<b>Class</b>					
Standard 4	7	47	1.3	0.35	4.59
Standard 5	12	218	6.3	3.85	10.14
Standard 6	8	178	4.8	2.97	7.73
Form 1	4	67	1.2	0.39	3.84
Form 2	6	112	2.0	0.68	5.68
Form 3	11	199	3.6	1.62	7.83
Form 4	12	232	4.3	2.08	8.85
Form 5	3	50	1.0	0.37	2.51
<b>School session</b>					
Morning session	37	646	3.4	2.13	5.52
Evening session	1	7	2.7	0.29	21.31
Morning and evening session	25	449	2.4	1.66	3.47
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	46	2.3	0.71	7.31
Normal (≥-2sd - ≤+1sd)	40	695	3.0	1.81	4.85
Overweight (>+1sd - ≤+2sd)	10	261	4.7	2.23	9.47
Obese (>+2sd)	10	100	1.5	0.66	3.43
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	5	161	4.6	1.60	12.48
Normal (≥-2sd)	58	941	2.8	1.96	3.87

Table 3.4.5 : Source of food for lunch among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food for lunch									
	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1225	18362	50.4	40.61	60.13	533	8519	23.4	17.49	30.50
<b>Locality of school</b>										
Urban	416	4713	60.6	55.01	65.86	153	1593	20.5	13.73	29.40
Rural	809	13650	47.6	35.84	59.67	380	6926	24.2	17.20	32.83
<b>Sex</b>										
Boys	560	9395	52.5	43.13	61.72	272	4437	24.8	19.82	30.55
Girls	665	8967	48.3	35.67	61.20	261	4082	22.0	14.77	31.47
<b>Ethnicity</b>										
Malay	1112	16531	48.7	38.68	58.81	512	8172	24.1	17.80	31.70
Chinese	69	1168	68.8	59.93	76.56	14	235	13.9	6.23	28.10
Indian	17	198	79.0	49.18	93.61	2	35	14.1	2.28	53.73
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54	1	7	23.6	1.46	86.52
Others	26	445	85.2	74.31	91.95	4	70	13.4	7.22	23.56
<b>School level</b>										
Primary school	429	5602	54.4	51.97	56.83	235	3524	34.2	26.55	42.84
Secondary school	796	12760	48.8	35.58	62.19	298	4995	19.1	14.26	25.10
<b>Class</b>										
Standard 4	170	1942	54.1	52.02	56.10	95	1232	34.3	27.17	42.23
Standard 5	125	1775	55.5	51.95	59.09	68	971	30.4	23.89	37.81
Standard 6	134	1885	53.7	49.36	58.05	72	1321	37.6	26.07	50.83
Form 1	193	2777	52.4	37.89	66.57	75	1149	21.7	14.45	31.20
Form 2	149	2787	50.9	36.06	65.66	54	1065	19.5	12.68	28.69
Form 3	159	2550	48.2	33.07	63.61	58	976	18.4	11.68	27.87
Form 4	150	2611	51.5	36.35	66.33	45	762	15.0	8.98	24.04
Form 5	145	2035	40.6	21.93	62.40	66	1043	20.8	11.73	34.18
<b>School session</b>										
Morning session	558	8641	48.1	33.45	63.08	225	3402	18.9	13.02	26.72
Evening session	9	103	45.9	32.58	59.81	2	38	17.2	5.89	40.88
Morning and evening session	657	9604	52.8	42.91	62.42	303	5043	27.7	20.06	36.93
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	69	1002	52.0	42.36	61.45	33	506	26.3	16.56	39.03
Normal (≥-2sd - ≤+1sd)	742	11439	50.7	40.60	60.69	338	5571	24.7	18.52	32.08
Overweight (>+1sd - ≤+2sd)	182	2644	49.9	35.93	63.97	63	910	17.2	11.30	25.28
Obese (>+2sd)	230	3241	50.2	41.30	59.07	97	1505	23.3	15.52	33.46
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	99	1432	42.8	32.32	53.91	55	956	28.6	19.66	39.51
Normal (≥-2sd)	1124	16895	51.3	41.42	61.13	477	7545	22.9	17.06	30.07



Table 3.4.5 : Source of food for lunch among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food for lunch									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	222	2780	7.6	5.25	10.96	373	5908	16.2	6.25	35.94
<b>Locality of school</b>										
Urban	99	1111	14.3	10.45	19.23	9	108	1.4	0.52	3.65
Rural	123	1669	5.8	3.80	8.83	364	5800	20.2	7.64	43.76
<b>Sex</b>										
Boys	123	1554	8.7	5.42	13.63	106	1975	11.0	3.65	28.91
Girls	99	1226	6.6	4.51	9.59	267	3933	21.2	7.67	46.55
<b>Ethnicity</b>										
Malay	210	2550	7.5	4.97	11.19	372	5894	17.4	6.74	37.93
Chinese	12	230	13.6	6.98	24.79	1	14	0.8	0.07	9.00
Indian										
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
<b>School level</b>										
Primary school	102	858	8.3	3.59	18.14	4	23	0.2	0.04	1.23
Secondary school	120	1923	7.4	4.87	10.96	369	5886	22.5	9.10	45.74
<b>Class</b>										
Standard 4	37	336	9.4	6.20	13.89	4	23	0.6	0.11	3.59
Standard 5	28	235	7.3	2.21	21.69					
Standard 6	37	287	8.2	2.46	23.97					
Form 1	18	252	4.8	3.05	7.36	75	1051	19.8	6.56	46.58
Form 2	19	352	6.4	3.53	11.43	66	1170	21.4	7.59	47.39
Form 3	28	500	9.4	6.01	14.54	79	1165	22.0	7.37	50.05
Form 4	21	368	7.2	3.82	13.31	68	1225	24.2	9.99	47.74
Form 5	34	451	9.0	4.03	18.84	81	1274	25.4	10.76	49.04
<b>School session</b>										
Morning session	103	1456	8.1	5.22	12.38	258	4020	22.4	6.91	52.82
Evening session	5	57	25.3	10.94	48.35	1	12	5.3	0.72	30.46
Morning and evening session	113	1260	6.9	4.26	11.05	114	1877	10.3	3.68	25.70
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	234	12.1	7.76	18.48	7	112	5.8	2.51	12.91
Normal (≥-2sd - ≤+1sd)	120	1420	6.3	3.90	9.99	239	3725	16.5	6.36	36.51
Overweight (>+1sd - ≤+2sd)	38	455	8.6	4.87	14.70	68	1077	20.3	7.03	46.32
Obese (>+2sd)	50	672	10.4	6.93	15.32	52	862	13.4	4.99	31.13
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	21	298	8.9	5.65	13.78	38	581	17.3	6.29	39.64
Normal (≥-2sd)	201	2482	7.5	5.02	11.19	328	5196	15.8	5.98	35.59

**Table 3.4.5 : Source of food for lunch among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Source of food for lunch				
	Count	Estimated Population	Other Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	53	876	2.4	1.71	3.36
<b>Locality of school</b>					
Urban	20	256	3.3	2.37	4.55
Rural	33	620	2.2	1.38	3.38
<b>Sex</b>					
Boys	28	530	3.0	1.86	4.69
Girls	25	346	1.9	1.02	3.37
<b>Ethnicity</b>					
Malay	48	803	2.4	1.66	3.36
Chinese	3	49	2.9	0.83	9.35
Indian	1	17	6.8	1.17	31.32
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	7	1.4	0.13	13.53
<b>School level</b>					
Primary school	16	289	2.8	1.90	4.13
Secondary school	37	587	2.2	1.44	3.49
<b>Class</b>					
Standard 4	5	59	1.6	0.23	10.83
Standard 5	9	215	6.7	2.75	15.49
Standard 6	2	15	0.4	0.10	2.01
Form 1	5	68	1.3	0.32	5.01
Form 2	5	97	1.8	0.65	4.81
Form 3	6	102	1.9	0.82	4.49
Form 4	6	107	2.1	0.98	4.52
Form 5	15	212	4.2	2.61	6.77
<b>School session</b>					
Morning session	21	446	2.5	1.16	5.24
Evening session	1	14	6.2	0.83	34.56
Morning and evening session	31	416	2.3	1.25	4.15
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	5	73	3.8	1.55	8.97
Normal (≥-2sd - ≤+1sd)	30	417	1.8	1.06	3.20
Overweight (>+1sd - ≤+2sd)	9	208	3.9	1.64	9.14
Obese (>+2sd)	9	177	2.7	1.18	6.28
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	6	81	2.4	1.06	5.39
Normal (≥-2sd)	47	795	2.4	1.65	3.53

Table 3.4.6 : Reasons for skipping lunch among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Reasons for skipping lunch									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	107	1627	9.0	6.91	11.72	587	9021	50.1	45.44	54.73
<b>Locality of school</b>										
Urban	34	419	12.6	8.90	17.46	154	1567	47.1	37.46	56.87
Rural	73	1208	8.2	5.92	11.34	433	7453	50.8	45.73	55.80
<b>Sex</b>										
Boys	58	954	10.2	7.43	13.91	261	4318	46.3	38.92	53.80
Girls	49	673	7.8	5.39	11.01	326	4702	54.2	48.02	60.21
<b>Ethnicity</b>										
Malay	102	1549	9.1	6.93	11.82	564	8655	50.7	45.82	55.62
Chinese	2	28	5.7	0.94	27.96	8	134	27.6	17.52	40.55
Indian	1	5	4.0	0.45	27.44	5	59	43.6	15.63	76.32
Bumiputera Sabah										
Bumiputera Sarawak										
Others	2	45	14.9	4.95	37.20	10	172	57.7	46.80	67.94
<b>School level</b>										
Primary school	40	589	10.0	7.94	12.51	231	3262	55.3	49.89	60.66
Secondary school	67	1038	8.6	5.82	12.44	356	5759	47.5	42.44	52.68
<b>Class</b>										
Standard 4	27	462	22.9	15.13	33.22	87	896	44.5	36.93	52.31
Standard 5	9	83	4.6	1.68	11.94	68	1129	62.8	48.58	75.18
Standard 6	4	44	2.1	0.42	10.04	76	1236	59.4	50.60	67.55
Form 1	26	374	13.4	6.95	24.40	90	1315	47.2	37.19	57.52
Form 2	7	134	5.4	2.70	10.66	66	1216	49.3	35.72	62.93
Form 3	12	198	8.6	4.21	16.60	67	1057	45.7	36.03	55.72
Form 4	9	153	6.4	3.38	11.80	65	1169	49.1	38.38	59.86
Form 5	13	179	8.2	3.16	19.84	68	1001	46.2	37.21	55.38
<b>School session</b>										
Morning session	53	705	8.4	5.44	12.79	271	4157	49.6	43.36	55.87
Evening session	6	67	36.6	22.69	53.27	5	69	37.7	22.66	55.58
Morning and evening session	47	849	9.0	5.60	14.18	310	4780	50.7	45.08	56.31
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	59	7.2	2.13	21.90	34	450	54.9	39.72	69.22
Normal (≥-2sd - ≤+1sd)	66	1083	9.8	7.19	13.16	366	5778	52.2	45.35	58.95
Overweight (>+1sd - ≤+2sd)	16	205	8.1	3.77	16.70	73	1154	45.9	38.99	52.98
Obese (>+2sd)	20	280	7.9	4.57	13.25	112	1607	45.2	37.28	53.33
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	7	126	6.9	3.06	14.67	58	907	49.6	34.29	64.90
Normal (≥-2sd)	100	1501	9.3	7.08	12.13	528	8090	50.1	44.18	56.08

Table 3.4.6 : Reasons for skipping lunch among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Reasons for skipping lunch									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	211	3327	18.5	16.34	20.81	121	1704	9.5	6.23	14.12
<b>Locality of school</b>										
Urban	49	607	18.2	12.34	26.06	29	321	9.6	6.92	13.24
Rural	162	2720	18.5	16.37	20.90	92	1383	9.4	5.66	15.29
<b>Sex</b>										
Boys	102	1828	19.6	16.14	23.58	59	862	9.2	5.72	14.60
Girls	109	1499	17.3	14.04	21.05	62	842	9.7	6.38	14.47
<b>Ethnicity</b>										
Malay	198	3101	18.2	15.88	20.72	116	1615	9.5	6.19	14.21
Chinese	8	144	29.7	17.95	45.02	2	36	7.5	2.47	20.60
Indian	2	31	22.9	2.75	75.74					
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54					
Others	2	29	9.6	4.45	19.44	3	53	17.7	2.63	63.29
<b>School level</b>										
Primary school	74	1065	18.1	15.24	21.30	31	236	4.0	1.32	11.54
Secondary school	137	2262	18.7	15.89	21.80	90	1468	12.1	9.34	15.57
<b>Class</b>										
Standard 4	26	268	13.3	9.29	18.76	13	70	3.5	0.79	14.20
Standard 5	21	214	11.9	4.10	29.93	9	66	3.7	0.93	13.33
Standard 6	27	583	28.0	19.78	37.98	9	100	4.8	1.28	16.43
Form 1	25	373	13.4	7.92	21.82	28	416	15.0	10.24	21.35
Form 2	24	453	18.4	10.99	29.05	18	345	14.0	6.81	26.53
Form 3	23	400	17.3	11.46	25.33	17	262	11.3	7.50	16.79
Form 4	30	530	22.2	15.98	30.07	15	267	11.2	5.02	23.16
Form 5	35	505	23.3	17.15	30.77	12	177	8.2	4.63	13.99
<b>School session</b>										
Morning session	95	1555	18.6	15.44	22.16	57	867	10.3	7.40	14.29
Evening session	2	22	11.9	2.79	38.67	2	13	7.3	1.30	31.76
Morning and evening session	114	1750	18.6	16.15	21.24	62	824	8.7	4.93	15.03
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	9	173	21.2	9.41	40.93	4	66	8.1	3.26	18.59
Normal (≥-2sd - ≤+1sd)	130	1757	15.9	10.45	23.37	56	780	7.0	4.16	11.69
Overweight (>+1sd - ≤+2sd)	30	608	24.2	16.39	34.21	24	348	13.9	6.66	26.63
Obese (>+2sd)	41	770	21.7	14.69	30.72	37	510	14.3	8.63	22.86
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	24	381	20.8	14.65	28.72	5	61	3.3	1.28	8.37
Normal (≥-2sd)	186	2928	18.1	15.98	20.52	116	1643	10.2	6.73	15.12

**Table 3.4.6: Reasons for skipping lunch among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Reasons for skipping lunch									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	75	1255	7.0	4.90	9.83	76	1076	6.0	4.00	8.85
<b>Locality of school</b>										
Urban	17	186	5.6	4.44	7.02	19	231	6.9	3.53	13.18
Rural	58	1069	7.3	4.86	10.77	57	845	5.8	3.59	9.10
<b>Sex</b>										
Boys	49	813	8.7	5.96	12.57	38	555	5.9	4.04	8.68
Girls	26	442	5.1	2.80	9.10	38	521	6.0	3.19	11.03
<b>Ethnicity</b>										
Malay	72	1201	7.0	4.89	10.04	68	941	5.5	3.63	8.30
Chinese	1	14	2.9	0.29	23.08	7	129	26.6	9.56	55.38
Indian	2	40	29.5	6.70	70.97					
Bumiputera Sabah										
Bumiputera Sarawak						1	7	23.6	1.46	86.52
Others										
<b>School level</b>										
Primary school	36	561	9.5	8.03	11.26	19	180	3.1	1.72	5.38
Secondary school	39	694	5.7	3.38	9.53	57	896	7.4	4.98	10.85
<b>Class</b>										
Standard 4	15	227	11.3	7.59	16.40	7	90	4.5	2.78	7.15
Standard 5	13	255	14.2	6.49	28.28	7	50	2.8	0.63	11.57
Standard 6	8	79	3.8	1.12	12.19	5	40	1.9	0.52	6.80
Form 1	11	165	5.9	4.22	8.29	10	139	5.0	2.21	10.93
Form 2	6	132	5.3	2.40	11.47	10	188	7.6	3.66	15.14
Form 3	6	114	4.9	2.07	11.38	19	280	12.1	5.56	24.42
Form 4	5	94	3.9	1.52	9.87	10	170	7.1	3.76	13.08
Form 5	11	188	8.7	2.35	27.26	8	119	5.5	2.77	10.54
<b>School session</b>										
Morning session	26	503	6.0	3.83	9.29	38	592	7.1	4.30	11.38
Evening session	1	7	3.6	0.38	26.64	1	5	2.9	0.28	24.38
Morning and evening session	48	745	7.9	5.03	12.20	37	479	5.1	2.63	9.59
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	3	36	4.4	1.30	14.10	3	34	4.2	1.28	12.81
Normal (≥-2sd - ≤+1sd)	52	936	8.5	5.80	12.17	47	736	6.7	4.34	10.06
Overweight (>+1sd - ≤+2sd)	7	72	2.9	1.19	6.85	10	126	5.0	1.90	12.56
Obese (>+2sd)	13	210	5.9	3.25	10.50	16	180	5.1	2.77	9.03
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	10	284	15.5	5.37	37.19	5	73	4.0	1.22	12.11
Normal (≥-2sd)	65	972	6.0	4.08	8.80	71	1004	6.2	4.17	9.18

Table 3.4.7 : Prevalence of dinner per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Dinner frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1125	17162	45.3	40.50	50.22	1283	19634	51.8	47.26	56.40
<b>Locality of school</b>										
Urban	354	3935	48.9	37.26	60.74	342	3840	47.8	36.94	58.79
Rural	771	13227	44.3	39.26	49.54	941	15794	52.9	48.13	57.70
<b>Sex</b>										
Boys	550	9076	48.1	41.37	54.84	566	9357	49.6	43.40	55.74
Girls	575	8086	42.6	36.91	48.45	717	10277	54.1	48.77	59.36
<b>Ethnicity</b>										
Malay	1009	15219	43.3	38.30	48.49	1240	18951	53.9	49.22	58.60
Chinese	84	1478	80.1	74.97	84.41	19	308	16.7	11.83	23.06
Indian	13	163	63.7	41.38	81.30	8	93	36.3	18.70	58.62
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52					
Others	18	295	48.2	35.19	61.37	16	282	45.9	33.39	59.03
<b>School level</b>										
Primary school	353	4529	41.6	35.84	47.52	437	6046	55.5	49.97	60.85
Secondary school	772	12633	46.8	40.78	52.98	846	13589	50.4	44.73	56.01
<b>Class</b>										
Standard 4	119	1181	32.4	24.98	40.87	189	2401	65.9	55.91	74.69
Standard 5	110	1418	39.9	32.80	47.49	128	2041	57.4	49.97	64.58
Standard 6	124	1931	52.1	40.21	63.83	120	1604	43.3	31.20	56.30
Form 1	145	2069	38.5	27.70	50.50	218	3202	59.5	48.00	70.09
Form 2	141	2635	46.7	35.65	58.09	151	2820	50.0	39.13	60.84
Form 3	175	2896	52.5	44.17	60.63	155	2427	44.0	35.88	52.40
Form 4	144	2544	47.6	38.87	56.53	150	2631	49.3	40.92	57.64
Form 5	167	2489	48.9	42.50	55.28	172	2508	49.3	43.76	54.77
<b>School session</b>										
Morning session	570	8841	47.0	40.52	53.65	606	9360	49.8	43.60	55.99
Evening session	6	60	24.8	6.09	62.64	15	183	75.2	37.36	93.91
Morning and evening session	546	8223	43.8	38.81	48.92	660	10072	53.6	48.35	58.87
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	66	1075	54.2	41.62	66.23	61	876	44.2	32.91	56.03
Normal (≥-2sd - ≤+1sd)	712	10858	46.3	40.44	52.19	766	12084	51.5	45.44	57.50
Overweight (>+1sd - ≤+2sd)	177	2724	48.4	40.61	56.35	184	2711	48.2	41.25	55.25
Obese (>+2sd)	164	2392	36.2	30.08	42.85	267	3883	58.8	53.26	64.14
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	103	1562	43.8	37.38	50.35	113	1896	53.1	45.87	60.22
Normal (≥-2sd)	1016	15487	45.4	40.44	50.44	1166	17667	51.8	47.08	56.46

**Table 3.4.7 : Prevalence of dinner per week among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Dinner frequency per week				
	Did not take dinner				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>Perlis</b>	79	1075	2.8	2.13	3.78
<b>Locality of school</b>					
Urban	22	266	3.3	2.25	4.83
Rural	57	810	2.7	1.91	3.85
<b>Sex</b>					
Boys	29	447	2.4	1.58	3.52
Girls	50	629	3.3	2.16	5.05
<b>Ethnicity</b>					
Malay	72	959	2.7	2.00	3.71
Chinese	4	59	3.2	1.60	6.27
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	1	21	76.4	13.48	98.54
Others	2	36	5.9	3.23	10.56
<b>School level</b>					
Primary school	32	323	3.0	1.59	5.46
Secondary school	47	753	2.8	2.02	3.84
<b>Class</b>					
Standard 4	11	60	1.7	0.39	6.73
Standard 5	10	94	2.6	0.67	9.89
Standard 6	11	168	4.5	3.04	6.74
Form 1	8	108	2.0	0.77	5.13
Form 2	10	187	3.3	2.09	5.19
Form 3	12	196	3.6	1.82	6.83
Form 4	10	166	3.1	1.74	5.51
Form 5	7	96	1.9	0.69	5.04
<b>School session</b>					
Morning session	39	596	3.2	2.08	4.81
Evening session					
Morning and evening session	40	479	2.6	1.46	4.43
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	4	33	1.7	0.43	6.22
Normal ( $\geq$ -2sd - $\leq$ +1sd)	39	526	2.2	1.38	3.62
Overweight ( $>$ +1sd - $\leq$ +2sd)	15	188	3.3	1.81	6.10
Obese ( $>$ +2sd)	21	328	5.0	3.00	8.12
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	9	112	3.1	1.30	7.33
Normal ( $\geq$ -2sd)	70	964	2.8	2.17	3.67

Table 3.4.8 : Source of food for dinner among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Source of food for dinner									
	Prepared at home					Restaurant/ kiosk				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1552	23971	66.0	51.72	77.84	341	4793	13.2	10.26	16.81
<b>Locality of school</b>										
Urban	498	5496	71.6	65.35	77.16	147	1627	21.2	17.06	26.05
Rural	1054	18475	64.5	46.48	79.14	194	3166	11.0	8.45	14.32
<b>Sex</b>										
Boys	729	12153	67.2	55.30	77.16	190	2887	16.0	12.74	19.79
Girls	823	11818	64.8	45.30	80.40	151	1906	10.5	7.17	15.00
<b>Ethnicity</b>										
Malay	1416	21689	64.3	49.39	76.91	325	4541	13.5	10.29	17.44
Chinese	85	1487	83.3	74.13	89.62	14	239	13.4	8.78	19.92
Indian	16	212	87.6	71.17	95.28	2	13	5.4	1.16	21.35
Bumiputera Sabah										
Bumiputera Sarawak	1	7	100.0	100.00	100.00					
Others	34	577	100.0	0.00	100.00					
<b>School level</b>										
Primary school	608	8651	82.8	76.87	87.46	132	1390	13.3	8.58	20.05
Secondary school	944	15321	59.2	42.80	73.77	209	3403	13.1	9.65	17.67
<b>Class</b>										
Standard 4	235	2833	80.0	76.29	83.20	50	513	14.5	11.40	18.23
Standard 5	185	2919	86.0	73.10	93.30	35	394	11.6	6.03	21.23
Standard 6	188	2899	82.6	75.50	87.90	47	483	13.7	7.35	24.23
Form 1	215	3136	60.8	41.90	76.99	46	675	13.1	8.85	18.95
Form 2	161	3027	56.8	39.31	72.70	42	792	14.9	10.23	21.10
Form 3	207	3443	65.1	43.99	81.56	31	525	9.9	6.26	15.37
Form 4	180	3137	61.0	45.90	74.31	38	670	13.0	8.67	19.11
Form 5	181	2577	51.9	30.85	72.32	52	741	14.9	10.28	21.20
<b>School session</b>										
Morning session	711	11137	62.1	41.16	79.37	154	2266	12.6	8.54	18.31
Evening session	8	78	38.8	11.64	75.35	2	14	6.8	1.20	30.26
Morning and evening session	828	12699	70.0	56.91	80.46	185	2513	13.9	11.14	17.10
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	93	1431	74.5	65.81	81.55	15	187	9.8	5.22	17.49
Normal (≥-2sd - ≤+1sd)	964	15048	66.3	51.68	78.32	191	2832	12.5	9.41	16.36
Overweight (>+1sd - ≤+2sd)	211	3227	60.6	43.84	75.24	61	822	15.4	10.47	22.19
Obese (>+2sd)	282	4229	68.3	55.01	79.20	73	944	15.2	11.38	20.12
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	143	2379	70.4	53.33	83.13	25	301	8.9	4.68	16.26
Normal (≥-2sd)	1407	21556	65.8	51.71	77.56	316	4492	13.7	10.69	17.42



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Table 3.4.8 : Source of food for dinner among adolescents by socio-demographic characteristics and nutritional status

Socio-demographic Characteristics	Source of food for dinner									
	Hostel					Others				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	384	6095	16.8	6.79	35.82	95	1470	4.0	2.79	5.84
<b>Locality of school</b>										
Urban	13	203	2.7	0.57	11.46	27	347	4.5	2.55	7.89
Rural	371	5891	20.6	8.02	43.45	68	1123	3.9	2.49	6.11
<b>Sex</b>										
Boys	117	2175	12.0	4.68	27.52	54	882	4.9	3.46	6.82
Girls	267	3920	21.5	7.68	47.42	41	588	3.2	1.76	5.82
<b>Ethnicity</b>										
Malay	382	6061	18.0	7.30	37.90	92	1427	4.2	2.91	6.12
Chinese	1	16	0.9	0.08	9.81	3	44	2.4	0.89	6.47
Indian	1	17	7.1	1.23	31.68					
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
<b>School level</b>										
Primary school	9	114	1.1	0.54	2.21	24	292	2.8	2.09	3.73
Secondary school	375	5980	23.1	9.66	45.78	71	1178	4.6	2.92	7.03
<b>Class</b>										
Standard 4	5	82	2.3	1.22	4.40	11	114	3.2	2.07	4.98
Standard 5	2	14	0.4	0.09	2.05	9	66	1.9	0.52	6.92
Standard 6	2	17	0.5	0.06	4.12	4	113	3.2	1.28	7.79
Form 1	81	1130	21.9	7.94	47.74	14	214	4.1	2.15	7.87
Form 2	70	1264	23.7	8.89	49.76	13	248	4.7	2.09	10.06
Form 3	78	1143	21.6	7.32	49.04	12	179	3.4	1.68	6.71
Form 4	62	1118	21.8	9.30	42.99	12	215	4.2	2.24	7.66
Form 5	84	1324	26.7	11.18	51.24	20	322	6.5	2.88	13.96
<b>School session</b>										
Morning session	250	3864	21.6	6.51	52.02	45	659	3.7	2.44	5.50
Evening session	4	66	32.6	9.37	69.44	4	44	21.8	11.38	37.63
Morning and evening session	130	2164	11.9	4.86	26.41	46	767	4.2	2.44	7.23
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	11	233	12.1	6.34	21.86	5	71	3.7	1.22	10.59
Normal (≥-2sd - ≤+1sd)	246	3823	16.8	6.79	36.01	58	999	4.4	3.06	6.29
Overweight (>+1sd - ≤+2sd)	71	1128	21.2	7.44	47.35	11	146	2.7	1.35	5.50
Obese (>+2sd)	52	839	13.6	5.05	31.66	17	177	2.9	1.43	5.63
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	38	630	18.6	7.91	37.89	5	72	2.1	0.87	5.12
Normal (≥-2sd)	342	5393	16.5	6.49	35.89	86	1321	4.0	2.89	5.59

Table 3.4.9 : Reasons for skipping dinner among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Reasons for skipping dinner									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	128	1829	10.1	7.58	13.44	579	9070	50.3	42.75	57.83
<b>Locality of school</b>										
Urban	44	557	15.8	10.49	23.03	145	1509	42.7	37.44	48.17
Rural	84	1272	8.8	6.53	11.69	434	7561	52.1	43.48	60.68
<b>Sex</b>										
Boys	66	1073	12.6	9.11	17.22	247	4228	49.7	38.98	60.51
Girls	62	756	7.9	5.06	12.24	332	4842	50.8	45.02	56.56
<b>Ethnicity</b>										
Malay	121	1720	9.9	7.63	12.85	560	8721	50.4	42.66	58.09
Chinese						9	164	50.6	21.62	79.19
Indian	4	43	46.1	21.46	72.87	2	29	30.9	9.43	65.71
Bumiputera Sabah										
Bumiputera Sarawak	1	21	100.0	100.00	100.00					
Others	2	45	15.6	5.09	38.87					
<b>School level</b>										
Primary school	56	669	11.9	7.22	19.11	235	3532	63.1	52.79	72.29
Secondary school	72	1160	9.3	6.40	13.42	344	5538	44.5	40.70	48.46
<b>Class</b>										
Standard 4	33	354	16.0	9.12	26.63	106	1359	61.6	51.75	70.56
Standard 5	11	170	9.5	7.89	11.45	67	1212	67.7	53.52	79.23
Standard 6	12	145	9.0	2.55	27.31	62	961	59.9	47.98	70.84
Form 1	26	374	13.2	9.97	17.30	91	1354	47.8	38.38	57.44
Form 2	11	222	8.8	2.42	27.22	61	1137	44.9	34.79	55.53
Form 3	11	202	8.8	4.72	15.71	69	1073	46.6	38.89	54.49
Form 4	9	154	6.1	3.31	11.03	58	1010	40.1	31.96	48.83
Form 5	15	208	9.3	5.02	16.48	65	964	42.8	34.36	51.73
<b>School session</b>										
Morning session	66	921	10.6	6.77	16.17	273	4294	49.3	41.49	57.23
Evening session	2	12	9.4	0.77	58.12	3	45	35.9	24.26	49.51
Morning and evening session	60	896	9.8	7.53	12.54	302	4717	51.4	43.42	59.22
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	57	7.3	2.86	17.29	34	512	65.5	50.26	78.06
Normal (≥-2sd - ≤+1sd)	79	1153	10.4	7.61	14.02	365	6008	54.1	45.20	62.76
Overweight (>+1sd - ≤+2sd)	15	167	6.8	2.98	14.94	78	1138	46.7	36.77	56.90
Obese (>+2sd)	29	452	12.4	8.36	18.01	100	1386	38.0	30.76	45.79
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	313	17.8	9.79	30.30	59	1010	57.6	45.28	68.99
Normal (≥-2sd)	114	1516	9.3	6.41	13.44	519	8042	49.6	42.05	57.11

Table 3.4.9 : Reasons for skipping dinner among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Socio-demographic Characteristics	Reasons for skipping dinner									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	122	1844	10.2	8.69	11.99	265	3800	21.1	15.25	28.38
<b>Locality of school</b>										
Urban	27	302	8.6	6.31	11.49	72	850	24.1	17.38	32.32
Rural	95	1542	10.6	8.92	12.63	193	2950	20.3	13.62	29.26
<b>Sex</b>										
Boys	69	1026	12.1	10.06	14.41	96	1427	16.8	10.57	25.61
Girls	53	818	8.6	6.03	12.08	169	2372	24.9	18.95	31.96
<b>Ethnicity</b>										
Malay	121	1827	10.6	9.05	12.27	253	3634	21.0	15.11	28.40
Chinese						8	113	35.0	10.63	70.97
Indian						1	14	14.9	1.55	65.98
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	17	5.8	0.54	41.40	3	38	13.4	2.64	47.12
<b>School level</b>										
Primary school	41	549	9.8	8.23	11.65	56	510	9.1	4.47	17.70
Secondary school	81	1294	10.4	8.34	12.92	209	3289	26.5	22.57	30.75
<b>Class</b>										
Standard 4	17	279	12.7	8.96	17.59	17	91	4.1	1.05	14.99
Standard 5	8	60	3.4	0.98	10.88	21	248	13.8	8.34	22.12
Standard 6	16	210	13.1	9.06	18.49	18	171	10.7	3.97	25.66
Form 1	26	389	13.8	8.40	21.70	38	545	19.2	14.47	25.11
Form 2	14	256	10.1	6.00	16.55	38	664	26.2	20.21	33.33
Form 3	12	172	7.5	3.60	14.90	34	514	22.3	16.77	29.06
Form 4	16	283	11.2	7.52	16.42	49	859	34.1	27.16	41.82
Form 5	13	194	8.6	4.01	17.65	50	708	31.4	23.75	40.31
<b>School session</b>										
Morning session	55	787	9.0	6.25	12.90	126	1879	21.6	16.35	27.94
Evening session	1	14	11.1	1.88	44.93	4	55	43.6	19.68	70.89
Morning and evening session	66	1043	11.4	9.49	13.54	134	1861	20.3	12.99	30.19
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	8	114	14.6	5.83	32.04	2	11	1.4	0.31	5.99
Normal (≥-2sd - ≤+1sd)	72	1113	10.0	8.06	12.41	132	1990	17.9	12.64	24.79
Overweight (>+1sd - ≤+2sd)	20	288	11.8	7.72	17.68	46	671	27.6	18.27	39.29
Obese (>+2sd)	21	310	8.5	5.94	12.05	85	1127	30.9	21.05	42.84
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	210	12.0	5.70	23.51	11	157	8.9	3.98	18.86
Normal (≥-2sd)	107	1615	10.0	8.35	11.83	254	3643	22.5	16.64	29.57

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Table 3.4.9 : Reasons for skipping dinner among adolescents by socio-demographic characteristics and nutritional status

Socio-demographic Characteristics	Reasons for skipping dinner									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	29	532	3.0	1.89	4.57	68	958	5.3	3.49	8.01
<b>Locality of school</b>										
Urban	8	81	2.3	1.31	3.93	18	233	6.6	4.43	9.74
Rural	21	452	3.1	1.89	5.11	50	724	5.0	2.97	8.27
<b>Sex</b>										
Boys	19	361	4.2	2.67	6.70	25	387	4.5	2.49	8.16
Girls	10	171	1.8	0.66	4.80	43	571	6.0	3.93	9.04
<b>Ethnicity</b>										
Malay	28	521	3.0	1.93	4.67	63	886	5.1	3.24	8.00
Chinese	1	12	3.6	0.34	29.14	2	35	10.8	5.62	19.61
Indian						1	8	8.1	0.97	44.25
Bumiputera Sabah										
Bumiputera Sarawak										
Others						2	30	10.3	4.56	21.70
<b>School level</b>										
Primary school	13	220	3.9	2.25	6.79	14	120	2.1	0.67	6.60
Secondary school	16	312	2.5	1.46	4.29	54	838	6.7	4.99	9.05
<b>Class</b>										
Standard 4	6	87	3.9	2.36	6.49	5	37	1.7	0.40	6.62
Standard 5	4	32	1.8	0.34	8.65	7	68	3.8	1.28	10.71
Standard 6	3	102	6.4	2.00	18.41	2	15	0.9	0.19	4.52
Form 1	4	63	2.2	0.83	5.84	8	106	3.7	2.13	6.51
Form 2	5	111	4.4	1.70	10.89	8	140	5.5	3.04	9.82
Form 3	4	78	3.4	1.39	7.99	17	263	11.4	7.64	16.81
Form 4	2	42	1.7	0.41	6.62	10	171	6.8	3.26	13.52
Form 5	1	18	0.8	0.14	4.37	11	158	7.0	3.80	12.64
<b>School session</b>										
Morning session	12	209	2.4	1.17	4.88	42	613	7.0	4.84	10.15
Evening session										
Morning and evening session	17	323	3.5	1.98	6.18	26	345	3.8	1.98	7.00
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	19	2.4	0.30	16.34	5	70	8.9	3.44	21.19
Normal (≥-2sd - ≤+1sd)	19	284	2.6	1.28	5.06	38	555	5.0	3.00	8.22
Overweight (>+1sd - ≤+2sd)						12	173	7.1	4.61	10.74
Obese (>+2sd)	9	230	6.3	1.96	18.45	12	142	3.9	1.70	8.67
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	1	8	0.4	0.05	3.66	4	56	3.2	0.74	12.97
Normal (≥-2sd)	28	525	3.2	2.03	5.12	63	883	5.4	3.56	8.24

**Table 3.4.10 : Prevalence of eating and/or drinking during recess time per week among adolescents by socio-demographics and nutritional status (Cont..)**

Characteristics	Frequency of eating and/or drinking during recess time per week									
	5 days					1-4 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1551	23126	61.0	56.30	65.44	878	13945	36.8	32.56	41.18
<b>Locality of school</b>										
Urban	504	5466	68.0	55.28	78.54	198	2360	29.4	20.57	40.02
Rural	1047	17659	59.1	54.57	63.43	680	11586	38.8	34.60	43.08
<b>Sex</b>										
Boys	734	11766	62.4	57.50	67.06	372	6528	34.6	30.57	38.92
Girls	817	11360	59.6	53.94	64.93	506	7417	38.9	33.55	44.49
<b>Ethnicity</b>										
Malay	1433	21146	60.1	55.41	64.55	836	13270	37.7	33.50	42.08
Chinese	83	1442	78.8	66.94	87.20	21	363	19.8	10.73	33.77
Indian	12	141	55.0	36.00	72.59	8	108	42.1	24.43	62.03
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52					
Others	22	390	63.7	50.82	74.82	13	204	33.3	26.56	40.82
<b>School level</b>										
Primary school	548	6933	63.1	57.28	68.54	259	3857	35.1	29.43	41.23
Secondary school	1003	16193	60.1	53.89	66.01	619	10088	37.4	31.97	43.26
<b>Class</b>										
Standard 4	210	2129	57.1	45.56	68.00	103	1485	39.9	29.35	51.40
Standard 5	160	2242	63.0	57.79	67.85	82	1269	35.6	30.70	40.92
Standard 6	178	2562	69.2	62.07	75.49	74	1103	29.8	24.38	35.82
Form 1	227	3270	61.1	50.54	70.75	131	1920	35.9	27.16	45.69
Form 2	190	3514	62.3	51.06	72.35	108	2050	36.3	27.41	46.31
Form 3	199	3226	58.3	51.15	65.16	132	2093	37.8	31.07	45.12
Form 4	174	3068	57.4	45.08	68.94	126	2199	41.2	30.71	52.49
Form 5	213	3115	61.3	54.02	68.19	122	1826	36.0	29.55	42.91
<b>School session</b>										
Morning session	753	11468	61.1	54.86	66.98	430	6881	36.7	31.03	42.68
Evening session	8	107	44.0	22.28	68.34	12	129	53.2	29.36	75.73
Morning and evening session	789	11542	61.2	56.37	65.83	432	6886	36.5	32.13	41.13
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	90	1329	66.7	58.80	73.79	38	639	32.1	24.92	40.21
Normal (≥-2sd - ≤+1sd)	956	14415	61.3	56.05	66.36	534	8693	37.0	31.97	42.30
Overweight (>+1sd - ≤+2sd)	230	3415	60.7	52.40	68.38	134	2050	36.4	29.07	44.49
Obese (>+2sd)	267	3823	57.8	51.63	63.73	169	2513	38.0	33.24	42.98
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	131	2007	56.1	49.53	62.55	90	1503	42.1	35.79	48.60
Normal (≥-2sd)	1412	20975	61.4	56.67	65.89	786	12400	36.3	32.04	40.76

**Table 3.4.10 : Prevalence of eating and/or drinking during recess time per week among adolescents by socio-demographics and nutritional status**

Characteristics	Frequency of eating and/or drinking during recess time per week				
	Never (0 day)				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>Perlis</b>	62	859	2.3	1.51	3.39
<b>Locality of school</b>					
Urban	17	210	2.6	1.14	5.90
Rural	45	649	2.2	1.37	3.42
<b>Sex</b>					
Boys	38	561	3.0	1.86	4.73
Girls	24	299	1.6	0.90	2.72
<b>Ethnicity</b>					
Malay	57	787	2.2	1.47	3.38
Chinese	2	25	1.4	0.38	4.73
Indian	1	8	2.9	0.36	20.43
Bumiputera Sabah					
Bumiputera Sarawak	1	21	76.4	13.48	98.54
Others	1	19	3.0	0.38	20.22
<b>School level</b>					
Primary school	21	199	1.8	0.92	3.54
Secondary school	41	660	2.5	1.54	3.88
<b>Class</b>					
Standard 4	11	111	3.0	2.10	4.24
Standard 5	7	50	1.4	0.24	7.66
Standard 6	3	38	1.0	0.20	5.11
Form 1	11	159	3.0	1.61	5.46
Form 2	4	77	1.4	0.32	5.73
Form 3	12	212	3.8	1.90	7.58
Form 4	4	74	1.4	0.35	5.39
Form 5	10	137	2.7	1.12	6.35
<b>School session</b>					
Morning session	31	423	2.3	1.26	3.99
Evening session	1	7	2.7	0.29	21.31
Morning and evening session	30	430	2.3	1.32	3.90
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	4	24	1.2	0.31	4.53
Normal (≥-2sd - ≤+1sd)	28	394	1.7	0.93	3.01
Overweight (>+1sd - ≤+2sd)	13	163	2.9	1.61	5.13
Obese (>+2sd)	17	278	4.2	2.25	7.75
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	5	64	1.8	0.63	5.01
Normal (≥-2sd)	57	795	2.3	1.55	3.48

Table 3.4.11 : Source of food during recess time among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food during recess time									
	Bring from home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	294	4155	11.3	8.65	14.73	1795	27305	74.5	67.28	80.57
<b>Locality of school</b>										
Urban	113	1186	15.3	12.56	18.46	543	6132	79.0	74.41	82.95
Rural	181	2969	10.3	7.10	14.66	1252	21173	73.3	64.27	80.70
<b>Sex</b>										
Boys	136	2177	12.1	8.54	16.79	791	12932	71.7	63.17	78.91
Girls	158	1978	10.6	8.08	13.84	1004	14373	77.2	70.24	82.91
<b>Ethnicity</b>										
Malay	267	3741	11.0	8.17	14.65	1676	25349	74.5	66.89	80.88
Chinese	22	371	20.8	17.34	24.71	71	1212	67.9	51.25	80.91
Indian	2	15	6.2	1.43	23.02	17	217	87.0	71.13	94.74
Bumiputera Sabah										
Bumiputera Sarawak						1	7	100.0	100.00	100.00
Others	3	27	4.6	0.96	19.21	30	521	87.7	79.31	92.95
<b>School level</b>										
Primary school	149	1844	17.3	14.56	20.39	603	8081	75.7	74.27	77.10
Secondary school	145	2311	8.9	6.71	11.70	1192	19224	74.0	63.61	82.23
<b>Class</b>										
Standard 4	65	715	19.8	17.98	21.73	224	2512	69.5	65.91	72.85
Standard 5	53	722	20.7	15.34	27.31	166	2538	72.7	65.02	79.29
Standard 6	31	407	11.4	8.26	15.54	213	3031	84.9	79.32	89.23
Form 1	45	650	12.8	8.83	18.23	244	3533	69.6	54.03	81.75
Form 2	31	563	10.2	6.18	16.34	225	4167	75.4	63.80	84.26
Form 3	19	312	5.9	3.41	10.11	247	3933	74.7	60.65	84.96
Form 4	20	346	6.6	4.36	10.00	231	4005	76.8	64.62	85.74
Form 5	30	439	9.0	5.33	14.67	245	3586	73.1	68.18	77.48
<b>School session</b>										
Morning session	124	1795	9.9	6.88	14.07	859	13293	73.4	60.21	83.36
Evening session	3	37	18.4	7.95	36.97	11	129	64.0	43.72	80.30
Morning and evening session	167	2323	12.7	9.93	16.12	920	13827	75.6	71.85	79.08
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	16	290	14.9	6.40	30.88	96	1360	69.8	46.91	85.79
Normal (≥-2sd - ≤+1sd)	182	2725	11.9	8.68	16.18	1096	16895	74.0	67.23	79.73
Overweight (>+1sd - ≤+2sd)	45	510	9.5	5.96	14.83	255	3891	72.5	56.67	84.16
Obese (>+2sd)	50	612	9.7	7.22	12.94	341	5044	80.0	72.35	85.94
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	29	440	12.6	8.31	18.62	159	2491	71.3	62.89	78.49
Normal (≥-2sd)	264	3698	11.2	8.52	14.61	1630	24707	74.9	67.35	81.22

**Table 3.4.11 : Source of food during recess time among adolescents by socio-demographic characteristics and nutritional status (Cont..)**

Characteristics	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	104	1627	4.4	2.71	7.19	156	2671	7.3	2.51	19.34
<b>Locality of school</b>										
Urban	21	193	2.5	1.60	3.85	5	51	0.7	0.21	2.07
Rural	83	1433	5.0	2.86	8.47	151	2620	9.1	3.09	23.80
<b>Sex</b>										
Boys	63	982	5.4	2.59	11.07	78	1541	8.5	2.93	22.41
Girls	41	645	3.5	2.37	5.05	78	1130	6.1	1.91	17.69
<b>Ethnicity</b>										
Malay	95	1430	4.2	2.52	6.94	153	2621	7.7	2.62	20.55
Chinese	8	172	9.6	2.25	33.07	1	12	0.7	0.06	7.11
Indian						1	17	6.9	1.17	31.37
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	25	4.1	1.23	12.93	1	21	3.6	1.08	11.39
<b>School level</b>										
Primary school	29	368	3.5	2.29	5.17	8	202	1.9	0.95	3.75
Secondary school	75	1258	4.8	2.63	8.76	148	2469	9.5	3.06	25.89
<b>Class</b>										
Standard 4	14	192	5.3	3.50	7.94	4	76	2.1	1.04	4.27
Standard 5	11	145	4.1	0.93	16.67	3	36	1.0	0.20	5.17
Standard 6	4	32	0.9	0.24	3.27	1	90	2.5	0.63	9.45
Form 1	16	232	4.6	2.27	8.99	43	615	12.1	3.60	33.78
Form 2	9	198	3.6	1.74	7.22	24	456	8.3	2.11	27.33
Form 3	21	361	6.8	2.78	15.90	30	478	9.1	2.00	32.89
Form 4	16	294	5.6	1.93	15.40	25	482	9.2	2.97	25.33
Form 5	13	174	3.5	1.61	7.62	26	437	8.9	2.72	25.43
<b>School session</b>										
Morning session	60	999	5.5	2.87	10.33	100	1637	9.0	2.01	32.51
Evening session	2	12	5.9	0.57	40.23	2	24	11.7	1.38	55.77
Morning and evening session	42	616	3.4	2.19	5.14	54	1011	5.5	2.19	13.26
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	7	141	7.2	3.44	14.62	6	134	6.9	3.03	14.92
Normal (≥-2sd - ≤+1sd)	71	1066	4.7	2.59	8.25	92	1568	6.9	2.33	18.56
Overweight (>+1sd - ≤+2sd)	11	185	3.4	1.56	7.42	36	612	11.4	3.33	32.46
Obese (>+2sd)	15	235	3.7	1.65	8.19	19	297	4.7	1.33	15.31
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	246	7.0	4.34	11.24	13	245	7.0	3.59	13.20
Normal (≥-2sd)	90	1381	4.2	2.43	7.12	140	2367	7.2	2.31	20.21



**Table 3.4.11 : Source of food during recess time among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Source of food during school break time				
	Count	Estimated Population	Other Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	58	899	2.5	1.69	3.55
<b>Locality of school</b>					
Urban	16	200	2.6	1.55	4.27
Rural	42	699	2.4	1.53	3.79
<b>Sex</b>					
Boys	22	405	2.2	1.54	3.25
Girls	36	494	2.7	1.52	4.59
<b>Ethnicity</b>					
Malay	57	879	2.6	1.78	3.75
Chinese	1	19	1.1	0.29	3.86
Indian					
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
<b>School level</b>					
Primary school	13	177	1.7	0.89	3.05
Secondary school	45	722	2.8	1.86	4.13
<b>Class</b>					
Standard 4	6	119	3.3	1.59	6.74
Standard 5	6	49	1.4	0.20	9.25
Standard 6	1	9	0.2	0.03	2.03
Form 1	3	43	0.9	0.30	2.42
Form 2	7	140	2.5	1.08	5.80
Form 3	11	182	3.5	2.00	5.92
Form 4	5	86	1.6	0.66	4.04
Form 5	19	271	5.5	3.40	8.85
<b>School session</b>					
Morning session	26	396	2.2	1.24	3.83
Evening session					
Morning and evening session	32	502	2.7	1.86	4.04
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	2	23	1.2	0.22	6.28
Normal (≥-2sd - ≤+1sd)	37	589	2.6	1.74	3.81
Overweight (>+1sd - ≤+2sd)	11	170	3.2	1.38	7.08
Obese (>+2sd)	8	117	1.9	0.71	4.76
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	5	72	2.0	0.72	5.68
Normal (≥-2sd)	53	827	2.5	1.75	3.58

Table 3.4.12 : Prevalence of afternoon tea per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Afternoon tea frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	770	11694	30.8	28.27	33.52	1415	21897	57.7	52.87	62.47
<b>Locality of school</b>										
Urban	232	2535	31.5	27.69	35.54	388	4353	54.1	49.15	58.89
Rural	538	9158	30.7	27.59	33.91	1027	17544	58.7	52.89	64.34
<b>Sex</b>										
Boys	391	6576	34.9	31.78	38.09	622	10273	54.5	49.62	59.26
Girls	379	5118	26.8	23.21	30.82	793	11624	61.0	53.91	67.58
<b>Ethnicity</b>										
Malay	713	10760	30.6	27.86	33.45	1338	20646	58.7	53.72	63.48
Chinese	30	520	28.2	23.42	33.46	51	875	47.4	36.86	58.19
Indian	9	103	40.0	25.17	56.89	12	154	60.0	43.11	74.83
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100.0	100.00	100.00
Others	18	312	50.8	27.69	73.63	12	194	31.7	12.99	59.01
<b>School level</b>										
Primary school	263	3400	31.0	29.34	32.68	477	6806	62.0	55.00	68.58
Secondary school	507	8293	30.8	27.26	34.52	938	15090	56.0	50.76	61.10
<b>Class</b>										
Standard 4	102	1076	29.0	24.84	33.52	193	2470	66.5	55.93	75.72
Standard 5	81	1226	34.4	28.53	40.89	133	2030	57.0	51.33	62.55
Standard 6	80	1098	29.7	26.55	32.96	151	2306	62.3	56.92	67.36
Form 1	114	1675	31.2	26.82	36.04	215	3095	57.7	49.90	65.21
Form 2	99	1849	32.9	26.32	40.20	164	3040	54.1	43.99	63.85
Form 3	106	1760	31.8	25.37	39.03	191	3053	55.2	46.96	63.16
Form 4	94	1639	30.7	25.33	36.61	165	2898	54.2	48.29	60.07
Form 5	94	1371	26.9	21.27	33.46	203	3004	59.0	51.95	65.67
<b>School session</b>										
Morning session	361	5555	29.6	26.07	33.42	689	10801	57.6	50.99	63.91
Evening session	3	33	13.5	2.26	51.45	15	182	74.8	36.93	93.78
Morning and evening session	404	6086	32.3	28.91	35.81	708	10877	57.7	52.16	62.97
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	52	759	38.1	26.45	51.29	68	1077	54.1	40.28	67.30
Normal (≥-2sd - ≤+1sd)	476	7258	30.9	27.67	34.35	874	13835	58.9	53.57	64.08
Overweight (>+1sd - ≤+2sd)	124	1945	34.5	28.67	40.77	199	2922	51.8	45.47	58.01
Obese (>+2sd)	113	1642	24.8	21.03	29.05	269	3977	60.1	53.08	66.78
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	76	1078	30.3	22.62	39.24	130	2192	61.6	49.34	72.48
Normal (≥-2sd)	689	10526	30.8	28.26	33.46	1281	19627	57.4	53.04	61.70

**Table 3.4.12 : Prevalence of afternoon tea per week among adolescents per week by socio-demographic characteristics and nutritional status**

Characteristics	Afternoon tea frequency per week					
	Count	Did not take afternoon tea			95% CI	
		Estimated Population	Prevalence (%)	Lower	Upper	
<b>Perlis</b>	305	4333	11.4	7.48	17.06	
<b>Locality of school</b>						
Urban	99	1164	14.5	11.73	17.69	
Rural	206	3168	10.6	6.07	17.89	
<b>Sex</b>						
Boys	131	2007	10.6	6.83	16.23	
Girls	174	2325	12.2	7.35	19.56	
<b>Ethnicity</b>						
Malay	273	3775	10.7	6.71	16.72	
Chinese	26	451	24.4	17.21	33.44	
Indian						
Bumiputera Sabah						
Bumiputera Sarawak						
Others	6	107	17.5	13.40	22.48	
<b>School level</b>						
Primary school	86	768	7.0	2.92	15.85	
Secondary school	219	3565	13.2	8.81	19.39	
<b>Class</b>						
Standard 4	27	166	4.5	1.21	15.12	
Standard 5	35	304	8.5	2.52	25.16	
Standard 6	24	299	8.1	5.34	12.01	
Form 1	41	591	11.0	5.86	19.75	
Form 2	38	733	13.0	7.58	21.49	
Form 3	46	719	13.0	7.69	21.12	
Form 4	45	806	15.1	10.59	21.02	
Form 5	49	717	14.1	9.23	20.91	
<b>School session</b>						
Morning session	163	2403	12.8	7.39	21.30	
Evening session	3	28	11.6	2.35	41.88	
Morning and evening session	139	1901	10.1	6.77	14.75	
<b>BMI-for-age status (BAZ)</b>						
Thinness (<-2sd)	12	156	7.8	3.98	14.77	
Normal (≥-2sd - ≤+1sd)	166	2387	10.2	6.43	15.72	
Overweight (>+1sd - ≤+2sd)	55	777	13.8	7.91	22.87	
Obese (>+2sd)	71	996	15.1	10.32	21.44	
<b>Height-for-age status (HAZ)</b>						
Stunting (<-2sd)	19	290	8.1	4.15	15.38	
Normal (≥-2sd)	285	4025	11.8	7.79	17.42	

Table 3.4.13 : Source of food for afternoon tea among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food for afternoon tea									
	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1308	19520	58.9	48.83	68.35	300	5212	15.7	10.13	23.62
<b>Locality of school</b>										
Urban	429	4749	70.1	64.76	74.96	65	616	9.1	4.61	17.16
Rural	879	14771	56.1	43.93	67.53	235	4596	17.4	11.01	26.53
<b>Sex</b>										
Boys	610	9980	60.1	51.30	68.29	157	2806	16.9	11.92	23.41
Girls	698	9540	57.8	42.86	71.40	143	2406	14.6	8.23	24.50
<b>Ethnicity</b>										
Malay	1215	18013	58.1	47.48	68.01	287	5047	16.3	10.38	24.60
Chinese	51	862	63.2	54.11	71.45	6	99	7.2	3.07	16.12
Indian	17	220	85.7	67.62	94.51	3	20	7.6	1.52	30.65
Bumiputera Sabah										
Bumiputera Sarawak	1	7	100.0	100.00	100.00					
Others	24	418	86.4	73.43	93.55	4	47	9.7	3.90	22.00
<b>School level</b>										
Primary school	476	6191	62.3	56.39	67.91	153	2653	26.7	19.21	35.83
Secondary school	832	13329	57.5	43.29	70.56	147	2559	11.0	7.39	16.17
<b>Class</b>										
Standard 4	175	2018	58.5	55.19	61.65	72	946	27.4	23.06	32.21
Standard 5	135	1849	59.6	51.42	67.34	45	938	30.3	19.11	44.37
Standard 6	166	2324	68.8	62.36	74.50	36	769	22.7	14.78	33.33
Form 1	191	2733	58.5	44.93	70.90	45	714	15.3	9.43	23.81
Form 2	151	2796	57.8	42.78	71.55	32	655	13.5	6.54	25.96
Form 3	179	2943	61.1	44.53	75.52	28	471	9.8	5.97	15.65
Form 4	153	2644	58.5	42.29	73.04	16	282	6.2	3.30	11.48
Form 5	158	2212	50.9	26.71	74.74	26	437	10.1	3.27	26.97
<b>School session</b>										
Morning session	588	8966	55.4	40.51	69.35	138	2387	14.7	8.95	23.34
Evening session	5	65	33.6	19.95	50.68	3	43	22.4	7.89	49.24
Morning and evening session	710	10432	62.5	51.37	72.53	159	2781	16.7	10.66	25.13
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	75	1021	58.4	48.92	67.33	16	210	12.0	5.85	23.16
Normal (≥-2sd - ≤+1sd)	800	12315	59.3	48.96	68.95	182	3417	16.5	10.04	25.83
Overweight (>+1sd - ≤+2sd)	193	2893	59.6	46.71	71.34	43	628	12.9	7.78	20.75
Obese (>+2sd)	238	3255	58.2	47.04	68.65	57	930	16.6	10.32	25.74
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	131	1850	57.9	41.86	72.40	23	577	18.1	7.18	38.56
Normal (≥-2sd)	1175	17634	59.3	49.42	68.43	276	4617	15.5	10.41	22.50

Table 3.4.13 : Source of food for afternoon tea among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food for afternoon tea									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	194	2934	8.9	6.97	11.20	273	4232	12.8	4.96	29.15
<b>Locality of school</b>										
Urban	78	949	14.0	9.64	19.92	11	126	1.9	0.80	4.24
Rural	116	1985	7.5	6.07	9.33	262	4106	15.6	5.83	35.54
<b>Sex</b>										
Boys	106	1702	10.3	7.57	13.74	80	1408	8.5	3.32	19.98
Girls	88	1232	7.5	5.52	10.02	193	2825	17.1	5.09	44.26
<b>Ethnicity</b>										
Malay	174	2573	8.3	6.59	10.40	273	4232	13.7	5.33	30.75
Chinese	18	325	23.9	16.56	33.10	-	-	-	-	-
Indian	1	17	6.7	1.12	30.97	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	19	4.0	0.46	27.05	-	-	-	-	-
<b>School level</b>										
Primary school	67	854	8.6	7.11	10.35	8	46	0.5	0.11	1.98
Secondary school	127	2081	9.0	6.47	12.33	265	4187	18.1	7.41	37.76
<b>Class</b>										
Standard 4	29	358	10.4	9.10	11.80	7	39	1.1	0.21	5.91
Standard 5	17	247	8.0	4.87	12.80	1	7	0.2	0.02	1.84
Standard 6	21	248	7.3	4.69	11.30					
Form 1	24	347	7.4	4.78	11.36	54	745	15.9	6.63	33.64
Form 2	21	396	8.2	5.55	11.91	43	735	15.2	5.12	37.31
Form 3	22	389	8.1	4.36	14.51	55	800	16.6	5.74	39.44
Form 4	28	501	11.1	6.94	17.23	54	967	21.4	8.32	44.94
Form 5	32	448	10.3	5.96	17.28	59	940	21.7	8.43	45.37
<b>School session</b>										
Morning session	95	1499	9.3	6.02	13.99	173	2639	16.3	4.45	44.92
Evening session	4	40	20.6	4.52	58.83	3	39	20.0	12.38	30.61
Morning and evening session	95	1395	8.4	6.74	10.34	97	1554	9.3	3.33	23.47
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	15	352	20.2	10.32	35.66	7	113	6.4	2.86	13.86
Normal (≥-2sd - ≤+1sd)	117	1571	7.6	4.83	11.68	180	2755	13.3	4.98	30.90
Overweight (>+1sd - ≤+2sd)	29	457	9.4	6.39	13.67	43	648	13.3	4.58	33.05
Obese (>+2sd)	33	554	9.9	6.54	14.76	38	622	11.1	4.27	26.02
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	237	7.4	4.83	11.20	29	434	13.6	4.32	35.39
Normal (≥-2sd)	180	2698	9.1	7.05	11.59	239	3703	12.4	4.87	28.27

**Table 3.4.13 : Source of food for afternoon tea among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Source of food for afternoon tea				
	Count	Estimated Population	Other Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	80	1218	3.7	2.05	6.51
<b>Locality of school</b>					
Urban	26	334	4.9	2.75	8.69
Rural	54	884	3.4	1.58	6.98
<b>Sex</b>					
Boys	44	709	4.3	2.51	7.18
Girls	36	509	3.1	1.43	6.50
<b>Ethnicity</b>					
Malay	76	1141	3.7	1.97	6.75
Chinese	4	78	5.7	4.55	7.11
Indian	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	-	-	-	-	-
<b>School level</b>					
Primary school	18	190	1.9	1.14	3.18
Secondary school	62	1029	4.4	2.33	8.29
<b>Class</b>					
Standard 4	5	91	2.6	1.70	4.05
Standard 5	8	59	1.9	0.52	6.67
Standard 6	5	40	1.2	0.35	3.86
Form 1	9	133	2.8	0.70	10.86
Form 2	13	254	5.3	2.11	12.51
Form 3	13	210	4.4	2.28	8.20
Form 4	7	127	2.8	1.17	6.56
Form 5	20	305	7.0	4.33	11.18
<b>School session</b>					
Morning session	45	696	4.3	1.93	9.32
Evening session	1	7	3.4	0.30	29.50
Morning and evening session	34	515	3.1	1.84	5.13
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	4	51	2.9	0.83	9.83
Normal (≥-2sd - ≤+1sd)	48	695	3.3	1.63	6.77
Overweight (>+1sd - ≤+2sd)	14	227	4.7	2.25	9.44
Obese (>+2sd)	13	227	4.1	2.35	6.94
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	6	98	3.1	1.02	8.81
Normal (≥-2sd)	73	1102	3.7	1.98	6.83

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Table 3.4.14 : Prevalence of heavy meal after dinner per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Heavy meal after dinner frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	168	2681	7.1	6.08	8.23	1861	28516	75.3	72.36	78.06
<b>Locality of school</b>										
Urban	42	490	6.1	4.40	8.36	523	5879	73.1	63.43	80.92
Rural	126	2191	7.3	6.22	8.66	1338	22638	75.9	73.17	78.48
<b>Sex</b>										
Boys	100	1639	8.7	7.11	10.57	859	14209	75.3	71.11	79.11
Girls	68	1042	5.5	4.30	6.97	1002	14307	75.3	71.78	78.53
<b>Ethnicity</b>										
Malay	155	2432	6.9	5.95	8.04	1764	26896	76.6	74.15	78.86
Chinese	9	175	9.5	7.09	12.56	60	1056	57.2	43.42	69.98
Indian	-	-	-	-	-	16	205	79.7	49.56	94.03
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	28	100.0	100.00	100.00
Others	4	74	12.1	4.01	31.29	19	332	54.2	46.08	62.07
<b>School level</b>										
Primary school	59	875	8.1	6.30	10.25	596	7940	73.1	69.94	76.01
Secondary school	109	1806	6.7	5.59	7.99	1265	20577	76.2	72.19	79.82
<b>Class</b>										
Standard 4	24	273	7.4	5.32	10.09	250	2834	76.3	71.30	80.64
Standard 5	23	394	11.4	8.37	15.33	167	2388	69.1	65.94	72.13
Standard 6	12	208	5.6	4.05	7.81	179	2718	73.6	67.57	78.81
Form 1	15	210	3.9	2.10	7.05	283	4130	76.4	71.79	80.39
Form 2	18	338	6.0	3.22	10.90	234	4404	78.1	65.09	87.19
Form 3	22	370	6.7	4.10	10.74	255	4142	74.9	68.09	80.63
Form 4	27	471	8.8	5.88	13.01	218	3845	72.0	63.50	79.13
Form 5	27	417	8.2	5.42	12.24	275	4056	79.9	74.66	84.32
<b>School session</b>										
Morning session	81	1340	7.1	5.37	9.42	902	14007	74.5	69.96	78.64
Evening session	2	15	6.0	1.11	26.90	16	201	82.7	51.13	95.63
Morning and evening session	85	1326	7.1	5.58	8.91	938	14251	75.9	71.89	79.54
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	15	274	13.8	8.16	22.37	95	1306	65.8	45.66	81.50
Normal (≥-2sd - ≤+1sd)	101	1695	7.2	5.79	9.00	1149	17885	76.3	73.70	78.78
Overweight (>+1sd - ≤+2sd)	23	322	5.7	3.30	9.70	275	4206	74.6	68.73	79.70
Obese (>+2sd)	26	337	5.1	2.74	9.25	335	5004	75.6	68.86	81.34
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	267	7.5	4.42	12.56	168	2612	73.6	65.11	80.62
Normal (≥-2sd)	151	2360	6.9	5.86	8.14	1687	25796	75.6	72.27	78.63

Table 3.4.14 : Prevalence of heavy meal after dinner per week among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Heavy meal after dinner frequency per week				
	Did not take heavy meal after dinner				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>Perlis</b>	460	6664	17.6	14.96	20.59
<b>Locality of school</b>					
Urban	153	1678	20.9	14.38	29.25
Rural	307	4986	16.7	14.11	19.71
<b>Sex</b>					
Boys	183	3015	16.0	13.16	19.27
Girls	277	3649	19.2	15.63	23.38
<b>Ethnicity</b>					
Malay	404	5791	16.5	14.29	18.96
Chinese	38	614	33.3	20.93	48.50
Indian	5	52	20.3	5.97	50.44
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	13	207	33.7	20.39	50.22
<b>School level</b>					
Primary school	167	2049	18.9	15.91	22.21
Secondary school	293	4615	17.1	13.64	21.21
<b>Class</b>					
Standard 4	48	608	16.4	13.03	20.34
Standard 5	56	673	19.5	15.14	24.70
Standard 6	63	768	20.8	15.19	27.77
Form 1	75	1069	19.8	15.13	25.38
Form 2	50	898	15.9	9.40	25.69
Form 3	66	1020	18.4	13.49	24.68
Form 4	59	1026	19.2	12.92	27.59
Form 5	43	602	11.9	7.89	17.47
<b>School session</b>					
Morning session	230	3443	18.3	14.74	22.55
Evening session	3	27	11.2	3.16	33.00
Morning and evening session	227	3193	17.0	13.78	20.82
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	21	405	20.4	8.40	41.76
Normal (≥-2sd - ≤+1sd)	267	3850	16.4	13.72	19.56
Overweight (>+1sd - ≤+2sd)	79	1110	19.7	15.48	24.71
Obese (>+2sd)	92	1275	19.3	15.13	24.23
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	42	670	18.9	14.07	24.85
Normal (≥-2sd)	417	5970	17.5	14.57	20.86



Table 3.4.15 : Source of food for eating heavy meal after dinner among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Source of food for eating for heavy meal after dinner									
	Home					Restaurant/kiosk				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>Perlis</b>	923	14193	46.5	41.01	52.10	721	10895	35.7	30.31	41.48
<b>Locality of school</b>										
Urban	265	2973	47.8	40.96	54.65	242	2670	42.9	34.29	51.95
Rural	658	11220	46.2	39.51	53.00	479	8225	33.9	27.70	40.62
<b>Sex</b>										
Boys	398	6487	42.0	37.51	46.65	401	6576	42.6	35.64	49.84
Girls	525	7706	51.1	40.91	61.23	320	4319	28.6	23.07	34.95
<b>Ethnicity</b>										
Malay	858	13046	45.5	39.96	51.13	687	10330	36.0	30.29	42.17
Chinese	46	844	68.6	58.49	77.23	20	344	28.0	22.29	34.44
Indian	8	111	61.6	26.97	87.49	5	61	34.2	9.81	71.20
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52					
Others	10	185	46.4	40.47	52.48	9	159	39.8	31.19	49.18
<b>School level</b>										
Primary school	324	4422	51.9	49.51	54.19	270	3555	41.7	39.49	43.94
Secondary school	599	9771	44.4	37.44	51.65	451	7339	33.4	26.61	40.90
<b>Class</b>										
Standard 4	136	1451	50.1	46.78	53.48	108	1184	40.9	36.46	45.52
Standard 5	93	1443	52.6	44.76	60.34	78	1164	42.4	39.59	45.30
Standard 6	95	1527	52.9	48.47	57.22	84	1207	41.8	37.76	45.93
Form 1	124	1782	42.5	31.46	54.42	103	1545	36.9	27.08	47.90
Form 2	101	1923	41.9	31.71	52.89	77	1463	31.9	23.05	42.25
Form 3	134	2266	50.5	40.72	60.25	91	1461	32.6	22.63	44.36
Form 4	109	1905	44.4	35.62	53.62	88	1558	36.4	28.68	44.81
Form 5	131	1896	42.7	31.18	55.03	92	1312	29.5	20.71	40.24
<b>School session</b>										
Morning session	443	7003	46.4	37.98	55.01	320	4993	33.1	25.68	41.41
Evening session	7	70	39.4	13.73	72.59	7	81	45.5	26.04	66.52
Morning and evening session	469	7077	46.6	40.80	52.50	393	5807	38.2	32.71	44.09
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	51	662	45.3	35.75	55.30	41	604	41.4	31.19	52.35
Normal (≥-2sd - ≤+1sd)	593	9403	48.8	42.46	55.24	421	6380	33.1	27.73	39.02
Overweight (>+1sd - ≤+2sd)	120	1853	41.3	33.34	49.69	113	1715	38.2	30.34	46.74
Obese (>+2sd)	157	2250	43.6	36.87	50.54	145	2178	42.2	33.51	51.39
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	85	1374	49.3	35.84	62.86	57	852	30.5	22.64	39.78
Normal (≥-2sd)	837	12801	46.4	41.27	51.61	663	10025	36.3	30.81	42.26

Table 3.4.15 : Source of food for eating heavy meal after dinner among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Source of food for eating heavy meal after dinner									
	Hostel					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	197	3068	10.1	4.50	20.97	147	2362	7.7	5.64	10.53
<b>Locality of school</b>										
Urban	13	187	3.0	0.79	10.76	33	394	6.3	5.29	7.57
Rural	184	2881	11.9	5.04	25.42	114	1967	8.1	5.55	11.68
<b>Sex</b>										
Boys	69	1215	7.9	3.55	16.52	69	1164	7.5	6.00	9.43
Girls	128	1853	12.3	4.43	29.74	78	1198	7.9	4.93	12.56
<b>Ethnicity</b>										
Malay	195	3035	10.6	4.74	21.97	141	2269	7.9	5.70	10.88
Chinese	1	12	0.9	0.08	9.96	2	30	2.5	0.73	8.04
Indian	-	-	-	-	-	1	8	4.2	0.50	27.73
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	3	55	13.7	7.10	24.89
<b>School level</b>										
Primary school	10	66	0.8	0.21	2.74	34	484	5.7	4.42	7.27
Secondary school	187	3002	13.7	6.43	26.68	113	1877	8.5	5.88	12.24
<b>Class</b>										
Standard 4	5	28	1.0	0.24	3.81	16	231	8.0	5.74	11.01
Standard 5	3	20	0.7	0.15	3.51	11	116	4.2	1.23	13.52
Standard 6	2	17	0.6	0.07	5.11	7	137	4.7	2.86	7.77
Form 1	42	575	13.7	5.03	32.32	19	287	6.9	4.04	11.40
Form 2	46	828	18.1	8.52	34.26	20	373	8.1	5.50	11.86
Form 3	29	424	9.5	3.25	24.52	21	335	7.5	4.33	12.59
Form 4	27	483	11.3	5.24	22.61	19	339	7.9	4.50	13.56
Form 5	43	691	15.6	6.00	34.73	34	542	12.2	6.49	21.81
<b>School session</b>										
Morning session	129	1972	13.1	4.71	31.38	73	1129	7.5	4.87	11.31
Evening session	2	27	15.1	4.23	41.72					
Morning and evening session	66	1069	7.0	2.71	17.08	74	1233	8.1	5.13	12.61
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	104	7.1	3.34	14.46	6	90	6.2	2.55	14.26
Normal (≥-2sd - ≤+1sd)	124	1915	9.9	4.32	21.25	92	1558	8.1	6.13	10.61
Overweight (>+1sd - ≤+2sd)	33	521	11.6	4.32	27.61	28	400	8.9	5.67	13.75
Obese (>+2sd)	33	511	9.9	4.72	19.59	16	223	4.3	2.08	8.79
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	22	325	11.6	3.79	30.64	15	237	8.5	4.52	15.47
Normal (≥-2sd)	174	2725	9.9	4.53	20.20	127	2035	7.4	5.61	9.65

Table 3.4.16 : Prevalence of fast food consumption per week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Frequency of fast food consumption per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>Perlis</b>	70	1167	3.1	2.08	4.53	2210	33542	88.4	86.27	90.22
<b>Locality of school</b>										
Urban	18	197	2.5	1.85	3.24	646	7142	88.7	84.24	92.06
Rural	52	969	3.2	2.05	5.10	1564	26400	88.3	85.81	90.39
<b>Sex</b>										
Boys	40	689	3.6	2.32	5.69	1011	16586	87.8	85.39	89.81
Girls	30	478	2.5	1.72	3.65	1199	16956	89.0	85.82	91.53
<b>Ethnicity</b>										
Malay	68	1128	3.2	2.18	4.69	2079	31386	89.1	87.02	90.96
Chinese	-	-	-	-	-	82	1420	76.9	73.76	79.84
Indian	1	17	6.7	1.12	30.97	17	199	77.4	50.74	91.92
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	28	100.0	100.00	100.00
Others	1	21	3.5	1.00	11.52	30	510	83.1	72.00	90.45
<b>School level</b>										
Primary school	35	592	5.4	3.85	7.49	741	9801	89.2	86.98	91.07
Secondary school	35	575	2.1	1.49	3.05	1469	23741	88.1	85.20	90.42
<b>Class</b>										
Standard 4	16	241	6.5	4.04	10.17	288	3211	86.2	78.91	91.22
Standard 5	14	229	6.4	4.24	9.62	222	3161	88.8	86.48	90.72
Standard 6	5	123	3.3	1.57	6.85	231	3430	92.6	88.77	95.24
Form 1	6	87	1.6	0.67	3.82	334	4837	89.4	85.57	92.36
Form 2	9	180	3.2	1.89	5.42	259	4839	86.4	80.00	90.92
Form 3	7	103	1.9	0.99	3.46	294	4749	85.9	81.72	89.18
Form 4	6	99	1.9	0.86	3.93	270	4757	89.3	83.49	93.29
Form 5	7	107	2.1	1.12	3.89	312	4558	89.5	81.17	94.42
<b>School session</b>										
Morning session	40	624	3.3	2.05	5.36	1056	16249	86.5	83.40	89.15
Evening session	2	13	5.5	0.56	37.31	17	206	84.8	58.73	95.61
Morning and evening session	28	529	2.8	1.73	4.51	1132	17030	90.2	87.49	92.44
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	65	3.3	1.15	8.87	119	1642	82.5	57.63	94.20
Normal (≥-2sd - ≤+1sd)	44	785	3.3	2.23	4.96	1354	20958	89.1	86.17	91.46
Overweight (>+1sd - ≤+2sd)	7	176	3.1	1.11	8.47	332	4885	86.5	81.93	90.13
Obese (>+2sd)	15	141	2.1	1.03	4.38	395	5882	89.1	84.32	92.62
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	8	237	6.6	2.21	18.17	199	2968	83.0	68.55	91.66
Normal (≥-2sd)	62	930	2.7	1.95	3.79	2002	30407	88.9	86.10	91.25

**Table 3.4.16 : Prevalence of fast food consumption per week among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Frequency of fast food consumption per week				
	Count	Estimated Population	Prevalence (%)	Did not ate fast food	
				Lower	Upper
<b>Perlis</b>	213	3240	8.5	6.51	11.12
<b>Locality of school</b>					
Urban	56	710	8.8	5.44	13.98
Rural	157	2530	8.5	6.15	11.54
<b>Sex</b>					
Boys	96	1621	8.6	6.21	11.75
Girls	117	1619	8.5	5.99	11.93
<b>Ethnicity</b>					
Malay	180	2692	7.6	5.73	10.13
Chinese	25	426	23.1	20.16	26.24
Indian	3	41	15.9	3.24	51.79
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	5	82	13.3	4.92	31.44
<b>School level</b>					
Primary school	52	596	5.4	4.09	7.14
Secondary school	161	2645	9.8	7.51	12.71
<b>Class</b>					
Standard 4	20	274	7.4	4.59	11.60
Standard 5	13	171	4.8	3.29	6.97
Standard 6	19	150	4.1	1.26	12.32
Form 1	33	485	9.0	6.34	12.51
Form 2	32	584	10.4	5.93	17.69
Form 3	42	680	12.3	9.06	16.46
Form 4	27	469	8.8	5.54	13.72
Form 5	27	427	8.4	4.07	16.51
<b>School session</b>					
Morning session	119	1904	10.1	7.62	13.38
Evening session	2	24	9.8	3.65	23.66
Morning and evening session	92	1312	7.0	4.61	10.37
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	9	284	14.3	3.58	42.77
Normal ( $\geq$ -2sd - $\leq$ +1sd)	122	1780	7.6	4.98	11.34
Overweight ( $>$ +1sd - $\leq$ +2sd)	39	583	10.3	6.66	15.71
Obese ( $>$ +2sd)	42	575	8.7	5.73	13.03
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	19	370	10.3	6.34	16.45
Normal ( $\geq$ -2sd)	193	2852	8.3	6.00	11.48

Table 3.4.17 : Practice of bring food to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Bring food to school practices									
	Everyday					Occasionally				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>Perlis</b>	159	2080	5.5	4.27	7.05	1196	18371	48.6	41.66	55.53
<b>Locality of school</b>										
Urban	55	612	7.6	6.09	9.46	381	4180	52.0	46.55	57.37
Rural	104	1468	4.9	3.62	6.67	815	14191	47.6	38.96	56.47
<b>Sex</b>										
Boys	82	1092	5.8	3.92	8.50	481	7913	42.0	35.55	48.76
Girls	77	987	5.2	3.59	7.48	715	10458	55.1	46.64	63.22
<b>Ethnicity</b>										
Malay	147	1905	5.4	4.16	7.05	1115	17100	48.7	41.52	55.96
Chinese	7	115	6.2	3.02	12.41	47	771	41.8	27.83	57.20
Indian	3	30	11.8	3.76	31.52	15	190	73.9	61.95	83.12
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	7	100.0	100.00	100.00
Others	2	30	4.8	1.83	12.07	18	303	49.5	39.31	59.69
<b>School level</b>										
Primary school	73	694	6.4	3.91	10.25	456	6634	61.0	52.71	68.62
Secondary school	86	1385	5.1	3.77	6.98	740	11737	43.6	38.58	48.68
<b>Class</b>										
Standard 4	33	358	9.6	7.93	11.63	164	2149	57.8	44.85	69.68
Standard 5	26	225	6.5	2.16	17.88	157	2358	68.1	58.58	76.36
Standard 6	14	112	3.0	0.90	9.65	135	2128	57.5	50.88	63.79
Form 1	21	319	5.9	3.78	9.11	153	2177	40.3	34.26	46.55
Form 2	16	298	5.3	2.66	10.27	133	2415	43.0	34.13	52.31
Form 3	17	267	4.8	2.40	9.50	141	2239	40.5	35.71	45.44
Form 4	18	307	5.8	3.45	9.52	142	2441	45.9	37.29	54.71
Form 5	14	193	3.8	1.60	8.88	171	2464	48.7	39.33	58.13
<b>School session</b>										
Morning session	79	1050	5.6	3.87	8.03	542	8396	44.8	37.27	52.50
Evening session	6	64	26.6	10.40	52.97	8	114	46.8	28.79	65.70
Morning and evening session	74	965	5.1	3.92	6.71	644	9840	52.4	44.02	60.69
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	208	10.4	5.39	19.28	61	932	46.8	37.08	56.82
Normal (≥-2sd - ≤+1sd)	95	1236	5.3	3.82	7.25	724	11241	48.0	41.90	54.21
Overweight (>+1sd - ≤+2sd)	21	271	4.8	2.73	8.38	178	2631	46.8	39.79	53.89
Obese (>+2sd)	29	364	5.5	3.78	7.98	228	3486	52.7	40.14	65.01
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	178	5.0	2.24	10.89	129	1942	54.9	45.12	64.37
Normal (≥-2sd)	145	1902	5.6	4.36	7.10	1063	16356	48.0	40.15	55.87

**Table 3.4.17 : Practice of bring food to school among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Bring food to school practices				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	1134	17376	45.9	38.95	53.09
<b>Locality of school</b>					
Urban	283	3249	40.4	36.27	44.68
Rural	851	14127	47.4	38.57	56.46
<b>Sex</b>					
Boys	580	9831	52.2	45.76	58.55
Girls	554	7545	39.7	31.15	49.00
<b>Ethnicity</b>					
Malay	1062	16100	45.9	38.65	53.25
Chinese	53	959	52.0	33.13	70.28
Indian	3	37	14.3	4.54	36.88
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	16	280	45.7	32.86	59.15
<b>School level</b>					
Primary school	296	3555	32.7	27.73	38.03
Secondary school	838	13820	51.3	45.27	57.29
<b>Class</b>					
Standard 4	126	1214	32.6	21.02	46.84
Standard 5	64	878	25.4	21.86	29.26
Standard 6	106	1463	39.5	35.04	44.18
Form 1	199	2912	53.8	46.47	61.05
Form 2	152	2906	51.7	40.19	63.07
Form 3	185	3025	54.7	50.80	58.52
Form 4	143	2573	48.4	37.87	58.98
Form 5	159	2403	47.5	36.83	58.38
<b>School session</b>					
Morning session	592	9310	49.6	41.38	57.91
Evening session	7	65	26.6	7.30	62.61
Morning and evening session	532	7964	42.4	33.85	51.50
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	57	851	42.7	30.63	55.77
Normal (≥-2sd - ≤+1sd)	698	10930	46.7	40.62	52.86
Overweight (>+1sd - ≤+2sd)	178	2723	48.4	41.15	55.73
Obese (>+2sd)	195	2759	41.7	29.26	55.38
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	81	1416	40.0	29.92	51.10
Normal (≥-2sd)	1047	15846	46.5	38.52	54.59

Table 3.4.18 : Type of food usually bring to school among adolescents by socio-demographic characteristics nutritional status (Cont..)

Characteristics	Type of food									
	Nasi lemak/fried rice/mixed rice					Noodle/Vermicelli/ Kueh Teow				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	708	11012	55.3	44.78	65.30	122	1805	9.1	7.06	11.56
<b>Locality of school</b>										
Urban	227	2497	53.3	47.94	58.51	54	579	12.4	10.32	14.72
Rural	481	8514	55.9	42.34	68.61	68	1226	8.0	5.67	11.29
<b>Sex</b>										
Boys	311	5089	58.1	50.60	65.22	47	730	8.3	6.43	10.73
Girls	397	5923	53.1	37.03	68.47	75	1075	9.6	6.46	14.11
<b>Ethnicity</b>										
Malay	662	10298	55.5	44.30	66.17	112	1625	8.8	6.70	11.37
Chinese	23	373	44.1	37.18	51.34	8	136	16.1	11.63	21.93
Indian	9	112	60.6	28.26	85.74	-	-	-	-	-
Bumiputera Sabah										
Bumiputera Sarawak	1	7	100.0	100.00	100.00	-	-	-	-	-
Others	13	221	66.5	42.10	84.47	2	43	12.9	4.31	32.81
<b>School level</b>										
Primary school	288	4313	60.7	56.55	64.60	62	854	12.0	9.67	14.82
Secondary school	420	6698	52.3	37.34	66.82	60	951	7.4	5.20	10.48
<b>Class</b>										
Standard 4	96	1077	45.2	36.76	53.94	25	434	18.2	12.74	25.32
Standard 5	105	1696	66.2	51.99	78.03	19	188	7.3	2.34	20.77
Standard 6	87	1540	71.0	55.14	83.03	18	232	10.7	7.07	15.92
Form 1	87	1265	51.2	39.41	62.94	15	217	8.8	4.88	15.36
Form 2	66	1192	45.8	29.47	63.09	11	199	7.7	4.97	11.63
Form 3	72	1191	49.5	30.38	68.82	15	239	9.9	6.30	15.37
Form 4	96	1652	60.1	40.39	76.99	10	172	6.3	2.54	14.67
Form 5	99	1399	54.0	38.50	68.81	9	123	4.7	1.88	11.42
<b>School session</b>										
Morning session	298	4806	51.8	33.81	69.32	59	814	8.8	5.82	13.01
Evening session	4	36	20.8	3.68	64.23	2	26	14.8	1.27	70.21
Morning and evening session	404	6149	58.8	53.52	63.95	61	965	9.2	7.08	11.96
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	47	645	60.7	44.31	75.06	6	52	4.9	1.75	13.13
Normal (≥-2sd - ≤+1sd)	435	6866	56.1	44.14	67.47	74	995	8.1	5.92	11.09
Overweight (>+1sd - ≤+2sd)	98	1380	49.0	35.85	62.29	17	277	9.8	5.69	16.48
Obese (>+2sd)	128	2120	56.2	45.60	66.29	24	472	12.5	7.88	19.31
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	72	1050	51.6	37.63	65.32	15	234	11.5	6.66	19.22
Normal (≥-2sd)	636	9962	55.8	45.20	65.89	107	1570	8.8	6.89	11.16

Table 3.4.18 : Type of food usually bring to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of food									
	Bread/bun/sandwich					Nugget/sausage/burger				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	370	5094	25.6	19.12	33.30	83	1069	5.4	3.74	7.65
<b>Locality of school</b>										
Urban	146	1660	35.4	27.23	44.53	42	409	8.7	4.89	15.05
Rural	224	3435	22.5	16.07	30.67	41	661	4.3	2.80	6.67
<b>Sex</b>										
Boys	111	1601	18.3	13.74	23.88	47	657	7.5	4.62	11.97
Girls	259	3494	31.3	23.26	40.64	36	412	3.7	1.97	6.82
<b>Ethnicity</b>										
Malay	337	4593	24.8	18.29	32.59	81	1045	5.6	4.05	7.78
Chinese	23	369	43.7	37.09	50.46					
Indian	6	71	38.4	15.47	67.91	1	17	9.3	1.21	45.91
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	4	61	18.5	9.43	33.01	1	7	2.2	0.18	21.66
<b>School level</b>										
Primary school	117	1207	17.0	10.62	26.01	51	565	7.9	5.74	10.90
Secondary school	253	3888	30.3	24.68	36.67	32	504	3.9	2.17	7.03
<b>Class</b>										
Standard 4	45	551	23.1	20.08	26.47	19	165	6.9	3.66	12.71
Standard 5	40	311	12.1	3.36	35.43	18	207	8.1	5.21	12.34
Standard 6	32	345	15.9	8.84	26.97	14	193	8.9	6.49	12.11
Form 1	53	723	29.3	18.58	42.91	11	163	6.6	3.40	12.44
Form 2	43	784	30.1	24.50	36.40	8	147	5.7	1.67	17.47
Form 3	44	656	27.3	18.09	38.96	2	33	1.4	0.33	5.48
Form 4	45	768	27.9	18.26	40.21	4	67	2.4	0.98	5.89
Form 5	68	957	37.0	27.84	47.10	7	95	3.7	1.50	8.61
<b>School session</b>										
Morning session	179	2408	26.0	18.21	35.55	29	360	3.9	2.06	7.18
Evening session	5	72	42.1	24.54	61.82	1	16	9.4	3.14	24.84
Morning and evening session	185	2598	24.9	18.60	32.38	53	693	6.6	4.64	9.39
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	16	217	20.4	12.68	31.16	6	69	6.5	2.23	17.25
Normal (≥-2sd - ≤+1sd)	221	3122	25.5	18.78	33.70	49	692	5.7	4.02	7.90
Overweight (>+1sd - ≤+2sd)	60	852	30.2	23.35	38.14	8	78	2.8	0.91	8.21
Obese (>+2sd)	71	868	23.0	13.42	36.54	20	231	6.1	3.50	10.49
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	34	442	21.7	15.41	29.69	9	89	4.4	1.93	9.55
Normal (≥-2sd)	334	4617	25.9	19.08	34.04	74	981	5.5	3.79	7.90



Table 3.4.18 : Type of food usually bring to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of food									
	Biscuit					Fruits				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	217	3128	15.7	6.73	32.45	51	939	4.7	2.71	8.08
<b>Locality of school</b>										
Urban	35	427	9.1	6.42	12.76	7	83	1.8	0.84	3.72
Rural	182	2701	17.7	6.51	40.00	44	856	5.6	3.31	9.37
<b>Sex</b>										
Boys	50	762	8.7	4.37	16.56	31	659	7.5	3.83	14.27
Girls	167	2366	21.2	8.21	44.71	20	280	2.5	1.49	4.20
<b>Ethnicity</b>										
Malay	206	2979	16.1	6.58	34.18	50	916	4.9	2.86	8.39
Chinese	6	95	11.2	5.76	20.74	-	-	-	-	-
Indian	3	29	15.5	4.73	40.27	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	2	25	7.6	1.11	37.77	1	23	6.9	0.65	45.58
<b>School level</b>										
Primary school	31	272	3.8	1.77	8.03	26	522	7.3	4.01	13.05
Secondary school	186	2856	22.3	9.78	43.14	25	418	3.3	2.08	5.07
<b>Class</b>										
Standard 4	10	110	4.6	3.29	6.40	7	150	6.3	3.26	11.82
Standard 5	10	73	2.9	0.82	9.49	15	339	13.2	6.00	26.72
Standard 6	11	89	4.1	1.08	14.29	4	32	1.5	0.36	5.99
Form 1	32	446	18.1	6.74	40.19	7	120	4.9	1.71	13.16
Form 2	33	576	22.1	7.20	50.98	2	44	1.7	0.45	6.27
Form 3	41	591	24.6	10.18	48.41	4	70	2.9	1.17	6.94
Form 4	33	562	20.4	9.18	39.51	5	83	3.0	1.30	6.86
Form 5	47	682	26.3	13.41	45.20	7	100	3.9	2.11	7.00
<b>School session</b>										
Morning session	145	2154	23.2	8.48	49.66	18	411	4.4	2.04	9.37
Evening session	2	38	21.8	6.78	51.78					
Morning and evening session	70	936	9.0	5.13	15.17	33	528	5.1	3.32	7.61
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	73	6.8	1.97	21.22	2	35	3.3	0.73	13.85
Normal (≥-2sd - ≤+1sd)	136	1971	16.1	6.48	34.75	28	468	3.8	2.35	6.19
Overweight (>+1sd - ≤+2sd)	37	593	21.1	9.58	40.22	10	179	6.3	2.86	13.51
Obese (>+2sd)	37	472	12.5	4.95	28.22	11	257	6.8	3.05	14.48
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	30	421	20.7	8.76	41.44	5	56	2.8	1.18	6.36
Normal (≥-2sd)	186	2689	15.1	6.39	31.55	46	883	4.9	2.76	8.72

**Table 3.4.18 : Type of food usually bring to school among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Type of food				
	Count	Estimated Population	Others Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	59	855	4.3	3.25	5.65
<b>Locality of school</b>					
Urban	21	217	4.6	2.78	7.63
Rural	38	638	4.2	3.00	5.82
<b>Sex</b>					
Boys	32	434	4.9	3.36	7.24
Girls	27	421	3.8	2.40	5.90
<b>Ethnicity</b>					
Malay	52	756	4.1	2.96	5.59
Chinese	6	94	11.1	7.47	16.09
Indian	1	5	2.8	0.41	16.72
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	-	-	-	-	-
<b>School level</b>					
Primary school	30	400	5.6	4.57	6.92
Secondary school	29	455	3.5	2.30	5.44
<b>Class</b>					
Standard 4	9	214	9.0	4.54	17.05
Standard 5	13	124	4.8	1.42	15.22
Standard 6	8	62	2.9	0.80	9.80
Form 1	7	99	4.0	1.98	7.95
Form 2	5	96	3.7	1.44	9.18
Form 3	6	87	3.6	1.43	8.89
Form 4	3	50	1.8	0.42	7.68
Form 5	8	122	4.7	2.08	10.24
<b>School session</b>					
Morning session	27	351	3.8	2.44	5.82
Evening session					
Morning and evening session	32	504	4.8	3.26	7.07
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	4	110	10.3	3.84	24.92
Normal ( $\geq-2sd$ - $\leq+1sd$ )	31	486	4.0	2.68	5.84
Overweight ( $>+1sd$ - $\leq+2sd$ )	10	138	4.9	2.01	11.41
Obese ( $>+2sd$ )	14	122	3.2	1.23	8.20
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	6	131	6.4	2.35	16.34
Normal ( $\geq-2sd$ )	53	724	4.1	2.96	5.54

Table 3.4.19 : Practice of bring drinks to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Bring drinks to school practices									
	Everyday					Occasionally				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	159	2080	5.5	4.27	7.05	1196	18371	48.6	41.66	55.53
<b>Locality of school</b>										
Urban	55	612	7.6	6.09	9.46	381	4180	52.0	46.55	57.37
Rural	104	1468	4.9	3.62	6.67	815	14191	47.6	38.96	56.47
<b>Sex</b>										
Boys	82	1092	5.8	3.92	8.50	481	7913	42.0	35.55	48.76
Girls	77	987	5.2	3.59	7.48	715	10458	55.1	46.64	63.22
<b>Ethnicity</b>										
Malay	147	1905	5.4	4.16	7.05	1115	17100	48.7	41.52	55.96
Chinese	7	115	6.2	3.02	12.41	47	771	41.8	27.83	57.20
Indian	3	30	11.8	3.76	31.52	15	190	73.9	61.95	83.12
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	7	100.0	100.00	100.00
Others	2	30	4.8	1.83	12.07	18	303	49.5	39.31	59.69
<b>School level</b>										
Primary school	73	694	6.4	3.91	10.25	456	6634	61.0	52.71	68.62
Secondary school	86	1385	5.1	3.77	6.98	740	11737	43.6	38.58	48.68
<b>Class</b>										
Standard 4	33	358	9.6	7.93	11.63	164	2149	57.8	44.85	69.68
Standard 5	26	225	6.5	2.16	17.88	157	2358	68.1	58.58	76.36
Standard 6	14	112	3.0	0.90	9.65	135	2128	57.5	50.88	63.79
Form 1	21	319	5.9	3.78	9.11	153	2177	40.3	34.26	46.55
Form 2	16	298	5.3	2.66	10.27	133	2415	43.0	34.13	52.31
Form 3	17	267	4.8	2.40	9.50	141	2239	40.5	35.71	45.44
Form 4	18	307	5.8	3.45	9.52	142	2441	45.9	37.29	54.71
Form 5	14	193	3.8	1.60	8.88	171	2464	48.7	39.33	58.13
<b>School session</b>										
Morning session	79	1050	5.6	3.87	8.03	542	8396	44.8	37.27	52.50
Evening session	6	64	26.6	10.40	52.97	8	114	46.8	28.79	65.70
Morning and evening session	74	965	5.1	3.92	6.71	644	9840	52.4	44.02	60.69
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	208	10.4	5.39	19.28	61	932	46.8	37.08	56.82
Normal (≥-2sd - ≤+1sd)	95	1236	5.3	3.82	7.25	724	11241	48.0	41.90	54.21
Overweight (>+1sd - ≤+2sd)	21	271	4.8	2.73	8.38	178	2631	46.8	39.79	53.89
Obese (>+2sd)	29	364	5.5	3.78	7.98	228	3486	52.7	40.14	65.01
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	178	5.0	2.24	10.89	129	1942	54.9	45.12	64.37
Normal (≥-2sd)	145	1902	5.6	4.36	7.10	1063	16356	48.0	40.15	55.87

**Table 3.4.19 : Practice of bring drinks to school among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Bring drinks to school practices				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	1134	17376	45.9	38.95	53.09
<b>Locality of school</b>					
Urban	283	3249	40.4	36.27	44.68
Rural	851	14127	47.4	38.57	56.46
<b>Sex</b>					
Boys	580	9831	52.2	45.76	58.55
Girls	554	7545	39.7	31.15	49.00
<b>Ethnicity</b>					
Malay	1062	16100	45.9	38.65	53.25
Chinese	53	959	52.0	33.13	70.28
Indian	3	37	14.3	4.54	36.88
Bumiputera Sabah					
Bumiputera Sarawak					
Others	16	280	45.7	32.86	59.15
<b>School level</b>					
Primary school	296	3555	32.7	27.73	38.03
Secondary school	838	13820	51.3	45.27	57.29
<b>Class</b>					
Standard 4	126	1214	32.6	21.02	46.84
Standard 5	64	878	25.4	21.86	29.26
Standard 6	106	1463	39.5	35.04	44.18
Form 1	199	2912	53.8	46.47	61.05
Form 2	152	2906	51.7	40.19	63.07
Form 3	185	3025	54.7	50.80	58.52
Form 4	143	2573	48.4	37.87	58.98
Form 5	159	2403	47.5	36.83	58.38
<b>School session</b>					
Morning session	592	9310	49.6	41.38	57.91
Evening session	7	65	26.6	7.30	62.61
Morning and evening session	532	7964	42.4	33.85	51.50
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	57	851	42.7	30.63	55.77
Normal (≥-2sd - ≤+1sd)	698	10930	46.7	40.62	52.86
Overweight (>+1sd - ≤+2sd)	178	2723	48.4	41.15	55.73
Obese (>+2sd)	195	2759	41.7	29.26	55.38
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	81	1416	40.0	29.92	51.10
Normal (≥-2sd)	1047	15846	46.5	38.52	54.59

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Table 3.4.20 : Type of drinks usually bring to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of drinks									
	Plain water					Flavoured water/ packed drink/ syrup drink/ tea/ coffee/ Milo				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	1667	24809	89.1	85.85	91.72	204	2745	9.9	7.77	12.44
<b>Locality of school</b>										
Urban	522	5658	88.3	75.32	94.95	63	625	9.8	6.70	14.02
Rural	1145	19150	89.4	86.55	91.65	141	2119	9.9	7.40	13.09
<b>Sex</b>										
Boys	631	10308	83.8	79.05	87.69	103	1519	12.4	9.79	15.48
Girls	1036	14501	93.3	90.54	95.32	101	1226	7.9	4.82	12.64
<b>Ethnicity</b>										
Malay	1546	22864	88.8	85.50	91.35	201	2702	10.5	8.23	13.28
Chinese	77	1288	96.1	78.74	99.39	1	18	1.4	0.16	10.55
Indian	15	198	86.2	62.96	95.81	2	24	10.5	3.13	29.99
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	7	23.6	1.46	86.52	-	-	-	-	-
Others	28	451	95.2	74.39	99.26	-	-	-	-	-
<b>School level</b>										
Primary school	607	8140	89.4	87.06	91.36	86	833	9.1	5.56	14.67
Secondary school	1060	16668	89.0	84.03	92.55	118	1912	10.2	7.96	13.01
<b>Class</b>										
Standard 4	221	2362	78.2	67.90	85.88	34	398	13.2	9.24	18.40
Standard 5	189	2696	94.1	84.61	97.87	32	279	9.7	3.01	27.32
Standard 6	197	3081	95.8	86.67	98.75	20	156	4.8	1.30	16.43
Form 1	242	3419	86.1	75.92	92.37	34	517	13.0	8.72	19.00
Form 2	169	3079	83.8	71.51	91.42	22	401	10.9	4.83	22.87
Form 3	214	3330	91.1	84.94	94.95	23	368	10.1	6.07	16.24
Form 4	209	3632	94.9	90.45	97.38	17	292	7.6	3.94	14.27
Form 5	226	3208	89.0	73.26	95.99	22	334	9.3	5.27	15.76
<b>School session</b>										
Morning session	791	11915	91.2	87.20	94.03	100	1340	10.3	7.33	14.17
Evening session	10	96	52.7	15.23	87.35					
Morning and evening session	862	12754	87.7	84.10	90.57	104	1405	9.7	7.60	12.21
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	89	1220	84.3	71.82	91.87	13	213	14.7	8.94	23.26
Normal (≥-2sd - ≤+1sd)	985	14897	88.3	84.56	91.17	131	1823	10.8	8.26	14.00
Overweight (>+1sd - ≤+2sd)	266	3919	90.3	82.69	94.83	26	331	7.6	4.70	12.12
Obese (>+2sd)	321	4669	92.5	88.62	95.07	33	360	7.1	3.72	13.24
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	161	2270	83.4	62.19	93.90	19	372	13.7	5.83	28.82
Normal (≥-2sd)	1501	22443	89.8	86.09	92.56	184	2355	9.4	6.71	13.08

Table 3.4.20 : Type of drinks usually bring to school among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of drinks									
	Carbonated drink					Milk/ cultured drink				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	21	296	1.1	0.41	2.70	73	1041	3.7	2.76	5.06
<b>Locality of school</b>										
Urban	13	177	2.8	0.78	9.24	17	166	2.6	1.35	4.90
Rural	8	119	0.6	0.23	1.33	56	875	4.1	2.93	5.67
<b>Sex</b>										
Boys	15	223	1.8	0.70	4.64	31	464	3.8	2.67	5.30
Girls	6	73	0.5	0.15	1.44	42	577	3.7	2.46	5.58
<b>Ethnicity</b>										
Malay	18	240	0.9	0.35	2.50	71	1004	3.9	2.89	5.23
Chinese	2	34	2.5	0.43	13.58	1	15	1.1	0.13	8.63
Indian										
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54					
Others						1	23	4.8	0.74	25.61
<b>School level</b>										
Primary school	6	35	0.4	0.10	1.45	28	297	3.3	2.69	3.96
Secondary school	15	261	1.4	0.52	3.71	45	744	4.0	2.63	5.95
<b>Class</b>										
Standard 4	5	27	0.9	0.23	3.52	18	218	7.2	5.56	9.36
Standard 5	1	8	0.3	0.03	2.46	6	46	1.6	0.39	6.31
Standard 6						4	33	1.0	0.21	4.88
Form 1	7	106	2.7	0.95	7.25	9	137	3.5	1.75	6.69
Form 2	6	115	3.1	0.73	12.36	12	241	6.6	3.38	12.31
Form 3	1	23	0.6	0.07	5.06	5	82	2.2	0.84	5.81
Form 4						3	54	1.4	0.46	4.22
Form 5	1	18	0.5	0.09	2.85	16	231	6.4	4.28	9.47
<b>School session</b>										
Morning session	10	158	1.2	0.44	3.24	41	583	4.5	2.92	6.77
Evening session	3	43	23.8	9.30	48.70	1	21	11.8	3.69	31.71
Morning and evening session	8	95	0.7	0.29	1.44	31	436	3.0	2.15	4.16
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	21	1.5	0.18	10.98	1	21	1.5	0.18	11.05
Normal (≥-2sd - ≤+1sd)	13	192	1.1	0.33	3.79	54	807	4.8	3.52	6.46
Overweight (>+1sd - ≤+2sd)	3	43	1.0	0.28	3.41	6	72	1.7	0.65	4.15
Obese (>+2sd)	4	40	0.8	0.23	2.64	11	124	2.4	1.24	4.78
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	1	17	0.6	0.07	5.11	9	169	6.2	2.67	13.71
Normal (≥-2sd)	20	279	1.1	0.46	2.67	63	855	3.4	2.39	4.86

**Table 3.4.20 : Type of drinks usually bring to school among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Type of drinks				
	Count	Estimated Population	Others	95% CI	
			Percentage (%)	Lower	Upper
<b>Perlis</b>	24	290	1.0	0.56	1.94
<b>Locality of school</b>					
Urban	10	98	1.5	0.48	4.70
Rural	14	193	0.9	0.45	1.80
<b>Sex</b>					
Boys	13	175	1.4	0.72	2.81
Girls	11	115	0.7	0.32	1.69
<b>Ethnicity</b>					
Malay	23	283	1.1	0.58	2.06
Chinese					
Indian	1	8	3.3	0.38	23.37
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
<b>School level</b>					
Primary school	10	66	0.7	0.20	2.53
Secondary school	14	225	1.2	0.62	2.31
<b>Class</b>					
Standard 4	5	27	0.9	0.25	3.17
Standard 5	4	31	1.1	0.28	4.10
Standard 6	1	7	0.2	0.02	2.10
Form 1	5	76	1.9	0.68	5.27
Form 2	2	38	1.0	0.24	4.24
Form 3	3	45	1.2	0.38	3.92
Form 4	1	18	0.5	0.06	3.54
Form 5	3	47	1.3	0.38	4.36
<b>School session</b>					
Morning session	11	137	1.0	0.59	1.86
Evening session					
Morning and evening session	13	153	1.1	0.45	2.48
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	2	24	1.7	0.31	8.37
Normal ( $\geq-2sd$ - $\leq+1sd$ )	11	146	0.9	0.36	2.06
Overweight ( $>+1sd$ - $\leq+2sd$ )	6	81	1.9	0.86	3.98
Obese ( $>+2sd$ )	5	40	0.8	0.24	2.59
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	1	16	0.6	0.07	4.84
Normal ( $\geq-2sd$ )	23	274	1.1	0.61	1.98

Table 3.4.21 : Spending of pocket money among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Spending of pocket money									
	Buy food/drinks					Buy stationery				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1561	23961	64.5	61.37	67.58	113	1762	4.7	3.67	6.12
<b>Locality of school</b>										
Urban	451	4840	61.6	56.10	66.86	33	430	5.5	2.87	10.21
Rural	1110	19121	65.3	61.79	68.68	80	1332	4.5	3.50	5.90
<b>Sex</b>										
Boys	693	11735	63.9	58.19	69.15	66	1034	5.6	4.31	7.32
Girls	868	12227	65.2	62.06	68.22	47	727	3.9	2.60	5.74
<b>Ethnicity</b>										
Malay	1468	22398	65.0	61.44	68.32	105	1606	4.7	3.45	6.26
Chinese	57	1033	57.8	48.85	66.35	4	75	4.2	0.64	22.77
Indian	11	129	53.5	32.08	73.70	2	41	16.9	2.97	57.45
Bumiputera Sabah										
Bumiputera Sarawak	1	7	100.0	100.00	100.00					
Others	24	394	64.3	58.40	69.76	2	40	6.5	3.08	13.23
<b>School level</b>										
Primary school	518	7031	65.8	61.49	69.95	41	584	5.5	4.23	7.04
Secondary school	1043	16931	64.0	60.01	67.82	72	1178	4.5	3.12	6.32
<b>Class</b>										
Standard 4	219	2403	66.4	56.41	75.16	15	92	2.5	0.75	8.27
Standard 5	129	1819	53.2	48.32	58.02	17	388	11.4	6.30	19.61
Standard 6	170	2809	77.1	61.90	87.52	9	104	2.8	0.75	10.19
Form 1	222	3228	62.4	54.33	69.76	31	460	8.9	4.86	15.67
Form 2	172	3206	58.0	50.34	65.31	19	358	6.5	3.16	12.80
Form 3	236	3810	69.9	64.87	74.46	7	128	2.3	1.09	4.95
Form 4	212	3731	70.5	61.39	78.27	4	76	1.4	0.57	3.52
Form 5	201	2957	59.0	54.29	63.64	11	157	3.1	1.94	5.05
<b>School session</b>										
Morning session	791	12217	66.4	61.98	70.55	46	732	4.0	2.60	6.03
Evening session	5	46	24.6	7.61	56.38	6	83	44.9	13.38	81.11
Morning and evening session	764	11691	63.2	60.52	65.87	61	947	5.1	3.77	6.92
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	90	1434	75.2	67.66	81.41					
Normal (≥-2sd - ≤+1sd)	982	15395	66.8	62.56	70.84	72	1164	5.1	3.79	6.70
Overweight (>+1sd - ≤+2sd)	225	3453	62.4	57.33	67.30	14	182	3.3	1.57	6.76
Obese (>+2sd)	258	3577	55.3	47.62	62.80	27	416	6.4	4.68	8.81
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	148	2213	62.3	55.19	68.87	9	192	5.4	2.72	10.45
Normal (≥-2sd)	1408	21653	64.8	61.52	68.04	104	1570	4.7	3.51	6.27



Table 3.4.21 : Spending of pocket money among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Spending of pocket money									
	Saving					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	658	9724	26.2	23.46	29.11	109	1682	4.5	3.27	6.25
<b>Locality of school</b>										
Urban	190	2237	28.5	26.38	30.67	30	348	4.4	3.64	5.38
Rural	468	7488	25.6	22.30	29.15	79	1334	4.6	3.02	6.81
<b>Sex</b>										
Boys	289	4493	24.5	19.98	29.55	67	1115	6.1	3.91	9.31
Girls	369	5231	27.9	25.19	30.77	42	567	3.0	1.94	4.67
<b>Ethnicity</b>										
Malay	612	8972	26.0	23.12	29.15	97	1505	4.4	3.03	6.24
Chinese	34	544	30.4	25.73	35.59	8	135	7.5	5.02	11.20
Indian	3	51	21.0	5.81	53.36	3	21	8.6	1.77	33.07
Bumiputera Sabah										
Bumiputera Sarawak										
Others	9	158	25.7	19.82	32.64	1	21	3.5	1.00	11.52
<b>School level</b>										
Primary school	219	2717	25.4	21.43	29.93	28	346	3.2	2.96	3.55
Secondary school	439	7007	26.5	23.11	30.17	81	1336	5.0	3.42	7.41
<b>Class</b>										
Standard 4	71	998	27.6	17.19	41.16	11	124	3.4	2.44	4.83
Standard 5	83	1111	32.5	28.42	36.83	12	101	3.0	0.99	8.53
Standard 6	65	608	16.7	7.42	33.40	5	121	3.3	1.48	7.27
Form 1	95	1335	25.8	20.46	31.94	11	154	3.0	1.50	5.83
Form 2	92	1678	30.4	23.44	38.31	14	285	5.2	2.48	10.39
Form 3	82	1327	24.3	19.51	29.91	13	188	3.4	1.64	7.09
Form 4	73	1245	23.5	15.62	33.87	12	238	4.5	1.94	10.11
Form 5	97	1422	28.4	23.68	33.66	31	471	9.4	5.97	14.51
<b>School session</b>										
Morning session	302	4689	25.5	21.81	29.55	51	761	4.1	3.10	5.50
Evening session	3	22	11.8	2.28	43.61	3	35	18.7	4.85	50.80
Morning and evening session	349	4964	26.8	23.95	29.96	55	886	4.8	2.75	8.23
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	27	384	20.1	14.46	27.35	8	89	4.7	1.72	12.14
Normal ( $\geq$ -2sd - $\leq$ +1sd)	387	5686	24.7	21.04	28.73	52	791	3.4	2.30	5.09
Overweight ( $>$ +1sd - $\leq$ +2sd)	110	1524	27.6	23.65	31.84	19	371	6.7	4.09	10.83
Obese ( $>$ +2sd)	131	2076	32.1	24.36	41.03	28	394	6.1	3.52	10.37
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	58	958	27.0	22.75	31.62	10	191	5.4	3.01	9.42
Normal ( $\geq$ -2sd)	597	8713	26.1	23.18	29.24	97	1455	4.4	3.12	6.06

Table 3.4.22 : Prevalence of eating out in a week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Frequency of eating out in a week									
	7 times or more					4 to 6 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	125	1638	4.3	3.24	5.76	390	5941	15.7	13.37	18.34
<b>Locality of school</b>										
Urban	57	539	6.7	4.20	10.62	144	1593	19.9	16.79	23.37
Rural	68	1099	3.7	2.66	5.08	246	4348	14.6	11.88	17.76
<b>Sex</b>										
Boys	74	978	5.2	3.64	7.36	203	3219	17.1	14.67	19.83
Girls	51	660	3.5	2.21	5.41	187	2722	14.3	11.35	17.90
<b>Ethnicity</b>										
Malay	120	1530	4.4	3.21	5.88	367	5543	15.8	13.25	18.70
Chinese	4	83	4.6	3.56	5.80	15	250	13.6	10.15	18.07
Indian						2	43	16.6	3.22	54.25
Bumiputera Sabah										
Bumiputera Sarawak						1	7	23.6	1.46	86.52
Others	1	25	4.0	1.14	13.08	5	99	16.2	7.05	32.94
<b>School level</b>										
Primary school	72	761	6.9	4.30	11.01	157	2106	19.2	17.08	21.54
Secondary school	53	877	3.3	2.30	4.61	233	3835	14.3	11.81	17.14
<b>Class</b>										
Standard 4	37	345	9.3	6.30	13.51	64	822	22.2	17.41	27.76
Standard 5	20	215	6.1	1.84	18.15	51	675	19.0	16.69	21.45
Standard 6	15	201	5.4	3.28	8.86	42	609	16.5	14.29	18.95
Form 1	15	229	4.3	2.31	7.78	41	588	11.0	7.46	15.82
Form 2	13	260	4.6	2.32	8.97	55	1004	17.8	13.33	23.37
Form 3	8	133	2.4	1.38	4.17	43	752	13.6	8.62	20.77
Form 4	4	68	1.3	0.41	3.97	45	777	14.6	10.68	19.75
Form 5	13	186	3.7	2.01	6.67	49	714	14.2	10.35	19.13
<b>School session</b>										
Morning session	64	799	4.3	2.72	6.63	184	2908	15.5	12.19	19.56
Evening session	2	22	9.4	1.87	36.27	9	107	46.1	23.42	70.49
Morning and evening session	58	812	4.3	3.12	5.93	197	2926	15.6	12.91	18.62
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	8	101	5.1	2.15	11.47	14	224	11.2	4.85	23.91
Normal (≥-2sd - ≤+1sd)	65	745	3.2	1.99	5.03	245	3998	17.0	13.40	21.43
Overweight (>+1sd - ≤+2sd)	22	360	6.4	3.72	10.80	54	706	12.5	8.80	17.59
Obese (>+2sd)	30	432	6.6	4.22	10.05	77	1013	15.4	11.55	20.17
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	3	44	1.2	0.30	4.98	40	650	18.3	13.20	24.69
Normal (≥-2sd)	122	1594	4.7	3.54	6.14	350	5291	15.5	13.22	18.11

Table 3.4.22 : Prevalence of eating out in a week among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Frequency of eating out in a week									
	1 to 3 times					Never				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1743	26529	70.1	67.74	72.36	225	3738	9.9	7.89	12.29
<b>Locality of school</b>										
Urban	476	5408	67.5	62.24	72.29	38	475	5.9	4.65	7.53
Rural	1267	21121	70.8	68.12	73.35	187	3262	10.9	8.66	13.72
<b>Sex</b>										
Boys	768	12863	68.3	65.20	71.27	96	1769	9.4	7.42	11.82
Girls	975	13666	71.9	68.73	74.80	129	1968	10.4	7.47	14.17
<b>Ethnicity</b>										
Malay	1625	24601	70.1	67.51	72.49	206	3441	9.8	7.65	12.47
Chinese	76	1328	72.4	69.98	74.75	11	172	9.4	7.10	12.30
Indian	17	189	73.6	41.34	91.66	2	25	9.9	2.21	34.73
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54					
Others	24	390	63.6	54.00	72.15	6	100	16.3	8.23	29.58
<b>School level</b>										
Primary school	545	7213	65.8	63.68	67.84	50	884	8.1	5.78	11.15
Secondary school	1198	19316	71.9	69.75	73.87	175	2853	10.6	8.04	13.89
<b>Class</b>										
Standard 4	199	2197	59.2	52.97	65.19	21	346	9.3	5.64	15.05
Standard 5	162	2316	65.0	55.22	73.74	16	354	9.9	5.63	16.97
Standard 6	184	2701	73.1	68.21	77.47	13	184	5.0	3.01	8.15
Form 1	278	4047	75.4	69.15	80.68	36	505	9.4	5.59	15.41
Form 2	207	3864	68.5	63.50	73.10	27	512	9.1	5.79	13.97
Form 3	248	3958	71.5	62.57	79.09	44	689	12.5	8.50	17.89
Form 4	215	3762	70.9	65.95	75.44	38	697	13.2	8.64	19.52
Form 5	250	3686	73.2	68.96	77.05	30	449	8.9	5.83	13.44
<b>School session</b>										
Morning session	842	12979	69.2	66.91	71.49	120	2056	11.0	7.57	15.65
Evening session	8	81	35.2	16.56	59.79	1	21	9.3	2.27	31.18
Morning and evening session	890	13433	71.4	67.33	75.15	103	1644	8.7	7.08	10.75
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	97	1415	71.1	59.88	80.18	13	252	12.6	8.10	19.19
Normal (≥-2sd - ≤+1sd)	1069	16355	69.7	65.60	73.53	134	2363	10.1	8.01	12.59
Overweight (>+1sd - ≤+2sd)	262	3983	70.8	66.51	74.78	39	576	10.2	6.02	16.87
Obese (>+2sd)	306	4618	70.0	64.11	75.37	38	530	8.0	4.71	13.36
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	163	2550	71.6	64.14	78.08	19	316	8.9	5.48	14.08
Normal (≥-2sd)	1572	23829	69.8	67.20	72.36	205	3403	10.0	7.94	12.46

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Table 3.4.23 : Prevalence of consuming snack food in a week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

	7 times or more					4 to 6 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	208	3277	8.7	6.82	10.93	676	10501	27.7	25.08	30.56
<b>Locality of school</b>										
Urban	56	575	7.1	5.90	8.63	186	2178	27.1	23.26	31.28
Rural	152	2702	9.1	6.88	11.84	490	8323	27.9	24.73	31.34
<b>Sex</b>										
Boys	102	1511	8.0	6.46	9.93	323	5469	29.0	25.58	32.77
Girls	106	1766	9.3	6.29	13.50	353	5032	26.4	22.83	30.42
<b>Ethnicity</b>										
Malay	194	3058	8.7	6.81	11.07	639	9886	28.2	25.42	31.05
Chinese	7	112	6.0	2.87	12.31	24	432	23.4	19.24	28.23
Indian	4	44	17.0	3.90	50.87	7	88	34.4	19.79	52.68
Bumiputera Sabah										
Bumiputera Sarawak						1	7	23.6	1.46	86.52
Others	3	64	10.4	4.05	24.18	5	88	14.4	9.48	21.27
<b>School level</b>										
Primary school	86	1321	12.2	10.01	14.72	181	2431	22.4	17.86	27.70
Secondary school	122	1956	7.2	5.78	9.03	495	8070	29.9	27.19	32.73
<b>Class</b>										
Standard 4	39	448	12.3	10.15	14.92	71	850	23.4	18.80	28.72
Standard 5	27	518	14.6	10.56	19.84	56	894	25.2	16.92	35.72
Standard 6	20	354	9.6	7.56	12.23	54	687	18.7	14.45	23.91
Form 1	25	380	7.0	4.69	10.46	105	1506	27.9	22.76	33.72
Form 2	24	451	8.0	5.41	11.65	85	1587	28.1	22.74	34.24
Form 3	28	426	7.7	4.84	12.04	118	1906	34.5	29.51	39.75
Form 4	18	314	5.9	3.67	9.30	94	1678	31.4	25.98	37.42
Form 5	27	385	7.6	4.87	11.54	93	1393	27.3	23.44	31.63
<b>School session</b>										
Morning session	114	1710	9.1	6.98	11.79	329	5183	27.6	23.71	31.88
Evening session	2	14	6.0	1.10	26.53	5	40	16.3	7.57	31.58
Morning and evening session	92	1552	8.3	5.92	11.42	341	5263	28.0	25.54	30.65
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	9	144	7.2	3.60	13.91	34	540	27.1	19.42	36.50
Normal (≥-2sd - ≤+1sd)	118	1846	7.9	6.38	9.65	438	6894	29.3	25.97	32.97
Overweight (>+1sd - ≤+2sd)	39	603	10.7	7.11	15.80	95	1470	26.1	21.75	30.94
Obese (>+2sd)	41	666	10.2	6.31	15.97	107	1561	23.8	19.83	28.38
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	16	339	9.5	4.50	18.96	65	977	27.4	18.37	38.76
Normal (≥-2sd)	191	2920	8.6	7.04	10.37	609	9488	27.8	25.07	30.74

Table 3.4.23 : Prevalence of consuming snack food in a week among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Frequency of consuming snack foods per week									
	1-3 times					Never				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>Perlis</b>	1539	23188	61.3	58.87	63.58	62	892	2.4	1.50	3.67
<b>Locality of school</b>										
Urban	460	5065	63.0	59.52	66.30	15	225	2.8	1.32	5.83
Rural	1079	18123	60.8	57.94	63.56	47	667	2.2	1.32	3.77
<b>Sex</b>										
Boys	676	11227	59.6	56.18	62.97	43	625	3.3	2.15	5.10
Girls	863	11961	62.9	58.16	67.34	19	267	1.4	0.72	2.69
<b>Ethnicity</b>										
Malay	1436	21504	61.2	58.71	63.71	50	668	1.9	1.16	3.12
Chinese	68	1157	62.7	59.36	65.91	8	144	7.8	5.68	10.69
Indian	9	108	41.9	19.89	67.77	1	17	6.7	1.12	30.97
Bumiputera Sabah										
Bumiputera Sarawak						1	21	76.4	13.48	98.54
Others	26	420	68.6	57.35	77.95	2	41	6.6	2.83	14.84
<b>School level</b>										
Primary school	525	6850	63.1	59.29	66.77	26	252	2.3	0.63	8.23
Secondary school	1014	16338	60.5	57.46	63.47	36	639	2.4	1.66	3.36
<b>Class</b>										
Standard 4	200	2255	62.1	58.01	65.95	9	80	2.2	0.43	10.50
Standard 5	154	2031	57.2	47.40	66.45	11	108	3.0	0.93	9.47
Standard 6	171	2564	69.9	64.72	74.57	6	64	1.8	0.49	6.04
Form 1	234	3390	62.8	56.21	68.99	8	120	2.2	0.85	5.66
Form 2	184	3420	60.6	53.47	67.35	9	183	3.2	1.54	6.70
Form 3	188	3030	54.8	48.94	60.49	9	170	3.1	1.64	5.69
Form 4	188	3280	61.4	56.21	66.34	4	69	1.3	0.34	4.87
Form 5	220	3218	63.2	58.07	68.03	6	97	1.9	0.81	4.44
<b>School session</b>										
Morning session	728	11258	60.0	56.12	63.68	41	624	3.3	2.11	5.19
Evening session	12	157	64.8	43.50	81.50	2	31	13.0	4.09	34.21
Morning and evening session	795	11731	62.5	59.58	65.25	19	236	1.3	0.65	2.40
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	80	1211	60.8	54.30	66.96	9	97	4.9	1.88	11.98
Normal (≥-2sd - ≤+1sd)	925	14197	60.4	57.14	63.64	33	554	2.4	1.39	3.96
Overweight (>+1sd - ≤+2sd)	237	3482	61.8	55.81	67.42	6	81	1.4	0.57	3.55
Obese (>+2sd)	291	4196	64.1	59.90	68.05	12	125	1.9	0.91	3.97
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	137	2159	60.6	52.42	68.14	7	91	2.5	1.12	5.69
Normal (≥-2sd)	1397	20934	61.4	58.88	63.81	53	765	2.2	1.42	3.52

Table 3.4.24 : Type of snack foods usually consumed among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of snack foods									
	Bread/ bun/ sandwich					French fries				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	906	13743	36.2	32.76	39.88	380	5570	14.7	12.20	17.59
<b>Locality of school</b>										
Urban	272	3220	40.0	32.99	47.46	143	1629	20.2	15.80	25.55
Rural	634	10524	35.2	31.64	39.00	237	3941	13.2	10.71	16.15
<b>Sex</b>										
Boys	391	6546	34.7	30.07	39.64	166	2601	13.8	11.18	16.88
Girls	515	7197	37.8	34.28	41.40	214	2969	15.6	12.15	19.77
<b>Ethnicity</b>										
Malay	854	12895	36.7	32.94	40.55	360	5226	14.9	12.16	18.04
Chinese	30	511	27.7	17.76	40.39	14	254	13.8	11.24	16.79
Indian	10	122	47.6	24.88	71.41	1	7	2.6	0.31	18.18
Bumiputera Sabah										
Bumiputera Sarawak										
Others	12	216	35.2	23.49	49.05	5	83	13.5	6.02	27.60
<b>School level</b>										
Primary school	249	3179	29.0	27.26	30.87	148	1885	17.2	14.75	20.00
Secondary school	657	10565	39.2	36.24	42.18	232	3685	13.7	10.45	17.67
<b>Class</b>										
Standard 4	102	1172	31.6	29.79	33.38	40	484	13.0	10.43	16.15
Standard 5	75	962	27.2	21.70	33.49	56	719	20.3	15.76	25.79
Standard 6	72	1044	28.3	25.85	30.79	52	682	18.5	15.14	22.30
Form 1	127	1826	33.9	28.74	39.55	59	852	15.8	12.06	20.52
Form 2	106	1958	34.7	28.39	41.63	34	622	11.0	7.78	15.42
Form 3	146	2396	43.3	36.78	50.10	37	589	10.6	7.17	15.51
Form 4	119	2061	38.7	32.96	44.81	49	857	16.1	10.41	24.07
Form 5	159	2323	45.6	38.18	53.25	53	764	15.0	9.96	21.99
<b>School session</b>										
Morning session	431	6774	36.1	32.82	39.49	179	2897	15.4	11.38	20.60
Evening session	7	57	23.5	7.04	55.36	2	38	15.9	5.29	38.86
Morning and evening session	466	6889	36.6	31.35	42.08	197	2621	13.9	10.45	18.27
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	55	896	45.0	34.63	55.84	23	289	14.5	7.44	26.45
Normal (≥-2sd - ≤+1sd)	569	8616	36.6	31.44	42.19	220	3335	14.2	11.23	17.77
Overweight (>+1sd - ≤+2sd)	124	1978	35.1	28.60	42.15	62	862	15.3	11.89	19.44
Obese (>+2sd)	155	2199	33.4	28.62	38.54	73	1057	16.1	12.16	20.89
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	75	1227	34.4	28.51	40.82	30	386	10.8	5.98	18.75
Normal (≥-2sd)	828	12462	36.5	32.73	40.39	349	5166	15.1	12.47	18.22

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Table 3.4.24 : Type of snack foods usually consumed among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of snack foods									
	Biscuit					Fruits				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	509	7983	21.1	16.16	26.96	492	7425	19.6	17.49	21.86
<b>Locality of school</b>										
Urban	110	1339	16.6	13.55	20.26	139	1452	18.0	14.09	22.82
Rural	399	6644	22.2	16.22	29.71	353	5972	20.0	17.64	22.57
<b>Sex</b>										
Boys	186	3166	16.8	13.58	20.56	219	3487	18.5	15.44	21.97
Girls	323	4816	25.3	17.80	34.58	273	3938	20.7	17.30	24.49
<b>Ethnicity</b>										
Malay	473	7350	20.9	15.66	27.31	442	6586	18.7	17.06	20.51
Chinese	32	578	31.3	26.62	36.43	33	556	30.1	19.62	43.23
Indian	4	55	21.5	11.85	35.81	6	81	31.6	12.66	59.51
Bumiputera Sabah										
Bumiputera Sarawak										
Others						11	202	33.0	23.40	44.18
<b>School level</b>										
Primary school	108	1533	14.0	11.65	16.73	185	2424	22.1	19.33	25.24
Secondary school	401	6450	23.9	17.70	31.48	307	5001	18.5	15.93	21.48
<b>Class</b>										
Standard 4	51	516	13.9	8.95	20.96	73	710	19.1	14.23	25.17
Standard 5	24	508	14.4	7.18	26.69	58	977	27.6	21.48	34.70
Standard 6	33	508	13.7	9.86	18.86	54	737	20.0	15.83	24.84
Form 1	79	1145	21.3	13.74	31.45	74	1071	19.9	16.49	23.82
Form 2	84	1553	27.5	20.41	36.00	51	979	17.3	12.67	23.29
Form 3	79	1209	21.9	14.45	31.68	58	931	16.8	12.97	21.54
Form 4	79	1395	26.2	18.19	36.16	68	1212	22.8	18.27	28.00
Form 5	80	1148	22.6	14.95	32.54	56	808	15.9	12.69	19.66
<b>School session</b>										
Morning session	288	4581	24.4	16.51	34.52	256	4031	21.5	17.87	25.58
Evening session	4	65	26.7	13.34	46.34	5	44	18.3	4.40	52.06
Morning and evening session	216	3321	17.6	14.79	20.86	229	3321	17.6	15.75	19.66
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	24	332	16.6	9.66	27.17	26	424	21.3	15.40	28.68
Normal ( $\geq$ -2sd - $\leq$ +1sd)	306	4876	20.7	15.71	26.88	282	4336	18.4	16.48	20.58
Overweight (>+1sd - $\leq$ +2sd)	81	1223	21.7	13.51	32.92	96	1458	25.9	20.68	31.80
Obese (>+2sd)	97	1534	23.3	18.15	29.37	87	1189	18.1	14.67	22.02
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	51	716	20.1	11.27	33.18	49	746	20.9	15.15	28.11
Normal ( $\geq$ -2sd)	457	7248	21.2	16.45	26.92	442	6661	19.5	17.35	21.85

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Table 3.4.24 : Type of snack foods usually consumed among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of snack foods									
	Nuts					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	76	1015	2.7	2.08	3.44	436	6633	17.5	15.69	19.45
<b>Locality of school</b>										
Urban	25	272	3.4	2.67	4.28	141	1484	18.4	15.31	22.03
Rural	51	742	2.5	1.82	3.39	295	5149	17.2	15.11	19.60
<b>Sex</b>										
Boys	43	533	2.8	1.80	4.41	201	3412	18.1	14.80	21.91
Girls	33	481	2.5	1.86	3.41	235	3221	16.9	14.68	19.39
<b>Ethnicity</b>										
Malay	69	903	2.6	1.94	3.40	417	6361	18.1	16.22	20.11
Chinese	3	46	2.5	0.92	6.61	9	150	8.1	5.69	11.47
Indian	1	13	5.1	0.52	35.20	4	37	14.3	5.68	31.48
Bumiputera Sabah										
Bumiputera Sarawak	2	28	100.0	0.00	100.00					
Others	1	24	3.9	1.12	12.76	6	85	13.9	8.10	22.78
<b>School level</b>										
Primary school	32	299	2.7	1.40	5.25	141	1972	18.0	14.55	22.08
Secondary school	44	716	2.7	2.11	3.34	295	4661	17.3	15.31	19.46
<b>Class</b>										
Standard 4	9	106	2.9	1.99	4.08	56	568	15.3	11.76	19.65
Standard 5	12	85	2.4	0.67	8.26	35	498	14.1	10.42	18.74
Standard 6	11	108	2.9	0.82	9.86	50	905	24.5	15.98	35.66
Form 1	9	125	2.3	1.32	4.06	76	1102	20.5	17.35	24.03
Form 2	12	230	4.1	2.07	7.88	43	789	14.0	10.62	18.18
Form 3	6	87	1.6	0.66	3.69	75	1178	21.3	16.99	26.33
Form 4	7	121	2.3	0.87	5.84	42	734	13.8	10.17	18.41
Form 5	10	153	3.0	1.65	5.39	59	859	16.9	12.18	22.89
<b>School session</b>										
Morning session	29	406	2.2	1.56	2.99	211	3139	16.7	14.31	19.44
Evening session	3	28	11.4	2.26	41.79	1	21	8.8	2.03	31.27
Morning and evening session	44	581	3.1	2.35	4.04	223	3468	18.4	15.54	21.65
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	14	0.7	0.09	5.22	20	305	15.3	8.79	25.35
Normal (≥-2sd - ≤+1sd)	46	637	2.7	2.02	3.63	282	4377	18.6	16.68	20.73
Overweight (>+1sd - ≤+2sd)	13	155	2.7	1.49	5.01	62	1001	17.8	14.28	21.88
Obese (>+2sd)	14	173	2.6	1.51	4.53	71	926	14.1	10.29	18.90
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	7	88	2.5	1.02	5.84	47	903	25.3	16.61	36.60
Normal (≥-2sd)	67	891	2.6	2.05	3.32	388	5706	16.7	14.95	18.61



**Table 3.4.24 : Type of snack foods usually consumed among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Type of snack foods				
	Count	Estimated Population	Percentage (%)	Ice cream	
				Lower	Upper
<b>Perlis</b>	306	4544	12.0	10.22	14.00
<b>Locality of school</b>					
Urban	85	856	10.6	7.71	14.50
Rural	221	3688	12.3	10.35	14.67
<b>Sex</b>					
Boys	130	2218	11.8	9.11	15.04
Girls	176	2326	12.2	9.80	15.11
<b>Ethnicity</b>					
Malay	276	4026	11.4	9.90	13.19
Chinese	22	394	21.3	11.97	35.11
Indian	1	15	5.7	0.67	35.28
Bumiputera Sabah					
Bumiputera Sarawak					
Others	7	110	17.9	12.80	24.46
<b>School level</b>					
Primary school	121	1511	13.8	11.90	15.95
Secondary school	185	3033	11.2	9.00	13.96
<b>Class</b>					
Standard 4	43	552	14.9	12.48	17.60
Standard 5	39	522	14.8	10.48	20.37
Standard 6	39	437	11.8	6.50	20.56
Form 1	33	474	8.8	6.38	12.07
Form 2	43	818	14.5	10.65	19.42
Form 3	42	633	11.4	7.02	18.13
Form 4	32	592	11.1	7.58	16.05
Form 5	35	515	10.1	7.02	14.36
<b>School session</b>					
Morning session	152	2185	11.6	9.25	14.54
Evening session					
Morning and evening session	154	2359	12.5	10.52	14.83
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	14	351	17.6	6.24	40.67
Normal ( $\geq-2sd$ - $\leq+1sd$ )	187	2672	11.4	9.27	13.86
Overweight ( $>+1sd$ - $\leq+2sd$ )	53	742	13.2	9.87	17.32
Obese ( $>+2sd$ )	51	756	11.5	8.90	14.69
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	24	430	12.1	6.38	21.65
Normal ( $\geq-2sd$ )	281	4090	12.0	9.97	14.31

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Table 3.4.25 : Prevalence of snack food and/or drinks usually bought out of school area in a week among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	frequency of bought snack food and/or drink out of school area in a week									
	5 times or more					1 to 4 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	304	4762	12.5	8.79	17.60	1544	23586	62.1	55.03	68.78
<b>Locality of school</b>										
Urban	78	791	9.8	5.64	16.52	480	5338	66.3	61.49	70.72
Rural	226	3971	13.3	8.91	19.35	1064	18248	61.0	52.03	69.35
<b>Sex</b>										
Boys	164	2831	15.0	10.40	21.17	712	11774	62.4	57.02	67.50
Girls	140	1931	10.1	6.92	14.56	832	11812	61.9	50.98	71.73
<b>Ethnicity</b>										
Malay	285	4413	12.5	8.67	17.77	1451	22097	62.8	55.11	69.82
Chinese	11	219	11.9	3.29	34.74	56	935	50.7	49.51	51.87
Indian	2	14	5.4	0.63	33.55	12	166	64.7	28.65	89.33
Bumiputera Sabah										
Bumiputera Sarawak						1	7	23.6	1.46	86.52
Others	6	117	19.0	10.41	32.27	24	381	62.1	53.46	70.11
<b>School level</b>										
Primary school	157	2264	20.6	16.98	24.84	551	7584	69.1	62.53	75.03
Secondary school	147	2498	9.3	6.19	13.64	993	16002	59.3	50.92	67.19
<b>Class</b>										
Standard 4	63	714	19.2	16.77	21.91	211	2610	70.3	64.55	75.41
Standard 5	49	776	21.8	18.47	25.60	165	2415	68.0	55.13	78.56
Standard 6	45	774	20.9	13.50	30.95	175	2558	69.1	64.15	73.63
Form 1	53	806	15.0	9.15	23.48	226	3271	60.7	50.95	69.60
Form 2	37	713	12.6	6.46	23.29	187	3521	62.4	51.62	72.12
Form 3	27	476	8.6	4.56	15.67	222	3509	63.4	51.24	74.13
Form 4	15	266	5.0	2.65	9.25	171	2986	56.1	45.27	66.37
Form 5	15	235	4.6	2.87	7.38	187	2714	53.3	42.48	63.80
<b>School session</b>										
Morning session	153	2424	12.9	8.52	19.03	695	10774	57.3	48.22	65.87
Evening session	8	98	40.2	19.60	64.95	13	145	59.8	35.05	80.40
Morning and evening session	143	2240	11.9	7.62	18.09	832	12625	67.0	59.22	73.97
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	19	309	15.5	10.52	22.35	81	1262	63.4	51.08	74.13
Normal (≥-2sd - ≤+1sd)	192	3069	13.0	9.07	18.41	933	14547	61.8	54.34	68.81
Overweight (>+1sd - ≤+2sd)	37	567	10.0	5.84	16.71	236	3504	62.1	53.22	70.21
Obese (>+2sd)	56	817	12.4	8.24	18.19	288	4175	63.3	54.75	71.04
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	31	567	15.9	10.52	23.21	141	2218	62.0	50.17	72.64
Normal (≥-2sd)	273	4195	12.3	8.54	17.31	1398	21279	62.2	55.44	68.57

**Table 3.4.25 : Prevalence of snack food and/or drinks usually bought out of school area in a week among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	snack food and/ or drinks usually bought out of school area in a week				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	643	9604	25.3	16.54	36.68
<b>Locality of school</b>					
Urban	161	1928	23.9	17.28	32.14
Rural	482	7676	25.7	15.04	40.27
<b>Sex</b>					
Boys	268	4262	22.6	14.77	32.95
Girls	375	5342	28.0	16.75	42.89
<b>Ethnicity</b>					
Malay	589	8700	24.7	15.55	36.90
Chinese	40	691	37.4	24.60	52.34
Indian	7	77	29.9	7.47	69.33
Bumiputera Sabah					
Bumiputera Sarawak	1	21	76.4	13.48	98.54
Others	6	115	18.8	12.63	27.10
<b>School level</b>					
Primary school	117	1123	10.2	4.09	23.38
Secondary school	526	8481	31.4	22.20	42.42
<b>Class</b>					
Standard 4	48	391	10.5	6.19	17.32
Standard 5	34	363	10.2	2.97	29.67
Standard 6	35	370	10.0	2.92	29.02
Form 1	93	1315	24.4	14.18	38.61
Form 2	78	1406	24.9	14.99	38.47
Form 3	94	1546	27.9	17.41	41.64
Form 4	117	2071	38.9	28.62	50.29
Form 5	144	2143	42.1	31.78	53.12
<b>School session</b>					
Morning session	368	5613	29.8	18.88	43.73
Evening session					
Morning and evening session	274	3975	21.1	12.04	34.32
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	32	420	21.1	11.86	34.70
Normal (≥-2sd - ≤+1sd)	393	5908	25.1	16.16	36.85
Overweight (>+1sd - ≤+2sd)	105	1574	27.9	17.48	41.37
Obese (>+2sd)	108	1607	24.3	16.08	35.09
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	54	790	22.1	11.58	38.04
Normal (≥-2sd)	584	8719	25.5	16.93	36.50

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Table 3.4.26 : Type of snack food and/ or drinks usually bought out of school area among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of food/ drinks									
	Candy/chocolate					French fries/nugget/sausage				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	250	4168	11.0	6.83	17.27	557	8420	22.2	18.77	26.15
<b>Locality of school</b>										
Urban	88	905	11.2	8.98	13.99	181	2084	25.9	23.08	28.89
Rural	162	3262	10.9	5.94	19.30	376	6336	21.3	17.06	26.16
<b>Sex</b>										
Boys	111	1977	10.5	6.82	15.86	245	4253	22.6	18.22	27.71
Girls	139	2190	11.5	6.63	19.20	312	4167	21.9	16.95	27.75
<b>Ethnicity</b>										
Malay	232	3874	11.0	6.62	17.83	519	7797	22.2	18.47	26.45
Chinese	9	159	8.6	5.30	13.75	25	418	22.7	18.65	27.27
Indian	4	44	17.1	6.81	36.80	5	68	26.7	8.38	59.08
Bumiputera Sabah										
Bumiputera Sarawak										
Others	5	90	14.8	8.08	25.41	8	136	22.2	17.34	27.88
<b>School level</b>										
Primary school	119	2117	19.4	12.43	29.08	207	2809	25.8	23.74	27.94
Secondary school	131	2050	7.6	5.32	10.76	350	5611	20.8	16.43	26.00
<b>Class</b>										
Standard 4	62	1024	27.6	16.20	42.95	67	856	23.1	18.43	28.47
Standard 5	24	294	8.4	5.80	12.14	61	889	25.6	22.27	29.15
Standard 6	33	799	21.6	11.82	36.10	79	1063	28.7	23.34	34.77
Form 1	34	466	8.6	4.59	15.65	60	859	15.9	11.44	21.71
Form 2	23	443	7.9	4.18	14.31	53	995	17.6	12.16	24.89
Form 3	26	389	7.0	3.61	13.23	83	1353	24.5	17.45	33.15
Form 4	19	328	6.2	3.66	10.19	65	1125	21.1	14.84	29.17
Form 5	29	425	8.4	5.65	12.22	89	1279	25.2	16.11	37.18
<b>School session</b>										
Morning session	112	1587	8.4	6.54	10.85	267	4202	22.4	17.31	28.38
Evening session	6	70	28.9	11.57	55.76	6	80	33.2	19.33	50.65
Morning and evening session	132	2511	13.4	6.98	24.11	283	4132	22.0	18.36	26.16
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	13	240	12.0	5.11	25.81	28	389	19.5	13.95	26.65
Normal (≥-2sd - ≤+1sd)	178	2921	12.4	8.08	18.64	337	5250	22.3	18.22	27.08
Overweight (>+1sd - ≤+2sd)	28	331	6.0	3.30	10.55	86	1333	24.0	16.92	32.84
Obese (>+2sd)	31	676	10.2	4.02	23.61	106	1447	21.9	16.90	27.83
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	35	745	21.0	9.90	39.23	47	705	19.9	13.81	27.79
Normal (≥-2sd)	215	3423	10.0	6.60	14.94	510	7715	22.6	19.13	26.51

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Table 3.4.26 : Type of snack food and/ or drinks usually bought out of school area among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of snack food/ drinks									
	Flavoured drink/carbonated drink					Pickles				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	878	12727	33.6	27.59	40.23	61	743	2.0	1.17	3.27
<b>Locality of school</b>										
Urban	256	2992	37.2	33.44	41.04	21	233	2.9	1.32	6.25
Rural	622	9735	32.7	25.40	40.86	40	510	1.7	0.93	3.14
<b>Sex</b>										
Boys	409	6291	33.4	26.88	40.73	36	432	2.3	1.26	4.16
Girls	469	6436	33.8	26.67	41.72	25	311	1.6	0.95	2.80
<b>Ethnicity</b>										
Malay	823	11836	33.7	27.27	40.81	60	725	2.1	1.22	3.47
Chinese	35	610	33.1	26.04	40.93	1	18	1.0	0.13	7.05
Indian	2	21	8.3	2.48	24.12					
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52					
Others	17	253	41.3	18.33	68.83					
<b>School level</b>										
Primary school	269	2817	25.9	17.75	36.06	29	217	2.0	0.63	6.09
Secondary school	609	9909	36.7	30.99	42.91	32	526	2.0	1.12	3.39
<b>Class</b>										
Standard 4	97	882	23.8	15.41	34.80	13	90	2.4	0.67	8.49
Standard 5	84	845	24.3	13.24	40.24	9	68	2.0	0.57	6.51
Standard 6	88	1091	29.5	21.63	38.74	7	58	1.6	0.30	7.76
Form 1	153	2232	41.4	31.73	51.74	12	189	3.5	1.91	6.33
Form 2	124	2338	41.4	33.04	50.38	7	135	2.4	0.70	7.93
Form 3	135	2159	39.0	31.43	47.20	7	102	1.8	0.80	4.20
Form 4	105	1853	34.8	27.47	42.92	3	49	0.9	0.31	2.69
Form 5	92	1327	26.2	19.47	34.16	3	50	1.0	0.32	2.95
<b>School session</b>										
Morning session	393	5942	31.6	25.34	38.66	26	384	2.0	1.09	3.78
Evening session	3	29	11.8	2.36	42.72	3	33	13.8	7.89	22.94
Morning and evening session	479	6720	35.8	28.13	44.28	32	326	1.7	0.93	3.23
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	41	624	31.3	20.75	44.30	4	45	2.3	0.72	6.92
Normal (≥-2sd - ≤+1sd)	526	7529	32.0	24.33	40.88	36	457	1.9	1.07	3.50
Overweight (>+1sd - ≤+2sd)	135	1935	34.8	27.12	43.38	10	135	2.4	1.01	5.69
Obese (>+2sd)	175	2621	39.6	33.37	46.23	11	106	1.6	0.76	3.34
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	75	1046	29.5	18.01	44.43	5	49	1.4	0.47	3.92
Normal (≥-2sd)	802	11663	34.2	28.56	40.26	56	694	2.0	1.22	3.38

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Table 3.4.26 : Type of snack food and/ or drinks usually bought out of school area among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Type of food/ drink									
	Snack food					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	157	2437	6.4	5.42	7.63	155	2917	7.7	4.83	12.08
<b>Locality of school</b>										
Urban	39	420	5.2	3.44	7.86	37	360	4.5	2.86	6.93
Rural	118	2017	6.8	5.64	8.09	118	2556	8.6	5.22	13.78
<b>Sex</b>										
Boys	62	978	5.2	3.88	6.93	73	1510	8.0	5.08	12.46
Girls	95	1459	7.7	6.26	9.34	82	1407	7.4	4.39	12.16
<b>Ethnicity</b>										
Malay	139	2150	6.1	5.21	7.18	147	2769	7.9	4.86	12.55
Chinese	11	194	10.5	4.15	24.10					
Indian	3	35	13.7	4.71	33.92	2	30	11.8	2.94	37.12
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52	1	21	76.4	13.48	98.54
Others	3	52	8.4	3.01	21.46	5	96	15.7	7.16	30.98
<b>School level</b>										
Primary school	49	682	6.3	5.06	7.71	65	1401	12.9	7.46	21.27
Secondary school	108	1756	6.5	5.21	8.11	90	1516	5.6	4.13	7.60
<b>Class</b>										
Standard 4	16	216	5.8	4.83	7.03	21	187	5.0	2.90	8.64
Standard 5	13	210	6.0	4.61	7.84	26	893	25.7	9.55	53.01
Standard 6	20	255	6.9	4.31	10.88	18	321	8.7	6.21	11.95
Form 1	21	305	5.7	3.68	8.59	18	278	5.1	2.49	10.35
Form 2	17	331	5.9	3.56	9.50	23	438	7.8	4.08	14.26
Form 3	20	319	5.8	3.69	8.90	18	298	5.4	3.04	9.37
Form 4	24	427	8.0	4.40	14.19	16	285	5.4	3.22	8.77
Form 5	26	374	7.4	5.61	9.61	15	217	4.3	2.27	7.92
<b>School session</b>										
Morning session	90	1405	7.5	5.79	9.61	77	1584	8.4	5.00	13.87
Evening session	1	7	2.7	0.29	21.31					
Morning and evening session	66	1026	5.5	4.78	6.24	78	1333	7.1	4.54	10.95
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	12	195	9.8	4.27	20.95	6	93	4.7	1.90	11.11
Normal (≥-2sd - ≤+1sd)	96	1448	6.2	4.88	7.75	109	2287	9.7	5.07	17.88
Overweight (>+1sd - ≤+2sd)	20	406	7.3	4.17	12.48	20	280	5.0	2.90	8.61
Obese (>+2sd)	27	353	5.3	3.18	8.81	19	238	3.6	1.84	6.96
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	13	205	5.8	3.03	10.78	16	316	8.9	5.27	14.74
Normal (≥-2sd)	142	2196	6.4	5.46	7.58	138	2582	7.6	4.62	12.15

Table 3.4.26: Type of snack food and/ or drinks usually bought out of school area among adolescents by socio-demographic characteristics and nutritional status

Characteristics	Type of snack foods				
	Ice cream				95% CI
	Count	Estimated Population	Percentage (%)	Lower	
<b>Perlis</b>	196	2412	6.4	4.75	8.49
<b>Locality of school</b>					
Urban	68	552	6.9	3.10	14.49
Rural	128	1859	6.2	4.62	8.37
<b>Sex</b>					
Boys	94	1285	6.8	4.88	9.49
Girls	102	1126	5.9	4.23	8.21
<b>Ethnicity</b>					
Malay	181	2150	6.1	4.46	8.36
Chinese	11	195	10.6	7.95	13.93
Indian	1	15	5.7	0.67	35.28
Bumiputera Sabah					
Bumiputera Sarawak					
Others	3	52	8.5	2.96	21.88
<b>School level</b>					
Primary school	110	1022	9.4	5.35	15.94
Secondary school	86	1389	5.2	3.62	7.28
<b>Class</b>					
Standard 4	51	366	9.9	4.20	21.51
Standard 5	32	249	7.2	2.19	20.97
Standard 6	27	407	11.0	7.84	15.16
Form 1	30	441	8.2	5.55	11.87
Form 2	16	308	5.5	2.69	10.77
Form 3	16	234	4.2	2.58	6.88
Form 4	13	239	4.5	2.55	7.78
Form 5	11	167	3.3	2.05	5.27
<b>School session</b>					
Morning session	101	1340	7.1	5.47	9.24
Evening session	4	51	20.9	9.07	41.07
Morning and evening session	91	1021	5.4	3.71	7.92
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	10	164	8.3	4.20	15.57
Normal (≥-2sd - ≤+1sd)	120	1402	6.0	3.77	9.33
Overweight (>+1sd - ≤+2sd)	30	427	7.7	4.88	11.87
Obese (>+2sd)	34	392	5.9	3.48	9.93
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	20	260	7.3	4.38	12.06
Normal (≥-2sd)	175	2133	6.3	4.60	8.45

Table 3.4.27 : Media sources which affected dietary pattern among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Sources of media									
	Social media					Television				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	1013	15648	41.4	37.46	45.39	1021	15173	40.1	36.79	43.52
<b>Locality of school</b>										
Urban	282	3259	40.4	33.80	47.41	284	2927	36.3	29.55	43.65
Rural	731	12389	41.6	36.99	46.41	737	12246	41.1	37.69	44.68
<b>Sex</b>										
Boys	426	7067	37.6	33.38	42.03	446	7060	37.6	33.26	42.09
Girls	587	8581	45.1	40.40	49.85	575	8112	42.6	39.47	45.83
<b>Ethnicity</b>										
Malay	953	14621	41.7	37.54	45.93	976	14432	41.1	38.02	44.33
Chinese	40	694	37.6	29.93	45.96	21	363	19.7	11.89	30.75
Indian	6	73	28.5	14.62	48.17	10	138	53.7	30.08	75.78
Bumiputera Sabah										
Bumiputera Sarawak	2	28	100.0	0.00	100.00	1	7	23.6	1.46	86.52
Others	12	231	37.7	25.79	51.36	13	233	38.1	27.78	49.61
<b>School level</b>										
Primary school	269	3613	33.1	29.08	37.37	379	4936	45.2	43.91	46.52
Secondary school	744	12035	44.7	40.97	48.54	642	10237	38.0	34.07	42.17
<b>Class</b>										
Standard 4	100	1125	30.7	25.46	36.56	164	1715	46.8	38.35	55.53
Standard 5	88	1447	40.7	29.87	52.56	100	1364	38.4	33.56	43.42
Standard 6	81	1041	28.1	20.09	37.82	115	1858	50.2	42.80	57.52
Form 1	148	2148	39.9	32.80	47.35	151	2173	40.3	34.80	46.05
Form 2	124	2328	41.7	35.84	47.77	115	2104	37.7	30.97	44.90
Form 3	162	2571	46.8	40.63	52.97	128	2026	36.9	30.68	43.48
Form 4	136	2403	45.0	37.11	53.13	123	2153	40.3	32.63	48.46
Form 5	174	2584	50.8	44.88	56.60	125	1781	35.0	25.32	46.02
<b>School session</b>										
Morning session	507	7917	42.2	38.23	46.24	512	7647	40.7	37.51	44.07
Evening session	10	130	53.5	40.45	66.14	3	25	10.2	2.78	31.21
Morning and evening session	494	7582	40.4	34.96	46.12	504	7487	39.9	34.90	45.15
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	56	802	40.3	25.70	56.77	47	692	34.7	26.35	44.20
Normal (≥-2sd - ≤+1sd)	632	9734	41.4	36.85	46.17	638	9668	41.2	37.29	45.13
Overweight (>+1sd - ≤+2sd)	141	2229	39.6	33.44	46.14	152	2244	39.9	34.24	45.79
Obese (>+2sd)	179	2787	42.7	34.73	51.13	179	2483	38.1	33.83	42.50
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	83	1211	33.9	20.61	50.30	105	1705	47.7	40.27	55.26
Normal (≥-2sd)	925	14341	42.1	38.55	45.73	912	13390	39.3	36.07	42.64



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Table 3.4.27 : Media sources which affected dietary pattern among adolescents by socio-demographic characteristics and nutritional status (Cont..)

Characteristics	Sources of media									
	Radio					Printed media				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>Perlis</b>	81	1066	2.8	1.95	4.05	190	2731	7.2	5.90	8.81
<b>Locality of school</b>										
Urban	29	302	3.8	1.65	8.32	58	655	8.1	5.74	11.38
Rural	52	764	2.6	1.76	3.72	132	2076	7.0	5.47	8.85
<b>Sex</b>										
Boys	59	828	4.4	3.01	6.40	85	1324	7.0	5.19	9.50
Girls	22	238	1.3	0.68	2.30	105	1408	7.4	5.71	9.52
<b>Ethnicity</b>										
Malay	79	1032	2.9	2.01	4.29	180	2605	7.4	6.05	9.09
Chinese	1	17	0.9	0.12	7.15	5	81	4.4	2.87	6.73
Indian						2	18	7.2	1.28	31.35
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	17	2.7	0.30	20.41	3	26	4.3	0.75	21.04
<b>School level</b>										
Primary school	42	403	3.7	2.10	6.41	69	853	7.8	5.93	10.23
Secondary school	39	663	2.5	1.48	4.09	121	1878	7.0	5.39	8.99
<b>Class</b>										
Standard 4	22	149	4.1	1.17	13.25	28	372	10.2	6.72	15.08
Standard 5	13	114	3.2	1.10	8.94	21	239	6.7	4.40	10.15
Standard 6	7	140	3.8	1.99	7.11	20	242	6.5	4.48	9.46
Form 1	13	200	3.7	1.74	7.70	32	446	8.3	5.95	11.38
Form 2	10	193	3.5	1.08	10.49	17	317	5.7	3.37	9.41
Form 3	4	68	1.2	0.41	3.67	22	352	6.4	3.97	10.16
Form 4	6	110	2.1	0.68	6.11	19	333	6.2	3.22	11.74
Form 5	6	92	1.8	0.75	4.29	31	430	8.5	5.00	13.93
<b>School session</b>										
Morning session	43	564	3.0	1.69	5.29	85	1305	7.0	4.79	9.99
Evening session						6	79	32.5	19.27	49.28
Morning and evening session	38	503	2.7	2.06	3.48	99	1348	7.2	6.06	8.50
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	41	2.1	0.69	6.03	5	61	3.1	1.15	8.03
Normal (≥-2sd - ≤+1sd)	44	639	2.7	1.81	4.06	122	1738	7.4	5.87	9.28
Overweight (>+1sd - ≤+2sd)	13	160	2.8	1.36	5.82	26	346	6.1	3.48	10.62
Obese (>+2sd)	19	208	3.2	1.55	6.45	37	586	9.0	5.14	15.22
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	11	143	4.0	1.86	8.41	16	335	9.4	4.54	18.31
Normal (≥-2sd)	69	905	2.7	1.86	3.78	174	2397	7.0	5.70	8.66

**Table 3.4.27 : Media sources which affected dietary pattern among adolescents by socio-demographic characteristics and nutritional status**

Characteristics	Sources of media				
	Count	Estimated Population	Prevalence (%)	Not affected	
				Lower	Upper
<b>Perlis</b>	535	8244	21.8	19.13	24.72
<b>Locality of school</b>					
Urban	158	1939	24.1	18.38	30.83
Rural	377	6305	21.2	18.41	24.25
<b>Sex</b>					
Boys	262	4471	23.8	19.81	28.30
Girls	273	3773	19.8	17.49	22.38
<b>Ethnicity</b>					
Malay	468	7101	20.2	18.14	22.52
Chinese	49	868	47.1	39.13	55.14
Indian	5	55	21.4	11.82	35.64
Bumiputera Sabah					
Bumiputera Sarawak					
Others	13	220	35.9	30.01	42.24
<b>School level</b>					
Primary school	165	2109	19.3	15.32	24.06
Secondary school	370	6135	22.8	20.01	25.85
<b>Class</b>					
Standard 4	43	499	13.6	12.31	15.07
Standard 5	55	727	20.5	10.87	35.18
Standard 6	67	883	23.8	20.39	27.68
Form 1	74	1075	19.9	15.11	25.85
Form 2	72	1362	24.4	20.83	28.35
Form 3	85	1434	26.1	19.89	33.40
Form 4	71	1259	23.6	16.62	32.28
Form 5	68	1004	19.7	16.72	23.11
<b>School session</b>					
Morning session	255	4127	22.0	19.33	24.90
Evening session	3	21	8.6	2.00	30.39
Morning and evening session	275	4066	21.7	18.48	25.25
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	39	624	31.3	21.61	43.02
Normal (≥-2sd - ≤+1sd)	307	4922	21.0	18.36	23.80
Overweight (>+1sd - ≤+2sd)	92	1345	23.9	19.91	28.39
Obese (>+2sd)	96	1336	20.5	14.02	28.92
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	45	752	21.0	15.07	28.58
Normal (≥-2sd)	489	7474	21.9	18.89	25.33

### **3.5 Physical activity among adolescents (Primary 4 To Secondary 5) In Perlis**

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#### **3.5.1 Introduction**

Physical activity is defined as any bodily movement produced by skeletal muscle that requires energy expenditure. According to World Health Organization (2010) and Malaysian Dietary Guidelines for Children and Adolescents (NCCFN, 2013), children and adolescents should accumulate at least 60 minutes or more of either moderate or vigorous intensity activity daily. Ideally, daily screen time should not more than two hours a day and children and adolescents should not be sedentary for more than 60 minutes at a time.

#### **3.5.2 Objectives**

The general objective of this study was to assess physical activity pattern among adolescents and the specific objectives as follows:

- To determine the physical activity level.
- To evaluate the most five preferred physical activities during spare time.
- To assess the level of participation in physical education (PE) classes.
- To evaluate the duration of watching television, using computer and playing video games during weekend and schooling days.

#### **3.5.3 Variable definitions**

Physical Activity Assessment - The physical activity Questionnaire for Older Children (PAQ-C) was adapted from Kowalski et al (2004) to assess the general level of physical activity of the adolescents.

Physical Activity Classifications - The total mean scores of PAQ-C was classified into three categories of either 'low physical activity' (Score: 1.00-2.33), 'moderate physical activity' (Score: 2.34-3.66) or 'high physical activity' (Score: 3.67-5.00).

Screen time - Screen time refers to the time spent on screen-based behaviours. For example: Watching television, playing video games and using the computer or surfing the internet.

### 3.5.4 Findings

The PAQ-C mean score for the physical activity level for adolescent in Perlis was 2.38 (95% CI: 2.28, 2.47) (Table 3.5.1). Overall, a total of 50.1% (95% CI: 42.97, 57.20) adolescents were physically active and 49.9% (95% CI: 42.80, 57.03) of them were not active. In terms of school locality, the prevalence of students who are active in urban area were (49.2% (95% CI: 38.37, 60.16) and from rural areas were (50.3% (95% CI: 41.85, 58.76)). The prevalence of physically active was significantly higher among boys (61.4% (95% CI: 53.90, 68.32) compared to girls, 39.2% (95% CI: 31.94, 46.87). By school level, primary students [(67.9% (95% CI: 65.75, 69.91))] showed higher prevalence of physically active than secondary students [(43.3% (95% CI: 38.38, 48.42))]. In term of BMI-for-age status, there is no significant different of physically active among thinness [44.7% (95% CI: 29.44, 60.94)], normal [49.9% (95% CI: 463.66, 56.12)], overweight [54.9% (95% CI: 44.83, 64.65)] and obese [48.8% (95% CI: 37.49, 60.32)] (Table 3.5.2).

The most popular spare-time physical activity according to percentage of adolescents in Perlis were walking for exercise [85.3% (95% CI: 82.57, 87.61)] (Table 3.5.3). The prevalence of students who reported do not attend/very rare participated in PE class were 16.6% (95% CI: 13.19, 20.37)] (Table 3.5.4). During school days, 28.6% (95% CI: 24.38, 33.13) of adolescent watched television, using computer and playing video games more than 2 hours per day. Meanwhile, 45.3% (95% CI: 39.53, 51.29) of the adolescents engaged on these activities more than 2 hours during weekend (Table 3.5.5 and Table 3.5.6).

### 3.5.5 Discussion

The prevalence of physically active among adolescents in Perlis (50.1%) was higher than national prevalence (44.6%). There was significantly higher of physically active among boys and primary students than girls and secondary students. There was no significant difference in terms of school locality and BMI-for-age status of the respondents. The prevalence of adolescents that engaged on screen activities more than 2 hours during was higher during weekends than school days.

### 3.5.6 Conclusion

Based on National Health and Morbidity Survey (2017), 49.9% of children and adolescents in Perlis were physically inactive. The prevalence of physically inactive among Malaysian adolescents was slightly decreased as compared to the Malaysian School-Based Nutrition Survey (2012), but remains high. Therefore, more programmes and strategies to increase physical activity should be implemented among children and adolescents in Malaysia.

### 3.5.7 Recommendations

Adolescents should be encouraged to be more active in their daily life. Policy and campaign to promote physical activity among children and adolescents should be enhanced and health promotion activities to increase physical activity should be promoted. A comprehensive surveillance system for monitoring physical activity should be developed to ensure compliance with physical activity recommendation among children and adolescents.

Parents should be encouraged to be good role models; be active, limit the amount of sedentary and screen time behaviours, and monitor physical activity sedentary behaviours as well as screen time of their children. Interviewing technique for physical activity assessment should be applied in future study. Adolescents should be encouraged to get physically active in their daily life. Formulating specific program and intensifying health campaign are essential to promote physical activity among children and adolescents. Developing surveillance systems for physical activity enables compliance based on the standard recommendations. Parents should instil active lifestyle, limit the amount of sedentary and screen time behaviours as for their children. Improving technique for physical activity assessment is necessary.

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**Table 3.5.1: Mean total scores in PAQ-C among adolescents within last 7 days by socio-demographic characteristics and BMI - for - age status**

Characteristic	Mean total scores in PAQ-C		
	Mean	95% CI	
		Lower	Upper
<b>PERLIS</b>	2.38	2.28	2.47
<b>Locality of school</b>			
Urban	2.35	2.15	2.55
Rural	2.38	2.27	2.49
<b>Sex</b>			
Boys	2.54	2.44	2.64
Girls	2.22	2.11	2.32
<b>Class</b>			
Standard 4	2.58	2.50	2.65
Standard 5	2.61	2.49	2.73
Standard 6	2.70	2.60	2.80
Form 1	2.42	2.33	2.52
Form 2	2.32	2.20	2.44
Form 3	2.28	2.12	2.45
Form 4	2.19	2.05	2.33
Form 5	2.18	2.07	2.29
<b>Ethnicity</b>			
Malay	2.40	2.30	2.49
Chinese	1.98	1.89	2.06
Indian	2.33	2.00	2.65
Bumiputera Sabah	-	-	-
Bumiputera Sarawak	1.49	0.77	2.20
Others	2.41	2.29	2.53
<b>School Category</b>			
Primary	2.63	2.58	2.68
Secondary	2.28	2.21	2.35
<b>BMI-for-age status (BAZ)</b>			
Thinness (<-2sd)	2.28	2.08	2.48
Normal (≥-2sd - ≤+1sd)	2.39	2.30	2.49
Overweight (>+1sd - ≤+2sd)	2.40	2.27	2.54
Obese (>+2sd)	2.32	2.19	2.44
<b>Height-for-age status (HAZ)</b>			
Stunting (<-2sd)	2.34	2.25	2.44
Normal (≥-2sd)	2.38	2.28	2.48

**Note:**

Mean Score	Physical Activity Level (PAL)
1.00 - 2.33	Low
2.34 - 3.66	Moderate
3.67 - 5.00	High

(Kowalski et. al., 2004)

**Table 3.5.2: Distribution of adolescents according to physical activity level within last 7 days by socio-demographic characteristics and BMI - for - age status**

Characteristic	Physical activity level									
	Active					Not active				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>PERLIS</b>	1174	17649	50.1	42.97	57.20	1142	17588	49.9	42.80	57.03
<b>Locality of School</b>										
Urban	349	3652	49.2	38.37	60.16	306	3766	50.8	39.84	61.63
Rural	825	13997	50.3	41.85	58.76	836	13822	49.7	41.24	58.15
<b>Sex</b>										
Boys	651	10644	61.4	53.90	68.32	396	6703	38.6	31.68	46.10
Girls	523	7005	39.2	31.94	46.87	746	10885	60.8	53.13	68.06
<b>Class</b>										
Standard 4	188	2270	69.0	64.23	73.44	96	1019	31.0	26.56	35.77
Standard 5	151	1879	62.9	53.42	71.51	67	1107	37.1	28.49	46.58
Standard 6	163	2434	71.1	61.83	78.85	71	991	28.9	21.15	38.17
Form 1	175	2607	52.3	44.96	59.50	169	2379	47.7	40.50	55.04
Form 2	133	2538	47.8	38.25	57.49	152	2773	52.2	42.51	61.75
Form 3	134	2194	41.7	31.51	52.55	194	3074	58.3	47.45	68.49
Form 4	104	1837	37.0	30.04	44.53	179	3128	63.0	55.47	69.96
Form 5	126	1890	37.8	30.44	45.66	214	3117	62.2	54.34	69.56
<b>Ethnicity</b>										
Malay	1119	16800	51.4	44.34	58.47	1042	15865	48.6	41.53	55.66
Chinese	27	456	26.5	18.63	36.12	73	1267	73.5	63.88	81.37
Indian	10	117	48.8	27.93	70.13	9	122	51.2	29.87	72.07
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	7	23.6	1.46	86.52	1	21	76.4	13.48	98.54
Others	17	270	46.4	33.14	60.10	17	313	53.6	39.90	66.86
<b>School Category</b>										
Primary	502	6583	67.9	65.75	69.91	234	3117	32.1	30.09	34.25
Secondary	672	11066	43.3	38.38	48.42	908	14471	56.7	51.58	61.62
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	55	792	44.7	29.44	60.94	62	982	55.3	39.06	70.56
Normal (≥-2sd - ≤+1sd)	723	10986	49.9	43.66	56.12	705	11036	50.1	43.88	56.34
Overweight (>+1sd - ≤+2sd)	194	2879	54.9	44.83	64.65	156	2362	45.1	35.35	55.17
Obese (>+2sd)	199	2937	48.8	37.49	60.32	212	3077	51.2	39.68	62.51
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	108	1673	49.0	41.35	56.72	105	1741	51.0	43.28	58.65
Normal (≥-2sd)	1063	15922	50.3	42.92	57.72	1030	15716	49.7	42.28	57.08

Notes:

Low PAL is classified as not active

**Table 3.5.3: The five most preferred physical activities during spare time within the last 7 days based on the proportion of adolescents participated in it**

The five most preferred physical activities	Count	Prevalence (%)	95% CI	
			Lower	Upper
Walking for exercise	2123	85.3	82.57	87.61
Jogging/Running	2025	80.8	77.74	83.57
Tagging	1795	71.0	63.55	77.52
Badminton	1633	65.9	57.47	73.37
Cycling	1570	62.6	52.32	71.92

**Table 3.5.4: Level of participation in physical education (PE) classes among adolescents within last 7 days by socio demographic characteristics and BMI - for-age status (Cont.)**

Characteristic	I do not attend the PE class / Very Rare					Occasionally/ Quite Often				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	381	6289	16.6	13.19	20.73	1524	23415	61.9	58.29	65.36
<b>Locality of school</b>										
Urban	107	1395	17.3	10.61	27.03	431	4872	60.5	52.32	68.22
Rural	274	4894	16.4	12.62	21.11	1093	18543	62.2	58.26	66.07
<b>Sex</b>										
Boys	191	3507	18.7	14.02	24.42	670	10878	57.9	52.27	63.35
Girls	190	2782	14.6	9.33	22.12	854	12538	65.8	58.75	72.22
<b>Class</b>										
Standard 4	44	509	13.7	10.08	18.24	179	2192	58.8	54.33	63.20
Standard 5	32	527	14.8	11.66	18.69	151	2225	62.6	56.86	68.04
Standard 6	27	641	17.8	10.26	29.22	140	2029	56.5	50.90	61.98
Form 1	51	766	14.2	10.14	19.54	230	3320	61.6	54.61	68.06
Form 2	42	827	14.7	7.99	25.53	195	3555	63.3	53.52	72.01
Form 3	43	738	13.4	9.98	17.70	216	3491	63.3	56.55	69.49
Form 4	64	1103	20.6	10.37	36.91	193	3410	63.8	53.01	73.40
Form 5	78	1178	23.1	16.47	31.48	220	3193	62.7	53.85	70.76
<b>Ethnicity</b>										
Malay	335	5508	15.7	12.31	19.81	1427	21813	62.2	58.46	65.72
Chinese	36	588	31.9	26.74	37.50	60	1061	57.5	48.14	66.38
Indian	5	87	34.1	14.59	60.95	12	121	47.0	23.10	72.41
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	21	76.4	13.48	98.54	1	7	23.6	1.46	86.52
Others	4	84	13.7	8.28	21.74	24	413	67.5	56.09	77.09
<b>School level</b>										
Primary	103	1677	15.4	11.69	20.08	470	6446	59.3	55.69	62.83
Secondary	278	4612	17.1	12.61	22.77	1054	16969	62.9	58.05	67.55
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	22	355	17.8	13.44	23.24	80	1156	58.1	48.15	67.38
Normal (≥-2sd - ≤+1sd)	233	3752	16.0	12.05	20.98	932	14626	62.4	57.76	66.90
Overweight (>+1sd - ≤+2sd)	48	878	15.6	10.41	22.66	225	3441	61.0	56.05	65.79
Obese (>+2sd)	71	1178	17.9	13.09	23.91	285	4151	63.0	57.06	68.51
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	40	655	18.3	12.13	26.70	142	2170	60.7	52.37	68.48
Normal (≥-2sd)	334	5508	16.2	12.78	20.24	1380	21203	62.2	58.66	65.66



**Table 3.5.4: Level of participation in physical education (PE) classes among adolescents within last 7 days by socio demographic characteristics and BMI - for-age status (Cont.)**

Characteristic	Count	Estimated population	Always		
			Prevalence (%)	95% CI	
				Lower	Upper
<b>PERLIS</b>	585	8133	21.5	18.48	24.85
<b>Locality of school</b>					
Urban	182	1780	22.1	16.20	29.44
Rural	403	6353	21.3	17.92	25.18
<b>Sex</b>					
Boys	283	4399	23.4	20.07	27.14
Girls	302	3734	19.6	15.88	23.94
<b>Class</b>					
Standard 4	101	1025	27.5	21.40	34.59
Standard 5	65	801	22.6	16.86	29.49
Standard 6	86	920	25.6	15.68	38.98
Form 1	91	1308	24.2	19.55	29.65
Form 2	64	1238	22.0	14.91	31.31
Form 3	83	1289	23.4	17.09	31.07
Form 4	47	830	15.5	10.49	22.40
Form 5	48	722	14.2	9.44	20.74
<b>Ethnicity</b>					
Malay	562	7773	22.1	19.00	25.66
Chinese	11	196	10.6	5.51	19.44
Indian	4	49	18.9	6.83	42.61
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	8	116	18.9	7.84	38.87
<b>School level</b>					
Primary	252	2746	25.3	18.90	32.91
Secondary	333	5387	20.0	16.51	23.96
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	30	480	24.1	15.91	34.78
Normal (≥-2sd - ≤+1sd)	353	5045	21.5	18.79	24.57
Overweight (>+1sd - ≤+2sd)	104	1319	23.4	17.14	31.08
Obese (>+2sd)	96	1263	19.2	14.59	24.76
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	44	749	21.0	12.90	32.22
Normal (≥-2sd)	540	7365	21.6	18.35	25.28

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Table 3.5.5: Length of time spent per day on watching television, using computer and playing video games at weekends among adolescents by socio-demographic characteristics and BMI-for-age status

Characteristic	Less than 2 hour					More than 2 hours				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	1372	20743	54.7	48.71	60.47	1120	17212	45.3	39.53	51.29
<b>Locality of school</b>										
Urban	390	4031	50.0	40.17	59.83	330	4031	50.0	40.17	59.83
Rural	982	16712	55.9	49.22	62.38	790	13181	44.1	37.62	50.78
<b>Sex</b>										
Boys	611	10051	53.3	47.85	58.61	534	8820	46.7	41.39	52.15
Girls	761	10692	56.0	48.32	63.45	586	8392	44.0	36.55	51.68
<b>Class</b>										
Standard 4	222	2589	69.7	65.38	73.72	100	1125	30.3	26.28	34.62
Standard 5	170	2537	71.7	64.47	77.94	78	1002	28.3	22.06	35.53
Standard 6	161	2333	63.0	56.86	68.78	94	1369	37.0	31.22	43.14
Form 1	206	2968	54.9	45.84	63.60	167	2441	45.1	36.40	54.16
Form 2	146	2768	49.1	38.84	59.36	156	2873	50.9	40.64	61.16
Form 3	161	2618	47.3	38.52	56.31	182	2913	52.7	43.69	61.48
Form 4	137	2400	45.1	38.41	51.89	166	2926	54.9	48.11	61.59
Form 5	169	2530	49.7	41.23	58.17	177	2562	50.3	41.83	58.77
<b>Ethnicity</b>										
Malay	1307	19734	56.0	49.98	61.93	1019	15479	44.0	38.07	50.02
Chinese	27	441	23.9	14.91	36.01	80	1404	76.1	63.99	85.09
Indian	12	125	48.7	24.43	73.62	9	132	51.3	26.38	75.57
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	28	100.0	100.00	100.00
Others	26	443	72.3	59.45	82.33	10	170	27.7	17.67	40.55
<b>School level</b>										
Primary	553	7460	68.1	65.15	70.89	272	3496	31.9	29.11	34.85
Secondary	819	13284	49.2	44.65	53.76	848	13716	50.8	46.24	55.35
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	83	1296	65.1	46.72	79.83	49	696	34.9	20.17	53.28
Normal (≥-2sd - ≤+1sd)	866	13297	56.5	50.88	61.97	654	10236	43.5	38.03	49.12
Overweight (>+1sd - ≤+2sd)	190	2911	51.6	40.94	62.18	187	2727	48.4	37.82	59.06
Obese (>+2sd)	226	3117	47.2	40.54	54.04	226	3482	52.8	45.96	59.46
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	139	2130	59.6	53.18	65.72	87	1444	40.4	34.28	46.82
Normal (≥-2sd)	1227	18499	54.1	47.95	60.12	1029	15697	45.9	39.88	52.05

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Table 3.5.6: Length of time spent per day on watching television, using computer and playing video games on schooling days among adolescents by socio-demographic characteristics and BMI-for-age status

Characteristic	Less than 2 hour					More than 2 hours				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	1768	27055	71.4	66.87	75.62	716	10811	28.6	24.38	33.13
<b>Locality of school</b>										
Urban	469	5029	62.6	54.59	69.95	247	3007	37.4	30.05	45.41
Rural	1299	22026	73.8	69.46	77.79	469	7805	26.2	22.21	30.54
<b>Sex</b>										
Boys	753	12669	67.3	63.25	71.05	389	6165	32.7	28.95	36.75
Girls	1015	14385	75.6	69.56	80.75	327	4646	24.4	19.25	30.44
<b>Class</b>										
Standard 4	226	2614	70.6	68.27	72.76	94	1090	29.4	27.24	31.73
Standard 5	182	2827	79.6	69.77	86.80	66	726	20.4	13.20	30.23
Standard 6	187	2712	73.4	68.26	77.95	67	983	26.6	22.05	31.74
Form 1	269	3860	71.6	64.24	77.93	103	1532	28.4	22.07	35.76
Form 2	205	3849	68.7	57.54	77.98	95	1757	31.3	22.02	42.46
Form 3	242	3850	69.6	60.20	77.61	101	1682	30.4	22.39	39.80
Form 4	208	3666	69.0	62.55	74.83	94	1645	31.0	25.17	37.45
Form 5	249	3678	72.5	65.74	78.34	96	1396	27.5	21.66	34.26
<b>Ethnicity</b>										
Malay	1672	25469	72.5	67.95	76.65	646	9655	27.5	23.35	32.05
Chinese	51	891	48.3	42.93	53.64	56	955	51.7	46.36	57.07
Indian	14	171	66.8	34.32	88.57	7	85	33.2	11.43	65.68
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	7	23.6	1.46	86.52	1	21	76.4	13.48	98.54
Others	30	517	84.4	71.23	92.23	6	95	15.6	7.77	28.77
<b>School level</b>										
Primary	595	8152	74.4	71.72	76.99	227	2799	25.6	23.01	28.28
Secondary	1173	18903	70.2	64.12	75.69	489	8012	29.8	24.31	35.88
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	93	1455	73.1	58.85	83.74	39	536	26.9	16.26	41.15
Normal (≥-2sd - ≤+1sd)	1102	17214	73.2	68.17	77.74	415	6293	26.8	22.26	31.83
Overweight (>+1sd - ≤+2sd)	271	4078	72.8	65.26	79.18	104	1526	27.2	20.82	34.74
Obese (>+2sd)	292	4132	62.9	57.53	67.96	157	2438	37.1	32.04	42.47
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	171	2668	75.0	66.20	82.05	54	891	25.0	17.95	33.80
Normal (≥-2sd)	1588	24220	71.0	66.48	75.10	661	9902	29.0	24.90	33.52

### 3.6. Supplements intake among adolescents (Primary 4 to Secondary 5) in Perlis

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#### 3.6.1 Introduction

Dietary supplements are defined as “a product (other than tobacco) intended to supplement the diet that bears or contains one or more of the following dietary ingredients: a vitamin, a mineral, an herb or other botanical, an amino acid, or a dietary substance for use by man to supplement the diet by increasing the total dietary intake, or a concentrate, metabolite, constituent, extract, or combination of the above ingredients” (DV Porter, 2001). The use of supplements becomes common behavior among people due to general health concerns. In 2014, approximately 54.1% and 40.2% of Malaysian adolescents consumed vitamin/mineral and food supplements respectively (Sien, Shahril, Mutalip, 2014). This prevalence was found to be higher than that in other countries (Picciano, Dwyer, Radimer, 2007; Yoon, Park, Kang, 2009; Sichert-Hellert and Kersting, 2004).

High dietary supplement intake suggests a wide use of dietary supplements among adolescents despite the unclear guideline or recommendation on dietary supplements. The long-term potentially dangerous effects related to unrestrained consumption of dietary supplements are still unknown and are becoming a matter of public health concern. Reports on dietary supplements intake pattern among Malaysian adolescents are limited. Therefore, the aims of the current study were to assess the frequency, reasons and types of vitamin/mineral and food supplement use among Malaysian adolescents.

#### 3.6.2 Objectives

##### General objective

To determine the pattern of use of vitamin/mineral and food supplements among Malaysian adolescents.

##### Specific objective

- To determine the most commonly taken vitamin/mineral supplements.
- To determine the most commonly taken food supplements.
- To identify the reason(s) of taking vitamin/mineral supplements.
- To identify the reason(s) of taking food supplements.
- To determine the frequency of vitamin/mineral supplements intake.
- To determine the frequency of food supplements intake.

### 3.6.3 Findings

The prevalence of vitamin/minerals and food supplements intake among Perlis adolescence was 40.5% (95% CI: 32.62, 48.85) (**Table 3.6.1**) and 26.4% (95% CI: 20.95, 32.77) (**Table 3.6.5**). There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, school classes and localities (**Table 3.6.1 and 3.6.5**). In average, the vitamin/mineral and food supplements were consumed everyday by 14.4% (95% CI 11.96, 17.26) (Table 3.6.4) and 10.5% (95%CI 7.39-14.83) adolescents in Perlis respectively (**Table 3.6.8**). The most commonly consumed vitamin/minerals and food supplements were Vitamin C 34.3% (95% CI: 28.01, 41.16) (**Table 3.6.2**) and Bee product 25.0% (95% CI: 20.4, 30.2) (**Table 3.6.6**). The main reason for taking vitamin/minerals and food supplements was due to parent's advised 39.3% (95% CI: 35.20, 43.60) (**Table 3.6.3**) and 14.7% (95% CI: 10.98, 19.32) (**Table 3.6.7**)

### 3.6.4 Discussions

The prevalence of taking vitamin/mineral and food supplements among adolescents in Perlis was lower than national prevalence, which was 44.7% (95% CI: 42.49, 46.91) and 30.6% (95% CI: 28.90, 32.43). The consumption of Vitamin C and Bee Product were significantly higher compared with the other types of vitamin/mineral and food supplement and this result were consistent with the national finding. Finding from the survey in Perlis showed that parents advised was the main and significant reason for taking vitamin/mineral and food supplements among adolescents. It suggests the parents as strong influencer for food supplement and vitamin intake of the children.

### 3.6.5 Conclusions

Overall findings from this survey showed that every four and three of ten adolescents in Perlis took vitamin/mineral and food supplements. Every four and one in ten parents influenced the children's intake of vitamin/ mineral and food supplements. Vitamin C and Bee product remain as the main type of vitamin and food supplement consumed by adolescents in Perlis.

### 3.6.6 Recommendation

Advocating adolescents to eat balanced and healthy meals is the main priority in designing health policy. However, the Ministry of Health should also establish guidelines, regulations, and policy of food supplements and vitamin/mineral intake as its consumption has become common among Malaysian adolescents. There is a need for further scientific research involving adolescents with the purpose of assessing the beneficial effects and safety of its long-term use. The guidelines and regulations should be made clear to parents and guardians for appropriate use of food supplements.

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Table 3.6.1: Prevalence of adolescents taking vitamin/ mineral supplements by socio-demographic characteristic

Characteristic	Taking vitamin / mineral supplement					Not taking vitamin / mineral supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	1043	15364	40.5	32.62	48.85	1450	22591	59.5	51.15	67.38
<b>Locality of School</b>										
Urban	353	3457	42.9	30.50	56.17	368	4610	57.1	43.83	69.50
Rural	690	11907	39.8	30.48	50.01	1082	17981	60.2	49.99	69.52
<b>Sex</b>										
Boys	498	8032	42.6	32.58	53.21	647	10833	57.4	46.79	67.42
Girls	545	7332	38.4	31.79	45.49	803	11758	61.6	54.51	68.21
<b>Class</b>										
Standard 4	221	2587	69.4	66.66	72.08	103	1139	30.6	27.92	33.34
Standard 5	160	2361	66.3	59.47	72.55	89	1199	33.7	27.45	40.53
Standard 6	140	1842	49.9	43.01	56.74	114	1852	50.1	43.26	56.99
<b>Remove class</b>										
Form 1	147	2144	39.6	31.78	48.08	226	3264	60.4	51.92	68.22
Form 2	123	2337	41.6	33.53	50.11	178	3283	58.4	49.89	66.47
Form 3	103	1707	30.9	25.13	37.25	240	3824	69.1	62.75	74.87
Form 4	67	1164	21.9	16.11	28.96	236	4159	78.1	71.04	83.89
Form 5	82	1221	24.0	20.66	27.66	264	3871	76.0	72.34	79.34
<b>Ethnicity</b>										
Malay	985	14434	41.0	32.69	49.83	1342	20778	59.0	50.17	67.31
Chinese	29	481	26.0	17.69	36.59	78	1365	74.0	63.41	82.31
Indian	12	159	62.1	43.77	77.49	9	97	37.9	22.51	56.23
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100	100	100
Others	17	290	47.4	29.80	65.58					
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	69	1117	56.1	35.71	74.61	63	874	43.9	25.39	64.29
Normal (≥-2sd - ≤+1sd)	633	9644	41.0	32.66	49.84	888	13895	59.0	50.16	67.34
Overweight (>+1sd - ≤+2sd)	157	2092	37.2	29.12	46.06	220	3532	62.8	53.94	70.88
Obese (>+2sd)	179	2430	36.8	29.55	44.67	273	4176	63.2	55.33	70.45
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	101	1780	50.1	33.78	66.34	124	1775	49.9	33.66	66.22
Normal (≥-2sd)	938	13512	39.5	32.27	47.21	1320	20703	60.5	52.79	67.73

Table 3.6.2: Types of vitamin/ mineral usually consumed among adolescents by socio-demographic characteristics (Cont.)

Characteristic	Multivitamin					Vitamin C				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	139	2020	5.3	4.45	6.35	890	13016	34.3	28.01	41.16
<b>Locality of School</b>										
Urban	48	520	6.4	4.60	8.96	292	2832	35.1	24.47	47.46
Rural	91	1500	5.0	4.11	6.12	598	10184	34.1	26.72	42.26
<b>Sex</b>										
Boys	85	1304	6.9	5.14	9.21	413	6601	35.0	26.70	44.21
Girls	54	716	3.8	2.73	5.13	477	6415	33.6	28.55	39.10
<b>Class</b>										
Standard 4	29	389	10.4	7.53	14.29	186	1927	51.7	43.83	59.53
Standard 5	18	132	3.7	1.13	11.46	139	2128	59.8	52.46	66.68
Standard 6	16	128	3.5	1.05	10.78	111	1598	43.3	39.42	47.16
<b>Remove class</b>										
Form 1	12	191	3.5	2.04	6.06	136	1965	36.3	30.13	43.03
Form 2	29	588	10.4	5.94	17.67	103	1904	33.8	27.46	40.69
Form 3	11	200	3.6	1.89	6.85	96	1548	28.0	20.99	36.22
Form 4	10	186	3.5	1.87	6.44	61	1072	20.1	14.98	26.53
Form 5	14	206	4.0	2.19	7.35	58	873	17.2	13.42	21.77
<b>Ethnicity</b>										
Malay	129	1868	5.3	4.40	6.38	840	12216	34.7	28.13	41.88
Chinese	5	85	4.6	1.61	12.42	24	393	21.3	14.38	30.40
Indian	4	46	17.9	4.23	51.86	10	126	48.9	29.69	68.52
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54					
Others						16	280	45.7	28.80	63.69
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	4	73	3.7	1.06	12.05	55	911	45.8	29.07	63.47
Normal (≥ -2sd - ≤+1sd)	87	1230	5.2	4.08	6.67	552	8254	35.1	29.25	41.34
Overweight (>+1sd - ≤+2sd)	20	262	4.7	2.71	7.88	136	1833	32.6	25.46	40.61
Obese (>+2sd)	27	437	6.6	4.41	9.81	145	1991	30.1	22.64	38.88
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	12	189	5.3	2.74	10.10	88	1463	41.2	32.47	50.43
Normal (≥-2sd)	126	1813	5.3	4.35	6.44	801	11535	33.7	27.58	40.42



Table 3.6.2: Types of vitamin/ mineral usually consumed among adolescents by socio-demographic characteristics

Characteristic	Iron					Others				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	123	1964	5.2	3.97	6.72	145	2391	6.3	4.50	8.76
<b>Locality of School</b>										
Urban	32	311	3.9	2.02	7.23	43	436	5.4	4.08	7.12
Rural	91	1653	5.5	4.22	7.22	102	1955	6.5	4.40	9.63
<b>Sex</b>										
Boys	76	1270	6.7	5.37	8.39	76	1318	7.0	5.28	9.17
Girls	47	695	3.6	2.39	5.51	69	1074	5.6	3.46	9.02
<b>Class</b>										
Standard 4	27	399	10.7	8.19	13.87	24	403	10.8	5.73	19.52
Standard 5	15	266	7.5	4.22	12.86	17	237	6.7	5.36	8.27
Standard 6	8	65	1.7	0.48	6.16	24	430	11.6	6.73	19.40
<b>Remove class</b>										
Form 1	30	470	8.7	5.97	12.48	19	299	5.5	3.66	8.29
Form 2	16	329	5.8	3.74	8.99	17	321	5.7	3.48	9.20
Form 3	4	75	1.4	0.52	3.47	21	332	6.0	4.12	8.66
Form 4	9	145	2.7	0.73	9.69	10	171	3.2	1.59	6.40
Form 5	14	216	4.3	2.14	8.27	13	197	3.9	2.26	6.57
<b>Ethnicity</b>										
Malay	119	1909	5.4	4.18	7.00	136	2259	6.4	4.51	9.04
Chinese	3	47	2.5	0.71	8.77	4	71	3.8	1.31	10.65
Indian						1	7	2.8	0.34	19.37
Bumiputera Sabah										
Bumiputera Sarawak						1	7	23.6	1.46	86.52
Others	1	8	1.4	0.12	14.22	3	48	7.9	1.23	37.28
<b>BMI-for age status (BAZ)</b>										
Thinness (< -2sd)	10	185	9.3	4.70	17.51	8	83	4.2	1.74	9.76
Normal ( $\geq -2sd$ - $\leq +1sd$ )	68	1119	4.8	3.41	6.58	91	1713	7.3	4.09	12.61
Overweight ( $> +1sd$ - $\leq +2sd$ )	15	253	4.5	2.48	8.03	16	186	3.3	1.63	6.61
Obese ( $> +2sd$ )	30	407	6.2	4.21	8.94	28	373	5.6	3.37	9.32
<b>Height-for - age status (HAZ)</b>										
Stunting (< -2sd)	15	255	7.2	4.55	11.12	12	236	6.6	2.23	18.11
Normal ( $\geq -2sd$ )	108	1710	5.0	3.79	6.56	131	2120	6.2	4.69	8.14

**Table 3.6.3: Reasons for taking vitamin/ mineral among adolescents by socio-demographic characteristics**

Characteristic	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	182	18768	16.1	11.66	21.70	404	45994	39.3	35.21	43.65
<b>Locality of School</b>										
Urban	69	7820	13.5	7.46	23.20	191	23529	40.6	35.26	46.20
Rural	113	10948	18.6	13.25	25.40	213	22465	38.1	32.10	44.50
<b>Sex</b>										
Boys	94	9617	14.7	9.93	21.25	209	23764	36.3	30.87	42.21
Girls	88	9150	17.8	12.73	24.23	195	22231	43.2	37.13	49.39
<b>Class</b>										
Standard 4	61	5817	27.5	20.14	36.40	86	8986	42.5	33.80	51.76
Standard 5	33	3505	17.3	9.09	30.46	71	8322	41.1	34.45	48.08
Standard 6	8	1370	8.2	2.48	23.74	36	6898	41.2	34.26	48.42
Remove class										
Form 1	16	1731	11.0	5.93	19.51	58	6458	41.1	31.19	51.70
Form 2	18	1755	14.2	9.39	21.01	48	4486	36.4	26.71	47.32
Form 3	24	2195	19.6	11.91	30.60	32	2968	26.5	18.04	37.22
Form 4	14	1294	13.0	7.20	22.32	48	4476	44.9	34.58	55.76
Form 5	8	1101	11.5	5.88	21.36	25	3401	35.6	19.68	55.51
<b>Ethnicity</b>										
Malay	131	13831	17.4	12.62	23.46	269	30308	38.1	33.65	42.76
Chinese	17	1692	6.5	3.22	12.81	90	11422	44.1	34.61	54.05
Indian	22	2130	33.9	19.36	52.28	20	2005	31.9	16.77	52.17
Bumiputera Sabah	2	165	38.2	15.37	67.85	3	267	61.8	32.15	84.63
Bumiputera Sarawak	2	168	33.6	19.70	51.14	2	168	33.6	19.70	51.14
Others	8	781	18.5	12.40	26.63	20	1823	43.1	34.94	51.66
<b>BMI-for age status (BAZ)</b>										
Thinness ( <-2sd )	17	369	33.1	22.57	45.56	33	564	50.5	39.17	61.74
Normal (≥ - 2sd - ≤+ 1sd )	99	1602	16.7	11.34	23.88	273	4209	43.9	39.80	48.00
Overweight (> +1sd - ≤+ 2sd)	28	464	22.2	11.78	37.79	61	782	37.4	28.26	47.50
Obese (> + 2sd)	27	438	18.1	10.67	29.13	73	998	41.3	34.38	48.68
<b>Height-for - age status (HAZ)</b>										
Stunting ( <-2sd )	22	463	26.0	18.96	34.56	45	796	44.7	34.72	55.15
Normal ( ≥-2sd )	149	2410	17.9	11.97	25.95	396	5765	42.9	39.24	46.57

Table 3.6.3: Reasons for taking vitamin/ mineral among adolescents by socio-demographic characteristics (Cont.)

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	316	35071	30.0	26.23	34.07	37	4110	3.5	2.53	4.86
<b>Locality of School</b>										
Urban	148	17282	29.8	23.56	36.97	15	1887	3.3	2.20	4.81
Rural	168	17789	30.2	26.26	34.40	22	2223	3.8	2.25	6.24
<b>Sex</b>										
Boys	195	21584	33.0	27.64	38.87	30	3406	5.2	3.54	7.61
Girls	121	13487	26.2	21.98	30.86	7	704	1.4	0.63	2.93
<b>Class</b>										
Standard 4	41	3859	18.3	12.10	26.63	7	675	3.2	1.86	5.46
Standard 5	48	5607	27.7	19.47	37.75	8	1017	5.0	3.59	6.97
Standard 6	28	5009	29.9	20.04	42.03	2	360	2.1	0.30	13.77
Remove class										
Form 1	46	5105	32.4	23.09	43.46	8	886	5.6	2.61	11.72
Form 2	46	4278	34.7	26.77	43.60	8	753	6.1	1.99	17.25
Form 3	45	4137	37.0	25.26	50.47	1	88	0.8	0.11	5.45
Form 4	36	3422	34.4	27.47	41.98	2	197	2.0	0.46	8.00
Form 5	26	3655	38.3	27.81	49.94	1	134	1.4	0.20	9.24
<b>Ethnicity</b>										
Malay	217	24568	30.9	25.94	36.31	24	2760	3.5	2.26	5.29
Chinese	70	7709	29.8	21.11	40.17	9	990	3.8	2.42	6.00
Indian	16	1507	24.0	16.75	33.13	2	191	3.0	0.84	10.37
Bumiputera Sabah										
Bumiputera Sarawak	1	85	16.9	10.22	26.62	-	-	-	-	-
Others	12	168	28.4	20.55	37.91	2	168	4.0	0.99	14.69
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	14	151	13.5	6.01	27.74	-	-	-	-	-
Normal (≥ - 2sd - ≤+ 1sd )	190	2816	29.3	21.54	38.59	10	188	2.0	1.27	2.99
Overweight (> +1sd - ≤+ 2sd)	45	531	25.4	16.35	37.18	3	57	2.7	0.82	8.69
Obese (> + 2sd)	43	431	17.9	10.66	28.41	8	150	6.2	3.12	11.91
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	25	410	23.0	16.01	31.94	-	-	-	-	-
Normal (≥-2sd )	267	3520	26.2	18.67	35.39	21	394	2.9	1.90	4.49

**Table 3.6.3: Reasons for taking vitamin/ mineral among adolescents by socio-demographic characteristics (Cont.)**

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	71	8996	7.7	5.36	10.94
<b>Locality of School</b>					
Urban	38	5243	9.1	5.35	14.90
Rural	33	3752	6.4	3.93	10.15
<b>Sex</b>					
Boys	39	4837	7.4	4.80	11.23
Girls	32	4159	8.1	5.58	11.54
<b>Class</b>					
Standard 4	6	593	2.8	1.12	6.82
Standard 5	13	1328	6.6	3.21	12.92
Standard 6	10	2559	15.3	5.52	35.73
Remove class					
Form 1	11	1211	7.7	3.42	16.41
Form 2	7	663	5.4	3.28	8.69
Form 3	13	1252	11.2	5.00	23.18
Form 4	4	383	3.8	1.44	9.87
Form 5	7	1008	10.6	3.55	27.45
<b>Ethnicity</b>					
Malay	45	5374	6.8	4.47	10.09
Chinese	19	2919	11.3	6.12	19.85
Indian	4	449	7.1	1.09	34.87
Bumiputera Sabah					
Bumiputera Sarawak	-	-	-	-	-
Others	3	254	6.0	1.47	21.46
<b>BMI-for age status (BAZ)</b>					
Thinness (< -2sd )	4	27	2.5	0.60	9.49
Normal ( $\geq -2sd - \leq +1sd$ )	41	563	5.9	4.37	7.83
Overweight ( $> +1sd - \leq +2sd$ )	14	173	8.3	4.31	15.30
Obese ( $> +2sd$ )	17	238	9.9	4.86	18.98
<b>Height-for - age status (HAZ)</b>					
Stunting (< -2sd )	7	88	5.0	1.27	17.44
Normal ( $\geq -2sd$ )	69	913	6.8	5.23	8.77

Table 3.6.4: Frequency of taking vitamin/ mineral among adolescents by socio-demographic characteristics (Cont.)

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	376	5459	14.4	11.96	17.26	187	2906	7.7	4.69	12.30
<b>Locality of School</b>										
Urban	108	1060	13.1	9.40	18.08	64	632	7.8	4.41	13.56
Rural	268	4399	14.7	11.93	18.08	123	2274	7.6	4.13	13.64
<b>Sex</b>										
Boys	142	2245	11.9	9.36	15.07	113	1915	10.2	6.27	16.05
Girls	234	3214	16.9	13.87	20.35	74	992	5.2	3.09	8.63
<b>Class</b>										
Standard 4	84	898	24.2	21.79	26.87	51	523	14.1	11.17	17.70
Standard 5	49	907	25.5	17.92	34.96	35	412	11.6	7.78	16.92
Standard 6	48	478	12.9	5.87	26.13	26	691	18.7	7.87	38.26
<b>Remove class</b>										
Form 1	49	698	12.9	9.76	16.96	29	454	8.4	5.42	12.86
Form 2	54	1034	18.4	13.22	25.01	17	323	5.7	2.19	14.23
Form 3	50	779	14.1	10.31	18.93	12	229	4.1	2.06	8.15
Form 4	19	327	6.1	3.85	9.65	11	187	3.5	2.16	5.66
Form 5	23	340	6.7	5.13	8.68	6	88	1.7	1.05	2.83
<b>Ethnicity</b>										
Malay	352	5106	14.5	11.89	17.62	175	2716	7.7	4.58	12.74
Chinese	11	169	9.1	6.47	12.76	6	110	6.0	2.56	13.33
Indian	8	89	34.6	11.76	67.68	3	49	19.3	5.61	48.92
Bumiputera Sabah										
Bumiputera Sarawak										
Others	5	96	15.7	8.29	27.63	3	31	5.0	0.90	23.75
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	22	471	23.6	11.68	42.02	10	103	5.2	2.19	11.70
Normal ( $\geq -2sd - \leq +1sd$ )	234	3437	14.6	11.87	17.85	116	2020	8.6	4.97	14.42
Overweight ( $> +1sd - \leq +2sd$ )	50	614	11.0	7.53	15.70	33	286	5.1	2.47	10.28
Obese ( $> +2sd$ )	67	893	13.6	10.93	16.70	28	497	7.5	3.50	15.53
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	42	762	21.4	12.25	34.78	19	325	9.1	6.00	13.68
Normal ( $\geq -2sd$ )	332	4661	13.6	11.60	15.98	168	2581	7.6	4.47	12.50

**Table 3.6.4: Frequency of taking vitamin/ mineral among adolescents by socio-demographic characteristics**

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	237	3304	8.7	7.55	10.05	427	6492	17.1	14.35	20.32
<b>Locality of School</b>										
Urban	78	753	9.3	6.55	13.14	146	1458	18.1	13.74	23.40
Rural	159	2551	8.6	7.33	9.95	281	5034	16.9	13.57	20.80
<b>Sex</b>										
Boys	144	2164	11.5	9.79	13.43	221	3571	19.0	15.28	23.28
Girls	93	1141	6.0	4.73	7.54	206	2921	15.3	12.89	18.12
<b>Class</b>										
Standard 4	38	390	10.5	8.31	13.28	75	955	25.8	21.90	30.09
Standard 5	37	459	12.9	10.13	16.37	59	915	25.7	21.88	30.02
Standard 6	32	280	7.6	2.59	20.21	49	659	17.8	14.68	21.48
<b>Remove class</b>										
Form 1	45	674	12.5	10.33	15.03	68	988	18.3	14.03	23.55
Form 2	27	529	9.4	5.61	15.38	51	969	17.2	11.81	24.47
Form 3	26	436	7.9	5.46	11.27	38	618	11.2	7.64	16.03
Form 4	15	269	5.1	3.30	7.67	37	643	12.1	8.47	16.91
Form 5	17	266	5.2	3.27	8.28	50	746	14.7	12.03	17.82
<b>Ethnicity</b>										
Malay	231	3231	9.2	7.94	10.62	400	6045	17.2	14.20	20.68
Chinese	3	37	2.0	0.56	6.98	14	241	13.1	6.82	23.63
Indian	1	5	2.0	0.26	14.02	3	35	13.8	4.14	37.10
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52					
Others	1	24	3.9	1.12	12.76	10	170	27.7	20.69	36.02
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	19	228	11.4	5.90	21.00	27	459	23.1	15.17	33.46
Normal ( $\geq -2sd - \leq +1sd$ )	148	2098	8.9	7.40	10.71	259	4122	17.5	14.50	21.01
Overweight (> +1sd - $\leq +2sd$ )	29	410	7.3	4.92	10.77	63	1021	18.2	11.29	28.10
Obese (> +2sd)	41	568	8.6	6.24	11.81	77	871	13.2	8.06	20.94
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	18	246	6.9	3.30	13.93	40	732	20.6	16.19	25.81
Normal ( $\geq -2sd$ )	219	3058	9.0	7.72	10.36	386	5742	16.8	14.04	20.00

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Table 3.6.5: Prevalence of adolescents taking food supplements by socio-demographic characteristic

Characteristic	Taking food supplement					Not taking food supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	672	10015	26.4	20.95	32.77	1815	27863	73.6	67.23	79.05
<b>Locality of School</b>										
Urban	216	2163	26.9	20.16	34.88	503	5882	73.1	65.12	79.84
Rural	456	7852	26.3	19.71	34.20	1312	21982	73.7	65.80	80.29
<b>Sex</b>										
Boys	363	5714	30.3	24.55	36.78	780	13135	69.7	63.22	75.45
Girls	309	4300	22.6	17.18	29.13	1035	14728	77.4	70.87	82.82
<b>Class</b>										
Standard 4	142	1629	43.7	40.78	46.70	182	2097	56.3	53.30	59.22
Standard 5	118	1490	41.8	31.81	52.59	131	2071	58.2	47.41	68.19
Standard 6	77	1339	36.4	22.85	52.53	175	2339	63.6	47.47	77.15
Remove class										
Form 1	96	1426	26.5	21.10	32.68	275	3957	73.5	67.32	78.90
Form 2	79	1542	27.5	21.70	34.06	222	4076	72.5	65.94	78.30
Form 3	60	998	18.0	14.23	22.63	283	4533	82.0	77.37	85.77
Form 4	43	745	14.1	10.02	19.36	259	4558	85.9	80.64	89.98
Form 5	57	846	16.7	12.37	22.06	288	4232	83.3	77.94	87.63
<b>Ethnicity</b>										
Malay	629	9311	26.5	20.59	33.39	1692	25824	73.5	66.61	79.41
Chinese	27	457	24.8	13.77	40.49	80	1388	75.2	59.51	86.23
Indian	9	123	47.9	26.36	70.33	12	134	52.1	29.67	73.64
Bumiputera Sabah										
Bumiputera Sarawak						2	28	100.0	100.00	100.00
Others	7	123	20.1	10.06	36.15	29	490	79.9	63.85	89.94
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	42	598	30.0	21.19	40.67	90	1393	70.0	59.33	78.81
Normal ( $\geq -2sd - \leq +1sd$ )	415	6417	27.3	21.46	34.00	1104	17103	72.7	66.00	78.54
Overweight ( $> +1sd - \leq +2sd$ )	95	1414	25.2	15.76	37.83	281	4191	74.8	62.17	84.24
Obese ( $> +2sd$ )	117	1541	23.5	18.47	29.33	332	5026	76.5	70.67	81.53
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	74	1303	36.6	24.17	51.21	151	2252	63.4	48.79	75.83
Normal ( $\geq -2sd$ )	596	8677	25.4	20.52	31.02	1656	25462	74.6	68.98	79.48

**Table 3.6.6: Types of food supplement usually consumed among adolescents by socio-demographic characteristics (Cont.)**

Characteristic	Spirulina					Fish oil				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	119	1792	4.7	3.64	6.14	150	2567	6.8	4.72	9.65
<b>Locality of School</b>										
Urban	28	293	3.6	2.04	6.42	50	571	7.1	5.07	9.86
Rural	91	1498	5.0	3.79	6.65	100	1996	6.7	4.23	10.44
<b>Sex</b>										
Boys	67	1121	6.0	4.35	8.09	89	1582	8.4	6.21	11.28
Girls	52	670	3.5	2.26	5.46	61	985	5.2	3.19	8.31
<b>Class</b>										
Standard 4	27	285	7.7	5.48	10.64	38	516	13.9	11.31	17.00
Standard 5	14	180	5.1	3.56	7.20	16	437	12.3	5.40	25.69
Standard 6	12	180	4.9	2.63	8.86	11	164	4.4	2.77	7.06
<b>Remove class</b>										
Form 1	22	335	6.2	3.60	10.54	25	366	6.8	4.40	10.33
Form 2	21	426	7.6	4.25	13.18	24	468	8.3	5.26	12.95
Form 3	16	265	4.8	2.58	8.70	15	281	5.1	3.17	8.02
Form 4	4	67	1.3	0.40	3.96	8	150	2.8	1.28	6.08
Form 5	3	54	1.1	0.20	5.41	13	186	3.7	2.09	6.41
<b>Ethnicity</b>										
Malay	113	1704	4.9	3.74	6.28	133	2275	6.5	4.30	9.66
Chinese	3	53	2.9	0.78	9.87	13	226	12.2	8.04	18.16
Indian	2	13	5.2	0.64	31.53	2	28	11.0	2.97	33.36
Bumiputera Sabah										
Bumiputera Sarawak	1	21	76.4	13.48	98.54					
Others						2	38	6.2	2.79	13.29
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	6	60	3.0	1.08	8.08	7	105	5.3	2.58	10.55
Normal ( $\geq -2sd - \leq +1sd$ )	75	1231	5.2	3.80	7.19	94	1589	6.8	4.85	9.36
Overweight ( $> +1sd - \leq +2sd$ )	16	183	3.3	1.53	6.84	22	390	7.0	3.57	13.19
Obese ( $> +2sd$ )	21	300	4.6	3.07	6.70	27	482	7.3	4.06	12.86
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	7	91	2.6	1.18	5.47	18	479	13.5	5.55	29.24
Normal ( $\geq -2sd$ )	111	1682	4.9	3.76	6.45	132	2088	6.1	4.76	7.84



Table 3.6.6: Types of food supplement usually consumed among adolescents by socio-demographic characteristics (Cont.)

Characteristic	Bee Product					Chicken essence				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	409	5649	14.9	11.58	19.02	87	1435	3.8	2.72	5.27
<b>Locality of School</b>										
Urban	135	1257	15.6	9.40	24.84	33	343	4.3	2.25	7.92
Rural	274	4393	14.7	10.96	19.53	54	1092	3.7	2.47	5.41
<b>Sex</b>										
Boys	221	3354	17.8	12.84	24.16	56	1036	5.5	3.87	7.76
Girls	188	2296	12.1	9.70	14.92	31	400	2.1	1.23	3.57
<b>Class</b>										
Standard 4	95	1058	28.5	26.51	30.64	20	283	7.6	5.36	10.78
Standard 5	80	977	27.6	21.35	34.81	8	74	2.1	0.73	5.90
Standard 6	52	669	18.1	14.21	22.86	9	233	6.3	2.72	13.99
Remove class										
Form 1	57	857	15.9	12.08	20.62	17	243	4.5	1.93	10.13
Form 2	35	662	11.8	8.19	16.68	10	203	3.6	2.20	5.91
Form 3	33	545	9.8	6.75	14.14	10	191	3.5	1.77	6.61
Form 4	24	402	7.6	5.16	11.01	5	92	1.7	0.65	4.52
Form 5	33	479	9.5	6.34	13.88	8	116	2.3	1.05	4.90
<b>Ethnicity</b>										
Malay	388	5333	15.2	11.72	19.46	85	1393	4.0	2.84	5.53
Chinese	10	163	8.8	4.52	16.53	2	42	2.3	0.93	5.52
Indian	6	85	33.1	17.36	53.74	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	6	69	17.1	9.48	29.02	-	-	-	-	-
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	21	337	16.9	9.18	29.06	4	159	8.0	1.93	27.65
Normal ( $\geq -2sd - \leq +1sd$ )	239	3478	14.8	11.48	18.90	51	813	3.5	2.63	4.55
Overweight ( $> +1sd - \leq +2sd$ )	61	787	14.1	10.30	18.89	16	255	4.6	2.40	8.51
Obese ( $> +2sd$ )	86	1022	15.5	11.48	20.65	16	208	3.2	1.59	6.19
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	39	643	18.1	12.42	25.58	9	216	6.1	2.23	15.51
Normal ( $\geq -2sd$ )	369	4988	14.6	11.10	19.02	78	1220	3.6	2.81	4.54

**Table 3.6.6: Types of food supplement usually consumed among adolescents by socio-demographic characteristics**

Characteristic	Count	Others			
		Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	230	3531	9.3	7.64	11.34
<b>Locality of School</b>					
Urban	69	665	8.3	5.91	11.44
Rural	161	2867	9.6	7.68	11.98
<b>Sex</b>					
Boys	104	1626	8.6	6.98	10.64
Girls	126	1906	10.0	7.14	13.88
<b>Class</b>					
Standard 4	40	450	12.1	10.16	14.45
Standard 5	37	428	12.1	7.00	19.99
Standard 6	23	528	14.3	8.03	24.28
<b>Remove class</b>					
Form 1	36	530	9.8	7.53	12.73
Form 2	23	457	8.1	4.74	13.61
Form 3	27	436	7.9	4.53	13.34
Form 4	17	289	5.5	3.20	9.13
Form 5	27	413	8.2	5.19	12.61
<b>Ethnicity</b>					
Malay	213	3287	9.4	7.59	11.49
Chinese	7	104	5.6	2.38	12.70
Indian	3	29	11.3	2.54	38.24
Bumiputera Sabah					
Bumiputera Sarawak	1	7	23.6	1.46	86.52
Others	6	105	17.1	9.48	29.02
<b>BMI-for age status (BAZ)</b>					
Thinness (<-2sd)	17	221	11.1	6.52	18.23
Normal ( $\geq -2sd - \leq +1sd$ )	146	2282	9.7	7.33	12.77
Overweight ( $> +1sd - \leq +2sd$ )	22	354	6.3	4.15	9.50
Obese ( $> +2sd$ )	43	639	9.7	7.25	12.89
<b>Height-for - age status (HAZ)</b>					
Stunting (<-2sd)	29	385	10.8	7.74	14.99
Normal ( $\geq -2sd$ )	199	3110	9.1	7.31	11.32

Table 3.6.7: Reasons for taking food supplements among adolescents by socio-demographic characteristics

Characteristic	Doctor's instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	140	1975	12.9	9.55	17.24	259	3819	25.0	20.44	30.17
<b>Locality of School</b>										
Urban	48	398	11.5	7.80	16.66	98	921	26.6	23.32	30.23
Rural	92	1577	13.3	9.35	18.66	161	2899	24.5	18.71	31.41
<b>Sex</b>										
Boys	78	1170	14.6	11.35	18.68	116	1933	24.2	18.80	30.53
Girls	62	804	11.0	7.12	16.72	143	1886	25.9	21.25	31.09
<b>Class</b>										
Standard 4	56	688	26.6	23.41	30.04	69	786	30.4	26.57	34.49
Standard 5	26	430	18.2	14.09	23.17	48	643	27.2	22.31	32.76
Standard 6	12	97	5.2	1.54	16.36	36	618	33.5	19.59	51.09
Remove class										
Form 1	20	289	13.6	6.16	27.38	33	511	24.0	13.11	39.90
Form 2	11	215	9.3	4.89	16.95	27	502	21.7	15.91	28.83
Form 3	11	189	11.1	7.37	16.45	21	351	20.7	13.88	29.71
Form 4	2	40	3.5	0.70	15.36	11	194	16.9	9.75	27.71
Form 5	2	28	2.3	0.29	16.32	14	214	17.7	9.71	30.19
<b>Ethnicity</b>										
Malay	134	1906	13.3	9.87	17.64	241	3543	24.7	19.79	30.32
Chinese	3	48	9.9	5.00	18.83	10	157	32.6	25.41	40.71
Indian	2	13	8.4	0.97	46.34	3	37	23.3	8.01	51.51
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	7	2.5	0.20	23.54	5	83	28.6	20.62	38.21
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	16	298	26.7	18.01	37.67	17	275	24.6	16.44	35.19
Normal ( $\geq -2sd - \leq +1sd$ )	79	1117	11.7	8.80	15.29	155	2431	25.4	19.19	32.74
Overweight (> +1sd - $\leq +2sd$ )	17	238	11.4	6.64	18.82	35	392	18.7	13.74	24.98
Obese (> +2sd)	28	321	13.3	8.27	20.69	51	714	29.6	22.23	38.12
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	21	437	24.5	17.47	33.29	29	465	26.2	18.51	35.58
Normal ( $\geq -2sd$ )	119	1538	11.4	8.45	15.33	230	3354	25.0	20.25	30.36

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Table 3.6.7: Reasons for taking food supplements among adolescents by socio-demographic characteristics (Cont.)

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	194	2989	19.6	16.75	22.69	28	404	2.6	1.73	4.03
<b>Locality of School</b>										
Urban	61	654	18.9	11.91	28.69	61	57	1.6	0.68	3.88
Rural	133	2335	19.7	16.98	22.82	21	348	2.9	1.81	4.74
<b>Sex</b>										
Boys	108	1845	23.1	19.36	27.27	21	338	4.2	2.51	7.05
Girls	86	1144	15.7	12.52	19.48	7	66	0.9	0.35	2.28
<b>Class</b>										
Standard 4	35	365	14.1	10.97	17.99	8	98	3.8	2.71	5.30
Standard 5	36	586	24.8	19.87	30.57	3	21	0.9	0.18	4.34
Standard 6	23	356	19.3	14.51	25.25					
Remove class										
Form 1	24	359	16.9	10.02	27.02	10	149	7.0	3.35	14.13
Form 2	22	450	19.4	12.57	28.80	4	82	3.5	1.43	8.46
Form 3	23	386	22.7	14.36	34.08			0.0	0.00	0.00
Form 4	13	216	18.9	13.01	26.56	1	17	1.5	0.22	9.53
Form 5	18	270	22.3	13.26	35.08	2	36	3.0	0.92	9.39
<b>Ethnicity</b>										
Malay	180	2733	19.0	16.41	21.98	28	404	2.8	1.84	4.29
Chinese	6	121	25.1	9.45	51.79	-	-	-	-	-
Indian	4	78	48.8	15.72	82.96	-	-	-	-	-
Bumiputera Sabah										
Bumiputera Sarawak										
Others	4	57	19.7	10.91	32.93	-	-	-	-	-
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	9	151	13.5	9.12	19.47	1	16	1.4	0.15	12.14
Normal (≥ - 2sd - ≤+ 1sd )	22	1990	20.8	17.70	24.21	22	337	3.5	2.44	5.05
Overweight (> +1sd - ≤+ 2sd)	1	427	20.4	13.82	29.05	1	6	0.3	0.04	2.30
Obese (> + 2sd)	31	385	16.0	11.26	22.12	4	45	1.9	0.54	6.25
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	21	406	22.8	16.13	31.23	3	94	5.3	2.16	12.45
Normal (≥-2sd )	171	2547	19.0	16.00	22.32	25	310	2.3	1.29	4.11

**Table 3.6.7: Reasons for taking food supplements among adolescents by socio-demographic characteristics (Cont.)**

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
<b>Perlis</b>	65	928	6.1	4.92	7.47
<b>Locality of School</b>					
Urban	20	210	6.1	3.65	9.93
Rural	45	718	6.1	4.83	7.60
<b>Sex</b>					
Boys	34	573	7.2	5.86	8.75
Girls	31	354	4.9	3.04	7.69
<b>Class</b>					
Standard 4	7	114	4.4	2.80	6.86
Standard 5	9	80	3.4	0.96	11.13
Standard 6	15	200	10.8	8.21	14.19
Remove class					
Form 1	10	137	6.4	3.28	12.25
Form 2	3	62	2.7	1.04	6.74
Form 3	5	85	5.0	1.89	12.65
Form 4	5	84	7.3	2.03	23.22
Form 5	11	166	13.7	8.80	20.81
<b>Ethnicity</b>					
Malay	62	895	6.2	4.97	7.81
Chinese	2	25	5.1	1.61	15.25
Indian	1	8	4.7	0.52	32.03
Bumiputera Sabah					
Bumiputera Sarawak					
Others	-	-	-	-	-
<b>BMI-for age status (BAZ)</b>					
Thinness (<-2sd )	3	22	2.0	0.38	9.48
Normal ( $\geq -2sd - \leq +1sd$ )	38	473	4.9	2.88	8.33
Overweight ( $> +1sd - \leq +2sd$ )	11	208	9.9	4.53	20.37
Obese ( $> +2sd$ )	12	208	8.6	5.06	14.24
<b>Height-for - age status (HAZ)</b>					
Stunting (<-2sd )	4	54	3.0	0.88	9.95
Normal ( $\geq -2sd$ )	60	856	6.4	5.19	7.80

**Table 3.6.8: Frequency of taking food supplements among adolescents by socio-demographic characteristics (Cont.)**

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	253	4000	10.5	7.39	14.83	156	2379	6.3	4.37	8.92
<b>Locality of School</b>										
Urban	75	672	8.3	5.32	12.86	62	637	7.9	4.36	13.93
Rural	178	3328	11.1	7.45	16.32	94	1743	5.8	3.71	9.05
<b>Sex</b>										
Boys	123	2282	12.1	7.52	18.90	95	1503	8.0	5.63	11.16
Girls	130	1718	9.0	6.96	11.60	61	876	4.6	2.58	8.07
<b>Class</b>										
Standard 4	64	840	22.6	19.13	26.39	39	434	11.6	8.20	16.27
Standard 5	35	550	15.5	12.82	18.51	26	345	9.7	6.69	13.85
Standard 6	32	580	15.7	9.56	24.73	15	279	7.5	4.54	12.27
Remove class										
Form 1	33	477	8.8	5.27	14.46	29	473	8.8	5.23	14.37
Form 2	32	634	11.3	7.75	16.14	19	378	6.7	3.93	11.23
Form 3	26	421	7.6	3.87	14.49	14	262	4.7	2.34	9.38
Form 4	11	206	3.9	1.80	8.16	5	84	1.6	0.64	3.82
Form 5	20	291	5.7	4.24	7.66	9	125	2.5	0.83	7.03
<b>Ethnicity</b>										
Malay	239	3758	10.7	7.31	15.33	145	2207	6.3	4.29	9.07
Chinese	8	137	7.5	3.10	17.00	6	106	5.8	2.63	12.20
Indian	5	81	31.4	9.98	65.41	4	50	19.4	5.20	51.53
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	25	4.0	1.14	13.08	1	17	2.7	0.30	20.41
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	13	210	10.5	6.44	16.80	11	167	8.4	3.71	17.90
Normal ( $\geq -2sd - \leq +1sd$ )	163	2714	11.5	7.55	17.23	93	1482	6.3	4.41	8.92
Overweight ( $> +1sd - \leq +2sd$ )	31	445	7.9	5.55	11.18	27	337	6.0	3.21	10.95
Obese ( $> +2sd$ )	44	605	9.2	6.74	12.40	25	393	6.0	2.93	11.77
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	31	646	18.3	9.15	33.13	14	224	6.3	3.70	10.65
Normal ( $\geq -2sd$ )	221	3336	9.8	7.20	13.09	142	2155	6.3	4.37	9.00

**Table 3.6.8: Frequency of taking food supplements among adolescents by socio-demographic characteristics**

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>Perlis</b>	197	2649	7.0	5.57	8.73	358	5496	14.5	11.46	18.16
<b>Locality of School</b>										
Urban	102	697	12.3	7.68	19.11	102	990	12.3	7.68	19.11
Rural	130	1953	6.5	4.97	8.54	256	4506	15.1	11.69	19.24
<b>Sex</b>										
Boys	118	1710	9.1	6.93	11.77	185	2969	15.7	13.01	18.91
Girls	79	939	4.9	3.68	6.58	173	2527	13.3	9.66	17.93
<b>Class</b>										
Standard 4	51	464	12.5	8.65	17.65	68	977	26.2	19.51	34.25
Standard 5	34	473	13.3	9.35	18.54	60	766	21.5	17.12	26.67
Standard 6	22	251	6.8	4.18	10.87	39	588	15.9	13.88	18.21
Remove class										
Form 1	26	375	7.0	4.30	11.05	55	797	14.8	11.25	19.21
Form 2	18	353	6.3	3.24	11.80	46	884	15.7	11.54	21.03
Form 3	20	319	5.8	3.19	10.28	31	526	9.5	5.77	15.34
Form 4	8	134	2.5	1.10	5.64	32	558	10.5	6.94	15.53
Form 5	18	280	5.5	3.62	8.26	27	400	7.9	5.81	10.55
<b>Ethnicity</b>										
Malay	186	2504	7.1	5.62	8.97	336	5142	14.6	11.42	18.50
Chinese	7	94	5.1	1.85	13.38	12	221	12.1	9.12	15.89
Indian	1	5	2.1	0.27	14.55	1	7	2.6	0.31	18.18
Bumiputera Sabah										
Bumiputera Sarawak	1	7	23.6	1.46	86.52	1	21	76.4	13.48	98.54
Others	2	40	6.5	3.33	12.21	8	105	17.1	9.62	28.54
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	13	150	7.5	3.48	15.50	21	405	20.3	9.29	38.90
Normal ( $\geq -2sd - \leq +1sd$ )	121	1672	7.1	5.40	9.30	222	3490	14.8	12.15	17.99
Overweight ( $> +1sd - \leq +2sd$ )	27	361	6.4	4.27	9.53	46	719	12.8	7.95	19.93
Obese ( $> +2sd$ )	36	467	7.1	5.10	9.75	68	864	13.1	9.65	17.55
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	14	187	5.3	2.69	10.09	41	768	21.7	13.35	33.25
Normal ( $\geq -2sd$ )	183	2463	7.2	5.58	9.24	316	4711	13.8	11.20	16.83

### **3.7 Food and nutrition labeling Among Adolescents (Secondary 1 To Secondary 5) In Perlis**

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#### **3.7.1 Introduction**

Recognizing the need for more effective regulation of the nutrition labels and claims on food packages, the Ministry of Health Malaysia (MOH) gazetted amendments to Food Regulations 1985 in 2003 (MOH, 1985). MOH has also gazetted and enforced Regulations on Nutrition Labelling and Claims. Regulations were introduced requiring manufacturers to describe the nutritional qualities of a food product factually and informatively.

Nutrition information on food labels to assist food choices and implementation of Front-of-Pack (FOP) labelling are listed as current nutrition programs and activities in the National Plan of Action for Nutrition of Malaysia III, 2016-2025. Food and nutrition labelling are designed to provide consumers on various information when choosing food. Food and nutrition labelling in this survey include food labelling, FOP labelling, nutrition information panel (NIP) and nutrition labelling. Food labelling includes any written, printed or graphic matter that is presented on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal. NIP declares the nutrients as a table in one section of a food label. In addition, nutrition labelling describes the nutrient content of a food product and this may assist the consumers in making better food choices when planning their daily meals. Thus, food and nutrition labelling has been recognized as one of the strategies to encourage people to adopt healthy eating practices. . There is no national data in Malaysia on prevalence of food label reading among Malaysian children and teenagers. Therefore, this survey was conducted to determine the prevalence of reading and their understanding of food and nutritional labelling among adolescents in Malaysia.

#### **3.7.2 Objective**

##### **3.7.2.1 General objective**

To determine the prevalence of reading food and nutrition labeling among adolescents (Secondary 1 to Secondary 5).

##### **3.7.2.2 Specific objective:**

1. To determine the prevalence of reading food label when buying or receiving food/drink.
2. To determine the reason(s) for not reading food labels.



3. To determine the types of nutrition fact information (energy, carbohydrate/ sugar, fat, protein, sodium, vitamin, mineral and fibre content) that is read from the food label.
4. To determine the types of information (expiry date, nutritional claim, nutrition facts, halal logo, food ingredients, storage instruction) read from the food label.
5. To determine the understanding of nutrition labelling (nutrition facts and front of pack).
6. To determine the knowledge of the most and least amount of ingredients contained based on the food ingredients list.

### **3.7.3 Variable definitions**

#### **There were three classifications used in this study**

- a. Always: reads food labels every time when buying or receiving food/drinks
- b. Sometimes: occasionally or once in a while reads food labels when buying or receiving food/drink
- c. Never: does not read food labels at all.

#### **Food label**

- A food label includes any tag, brand, mark, pictorial or other descriptive matter, written, printed, stenciled, marked, painted, embossed or impressed on, or attached to or included in, belonging to, or accompanying any food. (Malaysia Food Regulations 1985).

#### **Front of Pack (FOP) labels**

- Simplified nutrition information on the front of the package, in varied forms.

#### **Nutrition information panel/ Nutrition facts**

- The nutrition information panel or NIP is a table found in one section of a food label declaring the amount of nutrients contained in the food.

#### **Nutrition labelling**

- A nutrition label is a listing of the level of nutrient(s) as displayed on the food label. It is meant to provide factual information about the nutritional content of the product.

### 3.7.4 Findings

#### 3.7.4.1 Prevalence of practise reading food labels when buying or receiving food/drink among adolescents in Perlis

The results in Table 3.7.1 showed that 38.2% (95% CI: 33.71,42.84) of adolescents in Perlis reported as always reading food labels. Another 50.3% (95% CI: 45.95,54.63) of adolescents reported as sometimes, while only 11.5% (95% CI: 9.14,14.47) reported as never reading food labels when buying or receiving food. The prevalence of never reading food labels was slightly higher among boys [13.7% (95% CI: 10.45,17.86)] than girls [9.4% (95% CI: 7.20,12.20)].

#### 3.7.4.2 Reasons for not reading food and nutrition labelling among adolescents in Perlis

Among those who did not read food labels, the findings showed that the main reasons for not reading food labels were food labels were not interesting [30.5% (95% CI: 22.19,40.26)], followed by the and did not understand food labels [21.6% (95% CI: 16.91,27.12)], 14.6% (95% CI: 8.94,22.84) of adolescents think that the size of the printing on food labels was too small, 13.7% (95% CI: 9.46,19.51) of adolescents did not know the importance of food labels. The results also revealed that time constraint [13.4% (95% CI: 9.16,19.27)] and 10.3% (95% CI: 6.75,15.30) and of adolescents were already aware of the food label information. (Table 3.7.2).

#### 3.7.4.3 Types of nutrition fact information (energy, carbohydrate/ sugar, fat, protein, sodium, vitamin, mineral and fibre content) that read from the food labels.

Among those who read the nutrition fact information, the three most common types of nutritional information being read were fat content [40.4% (95% CI: 32.98,48.38)], energy content [38.5% (95% CI: 35.92,41.14)], carbohydrate content (including sugar) [35.4% (95% CI: 29.89,41.33) and protein content [22.6% (95% CI: 19.04,26.53)]. It was followed by vitamin content [20.7% (95% CI: 16.69,25.32)], fibre content [10.5% (95% CI: 57.76,13.93)], sodium content [9.7% (95% CI: 7.33,12.82 and the least was mineral content [7.8% (95% CI: 55.74,10.60)] (Table 3.7.3a and Table 3.7.3b)

#### 3.7.4.4 Types of information (expiry date, nutrition claim, nutrition facts, halal logo, food ingredients and storage instruction) read from the food labels

Based on types of information (expiry date, nutrition claim, nutrition facts, halal logo, food ingredients, storage instruction) read from the food labels, most of the adolescents read expiry date [73.8% (95% CI: 68.65 ,78.31)], followed by halal logo [51.2% (95% CI: 41.07,61.17)], food ingredients [30.4% (95% CI: 24.85,36.62)], nutrition fact [23.8% (95% CI: 20.46, 27.46)], storage instruction [20.6% (95% CI: 16.26,25.71)] and nutrition claim [17.8% (95% CI: 14.66,21.50)] (Table 3.7.4).

#### 3.7.4.5 Understanding of nutrition facts among adolescents in Perlis

Overall, approximately half of the adolescents had given a correct response to the question assessing interpretation of the energy content [57.4% (95% CI: 49.18,65.19)] and sugar content [52.5% (95% CI: 45.20,59.75)] based on the nutrition facts given. While 40.8% (95% CI: 32.71,49.51) of adolescents had given correct responses for both questions assessing interpretation of energy and sugar content (**Table 3.7.5**).

#### 3.7.4.6 Understanding of front of pack labelling among adolescents in Perlis

Overall, [33.5% (95% CI: 43.98, 58.65)] of the adolescents had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and [44.9% (95% CI: 39.63,50.26)] of adolescents had given correct response to question assessing interpretation of the percentage of energy content based on the front of pack labelling given. However, the results showed only 22.7% (95% CI: 17.45, 28.91) of adolescents had given correct responses to questions assessing interpretations of both the energy content and the percentage of energy content based on the front of pack labelling given (**Table 3.7.6**).

#### 3.7.4.7 Understanding of the mostly and the least used ingredients based on the food ingredient list among adolescents in Perlis

Overall, less than half of the adolescents [58.8% (95% CI: 55.34, 62.11)] had given a correct response to the question assessing interpretation of the mostly used ingredient in the food based on the list of ingredients given. Girls [64.2 % (95% CI: 59.19, 68.92)] reported a higher prevalence of interpreting correctly as compared to the boys [45.3% (95% CI: 39.06,51.65)]. While, 15.4% (95% CI 13.37,17.63) of adolescents had given a correct response to the question assessing interpretation of the least used ingredient in the food based on the list of ingredients given. The results showed a low level of correct response [8.2% (95% CI: 7.04,9.64)] to questions assessing interpretations of both the mostly and the least used ingredients based on the ingredient list given (**Table 3.7.7**).

#### 3.7.5 Discussion/Conclusion

This study provides useful information about the prevalence of reading food and nutrition labelling among adolescents in Perlis. Adolescents reported a lower prevalence of not reading food label. Continuous education regarding understanding the food and nutrition labelling, not limited to the expiry date, but also the nutritional content and the benefits of front of pack labelling and nutrition information panel is necessary. Boys had a higher prevalence of not reading food and nutrition labelling. Thus, we need to be creative in education and promotion to ensure that adolescents know how to interpret the overall information that is stated on the food and nutrition labelling before choosing packaged food and drinks. In this survey, majority of the adolescents still lack of knowledge to determine the highest and

lowest ingredients content based on the label. Awareness and continuous effort to better understand the food and nutrition labelling should be inculcated within all nutrition intervention programmes.

### **References**

1. Institute for Public Health. National health and Morbidity Survey 2014. Malaysian Adult Nutrition Survey. Vol II.
2. Malaysia Food Regulations (1985). Ministry of Health Malaysia.
3. National Coordinating Committee on Food and Nutrition. 2010. Malaysian Dietary Guidelines. Ministry of Health.

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Table 3.7.1: Prevalence of reading food and nutritional labelling when buying or receiving food/drink among adolescents (Cont.)

Characteristic	Yes, always					Yes, sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	623	10175	38.2	33.71	42.84	837	13407	50.3	45.95	54.63
<b>Locality of School</b>										
Urban	133	2068	36.5	31.95	41.26	182	2795	49.3	44.24	54.37
Rural	490	8107	38.6	33.16	44.39	655	10612	50.6	45.24	55.87
<b>Sex</b>										
Boys	272	4957	37.8	32.91	42.88	357	6365	48.5	43.14	53.89
Girls	351	5219	38.6	33.63	43.74	480	7042	52.0	46.96	57.07
<b>Class</b>										
Form 1	156	2245	41.9	34.67	49.44	174	2540	47.4	40.65	54.18
Form 2	144	2686	48.6	38.87	58.39	125	2327	42.1	34.70	49.82
Form 3	115	1882	34.3	27.31	42.06	175	2741	50.0	40.66	59.27
Form 4	105	1836	34.8	27.69	42.59	170	2988	56.6	48.13	64.68
Form 5	103	1525	30.5	24.66	37.09	193	2811	56.2	48.21	63.96
<b>Ethnicity</b>										
Malay	584	9506	39.1	34.25	44.08	765	12189	50.1	45.38	54.77
Chinese	29	486	26.4	18.28	36.42	57	982	53.2	45.19	61.05
Indian	5	92	47.3	20.24	76.02	6	85	43.9	14.50	78.30
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	21	100.0	100.00	100.00	-	-	-	-	-
Others	4	70	27.4	15.94	42.98	9	151	59.0	27.05	84.83
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	24	404	33.6	22.56	46.75	39	650	54.1	42.55	65.19
Normal (≥-2sd - ≤+1sd)	405	6634	39.0	33.72	44.63	540	8543	50.3	45.10	55.44
Overweight (>+1sd - ≤+2sd)	90	1434	36.4	30.57	42.67	130	2127	54.0	48.31	59.55
Obese (>+2sd)	100	1632	37.6	29.09	46.99	124	2009	46.3	39.17	53.63
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	69	1093	43.9	34.90	53.39	77	1175	47.2	37.23	57.41
Normal (≥-2sd)	550	9010	37.6	32.56	42.85	756	12155	50.7	45.71	55.63

Table 3.7.1: Prevalence of reading food and nutritional labelling when buying or receiving food/drink among adolescents

Characteristic	Never				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>PERLIS</b>	187	3076	11.5	9.14	14.47
<b>Locality of School</b>					
Urban	50	806	14.2	8.86	22.03
Rural	137	2270	10.8	8.39	13.82
<b>Sex</b>					
Boys	100	1803	13.7	10.45	17.86
Girls	87	1273	9.4	7.20	12.20
<b>Class</b>					
Form 1	40	577	10.8	7.04	16.13
Form 2	27	517	9.4	5.66	15.07
Form 3	50	863	15.7	10.71	22.50
Form 4	26	456	8.6	5.34	13.69
Form 5	44	662	13.2	9.40	18.33
<b>Ethnicity</b>					
Malay	163	2647	10.9	8.20	14.29
Chinese	21	377	20.4	13.97	28.91
Indian	1	17	8.8	1.58	36.91
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	2	35	13.550295	2.97	44.54
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	9	148	12.3	6.99	20.85
Normal (≥-2sd - ≤+1sd)	110	1817	10.7	7.98	14.18
Overweight (>+1sd - ≤+2sd)	23	379	9.6	5.93	15.22
Obese (>+2sd)	43	696	16.1	11.19	22.50
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	15	220	8.9	4.06	18.23
Normal (≥-2sd)	170	2820	11.8	9.48	14.50

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Table 3.7.2: Reasons for not reading food label among adolescents (Cont.)

Characteristic	Size of the print too small					Do not understand				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	28	448	14.6	8.94	22.84	41	664	21.6	16.91	27.12
<b>Locality of School</b>										
Urban	7	122	15.1	6.89	30.03	14	218	27.0	18.16	38.21
Rural	21	326	14.4	7.82	24.90	27	446	19.6	14.99	25.32
<b>Sex</b>										
Boys	14	243	13.5	7.20	23.75	18	330	18.3	12.74	25.55
Girls	14	205	16.1	9.20	26.75	23	334	26.2	17.58	37.25
<b>Class</b>										
Form 1	8	120	20.8	10.46	37.00	6	84	14.5	5.53	33.01
Form 2	4	68	13.2	2.96	43.17	8	153	29.6	14.64	50.84
Form 3	10	164	19.0	9.03	35.75	11	183	21.2	11.51	35.76
Form 4	3	48	10.6	2.74	33.35	4	70	15.3	5.93	33.95
Form 5	3	47	7.1	2.62	17.91	12	174	26.3	16.45	39.30
<b>Ethnicity</b>										
Malay	27	431	16.3	9.88	25.69	34	541	20.4	15.89	25.88
Chinese	1	17	4.4	1.58	11.71	6	106	28.1	16.45	43.61
Indian						1	17	100.0	100.00	100.00
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)						5	89	60.2	27.09	86.03
Normal (≥-2sd - ≤+1sd)	18	285	15.7	7.85	28.85	23	370	20.4	14.67	27.58
Overweight (>+1sd - ≤+2sd)	5	83	22.0	7.28	50.23	5	84	22.3	9.23	44.80
Obese (>+2sd)	5	80	11.5	3.19	33.83	8	120	17.2	5.36	43.32
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	3	47	21.4	6.38	52.15	5	74	33.8	16.86	56.19
Normal (≥-2sd)	25	401	14.2	8.93	21.88	36	589	20.9	16.24	26.49

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Table 3.7.2: Reasons for not reading food label among adolescents (Cont.)

Characteristic	Not interesting					Do not know the importance of food label				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	57	938	30.5	22.19	40.26	21	316	10.3	6.75	15.30
<b>Locality of School</b>										
Urban	17	274	34.0	17.81	55.07	8	116	14.3	9.16	21.76
Rural	40	663	29.2	20.29	40.12	13	200	8.8	4.89	15.36
<b>Sex</b>										
Boys	27	491	27.2	17.14	40.40	11	169	9.4	5.21	16.23
Girls	30	446	35.1	23.12	49.24	10	147	11.6	5.66	22.15
<b>Class</b>										
Form 1	11	160	27.8	11.47	53.26	7	101	17.5	7.97	34.17
Form 2	7	132	25.5	9.40	53.14	2	37	7.2	1.77	25.29
Form 3	13	230	26.6	13.89	44.95	1	12	1.4	0.14	12.97
Form 4	13	227	49.8	29.63	69.99	2	37	8.1	1.72	30.70
Form 5	13	188	28.4	16.96	43.57	9	128	19.3	8.37	38.62
<b>Ethnicity</b>										
Malay	43	686	25.9	18.36	35.27	20	296	11.2	7.08	17.27
Chinese	13	236	62.5	55.03	69.41					
Indian										
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	16	45	3	95	1	19	55	5	97
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	14	9.5	1.60	40.37	1	12	8.3	0.77	51.42
Normal (≥-2sd - ≤+1sd)	35	592	32.6	25.20	40.99	15	224	12.3	7.48	19.70
Overweight (>+1sd - ≤+2sd)	7	119	31.4	12.58	59.32	1	14	3.7	0.36	28.97
Obese (>+2sd)	14	212	30.5	18.48	45.89	4	65	9.4	2.92	26.20
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	3	46	20.8	6.60	49.40	2	27	12.4	3.02	39.15
Normal (≥-2sd)	54	892	31.6	23.39	41.20	19	288	10.2	6.59	15.54



Table 3.7.2: Reasons for not reading food label among adolescents

Characteristic	Time constraint					Already aware of the food label information				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	25	413	13.4	9.16	19.27	25	422	13.7	9.46	19.51
<b>Locality of School</b>										
Urban	6	96	11.9	3.97	30.46	5	76	9.4	6.46	13.49
Rural	19	317	14.0	9.66	19.82	20	347	15.3	10.03	22.57
<b>Sex</b>										
Boys	18	312	17.3	10.11	27.99	16	295	16.4	10.34	24.90
Girls	7	101	8.0	3.19	18.50	9	128	10.0	5.66	17.13
<b>Class</b>										
Form 1	4	58	10.1	4.72	20.32	5	69	12.0	4.70	27.24
Form 2	3	66	12.7	4.25	32.43					
Form 3	4	74	8.6	2.87	23.00	10	183	21.2	10.51	38.04
Form 4	2	34	7.4	1.44	30.49	5	91	20.0	9.27	38.09
Form 5	12	181	27.3	20.06	36.05	5	79	12.0	6.69	20.44
<b>Ethnicity</b>										
Malay	25	413	15.6	11.43	20.94	24	406	15.3	10.74	21.41
Chinese	-	-	-	-	-	1	17	4.4	1.58	11.71
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	2	33	22.0	5.80	56.34	-	-	-	-	-
Normal (≥-2sd - ≤+1sd)	17	275	15.2	9.52	23.29	8	140	7.7	4.01	14.36
Overweight (>+1sd - ≤+2sd)	1	14	3.7	0.55	21.30	4	57	15.1	4.65	39.30
Obese (>+2sd)	4	73	10.5	4.46	22.71	12	207	29.7	17.10	46.42
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	2	27	12.1	2.75	40.35	1	12	5.5	0.65	34.01
Normal (≥-2sd)	22	368	13.1	8.91	18.76	23	392	13.9	9.65	19.65

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Table 3.7.3a: Prevalence of reading nutrition information (macronutrient) among those who read food label (Yes, always/ Yes, sometimes) (Cont)

Characteristic	Yes, always/ Yes, sometimes									
	Total energy					Carbohydrate				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	557	9079	38.5	35.92	41.14	528	8348	35.4	29.89	41.33
<b>Locality of School</b>										
Urban	118	1806	37.1	34.04	40.34	116	1741	35.8	22.70	51.43
Rural	439	7273	38.9	35.74	42.06	412	6607	35.3	29.43	41.64
<b>Sex</b>										
Boys	244	4433	39.2	36.50	41.87	201	3567	31.5	26.44	37.05
Girls	313	4646	37.9	34.35	41.57	327	4782	39.0	32.04	46.44
<b>Class</b>										
Form 1	101	1471	30.7	24.50	37.77	107	1524	31.9	22.64	42.75
Form 2	110	2059	41.1	33.53	49.04	87	1566	31.2	23.22	40.55
Form 3	111	1774	38.4	29.17	48.48	97	1499	32.4	23.62	42.67
Form 4	117	2080	43.1	34.90	51.74	108	1884	39.1	31.82	46.83
Form 5	118	1696	39.1	34.05	44.40	129	1874	43.2	36.66	50.03
<b>Ethnicity</b>										
Malay	518	8391	38.7	35.89	41.54	496	7832	36.1	30.75	41.82
Chinese	29	510	34.7	32.23	37.30	22	361	24.6	15.59	36.53
Indian	5	92	51.9	19.44	82.79	5	70	39.5	15.94	69.15
Bumiputera Sabah										
Bumiputera Sarawak										
Others	5	87	39.2	29.32	50.13	5	86	38.6	22.86	57.09
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	21	356	33.8	25.05	43.76	25	417	39.6	26.29	54.56
Normal (≥-2sd - ≤+1sd)	357	5752	37.9	35.04	40.85	331	5175	34.1	28.57	40.10
Overweight (>+1sd - ≤+2sd)	94	1546	43.4	37.84	49.15	83	1306	36.7	27.83	46.52
Obese (>+2sd)	83	1383	38.0	29.30	47.52	85	1373	37.7	31.07	44.82
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	55	841	37.1	25.96	49.78	54	830	36.6	27.43	46.86
Normal (≥-2sd)	500	8196	38.7	36.17	41.34	470	7441	35.2	29.59	41.15

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Table 3.7.3a: Prevalence of reading nutrition information (macronutrient) among those who read food label (Yes, always/ Yes, sometimes)

Characteristic	Yes, always/ Yes, sometimes									
	Fat					Protein				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	611	9537	40.4	32.98	48.38	332	5321	22.6	19.04	26.53
<b>Locality of School</b>										
Urban	133	2014	41.4	34.88	48.26	79	1234	25.4	16.90	36.23
Rural	478	7523	40.2	31.06	50.05	253	4087	21.8	18.28	25.86
<b>Sex</b>										
Boys	206	3598	31.8	25.04	39.37	150	2623	23.2	18.44	28.69
Girls	405	5940	48.4	39.92	57.06	182	2697	22.0	17.30	27.56
<b>Class</b>										
Form 1	119	1641	34.3	25.73	44.03	69	970	20.3	13.33	29.58
Form 2	102	1816	36.2	26.28	47.52	65	1215	24.2	16.09	34.78
Form 3	133	2057	44.5	33.40	56.14	56	876	18.9	12.83	27.06
Form 4	127	2190	45.4	34.43	56.82	70	1214	25.2	18.46	33.31
Form 5	130	1834	42.3	28.54	57.33	72	1047	24.1	18.94	30.24
<b>Ethnicity</b>										
Malay	566	8803	40.6	32.76	48.90	295	4680	21.6	17.84	25.84
Chinese	32	520	35.4	28.86	42.59	29	495	33.7	24.78	44.07
Indian	5	69	38.8	15.71	68.39	2	28	15.8	3.80	47.21
Bumiputera Sabah										
Bumiputera Sarawak	1	21	100	100	100					
Others	7	124	55.9	17.23	88.53	6	117	52.9	17.85	85.35
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	17	269	25.5	15.70	38.60	18	304	28.9	17.95	42.91
Normal (≥-2sd - ≤+1sd)	370	5784	38.1	30.14	46.78	230	3677	24.2	20.34	28.59
Overweight (>+1sd - ≤+2sd)	115	1760	49.4	42.94	55.95	45	720	20.2	14.18	27.97
Obese (>+2sd)	106	1664	45.7	34.15	57.75	36	566	15.5	11.32	20.94
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	51	775	34.2	23.61	46.61	32	498	22.0	15.49	30.17
Normal (≥-2sd)	557	8702	41.1	33.40	49.29	297	4769	22.5	18.76	26.82

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

Table 3.7.3b: Prevalence of reading nutrition information (micronutrient/fiber) among those who read food label (Yes, always/ Yes, sometimes) (Cont)

Characteristic	Yes, always/ Yes, sometimes									
	Sodium					Vitamin				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	147	2296	9.7	7.33	12.82	310	4875	20.7	16.69	25.32
<b>Locality of School</b>										
Urban	26	395	8.1	4.69	13.71	54	798	16.4	9.97	25.81
Rural	121	1901	10.2	7.38	13.82	256	4077	21.8	17.36	26.96
<b>Sex</b>										
Boys	47	801	7.1	4.83	10.26	119	2060	18.2	14.69	22.33
Girls	100	1495	12.2	8.70	16.84	191	2815	23.0	17.70	29.23
<b>Class</b>										
Form 1	35	499	10.4	5.97	17.61	75	1071	22.4	15.80	30.71
Form 2	28	482	9.6	5.93	15.23	57	1022	20.4	13.69	29.27
Form 3	23	374	8.1	3.92	15.98	54	815	17.6	12.48	24.33
Form 4	29	491	10.2	5.78	17.30	61	1067	22.1	15.85	30.00
Form 5	32	450	10.4	5.75	17.99	63	899	20.7	14.53	28.69
<b>Ethnicity</b>										
Malay	136	2110	9.7	7.18	13.04	278	4333	20.0	16.46	24.02
Chinese	8	138	9.4	4.12	20.01	27	452	30.8	16.79	49.58
Indian	1	15	8.7	1.18	42.97	2	30	17.1	4.61	46.97
Bumiputera Sabah										
Bumiputera Sarawak										
Others	2	34	15.1	10.99	20.46	3	59	26.8	6.50	65.74
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	82	7.7	2.75	19.96	19	317	30.1	17.03	47.41
Normal (≥-2sd - ≤+1sd)	96	1491	9.8	7.03	13.58	207	3229	21.3	17.32	25.85
Overweight (>+1sd - ≤+2sd)	23	363	10.2	6.41	15.87	44	715	20.1	12.50	30.63
Obese (>+2sd)	23	360	9.9	6.00	15.87	34	501	13.8	8.51	21.51
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	13	207	9.1	5.29	15.25	25	380	16.8	10.45	25.81
Normal (≥-2sd)	134	2090	9.9	7.23	13.34	279	4381	20.7	16.37	25.83

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

Table 3.7.3b: Prevalence of reading nutrition information (micronutrient/fiber) among those who read food label (Yes, always/ Yes, sometimes)

Characteristic	Yes, always/ Yes, sometimes									
	Mineral					Fiber				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	117	1846	7.8	5.74	10.60	157	2465	10.5	7.76	13.93
<b>Locality of School</b>										
Urban	17	246	5.1	2.18	11.27	29	443	9.1	7.24	11.40
Rural	100	1601	8.5	6.24	11.60	128	2022	10.8	7.56	15.21
<b>Sex</b>										
Boys	42	725	6.4	4.36	9.31	57	986	8.7	5.60	13.30
Girls	75	1121	9.1	6.42	12.87	100	1479	12.1	8.97	16.03
<b>Class</b>										
Form 1	26	360	7.5	4.25	12.97	34	474	9.9	5.48	17.28
Form 2	22	396	7.9	4.41	13.78	23	403	8.0	4.68	13.47
Form 3	18	288	6.2	3.19	11.82	39	611	13.2	7.68	21.77
Form 4	25	433	9.0	4.11	18.49	32	556	11.5	7.10	18.18
Form 5	26	369	8.5	5.01	14.07	29	421	9.7	6.23	14.79
<b>Ethnicity</b>										
Malay	107	1668	7.7	5.68	10.34	141	2208	10.2	7.42	13.81
Chinese	7	126	8.6	3.12	21.61	11	183	12.4	7.98	18.90
Indian						2	26	14.9	3.26	47.45
Bumiputera Sabah										
Bumiputera Sarawak										
Others	3	52	23.3	7.99	51.53	3	48	21.5	5.50	56.26
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	76	7.2	2.74	17.56	3	61	5.8	1.61	18.65
Normal (≥-2sd - ≤+1sd)	74	1153	7.6	5.18	11.01	97	1483	9.8	6.64	14.16
Overweight (>+1sd - ≤+2sd)	26	424	11.9	8.22	16.95	29	477	13.4	9.31	18.91
Obese (>+2sd)	11	157	4.3	1.96	9.29	26	408	11.2	8.04	15.39
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	5	75	3.3	1.35	7.83	9	141	6.2	3.04	12.37
Normal (≥-2sd)	110	1736	8.2	5.89	11.30	146	2288	10.8	7.86	14.69

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Table 3.7.4: Prevalence of reading food label among those who read food label (Yes, always/ Yes, sometimes) (Cont.)

Characteristic	Expiry date					Nutritional claim				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	1092	17395	73.8	68.65	78.31	264	4203	17.8	14.66	21.50
<b>Locality of School</b>										
Urban	598	63347	83.9	78.04	88.35	158	16955	22.4	15.25	31.76
Rural	583	59233	75.2	67.48	81.54	150	15073	19.1	13.69	26.08
<b>Sex</b>										
Boys	530	54933	73.3	65.21	80.08	150	15811	21.1	17.10	25.73
Girls	651	67647	85.2	79.72	89.39	158	16217	20.4	13.90	28.99
<b>Class</b>										
Form 1	223	24777	72.8	62.72	80.98	62	6885	20.2	12.50	31.03
Form 2	231	22150	74.5	66.18	81.40	50	4714	15.9	11.33	21.75
Form 3	253	23509	80.2	70.18	87.43	46	4276	14.6	10.41	20.06
Form 4	283	26293	86.9	79.75	91.75	91	8354	27.6	20.61	35.89
Form 5	191	25850	83.4	73.01	90.30	59	7799	25.2	16.43	36.50
<b>Ethnicity</b>										
Malay	800	84059	77.7	73.93	81.09	172	18191	16.8	13.48	20.79
Chinese	302	30624	92.2	89.86	93.98	114	11656	35.1	28.39	42.42
Indian	49	4994	55.1	38.24	70.89	16	1626	17.9	9.40	31.54
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	2	177	100.0	100.00	100.00	-	-	-	-	-
Others	27	2619	72.6	54.59	85.40	6	555	15.4	8.21	27.04
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	43	707	67.1	52.99	78.73	9	146	13.8	7.16	25.00
Normal (≥-2sd - ≤+1sd)	749	77537	80.4	74.87	84.97	192	19742	20.5	15.24	26.94
Overweight (>+1sd - ≤+2sd)	219	23178	82.1	76.30	86.78	56	6145	21.8	16.50	28.18
Obese (>+2sd)	148	15247	74.1	62.31	83.22	44	4521	22.0	15.93	29.50
<b>Height-for-age status (HAZ)</b>										
Stunting ( <-2sd )	103	1578	69.6	64.12	74.54	24	375	16.5	10.62	24.76
Normal ( ≥-2sd )	983	15704	74.2	68.68	79.04	239	3810	18.0	14.48	22.17

Table 3.7.4: Prevalence of reading food label among those who read food label (Yes, always/ Yes, sometimes) (Cont.)

Characteristic	Nutrition fact					Halal logo				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	351	5608	23.8	20.46	27.46	771	12067	51.2	41.07	61.17
<b>Locality of School</b>										
Urban	191	20449	27.1	20.53	34.78	305	32002	42.4	24.29	62.74
Rural	189	19329	24.5	18.46	31.81	369	37884	48.1	32.34	64.21
<b>Sex</b>										
Boys	174	18463	24.6	19.48	30.63	284	29114	38.8	28.08	50.82
Girls	206	21314	26.8	21.89	32.45	390	40772	51.4	36.28	66.18
<b>Class</b>										
Form 1	75	8188	24.1	16.04	34.43	134	14886	43.7	31.91	56.32
Form 2	57	5521	18.6	16.06	21.39	149	14401	48.5	34.94	62.21
Form 3	65	6036	20.6	16.00	26.08	145	13628	46.5	33.32	60.15
Form 4	106	9742	32.2	23.66	42.10	149	13815	45.6	30.33	61.83
Form 5	77	10291	33.2	24.49	43.22	97	13157	42.4	25.29	61.62
<b>Ethnicity</b>										
Malay	228	23903	22.1	18.76	25.84	638	66307	61.3	53.44	68.62
Chinese	130	13585	40.9	37.21	44.66	19	1782	5.4	3.92	7.30
Indian	15	1523	16.8	10.27	26.28	13	1363	15.0	9.72	22.55
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	7	767	21.3	6.38	51.70	3	325	9.0	2.32	29.24
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	18	311	29.6	20.06	41.23	28	476	45.2	32.58	58.46
Normal (≥-2sd - ≤+1sd)	232	24337	25.2	20.47	30.69	412	42525	44.1	30.76	58.34
Overweight (>+1sd - ≤+2sd)	65	6985	24.8	19.28	31.18	121	12887	45.7	32.74	59.21
Obese (>+2sd)	64	6545	31.8	23.02	42.14	103	10661	51.8	39.09	64.33
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	26	421	18.6	11.86	27.84	78	1171	51.6	36.96	66.05
Normal (≥-2sd)	324	5169	24.4	21.08	28.11	688	10806	51.1	40.97	61.05

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Table 3.7.4: Prevalence of reading food label among those who read food label (Yes, always/ Yes, sometimes)

Characteristic	Food ingredients					Storage instruction				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	458	7173	30.4	24.85	36.62	303	4854	20.6	16.26	25.71
<b>Locality of School</b>										
Urban	222	23860	31.6	26.07	37.66	162	16965	22.5	17.26	28.67
Rural	232	23630	30.0	21.69	39.85	119	12081	15.3	9.96	22.87
<b>Sex</b>										
Boys	183	19136	25.5	19.26	33.02	118	12432	16.6	11.06	24.13
Girls	271	28353	35.7	29.81	42.08	163	16613	20.9	16.86	25.66
<b>Class</b>										
Form 1	86	9575	28.1	18.65	40.05	51	5646	16.6	10.86	24.50
Form 2	76	7332	24.7	19.76	30.33	49	4823	16.2	10.89	23.50
Form 3	78	7390	25.2	16.91	35.82	52	4855	16.6	11.17	23.85
Form 4	131	12204	40.3	29.03	52.74	82	7566	25.0	18.12	33.42
Form 5	83	10989	35.4	26.31	45.78	47	6154	19.9	11.68	31.68
<b>Ethnicity</b>										
Malay	319	33516	31.0	25.34	37.26	172	17899	16.5	13.05	20.76
Chinese	112	11510	34.6	29.66	39.99	95	9669	29.1	24.21	34.54
Indian	18	1922	21.2	11.35	36.16	13	1389	15.3	8.18	26.90
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	88	50.0	50.00	50.00
Others	4	433	12.0	2.11	46.29	-	-	-	-	-
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	15	234	22.2	10.69	40.59	14	231	21.9	11.02	38.78
Normal (≥-2sd - ≤+1sd)	277	28544	29.6	24.33	35.47	172	17569	18.2	13.26	24.51
Overweight (>+1sd - ≤+2sd)	79	8749	31.0	24.04	38.96	52	5581	19.8	14.60	26.22
Obese (>+2sd)	71	7475	36.3	28.81	44.60	44	4588	22.3	16.40	29.58
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	50	773	34.1	23.11	47.06	24	361	15.9	9.88	24.63
Normal (≥-2sd)	405	6341	30.0	24.61	35.92	277	4452	21.0	16.44	26.51



## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

Table 3.7.5: Prevalence of understanding on the interpretation calorie and sugar content on the nutrition labelling among adolescents (Cont.)

Characteristic	Both Correct					Interpretation calorie correct				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	693	11033	40.8	32.71	49.51	971	15501	57.4	49.18	65.19
<b>Locality of School</b>										
Urban	401	41911	46.2	40.03	52.40	525	55545	61.2	53.07	68.70
Rural	394	40129	44.1	36.54	52.01	509	51929	57.1	50.20	63.76
<b>Sex</b>										
Boys	376	38824	42.9	37.53	48.48	508	52865	58.4	52.61	64.04
Girls	419	43215	47.4	40.18	54.63	526	54609	59.8	52.30	66.93
<b>Class</b>										
Form 1	127	14109	37.1	27.75	47.46	178	19730	51.8	40.60	62.90
Form 2	131	12476	35.2	30.15	40.57	175	16660	47.0	40.05	54.03
Form 3	186	17177	47.4	35.73	59.40	237	21889	60.4	47.78	71.83
Form 4	212	19702	55.8	45.37	65.73	259	24189	68.5	59.38	76.39
Form 5	139	18577	50.7	36.83	64.38	185	25005	68.2	55.56	78.61
<b>Ethnicity</b>										
Malay	535	55568	45.9	40.56	51.40	712	74531	61.6	55.50	67.37
Chinese	213	21834	47.5	41.33	53.78	257	26440	57.5	52.32	62.59
Indian	30	2938	27.9	15.05	45.88	41	4030	38.3	24.60	54.18
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	3	267	77.1	29.08	96.49	3	267	77.1	29.08	96.49
Others	14	1433	37.5	27.18	49.11	20	2098	54.9	31.21	76.59
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	31	510	41.3	26.99	57.34	45	749	60.7	47.38	72.63
Normal (≥-2sd - ≤+1sd)	512	52470	46.1	40.58	51.80	657	67863	59.7	54.44	64.71
Overweight (>+1sd - ≤+2sd)	131	14066	44.0	35.48	52.87	176	18972	59.3	50.05	67.99
Obese (>+2sd)	102	10390	42.4	36.55	48.38	134	13730	56.0	47.34	64.26
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	63	981	39.1	30.60	48.35	88	1354	54.0	44.25	63.42
Normal (≥-2sd)	628	10016	41.2	32.74	50.18	879	14075	57.9	49.61	65.72

Table 3.7.5: Prevalence of understanding on the interpretation calorie and sugar content on the nutrition labelling among adolescents

Characteristic	Interpretation of sugar correct				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>PERLIS</b>	888	14191	52.5	45.20	59.75
<b>Locality of School</b>					
Urban	479	50206	55.3	49.95	60.52
Rural	478	48555	53.4	48.18	58.55
<b>Sex</b>					
Boys	463	47913	53.0	47.84	58.03
Girls	494	50848	55.7	49.03	62.20
<b>Class</b>					
Form 1	166	18355	48.2	40.00	56.55
Form 2	177	16898	47.7	41.68	53.70
Form 3	218	20175	55.7	45.54	65.40
Form 4	240	22357	63.3	52.93	72.59
Form 5	156	20976	57.2	44.73	68.82
<b>Ethnicity</b>					
Malay	638	66329	54.8	49.95	59.61
Chinese	252	25736	56.0	50.43	61.43
Indian	48	4823	45.9	34.32	57.85
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	3	267	77.1	29.08	96.49
Others	16	1606	42.0	33.53	51.03
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	35	580	47.0	32.05	62.60
Normal (≥-2sd - ≤+1sd)	612	62754	55.2	50.60	59.68
Overweight (>+1sd - ≤+2sd)	158	16813	52.6	45.78	59.28
Obese (>+2sd)	129	13293	54.2	46.71	61.49
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	83	1282	51.1	42.51	59.63
Normal (≥-2sd)	800	12814	52.7	44.96	60.29

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Table 3.7.6: Prevalence of understanding on correct interpretation of front of pack labelling for energy among adolescents (Cont.)

Characteristic	Both correct					Know only the energy content				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>PERLIS</b>	387	6124	22.7	17.45	28.91	571	9042	33.5	26.77	40.92
<b>Locality of School</b>										
Urban	241	25547	28.1	24.54	32.03	354	37642	41.5	36.21	46.91
Rural	212	21614	23.8	19.99	28.02	335	34322	37.7	32.10	43.75
<b>Sex</b>										
Boys	233	24405	27.0	22.50	31.98	349	36949	40.8	36.23	45.63
Girls	220	22756	24.9	20.91	29.44	340	35015	38.4	33.50	43.48
<b>Class</b>										
Form 1	98	10912	28.7	22.09	36.29	138	15352	40.3	30.45	51.08
Form 2	69	6592	18.6	12.89	26.06	116	11064	31.2	22.61	41.32
Form 3	86	7978	22.0	15.64	30.09	126	11708	32.3	25.84	39.56
Form 4	131	12281	34.8	25.21	45.76	192	17911	50.7	39.47	61.90
Form 5	69	9398	25.6	18.78	33.93	117	15928	43.4	32.53	55.01
<b>Ethnicity</b>										
Malay	304	31935	26.4	23.05	30.04	442	46634	38.5	34.61	42.64
Chinese	122	12509	27.2	24.85	29.73	210	21613	47.0	43.25	50.85
Indian	18	1796	17.1	12.10	23.53	24	2397	22.8	17.40	29.25
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	88	25.6	4.10	73.36	1	88	25.6	4.10	73.36
Others	8	832	21.8	7.50	48.90	12	1233	32.3	13.51	59.26
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	15	257	20.8	14.13	29.66	23	385	31.2	21.89	42.31
Normal (≥-2sd - ≤+1sd)	293	30340	26.7	23.37	30.28	439	45662	40.2	35.28	45.23
Overweight (>+1sd - ≤+2sd)	77	8396	26.3	18.45	35.91	125	13406	41.9	33.62	50.72
Obese (>+2sd)	56	5678	23.1	18.31	28.81	86	8962	36.5	32.31	40.98
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	36	547	21.8	13.42	33.44	53	795	31.7	20.89	44.96
Normal (≥-2sd)	349	5535	22.8	17.39	29.19	514	8169	33.6	26.58	41.40

**Table 3.7.6: Prevalence of understanding on correct interpretation of front of pack labelling for energy among adolescents**

Characteristic	Know only the percentage of contribution by serving of foods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>PERLIS</b>	754	12126	44.9	39.63	50.26
<b>Locality of School</b>					
Urban	392	41478	45.7	37.70	53.89
Rural	407	41435	45.6	39.71	51.56
<b>Sex</b>					
Boys	408	41932	46.4	40.13	52.69
Girls	391	40981	44.9	37.93	52.08
<b>Class</b>					
Form 1	165	18302	48.1	38.94	57.36
Form 2	146	13998	39.5	34.35	44.85
Form 3	171	15759	43.5	34.96	52.46
Form 4	197	18509	52.4	42.14	62.49
Form 5	120	16345	44.6	32.91	56.86
<b>Ethnicity</b>					
Malay	582	60995	50.4	47.29	53.54
Chinese	156	15839	34.5	30.73	38.41
Indian	45	4473	42.5	34.82	50.61
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	3	267	77.1	29.08	96.49
Others	13	1340	35.1	18.85	55.69
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	38	650	52.7	40.01	65.04
Normal (≥-2sd - ≤+1sd)	501	51688	45.5	40.16	50.85
Overweight (>+1sd - ≤+2sd)	137	14883	46.5	38.12	55.17
Obese (>+2sd)	110	11094	45.2	36.59	54.16
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	63	972	38.7	29.04	49.40
Normal (≥-2sd)	687	11077	45.5	40.45	50.73

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Table 3.7.7: Prevalence on the understanding of food ingredients among adolescents (Cont.)

Characteristic	Both Correct					Know only the highest ingredient				
	Unweighted	Estimated	Prevalence	95% CI		Unweighted	Estimated	Prevalence	95% CI	
	Count	Population	(%)	Lower	Upper	Count	Population	(%)	Lower	Upper
<b>PERLIS</b>	116	1945	8.2	7.04	9.64	861	13858	58.8	55.34	62.11
<b>Locality of School</b>										
Urban	45	4825	6.4	4.71	8.61	383	40138	53.1	47.23	58.95
Rural	61	6176	7.8	5.48	11.08	443	44769	56.8	47.44	65.72
<b>Sex</b>										
Boys	41	4291	5.7	3.91	8.31	332	33933	45.3	39.06	51.65
Girls	65	6710	8.5	6.24	11.35	494	50975	64.2	59.19	68.92
<b>Class</b>										
Form 1	16	1705	5.0	2.00	11.98	152	16814	49.4	40.65	58.19
Form 2	23	2198	7.4	4.24	12.59	173	16505	55.5	45.51	65.14
Form 3	24	2306	7.9	4.43	13.58	174	16251	55.4	45.56	64.88
Form 4	25	2364	7.8	4.82	12.42	200	18463	61.0	54.09	67.49
Form 5	18	2428	7.8	4.72	12.71	127	16875	54.4	38.77	69.26
<b>Ethnicity</b>										
Malay	84	8777	8.1	6.22	10.51	569	59070	54.6	47.57	61.47
Chinese	14	1357	4.1	2.43	6.80	198	19919	59.9	49.39	69.65
Indian	5	534	5.9	3.14	10.79	40	4038	44.6	33.53	56.17
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	177	100.0	100.00	100.00
Others	3	333	9.2	5.13	16.09	17	1704	47.2	33.74	61.15
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	72	6.8	2.11	19.95	37	614	58.3	46.00	69.58
Normal (≥-2sd - ≤+1sd)	68	6898	7.2	5.17	9.83	533	54324	56.3	50.65	61.86
Overweight (>+1sd - ≤+2sd)	15	1589	5.6	3.53	8.86	142	15021	53.2	42.55	63.63
Obese (>+2sd)	20	2177	10.6	6.71	16.29	104	10775	52.4	44.05	60.58
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	9	157	6.9	2.7	16.5	72	1111	49.0	39.41	58.68
Normal (≥-2sd)	106	1770	8.4	7.1	9.8	784	12651	59.8	56.01	63.42

Table 3.7.7: Prevalence on the understanding of food ingredients among adolescents

Characteristic	Know only the lowest ingredient				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>PERLIS</b>	221	3628	15.4	13.37	17.63
<b>Locality of School</b>					
Urban	91	9908	13.1	10.68	16.00
Rural	124	12580	16.0	11.57	21.63
<b>Sex</b>					
Boys	113	11942	15.9	12.53	20.05
Girls	102	10546	13.3	10.49	16.68
<b>Class</b>					
Form 1	46	5015	14.7	9.64	21.87
Form 2	42	3961	13.3	9.44	18.49
Form 3	46	4295	14.6	11.17	18.99
Form 4	44	4111	13.6	10.01	18.17
Form 5	37	5106	16.5	10.89	24.14
<b>Ethnicity</b>					
Malay	159	16866	15.6	12.27	19.61
Chinese	36	3554	10.7	8.70	13.09
Indian	10	991	10.9	5.44	20.77
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	10	1076	29.8	15.79	49.10
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	8	144	13.6	6.53	26.27
Normal (≥-2sd - ≤+1sd)	145	15071	15.6	12.26	19.72
Overweight (>+1sd - ≤+2sd)	30	3154	11.2	7.12	17.12
Obese (>+2sd)	33	3566	17.3	12.26	23.93
<b>Height-for-age status (HAZ)</b>					
Stunting ( <-2sd )	22	374	16.5	10.41	25.08
Normal ( ≥-2sd )	197	3218	15.2	13.19	17.47

## APPENDICES

### Appendix 1: Members of Steering Committee NHMS 2015-2018

1. Director General of Health
2. Deputy Director General of Health (Public Health)
3. Deputy Director General of Health (Medical)
4. Deputy Director General of Health (Research & Tech Support)
5. Director, Oral Health Division
6. Director, Pharmaceutical Services Division
7. Director, Food Safety and Quality Programmed Division
8. Director, Medical Development Division
9. Director, Planning Division
10. Director, Health Education Division
11. Director, Disease Control Division
12. Director, Family Health Development Division
13. Director, Nutrition Division
14. Representative of State Directors
15. Director, Institute for Public Health
16. Dean Faculty of Medicine, University of Malaya
17. Dean Faculty of Medicine, National University of Malaysia
18. Principle Investigator, NHMS

**Appendix 2: Term of Reference for NHMS 2015-2018 Steering Committee**

1. To approve the objectives and scopes of NHMS 2015-2018.
2. To facilitate inter and intra sectorial collaboration.
3. To monitor the implementation of the NHMS 2015-2018.
4. To facilitate the utilisation of the NHMS 2015-2018 findings.



**Appendix 3: List of members of Central Coordinating Committee, NHMS 2017**

1. Dr Hj Tahir bin Aris, Director of Institute for Public Health
2. Dr Muhammad Fadhli bin Mohd Yusoff, Coordinator of NHMS 2015-2018
3. Dr. S Maria binti Awaluddin, Principal Investigator of Adolescent Health Survey
4. Pn. Ruhaya binti Salleh, Principal Investigator of Adolescent Nutrition Survey
5. En. Mohamad Aznuddin bin Abd Razak, Principal Investigator of Healthy Mind Screening using DASS
6. Dr Mohd Azahadi bin Omar, Head Data Processing and Data Management
7. Dr Noor Ani binti Ahmad, Central Field Supervisor of Perlis & Kedah
8. Dr. Nor Asiah binti Mohamad, Central Field Supervisor of Johor, Melaka & Negeri Sembilan
9. Dr. Rajini a/p Sooryanarayana, Data Processing & Quality
- 10.Pn. Tee Guat Hiong, Central Field Supervisor of Sarawak
- 11.Dr. Nur Liana binti Ab. Majid, Central Field Supervisor of WP Kuala Lumpur, WP Putrajaya & Selangor
- 12.Cik Hasimah binti Ismail, Central Field Supervisor of Pahang, Kelantan & Terengganu
- 13.Pn. Norzawati binti Yeop, Central Field Supervisor of Perak & Kedah
- 14.Pn. Norazizah binti Ibrahim Wong, Data Processing & Quality
- 15.En. Mohd Hazrin bin Hasim @ Hashim, Central Field Supervisor of WP Labuan & Sabah
- 16.Pn. Lalitha a/p Palaniveloo, Person in charge for Dietary Intake
- 17.Pn. Siti Nor'Ain binti Hashim, Head of ICT Support
- 18.En. Lim Kuang Kuay, Logistic Support
- 19.Pn. Hamizatul Akmal binti Abd. Hamid, Project Manager
- 20.Pn Wan Shakira binti Rodzlan Hasani, Project Manager
- 21.Pn. Cheong Siew Man, Person in-charge for Habitual Food Intake
- 22.Pn. Nazirah Bt Alias, Data Processing & Quality
- 23.Dr. Fazila Haryati Ahmad, Data Processing & Quality

**Appendix 4: Terms of Reference for NHMS 2017 Central Coordinating Team**

No	Team	Duties	Officers
1	Project Management and Finance	<p>Work closely with recruitment group for employment of RA</p> <p>Prepare Questionnaires manual, Data collection manual</p> <p>Meeting with Liason Officers</p> <p>Planning for data collection training</p> <p>Prepare security cards/name tags for research team</p> <p>Arrangement for advanced payment for team managers, nurses and drivers</p> <p>Process claims of MOH staff</p> <p>Prepare tickets for travelling</p> <p>Monitor the expenditure/budget</p>	<p>Dr. Muhammad Fadhli bin Mohd Yusoff</p> <p>Dr. S. Maria Binti Awaluddin Pn. Ruhaya binti Salleh</p> <p>Pn. Hamizatul Akmal binti Abd Hamid Pn. Wan Shakira binti Rodzlan Hasani</p> <p>Cik Nur Hazwani Binti Mohd Hasri</p>
2	Survey Research Centre	<p>Calculate the sample size</p> <p>Determine the sample distribution by state</p>	<p>Dr. Muhammad Fadhli bin Mohd Yusoff</p> <p>Pn. Norazizah binti Ibrahim Wong</p> <p>Pn. Wan Shakira binti Rodzlan Hasani</p>
3	ICT Unit	<p>Maintenance of the scanning machine</p> <p>Daily back up for databases</p>	<p>Pn. Siti Nor'ain Binti Hashim</p> <p>En. Sulaiman Bin Harun</p> <p>En. Yusmirol Bin Yusop</p> <p>En. Andy Bin Mustaming</p>
4	Central Field Supervisors	<p><u>Before Data Collection</u></p> <p>Central Field Supervisors are expected to prepare for the initiation of data collection. The preparation tasks include:</p>	<p>Dr Nor Asiah Binti Muhamad</p> <p>Dr Nur Liana Binti Ab Majid</p> <p>Pn. Norzawati Binti Yeop</p> <p>Dr. Noor Ani Binti Ahmad</p>

		<p>Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.</p> <p>To ensure adequate logistic support for the data collection and liaise with the District Education Office, District Health Office and other relevant departments to ensure that:</p> <ul style="list-style-type: none"> <li>• Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers.</li> <li>• Manage transport: Vehicles</li> <li>• Manage survey instruments and relevant form</li> <li>• Manage lodging for data collectors</li> </ul> <p><u>During Data Collection</u></p> <p>Gather feedback from the field on the data collection status and problems related to logistics.</p> <p>Visit the field to help data collectors solve the problem if necessary.</p> <p>To ensure all data collection monitoring forms have been received on time.</p> <p>To ensure bundle from field received by the Operation Centre by hand and bypost( Sabah, Sarawak, WP Labuan)</p> <p>Updating the monitoring board for state achievement and attending CCT meeting.</p>	<p>Pn. Hasimah Binti Ismail</p> <p>Pn. Helen Tee Guat Hiong</p> <p>En. Mohd Hazrin Bin Hasim @ Hashim</p>
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5	Data Processing and management	<p>Setting up data processing facility Development of directory of variables database</p> <p>Development of QC manual for data processing Specify data structure for data processing and data output requirement</p> <p>Responsible for data entry and data Cleaning</p> <p>Monitoring and evaluation of QC performance for data processing</p>	<p>Dr. Mohd Azahadi bin Omar</p> <p>Dr. Rajini a/p sooryanarayana</p> <p>Dr. Fazila Haryati Binti Ahmad</p> <p>Pn. Nazirah Binti Alias</p>
6	Operation Centre	<p>Arrange date and place of meeting</p> <p>Prepare and circulate briefing materials</p> <p>Prepare and circulate minutes of CCT meeting</p> <p>Prepare letters of appointment to state liaison officers, nurses, scouts and data collectors</p> <p>Prepare advertisement material for recruitment of data collectors, team leaders, and interviewers,</p> <p>Prepare letters of notifications for data collections</p> <p>Prepare manuals for scouts, field supervisors, data collectors and nurses</p> <p>Develop a system/format and monitor the distribution of materials/equipment for field work</p> <p>Arrange transport/drivers for distribution and collection of materials/equipment/SAQ</p>	<p>Pn. Hamizatul Akmal binti Abd Hamid</p> <p>En. Azli bin Baharudin</p> <p>Cik Nur Hazwani Binti Mohd Hasri</p> <p>Pn. Siti Noafika Binti Anwar</p> <p>En. Muhammad Suhaimi Bin Mohamad Idrus</p> <p>Cik Shahibul Bariah binti Mat Ghani</p> <p>Pn. Nur Fadzilla binti Mohd Radzi</p> <p>En. Muhammad Zuhdi Bin Khiruddin</p> <p>Cik Nurbaiti Binti Asmawi</p>

**Appendix 5: List of Research Team Members, NHMS 2017**

1. Ms. Ainan Nasrina Ismail
2. Mr. Azli Baharudin
3. Ms. Chin Kim Ling
4. Ms. Chong Siew Man
5. Ms. Fatimah Othman
6. Assc. Prof. Dr. Hazizi Abu Saad
7. Ms. Jamilah Ahmad
8. Ms. Junaidah Raib
9. Mr. Lai Wai Kent
10. Ms. Lalitha a/p Palanivello
11. Ms. Ling Swee Nian
12. Dr. Mahenderan a/l Appukutty
13. Mr. Mohamad Hasnan Ahmad
14. Mr. Mohamad Ihsan Tahir
15. Dr. Mohd Azahadi Omar
16. Ms. Noor Hasnani Ismail
17. Ms. Noor Ul-Aziha Muhammad
18. Ms. Nor Azian Mohd Zaki
19. Ms. Nor Azizah Ibrahim Wong
20. Ms. Norlida Zulkafly
21. Ms. Nur Ili Mohamad Tarmizi
22. Ms. Nur Shahida Abdul Aziz
23. Prof. Dr. Poh Bee Koon
24. Ms. Rashidah Ambak
25. Ms. Rohana Ya'akob
26. Ms. Ruby Zainureen Zahedi
27. Ms. Ruhaya Salleh
28. Ms. Rusidah Selamat
29. Prof. Dr. Ruzita Abd Talib
30. Prof. Madya Datin Dr. Safiah Md Yusof
31. Ms. Sam Azura Ahmad
32. Mr. Shahrulnaz Norhazli Nazri
33. Dr. Subash Shander a/l Ganapathy
34. Mr. Suhaidi Sudin
35. Ms. Syafinaz Sallehuddin
36. Mr. Tan Beng Chin

## Appendix 6: List of Data Collection Teams

### PERLIS

Liaison Officer

Mr. Mohd Khairul Nizam bin Baharom

Field Supervisor

Mr. Sayan a/l Pan

Nutritionists

1. Ms. Nur Hazwani binti Roslan
2. Ms. Shazwani binti Magini

Research Assistants

1. Mohammad Syafiq Fadhlan bin Norsaid
2. Nor Asmira binti Abidin
3. Afidah Haziani binti Rodzi
4. Intan Shamira binti Tajudin
5. Mohamad Syazwan bin Abd. Aziz
6. Siti Hazira binti Che Halim
7. Muhd Syamir bin Sobri
8. Noraini binti Abdul Manaf
9. Nur Faniza binti Zainol
10. Muhammad Hanif bin Samsuddin

Appendix 7: Nutrition Questionnaires



**TINJAUAN PEMAKANAN REMAJA 2017**  
மலேசிய பள்ளி மாணவர் உணவு முறை ஆய்வறிக்கை 2017

**BORANG SOAL SELIDIK**  
அளவறிக்கை

**Pengenalan**

Tinjauan ini dijalankan untuk mengetahui status pemakanan, amalan pemakanan, pengambilan makanan, tahap aktiviti Fizikal, dan penggunaan label makanan dan pemakanan anda. Pelajar lain yang terpilih seperti anda di seluruh negara juga menjawab borang soal selidik ini.

Maklumat yang anda berikan akan digunakan untuk membangunkan program-program kesihatan yang lebih baik untuk generasi muda seperti anda.

**அறிமுகம்**

பந்த ஆய்வு உங்கள் உணவு பழக்கமுறைமற்றும் சுகாதாரத்தின் அளவை கணக்கீட பயன்படும். நம் நாட்டில் உள்ள அனைத்து மாணவர்களும் பந்த ஆய்வறிக்கையில் பங்குபெறுகின்றனர்.

நீங்கள் கொடுக்கும் தகவல்கள் நம் நாட்டில் உள்ளவர்களுக்கிடையே நிலையைப் பேச மிகவும் உதவும்.

**Panduan mengisi borang soal-selidik**

ஆய்வறிக்கையை நிரப்ப வழிகாட்டிகள்

1. Jawapan yang anda berikan akan **DIRAHSIAKAN**. Jawab soalan-soalan berdasarkan apa yang tahu dan apa yang anda lakukan. Tidak ada jawapan yang betul atau salah.  
நீங்கள் கொடுக்கும் தகவல்கள் சம்மந்தப்பட்டோர் மட்டுமே பயன்படுத்துவர். உங்களுக்கு தெரிந்த விடையடி அளிக்கவும். சரி அல்லது பிழை என்ற மட்டுமே விடையளிக்கக் கூடாது.
2. Baca soalan dengan teliti. Hitamkan jawapan anda pada kertas jawapan yang disediakan dengan pensil 2B yang dibekalkan.  
கொடுக்கப்பட்டுள்ள கேள்விகளை தெளிவாக படித்தப்பின் 2B எழுதுக்கோலால் விடைத்தாளில் பதிலளிக்கவும்.
3. Cara menghitamkan jawapan:  
பதிலளிக்கும் முறை:  
Hitamkan jawapan anda seperti ini      bukan seperti ini      atau  
பவ்வாறு கருமயாக்கவும்            பவ்வாறல்ல            அல்லது      
4. Hanya satu jawapan bagi setiap soalan **KECUALI** ada arahan lain yang dinyatakan.  
கொடுக்கப்பட்டுள்ள கேள்விகளுக்கு குறிப்பிடப்பட்ட அளவு விடையளிக்க வேண்டும்.
5. Sekiranya anda tidak faham, sila angkat tangan untuk bertanyakan soalan semasa sesi menjawab soalan.  
புரியாவிடில் உங்கள் கரத்தை உயர்த்தி அங்கிருக்கும் ஆசிரியரிடம் கேள்வி கேட்கலாம்.
6. Apabila anda selesai menjawab, tunggu arahan daripada Fasilitator yang menjaga kelas anda.  
விடையளித்து முடித்தப்பின் ஆசிரியர் உங்கள் தால்களை வாங்கும் வரை பொருத்திருங்கள்.

Terima kasih di atas kesudian anda menjawab soal selidik ini.  
பவ்வாய்வறிக்கையை விடையளித்தமைக்கு நன்றி



Tinjauan Persekitaran Keluarga

MODUL A : MAKLUMAT PERIBADI							
தொகுதி A : மாணவர் தகவல்							
Arahan : Isikan ID pelajar, tarikh lahir dan hitamkan jawapan pada kertas jawapan yang disediakan.							
கட்டளை: மாணவர் பெயர், பிறந்த திகதி, மற்றும் சரியான விடையை கொடுக்கப்பட்டுள்ள விடைத்தாளில் எழுதவும்.							
A1	ID Pelajar மாணவர் ஐடி	<input type="text"/> Negeri மாநில	<input type="text"/> Strata நிலை	<input type="text"/> Kategori Sekolah பள்ளி பிரிவு	<input type="text"/> Kod Sekolah பள்ளி குறியீடு	<input type="text"/> Kelas வகுப்பு	<input type="text"/> Pelajar மாணவர்
A2	Tarikh lahir பிறந்த திகதி	<input type="text"/> Hari நாள்	<input type="text"/> Bulan மாதம்	<input type="text"/> Tahun ஆண்டு			
A3	Jantina பால்	A. Lelaki -ன் B. Perempuan பெண்					
A4	Bangsa மனம்	A. Melayu மலாய் B. Cina சீனர் C. India இந்தியர் D. Bumiputra Sabah சபா பூர்வீகம் E. Bumiputra Sarawak சரவாக்பூர்வீகம் F. Lain-Lain மற்றது					
		<b>Sekolah Rendah</b> ஆரம்பப்பள்ளி			<b>Sekolah Menengah</b> மடைநிலைப்பள்ளி		
A5	Kelas Àìòò	A. Tahun 4 ஆண்டு 4 B. Tahun 5 ஆண்டு 5 C. Tahun 6 ஆண்டு 6			D. Kelas Peralihan குறைநீக்கல்வகுப்பு E. Tingkatan 1 படிவம் 1 F. Tingkatan 2 படிவம் 2 G. Tingkatan 3 படிவம் 3 H. Tingkatan 4 படிவம் 4 I. Tingkatan 5 படிவம் 5		
A6	Umur ÀÀÀ	A. 10 tahun 10 வயது B. 11 tahun 11 வயது C. 12 tahun 12 வயது			D. 13 tahun 13 வயது E. 14 tahun 14 வயது F. 15 tahun 15 வயது G. 16 tahun 16 வயது H. 17 tahun 17 வயது I. 18 tahun 18 வயது		

<b>MODUL B :</b>	<b>CORAK PEMAKANAN</b>
<b>தொகுதி B :</b>	<b>உணவு பழக்கம்</b>
<b>Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.</b>	
<b>கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில் கருமையாக்குக .</b>	
<b>B1</b>	<p>Apakah sesi persekolahan anda? உங்கள்பள்ளி எச்சமயத்தில் நடைபெறும் ?</p> <p>A Sesi pagi sahaja / காஸலயில் மட்டும் B Sesi petang sahaja / மதியத்தில் மட்டும் C Sesi pagi sampai petang / காலை முதல் மாலை வரை</p>
<b>B2</b>	<p>Kebiasaannya, dalam seminggu berapa hari anda mengambil sarapan (dari pukul 6.00 pagi hingga 8.00 pagi)? ஒரு வாரத்தில் எத்தனை முறை காலை சிற்றுண்டி உட்கொள்வீர்கள்? (காலை மணி 6.00- லிருந்துகாலை மணி 8.00 வரை)?</p> <p>A 1 hari / 1 நாள் B 2 hari / 2 நாள் C 3 hari / 3 நாள் D 4 hari / 4 நாள் E 5 hari / 5 நாள் F 6 hari / 6 நாள் G 7 hari / 7 நாள் H Tidak berkaitan / Tidak ambil sarapan தொடர்பு இல்லை /காலை உணவு உட்கொள்வதில்லை</p>
<b>B3</b>	<p>Kebiasaannya, dari mana anda dapat makanan itu? வழக்கமாக எங்கு காலை உணவை உட்கொள்வீர்கள்?</p> <p>A Disediakan di rumah / வீடு B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை C Beli di restoran atau warung / கடை D Disediakan di asrama / பள்ளி விடுதி E Lain-lain / மற்றது F Tidak ambil sarapan / காலை உணவு உட்கொள்வதில்லை</p>
<b>B4</b>	<p>Sekiranya anda tidak mengambil sarapan, apakah sebabnya? ஏன் காலை உணவை உட்கொள்வதில்லை?</p> <p>A Tiada makanan / உணவு இல்லை B Tiada selera / உண்ண விருப்பமில்லை C Tiada masa / நேரம்இல்லை D Berdiet /kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல் E Tiada duit / பணம் பற்றாக்குறை F Lain-lain / மற்றது G Tidak berkaitan/kerana saya mengambil sarapan setiap hari தொடர்பு இல்லை/ தினமும் காலை சிற்றுண்டி உட்கொள்வேன்.</p>

Tamil and Peranakan Malay

- B5** Kebiasaannya, dalam seminggu berapa hari anda makan dan/atau minum pada waktu rehat sekolah?  
வழக்கமாக ஒரு வாரத்தில் அத்தனை முறை பள்ளி ஓய்வு நேரத்தில் உணவு உட்கொள்வீர்கள்?
- A 0 hari / 0 நாள்  
B 1 hari / 1 நாள்  
C 2 hari / 2 நாள்  
D 3 hari / 3 நாள்  
E 4 hari / 4 நாள்  
F 5 hari / 5 நாள்
- B6** Kebiasaannya, dari mana anda dapat makanan itu?  
வழக்கமாக அவ்வுணவை எங்கிருந்து பெருவீர்கள்?
- A Bekal dari rumah / வீடு  
B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை  
C Beli di restoran atau warung / கடை  
D Disediakan di asrama / பள்ளி விடுதி  
E Lain-lain / மற்றது  
F Tidak berkaitan/tidak mengambil makan dan/atau minum pada waktu rehat  
தொடர்பு இல்லை/ ஓய்வு நேரத்தில் உணவு உட்கொள்வதில்லை
- B7** Kebiasaannya, dalam seminggu berapa hari anda makan tengah hari (11.00 pagi hingga 3.00 petang)?  
வழக்கமாக ஒரு வாரத்தில் அத்தனை முறை மதிய உணவு உண்பீர்கள் (காலை மணி 11.00-  
லிருந்துமாலை மணி 3.00 வரை)?
- A 1 hari / 1 நாள்  
B 2 hari / 2 நாள்  
C 3 hari / 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்  
F 6 hari / 6 நாள்  
G 7 hari / 7 நாள்  
H Tidak mengambil makanan tengah hari / மதிய உணவு உட்கொள்வதில்லை
- B8** Kebiasaannya, dari mana anda dapat makanan itu?  
வழக்கமாக அவ்வுணவை எங்கிருந்து பெருவீர்கள்?
- A Disediakan di rumah / வீடு  
B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை  
C Beli di restoran atau warung / கடை  
D Disediakan di asrama / பள்ளி விடுதி  
E Lain-lain / மற்றது  
F Tidak berkaitan/tidak ambil makanan tengahari /  
தொடர்பு இல்லை/ ஓய்வு நேரத்தில் உணவு உட்கொள்வதில்லை

- B9** Sekiranya anda tidak mengambil makan tengahari, apakah sebabnya?  
ஏன் மதிய உணவை உட்கொள்வதில்லை?
- A Tiada makanan / உணவு இல்லை  
B Tiada selera / உண்ண விருப்பமில்லை  
C Tiada masa / நேரம் இல்லை  
D Berdiet /kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்  
E Tiada duit / பணம் பற்றாக்குறை  
F Lain-lain / மற்றது  
G Tidak berkaitan/ambil makan tengahari / தொடர்பு இல்லை/ மதிய உணவை உட்கொள்வேன்
- B10** Kebiasaannya, dalam seminggu berapa hari anda mengambil minum petang (3.00 petang hingga 6.00 petang)?  
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை மாலை சிற்றுண்டி உட்கொள்வீர்கள் (மாலை மணி 3.00-லிருந்து மாலை மணி 6.00 வரை)?
- A 1 hari / 1 நாள்  
B 2 hari / 2 நாள்  
C 3 hari / 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்  
F 6 hari / 6 நாள்  
G 7 hari / 7 நாள்  
H Tidak minum petang / மாலை சிற்றுண்டி உட்கொள்வதில்லை
- B11** Kebiasaannya, dari mana anda dapat makanan itu?  
வழக்கமாக அவ்வணவை எங்கிருந்து பெருவீர்கள்?
- A Disediakan di rumah / வீடு  
B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை  
C Beli di restoran atau warung / கடை  
D Disediakan di asrama / பள்ளி விடுதி  
E Lain-lain / மற்றது  
F Tidak ambil minum petang / மாலை சிற்றுண்டி உட்கொள்வதில்லை
- B12** Kebiasaannya, dalam seminggu berapa hari anda makan malam(6.00 petang hingga 10.00 malam)?  
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை யரவு உணவு உட்கொள்வீர்கள் (மதிய மணி 6.00-லிருந்து யரவு மணி 10.00 வரை)?
- A 1 hari / 1 நாள்  
B 2 hari / 2 நாள்  
C 3 hari / 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்  
F 6 hari / 6 நாள்  
G 7 hari / 7 நாள்  
H Tidak makan malam / யரவு உணவு உட்கொள்வதில்லை

Tinjauan Persekitaran Keluarga

- B13** Kebiasaannya, dari mana anda dapat makanan itu?  
எங்கிருந்து அவ்வண்ணை பெருவீர்கள்?
- A Disediakan di rumah / வீடு  
B Beli di restoran atau warung / கடை  
C Disediakan di asrama / பள்ளி விடுதி  
D Lain-lain / மற்றது  
E Tidak berkaitan/tidak ambil makan malam / தொடர்பு யல்லை/பரவு உணவு உண்பதில்லை
- B14** Sekiranya anda tidak mengambil makan malam, apakah sebabnya?  
ஏதனால் பரவு உணவு உட்கொள்வதில்லை?
- A Tiada makanan / உணவு யல்லை  
B Tiada selera / உண்ண விருப்பமில்லை  
C Tiada masa / நேரம்யல்லை  
D Berdiet / உணவு கட்டுப்பாடு  
E Tiada duit / பணம் பற்றாக்குறை  
F Lain-lain / மற்றது  
G Tidak berkaitan/ambil makan malam / தொடர்பு யல்லை/பரவு உணவு உட்கொள்வேன்.
- B15** Dalam seminggu yang lepas, berapa kerap anda ambil makanan berat selepas makan malam? (Contoh: nasi lemak, roti canal, mee goreng, burger, ayam goreng, mee segera dan sebagainya. Ini tidak termasuk snek ringan contohnya 2 keping biskut dan/atau satu gelas susu)  
கடந்த வாரத்தில், பரவில் எத்தனை முறை அதிகமான அளவில் உணவு உட்கொண்டீர்கள்?  
(உதாரணமாக: நாசி லெமாக், ரொத்தி சாளாய், மீ பிரத்தல், பர்கர், பொரித்தக் கோழி, குரித மீமற்றும் சில. யதில் பால்மற்றும் பிஸ்கிட் போன்ற உணவு அடங்காது. (உதாரணத்திற்கு 2 துண்டு பிஸ்கிட் மற்றும்/ அல்லது ஒரு குவளைப்பால்)
- A 1 hari / 1 நாள்  
B 2 hari / 2 நாள்  
C 3 hari / 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்  
F 6 hari / 6 நாள்  
G 7 hari / 7 நாள்  
H Tidak ambil makanan berat selepas makan malam /  
பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை
- B16** Di manakah anda mengambil makanan berat tersebut?  
எங்கு யவ்வண்ணை உட்கொள்வீர்கள்?
- A Rumah / வீடு  
B Restoran atau warung / கடை  
C Asrama / பள்ளி விடுதி  
D Lain-lain / மற்றது  
E Tidak berkaitan/tidak ambil makanan berat /  
தொடர்பு யல்லை/பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை

- B17** Kebiasaannya, dalam seminggu berapa hari anda makan makanan segera yang dibeli dari restoran makanan segera seperti burger, pizza, ayam goreng, kentang goreng, nugget dan sebagainya?  
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை துரித உணவு உட்கொள்வீர்கள். உதாரணத்திற்கு பர்கர், பீசா, பொரித்தச் கோழி, பிராக் பிராஸ், நகெட் மற்றும் சில.
- A. 1 hari / 1 நாள்  
B. 2 hari / 2 நாள்  
C. 3 hari / 3 நாள்  
D. 4 hari / 4 நாள்  
E. 5 hari / 5 நாள்  
F. 6 hari / 6 நாள்  
G. 7 hari / 7 நாள்  
H. Tidak ambil makanan segera / நான் துரித உணவு உட்கொள்வதில்லை.
- B18** Berapa kerap anda membawa bekal makanan ke sekolah?  
பொதுவாக எத்தனை முறை பள்ளிக்கு வீட்டிலிருந்து உணவு எடுத்துச்செல்வீர்கள்?
- A. Setiap hari / தினமும்  
B. Kadang-kadang / சில நேரத்தில்  
C. Tidak / பள்ளிக்கு நீர் எடுத்துச் செல்லமாட்டேன்
- B19** Apakah bekal makanan yang biasa dibawa ke sekolah? (Boleh pilih SATU atau DUA jawapan sahaja)  
எந்த உணவை வழக்கமாக பள்ளிக்கு எடுத்துச்செல்வீர்கள்? (ஒன்று அல்லதுபரண்டு உணவை தேர்வு செய்யலாம்)
- A. Nasi lemak/nasi goreng /nasi berlauk / நாசி லெமாக்/நாசி கோரேங்/நாசி பெர்லாவுக்  
B. Mee / Bihun / Kueh Teow / மீ / மீவுன் / குவே தியாவ்  
C. Roti / Ban / Sandwic / ரொத்தி / பன் / சான்விச்  
D. Nuget / Sosej / Burger / நகெட் / சொசேஜ் / பர்கர்  
E. Biskut / பிஸ்கிட்  
F. Buah-buahan / பழம்  
G. Lain-lain / மற்றது  
H. Tidak bawa bekal / பள்ளிக்கு உணவு எடுத்துச் செல்லமாட்டேன்
- B20** Berapa kerap anda membawa bekal minuman ke sekolah?  
பொதுவாக எத்தனை முறை பள்ளிக்கு நீர் எடுத்துச்செல்வீர்கள்?
- A. Setiap hari / தினமும்  
B. Kadang-kadang / சில நேரத்தில்  
C. Tidak / பள்ளிக்கு நீர் எடுத்துச் செல்லமாட்டேன்

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- B21** Apakah bekalan minuman yang biasa dibawa ke sekolah? (Boleh pilih **SATU** atau **DUA** jawapan sahaja)  
வழக்கமாக எவ்வகை நீரை பள்ளிக்கு எடுத்துச் செல்வீர்கள்? (ஒன்று அல்லது மரண்டு விடையை மட்டும் தெர்வு செய்ய்க)
- A Air kosong / தண்ணீர்  
B Air berperisa (air kotak/air sirap/ teh / kopi/ milo)  
சுவைபானம்( சீராப், தேநீர், மீலோ)  
C Air berkarbonat / கார்போனெட் பானம்  
D Susu / minuman berkultur (air yogurt) / பால்/ மோர்  
E Lain-lain / மற்றது  
F Tidak bawa bekal / பள்ளிக்கு நீர் எடுத்துச் செல்லமாட்டேன்
- B22** Kebiasaannya, bagaimana wang saku/duit poket anda banyak dibelanjakan?  
வழக்கமாக பணத்தை எதற்காக செழவு செய்வீர்கள்?
- A Membeli makanan dan/atau minuman / உணவு  
B Membeli alat tulis / எழுத பயன்படுத்தும் பொருட்கள்  
C Simpanan / சேமிப்பு  
D Lain-lain / மற்றது  
E Tidak bawa wang saku/duit poket / பள்ளிக்கு பணம் எடுத்துச் செல்லமாட்டேன்
- B23** Dalam seminggu berapa kali anda makan di luar? Tidak termasuk makan di sekolah dan di asrama.  
வாரத்தில் எத்தனை முறை வெளியே உணவு உட்கொள்வீர்கள்? பள்ளி மற்றும் பள்ளி விடுதியில் உண்பது மதில் உட்படவில்லை.
- A 1 kali / 1 முறை  
B 2 kali / 2 முறை  
C 3 kali / 3 முறை  
D 4 kali / 4 முறை  
E 5 kali / 5 முறை  
F 6 kali / 6 முறை  
G 7 kali atau lebih / 7 முறைக்கு மேல்  
H Tidak pernah / வெளியே உணவு உட்கொள்வதில்லை
- B24** Apakah jenis makanan ringan yang selalu anda makan? (Boleh pilih **SATU** atau **DUA** jawapan sahaja)  
எவ்வித துரித உணவை உட்கொள்வீர்கள் (ஒன்று அல்லது மரண்டு விடையை மட்டும் தெர்வு செய்ய்க)
- A Roti / Bun / Sandwic / ரொட்டி / பன் / சான்விச்  
B Kentang goreng / பிரஞ் பிரைஸ்  
C Biskut / பிஸ்கிட்  
D Buah-buahan / பழம்  
E Kekacang / தானியம்  
F Keropok / கிழங்கு சிப்ஸ்  
G Aiskrim / பனிக்கூல்  
H Tidak ambil makanan ringan / துரித உணவு உட்கொள்வதில்லை

- B25** Berapa kerap anda mengambil makanan ringan tersebut dalam seminggu?  
ஒரு வாரத்தில் எத்தனை முறை துரித உணவு உட்கொள்வீர்கள்?
- A 1 kali / 1 முறை  
B 2 kali / 2 முறை  
C 3 kali / 3 முறை  
D 4 kali / 4 முறை  
E 5 kali / 5 முறை  
F 6 kali / 6 முறை  
G 7 kali atau lebih / 7 முறைக்கு மேல்  
H Tidak pernah makanan ringan atau snek / துரித உணவு உட்கொள்வதில்லை
- B26** Apakah jenis makanan dan/atau minuman yang selalu anda beli dari luar pagar sekolah?(Boleh pilih **SATU** atau **DUA** jawapan sahaja)  
எத்தகைய உணவை பள்ளி வலாகத்தின் வெளியே பெறுவீர்கள்? (ஒன்று அல்லது யரண்டு விடையை மட்டும் தெர்வு செய்க)
- A Gula-gula/coklat / சாக்டெட்  
B Kentang goreng / nuget / sosej / பிரஞ் பிரைஸ்/ நாகெட்/ சொசெஜ்  
C Air berperisa/air berkarbonat / குளிர்்பானம்/ காற்போனெட்பானம்  
D Makanan jeruk / ஊருகாய்  
E Makanan ringan/rapu / துரித உணவு  
F Keropok / சிப்ஸ்  
G Aiskrim / பனிக்கூல்  
H Tidak ambil makanan ringan di luar pagar sekolah / பள்ளி வலாகத்தின் வெளியே உணவு வாங்கமாட்டேன்
- B27** Dalam seminggu, adakah andamembeli makanan dan/atau minuman di luar pagar sekolah?  
ஒரு வாரத்தில் எத்தனை முறை பள்ளி வலாகத்தின் வெளியே உணவு வாங்குவீர்கள்?
- A 1 kali / 1 முறை  
B 2 kali / 2 முறை  
C 3 kali / 3 முறை  
D 4 kali / 4 முறை  
E 5 kali / 5 முறை  
F 6 kali / 6 முறை  
G 7 kali atau lebih / 7 முறைக்கு மேல்  
H Tidak pernah / பள்ளி வலாகத்தின் வெளியே உணவு வாங்கமாட்டேன்



Tinjauan Persekitaran Keluarga

**B28** Sumber media manakah yang paling mempengaruhi pengambilan makanan anda?(Boleh pilih **SATU** atau **DUA** jawapan sahaja)

உங்கள் உணவு பழக்கமுறையை தூண்டிய தொடர்புத்துறை ஊடகம் எது? (ஒன்று அல்லது பரண்டு விடையை மட்டும் தெர்வு செய்க)

- A Media sosial (contoh : Internet, YouTube, Facebook, Instagram, Twitter) / சமூக வளைத்தலம்.(உதாரணம் : யூதுப், முகப்புத்தகம், துவித்தர்)
- B Televisyen / தொலைக்காட்சி
- C Radio / வானொலி
- D Media cetak (contoh: majalah, surat khabar, papan iklan, risalah, katalog) / அச்ச ஊடகங்கள் (உதாரணம்: பத்திரிகை, செய்தித்தாள், விளம்பரம், ஆய்வுகட்டுரைகள், அட்டவணை)
- E Tidak terpengaruh / பாதிக்கப்படவில்லை

**MODUL C : AKTIVITI FIZIKAL**  
**தொகுதி C : உடல் செயல்பாடு நடவடிக்கை**

**C1** Aktiviti Fizikal di waktu lapang: Adakah anda melakukan aktiviti-aktiviti yang disenaraikan di bawah sepanjang 7 hari yang lepas (minggu lepas). Jika **YA**, berapa kali?

ஒவ்வொரு நேரத்தில் உடல் செயல்பாடு நடவடிக்கைகள்: கடந்த 7 நாட்களில் கீழ்க்கண்டவற்றை எவ்வளவு முறை செய்தீர்? (கடந்த வாரம்). ஆம் என்றால் எத்துனை முறை?

	<b>Aktiviti நடவடிக்கை</b>	<b>Tiada</b>	<b>1-2 kali முறை</b>	<b>3-4 kali முறை</b>	<b>5-6 kali முறை</b>	<b>7 kali atau lebih முறை</b>
a	Lompat tali சிதிர்ப்பிங்	A	B	C	D	E
b	Mendayung / Berkenu படகு ஓட்டல்	A	B	C	D	E
c	Silat / Karate / Taekwondo சிலாட் / கராட்டே / தைக்கொண்டோ	A	B	C	D	E
d	Bermain kejar-kejar ஓடி பிடித்து விளையாடல்	A	B	C	D	E
e	Bersenam dengan berjalan நடத்தல்	A	B	C	D	E
f	Berbasikal மிதிவண்டி ஓட்டல்	A	B	C	D	E
g	Joging / Berlari மெதுவோட்டம்	A	B	C	D	E
h	Senamrobik ஏரோபிக்ஸ்	A	B	C	D	E
i	Berenang நீச்சல் அடித்தல்	A	B	C	D	E
j	Bola lisut / Besbol பேல்பாஷ்	A	B	C	D	E
k	Menari நடனம்	A	B	C	D	E
l	Ragbi ரக்பி	A	B	C	D	E
m	Badminton பூப்பந்து	A	B	C	D	E
n	Hoki ஹோகி	A	B	C	D	E
o	Bola tampar கைப்பந்து	A	B	C	D	E
p	Bola keranjang / Bola jarring நெட்பால்	A	B	C	D	E
q	Sepak takraw செபாக் டாக்ரா	A	B	C	D	E
r	Bola sepak / Futsal காற்பந்து	A	B	C	D	E
s	Pingpong பிங்பொங்	A	B	C	D	E

Tinjauan Persekitaran (English)

- C2** Dalam 7 hari yang lepas semasa aktiviti kelas pendidikan jasmani, berapa kerap anda berada dalam keadaan sangat aktif (bermain, berlari, melontar, melompat).  
கடந்த 7 நாட்களில் உடற்கல்வி பாடத்தின் பொழுது, எத்துனை முறை நீங்கள் முழுமையாகச் செயல்பட்டீர்கள்? (விளையாடுதல், ஓடுதல், குதித்தல்).
- A Saya tidak mengikuti kelas pendidikan jasmani  
நான் உடற்கல்வி வகுப்பில் பங்குப்பெறவில்லை
- B Sangat jarang / மிகவும் குறைவு
- C Kadang-kadang / சில சமயத்தில்
- D Agak kerap / சற்று அதிகமாக
- E Selalu / எப்பொழுதும்
- C3** Dalam 7 hari yang lepas, apakah perkara yang anda biasa lakukan semasa waktu rehat di sekolah?  
கடந்த 7 நாட்களில், ஓய்வு நேரத்தின் பொழுது நீங்கள் என்ன செய்தீர்கள்?
- A Duduk (berbual, membaca, membuat kerja sekolah)  
உட்கார்ந்திருந்தேன் (பேசிக்கொண்டு, படித்துக்கொண்டு, பாடம் செய்துக்கொண்டு)
- B Berdiri atau berjalan-jalan  
தின்றுகொண்டு அல்லது நடந்துக்கொண்டிருந்தேன்
- C Berlari atau bermain sedikit  
ஓடிக்கொண்டு அல்லது விளையாடிக்கொண்டிருந்தேன்
- D Berlari dan bermain sedikit  
ஓடிக்கொண்டுமற்றும் விளையாடிக்கொண்டிருந்தேன்
- E Berlari dan bermain hampir sepanjang masa  
ஓய்வு நேரம் முழுவதும் விளையாடிக்கொண்டிருந்தேன்
- C4** Dalam 7 hari yang lepas, apakah perkara yang biasa anda lakukan semasa waktu makan tengahari (selain daripada makan)?  
கடந்த 7 நாட்களில், ஓய்வு நேரத்தின் பொழுது நீங்கள் என்ன செய்தீர்கள்?
- A Duduk (berbual, membaca, membuat kerja sekolah)  
உட்கார்ந்திருந்தேன் (பேசிக்கொண்டு, படித்துக்கொண்டு, பாடம் செய்துக்கொண்டு)
- B Berdiri atau berjalan-jalan  
தின்றுகொண்டு அல்லது நடந்துக்கொண்டிருந்தேன்
- C Berlari atau bermain sedikit  
ஓடிக்கொண்டு அல்லது விளையாடிக்கொண்டிருந்தேன்
- D Berlari dan bermain sedikit  
ஓடிக்கொண்டுமற்றும் விளையாடிக்கொண்டிருந்தேன்
- E Berlari dan bermain hampir sepanjang masa  
ஓய்வு நேரம் முழுவதும் விளையாடிக்கொண்டிருந்தேன்

- C5** Dalam 7 hari yang lepas, berapa harikah anda bersukan, menari atau bermain dengan **aktif sebaik sahaja tamat waktu persekolahan?**  
கடந்த 7 நாட்களில், எத்துனை நாள் பள்ளி நேரத்திற்கு அப்பால் நீங்கள் உடல் செயல்பாடு நடவடிக்கையில் ஈடுபடுவீர்கள்?
- A Tiada / ஈடுபடிவதில்லை  
B 1 hari / 1 நாள்  
C 2 atau 3 hari / 2 அல்லது 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்
- C6** Dalam 7 hari yang lepas, berapa harikah anda bersukan, menari atau bermain dengan **aktif pada waktu petang?**  
A Tiada / ஈடுபடவில்லை  
B 1 hari / 1 நாள்  
C 2 atau 3 hari / 2 அல்லது 3 நாள்  
D 4 atau 5 hari / 4 அல்லது 5 நாள்  
E 6 atau 7 hari / 6 அல்லது 7 நாள்
- C7** Pada hujung minggu yang lepas, berapa kali anda terlibat dengan aktiviti bersukan, menari atau melibatkan diri dengan permainan yang aktif?  
கடந்த வாரத்தில் எத்துனை முறை நீங்கள் உடல் செயல்பாடு நடவடிக்கையில் ஈடுபட்டீர்கள்?
- A Tiada / ஈடுப்படமாட்டேன்.  
B 1 kali / 1 முறை  
C 2 atau 3 kali / 2 அல்லது 3 முறை  
D 4 atau 5 kali / 4 அல்லது 5 முறை  
E 6 atau lebih kali / 6 முறைக்கு மேல்

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- C8** Yang manakah antara pernyataan berikut menggambarkan diri anda dalam tempoh 7 hari yang lepas?  
கீழ்வருவனவற்றில் எது உண்மை?
- A Saya menggunakan semua atau kebanyakan masa lapang saya dengan melakukan aktiviti ringan  
என் ஓய்வு நேரத்தில் சாதாரண உடற்பயிற்சியில் ஈடுபட்டேன்
  - B Saya kadang-kadang (1-2 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)  
என் ஓய்வு நேரத்தில் சில சமயம் (1-2 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)
  - C Saya selalu (3-4 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)  
என் ஓய்வு நேரத்தில் (3-4 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)
  - D Saya kerap (5-6 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)  
நான் ஓய்வு நேரத்தில் (5-6 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)
  - E Saya sangat kerap (7 kali atau lebih seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)  
நான் எப்பொழுதும் (7 முறைக்கு மேல் ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)

**C9** Tandakan kekerapan anda melakukan aktiviti fizikal (seperti bersukan, bermain, menari atau apa-apa aktiviti fizikal) untuk setiap hari pada minggu lepas.  
எத்துனை முறை ஒரு வாரத்தில் உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவீர்கள்?  
(உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்) ஒரு நாளில் எத்துனை முறை?

Hari நாள்		Tiada Aktiviti நடவடிக்கையில் ஈடுபடுவதில்லை	(1-2 kali) (1-2 முறை)	(3-4 kali) (3-4 முறை)	(5-6 kali) (5-6 முறை)	(7 kali atau lebih) (7 முறைக்கு மேல்)
a	Isnin திங்கள்	A	B	C	D	E
b	Selasa செவ்வாய்	A	B	C	D	E
c	Rabu புதன்	A	B	C	D	E
d	Khamis வியாழன்	A	B	C	D	E
e	Jumaat வெள்ளி	A	B	C	D	E
f	Sabtu சனி	A	B	C	D	E
g	Ahad ஞாயிறு	A	B	C	D	E

- C10** Adakah anda sakit pada minggu lepas, atau adakah terdapat sebarang perkara yang menghalang anda daripada melakukan aktiviti fizikal yang biasa dilakukan pada minggu lepas?  
கடந்த வாரம் உங்களின் உடல் நிலை பாதிக்கப்பட்டிருந்ததா, அல்லது ஏதாவது எதிர்பாராத சம்பவம் உடற்பயிற்சி நேரத்தை குறிக்கிட்டதா?
- A Ya / ஆம்  
B Tidak / இல்லை
- C11** Pada **hujung minggu** adakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video (contoh: *PSP, Playstation, Gameboy dan lain-lain*)?  
கடந்த வார பறுதியில் தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுபட்டீர்களா? (உதாரணம்: *பிஎஸ்பி, பிலே சி தேசன், கேம்போய் மற்றும் சில*)?
- A Ya / ஆம்  
B Tidak / இல்லை
- C12** Berapa lamakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video pada **hujung minggu**?  
எவ்வளவு நேரம் கடந்த வார பறுதியில் தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுபட்டீர்களா?
- A kurang dari 1 jam sehari  
1 மணி நேரத்திற்கு குறைவாக
- B 1 jam hingga kurang dari 2 jam sehari  
ஒரு நாளில் 1 மணியிலிருந்து 2 மணி நேரம்
- C 2 jam hingga kurang dari 3 jam sehari  
ஒரு நாளில் 2 மணியிலிருந்து 3 மணி நேரம்
- D 3 jam hingga kurang dari 4 jam sehari  
ஒரு நாளில் 3 மணியிலிருந்து 4 மணி நேரம்
- E Lebih dari 4 jam sehari  
4 மணி நேரத்திற்கு மேல்
- C13** Pada **hari persekolahan** adakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video (contoh: *PSP, Playstation, Gameboy dan lain-lain*)?  
பள்ளி நாட்களில் தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுபட்டீர்களா?
- A Ya / ஆம்  
B Tidak / இல்லை

தமிழ்நாடு மருத்துவக் கல்விப் பரீட்சை

- C14** Berapa lamakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video pada hari persekolahan?  
எவ்வளவு நேரம் டிவில் செலவழிப்பீர்கள்?
- A kurang dari 1 jam sehari  
1 மணி நேரத்திற்கு குறைவாக
- B 1 jam hingga kurang dari 2 jam sehari  
ஒரு நாளில் 1 மணியிலிருந்து 2 மணி நேரம்
- C 2 jam hingga kurang dari 3 jam sehari  
ஒரு நாளில் 2 மணியிலிருந்து 3 மணி நேரம்
- D 3 jam hingga kurang dari 4 jam sehari  
ஒரு நாளில் 3 மணியிலிருந்து 4 மணி நேரம்
- E Lebih dari 4 jam sehari  
4 மணி நேரத்திற்கு மேல்

<b>MODUL D : PERSEPSI PENGURUSAN BERAT BADAN</b>	
<b>தொகுதி D : உடல் எடை கட்டுப்பாடு</b>	
<b>Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.</b>	
<b>கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்பட்டுள்ள விடைத்தாளில்</b>	
<b>D1</b>	<p>Pada masa sekarang, anda rasa anda : தற்சமயத்தில், என் உடல் எடை:</p> <p>A Kurang berat badan yang ketara மிகவும் குறைவாக உள்ளது</p> <p>B Kurang berat badan குறைவாக உள்ளது</p> <p>C Mempunyai berat badan yang sesuai சரியாக உள்ளது</p> <p>D Berlebihan berat badan சற்று அதிகமாக உள்ளது</p> <p>E Sangat berlebihan berat badan மிகவும் அதிகமாக உள்ளது</p>
<b>D2</b>	<p>Apakah yang anda sedang lakukan terhadap berat badan anda? உங்கள் உடல் எடையை சரிசெய்ய நீங்கள் ஏதாவது முயற்சியில் ஈடுபட்டுள்ளீர்களா?</p> <p>A Saya sedang berusaha untuk menurunkan berat badan saya உடல் எடையை குறைக்க முயற்சிக்கிறேன்</p> <p>B Saya sedang berusaha untuk menambahkan berat badan saya உடல் எடையை அதிகரிக்க முயற்சிக்கிறேன்</p> <p>C Saya tidak membuat apa-apa terhadap berat badan saya ஒரு முயற்சியிலும் ஈடுபடவில்லை</p> <p>D Saya sedang mengekalkan berat badan saya உடல் எடையை கட்டுப்படுத்த முயற்சிக்கிறேன்</p>
<b>D3</b>	<p>Sekiranya anda berhasrat untuk <b>mengurangkan berat badan</b>, apakah faktor utama yang mendorong anda berbuat demikian? எனனால் நீங்கள் உடல் எடையை குறைக்க முயற்சி செய்கிறீர்கள்?</p> <p>A Kesihatan உடல் நிலையைப் பேச</p> <p>B Kecantikan அழகைப் பேச</p> <p>C Meningkatkan keyakinan diri தன்னிக்கையை உயர்த்த</p> <p>D Mendapat ramai kawan நிறைய நண்பர்கள் கிடைக்க</p> <p>E Tidak berhasrat mengurangkan berat badan உடல் எடையைக் குறைக்க விருப்பமில்லை</p>



Tinjauan Persekitaran Keluarga

- D4** Sekiranya anda berhasrat untuk **mengurangkan berat badan**, apakah kaedah yang menjadi pilihan utama anda?   
 எவ்வாறு உடல் எடையை குறைக்க விருப்பம்?
- A Bersenam   
 உடற்பயிற்சி
- B Kurangkan pengambilan makanan tinggi lemak (contoh: makanan bergoreng)   
 கொழுப்பு நிறைந்த உணவை குறைத்தல்
- C Kurangkan pengambilan makanan manis   
 டீயிப்பு நிறைந்த உணவை குறைத்தல்
- D Meningkatkan pengambilan sayur-sayuran dan buah-buahan   
 நிறைய பழம் மற்றும் காய்கறிகள் உட்கொள்ளுதல்
- E Tidak mengambil hidangan utama (sarapan/ tengah hari/ makan malam)   
 உணவை தவிர்த்தல் (காலை சிற்றுண்டி/ மாலை உணவு/ யரவு உணவு)
- F Mengambil pil diet/menggunakan krim pelangsing tubuh   
 மருந்து பயன்படுத்துதல்
- G Berpuasa   
 விரதம்
- H Mendapat khidmat professional   
 அறிவுரை நாடுதல்
- I Tidak berhasrat mengurangkan berat badan   
 உடல் எடையைக் குறைக்க விருப்பமில்லை
- D5** Sekiranya anda berhasrat untuk **menambahkan berat badan**, apakah faktor utama yang mendorong anda   
 berbuat demikian?   
 அதனால் நீங்கள் உடல் எடையை அதிகரிக்க முயற்சி செய்கிறீர்கள்?
- A Kesihatan / உடல் நிலையைப் பேண
- B Kecantikan / அழகைப் பேண
- C Meningkatkan keyakinan diri / தன்னிக்கையை உயர்த்த
- D Mendapat ramai kawan / நிறைய நண்பர்கள் கிடைக்க
- E Tidak berhasrat menambah berat badan / உடல் எடையைக் அதிகரிக்க விருப்பமில்லை
- D6** Sekiranya anda berhasrat untuk **menambahkan berat badan**, apakah kaedah yang menjadi pilihan utama anda?   
 எவ்வாறு உடல் எடையை அதிகரிப்பீர்கள்?
- A Menambah kuantiti makanan yang diambil   
 உட்கொள்ளும் உணவின் அளவை அதிகரிப்பேன்
- B Mengambil suplemen (Makanan tambahan seperti susu, suplemen vitamin)   
 மருந்து உட்கொள்ளுவேன்
- C Mengambil makanan yang berkalori tinggi   
 அதிக புரதச்சத்து உள்ள உணவை உட்கொள்ளுவேன்
- D Lain-lain   
 மற்றது
- F Tidak berhasrat menambah berat badan   
 உடல் எடையைக் அதிகரிக்க விருப்பமில்லை

<b>MODUL E :</b>	<b>PENGAMBILAN SUPLEMEN</b>
<b>தொகுதி E :</b>	<b>விடமின் மற்றும் மாற்றுச்சத்துணவு உட்கொள்ளுதல்</b>
<b>Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.</b>	
<b>கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்</b>	
<b>E1</b>	<p>Adakah anda ada mengambil sebarang suplemen <b>vitamin / mineral</b>? நீங்கள் விடமின் ஏதாவது உட்கொள்கிறீர்களா?</p> <p>A Ya / ஆம்</p> <p>B Tidak / இல்லை</p> <p>(Jika <b>TIDAK</b>, sila jawab <b>TIDAK AMBIL SUPLEMEN</b> di soalan E2, E3, dan E4) (இல்லை என்றால், விடமின் உட்கொள்ளவில்லை என்று E2, E3, மற்றும் E4 கேள்விகளில் விடையளிக்கவும்)</p>
<b>E2</b>	<p>Apakah jenis suplemen vitamin / mineral yang biasa diambil? எவ்வகை விடமின் உட்கொள்வீர்கள்?</p> <p>A Multivitamin / மல்திவிடமின்</p> <p>B Vitamin C / விடமின் C</p> <p>C Zat besi (Ferum) / டிரும்பு சத்து</p> <p>D Lain-lain / மற்றது</p> <p>E Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை</p>
<b>E3</b>	<p>Apakah sebab anda mengambil suplemen vitamin / mineral tersebut? எதனால் விடமின் உட்கொள்கிறீர்கள்?</p> <p>A Atas arahan doktor / மருத்துவரின் ஆலோசனை</p> <p>B Atas arahan ibubapa / பெற்றோரின் ஆலோசனை</p> <p>C Kesedaran sendiri / சுய முயற்சி</p> <p>D Pengaruh kawan-kawan / நண்பர்களால்</p> <p>E Lain-lain / மற்றது</p> <p>F Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை</p>
<b>E4</b>	<p>Berapa kerap anda mengambil suplemen vitamin / mineral tersebut? ஒரு வாரத்தில் எத்தனை முறை நீங்கள் விடமின் உட்கொள்வீர்கள்?</p> <p>A Setiap hari / ஒவ்வொரு நாளும்</p> <p>B 5-6 kali seminggu / 5-6 முறை</p> <p>C 3-4 kali seminggu / 3-4 முறை</p> <p>D 1-2 kali seminggu / 1-2 முறை</p> <p>E Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை</p>

Tinjauan Persekitaran Keluarga

- E5** Adakah anda ada mengambil sebarang suplemen **makanan**?  
நீங்கள் மாற்றுச்சத்துணவு உட்கொள்வீர்களா?
- A Ya / ஆம்  
B Tidak / பல்லை
- (Jika **TIDAK**, sila jawab **TIDAK AMBIL SUPLEMEN** di soalan E6, E7, dan E8)  
(பல்லை என்றால், விடமின் உட்கொள்ளவில்லை என்று E2, E3, மற்றும் E4 கேள்விகளில் விடையளிக்கவும்)
- E6** Apakah jenis suplemen makanan yang biasa diambil?  
எவ்விதமான மாற்றுச்சத்துணவை நீங்கள் உட்கொள்கிறீர்கள்?
- A Spirulina / சிபிருலினா  
B Minyak ikan / மீன் எண்ணை  
C Madu atau hasil madu / தேன்  
D Pati ayam / கோழி ஸ்தார்ச்  
E Lain-lain / மற்றது  
F Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை
- E7** Apakah sebab anda mengambil suplemen makanan tersebut?  
எதனால் மாற்றுச்சத்துணவு உட்கொள்கிறீர்கள்?
- A Atas arahan doktor  
மருத்துவரின் ஆலோசனை  
B Atas arahan ibubapa  
பெற்றோரின் ஆலோசனை  
C Kesedaran sendiri  
சுய முயற்சி  
D Pengaruh kawan-kawan  
நண்பர்களால்  
E Lain-lain  
மற்றது  
F Tidak ambil suplemen  
விடமின் உட்கொள்ளவில்லை
- E8** Berapa kerap anda mengambil suplemen makanan tersebut?  
ஒரு வாரத்தில் எத்தனை முறை நீங்கள் மாற்றுச்சத்துணவு உட்கொள்வீர்கள்?
- A Setiap hari / ஒவ்வொரு நாளும்  
B 5-6 kali seminggu / 5-6 முறை  
C 3-4 kali seminggu / 3-4 முறை  
D 1-2 kali seminggu / 1-2 முறை  
E Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை

<b>MODUL F :</b>	<b>LABEL MAKANAN DAN PEMAKANAN (SEKOLAH MENENGAH SAHAJA)</b>																		
<b>தொகுதி F :</b>	<b>உணவு மற்றும் உணவு உல்கொள்ளும்முறையையும்குறிப்பிடுக. (படைநிலைப்பள்ளி மட்டும்)</b>																		
<b>Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.</b>																			
<b>கட்டளை : சரியான விடையைத் தேர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்</b>																			
<b>F1</b>	<p>Adakah anda membaca label makanan ketika membeli atau menerima makanan/minuman? <b>ஒர் உணவுப் பொருளை வாங்குவதற்கு முன் நீங்கள் அதன் அடையாள அட்டையை படிப்பீர்களா?</b></p> <p>A. Ya, setiap kali (<b>terus ke soalan F3 dan jawab hingga soalan F10</b>) ஆம், ஒவ்வொருமுறையும் (கேள்வி F3- டல்பருந்து F10 வரை பதிலளிக்கவும்)</p> <p>B. Ya, kadang-kadang / ஆம், சில சமயத்தில்</p> <p>C. Tidak (<b>silalah jawab soalan F2 dan terus ke soalan F5 hingga F8</b>) டல்லை (கேள்வி F2 மற்றும் F5 பின் அதிலிருந்து தொடர்ந்து F8 வரை பதிலளிக்கவும்)</p>																		
<b>F2</b>	<p>Jika anda tidak membaca label makanan, nyatakan sebab-sebabnya? <b>Anda boleh memilih lebih daripada satu jawapan.</b> எனால் நீங்கள் அவ்வடையாள அட்டையை படிக்கமாதிர்கள்? <b>ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்.</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Sebab-sebab tidak membaca label makanan காரணம்</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Tulisan kecil / சிறிய எழுத்து</td> </tr> <tr> <td>B</td> <td>Tidak faham / புரியவில்லை</td> </tr> <tr> <td>C</td> <td>Tidak menarik / கவனத்தை ஈர்க்கவில்லை</td> </tr> <tr> <td>D</td> <td>Tidak tahu kepentingan / முக்கியத்துவம் தெரியவில்லை</td> </tr> <tr> <td>E</td> <td>Tiada masa / நேரமில்லை</td> </tr> <tr> <td>F</td> <td>Telah mengetahui tentang maklumat அந்த உணவைப் பற்றித் தெரியும்</td> </tr> </tbody> </table>	Sebab-sebab tidak membaca label makanan காரணம்		A	Tulisan kecil / சிறிய எழுத்து	B	Tidak faham / புரியவில்லை	C	Tidak menarik / கவனத்தை ஈர்க்கவில்லை	D	Tidak tahu kepentingan / முக்கியத்துவம் தெரியவில்லை	E	Tiada masa / நேரமில்லை	F	Telah mengetahui tentang maklumat அந்த உணவைப் பற்றித் தெரியும்				
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<b>F3</b>	<p>Apakah jenis maklumat panel maklumat pemakanan yang anda baca? <b>Anda boleh memilih lebih daripada satu jawapan.</b> எந்த வகையான தகவலை நீங்கள் உணவு அடையாள அட்டையில் படித்தீர்கள்? <b>ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Maklumat khasiat makanan</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Jumlah tenaga makanan உணவுச்சத்து</td> </tr> <tr> <td>B</td> <td>Kandungan karbohidrat/gula ஈட்டிச்சத்துமற்றும் சர்க்கரையின்அளவு</td> </tr> <tr> <td>C</td> <td>Kandungan lemak கொழுப்பின் அளவு</td> </tr> <tr> <td>D</td> <td>Kandungan protein புரதச்சத்து</td> </tr> <tr> <td>E</td> <td>Kandungan garam/natrium உப்பின் அளவு</td> </tr> <tr> <td>F</td> <td>Kandungan vitamin விட்டமினின் அளவு</td> </tr> <tr> <td>G</td> <td>Kandungan mineral கனிமத்தின் அளவு</td> </tr> <tr> <td>H</td> <td>Serat (fiber) ஈபபெர்</td> </tr> </tbody> </table>	Maklumat khasiat makanan		A	Jumlah tenaga makanan உணவுச்சத்து	B	Kandungan karbohidrat/gula ஈட்டிச்சத்துமற்றும் சர்க்கரையின்அளவு	C	Kandungan lemak கொழுப்பின் அளவு	D	Kandungan protein புரதச்சத்து	E	Kandungan garam/natrium உப்பின் அளவு	F	Kandungan vitamin விட்டமினின் அளவு	G	Kandungan mineral கனிமத்தின் அளவு	H	Serat (fiber) ஈபபெர்
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*Tinjauan Pemakanan Remaja*

**F4** Mengambil contoh gambar minuman di bawah, apakah jenis maklumat berikut yang anda baca? **Anda boleh memilih lebih daripada satu jawapan.**

கீழ்க்கொடுக்கப்பட்டுள்ள தண்ணீர் பாட்டிலில் எவ்வகையான தகவலை நீங்கள் பெற முடியும்?, (ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்)



Jenis Maklumat தகவல்களின் வகை	
A	Tarikh luput காலாவதியாகும் திகதி
B	Akuan pemakanan ஊட்டச்சத்து கூற்றுகள்
C	Panel maklumat pemakanan ஊட்டச்சத்து தகவல்
D	Logo halal ஹலால் சின்னம்
E	Senarai ramuan/bahan பொருளடக்கம்
F	Arahan penyimpanan வழிமுறை

Berdasarkan kepada panel maklumat pemakanan pada **satu Minuman Kotak XYZ** yang ditunjukkan di bawah. Sila baca dan nyatakan sama ada kenyataan berikut adalah betul atau salah.

கீழ்க்காணும் அட்டவணையில் குளிர்பானம் XYZ-யின் ஊட்டச்சத்து தகவல்கள்கொடுக்கப்பட்டுள்ளது. அதை படித்தப்பின் கொடுக்கப்பட்டுள்ளகூற்றுக்கள் சரி அல்லது பிழை என அடையாளம் காணுக.

Maklumat Pemakanan bagi Minuman XYZ குளிர்பானம் XYZ		
Saiz hidangan : 250ml பானத்தின் அளவு : 250ml Jumlah hidangan bagi setiap kotak: 1 பரிமாறும் அளவு: 1		
	100 ml	250ml
Tenaga (kcal) சத்து	56	140
Karbohidrat (g) ஊட்டச்சத்து	10.9	27.3
Jumlah gula (g) சர்க்கரை	10.6	26.5
Protein (g) புரதச்சத்து	0	0
Lemak (g) கொழுப்பு	0	0

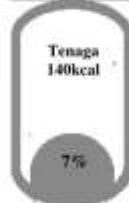
- F5** Jika saya minum 100ml minuman ini, ia membekalkan 56 kcal tenaga.  
நான் 100ml குளிர்பானம் குடித்தால், எனக்கு 56 கலோரிச் சத்துகள் கிடைக்கும்.
- A Betul / சரி  
B Salah / பிழை  
C Tidak tahu / தெரியவில்லை
- F6** Jika saya minum satu kotak minuman ini, bermaksud saya telah mengambil 26.5 gram gula.  
ஓர் குளிர்பானத்தை நான் முழுமையாக அருந்தினால், நான் 26.5 கிராம் சர்க்கரை எடுப்பதற்கு ஈடாகும்.
- A Betul / சரி  
B Salah / பிழை  
C Tidak tahu / தெரியவில்லை

Tinjauan Pemakanan Remaja

Berdasarkan kepada label kandungan tenaga pada pandangan hadapan (*front of pack labelling*) di bawah, sila nyatakan sama ada kenyataan berikut adalah betul atau salah.

கீழ்க்காணும் கலோரி தகவலுக்கேற்ப, கொடுக்கப்பட்டுள்ள கூற்று சரி அல்லது பிழை என்று குறிப்பிடுக.

Satu Hidangan  
Mengandungi 250 ml  
ஒரு பரிமாறலில் 250 ml உள்ளது



Berdasarkan  
2000kcal


**F7** Nilai tenaga untuk dua hidangan makanan ini adalah 140kcal. 2 பரிமாறலில் சத்தின் அளவு 140kcal.

- A Betul / சரி
- B Salah / பிழை
- C Tidak tahu / தெரியவில்லை

**F8** Jika saya minum satu hidangan makanan ini, ia membekalkan 7% tenaga daripada 2000 kalori tersebut. நான் டீய்வுண்ணை உட்கொண்டால், எனக்கு 2000 கலோரியிலிருந்து 7% சத்து கிடைக்கும்.

- A Betul / சரி
- B Salah / பிழை
- C Tidak tahu / தெரியவில்லை

**Produk aiskrim A**  
பனிக்கூல் A



**Senarai Ramuan /Bahan:**  
**உள்ளடக்கம்:**

Gula, Olein/Minyak Isirung Kelapa Sawit, Pepejal Susu, Sirap Glukosa, Serbuk Koko  
சர்க்கரை, பனை எண்ணெய், பால், Sirap குளுகோஸ், கொக்கோ

**F9** Apakah ramuan/bahan paling banyak digunakan dalam aiskrim ini?  
பப்பனிக்கூலில் அதிகமான அளவில் பயன்படுத்தப்பட்டுள்ள பொருள் எது?

A. Pepejal susu  
பால்

B. Sirap glukosa  
குளுகோஸ்

C. Gula  
சர்க்கரை

D. Olein/Minyak isirung kelapa sawit  
பனை எண்ணெய்

E. Serbuk koko  
கொக்கோ

**F10** Apakah ramuan/bahan yang paling sedikit dalam aiskrim ini?  
பப்பனிக்கூலில் குறைவான அளவில் பயன்படுத்தப்பட்டுள்ள பொருள் எது?

A. Sirap glukosa  
குளுகோஸ்

B. Gula  
சர்க்கரை

C. Olein/Minyak isirung kelapa sawit  
பனை எண்ணெய்

D. Pepejal susu  
பால்

E. Serbuk koko  
கொக்கோ



Tinjauan Pendidikan Kesihatan




<b>MODUL G : PENGUKURAN ANTROPOMETRI</b> <b>தொகுதி G : ஆந்த்ரோபோமெற்றிக் அளவீடுகள்</b>										
<b>Arahan : Bahagian ini akan diisi oleh pelajar di dalam kertas jawapan yang disediakan.</b> <b>கட்டளை: கீழ்க்காணும் பத்திரத்தை நிரப்புக.</b>										
G1	Tarikh pengukuran Antropometri ஆந்த்ரோபோமெற்றிக் அளவு எடுக்கப்பட்ட திகதி <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 20%;">Hari நாள்</td> <td style="width: 20%;">Bulan மாதம்</td> <td style="width: 60%;">Tahun ஆண்டு</td> </tr> </table>	Hari நாள்	Bulan மாதம்	Tahun ஆண்டு						
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G2	Berat Badan உடல் எடை <table border="1" style="width: 100%;"> <tr> <td style="width: 20%;">G2a</td> <td style="width: 20%;">Berat 1 எடை 1</td> <td style="width: 20%; text-align: center;"> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>                 . <input style="width: 20px; height: 20px;" type="text"/> kg             </td> </tr> <tr> <td>G2b</td> <td>Berat 2 எடை 2</td> <td style="text-align: center;"> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>                 . <input style="width: 20px; height: 20px;" type="text"/> kg             </td> </tr> <tr> <td colspan="2">Enggan diukur அளக்கவில்லை</td> <td style="text-align: center;"><input style="width: 20px; height: 20px;" type="checkbox"/></td> </tr> </table>	G2a	Berat 1 எடை 1	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> . <input style="width: 20px; height: 20px;" type="text"/> kg	G2b	Berat 2 எடை 2	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> . <input style="width: 20px; height: 20px;" type="text"/> kg	Enggan diukur அளக்கவில்லை		<input style="width: 20px; height: 20px;" type="checkbox"/>
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**ADOLESCENT NUTRITION SURVEY 2017****马来西亚学生营养调查 2017****Survey form/调查问卷****INTRODUCTION / 简介**

The survey was conducted to determine the nutritional status, eating habits, food intake, physical activity level, and the use of food labels and nutrition. Selected student from all over the country will also answer this questionnaire.  
这项调查是为了解你的营养状况，饮食习惯，食物摄取，体能活动质量，和食品标签应用。在全国各地与你一样被选中的学生，也会回答这份问卷。

The information you provide will be used to develop better health programs for the future younger generation.  
你所提供的资料将被用于规划更好的健康方案给予像你一样的年轻一代。

**Guide to filling survey forms/填写问卷指南**

1. Your responses will be kept **CONFIDENTIAL**. Answer the questions based on what you know and what you do. There is no right or wrong answers.  
你提供的答案将被**保密**。请跟你所知道与你所做的来作答。答案没有对错之分。
2. Read the question carefully. Shade your answer on the answer sheet provided with a 2B pencil supplied.  
请仔细阅读问题。请使用所提供的2B铅笔并在准备好的答案纸上划黑作答。
3. How to shade the answer/如何划黑作答：  
Shade your answer like this  Not like this  or   
如此划黑作答 不是这样划 或这样
4. Only one answer for each question UNLESS there are other instructions.  
每题只能拥有一个答案，除非有其他指示。
5. If you do not understand, please raise your hand to ask question.  
如果你在作答期间不明白，请举手发问。
6. Kindly wait for instruction from your class facilitator once you have completed the survey.  
当你回答完毕，请等待班上协调员的指令。

**THANK YOU FOR YOUR WILLINGNESS TO COMPLETE THE SURVEY****感谢你愿意回答问卷**

*Uji Kebesaran Persebaran Penyakit*

<b>MODULE A : PERSONAL INFORMATION</b>													
<b>A组：个人资料</b>													
<b>INSTRUCTION : Fill the student ID, date of birth and shade your answer on the answer sheet provided</b>													
<b>指示：填写学生编号，出生日期并在准备好的答案纸上划黑作答</b>													
A1	<table border="0"> <tr> <td style="text-align: center;">□□</td> <td style="text-align: center;">□</td> <td style="text-align: center;">□□</td> <td style="text-align: center;">□□</td> <td style="text-align: center;">□□</td> <td style="text-align: center;">□□</td> </tr> <tr> <td style="text-align: center;">State 州属</td> <td style="text-align: center;">Strata 区域</td> <td style="text-align: center;">School Category 学校类别</td> <td style="text-align: center;">School code 学校编号</td> <td style="text-align: center;">Class 班级</td> <td style="text-align: center;">Student 学生</td> </tr> </table>	□□	□	□□	□□	□□	□□	State 州属	Strata 区域	School Category 学校类别	School code 学校编号	Class 班级	Student 学生
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Day/日期	Month/月	Year/年份											
A3	<p>A. Male/男 B. Female/女</p>												
A4	<p>A. Malay/马来人 B. Chinese.华人 C. Indian/印度人 D. Sabah indigenous/沙巴士著 E. Sarawak indigenous /沙撈越土著 F. Others/其他</p>												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 40%; text-align: center;">Primary school/小学</th> <th style="width: 40%; text-align: center;">Secondary school/中学</th> </tr> </thead> <tbody> <tr> <td>A5</td> <td> <p>A. Primary 4/4年级 B. Primary 5/5年级 C. Primary 6/6年级</p> </td> <td> <p>D. Remove class/预备班 E. Secondary1/初中1 F. Secondary2/初中2 G. Secondary3/初中3 H. Secondary4/初中4 I. Secondary5/初中5</p> </td> </tr> <tr> <td>A6</td> <td> <p>A. 10 year old/10岁 B. 11 year old /11岁 C. 12 year old /12岁</p> </td> <td> <p>D. 13 year old /13岁 E. 14 year old / 14岁 F. 15 year old / 15岁 G. 16 year old /16岁 H. 17 year old / 17岁 I. 18 year old / 18岁</p> </td> </tr> </tbody> </table>		Primary school/小学	Secondary school/中学	A5	<p>A. Primary 4/4年级 B. Primary 5/5年级 C. Primary 6/6年级</p>	<p>D. Remove class/预备班 E. Secondary1/初中1 F. Secondary2/初中2 G. Secondary3/初中3 H. Secondary4/初中4 I. Secondary5/初中5</p>	A6	<p>A. 10 year old/10岁 B. 11 year old /11岁 C. 12 year old /12岁</p>	<p>D. 13 year old /13岁 E. 14 year old / 14岁 F. 15 year old / 15岁 G. 16 year old /16岁 H. 17 year old / 17岁 I. 18 year old / 18岁</p>			
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<b>MODULE B: Meal pattern</b>	
<b>组 B: 饮食习惯</b>	
<b>Instruction: Choose the answer and shade on the answer sheet provided</b>	
<b>指示: 请在准备好的答案纸上划圈作答</b>	
<b>B1</b>	<p>What is your school session? 请问你现在就读早上或下午班?</p> <p>A Morning session only/上午班 B Afternoon session only/下午班 C Morning and afternoon session/上午至下午班</p>
<b>B2</b>	<p>Normally, how many days in a week do you take breakfast (from 6.00AM till 8.00AM)? 你通常在一个星期内有几天会吃早餐(从早上6点到8点)?</p> <p>A 1 day/1天 B 2 days/2天 C 3 days/3天 D 4 days/4天 E 5 days/5天 F 6 days/6天 G 7 days/7天 H Not applicable / I do not take breakfast/不相关 / 没有吃早餐</p>
<b>B3</b>	<p>Normally, where do you get your breakfast from? 你通常从哪里获得早餐?</p> <p>A Prepared at home/在家准备 B Buy from school canteen/学校食堂购买 C Buy at restaurant or kiosk/餐馆或摊子购买 D Provided by the hostel/宿舍提供 E Others/其他途径 F I do not take breakfast/没有吃早餐</p>
<b>B4</b>	<p>If you do not take breakfast, what is the reason? 如果你没有吃早餐, 请问是什么原因?</p> <p>A No food/没有食物 B No appetite/没有胃口 C No time/没有时间 D On diet/ control body weight/节食/控制体重 E No money/没有钱 F Others/其他原因 G Not applicable/ because I take breakfast everyday 不相关/我每天都吃早餐</p>

**B5** Normally, how many days in a week do you eat and/or drink during school break time?  
你通常在一个星期内有几天会在学校休息节时吃食物与/或喝饮料?

- A 0 day/0天
- B 1 day/1天
- C 2 days/2天
- D 3 days/3天
- E 4 days/4天
- F 5 days/5天

**B6** Normally, where do you obtain the food?  
你通常从哪里获得该食物?

- A Bring from home/在家准备
- B Buy from school canteen/学校食堂购买
- C Buy at restaurant or kiosk/餐馆或摊子购买
- D Provided by hostel/宿舍提供
- E Others/其他途径
- F Not applicable/ I do not consume food and/or drink during school break time  
不相关/没有在学校休息节时吃食物与/或喝饮料

**B7** Normally, how many days in a week do you consume lunch (11.00AM till 3.00PM)?  
你通常在一个星期内有几天会吃午餐 (从早上11点到下午3点)?

- A 1 day/1天
- B 2 days/2天
- C 3 days/3天
- D 4 days/4天
- E 5 days/5天
- F 6 days/6天
- G 7 days/7天
- H I do not take lunch/没有吃上午餐

**B8** Normally, where do you obtain the food?  
你通常从哪里获得该食物?

- A Prepared at home/在家准备
- B Buy from school canteen/学校食堂购买
- C Buy from restaurant or kiosk/餐馆或摊子购买
- D Provided by hostel/宿舍提供
- E Others/其他途径
- F Not applicable/ I do not take lunch/不相关/没有吃午餐

- B9** If you do not take lunch, what is the reason?  
如果你没有吃午餐，请问是什么原因？
- A No food/没有食物
  - B No appetite/没有胃口
  - C No time/没有时间
  - D On diet/ control body weight/节食/控制体重
  - E No money/没有钱
  - F Others/其他原因
  - G Not applicable/ I take lunch/不相关/ 我有吃午餐
- B10** Normally, how many days in a week do you have afternoon tea (3.00PM till 6.00PM)?  
你通常在一个星期内有几天会吃下午茶点（从下午3点到傍晚6点）？
- A 1 day/1天
  - B 2 days/2天
  - C 3 days/3天
  - D 4 days/4天
  - E 5 days/5天
  - F 6 days/6天
  - G 7 days/7天
  - H No afternoon tea/没有吃下午茶
- B11** Normally, where do you obtain the food?  
你通常从哪里获得下午茶点的食物？
- A Prepared at home/在家准备
  - B Buy from school canteen/学校食堂购买
  - C Buy from restaurant or kiosk/餐馆或摊子购买
  - D Provided by hostel/宿舍提供
  - E Others/其他途径
  - F Not having afternoon tea/没有吃下午茶点
- B12** Normally, how many days in a week do you have dinner(6.00PM till10.00PM)?  
你通常在一个星期内有几天会吃晚餐（从傍晚6点到晚上10点）？
- A 1 day/1天
  - B 2 days/2天
  - C 3 days/3天
  - D 4 days/4天
  - E 5 days/5天
  - F 6 days/6天
  - G 7 days/7天
  - H Not having dinner/没有吃晚餐

- B13** Normally, where do you obtain the food?  
通常从哪获得该食物?
- A Prepared at home/在家准备
  - B Buy from restaurant or kiosk/餐馆或摊子购买
  - C Provided by hostel/宿舍提供
  - D Others/其他途径
  - E Not applicable/ I do not take dinner/不相关/ 没有吃晚餐
- B14** If you do not take dinner, what is the reason?  
如果你没有吃晚餐，请问是什么原因?
- A No food/没有食物
  - B No appetite/没有胃口
  - C No time/没有时间
  - D On diet/节食
  - E No money/没有钱
  - F Others/其他原因
  - G Not applicable/ I take dinner/不相关/ 有吃晚餐
- B15** For the past one week, how often do you take heavy meals after dinner? (Example: nasilemak, roti canai, fried mee, burger, fried chicken, instant noodle and etc.This does not include light snacks, eg 2 pieces of biscuit and/or one glass of milk)  
在上周里面，有几天你在完晚饭后会吃难消化的食物？（例：椰浆饭，印度煎饼，炒面，汉堡包，炸鸡，快熟面等。这不包括小吃，例如2块饼干和/或一杯牛奶）
- A 1 day/1天
  - B 2 days/2天
  - C 3 days/3天
  - D 4 days/4天
  - E 5 days/5天
  - F 6 days/6天
  - G 7 days/7天
  - H I do not take heavy meals after dinner/晚餐后不再吃东西
- B16** Where do you take the heavy meals?  
你从哪里享用该食物?
- A Home/家里
  - B Restaurant/ kiosk/餐馆或摊子
  - C Hostel/宿舍
  - D Others/其他地方
  - E Not applicable/ I do not take heavy meals/不相关/ 晚餐后不再吃东西

- B17** Normally, how many days in a week do you eat fast food bought from fast food restaurant, such as burger, pizza, fried chicken, French fries, nugget and etc?  
你通常在一个星期内有几天会吃从快餐店购买的食物如汉堡包, 披萨饼, 炸鸡, 薯条, 鸡肉块等等?
- A 1 day/1天
  - B 2 days/2天
  - C 3 days/3天
  - D 4 days/4天
  - E 5 days/5天
  - F 6 days/6天
  - G 7 days/7天
  - H No fast food/没有吃快餐
- B18** How often do you bring food to school?  
你可否有从家里携带便当/食物到学校?
- A Everyday/每天
  - B Occasionally/偶尔 (有时候会)
  - C Never/没有携带
- B19** What is the usual packed meal that you bring to school? (Can choose **ONE** or **TWO** answer(s) only)  
通常会带什么食物到学校? (只能选择一个或两个答案)
- A *Nasi lemak*/fried rice/mixed rice  
椰浆饭 / 炒饭 / 饭菜
  - B Noodle / Vermicelli / KuehTeow  
面 / 米粉 / 河粉
  - C Bread / Bun / Sandwich  
面包 / 馒头 / 三文治
  - D Nugget / Sausage / Burger  
鸡肉块 / 香肠 / 汉堡包
  - E Biscuit/饼干
  - F Fruits/水果
  - G Others/其他
  - H I do not bring packed meal/没有携带食物
- B20** How often do you bring drink to school?  
你可否有从家里携带饮料到学校?
- A Everyday/每天
  - B Occasionally/偶尔 (有时候会)
  - C Never/没有携带



- B21** What is the usual drink that you bring to school?(Can choose **ONE** or **TWO** answer(s) only)  
通常会带什么饮料到学校? (只能选择一个或两个答案)
- A Plain water/白开水
  - B Flavored water/packed drink/syrup drink/tea/coffee/Milo  
有味饮料 / 包装饮料 / 糖浆饮料 / 茶 / 咖啡 / 美禄
  - C Carbonated drink/汽水
  - D Milk/ cultured drink/奶/ 酸奶饮品 (优格)
  - E Others/其他
  - F I don't bring drink to school/没有携带饮料
- B22** Normally, where do you mostly spend your pocket money?  
你最常把零用钱花在哪一方面?
- A Buy food and/ or drink/购买食物X或饮料
  - B Buy stationery/购买文具
  - C Saving/储蓄
  - D Others/其他
  - E I do not bring pocket money to school/没有零用钱
- B23** How often do you eat outside in a week?Not included eating in the school and hostel?  
你通常在一个星期内有几天会在外用餐? 不包括在学校和宿舍?
- A 1 time/1次
  - B 2 times/2次
  - C 3 times/3次
  - D 4 times/4次
  - E 5 times/5次
  - F 6 times/6次
  - G 7 times or more/7次或以上
  - H Never/没有在外面用餐
- B24** What kind of snack foods that you always eat?(Can choose **ONE** or **TWO** answer(s) only)  
你最常吃的零食是什么? (只能选择一个或两个答案)
- A Bread / Bun / Sandwich/面包 / 馒头 / 三文治
  - B French fries/薯条
  - C Biscuit/饼干
  - D Fruits/水果
  - E Nuts/花生
  - F Fish cracker/炸鱼饼/虾饼
  - G Ice cream/冰淇淋
  - H I do not take snack food/没有吃零食

- B25** How often do you take snack foods in a week?  
你在一个星期内吃多少次零食?
- A 1 time/1次
  - B 2 times/2次
  - C 3 times/3次
  - D 4 times/4次
  - E 5 times/5次
  - F 6 times/6次
  - G 7 times or more/7次或以上
  - H Never take snack food before/没有吃零食
- B26** What types of food and/or drinks that you always buy out of school area?(Can choose **ONE** or **TWO** answer(s) only)  
你从学校范围外买些什么类型的食物和/或饮料? (只能选择一个或两个答案)
- A Candy/chocolate/糖果 / 巧克力
  - B French fries/ nugget / sausage/薯条 / 鸡肉块 / 香肠
  - C Flavoured drink/ carbonated drink/各种口味饮料 / 汽水
  - D Pickles/腌制食物
  - E Snack food/零食
  - F Fish cracker/炸鱼饼/虾饼
  - G Ice cream/冰淇淋
  - H Never take snack food outside the school area/没有买学校范围外的食物
- B27** Within a week, how often do you buy food and/or drink outside school compound?  
在一星期内, 你可否有从学校范围外买食物和/或饮料?
- A 1 time/1次
  - B 2 times/2次
  - C 3 times/3次
  - D 4 times/4次
  - E 5 times/5次
  - F 6 times/6次
  - G 7 times or more/7次或以上
  - H Never/没有购买
- B28** Which media source(s) that most affect your dietary pattern? (Can choose **ONE** or **TWO** answer (s) only)/  
什么媒体最影响你的食物选择? (只能选择一个或两个答案)
- A Social media (example : Surf Internet / YouTube / Facebook / Instagram, Twitter)  
社交网站 (例: 浏览网站 / 视频网站 / 面子书)
  - B Television/电视机
  - C Radio/电台
  - D Printed media (Example: magazine, newspaper, billboard, brochure, catalogue)  
平面媒体 (例子: 杂志, 报章, 广告牌, 传单, 购物目录)
  - E Not affected/没有被影响

*Survei Kesihatan dan Morbiditi 2017*

<b>MODULE C: PHYSICAL ACTIVITY</b>						
<b>C组：体能活动</b>						
<b>Instruction: Choose the answer and shade on the answer sheet provided</b>						
<b>指示：请在准备好的答案纸上划黑作答</b>						
<b>C1 Physical activity during leisure time: Are you doing the activities listed below during the last 7 days (last week). If YES, how many times?</b>						
<b>休闲体能活动：在过去的7天（上周）你有做出以下列出的哪些活动。如果有，请问多少次？</b>						
	<b>Activity/活动</b>	<b>Never/ 没有</b>	<b>1-2 times/ 1-2次</b>	<b>3-4 times/ 3-4次</b>	<b>5-6 times/ 5-6次</b>	<b>7 times or more/ 7次或以上</b>
a	Rope skipping/跳绳	A	B	C	D	E
b	Rowing/ Canoeing/划艇	A	B	C	D	E
c	Silat / Karate / Taekwondo 马来武术/空手道/跆拳道	A	B	C	D	E
d	Chasing game/追逐游戏	A	B	C	D	E
e	Brisk walking/步行运动	A	B	C	D	E
f	Cycling/骑脚踏车	A	B	C	D	E
g	Jogging / Running/慢跑 / 赛跑	A	B	C	D	E
h	Aerobics/有氧体操	A	B	C	D	E
i	Swimming/游泳	A	B	C	D	E
j	Baseball/棒球	A	B	C	D	E
k	Dancing/跳舞	A	B	C	D	E
l	Rugby/橄榄球	A	B	C	D	E
m	Badminton/羽毛球	A	B	C	D	E
n	Hockey/曲棍球	A	B	C	D	E
o	Volleyball/排球	A	B	C	D	E
p	Basketball / Netball/篮球	A	B	C	D	E
q	Sepak takraw/藤球	A	B	C	D	E
r	Football / Futsal/足球	A	B	C	D	E
s	Ping pong/乒乓球	A	B	C	D	E

- C2** During physical education class in the last 7 days, how often are you in an active condition (playing, running, throwing, jumping)?  
在过去的7天，在体育课活动期间，你是否非常活跃（玩耍，奔跑，投球，跳跃）？
- A I do not attend the physical education class/我不参与体育课  
B Very rare/级少数  
C Occasionally/偶尔(有时候会)  
D Quite often/经常  
E Always/常常
- C3** What do you usually do **during break time in the school** for the last 7 days?  
在过去的7天，你都在**学校休息课**时做些什么？
- A Sitting down (chatting, reading, doing homework)/坐下(聊天，阅读，做功课)  
B Standing or walking/站立或步行  
C Running or playing for a short while/奔跑或偶尔玩耍  
D Running and playing for a short while/奔跑和偶尔玩耍  
E Running and playing all the time/奔跑和经常玩耍
- C4** What are the activities that you normally do **during lunch time** for the last 7 days (apart from eating)?  
在过去的7天，除了坐下吃午餐外，你都在**吃午餐的时候**做些什么？
- A Sitting down (chatting, reading, doing homework)/坐下(聊天，阅读，做功课)  
B Standing or walking/站立或步行  
C Running or playing for a short while/奔跑或偶尔玩耍  
D Running and playing for a short while/奔跑和适量的玩耍  
E Running and playing all the time/奔跑和经常玩耍
- C5** In the last 7 days, how many days did you spend playing sports, dance or playing **actively immediately after school hours**?  
在过去的7天，你有几天是**直接在放学后**运动，跳舞，或非常活跃的玩耍？
- A Never/没有  
B 1 day/1天  
C 2 or 3 days/2或3天  
D 4 days/4天  
E 5 days/5天
- C6** In the last 7 days, how many days did you play sports, dance or play **actively in the evening**?  
在过去的7天，你有几天是在**下午时间**运动，跳舞，或非常活跃的玩耍？
- A Never/没有  
B 1 day/1天  
C 2 or 3 days/2或3天  
D 4 or 5 days/4或5天  
E 6 or 7 days/6或7天

- C7** How many times have you been involved with sport activities, dancing or engage in active games during last weekend?  
在上个周末，你有多少次参与运动，跳舞，或活跃的课外活动？
- A Never/没有
  - B 1 time/1次
  - C 2 or 3 times/2或3次
  - D 4 or 5 times/4或5次
  - E 6 times or more/6次或以上
- C8** Which of the following statements describe you in the last 7 days?  
以下哪项正是描述你在过去的7天的行为？
- A I use all or most of my spare time with a mild activity/  
我用全部或大部分空闲的时间做些不劳累的活动
  - B I occasionally (1-2 times per week) do physical activity during my spare time (example: involve in sport activities, running, swimming, cycling, aerobic activity)/  
在空闲的时候，我偶尔（每周1-2次）会参与课外活动（例：运动，赛跑，跳舞，游泳，骑脚踏车，有氧运动）
  - C I sometimes (3-4 times per week) do physical activity during my spare time(example: involve in sport activities, running, swimming, cycling, aerobic activity)/  
在空闲的时候，我有时（每周3-4次）会参与课外活动（例：运动，赛跑，跳舞，游泳，骑脚踏车，有氧运动）
  - D I often (5-6times per week) do physical activity during my spare time (example: involve in sport activities, running, swimming, cycling, aerobic activity)/  
在空闲的时候，我经常（每周5-6次）会参与课外活动（例：运动，赛跑，跳舞，游泳，骑脚踏车，有氧运动）
  - E I regularly (7times or more per week) do physical activity during my spare time (example: involve in sport activities, running, swimming, cycling, aerobic activity)/  
在空闲的时候，我常常（每周7次或以上）会参与课外活动（例：运动，赛跑，跳舞，游泳，骑脚踏车，有氧运动）

**C9** Highlight the frequency of your activity (such as sports, playing, dancing, or any other physical activity) for each day during the last one week.

上个星期的每一天，你有多少次参与课外活动（体育，玩耍，跳舞或其他课外活动）

Day/日期		No activity/ 没有活动	Occasionally (1-2 times)/ 偶尔 (1-2 次)	Sometimes (3-4 times) / 有时 (3-4 次)	Often (5-6 times/ 经常 (5-6 次)	Regularly (7 times or more)/ 常常 (7 次或以)
a	Monday/ 星期一	A	B	C	D	E
b	Tuesday/ 星期二	A	B	C	D	E
c	Wednesday/ 星期三	A	B	C	D	E
d	Thursday/ 星期四	A	B	C	D	E
e	Friday/ 星期五	A	B	C	D	E
f	Saturday/ 星期六	A	B	C	D	E
g	Sunday/ 星期日	A	B	C	D	E

- C10** For the past week, are you sick, or are there any things that prevent you from doing regular physical activity?  
在上个星期, 你是否生病或因其他原因而导致你不能参与课外活动吗?
- A Yes/是  
B No/不是
- C11** During **weekend**, do you watch television and/or use computer and/or play video games ?  
在**周末**, 你是否有看电视和/或使用电脑和/或玩电子游戏机 (example/如: PSP, Playstation, Gameboy and others)?
- A Yes/是  
B No/不是
- C12** How long do you watch television and/or use computer and/or play video games during **weekend**?  
在**周末**, 你花多少时间在看电视和/或使用电脑和/或玩电子游戏机?
- A Less than 1 hour per day/一天少过 1 小时  
B 1 to 2 hours per day/一天 1 至 2 小时之间  
C 2 to 3 hours per day/一天 2 至 3 小时之间  
D 3 to 4 hours per day/一天 3 至 4 小时之间  
E More than 4 hours per day/一天超过 4 小时
- C13** During **school day**, do you watch television and/or use computer and/or playing video games?  
在**上学期间**, 你是否有看电视和/或使用电脑和/或玩电子游戏机(example/如: PSP, PlayStation, Gameboy and others)?
- A Yes/是  
B No/不是
- C14** How long do you watch television and/or use computer and/or play video games on **school days**?  
在**上学期间**, 你花多少时间在看电视和/或使用电脑和/或玩电子游戏机?
- A Less than 1 hour per day/一天少过 1 小时  
B 1 to 2 hours per day/一天 1 至 2 小时之间  
C 2 to 3 hours per day/一天 2 至 3 小时之间  
D 3 to 4 hours per day/一天 3 至 4 小时之间  
E More than 4 hours per day/一天超过 4 小时

**MODULE D : PERCEPTION OF WEIGHT MANAGEMENT****D 组 : 体重管理的自我观点****INSTRUCTION : Choose the answer and shade on the answer sheet provided.****指示 : 请在准备好的答案纸上划黑作答**

- D1** At the present time, you think you are:  
目前, 你觉得你:
- A Significant underweight/体重非常不足
  - B Underweight/体重不足
  - C Has appropriate body weight/拥有适当的体重
  - D Overweight/体重过重
  - E Obese/肥胖
- D2** What are you doing to your body weight?  
你对你的体重做了些什么?
- A I am trying to reduce my body weight/我正在努力减轻自己的体重
  - B I am trying to increase my body weight/我正在努力增加自己的体重
  - C I am not doing anything to my body weight/我什么也没做
  - D I am maintaining my body weight/我正在维持自己的体重
- D3** If you intend to **lose body weight**, what are the main factor that motivate you to do so?/如果你想**减肥**, 是什么主要因素驱使你这样做呢?
- A Health/健康
  - B Beauty/漂亮
  - C Increase self-confidence/提高自信
  - D To have more friends/结交更多朋友
  - E Does not intend to lose body weight/没有想过减肥
- D4** If you intend to **lose body weight**, what is the preferred option?  
如果你想**减肥**, 什么方法是你的首选?
- A Exercise/运动
  - B Reduce consumption of high fat foods/减少吃油腻的食物(Example/例子: fried food/煎炸食物)
  - C Reduce intake of sugary foods/减少吃甜食
  - D Increase intake of vegetables and fruits/多吃蔬菜和水果
  - E Skip main meals/不吃正餐 (breakfast/早餐, lunch/午餐, dinner/晚餐)
  - F Taking diet pills/ use slimming cream/吃减肥药/用减肥霜
  - G Fasting/禁食
  - H Get professional advise/征求专业服务
  - I Does not intend to lose body weight/没有想过减肥
- D5** If you intend to **increase body weight**, what are the main factor that motivate you to do so?  
如果你想**增肥**, 是什么主要因素驱使你这样做呢?
- A Healthy/健康
  - B Beauty/漂亮
  - C Increase self-confidence/提高自信
  - D To have more friends/结交更多朋友
  - E Does not intend to increase body weight/没有想过增肥
- D6** If you intend to **increase body weight**, what is the preferred option?  
如果你想**增肥**, 什么方法是你的首选?
- A Increase the quantity of food consumed/吃更多的食物
  - B Taking supplement (Additional foods such as milk, vitamin)/吃补品 (如奶, 维生素补品)
  - C Take high-calorie foods/吃高卡路里的食物
  - D Others/其他
  - E Does not intend to increase body weight/没有想过增肥



**MODULE E: SUPPLEMENT INTAKE****E组：食用营养补剂****Instruction : Choose the answer and shade on the answer sheet provided****指示：请在准备好的答案纸上划黑作答**

- E1** Are you taking any vitamin supplement/ minerals?  
 你有在食用维生素/矿物质的补剂吗？  
 A Yes/有  
 B No/没有  
 (If No, please answer 'I DON'T TAKE SUPPLEMENT' at question E2, E3, dan E4  
 (如果没有，请在E2, E3 和 E4 回答没有食用补剂))
- E2** What type of vitamin supplement/ minerals that you usually take?  
 你在食用什么维生素/矿物质补剂？  
 A Multivitamin/多元维生素  
 B Vitamin C/维生素 C  
 C Iron supplement (Ferum)/铁质  
 D Others/其他  
 E I do not take supplement/没有食用补剂
- E3** What is the reason for you to take vitamin supplement/ minerals?  
 是什么原因使你在食用维生素/矿物质补剂？  
 A Prescribed by doctor/医生指示  
 B Advised by parent/父母要求  
 C Self-awareness/自我意识  
 D Friend influence/朋友影响  
 E Others/其他  
 F I do not take supplement/没有食用补剂
- E4** How often do you take vitamin supplement / minerals?  
 你如何食用该维生素/矿物质补剂？  
 A Everyday/每天  
 B 5-6 times per week/一星期5至6次  
 C 3-4 times per week/一星期3至4次  
 D 1-2 times per week/一星期1至2次  
 E I do not take supplement/没有服用补剂
- E5** Are you taking any **food supplement**?  
 你有在食用食物补剂吗？  
 A Yes/有  
 B No/没有  
 (If NO, please answer 'I DON'T TAKE SUPPLEMENT' at question E6, E7, dan E8)  
 (如果没有，请在E6, E7 和 E8 回答没有食用补剂)

**E6** What kind of food supplement that you usually take?  
你在食用什么食物补助品？

- A Spirulina/螺旋藻
- B Fish oil/鱼油
- C Honey/蜜糖或蜜糖制品
- D Chicken essence/鸡精
- E Others/其他
- F I do not take supplement/没有食用补助品

**E7** What is the reason for you to take food supplement?  
是什么原因使你在食用食物补助品？

- A Prescribed by doctor/医生指示
- B Advised by parent/父母要求
- C Self-awareness/自我意识
- D Friend influence/朋友影响
- E Others/其他
- F I do not take supplement/没有服用补助品

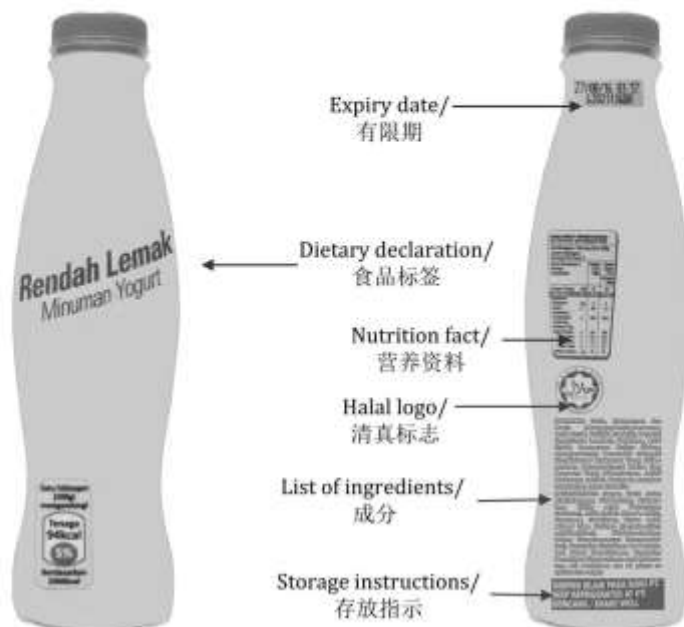
**E8** How often do you take food supplement?  
你如何食用该维生素/矿物质补助品？

- A Everyday/每天
- B 5-6 times per week/一星期 5 至 6 次
- C 3-4 times per week/一星期 3 至 4 次
- D 1-2 times per week/一星期 1 至 2 次
- E I do not take supplement/没有服用补助品

<b>MODULE F: NUTRITION AND FOOD LABELLING</b>																			
<b>F 组：食品标签（只限于中学生作答）</b>																			
<b>Instruction: Choose the answer and shade on the answer sheet provided</b> <b>指示：请在准备好的答案纸上划黑作答</b>																			
<b>F1</b>	<p>Do you read food label when buying or receiving food/drink? 当你正在购买或接受食品/饮料的时候，你会否阅读食品标签？</p> <p>A. Yes, every time/每次都会</p> <p>B. Yes, sometimes/偶尔会</p> <p>C. No/不会</p> <p>(Straight to question F3 and answer till question F10/ 请直接跳去回答问题 F3，并继续回答至 F10)</p> <p>(Please answer question F2 and question F5 till F8/ 请回答问题 F2，并直接跳去 F5 继续回答至 F8)</p>																		
<b>F2</b>	<p>If you do not read food labels, specify the reason? <b>You may choose more than one answer</b> 如果你没有阅读食品标签，请列明原因。你可以选择多个答案</p> <table border="1"> <thead> <tr> <th colspan="2">Reasons for not reading food labels/ 没有阅读食品标签的原因</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td>Small printing font/字体太小</td> </tr> <tr> <td><b>B</b></td> <td>Do not understand food labels/不明白</td> </tr> <tr> <td><b>C</b></td> <td>Not interesting/不感兴趣</td> </tr> <tr> <td><b>D</b></td> <td>Do not know the importance/不懂其重要性</td> </tr> <tr> <td><b>E</b></td> <td>No time/没有时间</td> </tr> <tr> <td><b>F</b></td> <td>Already know the information/已经知道相关资料</td> </tr> </tbody> </table>	Reasons for not reading food labels/ 没有阅读食品标签的原因		<b>A</b>	Small printing font/字体太小	<b>B</b>	Do not understand food labels/不明白	<b>C</b>	Not interesting/不感兴趣	<b>D</b>	Do not know the importance/不懂其重要性	<b>E</b>	No time/没有时间	<b>F</b>	Already know the information/已经知道相关资料				
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<b>F3</b>	<p>What kind of information do you read from the food label? <b>You may choose more than one answer.</b> 你会从食物营养标签上阅读哪些营养资料？你可以选择多个答案</p> <table border="1"> <thead> <tr> <th colspan="2">Nutrition fact information/营养资料</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td>Energy content/日能</td> </tr> <tr> <td><b>B</b></td> <td>Carbohydrate/sugar content/碳水化合物/糖含量</td> </tr> <tr> <td><b>C</b></td> <td>Fat content/脂肪含量</td> </tr> <tr> <td><b>D</b></td> <td>Protein content/蛋白质含量</td> </tr> <tr> <td><b>E</b></td> <td>Salt/ sodium content/钠含量</td> </tr> <tr> <td><b>F</b></td> <td>Vitamin content/维生素含量</td> </tr> <tr> <td><b>G</b></td> <td>Mineral content/矿物质含量</td> </tr> <tr> <td><b>H</b></td> <td>Fiber/纤维</td> </tr> </tbody> </table>	Nutrition fact information/营养资料		<b>A</b>	Energy content/日能	<b>B</b>	Carbohydrate/sugar content/碳水化合物/糖含量	<b>C</b>	Fat content/脂肪含量	<b>D</b>	Protein content/蛋白质含量	<b>E</b>	Salt/ sodium content/钠含量	<b>F</b>	Vitamin content/维生素含量	<b>G</b>	Mineral content/矿物质含量	<b>H</b>	Fiber/纤维
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<b>G</b>	Mineral content/矿物质含量																		
<b>H</b>	Fiber/纤维																		

**F4** Based on the picture of drink sample below, what kind of information do you read?  
**You can choose more than one answer**

根据以下饮品为例，你会阅读以下哪些资料？您可以选择多个答案



Type of Information/食品资料	
<b>A</b>	Expiry date/有限期
<b>B</b>	Dietary declaration/食品标签
<b>C</b>	Nutrition fact/营养资料
<b>D</b>	Halal logo/清真标志
<b>E</b>	List of Ingredients/成分
<b>F</b>	Storage instruction/存放指示

Figure 1. Nutrition Facts

Based on nutrition fact on **Packed Drink XYZ** shown below, please read and state whether the statement is correct or wrong

根据以下**XYZ包装饮料**的食品说明。请阅读明白并确定下列陈述正确与否

Nutrition Facts for Drink XYZ/ XYZ 包装饮料食品说明		
Serving size: 食用分量: 250 ml / 毫升 Serving per box/每包装所含食用份量: 1		
	Every 100 ml/ 每 100 毫升	Every serving 250 ml/ 每食用份量 250 毫升
Energy/能量 (kcal/千卡)	56	140
Carbohydrate/碳水化合物 (g/克)	10.9	27.3
Total sugar/总糖量 (g/克)	10.6	26.5
Protein/蛋白质 (g/克)	0	0
Fat/脂肪 (g/克)	0	0

**F5** If I drink 100ml of this drink, it provides 56 kcal of energy.  
如果我喝下这100毫升的饮料，它将提供56千卡能量。

- A True/正确
- B False/不正确
- C Don't know.不知道

**F6** If I drink 1 box of this packed drink, I obtain 26.5 gram of sugar.  
如果我喝下这包饮料，就等于我摄取了26.5克糖。

- A True/正确
- B False/不正确
- C Don't know/不知道

Based on the energy content from the front part of label (shown below), please indicate whether the following statement is true or false.

根据以下前面的能量摄取标签(*front of pack labelling*), 请确定下列陈述正确与否

One serving/每食用份量  
Contain/含有 250 ml/毫升



Base on/根据  
2000 kcal/千卡


- F7** Energy for 2 serving of this food is 140 kcal  
两份食用份量将提供140千卡的能量
- A True/正确
  - B False/不正确
  - C Don't know/不知道
- F8** If I drink one serve of this food, it provides 7% energy from 2000 calories  
如果我喝了一份食用份量, 它将从 2000 千卡中提供 7% 的能量。
- A True/正确
  - B False/不正确
  - C Don't know/不知道

**Product Ice Cream A**  
冰淇淋 A 产品

**List of ingredients/成分:**

Sugar, Olein/Palm kernel, Milk solids,  
Glucose syrup, Cocoa powder.

糖, 精油/棕榈仁油, 乳固体, 葡萄糖浆,  
可可粉



**F9** What ingredient that is mostly used in this ice cream?  
在这冰淇淋内, 什么成分是最高的?

- A. Milk solids/乳固体
- B. Glucose syrup/葡萄糖浆
- C. Sugar/糖
- D. Olein / Palm kernel oil/精油/棕榈仁油
- E. Cocoa powder/可可粉

**F10** What ingredient that is least used in this ice cream?  
在这冰淇淋内, 什么成分是最低的?

- A. Glucose syrup/葡萄糖浆
- B. Sugar/糖
- C. Olein/Palm kernel oil/精油/棕榈仁油
- D. Milk solids/乳固体
- E. Cocoa powder/可可粉

<b>MODULE G : ANTHROPOMETRIC MEASUREMENT</b>																					
<b>G 组： 人体测量</b>																					
<i>Instruction: This section will be completed by the student in the answer sheets provided</i> <i>指示：在这环节，学生将在所准备的答案纸上作答</i>																					
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G3	Body height/身高 G3a Height 1/身高 1 <input style="width: 40px; height: 20px;" type="text"/> : <input style="width: 40px; height: 20px;" type="text"/> cm/厘米 G3b Height 2/身高 2 <input style="width: 40px; height: 20px;" type="text"/> : <input style="width: 40px; height: 20px;" type="text"/> cm/厘米  Refuse to be measured 不愿被测量 <input style="width: 30px; height: 30px;" type="text"/>																				





**IKU**  
**INSTITUT KESIHATAN UMUM**  
**KEMENTERIAN KESIHATAN MALAYSIA**  
Jalan Bangsar  
50590 Kuala Lumpur



Primary School Questionnaire Answer Sheet

**TINJAUAN PEMAKANAN REMAJA 2017**  
**KERTAS JAWAPAN**

A1 ID PELAJAR						MODUL C																	
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## Appendix 8: Consent Form

## Parents Consent Form

Borang Persetujuan Ibu Bapa/Penjaga NHMS 2017

**RISALAH MAKLUMAT IBU BAPA/ PENJAGA (RESPONDEN BAWAH 18 TAHUN)****1. Tajuk:**

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

**2. Nama Penyelidik dan Institusi:**

- i. Dr. S Maria Binti Awaluddin, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia
- ii. Puan Ruhaya Binti Salleh, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia
- iii. Dr. Mohd Kamal Ariff Bin Abdul Ghani, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia

**3. Nama Penaja:**

Kementerian Kesihatan Malaysia

**4. Pengenalan:**

Kementerian Kesihatan Malaysia sedang menjalankan Tinjauan Kebangsaan Kesihatan dan Morbiditi 2017 pada tahun ini. Terdapat dua fokus utama dalam kajian ini iaitu Tinjauan Kesihatan Remaja dan Tinjauan Pemakanan Remaja. Maklumat di bawah akan menjelaskan hal-hal berkenaan tinjauan tersebut untuk anda membenarkan anak anda menyertai tinjauan ini.

Adalah penting untuk anda memahami mengapa tinjauan ini dilakukan dan apa yang perlu anak anda lakukan. Sila ambil masa yang secukupnya untuk membaca dengan teliti penerangan yang diberi sebelum anda memberi persetujuan untuk anak anda menyertai tinjauan ini. Jika anda mempunyai sebarang kemusykilan ataupun memerlukan maklumat lanjut, anda boleh bertanya dengan mana-mana ahli kumpulan tinjauan ini.

Setelah anda memahami maklumat tinjauan ini dan memberi keizinan untuk anak anda mengambil bahagian, anda perlu menandatangani Borang Persetujuan Ibu Bapa/ Penjaga (**Salinan Ibu-Bapa/Penjaga & Salinan Penyelidik**) yang disertakan bersama-sama risalah ini. Tuan/Puan mempunyai masa selama tujuh (7) hari untuk membuat keputusan bagi penyertaan anak Tuan/Puan dalam kajian ini. Borang persetujuan yang telah ditandatangani akan dikumpul oleh pasukan penyelidik sebelum pengumpulan data dijalankan. Penyertaan anak anda dalam tinjauan ini adalah secara sukarela dan anak anda boleh menarik diri pada bila-bila masa. Anak anda boleh tidak menjawab mana-mana soalan atau menarik diri dari pemeriksaan yang disebutkan sekiranya tidak mahu. Keengganan anak anda untuk mengambil bahagian atau menarik diri tidak akan menjejaskan sebarang manfaat perubatan atau kesihatan yang sememangnya hak anak anda.

Tinjauan ini ditaja sepenuhnya oleh Kementerian Kesihatan Malaysia dan telah mendapat kelulusan Jawatankuasa Etika dan Penyelidikan Perubatan, Kementerian Kesihatan Malaysia.

**5. Apakah tujuan tinjauan ini dilakukan?**

Tujuan tinjauan ini dijalankan adalah untuk memperoleh maklumat berkenaan kesihatan dan faktor pelindung serta menilai status pemakanan, corak pengambilan makanan dan corak aktiviti fizikal dalam kalangan remaja berumur 10 hingga 17 tahun. Maklumat yang diperolehi ini akan dikaji dan dinilai bagi membantu penilaian keberkesanan strategi yang dilaksanakan di peringkat sekolah dan untuk meningkatkan kesihatan remaja.

**6. Apakah yang perlu anak saya lalui/lakukan sekiranya bersetuju untuk menyertai tinjauan ini?**

Memberi respon terhadap soalan-soalan kaji selidik yang perlu dijawab oleh anak anda dan juga pengambilan ukuran berat dan tinggi yang akan dilakukan oleh pasukan penyelidik.

**7. Apakah tanggungjawab anak saya sewaktu menyertai tinjauan ini?**

Adalah penting untuk anak anda menjawab kesemua soalan yang ditanya oleh ahli penyelidik dengan lengkap. Menyertai tinjauan ini tidak memerlukan anda mengeluarkan sebarang perbelanjaan.

**8. Apakah risiko dan kesan-kesan sampingan menyertai tinjauan ini?**

Tiada risiko terhadap anak anda sekiranya menyertai tinjauan ini memandangkan tiada kaedah yang invasif atau berbahaya digunakan.

**9. Apakah manfaatnya anak saya menyertai tinjauan ini?**

Tinjauan ini tidak memberikan sebarang saguhati atau kesan kesihatan secara langsung apabila anak anda menyertai tinjauan ini. Namun, segala maklumat yang diperolehi daripada tinjauan ini akan dapat membantu penggubal dasar untuk merancang dan menambahkan program sedia ada untuk golongan remaja di Malaysia.

**10. Adakah maklumat perubatan anak saya akan dirahsiakan?**

Segala maklumat anak anda yang diperolehi dalam tinjauan ini akan disimpan dan dikendalikan secara sulit, bersesuaian dengan peraturan-peraturan dan/atau undang-undang yang berkenaan. Hanya penyelidik, peninjau yang berkecualan, auditor, dan pihak berkuasa yang berkaitan kajian ini sahaja mempunyai akses kepada maklumat yang anak anda berikan. Sekiranya hasil tinjauan ini diterbitkan atau dibentangkan kepada orang ramai, identiti anak anda tidak akan didedahkan tanpa kebenaran anda terlebih dahulu.

**11. Siapakah yang perlu saya hubungi sekiranya saya mempunyai sebarang pertanyaan?**

Sekiranya anda mempunyai sebarang soalan mengenai tinjauan ini atau memerlukan keterangan lanjut, Tuan/Puan boleh hubungi penyelidik, Dr. S Maria Awaluddin, Puan Ruhaya Salleh dan Dr. Mohd Kamal Ariff Abdul Ghani di Institut Kesihatan Umum, Jalan Bangsar, Kuala Lumpur di talian 03-22979400 untuk penjelasan lebih lanjut.

Jika anda mempunyai sebarang pertanyaan berkaitan dengan hak-hak anak anda sebagai responden dalam tinjauan ini, sila hubungi Setiausaha, Jawatankuasa Etika & Penyelidikan Perubatan (MREC), Kementerian Kesihatan Malaysia di talian 03-22874032.

**BORANG PERSETUJUAN IBU BAPA/ PENJAGA (Salinan Ibu Bapa/Penjaga)**

**Tajuk kajian : Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017**

Dengan menandatangani di bawah (Salinan Ibu Bapa/Penjaga dan Salinan Penyelidik), saya mengesahkan bahawa:

	Sila tandakan ✓ di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	<input type="checkbox"/>
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan anak saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan dan semua soalan saya telah dijawab dengan memuaskan.	<input type="checkbox"/>
3. Saya faham bahawa penyertaan anak saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	<input type="checkbox"/>
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk anak saya mengambil bahagian dalam tinjauan. Saya faham bahawa anak saya mesti mengikuti arahan yang berkaitan dengan penyertaannya dalam tinjauan ini.	<input type="checkbox"/>
5. Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ibu bapa/penjaga termaklum ini yang telah ditandatangani dan bertarikh.	<input type="checkbox"/>

Saya, \_\_\_\_\_ **memberi/tidak memberi keizinan\*** untuk anak/jagaan saya bernama \_\_\_\_\_ dari kelas \_\_\_\_\_ mengambil bahagian di dalam Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017 sepertimana yang telah dimaklumkan. (**\*Potong yang tidak berkenaan**)

(Tandatangan)  
 Nama Ibubapa/Penjaga\* : \_\_\_\_\_  
 Nombor K/P : \_\_\_\_\_  
 Tarikh : \_\_\_\_\_

**BORANG PERSETUJUAN IBU BAPA/ PENJAGA (Salinan Penyelidik)****Tajuk kajian : Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017**

Dengan menandatangani di bawah **(Salinan Ibu Bapa/Penjaga dan Salinan Penyelidik)**, saya mengesahkan bahawa:

	Sila tandakan <input type="checkbox"/> di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	<input type="checkbox"/>
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan anak saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan dan semua soalan saya telah dijawab dengan memuaskan.	<input type="checkbox"/>
3. Saya faham bahawa penyertaan anak saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	<input type="checkbox"/>
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk anak saya mengambil bahagian dalam tinjauan. Saya faham bahawa anak saya mesti mengikuti arahan yang berkaitan dengan penyertaannya dalam tinjauan ini.	<input type="checkbox"/>
5. Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ibu bapa/penjaga termaklum ini yang telah ditandatangani dan bertarikh.	<input type="checkbox"/>

Saya, \_\_\_\_\_ **memberi/tidak memberi keizinan\*** untuk anak/jagaan saya bernama \_\_\_\_\_ dari kelas \_\_\_\_\_ mengambil bahagian di dalam Tinjauan Kebangsaan Kesihatan dan Morbiditi 2017 sepertimana yang telah dimaklumkan. **(\*Potong yang tidak berkenaan)**

(Tandatangan)

Nama Ibubapa/Penjaga\* :

Nombor K/P :

Tarikh :

## Students Consent Form

Borang Persetujuan Responden (Bawah 18 Tahun) NHMS 2017

### RISALAH MAKLUMAT RESPONDEN (BAWAH 18 TAHUN)

#### 1. Tajuk:

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

#### 2. Nama Penyelidik Utama dan Institusi:

- i. Dr. S Maria Binti Awaluddin, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia
- ii. Puan Ruhaya Binti Salleh, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia
- iii. Dr. Mohd Kamal Ariff Bin Abdul Ghani, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia

#### 3. Nama Penaja:

Kementerian Kesihatan Malaysia

#### 4. Pengenalan:

Kementerian Kesihatan Malaysia sedang menjalankan Tinjauan Kebangsaan Kesihatan dan Morbiditi 2017 pada tahun ini. Terdapat dua fokus utama dalam kajian ini iaitu Tinjauan Kesihatan Remaja dan Tinjauan Pemakanan Remaja. Maklumat di bawah akan menjelaskan hal-hal berkenaan tinjauan tersebut untuk persetujuan anda menyertai tinjauan ini.

Adalah penting untuk anda memahami mengapa tinjauan ini dilakukan dan apa yang perlu anda lakukan. Sila ambil masa yang secukupnya untuk membaca dengan teliti penerangan yang diberi sebelum anda bersetuju untuk menyertai tinjauan ini. Jika anda mempunyai sebarang kemusykilan ataupun memerlukan maklumat lanjut, anda boleh bertanya dengan mana-mana ahli kumpulan tinjauan ini.

Setelah anda memahami maklumat tinjauan ini dan diberi keizinan oleh Ibu Bapa/Penjaga untuk anda mengambil bahagian, anda perlu menandatangani Borang Persetujuan Responden (**Salinan Responden & Salinan Penyelidik**) yang disertakan bersama-sama risalah ini. Anda mempunyai masa selama tujuh (7) hari untuk membuat keputusan bagi penyertaan dalam kajian ini. Borang persetujuan yang telah ditandatangani akan dikumpul oleh pasukan penyelidik sebelum pengumpulan data dijalankan. Penyertaan anda dalam tinjauan ini adalah secara sukarela dan anda boleh menarik diri pada bila-bila masa. Anda boleh tidak menjawab mana-mana soalan atau menarik diri dari pemeriksaan yang disebutkan sekiranya tidak mahu. Keengganan anda untuk mengambil bahagian atau menarik diri tidak akan menjejaskan sebarang manfaat perubatan atau kesihatan yang sememangnya hak anda.

Tinjauan ini ditaja sepenuhnya oleh Kementerian Kesihatan Malaysia dan telah mendapat kelulusan Jawatankuasa Etika dan Penyelidikan Perubatan, Kementerian Kesihatan Malaysia.

#### 5. Apakah tujuan tinjauan ini dilakukan?

Tujuan tinjauan ini dijalankan adalah untuk memperoleh maklumat berkenaan kesihatan dan faktor pelindung serta menilai status pemakanan, corak pengambilan makanan dan corak aktiviti fizikal dalam kalangan remaja berumur 10 hingga 17 tahun. Maklumat yang diperolehi ini akan dikaji dan dinilai bagi membantu penilaian keberkesanan strategi yang dilaksanakan di peringkat sekolah dan untuk meningkatkan kesihatan remaja.

#### 6. Apakah yang perlu saya lalui/lakukan sekiranya bersetuju untuk menyertai tinjauan ini?

Memberi respon terhadap soalan-soalan kaji selidik yang perlu dijawab oleh anda dan juga pengambilan ukuran berat dan tinggi yang akan dilakukan oleh pasukan penyelidik.

#### 7. Apakah tanggungjawab saya sewaktu menyertai tinjauan ini?

Adalah penting untuk anda menjawab kesemua soalan yang ditanya oleh ahli penyelidik dengan lengkap. Menyertai tinjauan ini tidak memerlukan anda mengeluarkan sebarang perbelanjaan.

#### 8. Apakah risiko dan kesan-kesan sampingan menyertai tinjauan ini?

Tiada risiko terhadap anda sekiranya menyertai tinjauan ini memandangkan tiada kaedah yang invasif atau merbahaya digunakan.

**9. Apakah manfaatnya saya menyertai tinjauan ini?**

Tinjauan ini tidak memberikan sebarang saguhati atau kesan kesihatan secara langsung apabila anda menyertai tinjauan ini. Namu, segala maklumat yang diperolehi daripada tinjauan ini akan dapat membantu penggubal dasar untuk merancang dan menambahbaik program sedia ada untuk golongan remaja di Malaysia.

**10. Adakah maklumat saya akan dirahsiakan?**

Segala maklumat anda yang diperolehi dalam tinjauan ini akan disimpan dan dikendalikan secara sulit, bersesuaian dengan peraturan-peraturan dan/ atau undang-undang yang berkenaan. Hanya penyelidik, peninjau yang berkeelayakan, auditor, dan pihak berkuasa yang berkaitan kajian ini sahaja mempunyai akses kepada maklumat yang anda berikan. Sekiranya hasil tinjauan ini diterbitkan atau dibentangkan kepada orang ramai, identiti anda tidak akan didedahkan tanpa kebenaran anda terlebih dahulu.

**11. Siapakah yang perlu saya hubungi sekiranya saya mempunyai sebarang pertanyaan?**

Sekiranya anda mempunyai sebarang soalan mengenai tinjauan ini atau memerlukan keterangan lanjut, anda boleh hubungi penyelidik, Dr. S Maria Awaluddin, Puan Ruhaya Salleh dan Dr. Mohd Kamal Ariff Abdul Ghani di Institut Kesihatan Umum, Jalan Bangsar, Kuala Lumpur di talian 03-22979400 untuk penjelasan lebih lanjut.

Jika anda mempunyai sebarang pertanyaan berkaitan dengan hak-hak anda sebagai responden dalam tinjauan ini, sila hubungi Setiausaha, Jawatankuasa Etika & Penyelidikan Perubatan (MREC), Kementerian Kesihatan Malaysia di talian 03-22874032.

**BORANG PERSETUJUAN RESPONDEN BAWAH 18 TAHUN (Untuk Salinan Responden)**

**Tajuk kajian: Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017**

Dengan menandatangani di bawah (Salinan Responden dan Salinan Penyelidik), saya mengesahkan bahawa:

	Sila tandakan ✓ di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas secara lisan dan bertulis dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	<input type="checkbox"/>
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan dan semua soalan saya telah dijawab dengan memuaskan.	<input type="checkbox"/>
3. Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	<input type="checkbox"/>
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk mengambil bahagian dalam tinjauan. Saya faham bahawa saya mesti mengikuti arahan yang berkaitan dengan penyertaan saya dalam tinjauan ini.	<input type="checkbox"/>
5. Saya faham bahawa penyelidik, peninjau yang berkeelayakan, auditor, dan pihak kuasa yang berkaitan mempunyai akses kepada maklumat yang saya berikan untuk memastikan maklumat tinjauan dicatat dengan betul. Saya faham segala maklumat peribadi dan data tinjauan ini akan dirahsiakan.	<input type="checkbox"/>
6. Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ini yang telah ditandatangani dan bertarikh.	<input type="checkbox"/>

**Responden :**  
 Tandatangan : .....  
 Nama : .....  
 Nombor K/P : .....  
 Tarikh : .....

**Penyelidik:**  
 Tandatangan : .....  
 Nama : .....  
 Nombor K/P : .....  
 Tarikh : .....



Borang Perseetujuan Responden (Bawah 18 Tahun) NHMS 2017

**BORANG PERSETUJUAN RESPONDEN BAWAH 18 TAHUN (Untuk Salinan Penyelidik)**

**Tajuk kajian: Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017**

Dengan menandatangani di bawah (Salinan Responden dan Salinan Penyelidik), saya mengesahkan bahawa:

	Sila tandakan <input type="checkbox"/> di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas secara lisan dan bertulis dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	<input type="checkbox"/>
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan dan semua soalan saya telah dijawab dengan memuaskan.	<input type="checkbox"/>
3. Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	<input type="checkbox"/>
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk mengambil bahagian dalam tinjauan. Saya faham bahawa saya mesti mengikuti arahan yang berkaitan dengan penyertaan saya dalam tinjauan ini.	<input type="checkbox"/>
5. Saya faham bahawa penyelidik, peninjau yang berkeelayakan, auditor, dan pihak kuasa yang berkaitan mempunyai akses kepada maklumat yang saya berikan untuk memastikan maklumat tinjauan dicatat dengan betul. Saya faham segala maklumat peribadi dan data tinjauan ini akan dirahsiakan.	<input type="checkbox"/>
6. Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ini yang telah ditandatangani dan bertarikh.	<input type="checkbox"/>

**Responden :**

Tandatangan : .....  
 Nama : .....  
 Nombor K/P : .....  
 Tarikh : .....

**Penyelidik:**

Tandatangan : .....  
 Nama : .....  
 Nombor K/P : .....  
 Tarikh : .....

**Appendix 9: List of Abbreviations**

FFQ	Food Frequency Questionnaire
PE	Physical Education
PA	Physical Activity
BAZ	BMI-for-Age
HAZ	Height-for-Age
MDG	Malaysian Dietary Guidelines
RNI	Recommended Nutrient Intake
Kcal	Kilocalorie
NHMS	National Health and Morbidity Survey
CCT	Central Coordinating Team
PSP	Pegawai Sains Pemakanan
RA	Research Assistant
RO	Research Officer
g	gram
mg	milligram
µg	microgram
IU	International Unit
ANS	Adolescent Nutrition Survey
MSNS	Malaysian School-based Nutrition Survey
ID	Identity Detail
DPQ	Department of Proposal and Quality
DR	Dietary recall
QC	Quality Control
CI	Confidence Interval
PAQ-C	Physical Activity Questionnaire for Older Children
PAL	Physical Activity Level
cm	Centimeter
SD	Standard Deviation
MOH	Ministry of Health
IOM	Institute of Medicine
AL	Adequate intake
UL	Upper level intake
Tsp	tea spoon
Tbsp	table spoon



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