

NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY

SELANGOR



THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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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 Primary 4 to 6 (10-12 years of age) and Secondary 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 93.9% and stunting was 6.1%. The prevalence of stunting was higher in rural areas (6.2%) as compared to urban areas (6.1%). In terms of BMI for age (BAZ), the prevalence of thinness was 6.7%, overweight was 16.5% and obesity was 16.5%.

Among those school-going adolescents who had actual normal weight, 52.7% correctly perceived their weight to be normal. Among those who were actually thin, 64.8% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 43.8% and 12.7% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 52.6% preferring exercise as an option to lose weight; 49.4% 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 26.9%. The majority of them had breakfast one to six days per week (60.3%) and some of them did not having breakfast in a week (12.8%). Among those who had breakfast, 70.3% had it at home. Adolescents from urban areas (25.6%) reported having breakfast daily (seven days per week), lower than rural areas (29.7%). The two main reasons of skipping breakfast were no appetite (41.3%) and no time (31.7%).

The prevalence of having lunch seven days per week among school-going adolescents was 48.9%; 47.5% had lunch up to six days per week and 3.6% did not have lunch in a week. No appetite (44.9%) and no time (18.4%) were the two main reasons for skipping lunch. As for dinner, 61.2% of school-going adolescents had dinner seven days per week, 35.8% 1-6 days per week and 3.0% did not have dinner in a week. Only 5.4% took heavy meals after dinner seven days per week.

There were 2.5% who had fast food daily and 13.0% did not have fast food in a week. Social media (YouTube, Facebook, Instagram, etc.) and television were reported as the main sources which affected dietary pattern in 44.4% and 34.2%. A percentage of 28.6% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Selangor was 42.9%. 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 adolescence in Selangor was 44.9% and 32.1%). In average, the vitamin/mineral and food supplements were consumed everyday by 16.2% and 10.1 % respectively. There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, school classes and localities. The most commonly consumed vitamin / minerals and food supplements were Vitamin C 34.2% and bee product 16.5%. The main reason for taking vitamin / minerals and food supplements was due to parent's advised 44.5% and 31.0% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 29.5% always reading food and nutrition labelling. Another 52.0% reported as sometimes and only 18.5% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 45.4% of adolescents both answered correctly on nutrition facts and 26.2% of adolescents answered correctly questions regarding the front of pack labelling and only 7.2% 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 (Primary 4 to Form 5) in Malaysia.

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

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

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

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

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

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**.

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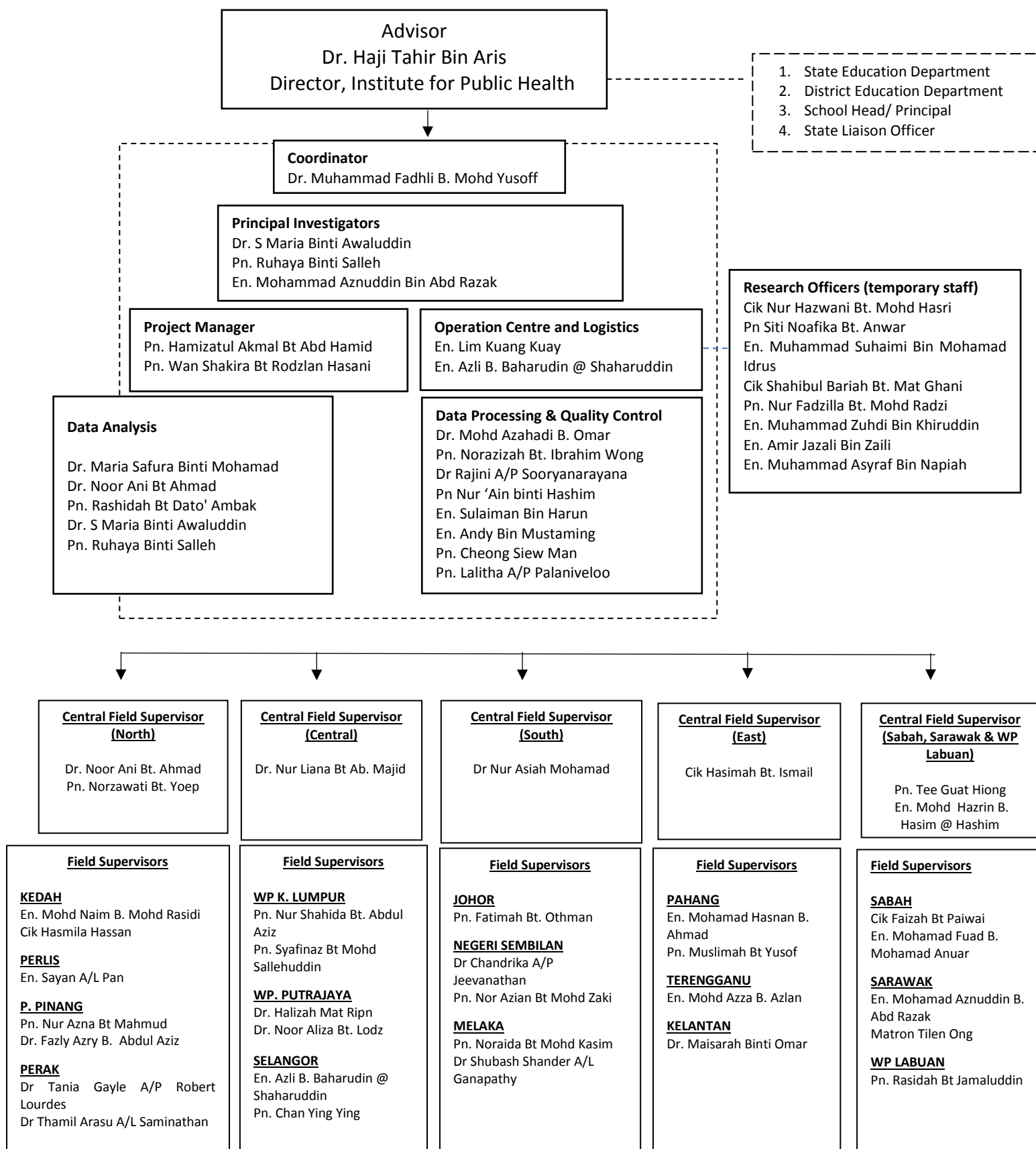


Figure 1: Organisation chart for data collection teams NHMS 2017

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 Primary 4 until Primary 6 (primary school) and Secondary 1 until Secondary 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
Total		2,738	212	30,496	7,925	99	14,000

2.4 Sampling Design

This survey implemented a multistage stratified cluster sampling design to ensure nationally representative sample of Primary 4 to 6 (10-12 years of age) and Secondary 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 Malaysia. 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 Malaysia, 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 officers from Ministry of Education Malaysia 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 2 teams per state for the remaining states. Each team consisted of a field supervisor, research assistants and a driver. The field supervisor was a permanent staff in Ministry of Health Malaysia.

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

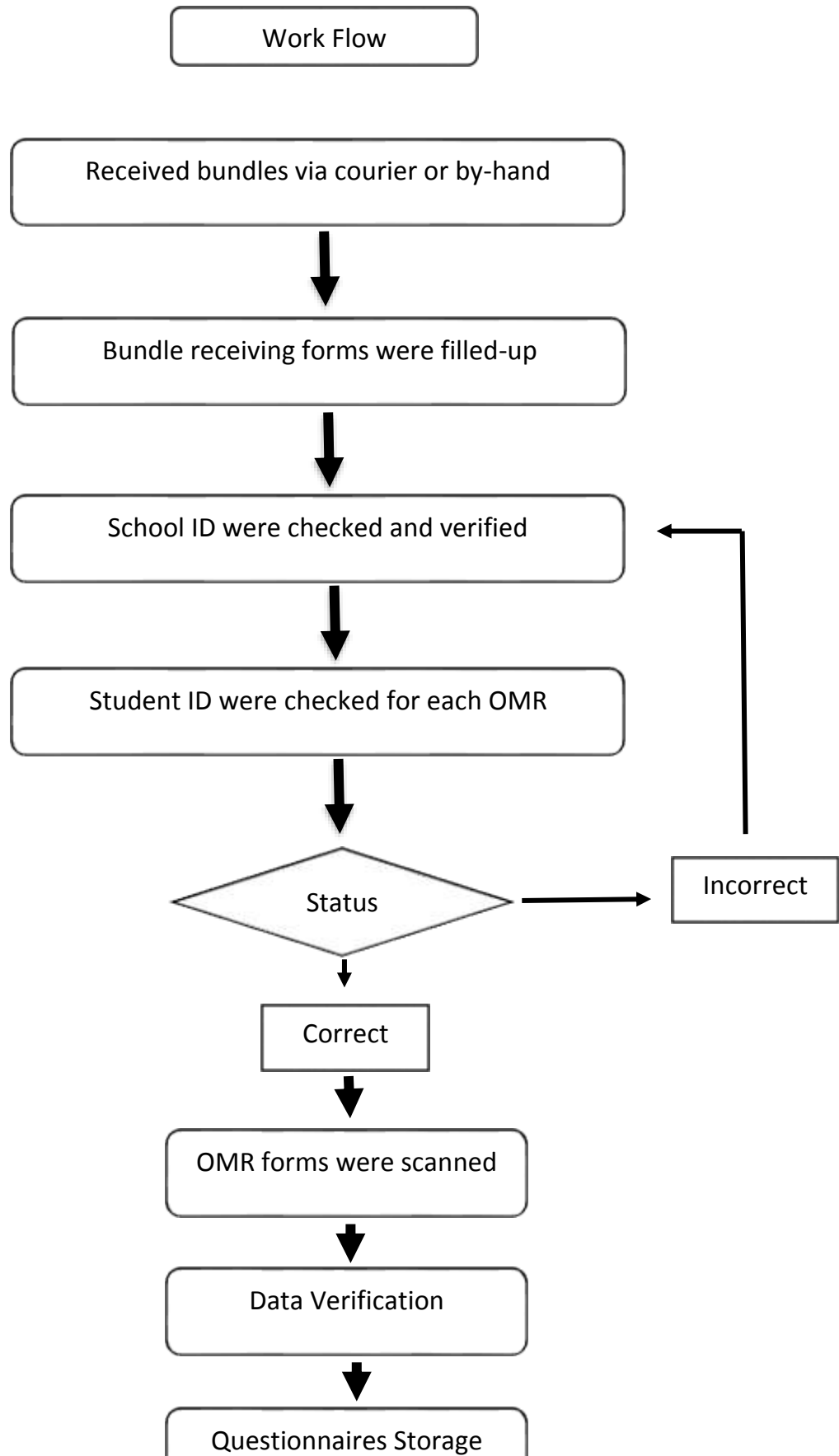


Figure 2: Work Flow of NHMS 2017

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 Primary 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 (%)
Malaysia	311	44,773	40,087	89.5
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 (%)
MALAYSIA	40087	3,480,500	100	3,480,439	100
State					
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
Sex					
Male	19677	1,746,339	50.2	1,746,326	50.2
Female	20410	1,734,161	49.8	1,734,113	49.8
Form					
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

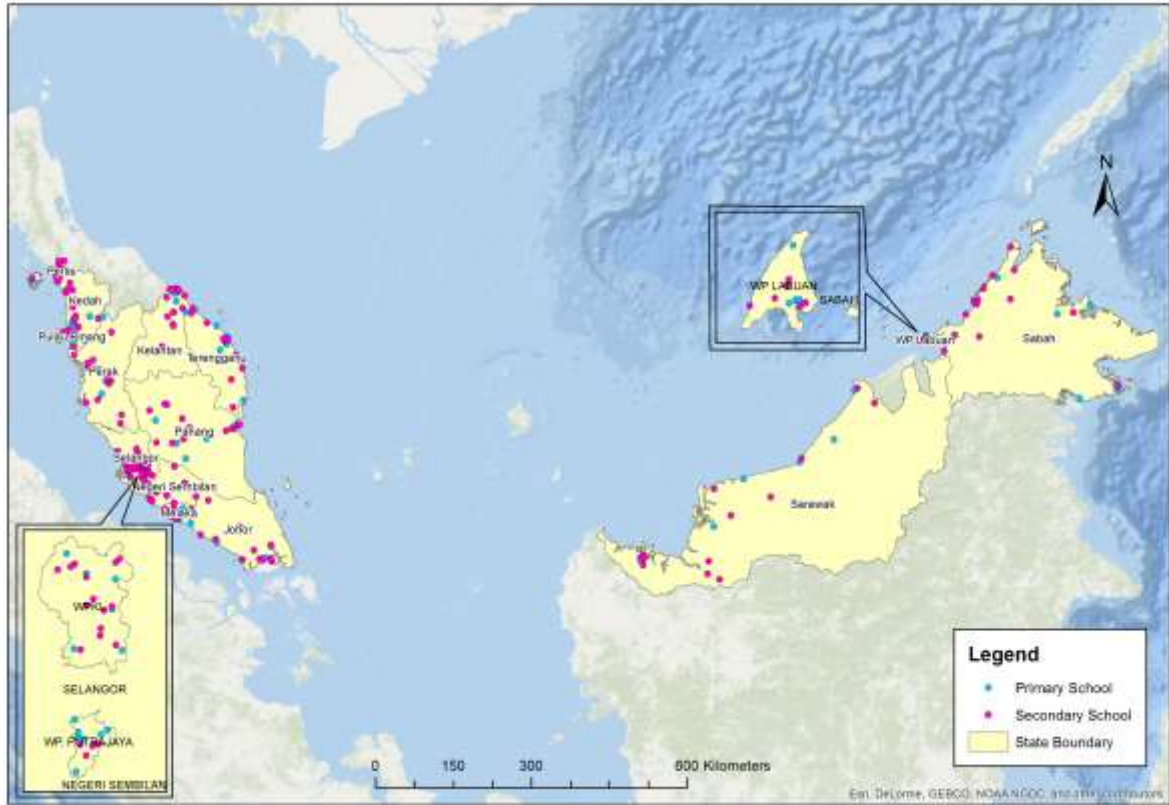


Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017

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

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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)¹. 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 93.9% (95% CI: 92.33, 95.15) of the adolescents had normal height-for-age status (HAZ: $\geq -2SD$ to $\leq +2SD$). The prevalence was slightly higher than national level [91.8% (95% CI: 91.19, 92.29)]. Comparing between strata, rural area had higher percentage of total stunting [6.2% (95% CI: 4.40, 8.65)] compared to urban area [6.1% (95% CI: 4.50, 8.15)]. In term of sexes, girls had higher percentage of total stunting [6.7% (95% CI: 4.50, 9.81)] compared to boys [5.5% (95% CI: 3.79, 8.05)]. Comparing class category, secondary level had higher percentage of total stunting [6.5% (95% CI: 4.67, 8.86)] compared to primary level [5.6% (95% CI: 4.27, 7.30)].

3.2.4.2 BMI-for-Age z-score

In terms of BMI-for-age status, the findings showed that 60.4% (95% CI: 55.74, 64.82) 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 [7.6% (95% CI: 6.22, 9.23)] compared to urban area [6.3% (95% CI: 5.54, 7.12)]. According to sex, more boys [7.7% (95% CI: 6.04, 9.85)] were thinner than girls [5.7 (95% CI: 3.89, 8.13)]. In term of class category, secondary level had higher percentage of thinness [7.1% (95% CI: 6.16, 8.20)] compared to primary level [6.1% (95% CI: 5.15, 7.14)].

On the other hand, the prevalence of overweight in Selangor (BMI-for-age: $> +1SD$ to $\leq +2SD$) was 16.5% (95% CI: 14.45, 18.69). The state prevalence was higher than national prevalence [15.6% (95% CI: 15.06, 16.19)]. In term of strata, urban area had slightly higher prevalence of overweight [17.3% (95% CI: 14.90, 20.10)] compared with rural area [14.5% (95% CI: 12.17, 17.29)]. Comparing sex, boys had higher prevalence of overweight [16.7% (95% CI: 14.15, 19.61)] than girls [16.2% (95% CI: 14.07, 18.64)]. According to class category, primary level had higher prevalence of overweight [18.7% (95% CI: 16.14, 21.53)] compared with secondary level [15.0% (95% CI: 12.69, 17.62)].

For the prevalence of obesity (BMI-for-age: $> +2SD$), the state prevalence was 16.5% (95% CI: 12.95, 20.72), whereas the prevalence was higher than national prevalence [14.8 (95% CI: 14.00, 15.73)]. Between strata, rural area showed higher prevalence of obesity [18.4% (95% CI: 15.00, 22.44)] than urban area [15.6% (95% CI: 10.79, 21.94)]. Comparing between sex, boys had higher prevalence of obesity [20.1% (95% CI: 16.43, 24.45)] than girls [12.8% (95% CI: 9.11, 17.58)]. In term of class category, 19.4% (95% CI: 13.42, 27.21) primary level were obese compared to secondary level [14.5% (95% CI: 11.86, 17.67)].

3.2.5 Conclusion

The prevalence of stunted adolescent aged 10 to 17 years in Selangor was 6.1%. On the other hand, the prevalence of overweight and obesity among this population were 16.5% and 16.5% respectively. In contrast, 6.7% 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 Selangor. Various agencies have to take the initiative to set up plan of action to overcome these problems. Healthy eating and living concept should be carried out at an

earlier stage. It can be implemented by developing 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 Malaysia and Ministry of Education Malaysia 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

Characteristic	Stunting (<-2SD)					Normal (≥-2SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Selangor	155	39838	6.1	4.85	7.67	2347	611945	93.9	92.33	95.15
Locality of School										
Urban	99	27091	6.1	4.50	8.15	1536	418887	93.9	91.85	95.50
Rural	56	12747	6.2	4.40	8.65	811	193058	93.8	91.35	95.60
Sex										
Boys	69	18182	5.5	3.79	8.05	1268	309579	94.5	91.95	96.21
Girls	86	21656	6.7	4.50	9.81	1079	302366	93.3	90.19	95.50
Class										
Standard 4	21	5697	6.4	4.41	9.34	290	82628	93.6	90.66	95.59
Standard 5	18	5073	5.8	4.07	8.32	316	81733	94.2	91.68	95.93
Standard 6	9	3808	4.5	3.19	6.23	177	81412	95.5	93.77	96.81
Form 1	19	4305	5.1	2.85	8.99	349	80055	94.9	91.01	97.15
Form 2	17	3776	4.8	3.03	7.63	337	74348	95.2	92.37	96.97
Form 3	24	4997	6.3	4.46	8.95	373	73778	93.7	91.05	95.54
Form 4	35	6790	9.1	6.50	12.73	350	67450	90.9	87.27	93.50
Form 5	12	5393	7.1	2.50	18.58	155	70540	92.9	81.42	97.50
Class Category										
Primary Level	48	14577	5.6	4.27	7.30	783	245774	94.4	92.70	95.73
Secondary Level	107	25261	6.5	4.67	8.86	1564	366171	93.5	91.14	95.33
Ethnicity										
Malay	116	30101	7.2	5.49	9.28	1441	390739	92.8	90.72	94.51
Chinese	26	6018	4.3	3.30	5.55	563	134354	95.7	94.45	96.70
Indian	10	2619	3.7	1.60	8.40	276	67741	96.3	91.60	98.40
Bumiputera Sabah	3	1100	34.7	9.48	72.94	8	2071	65.3	27.06	90.52
Bumiputera Sarawak						13	3143	100.0	0.00	100.00
Others						46	13897	100.0	0.00	100.00

Table 3.2.2: Distribution of adolescents according to BMI-For-Age status by sociodemographic characteristics (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
Selangor	169	43614	6.7	5.97	7.50	1532	393172	60.4	55.74	64.82
Locality of School										
Urban	102	28026	6.3	5.54	7.12	1019	271168	60.8	54.27	66.97
Rural	67	15589	7.6	6.22	9.23	513	122004	59.4	54.67	64.03
Sex										
Boys	97	25302	7.7	6.04	9.85	757	181370	55.4	49.07	61.61
Girls	72	18312	5.7	3.89	8.13	775	211802	65.4	61.46	69.07
Class										
Standard 4	21	5882	6.7	5.83	7.69	186	52108	59.3	53.68	64.78
Standard 5	16	3622	4.2	2.70	6.40	202	51025	58.8	52.57	64.72
Standard 6	12	6262	7.3	4.48	11.83	98	41978	49.3	38.44	60.14
Form 1	29	6589	7.8	5.30	11.36	214	49201	58.3	52.48	63.94
Form 2	26	5866	7.5	6.18	9.09	224	49754	63.7	61.65	65.68
Form 3	18	3519	4.5	2.71	7.27	251	50364	63.9	57.55	69.86
Form 4	37	7228	9.7	6.62	14.10	241	46361	62.4	56.25	68.26
Form 5	10	4646	6.1	3.82	9.65	116	52381	69.0	63.61	73.89
Class Category										
Primary Level	49	15766	6.1	5.15	7.14	486	145111	55.8	48.10	63.33
Secondary Level	120	27848	7.1	6.16	8.20	1046	248061	63.4	60.70	65.97
Ethnicity										
Malay	93	25764	6.1	5.28	7.10	965	254500	60.5	53.78	66.94
Chinese	34	7989	5.7	4.19	7.68	367	87436	62.3	57.46	66.89
Indian	38	9029	12.8	9.92	16.45	156	39091	55.6	48.83	62.09
Bumiputera Sabah	1	216	6.8	0.82	39.34	8	2537	80.0	56.57	92.47
Bumiputera Sarawak	1	173	5.5	0.54	38.60	6	1281	40.8	14.91	73.00
Others	2	442	3.2	0.67	13.87	30	8327	59.9	42.12	75.43

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

Characteristic	Overweight (> +1SD to ≤ +2SD)					Obese (> +2SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Selangor	399	107212	16.5	14.45	18.69	400	107260	16.5	12.95	20.72
Locality of School										
Urban	274	77358	17.3	14.90	20.10	240	69426	15.6	10.79	21.94
Rural	125	29854	14.5	12.17	17.29	160	37834	18.4	15.00	22.44
Sex										
Boys	222	54646	16.7	14.15	19.61	259	65918	20.1	16.43	24.45
Girls	177	52566	16.2	14.07	18.64	141	41342	12.8	9.11	17.58
Class										
Standard 4	57	16018	18.2	13.24	24.60	45	13791	15.7	11.17	21.64
Standard 5	59	15066	17.4	15.88	18.94	57	17093	19.7	13.16	28.40
Standard 6	38	17462	20.5	17.15	24.29	38	19518	22.9	15.98	31.70
Form 1	66	15097	17.9	15.50	20.58	59	13474	16.0	10.95	22.71
Form 2	53	11574	14.8	12.69	17.22	51	10929	14.0	12.53	15.59
Form 3	50	10069	12.8	9.38	17.19	78	14824	18.8	13.81	25.12
Form 4	50	9552	12.9	8.91	18.23	57	11098	14.9	10.69	20.51
Form 5	26	12374	16.3	10.13	25.17	15	6532	8.6	4.92	14.63
Class Category										
Primary Level	154	48547	18.7	16.14	21.53	140	50402	19.4	13.42	27.21
Secondary Level	245	58665	15.0	12.69	17.62	260	56858	14.5	11.86	17.67
Ethnicity										
Malay	217	61904	14.7	12.12	17.79	280	78146	18.6	14.73	23.20
Chinese	118	27918	19.9	16.67	23.55	70	17029	12.1	7.47	19.11
Indian	53	13950	19.8	13.76	27.72	39	8290	11.8	8.34	16.39
Bumiputera Sabah	2	418	13.2	3.66	37.73					
Bumiputera Sarawak	2	462	14.7	3.52	44.89	4	1226	39.0	15.57	68.93
Others	7	2559	18.4	9.30	33.19	7	2569	18.5	9.33	33.31

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

Overall, 42.7% (95% CI: 40.23, 45.16) of the adolescents in Selangor perceived that they have normal weight. Rural adolescents had slightly higher perceptions of being normal weight; 43.4% (95%CI: 41.01, 45.92) compared to urban 42.3% (95%CI: 38.88, 45.83) respectively. Higher percentage of boys had perception of being normal weight at 45.3% (95%CI: 41.97, 48.66) compared than girls at 40.0% (95%CI: 36.01, 44.22). However, higher percentage of girls had perception of being overweight at 31.6% (95%CI: 26.04, 37.65), compared to boys at 22.2% (95%CI: 18.62, 26.35) **(Table 3.3.1)**.

Among the adolescents with actual normal weight, 52.7% (95% CI: 50.00, 55.30) was correctly perceived their weight to be normal, 28.7% (95% CI: 23.0, 35.20) was underestimated their body weight, perceived to be thin, and 17.0% (95% CI: 12.4, 22.9) , 1.6% (95% CI: 0.90, 2.70) were overestimated to be overweight, and obese respectively. However among the adolescents who were actual overweight, 43.8% (95% CI: 33.7, 54.4) was correctly perceived their weight to be overweight, but 13.2% (95% CI: 9.6, 17.9) , 34.1% (95% CI: 25.6, 43.9) , were underestimated their body weight to be thin or normal respectively. **(Table 3.3.2)**.

Among all the adolescents who correctly perceived thin and have actual their body weight as thin, 65.7% (95% CI: 50.52,78.23) reported they wanted to increase weight while adolescents who perceived normal and have actual normal body weight, 32.3% (95% CI: 27.73,37.15) have no plan to change their weight. There were no significant difference in school locality and sex among adolescent who correctly perceived thin and overweight between four category of action taken. However there was significant different in sex among adolescents correctly perceived normal which higher percentage boys 11.9% (95%CI: 9.51, 14.89) than girls 4.9% (95% CI: 3.26, 7.20) wanted to increase their body weight **(Table 3.3.3)**.

However, among adolescents who were actually in overweight and obese categories but wrongly perceived themselves to be thin most of them, 61.2% (95% CI: 50.21, 71.10) wanted to lose weight while 22.8% (95% CI: 14.09, 34.62) wanted to increase their weight. Among adolescents who wanted to lose weight, there were higher in rural 73.4% (95% CI: 57.98, 84.65) , boys 64.7% (95%CI: 49.60, 77.31) and primary scholars 65.2% (95% CI: 54.59, 74.45) **(Table 3.3.4)**.

About 64.4% (95% CI: 59.20, 69.22) adolescents choose health purpose as the main factor that motivate to lose weight followed by increase self-confidence 25.0%(95% CI: 20.37,30.37). Based on sex, boys was higher 67.0% (95% CI: 61.17, 72.42) than girls 62.3% (95% CI: 56.94, 67.38). However, more girls 12.3% (95% CI: 8.70, 17.03) than boys 5.3% (95% CI: 3.13, 8.93) whom choose beauty purpose as their main factor to lose body weight **(Table 3.3.5)**.

In addition, main factor to motivate adolescents to increase body weight was also health purpose 70.1%(95% CI: 59.41,79.01) and followed by increase self-confidence 20.4% (95%

CI: 13.25, 30.19). Adolescents in urban 72.3% (95% CI: 57.44, 83.41), girls 76.1% (95% CI: 66.48, 83.69). Primary scholars 79.7% (95% CI: 65.49, 89.02) 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 52.6% (95% CI: 47.96, 57.23). Boys, 60.1% (95% CI: 54.73, 65.20), primary scholars 59.4% (95% CI: 54.90, 63.74) 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, 49.4% (95% CI: 44.13, 54.63). Adolescents in urban, 50.9% (95% CI: 44.59, 57.14) , boys 49.9% (95% CI: 42.36, 57.46) and secondary scholars 52.8% (47.02, 58.58) were the higher whom choose increase quantity of food as a preferred option to increase body weight (**Table 3.3.8**).

3.3.5 Discussion/Conclusion

Perception of being normal weight among adolescents in Selangor was higher than the national prevalence 42.7 % and 41.4% respectively.

Among the actual thin adolescent in Selangor, 64.8% was correctly perceived thin, and slightly lower compared with the national prevalence, 69.6%. Adolescents with actual normal body weight, 52.7% was correctly perceived their weight to be normal and it slightly higher than national prevalence 50.2%.

In Selangor, the trend of main factors to lose body weight among adolescent are similar with the national trend. Health purpose is the highest 64.4% main factor to lose body weight; followed by to increase self confidence 25.0% , beauty purpose 9.2 % and to have more friends 1.4% .

Health purpose is the highest 70.1 % main factor to increase body weight . But it was higher compared with the national prevalence. Its followed by to increase self confidence 20.4% , beauty purpose 6.6% and to have more friends 2.8%.

Adolescents choose to exercise as the preferred option to lose weight. However its was lower compared with the national prevalence , 52.6% and 62.5% respectively. Followed by reduce consumption of high fat foods 27.8%, increase intake of fruits and vegetables 7.5 % and reduce intake of high sugar foods 4.3%. This trend are similar with the national trend of prevalence.

49.4% adolescents in Selangor choose to increase quantity of food as the preferred option to increase body weight. It was lower compared with the national prevalence, 52.4%.

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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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
Selangor	648	168481	25.9	22.35	29.89	1062	277153	42.7	40.23	45.16
Locality of School										
Urban	405	112096	25.2	20.62	30.52	684	187881	42.3	38.88	45.83
Rural	243	56385	27.4	22.21	33.38	378	89272	43.4	41.01	45.92
Sex										
Boys	377	92896	28.5	25.40	31.91	595	147396	45.3	41.97	48.66
Girls	271	75585	23.3	19.10	28.16	467	129758	40.0	36.01	44.22
School Category										
Primary	258	81333	31.5	27.62	35.66	369	116199	45.0	41.84	48.22
Secondary	390	87148	22.3	19.50	25.32	693	160954	41.1	38.29	44.04
Class										
Standard 4	113	32386	36.9	29.09	45.44	137	38576	43.9	37.43	50.66
Standard 5	102	26532	30.6	27.11	34.26	151	40281	46.4	42.04	50.82
Standard 6	43	22415	26.8	18.38	37.36	81	37343	44.7	40.27	49.19
Form 1	92	21419	25.4	19.10	32.91	156	35456	42.0	35.22	49.16
Form 2	60	12816	16.4	12.14	21.80	170	36621	46.9	42.07	51.74
Form 3	97	18411	23.4	18.78	28.81	154	30596	38.9	34.62	43.42
Form 4	109	20630	27.8	21.27	35.39	146	28079	37.8	31.98	44.03
Form 5	32	13872	18.3	13.55	24.17	67	30201	39.8	27.83	53.07
Ethnicity										
Malay	396	109509	26.1	21.24	31.70	669	182570	43.6	40.83	46.36
Chinese	143	33422	23.8	21.30	26.51	255	58932	42.0	36.42	47.76
Indian	89	20449	29.2	22.36	37.09	106	26226	37.4	29.60	45.97
Bumiputera Sabah	4	776	24.5	5.65	63.66	4	1573	49.6	20.34	79.14
Bumiputera Sarawak	5	1293	41.1	18.82	67.80	5	1090	34.7	12.02	67.37
Others	11	3033	22.1	13.89	33.32	23	6762	49.3	37.10	61.57

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
Selangor	676	174639	26.9	22.64	31.62	111	29173	4.5	3.08	6.51
Locality of School										
Urban	466	123334	27.8	22.09	34.29	76	20659	4.7	2.95	7.26
Rural	210	51305	25.0	19.52	31.34	35	8514	4.1	2.07	8.14
Sex										
Boys	309	72392	22.2	18.62	26.35	51	12742	3.9	2.48	6.12
Girls	367	102248	31.6	26.04	37.65	60	16431	5.1	2.89	8.76
School Category										
Primary	156	48364	18.7	16.75	20.89	44	12283	4.8	2.54	8.72
Secondary	520	126275	32.3	29.17	35.54	67	16890	4.3	2.67	6.91
Class										
Standard 4	43	12553	14.3	12.99	15.71	16	4287	4.9	2.38	9.74
Standard 5	66	16934	19.5	17.16	22.09	15	3061	3.5	1.43	8.42
Standard 6	47	18877	22.6	15.95	30.98	13	4935	5.9	2.83	11.90
Form 1	106	24288	28.8	24.56	33.43	14	3197	3.8	1.90	7.43
Form 2	111	25764	33.0	25.42	41.53	13	2921	3.7	1.94	7.08
Form 3	130	26352	33.5	29.06	38.31	15	3238	4.1	2.16	7.71
Form 4	113	22149	29.8	23.98	36.42	17	3395	4.6	2.32	8.81
Form 5	60	27721	36.5	24.41	50.59	8	4139	5.5	1.87	14.88
Ethnicity										
Malay	449	115604	27.6	21.88	34.15	40	11283	2.7	1.82	3.97
Chinese	142	35471	25.3	20.59	30.60	49	12547	8.9	5.95	13.22
Indian	74	19821	28.3	22.36	35.07	16	3582	5.1	2.84	9.04
Bumiputera Sabah	2	623	19.6	3.94	59.24	1	200	6.3	0.97	31.69
Bumiputera Sarawak	1	315	10.0	1.46	45.56	2	445	14.2	4.89	34.61
Others	8	2806	20.5	11.77	33.16	3	1116	8.1	3.20	19.17

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
Selangor	115	64.8	53.27	74.84	50	31.2	22.93	40.85	4	4.0	1.44	10.58	0	0.0	0.00	0.00
Locality of school																
Urban	67	61.5	45.73	75.14	31	32.3	20.97	46.18	4	6.2	2.60	14.15	-	-	-	-
Rural	48	70.8	60.64	79.24	19	29.2	20.76	39.36	-	-	-	-	-	-	-	-
Sex																
Boys	66	61.6	44.77	76.03	28	33.5	22.95	46.05	3	4.9	1.59	14.08	-	-	-	-
Girls	49	69.3	58.75	78.08	22	28.0	18.09	40.59	1	2.8	0.35	18.59	-	-	-	-
School Category																
Primary	34	59.6	34.43	80.51	13	33.6	17.89	54.02	2	6.8	2.34	18.41	-	-	-	-
Secondary	81	67.8	60.96	73.92	37	29.8	22.19	38.80	2	2.4	0.48	11.11	-	-	-	-

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
Selangor	433	28.7	22.96	35.18	815	52.7	50.02	55.34	255	17.0	12.42	22.92	27	1.6	0.93	2.73
Locality of school																
Urban	279	28.2	20.89	36.99	527	51.4	48.13	54.70	190	18.4	12.45	26.44	22	1.9	1.02	3.50
Rural	154	29.6	21.98	38.66	288	55.5	51.66	59.29	65	13.9	8.17	22.70	5	0.9	0.34	2.53
Sex																
Boys	246	33.2	27.82	39.04	430	56.8	51.71	61.78	70	9.0	6.33	12.65	9	1.0	0.36	2.69
Girls	187	24.8	18.34	32.69	385	49.2	45.69	52.64	185	23.9	17.27	32.08	18	2.1	1.17	3.78
School Category																
Primary	177	38.6	31.33	46.36	249	51.2	49.43	52.87	47	8.4	4.25	16.09	12	1.8	0.71	4.66
Secondary	256	22.9	19.05	27.27	566	53.6	49.61	57.51	208	22.1	18.37	26.25	15	1.5	0.76	2.79

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
Selangor	53	13.2	9.64	17.88	131	34.1	25.58	43.87	180	43.8	33.68	54.40	33	8.9	5.89	13.13
Locality of school																
Urban	29	11.1	6.95	17.38	93	35.5	24.57	48.21	127	44.4	31.24	58.40	23	8.9	5.62	13.96
Rural	24	18.6	12.54	26.58	38	30.6	23.43	38.94	53	42.2	30.38	54.89	10	8.7	3.64	19.19
Sex																
Boys	28	12.5	9.42	16.34	89	41.5	32.00	51.77	89	38.8	28.50	50.25	14	7.2	4.50	11.19
Girls	25	14.0	8.37	22.44	42	26.6	15.98	40.81	91	48.8	36.81	60.96	19	10.6	5.87	18.44
School Category																
Primary	27	17.2	12.22	23.63	72	47.7	40.59	54.99	37	24.8	19.95	30.30	17	10.3	5.53	18.40
Secondary	26	10.0	6.52	15.00	59	23.0	15.21	33.33	143	59.3	51.97	66.20	16	7.7	4.46	12.93

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
Selangor	45	12.3	7.72	19.05	65	19.0	12.05	28.56	237	56.0	45.55	66.01	51	12.7	7.98	19.62
Locality of school																
Urban	30	14.3	8.50	23.08	33	18.0	8.48	34.29	145	55.0	39.86	69.24	31	12.7	6.72	22.64
Rural	15	8.6	5.15	14.14	32	20.7	15.12	27.61	92	57.9	51.38	64.23	20	12.7	6.73	22.81
Sex																
Boys	35	15.6	9.31	24.84	47	21.0	14.46	29.42	147	52.5	38.57	66.04	28	11.0	7.03	16.72
Girls	10	7.2	3.76	13.32	18	15.8	7.30	30.90	90	61.6	51.09	71.10	23	15.4	6.59	32.01
School Category																
Primary	19	15.4	9.90	23.15	34	28.0	20.60	36.75	70	47.1	37.86	56.52	15	9.5	4.65	18.59
Secondary	26	9.6	4.70	18.65	31	11.2	8.16	15.07	167	63.8	52.16	74.01	36	15.4	9.45	24.19

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
Selangor	8	2757	9.8	3.31	25.41	76	18572	65.7	50.52	78.23
Locality of school										
Urban	3	1554	9.0	1.49	39.39	45	11274	65.4	41.86	83.27
Rural	5	1202	10.9	4.35	24.72	31	7298	66.1	52.94	77.20
Sex										
Boys	7	2540	16.3	5.39	39.95	39	8631	55.4	37.18	72.26
Girls	1	216	1.7	0.24	11.20	37	9941	78.4	63.47	88.33
School category										
Primary	7	2563	27.3	11.38	52.33	16	4017	42.8	21.55	67.06
Secondary	1	193	1.0	0.13	7.72	60	14555	77.1	64.05	86.43

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
Selangor	20	4154	14.7	9.25	22.54	11	2783	9.8	4.82	19.08
Locality of school										
Urban	12	2464	14.3	6.83	27.53	7	1936	11.2	4.16	27.00
Rural	8	1690	15.3	10.28	22.21	4	847	7.7	3.95	14.37
Sex										
Boys	14	2710	17.4	9.87	28.80	6	1702	10.9	4.67	23.49
Girls	6	1444	11.4	5.71	21.42	5	1081	8.5	2.80	23.18
School category										
Primary	4	830	8.8	3.78	19.30	7	1980	21.1	9.53	40.38
Secondary	16	3324	17.6	10.53	27.97	4	804	4.3	1.72	10.16

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
Selangor	197	51059	24.7	20.43	29.61	67	17314	8.4	6.63	10.56
Locality of school										
Urban	124	33287	24.0	18.75	30.11	42	11540	8.3	5.91	11.56
Rural	73	17773	26.3	19.40	34.62	25	5774	8.5	7.01	10.39
Sex										
Boys	74	18381	17.9	13.63	23.11	47	12273	11.9	9.51	14.89
Girls	123	32678	31.5	26.44	37.11	20	5041	4.9	3.26	7.20
School category										
Primary	64	19811	26.7	17.98	37.81	25	7798	10.5	8.37	13.16
Secondary	133	31249	23.6	19.75	27.97	42	9516	7.2	5.27	9.74

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
Selangor	259	66591	32.3	27.73	37.15	290	71449	34.6	31.17	38.22
Locality of school										
Urban	168	45380	32.7	26.58	39.43	191	48647	35.0	30.74	39.59
Rural	91	21211	31.4	26.02	37.33	99	22802	33.8	28.24	39.74
Sex										
Boys	143	34175	33.3	27.95	39.01	166	37952	36.9	31.63	42.56
Girls	116	32416	31.3	25.70	37.46	124	33497	32.3	27.68	37.34
School category										
Primary	76	21878	29.5	23.40	36.51	84	24594	33.2	26.51	40.64
Secondary	183	44714	33.8	28.22	39.85	206	46855	35.4	31.76	39.23

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
Selangor	145	36114	77.7	68.82	84.60	3	735	1.6	0.31	7.57
Locality of school										
Urban	100	25489	75.2	64.80	83.29					
Rural	45	10624	84.4	68.10	93.23	3	735	5.8	1.31	22.44
Sex										
Boys	69	14936	71.7	53.85	84.64	2	418	2.0	0.45	8.45
Girls	76	21178	82.5	75.01	88.14	1	317	1.2	0.14	10.20
School category										
Primary	24	7157	60.6	48.10	71.80	3	735	6.2	1.26	25.58
Secondary	121	28956	83.5	77.48	88.19					

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
Selangor	21	6689	14.4	8.74	22.78	11	2949	6.3	3.52	11.16
Locality of school										
Urban	20	6403	18.9	12.35	27.78	7	2010	5.9	2.86	11.88
Rural	1	285	2.3	0.32	14.55	4	939	7.5	2.79	18.46
Sex										
Boys	10	3222	15.5	7.33	29.77	8	2250	10.8	5.18	21.18
Girls	11	3466	13.5	7.94	22.06	3	699	2.7	0.61	11.26
School category										
Primary	7	2841	24.0	12.39	41.45	3	1085	9.2	4.38	18.24
Secondary	14	3848	11.1	6.55	18.20	8	1864	5.4	2.47	11.33

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	
Selangor	60	16580	61.2	50.21	71.10	20	6170	22.8	14.09	34.62
Locality of school										
Urban	32	10130	55.3	44.06	66.02	14	4889	26.7	17.29	38.80
Rural	28	6450	73.4	57.98	84.65	6	1281	14.6	8.52	23.80
Sex										
Boys	38	10855	64.7	49.60	77.31	12	3300	19.7	12.43	29.68
Girls	22	5725	55.5	31.27	77.30	8	2870	27.8	12.45	51.05
School category										
Primary	31	10296	65.2	54.59	74.45	7	3501	22.2	10.56	40.70
Secondary	29	6284	55.6	36.05	73.50	13	2670	23.6	12.88	39.25

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	
Selangor	16	3999	14.8	8.36	24.72	2	357	1.3	0.29	5.82
Locality of school										
Urban	11	2942	16.1	7.56	30.91	2	357	1.9	0.39	9.10
Rural	5	1058	12.0	4.84	26.91	-	-	-	-	-
Sex										
Boys	12	2451	14.6	5.57	33.16	1	177	1.1	0.14	7.43
Girls	4	1549	15.0	5.93	33.08	1	180	1.7	0.18	14.60
School category										
Primary	7	1821	11.5	5.36	23.04	1	180	1.1	0.11	10.71
Secondary	9	2179	19.3	10.62	32.39	1	177	1.6	0.26	8.92

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	
Selangor	292	78574	42.4	37.80	47.14	207	51019	27.5	22.63	33.04
Locality of school										
Urban	203	56312	42.9	37.25	48.65	147	37041	28.2	22.70	34.42
Rural	89	22262	41.3	33.48	49.58	60	13978	25.9	16.90	37.60
Sex										
Boys	98	23202	29.8	24.28	35.96	118	27066	34.8	26.99	43.42
Girls	194	55372	51.5	45.85	57.20	89	23953	22.3	16.80	28.97
School category										
Primary	92	28057	39.8	33.88	46.03	65	19848	28.2	21.40	36.07
Secondary	200	50517	44.0	37.90	50.28	142	31171	27.1	20.70	34.73

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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
Selangor	156	40615	21.9	19.08	25.04	58	15099	8.1	5.91	11.14
Locality of school										
Urban	102	27849	21.2	17.72	25.14	38	10200	7.8	5.18	11.47
Rural	54	12766	23.7	19.31	28.69	20	4899	9.1	5.51	14.63
Sex										
Boys	81	21450	27.5	19.91	36.75	27	6166	7.9	4.64	13.20
Girls	75	19165	17.8	13.69	22.92	31	8933	8.3	5.74	11.91
School category										
Primary	61	17872	25.4	22.76	28.14	17	4716	6.7	3.61	12.08
Secondary	95	22744	19.8	16.29	23.87	41	10383	9.0	6.45	12.55

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
	Selangor	693	184024	64.4	59.20	69.22	102	26404	9.2	6.42
Locality of school										
Urban	430	120139	62.2	57.01	67.05	74	19726	10.2	6.23	16.29
Rural	263	63885	69.0	57.47	78.53	28	6678	7.2	5.67	9.13
Sex										
Boys	337	83760	67.0	61.17	72.42	31	6659	5.3	3.13	8.93
Girls	356	100264	62.3	56.94	67.38	71	19744	12.3	8.70	17.03
School category										
Primary	272	85449	73.4	65.35	80.13	29	7917	6.8	3.98	11.37
Secondary	421	98575	58.2	53.99	62.24	73	18487	10.9	7.51	15.58
Class										
Standard 4	100	30460	74.5	66.17	81.39	10	2778	6.8	3.68	12.23
Standard 5	111	28436	79.0	72.90	83.98	13	2771	7.7	3.31	16.87
Standard 6	61	26553	67.1	49.89	80.73	6	2368	6.0	3.04	11.47
Form 1	90	20452	60.0	48.78	70.19	22	4862	14.3	7.75	24.76
Form 2	124	27788	74.0	62.52	82.86	9	2334	6.2	2.46	14.79
Form 3	102	20690	55.2	49.53	60.73	12	2554	6.8	3.93	11.56
Form 4	72	14158	48.0	38.42	57.80	21	4145	14.1	9.50	20.33
Form 5	33	15487	50.3	38.35	62.15	9	4593	14.9	9.05	23.58
Ethnicity										
Malay	462	126187	63.3	57.94	68.39	50	12815	6.4	4.76	8.64
Chinese	133	32481	67.9	54.80	78.63	27	7165	15.0	10.10	21.62
Indian	72	17205	62.2	56.41	67.67	22	5458	19.7	13.37	28.15
Bumiputera Sabah	2	420	20.9	3.35	66.89	1	503	25.1	3.72	74.28
Bumiputera Sarawak	7	1971	91.2	60.07	98.61	1	191	8.8	1.39	39.93
Others	17	5761	83.2	66.13	92.65	1	272	3.9	0.40	29.47

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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
Selangor	262	71581	25.0	20.37	30.37	14	3882	1.4	0.76	2.41
Locality of school										
Urban	175	50499	26.1	21.80	30.98	10	2905	1.5	0.73	3.06
Rural	87	21081	22.8	13.27	36.22	4	977	1.1	0.43	2.55
Sex										
Boys	126	32245	25.8	20.64	31.75	10	2285	1.8	0.91	3.66
Girls	136	39336	24.4	19.26	30.49	4	1596	1.0	0.35	2.75
School category										
Primary	48	20747	17.8	9.46	31.02	8	2323	2.0	1.08	3.65
Secondary	214	50833	30.0	25.63	34.77	6	1558	0.9	0.31	2.73
Class										
Standard 4	17	5560	13.6	8.19	21.74	7	2076	5.1	2.79	9.08
Standard 5	15	4802	13.3	6.43	25.64	-	-	-	-	-
Standard 6	16	10386	26.3	11.71	48.88	1	247	0.6	0.06	5.87
Form 1	34	8141	23.9	13.98	37.69	3	653	1.9	0.46	7.69
Form 2	31	7255	19.3	12.06	29.46	1	197	0.5	0.07	4.07
Form 3	70	14241	38.0	30.45	46.16	-	-	-	-	-
Form 4	56	11001	37.3	30.51	44.68	1	171	0.6	0.08	4.31
Form 5	23	10195	33.1	19.34	50.48	1	537	1.7	0.27	10.58
Ethnicity										
Malay	207	57995	29.1	24.32	34.40	7	2285	1.1	0.59	2.22
Chinese	31	7056	14.7	7.86	25.95	5	1157	2.4	0.87	6.53
Indian	19	4557	16.5	12.63	21.21	2	439	1.6	0.26	9.19
Bumiputera Sabah	3	1084	54.0	17.17	86.94	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	2	889	12.8	4.73	30.47	-	-	-	-	-

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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
Selangor	246	66615	70.1	59.41	79.01	26	6286	6.6	3.69	11.58
Locality of school										
Urban	164	47076	72.3	57.44	83.41	16	4183	6.4	2.85	13.82
Rural	82	19539	65.5	55.53	74.20	10	2103	7.0	3.68	13.06
Sex										
Boys	134	34035	65.2	52.92	75.73	18	4322	8.3	4.29	15.36
Girls	112	32580	76.1	66.48	83.69	8	1964	4.6	1.83	11.03
School category										
Primary	85	29000	79.7	65.49	89.02	8	1692	4.6	1.43	14.05
Secondary	161	37615	64.2	53.23	73.83	18	4594	7.8	4.34	13.76
Class										
Standard 4	30	7876	79.3	64.70	88.94	2	484	4.9	1.66	13.51
Standard 5	32	9680	73.4	52.71	87.25	6	1207	9.2	2.71	26.76
Standard 6	23	11444	86.2	75.64	92.60	-	-	-	-	-
Form 1	32	7466	65.3	46.67	80.18	3	675	5.9	2.02	16.02
Form 2	23	5037	59.6	43.48	73.82	3	563	6.7	1.49	25.09
Form 3	37	7161	65.9	51.80	77.68	3	542	5.0	1.15	19.20
Form 4	49	9385	60.6	42.35	76.27	4	706	4.6	1.35	14.31
Form 5	20	8565	69.3	47.14	85.13	5	2109	17.1	7.87	33.15
Ethnicity										
Malay	141	41365	70.3	56.40	81.21	10	2424	4.1	1.71	9.61
Chinese	61	14497	75.3	65.72	82.88	8	1852	9.6	4.26	20.31
Indian	36	8460	60.2	45.44	73.35	7	1849	13.2	5.96	26.59
Bumiputera Sabah	-	-	-	-	-	1	161	43.6	3.58	94.16
Bumiputera Sarawak	1	197	100.0	100.00	100.00	-	-	-	-	-
Others	7	2096	92.2	58.62	99.00	-	-	-	-	-

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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
Selangor	89	19419	20.4	13.25	30.19	10	2677	2.8	1.65	4.77
Locality of school										
Urban	54	11659	17.9	9.45	31.27	8	2229	3.4	2.03	5.70
Rural	35	7761	26.0	17.82	36.27	2	448	1.5	0.41	5.37
Sex										
Boys	60	12297	23.6	14.38	36.11	5	1552	3.0	1.02	8.34
Girls	29	7123	16.6	10.98	24.44	5	1124	2.6	1.09	6.22
School category										
Primary	15	4027	11.1	4.76	23.67	5	1673	4.6	3.27	6.42
Secondary	74	15392	26.3	18.32	36.13	5	1003	1.7	0.67	4.29
Class										
Standard 4	5	1130	11.4	3.05	34.42	2	437	4.4	1.17	15.18
Standard 5	7	1887	14.3	8.72	22.59	2	411	3.1	0.61	14.47
Standard 6	3	1011	7.6	1.26	34.79	1	825	6.2	2.18	16.44
Form 1	12	2827	24.7	14.82	38.28	2	466	4.1	1.00	15.24
Form 2	12	2681	31.7	22.07	43.21	1	176	2.1	0.25	15.19
Form 3	18	3161	29.1	18.72	42.23	-	-	-	-	-
Form 4	28	5042	32.5	19.52	48.97	2	361	2.3	0.28	16.94
Form 5	4	1681	13.6	3.44	41.06	-	-	-	-	-
Ethnicity										
Malay	63	13449	22.9	13.20	36.59	5	1617	2.7	1.23	6.00
Chinese	9	2248	11.7	5.66	22.56	3	658	3.4	1.95	5.91
Indian	15	3337	23.8	13.27	38.82	2	402	2.9	0.98	8.07
Bumiputera Sabah	1	208	56.4	5.84	96.42	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	177	7.8	1.00	41.38	-	-	-	-	-

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
Selangor	569	150997	52.6	47.96	57.23	297	79863	27.8	24.04	31.97
Locality of school										
Urban	363	101463	52.6	46.28	58.75	186	53088	27.5	22.81	32.74
Rural	206	49534	52.8	46.75	58.70	111	26775	28.5	22.50	35.42
Sex										
Boys	304	75916	60.1	54.73	65.20	119	28594	22.6	18.79	26.99
Girls	265	75080	46.8	40.85	52.75	178	51269	31.9	27.27	36.97
School category										
Primary	221	69634	59.4	54.90	63.74	72	25340	21.6	17.80	25.99
Secondary	348	81363	47.9	42.41	53.52	225	54523	32.1	27.69	36.91
Class										
Standard 4	83	24923	60.5	57.11	63.78	29	8986	21.8	19.54	24.26
Standard 5	90	24148	66.6	56.26	75.63	26	7089	19.6	15.54	24.32
Standard 6	48	20563	51.7	39.44	63.70	17	9266	23.3	16.85	31.25
Form 1	85	19300	55.5	46.19	64.39	37	8699	25.0	16.41	36.16
Form 2	81	18195	48.9	43.68	54.07	54	12023	32.3	28.41	36.43
Form 3	83	16421	43.4	34.99	52.29	64	13523	35.8	27.79	44.64
Form 4	68	13273	45.6	40.15	51.25	48	9624	33.1	25.85	41.24
Form 5	31	14174	46.0	31.74	60.95	22	10654	34.6	24.36	46.46
Ethnicity										
Malay	345	95166	47.6	42.56	52.73	230	61950	31.0	25.98	36.51
Chinese	133	32310	67.7	61.47	73.33	27	7005	14.7	11.89	17.98
Indian	67	15442	55.0	42.75	66.71	33	8658	30.9	21.86	41.58
Bumiputera Sabah	3	1398	69.7	34.10	91.06	2	391	19.5	5.12	51.96
Bumiputera Sarawak	7	1971	91.2	60.07	98.61	1	191	8.8	1.39	39.93
Others	14	4710	65.9	48.10	80.09	4	1669	23.4	10.22	44.91

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
Selangor	40	12219	4.3	2.66	6.76	81	21386	7.5	6.25	8.87
Locality of school										
Urban	29	9384	4.9	2.95	7.91	52	14237	7.4	5.77	9.38
Rural	11	2835	3.0	1.13	7.81	29	7149	7.6	6.25	9.25
Sex										
Boys	16	4779	3.8	2.25	6.29	31	7622	6.0	4.30	8.40
Girls	24	7441	4.6	2.79	7.61	50	13765	8.6	6.95	10.53
School category										
Primary	19	7241	6.2	3.93	9.58	27	8966	7.6	6.16	9.47
Secondary	21	4979	2.9	1.57	5.42	54	12420	7.3	5.63	9.46
Class										
Standard 4	7	2409	5.8	3.26	10.28	10	2924	7.1	5.17	9.67
Standard 5	3	505	1.4	0.18	10.12	9	1896	5.2	2.30	11.48
Standard 6	9	4327	10.9	7.60	15.32	8	4146	10.4	6.39	16.55
Form 1	5	1144	3.3	1.22	8.53	16	3593	10.3	7.34	14.34
Form 2	5	1159	3.1	1.42	6.67	12	2926	7.9	4.60	13.11
Form 3	4	776	2.1	0.88	4.69	15	3072	8.1	5.32	12.23
Form 4	5	942	3.2	1.26	8.07	9	1817	6.2	2.85	13.15
Form 5	2	958	3.1	0.64	13.79	2	1012	3.3	1.03	9.97
Ethnicity										
Malay	26	8794	4.4	2.41	7.90	55	15318	7.7	6.47	9.06
Chinese	10	2506	5.2	2.33	11.40	15	3525	7.4	4.27	12.47
Indian	3	642	2.3	1.02	5.03	9	2051	7.3	3.01	16.69
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	277	3.9	0.42	27.70	2	493	6.9	1.31	29.23

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
Selangor	26	7092	2.5	1.53	3.97	6	1557	0.5	0.20	1.47
Locality of school										
Urban	19	5355	2.8	1.60	4.78	2	706	0.4	0.07	1.78
Rural	7	1737	1.8	0.70	4.83	4	851	0.9	0.27	2.95
Sex										
Boys	13	3530	2.8	1.60	4.83	3	635	0.5	0.10	2.47
Girls	13	3562	2.2	1.02	4.76	3	922	0.6	0.17	1.95
School category										
Primary	5	1890	1.6	0.73	3.53	2	454	0.4	0.04	3.28
Secondary	21	5201	3.1	1.78	5.23	4	1103	0.6	0.23	1.83
Class										
Standard 4	3	820	2.0	0.53	7.20	-	-	-	-	-
Standard 5	1	245	0.7	0.09	4.87	2	454	1.3	0.15	9.81
Standard 6	1	825	2.1	0.67	6.22	-	-	-	-	-
Form 1	1	202	0.6	0.07	4.67	-	-	-	-	-
Form 2	4	970	2.6	1.04	6.36	1	181	0.5	0.06	3.90
Form 3	10	1996	5.3	2.62	10.35	1	203	0.5	0.07	4.25
Form 4	3	613	2.1	0.80	5.42	1	216	0.7	0.10	5.45
Form 5	3	1420	4.6	1.36	14.43	1	503	1.6	0.22	10.90
Ethnicity										
Malay	21	5664	2.8	1.79	4.46	4	1149	0.6	0.17	1.94
Chinese	3	719	1.5	0.54	4.15	1	227	0.5	0.07	3.13
Indian	2	709	2.5	0.49	12.09	1	181	0.6	0.08	4.83
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-

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
Selangor	52	12632	4.4	2.86	6.72	5	1209	0.4	0.16	1.10
Locality of school										
Urban	33	7811	4.0	2.13	7.54	4	1033	0.5	0.18	1.57
Rural	19	4821	5.1	3.69	7.11	1	176	0.2	0.02	1.43
Sex										
Boys	20	4277	3.4	1.37	8.14	4	1009	0.8	0.29	2.16
Girls	32	8355	5.2	3.67	7.33	1	200	0.1	0.02	0.92
School category										
Primary	13	3456	2.9	1.52	5.63	1	254	0.2	0.02	1.95
Secondary	39	9176	5.4	3.43	8.41	4	955	0.6	0.21	1.49
Class										
Standard 4	2	883	2.1	0.83	5.43	1	254	0.6	0.07	5.12
Standard 5	9	1899	5.2	2.06	12.72	-	-	-	-	-
Standard 6	2	674	1.7	0.32	8.42	-	-	-	-	-
Form 1	7	1632	4.7	2.25	9.53	1	220	0.6	0.08	4.68
Form 2	7	1784	4.8	2.03	10.90	-	-	-	-	-
Form 3	9	1810	4.8	2.27	9.81	-	-	-	-	-
Form 4	12	2218	7.6	3.61	15.38	2	375	1.3	0.32	5.06
Form 5	4	1731	5.6	2.07	14.37	1	360	1.2	0.14	9.19
Ethnicity										
Malay	45	11043	5.5	3.28	9.17	3	755	0.4	0.10	1.40
Chinese	5	1191	2.5	1.38	4.47	1	254	0.5	0.08	3.54
Indian	1	180	0.6	0.10	3.85	1	200	0.7	0.13	3.92
Bumiputera Sabah	1	218	10.9	1.02	59.00	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
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
Selangor	185	47073	49.4	44.13	54.63	106	26000	27.3	21.17	34.36
Locality of school										
Urban	122	32931	50.9	44.59	57.14	70	17050	26.3	19.20	34.99
Rural	63	14142	46.2	38.05	54.52	36	8950	29.2	19.14	41.89
Sex										
Boys	113	26185	49.9	42.36	57.46	50	11396	21.7	14.60	31.04
Girls	72	20888	48.7	39.63	57.89	56	14605	34.1	26.85	42.10
School category										
Primary	45	15783	43.7	33.54	54.40	41	11612	32.1	22.42	43.71
Secondary	140	31291	52.8	47.02	58.58	65	14388	24.3	16.77	33.83
Class										
Standard 4	8	1832	17.8	11.45	26.70	21	5618	54.7	39.19	69.28
Standard 5	22	6074	50.8	42.55	58.95	12	3398	28.4	15.74	45.73
Standard 6	15	7876	56.7	40.33	71.77	8	2596	18.7	4.04	55.68
Form 1	14	3354	29.3	17.93	44.00	19	4471	39.0	27.04	52.53
Form 2	24	5198	60.3	41.39	76.53	8	1808	21.0	11.56	35.00
Form 3	38	7067	62.7	44.88	77.63	13	2596	23.0	13.19	37.09
Form 4	48	8933	57.6	47.40	67.14	21	3994	25.7	14.45	41.58
Form 5	16	6739	54.5	41.65	66.85	4	1519	12.3	3.15	37.71
Ethnicity										
Malay	114	30092	52.3	46.01	58.48	65	16763	29.1	22.14	37.26
Chinese	36	8608	42.5	32.68	52.93	28	6401	31.6	20.34	45.51
Indian	29	6957	47.4	33.96	61.16	9	1945	13.2	4.84	31.40
Bumiputera Sabah	1	161	43.6	3.58	94.16	1	208	56.4	5.84	96.42
Bumiputera Sarawak	1	197	100.0	100.00	100.00	-	-	-	-	-
Others	4	1060	46.6	12.42	84.31	3	684	30.1	5.93	74.60

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
Selangor	46	12598	13.2	9.88	17.45	38	9671	10.1	7.59	13.44
Locality of school										
Urban	25	7707	11.9	8.42	16.57	26	7034	10.9	7.88	14.80
Rural	21	4892	16.0	9.84	24.87	12	2637	8.6	4.66	15.36
Sex										
Boys	31	8230	15.7	10.00	23.74	26	6659	12.7	8.53	18.47
Girls	15	4369	10.2	5.73	17.49	12	3012	7.0	3.54	13.48
School category										
Primary	14	4613	12.8	7.41	21.12	14	4118	11.4	8.16	15.71
Secondary	32	7985	13.5	9.62	18.58	24	5553	9.4	6.04	14.27
Class										
Standard 4	3	746	7.3	1.79	25.12	9	2081	20.3	10.16	36.32
Standard 5	7	1544	12.9	3.37	38.61	3	948	7.9	3.79	15.82
Standard 6	4	2323	16.7	10.41	25.80	2	1088	7.8	3.90	15.12
Form 1	6	1392	12.2	6.03	22.97	10	2235	19.5	10.19	34.14
Form 2	5	1071	12.4	5.28	26.48	3	547	6.3	2.05	17.94
Form 3	5	894	7.9	1.75	29.46	4	714	6.3	2.03	18.10
Form 4	10	1834	11.8	7.31	18.56	4	754	4.9	2.35	9.77
Form 5	6	2794	22.6	12.98	36.42	3	1303	10.5	4.56	22.52
Ethnicity										
Malay	24	7032	12.2	7.72	18.79	13	3669	6.4	3.74	10.66
Chinese	8	2259	11.1	5.55	21.12	13	2993	14.8	10.73	19.99
Indian	14	3307	22.5	15.74	31.14	11	2479	16.9	9.18	28.98
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	1	530	23.3	2.77	76.40

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

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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 Selangor (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 8.00 am.
- **Lunch:** defined as foods 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, flavored/carbonated drink, fries/ nugget/sausage, candy or chocolate.

3.4.4 Findings

A total of 2,502 respondents represent 641,736 adolescents in Selangor were selected to participate in the study. The study shows that percentage of adolescents taking breakfast (26.9%; 95% CI: 22.01, 32.48) on daily basis were lower compared to lunch (48.9%; 95% CI: 41.08, 56.83) and dinner (61.2%; 95% CI: 52.96, 68.86). Most of them preferred to consume

homemade food compared to food purchased from outside. The reason the adolescent skip their main meals intake was mainly due to do not have appetite followed by insufficient time. About 64.5% (95% CI: 59.73, 69.08) of them eat and drink during recess every day on weekdays. Most of the foods (75.9%; 95% CI: 69.82, 81.15) were obtained from the school canteen. Meanwhile, majority of the adolescents consumed afternoon tea and heavy meal after dinner for 1 to 6 days a week which is 56.7% (95% CI: 52.16, 61.07) and 67.9% (95% CI: 62.56, 72.76) respectively. Most of the foods adolescents obtained were prepared/taken at home. About 36.1% (95% CI: 30.90, 41.74) of the adolescents take their heavy meal after dinner at restaurant/kiosk. Fast food is frequently consumed by 84.5% (95% CI: 80.92, 87.51) of the adolescents for 1 to 6 days per week. The research revealed that the practice of bringing food and drinks to school daily was only done by 8.0% and 52.0% of adolescents. The most popular food frequently brought to school were bread/bun/sandwich [40.7 (95% CI: 32.72, 49.30)], followed by nasi lemak/fried rice/mixed rice [31.3% (95% CI: 23.86, 39.78)] whereas 91.7% (95% CI: 88.53, 94.02) claimed they usually bring plain water. About 61.8% (95% CI: 56.06, 67.20) adolescents spent their pocket money to buy foods/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. Most of them also bought snack foods and/or drinks out of school area 1 to 4 times per week with the highest preference were flavoured drink/carbonated drink (21.8%; 95% CI: 18.59, 25.28), French fries/nugget/sausage (16.30%; 95% CI: 12.64, 20.76) and ice cream (14.1%; 95% CI: 8.45, 22.52). Social media and television constituted the highest percentage of media sources which affected dietary pattern among adolescents in Selangor which was 44.4% (95% CI: 40.35, 48.43) and 34.2% (95% CI: 30.78, 37.72) respectively.

3.4.5 Discussions/Conclusion

The study reveals that adolescents in Selangor tend to skip main meals intake during day time. This might due to the result where they did not have appetite and have no time to take the meals especially before the schooling hours. 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 was 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 foods and drinks preference outside the school also includes high caloric meals. Thus, further regulations regarding the sales of foods/drinks outside school compound should be strengthened and creative healthy dietary practice messages targeting adolescents should be targeted through the main media i.e. media socials and television.

3.4.6 Recommendation

Taken together from the survey, several recommendations were proposed. Advocacy on proper meal pattern practice among adolescent is crucial therefore, an a holistic and comprehensive nutrition intervention should be implemented nation-wide, where every stakeholders 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 Malaysia and Ministry of Education Malaysia 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	
Selangor	690	175471	26.9	22.01	32.48	1496	392905	60.3	54.79	65.54
Locality of school										
Urban	444	114366	25.6	19.65	32.72	962	268388	60.2	52.69	67.22
Rural	246	61105	29.7	23.01	37.38	534	124516	12.0	37.39	66.81
Sex										
Boys	384	92218	28.1	21.96	35.27	796	198167	60.5	53.24	67.27
Girls	306	83254	25.7	20.87	31.20	700	194737	60.1	55.27	64.74
Ethnicity										
Malay	360	96585	23.0	18.15	28.59	1008	273507	65.0	59.97	69.71
Chinese	225	51204	36.5	28.51	45.26	278	67889	48.4	43.49	53.27
Indian	87	21594	30.7	21.40	41.87	167	39953	56.8	47.36	65.74
Bumiputera Sabah	2	895	28.2	5.32	73.35	6	1642	51.8	23.78	78.69
Bumiputera Sarawak	1	254	8.1	1.21	38.80	11	2359	75.1	34.04	94.61
Others	15	4939	35.5	24.53	48.33	26	7555	54.4	38.35	69.53
School level										
Primary school	284	79135	30.4	20.42	42.69	465	155529	59.8	48.07	70.50
Secondary school	406	96337	24.6	19.76	30.18	1031	237376	60.6	55.50	65.50
Class										
Standard 4	106	28038	31.8	22.35	43.10	165	47839	54.3	43.70	64.55
Standard 5	112	25555	29.4	17.55	44.98	195	53499	61.6	49.30	72.63
Standard 6	66	25542	30.0	17.45	46.42	105	54191	63.6	44.60	79.12
Form 1	114	26347	31.2	24.98	38.26	209	47895	56.8	49.43	63.83
Form 2	86	18457	23.6	18.33	29.90	224	49679	63.6	56.88	69.81
Form 3	86	16732	21.2	12.01	34.77	253	50344	63.9	56.72	70.52
Form 4	73	14180	19.1	14.15	25.14	256	49054	65.9	61.12	70.38
Form 5	47	20621	27.2	16.66	41.02	89	40404	53.2	39.10	66.82
School session										
Morning session	365	95738	24.9	18.85	32.12	875	232003	60.3	54.25	66.14
Evening session	165	36611	27.7	22.73	33.21	359	79884	60.4	53.83	66.55
Morning and evening session	158	42610	31.9	22.70	42.77	258	80155	60.0	48.49	70.52
BMI-for-age status (BAZ)										
Thinness (<-2sd)	65	16376	37.5	30.13	45.60	83	21934	50.3	42.74	57.83
Normal (≥-2sd - ≤+1sd)	417	104473	26.6	20.93	33.10	943	242608	61.7	55.42	67.62
Overweight (>+1sd - ≤+2sd)	123	33637	31.4	26.36	37.02	217	57614	53.9	49.61	58.05
Obese (>+2sd)	83	20461	19.1	13.16	26.84	253	70750	66.0	58.27	72.89
Height-for-age status (HAZ)										
Stunting (<-2sd)	45	12414	31.2	23.66	39.80	91	22758	57.1	48.30	65.52
Normal (≥-2sd)	645	163058	26.7	21.61	32.39	1405	370147	60.5	54.79	65.95

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
Selangor	316	83360	12.8	10.37	15.68
Locality of school					
Urban	229	63223	14.2	10.94	18.18
Rural	87	20138	9.8	29.70	60.52
Sex					
Boys	157	37330	11.4	9.05	14.25
Girls	159	46031	14.2	10.71	18.60
Ethnicity					
Malay	189	50701	12.0	9.62	14.99
Chinese	86	21279	15.2	10.43	21.52
Indian	32	8813	12.5	8.66	17.77
Bumiputera Sabah	3	634	20.0	7.53	43.43
Bumiputera Sarawak	1	530	16.9	1.80	69.21
Others	5	1403	10.1	3.85	23.97
School level					
Primary school	81	25448	9.8	7.78	12.23
Secondary school	235	57912	14.8	11.68	18.55
Class					
Standard 4	39	12208	13.9	10.02	18.86
Standard 5	27	7753	8.9	6.14	12.82
Standard 6	15	5488	6.4	3.39	11.91
Form 1	45	10117	12.0	8.90	15.98
Form 2	44	9988	12.8	7.87	20.11
Form 3	58	11699	14.9	9.95	21.58
Form 4	57	11199	15.0	11.91	18.83
Form 5	31	14909	19.6	12.74	29.01
School session					
Morning session	209	56722	14.8	11.95	18.08
Evening session	71	15838	12.0	8.80	16.07
Morning and evening session	36	10801	8.1	5.41	11.91
BMI-for-age status (BAZ)					
Thinness (<-2sd)	21	5305	12.2	8.49	17.13
Normal (\geq -2sd - \leq +1sd)	172	46091	11.7	8.86	15.35
Overweight ($>$ +1sd - \leq +2sd)	58	15722	14.7	10.80	19.69
Obese ($>$ +2sd)	64	16050	15.0	11.73	18.89
Height-for-age status (HAZ)					
Stunting (<-2sd)	19	4666	11.7	7.68	17.47
Normal (\geq -2sd)	296	78501	12.8	10.39	15.75

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
Selangor	1497	395808	70.3	61.44	77.90	296	80004	14.2	11.33	17.68
Locality of school										
Urban	968	270639	71.5	58.80	81.46	168	49738	13.1	9.48	17.91
Rural	529	125168	68.0	58.95	75.86	128	30266	16.4	12.56	21.23
Sex										
Boys	755	191970	66.9	52.29	78.83	155	39403	13.7	10.33	18.02
Girls	742	203837	73.9	67.26	79.60	141	40602	14.7	10.83	19.70
Ethnicity										
Malay	895	249791	68.1	55.16	78.81	178	50381	13.7	9.94	18.70
Chinese	368	87492	74.0	65.90	80.82	66	15682	13.3	8.43	20.28
Indian	189	44797	74.1	63.23	82.67	40	11080	18.3	12.19	26.64
Bumiputera Sabah	5	1698	66.9	25.24	92.40	1	503	19.8	2.31	72.05
Bumiputera Sarawak	9	2041	78.1	53.71	91.64	3	572	21.9	8.36	46.29
Others	31	9988	79.9	67.57	88.40	8	1786	14.3	5.55	32.13
School level										
Primary school	571	176889	76.4	72.97	79.52	127	40469	17.5	14.47	20.96
Secondary school	926	218918	66.1	51.96	77.82	169	39535	11.9	8.52	16.47
Class										
Standard 4	200	54524	72.3	62.46	80.40	55	15888	21.1	14.11	30.25
Standard 5	235	59963	77.4	73.14	81.12	49	13046	16.8	14.03	20.07
Standard 6	136	62403	79.3	74.79	83.27	23	11535	14.7	11.77	18.13
Form 1	234	53192	72.1	62.53	79.93	25	5763	7.8	3.56	16.27
Form 2	201	44330	65.4	52.21	76.55	23	5048	7.4	4.39	12.34
Form 3	196	39957	60.6	38.17	79.29	47	9373	14.2	8.61	22.57
Form 4	205	40302	64.3	49.51	76.78	57	11036	17.6	12.48	24.25
Form 5	90	41137	67.4	40.00	86.52	17	8315	13.6	5.28	30.88
School session										
Morning session	895	237610	73.4	66.20	79.55	195	50688	15.7	11.99	20.19
Evening session	394	87380	75.4	70.79	79.56	38	9280	8.0	4.59	13.62
Morning and evening session	206	70315	57.7	30.88	80.61	62	19805	16.2	10.06	25.17
BMI-for-age status (BAZ)										
Thinness (<-2sd)	112	29994	78.3	67.58	86.19	18	4345	11.3	5.88	20.77
Normal (≥-2sd - ≤+1sd)	925	240342	69.8	60.32	77.87	178	47290	13.7	10.70	17.47
Overweight (>+1sd - ≤+2sd)	232	64138	71.1	60.07	80.08	51	13843	15.3	11.14	20.76
Obese (>+2sd)	227	61094	68.3	58.63	76.54	49	14527	16.2	11.82	21.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	97	25744	73.2	55.73	85.56	17	3630	10.3	5.30	19.15
Normal (≥-2sd)	1400	370064	70.1	61.49	77.55	279	76374	14.5	11.50	18.06

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	
Selangor	161	40166	7.1	5.27	9.60	182	38943	6.9	1.56	25.82
Locality of school										
Urban	105	27780	7.3	5.24	10.18	135	25811	6.8	0.89	37.27
Rural	56	12387	6.7	3.54	12.42	47	13132	7.1	1.04	35.96
Sex										
Boys	88	20703	7.2	4.68	10.95	148	29346	10.2	1.76	42.05
Girls	73	19464	7.1	5.11	9.67	34	9597	3.5	0.63	16.95
Ethnicity										
Malay	85	22636	6.2	4.29	8.81	179	38323	10.5	2.30	36.68
Chinese	56	13024	11.0	6.45	18.21	1	238	0.2	0.03	1.54
Indian	18	4142	6.9	4.24	10.90	1	222	0.4	0.06	2.34
Bumiputera Sabah	1	175	6.9	0.71	43.36	1	161	6.3	0.65	41.11
Bumiputera Sarawak										
Others	1	190	1.5	0.16	13.14					
School level										
Primary school	31	10108	4.4	3.21	5.90					
Secondary school	130	30058	9.1	6.55	12.45	182	38943	11.8	2.80	38.13
Class										
Standard 4	8	3143	4.2	1.64	10.19					
Standard 5	15	3380	4.4	2.11	8.80					
Standard 6	8	3585	4.6	2.74	7.49					
Form 1	39	8878	12.0	8.25	17.20	19	5101	6.9	1.39	28.16
Form 2	41	8684	12.8	8.08	19.70	38	8535	12.6	3.45	36.71
Form 3	16	3084	4.7	2.61	8.23	72	12964	19.7	4.48	56.05
Form 4	24	4674	7.5	4.44	12.26	34	5509	8.8	1.18	43.79
Form 5	10	4739	7.8	3.65	15.78	19	6833	11.2	1.22	56.37
School session										
Morning session	73	19376	6.0	4.55	7.85	49	12616	3.9	0.64	20.45
Evening session	70	15230	13.1	10.43	16.44	10	2102	1.8	0.53	6.05
Morning and evening session	15	4918	4.0	2.20	7.28	123	24225	19.9	2.67	69.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	2466	6.4	3.02	13.19	6	1269	3.3	0.90	11.41
Normal (≥-2sd - ≤+1sd)	104	25630	7.4	5.28	10.40	123	26594	7.7	1.76	28.16
Overweight (>+1sd - ≤+2sd)	18	4375	4.8	2.24	10.16	29	6320	7.0	1.78	23.80
Obese (>+2sd)	28	7696	8.6	5.74	12.68	24	4760	5.3	0.82	27.67
Height-for-age status (HAZ)										
Stunting (<-2sd)	6	2092	5.9	2.69	12.62	14	3275	9.3	1.24	45.73
Normal (≥-2sd)	155	38074	7.2	5.26	9.83	168	35668	6.8	1.57	24.81

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				
	Others				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
Selangor	31	7901	1.4	0.97	2.02
Locality of school					
Urban	17	4762	1.3	0.78	2.01
Rural	14	3139	1.7	0.93	3.11
Sex					
Boys	22	5569	1.9	1.23	3.04
Girls	9	2331	0.8	0.49	1.47
Ethnicity					
Malay	21	5453	1.5	1.01	2.19
Chinese	8	1719	1.5	0.87	2.42
Indian	1	200	0.3	0.04	2.77
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	530	4.2	0.86	18.42
School level					
Primary school	12	4068	1.8	1.13	2.72
Secondary school	19	3833	1.2	0.72	1.85
Class					
Standard 4	6	1840	2.4	1.21	4.86
Standard 5	4	1107	1.4	0.84	2.42
Standard 6	2	1122	1.4	0.71	2.86
Form 1	4	889	1.2	0.50	2.89
Form 2	6	1210	1.8	0.75	4.18
Form 3	3	567	0.9	0.28	2.58
Form 4	6	1167	1.9	0.77	4.41
Form 5					
School session					
Morning session	15	3400	1.1	0.68	1.62
Evening session	9	1844	1.6	0.85	2.97
Morning and evening session	7	2656	2.2	1.01	4.63
BMI-for-age status (BAZ)					
Thinness (<-2sd)	1	235	0.6	0.08	4.82
Normal (\geq -2sd - \leq +1sd)	19	4406	1.3	0.87	1.89
Overweight ($>$ +1sd - \leq +2sd)	6	1546	1.7	0.88	3.33
Obese ($>$ +2sd)	4	1428	1.6	0.64	3.95
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	431	1.2	0.29	5.09
Normal (\geq -2sd)	29	7470	1.4	0.96	2.08

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	
Selangor	153	41351	9.7	7.67	12.16	679	176445	41.3	37.84	44.88
Locality of school										
Urban	93	27449	9.2	6.72	12.54	441	120430	40.5	35.96	45.19
Rural	60	13902	10.7	8.06	14.13	238	56015	43.2	39.03	47.48
Sex										
Boys	76	20365	9.7	7.41	12.64	338	79689	38.0	32.49	43.89
Girls	77	20986	9.6	6.82	13.47	341	96756	44.5	40.21	48.83
Ethnicity										
Malay	125	34214	11.3	8.82	14.30	506	133176	43.9	39.49	48.35
Chinese	19	4788	6.8	4.07	11.13	94	23238	33.0	27.27	39.18
Indian	5	1337	3.3	1.49	7.32	57	14676	36.7	23.86	51.78
Bumiputera Sabah						3	560	27.0	7.39	63.04
Bumiputera Sarawak	1	208	7.7	0.76	47.87	6	1314	48.9	20.43	78.12
Others	3	803	9.7	2.50	31.19	13	3482	42.1	30.26	55.00
School level										
Primary school	47	15771	10.1	7.62	13.16	178	61438	39.2	34.53	44.05
Secondary school	106	25580	9.5	6.75	13.12	501	115007	42.5	37.67	47.58
Class										
Standard 4	21	5645	10.9	5.78	19.45	70	22054	42.4	34.45	50.76
Standard 5	18	4940	9.2	5.87	14.12	78	23060	42.9	36.71	49.34
Standard 6	8	5186	10.2	6.31	15.98	30	16324	32.0	26.32	38.27
Form 1	25	5810	11.8	7.69	17.73	89	20323	41.3	32.20	51.10
Form 2	26	5845	10.6	6.89	15.95	119	27123	49.2	40.04	58.35
Form 3	18	3624	6.3	3.91	10.03	135	26672	46.4	37.01	56.10
Form 4	26	5133	9.1	6.31	12.88	119	22813	40.3	33.34	47.74
Form 5	11	5168	9.9	3.72	24.00	39	18075	34.8	24.58	46.64
School session										
Morning session	81	23617	9.2	6.78	12.26	373	96533	37.4	33.53	41.51
Evening session	45	10051	11.9	8.18	16.98	171	38985	46.1	42.19	50.11
Morning and evening session	26	7470	8.9	4.68	16.33	133	40477	48.3	39.18	57.50
BMI-for-age status (BAZ)										
Thinness (<-2sd)	9	1871	7.8	3.64	15.89	39	9574	39.9	25.83	55.76
Normal (≥-2sd - ≤+1sd)	108	28020	10.8	7.74	14.90	416	109660	42.3	36.26	48.60
Overweight (>+1sd - ≤+2sd)	11	2454	3.8	1.96	7.23	98	24734	38.3	30.79	46.39
Obese (>+2sd)	25	9005	11.4	6.05	20.42	125	32283	40.8	32.37	49.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	9	2684	10.7	5.55	19.63	43	11258	44.9	31.52	59.02
Normal (≥-2sd)	144	38667	9.6	7.63	12.06	635	164994	41.1	37.63	44.59

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	
Selangor	501	135536	31.7	27.92	35.82	113	28491	6.7	5.16	8.59
Locality of school										
Urban	334	98038	33.0	28.21	38.09	72	18650	6.3	4.50	8.67
Rural	167	37499	28.9	24.34	33.98	41	9842	7.6	5.43	10.52
Sex										
Boys	267	67627	32.3	27.64	37.27	67	15614	7.5	5.60	9.86
Girls	234	67910	31.2	26.13	36.81	46	12878	5.9	3.94	8.80
Ethnicity										
Malay	342	96085	31.7	27.07	36.62	61	15775	5.2	4.19	6.42
Chinese	98	24263	34.4	24.90	45.35	21	5375	7.6	4.97	11.50
Indian	50	12268	30.7	22.38	40.47	26	6050	15.1	10.19	21.90
Bumiputera Sabah	3	796	38.3	12.44	73.10	1	218	10.5	1.34	50.38
Bumiputera Sarawak	2	387	14.4	5.67	32.11	1	247	9.2	1.35	42.94
Others	6	1737	21.0	11.37	35.59	3	827	10.0	2.48	32.67
School level										
Primary school	162	55484	35.4	30.38	40.75	28	8527	5.4	3.45	8.48
Secondary school	339	80053	29.6	24.93	34.77	85	19964	7.4	5.74	9.45
Class										
Standard 4	53	15544	29.9	21.20	40.30	10	3317	6.4	4.33	9.31
Standard 5	66	18516	34.5	28.33	41.15	12	2710	5.0	2.30	10.69
Standard 6	43	21423	42.0	34.79	49.57	6	2500	4.9	1.69	13.39
Form 1	50	11377	23.1	14.40	35.00	19	4347	8.8	5.37	14.21
Form 2	51	11533	20.9	15.72	27.25	18	3937	7.1	4.29	11.63
Form 3	95	19119	33.3	24.93	42.82	17	3299	5.7	3.46	9.38
Form 4	103	19789	35.0	29.36	41.07	22	4294	7.6	3.94	14.14
Form 5	40	18235	35.1	21.54	51.59	9	4087	7.9	4.08	14.64
School session										
Morning session	355	95177	36.9	32.54	41.51	68	17415	6.8	4.85	9.33
Evening session	80	17315	20.5	15.44	26.65	27	5882	7.0	4.33	11.00
Morning and evening session	66	23045	27.5	19.00	38.00	17	4994	6.0	3.11	11.10
BMI-for-age status (BAZ)										
Thinness (<-2sd)	31	9296	38.7	24.45	55.18	2	1018	4.2	0.97	16.60
Normal (≥-2sd - ≤+1sd)	306	79688	30.7	26.31	35.57	56	13221	5.1	3.31	7.79
Overweight (>+1sd - ≤+2sd)	81	22918	35.5	27.64	44.18	24	6126	9.5	5.27	16.47
Obese (>+2sd)	83	23634	29.9	25.37	34.84	31	8127	10.3	6.99	14.87
Height-for-age status (HAZ)										
Stunting (<-2sd)	32	7594	30.3	21.65	40.55	4	1182	4.7	1.59	13.13
Normal (≥-2sd)	469	127942	31.8	27.81	36.16	109	27309	6.8	5.25	8.76

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	
Selangor	47	14026	3.3	2.24	4.79	125	31228	7.3	5.61	9.48
Locality of school										
Urban	32	10736	3.6	2.30	5.63	85	22127	7.4	5.29	10.36
Rural	15	3290	2.5	1.70	3.78	40	9101	7.0	4.68	10.40
Sex										
Boys	33	9852	4.7	2.91	7.50	66	16413	7.8	5.98	10.19
Girls	14	4174	1.9	1.08	3.37	59	14815	6.8	4.48	10.23
Ethnicity										
Malay	28	8804	2.9	1.88	4.45	62	15505	5.1	3.90	6.66
Chinese	8	1658	2.4	0.98	5.56	47	11199	15.9	12.62	19.80
Indian	8	2002	5.0	2.89	8.53	14	3641	9.1	5.59	14.49
Bumiputera Sabah	1	503	24.2	2.89	77.46					
Bumiputera Sarawak	1	530	19.7	2.14	73.39					
Others	1	530	6.4	1.35	25.58	2	883	10.7	4.31	24.15
School level										
Primary school	11	5367	3.4	1.56	7.34	35	10184	6.5	3.55	11.60
Secondary school	36	8659	3.2	2.23	4.59	90	21043	7.8	6.30	9.58
Class										
Standard 4	5	1586	3.0	1.97	4.70	12	3874	7.4	3.71	14.37
Standard 5	2	1060	2.0	0.48	7.70	15	3455	6.4	3.06	12.99
Standard 6	4	2721	5.3	2.65	10.45	8	2856	5.6	2.03	14.52
Form 1	12	2770	5.6	2.48	12.28	20	4550	9.3	7.24	11.76
Form 2	9	1707	3.1	1.29	7.21	24	5025	9.1	5.30	15.20
Form 3	6	1183	2.1	0.66	6.20	17	3555	6.2	3.76	10.02
Form 4	4	751	1.3	0.57	3.05	20	3781	6.7	3.97	11.05
Form 5	5	2248	4.3	2.08	8.77	9	4132	8.0	4.13	14.76
School session										
Morning session	21	7414	2.9	1.53	5.35	69	17708	6.9	5.34	8.79
Evening session	19	4045	4.8	2.91	7.77	38	8244	9.8	7.11	13.23
Morning and evening session	7	2567	3.1	1.75	5.29	18	5275	6.3	3.14	12.20
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	1351	5.6	2.09	14.24	4	915	3.8	0.66	18.98
Normal (≥-2sd - ≤+1sd)	25	6615	2.6	1.52	4.24	85	21987	8.5	6.77	10.59
Overweight (>+1sd - ≤+2sd)	9	3615	5.6	1.83	15.86	20	4755	7.4	4.46	11.91
Obese (>+2sd)	7	2446	3.1	1.43	6.58	16	3571	4.5	2.06	9.60
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	781	3.1	1.13	8.27	7	1587	6.3	3.01	12.81
Normal (≥-2sd)	43	13246	3.3	2.17	4.99	118	29641	7.4	5.65	9.57

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
Selangor	1249	318789.50	48.9	41.08	56.83	1164	309646.33	47.5	39.73	55.43
Locality of school										
Urban	841	221572.38	49.7	38.80	60.59	735	208358.77	46.7	36.08	57.67
Rural	408	97217.12	47.3	39.23	55.47	429	101287.56	49.3	40.74	57.82
Sex										
Boys	652	159064.51	48.5	40.17	56.92	643	158371.46	48.3	39.79	56.89
Girls	597	159724.99	49.4	41.11	57.63	521	151274.87	46.7	38.80	54.85
Ethnicity										
Malay		177181.73	42.1	34.83	49.69	838	227906.75	54.1	46.59	61.48
Chinese	400	92843.85	66.3	59.59	72.45	168	42030.83	30.0	24.57	36.10
Indian	158	40284.42	57.3	50.30	63.94	122	28883.69	41.1	34.08	48.40
Bumiputera Sabah	5	1669.41	52.6	19.86	83.30	5	1272.21	40.1	12.41	76.01
Bumiputera Sarawak	5	1158.32	36.8	11.76	71.86	7	1782.71	56.7	18.47	88.34
Others	20	5651.77	40.7	24.37	59.32	24	7770.14	55.9	35.97	74.11
School level										
Primary school	421	118743.97	45.7	31.44	60.65	383	132884.83	51.1	36.38	65.66
Secondary school	828	200045.53	51.1	43.89	58.23	781	176761.50	45.1	38.37	52.08
Class										
Standard 4	146	39001.58	44.2	29.01	60.47	150	43658.83	49.4	34.42	64.54
Standard 5	185	42333.62	48.8	30.29	67.59	142	42971.46	49.5	30.44	68.71
Standard 6	90	37408.77	44.1	29.69	59.56	91	46254.54	54.5	37.56	70.49
Form 1	185	42310.63	50.2	41.18	59.12	165	37865.26	44.9	37.08	52.95
Form 2	173	39094.88	50.0	39.41	60.67	168	36290.68	46.5	37.31	55.85
Form 3	192	39206.80	49.8	37.63	61.94	193	37014.06	47.0	34.73	59.62
Form 4	179	34676.25	46.6	37.74	55.65	191	36420.79	48.9	40.62	57.30
Form 5	99	44756.96	58.9	48.60	68.55	64	29170.71	38.4	29.61	48.05
School session										
Morning session	774	198621.10	51.7	41.99	61.31	628	172285.23	44.9	36.07	53.97
Evening session	292	65059.67	49.2	40.91	57.46	275	61094.84	46.2	39.19	53.30
Morning and evening session	182	54878.79	41.1	33.26	49.40	255	74880.99	56.1	45.68	65.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	97	23962.39	54.9	43.11	66.24	66	18451.34	42.3	30.84	54.67
Normal (≥-2sd - ≤+1sd)	789	200932.37	51.2	42.86	59.38	686	177162.86	45.1	37.13	53.34
Overweight (>+1sd - ≤+2sd)	187	49027.81	45.7	38.96	52.66	199	54546.10	50.9	44.27	57.46
Obese (>+2sd)	175	44627.14	41.6	32.19	51.68	212	59292.83	55.3	45.15	64.99
Height-for-age status (HAZ)										
Stunting (<-2sd)	77	19526.13	49.0	41.69	56.38	74	18803.22	47.2	39.33	55.21
Normal (≥-2sd)	1172	299263.37	48.9	40.81	57.11	1089	290649.92	47.5	39.54	55.63

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

Characteristics	Lunch frequency per week				
	Did not take lunch				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
Selangor	89	23163.30	3.6	2.85	4.43
Locality of school					
Urban	59	16046.38	3.6	2.63	4.90
Rural	30	7116.92	3.5	2.95	4.06
Sex					
Boys	43	10518.19	3.2	2.31	4.43
Girls	46	12645.11	3.9	2.99	5.09
Ethnicity					
Malay	59	15944.20	3.8	2.83	5.05
Chinese	20	5120.33	3.7	2.22	5.97
Indian	6	1191.97	1.7	0.68	4.15
Bumiputera Sabah	1	229.33	7.2	0.76	44.36
Bumiputera Sarawak	1	202.41	6.4	0.98	32.37
Others	2	475.06	3.4	0.69	15.33
School level					
Primary school	26	8345.51	3.2	2.62	3.92
Secondary school	63	14817.79	3.8	2.74	5.21
Class					
Standard 4	15	5664.68	6.4	3.02	13.10
Standard 5	7	1501.25	1.7	0.64	4.60
Standard 6	4	1179.58	1.4	0.34	5.54
Form 1	18	4184.00	5.0	3.42	7.15
Form 2	13	2737.95	3.5	1.90	6.39
Form 3	12	2554.13	3.2	1.92	5.42
Form 4	16	3335.74	4.5	2.83	7.03
Form 5	4	2005.96	2.6	1.03	6.58
School session					
Morning session	46	13179.90	3.4	2.47	4.75
Evening session	28	6177.70	4.7	3.18	6.80
Morning and evening session	15	3805.71	2.8	1.03	7.61
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	1200.54	2.8	1.25	5.96
Normal (≥-2sd - ≤+1sd)	56	14699.25	3.7	2.84	4.91
Overweight (>+1sd - ≤+2sd)	13	3638.00	3.4	2.26	5.06
Obese (>+2sd)	13	3340.11	3.1	2.09	4.62
Height-for-age status (HAZ)					
Stunting (<-2sd)	4	1508.64	3.8	1.33	10.30
Normal (≥-2sd)	85	21654.66	3.5	2.85	4.40

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	
Selangor	1522	400919	64.1	56.70	70.85	428	116449	18.6	13.98	24.34
Locality of school										
Urban	970	271060	63.3	52.94	72.60	261	77524	18.1	12.10	26.22
Rural	552	129859	65.7	58.96	71.90	167	38924	19.7	13.99	27.01
Sex										
Boys	742	185946	58.9	47.32	69.57	244	64555	20.4	14.97	27.29
Girls	780	214972	69.4	64.20	74.07	184	51894	16.7	12.59	21.92
Ethnicity										
Malay	969	264148	65.4	54.53	74.86	233	69343	17.2	11.50	24.84
Chinese	302	71751	53.6	47.74	59.28	120	28952	21.6	14.01	31.81
Indian	208	51992	75.9	64.70	84.46	59	13389	19.6	11.44	31.39
Bumiputera Sabah	6	2182	74.2	46.80	90.38					
Bumiputera Sarawak	7	1782	60.6	23.95	88.26	4	951	32.3	6.67	76.14
Others	30	9062	67.5	51.38	80.35	12	3814	28.4	16.27	44.77
School level										
Primary school	501	158317	63.2	57.28	68.75	202	66186	26.4	21.97	31.41
Secondary school	1021	242602	64.7	52.83	74.95	226	50262	13.4	9.67	18.27
Class										
Standard 4	187	51781	63.1	58.14	67.71	82	23776	29.0	24.88	33.40
Standard 5	207	55677	65.7	57.08	73.42	70	18906	22.3	17.14	28.51
Standard 6	107	50858	60.8	51.58	69.29	50	23505	28.1	21.04	36.43
Form 1	201	45596	57.4	47.96	66.28	94	21226	26.7	17.72	38.15
Form 2	207	46206	61.3	52.70	69.24	54	11678	15.5	9.64	23.95
Form 3	239	48625	64.3	42.20	81.61	33	6290	8.3	3.80	17.25
Form 4	266	51903	73.4	57.40	84.97	37	7269	10.3	6.29	16.37
Form 5	108	50271	68.0	47.37	83.38	8	3799	5.1	2.42	10.59
School session										
Morning session	940	246379	66.8	59.90	73.06	227	63620	17.2	11.18	25.66
Evening session	357	79570	63.4	57.21	69.22	136	30209	24.1	18.47	30.75
Morning and evening session	221	74014	57.0	32.61	78.46	62	21960	16.9	9.67	27.93
BMI-for-age status (BAZ)										
Thinness (<-2sd)	108	28245	66.6	59.49	73.02	30	7916	18.7	13.15	25.80
Normal (≥-2sd - ≤+1sd)	928	241837	64.3	55.78	72.00	242	63206	16.8	12.64	22.00
Overweight (>+1sd - ≤+2sd)	241	64747	62.8	54.25	70.55	74	21243	20.6	13.42	30.26
Obese (>+2sd)	244	65850	63.5	55.07	71.15	82	24084	23.2	17.37	30.32
Height-for-age status (HAZ)										
Stunting (<-2sd)	98	26151	68.7	51.73	81.78	22	5110	13.4	9.05	19.44
Normal (≥-2sd)	1424	374767	63.8	56.72	70.29	406	111339	18.9	14.12	24.96

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	
Selangor	199	51870	8.3	5.97	11.40	186	40067	6.4	1.48	23.76
Locality of school										
Urban	154	41576	9.7	6.64	14.00	139	26935	6.3	0.87	34.00
Rural	45	10294	5.2	3.26	8.22	47	13132	6.6	0.98	33.82
Sex										
Boys	107	25296	8.0	5.76	11.04	153	30756	9.7	1.77	39.25
Girls	92	26574	8.6	5.75	12.61	33	9311	3.0	0.52	15.63
Ethnicity										
Malay	82	24189	6.0	4.24	8.39	181	38946	9.6	2.17	33.95
Chinese	105	24497	18.3	12.23	26.44	2	420	0.3	0.05	1.93
Indian	8	2399	3.5	1.52	7.85	1	180	0.3	0.04	1.61
Bumiputera Sabah	2	391	13.3	3.85	36.90	1	161	5.5	0.55	37.55
Bumiputera Sarawak	1	208	7.1	1.15	33.23					
Others	1	186	1.4	0.16	11.15	1	360	2.7	0.27	21.82
School level										
Primary school	65	17537	7.0	4.18	11.49	2	420	0.2	0.02	1.38
Secondary school	134	34333	9.2	6.20	13.31	184	39646	10.6	2.52	35.11
Class										
Standard 4	15	3777	4.6	2.22	9.29					
Standard 5	35	7015	8.3	3.35	19.04	1	173	0.2	0.03	1.55
Standard 6	15	6745	8.1	6.48	9.99	1	247	0.3	0.03	2.80
Form 1	23	5293	6.7	4.68	9.39	18	4880	6.1	1.12	27.47
Form 2	30	6513	8.6	5.20	14.03	41	9064	12.0	3.55	33.70
Form 3	36	7235	9.6	4.79	18.20	71	12746	16.9	3.73	51.45
Form 4	22	4297	6.1	3.83	9.51	33	5404	7.6	1.20	36.08
Form 5	23	10995	14.9	9.34	22.87	21	7553	10.2	1.10	53.83
School session										
Morning session	139	36772	10.0	6.96	14.09	51	12948	3.5	0.60	17.92
Evening session	46	10383	8.3	5.92	11.46	9	1880	1.5	0.38	5.74
Morning and evening session	14	4715	3.6	2.27	5.77	126	25239	19.5	2.73	67.53
BMI-for-age status (BAZ)										
Thinness (<-2sd)	14	3672	8.7	4.87	14.94	6	1269	3.0	0.83	10.25
Normal (≥-2sd - ≤+1sd)	132	33804	9.0	6.26	12.74	123	26795	7.1	1.65	25.92
Overweight (>+1sd - ≤+2sd)	26	7678	7.4	4.71	11.57	31	6678	6.5	1.70	21.71
Obese (>+2sd)	27	6715	6.5	3.02	13.34	26	5325	5.1	0.82	26.06
Height-for-age status (HAZ)										
Stunting (<-2sd)	13	2884	7.6	3.57	15.34	15	3463	9.1	1.35	42.22
Normal (≥-2sd)	186	48986	8.3	6.13	11.25	171	36604	6.2	1.47	22.84

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
Selangor	67	16348	2.6	1.91	3.57
Locality of school					
Urban	45	10958	2.6	1.66	3.93
Rural	22	5390	2.7	1.93	3.85
Sex					
Boys	41	9160	2.9	1.76	4.74
Girls	26	7188	2.3	1.64	3.27
Ethnicity					
Malay	30	7290	1.8	1.32	2.46
Chinese	35	8348	6.2	4.73	8.16
Indian	1	503	0.7	0.12	4.43
Bumiputera Sabah	1	208	7.1	0.72	44.27
Bumiputera Sarawak					
Others					
School level					
Primary school	31	8054	3.2	1.78	5.75
Secondary school	36	8295	2.2	1.62	3.01
Class					
Standard 4	10	2789	3.4	2.35	4.89
Standard 5	13	2957	3.5	2.24	5.40
Standard 6	8	2308	2.8	0.70	10.28
Form 1	11	2481	3.1	1.69	5.69
Form 2	9	1924	2.6	0.85	7.40
Form 3	3	741	1.0	0.21	4.53
Form 4	10	1837	2.6	1.46	4.57
Form 5	3	1310	1.8	0.63	4.92
School session					
Morning session	37	9097	2.5	1.46	4.13
Evening session	16	3419	2.7	1.60	4.60
Morning and evening session	14	3832	3.0	1.94	4.48
BMI-for-age status (BAZ)					
Thinness (<-2sd)	5	1312	3.1	1.03	8.88
Normal (≥-2sd - ≤+1sd)	43	10471	2.8	1.92	4.02
Overweight (>+1sd - ≤+2sd)	12	2813	2.7	1.45	5.07
Obese (>+2sd)	7	1753	1.7	0.79	3.57
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	467	1.2	0.30	4.88
Normal (≥-2sd)	65	15881	2.7	1.96	3.72

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	
Selangor	145	41398	14.8	11.90	18.36	482	125137	44.9	39.19	50.67
Locality of school										
Urban	90	28766	15.3	11.48	20.19	287	79113	42.2	34.80	49.93
Rural	55	12633	13.8	10.78	17.56	195	46024	50.4	43.67	57.04
Sex										
Boys	77	19784	13.8	10.30	18.13	268	63659	44.3	35.69	53.20
Girls	68	21614	16.0	11.75	21.40	214	61478	45.5	38.99	52.16
Ethnicity										
Malay	117	33569	15.7	12.34	19.89	379	99143	46.5	39.82	53.33
Chinese	18	4810	14.4	8.07	24.36	55	13952	41.7	35.06	48.74
Indian	5	1538	6.9	2.12	20.40	33	7278	32.8	23.78	43.38
Bumiputera Sabah						2	663	52.2	20.01	82.61
Bumiputera Sarawak	3	911	58.1	16.07	90.93					
Others	2	570	7.7	1.63	29.81	13	4100	55.7	39.71	70.61
School level										
Primary school	48	18712	16.3	12.78	20.48	156	53701	46.7	40.30	53.19
Secondary school	97	22686	13.8	10.04	18.77	326	71435	43.6	35.34	52.19
Class										
Standard 4	19	6295	15.1	11.20	20.08	66	19952	47.9	41.47	54.37
Standard 5	15	4250	11.8	8.68	15.81	63	19927	55.3	47.57	62.74
Standard 6	14	8167	21.9	15.16	30.54	27	13822	37.1	27.02	48.33
Form 1	20	4594	13.3	9.14	19.09	69	16124	46.9	36.13	57.87
Form 2	10	2174	6.4	3.18	12.62	79	16828	49.9	38.79	60.98
Form 3	28	5690	16.8	10.48	25.73	78	14256	42.0	27.35	58.19
Form 4	30	5774	16.3	12.09	21.73	78	14766	41.8	33.17	50.98
Form 5	9	4454	16.8	7.15	34.63	22	9462	35.7	19.69	55.69
School session										
Morning session	91	27850	18.3	13.24	24.65	235	61701	40.5	33.23	48.14
Evening session	29	6455	11.4	7.83	16.38	116	25953	45.9	38.18	53.91
Morning and evening session	23	6641	9.7	5.99	15.27	130	37262	54.3	42.02	66.12
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	1438	9.0	3.51	21.03	28	8066	50.3	36.94	63.58
Normal (≥-2sd - ≤+1sd)	86	24785	15.2	11.55	19.82	300	76524	47.0	40.85	53.31
Overweight (>+1sd - ≤+2sd)	22	6123	13.2	8.06	20.86	81	20935	45.1	35.84	54.75
Obese (>+2sd)	30	9052	16.9	11.71	23.80	72	19325	36.1	28.12	44.94
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	3529	19.8	12.48	29.81	29	7026	39.3	25.17	55.52
Normal (≥-2sd)	133	37869	14.5	11.69	17.86	453	118111	45.2	39.78	50.82

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	
Selangor	183	51289	18.4	13.82	24.05	119	28509	10.2	6.66	15.37
Locality of school										
Urban	133	39962	21.3	16.16	27.56	77	18736	10.0	5.32	17.99
Rural	50	11328	12.4	8.24	18.23	42	9773	10.7	8.16	13.89
Sex										
Boys	96	26308	18.3	11.31	28.22	66	14742	10.3	6.84	15.08
Girls	87	24981	18.5	14.81	22.84	53	13767	10.2	5.96	16.87
Ethnicity										
Malay	132	39411	18.5	12.75	26.05	83	19898	9.3	5.73	14.84
Chinese	25	5858	17.5	9.37	30.41	8	1904	5.7	1.89	15.93
Indian	21	4966	22.4	14.75	32.52	25	5995	27.0	18.74	37.34
Bumiputera Sabah	2	409	32.1	4.32	83.26	1	200	15.7	4.74	41.08
Bumiputera Sarawak	1	202	12.9	1.28	62.80					
Others	2	443	6.0	1.14	26.27	2	512	7.0	0.88	38.68
School level										
Primary school	56	22567	19.6	12.29	29.83	21	5750	5.0	2.00	11.97
Secondary school	127	28722	17.5	12.58	23.88	98	22758	13.9	11.34	16.89
Class										
Standard 4	15	5236	12.6	6.42	23.14	12	2966	7.1	2.56	18.30
Standard 5	24	7409	20.6	16.95	24.69	6	1345	3.7	0.83	15.25
Standard 6	17	9923	26.6	17.81	37.73	3	1438	3.9	1.87	7.77
Form 1	22	4970	14.4	8.80	22.79	18	4066	11.8	6.25	21.23
Form 2	30	6465	19.2	11.87	29.44	20	4308	12.8	8.41	18.93
Form 3	33	6783	20.0	10.60	34.46	25	4759	14.0	8.64	21.93
Form 4	34	6690	18.9	12.79	27.13	24	4667	13.2	8.04	20.96
Form 5	8	3815	14.4	7.71	25.28	11	4957	18.7	10.72	30.59
School session										
Morning session	104	28950	19.0	14.28	24.79	61	15482	10.2	6.22	16.16
Evening session	48	10388	18.4	12.03	27.07	31	6688	11.8	8.03	17.13
Morning and evening session	30	11722	17.1	8.41	31.64	25	5856	8.5	3.29	20.40
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	3401	21.2	12.80	33.01	2	398	2.5	0.57	10.13
Normal (≥-2sd - ≤+1sd)	109	28848	17.7	13.42	23.06	60	14413	8.9	5.59	13.77
Overweight (>+1sd - ≤+2sd)	24	6906	14.9	9.17	23.26	25	6850	14.8	10.30	20.72
Obese (>+2sd)	37	12134	22.7	15.30	32.23	32	6849	12.8	6.10	24.89
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	3679	20.6	11.68	33.72	4	1389	7.8	2.93	19.04
Normal (≥-2sd)	169	47610	18.2	13.31	24.47	115	27119	10.4	6.77	15.61

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	
Selangor	55	15243	5.5	3.84	7.72	68	17373	6.2	4.39	8.76
Locality of school										
Urban	29	8743	4.7	3.19	6.76	47	12236	6.5	4.53	9.30
Rural	26	6499	7.1	4.29	11.57	21	5137	5.6	2.48	12.25
Sex										
Boys	35	9475	6.6	4.33	9.91	43	9850	6.8	4.63	10.02
Girls	20	5768	4.3	2.63	6.85	25	7523	5.6	3.84	8.01
Ethnicity										
Malay	36	10633	5.0	3.20	7.69	43	10507	4.9	3.16	7.61
Chinese	9	2220	6.6	3.54	12.13	18	4678	14.0	9.27	20.59
Indian	7	1694	7.6	3.37	16.42	3	694	3.1	1.30	7.36
Bumiputera Sabah										
Bumiputera Sarawak	2	455	29.0	5.17	75.41					
Others	1	240	3.3	0.32	26.06	4	1494	20.3	7.29	45.24
School level										
Primary school	24	7491	6.5	3.59	11.54	21	6796	5.9	2.96	11.45
Secondary school	31	7751	4.7	3.09	7.17	47	10577	6.5	4.57	9.03
Class										
Standard 4	15	4639	11.1	7.01	17.24	10	2575	6.2	1.34	24.19
Standard 5	4	851	2.4	0.61	8.64	6	2266	6.3	3.01	12.65
Standard 6	5	2001	5.4	2.59	10.76	5	1955	5.2	2.33	11.34
Form 1	11	2601	7.6	3.77	14.57	9	2060	6.0	2.92	11.89
Form 2	11	2425	7.2	3.56	13.99	7	1538	4.6	2.01	9.99
Form 3	2	364	1.1	0.23	4.78	11	2099	6.2	3.29	11.32
Form 4	3	544	1.5	0.57	4.12	16	2879	8.2	4.46	14.43
Form 5	4	1816	6.9	2.81	15.79	4	2001	7.5	1.72	27.57
School session										
Morning session	28	8564	5.6	3.77	8.30	37	9931	6.5	4.35	9.65
Evening session	21	4756	8.4	5.60	12.48	10	2251	4.0	2.24	7.00
Morning and evening session	6	1922	2.8	1.18	6.48	21	5191	7.6	3.98	13.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	2148	13.4	6.26	26.36	3	592	3.7	1.11	11.54
Normal (≥-2sd - ≤+1sd)	31	8117	5.0	2.98	8.24	38	10009	6.2	4.51	8.34
Overweight (>+1sd - ≤+2sd)	7	2343	5.1	2.72	9.20	11	3240	7.0	3.66	12.91
Obese (>+2sd)	9	2634	4.9	2.87	8.32	16	3532	6.6	2.57	15.89
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	654	3.7	1.05	11.96	6	1590	8.9	4.34	17.39
Normal (≥-2sd)	52	14589	5.6	3.86	8.01	62	15783	6.0	4.09	8.85

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	
Selangor	1573	397317	61.2	52.96	68.86	842	232420	35.8	28.05	44.38
Locality of school										
Urban	1067	277110	62.4	51.23	72.33	517	155738	35.0	24.96	46.68
Rural	506	120207	58.7	47.44	69.12	325	76682	37.4	27.18	48.99
Sex										
Boys	887	212288	65.2	57.14	72.50	413	106436	32.7	25.35	41.01
Girls	686	185029	57.2	48.02	65.87	429	125983	38.9	30.37	48.24
Ethnicity										
Malay	838	219708	52.3	47.06	57.55	676	190245	45.3	39.85	50.88
Chinese	514	122096	87.5	83.48	90.65	60	14439	10.3	8.18	13.00
Indian	175	42709	61.5	52.39	69.80	89	22287	32.1	25.49	39.46
Bumiputera Sabah	8	2278	71.8	27.13	94.58	2	693	21.9	5.08	59.44
Bumiputera Sarawak	9	1985	63.1	30.82	86.82	4	1159	36.9	13.18	69.18
Others	29	8542	61.5	42.33	77.61	11	3596	25.9	10.16	51.88
School level										
Primary school	554	160144	61.8	42.85	77.80	246	91977	35.5	19.51	55.59
Secondary school	1019	237173	60.8	54.70	66.56	596	140442	36.0	30.42	41.98
Class										
Standard 4	193	51429	58.8	38.81	76.31	101	32838	37.6	20.91	57.80
Standard 5	229	55260	63.8	46.73	77.99	98	30023	34.7	20.14	52.75
Standard 6	132	53455	62.9	37.69	82.67	47	29116	34.3	15.00	60.67
Form 1	246	56215	67.2	55.19	77.26	110	25432	30.4	20.51	42.49
Form 2	230	49864	63.8	52.20	74.03	118	26792	34.3	24.32	45.88
Form 3	224	43823	56.0	48.31	63.50	159	31944	40.9	33.44	48.71
Form 4	216	41081	55.3	47.34	63.07	151	29469	39.7	33.79	45.92
Form 5	103	46190	60.8	52.21	68.83	58	26805	35.3	26.84	44.80
School session										
Morning session	902	231635	60.5	49.34	70.69	492	138853	36.3	26.22	47.70
Evening session	395	87177	66.3	56.84	74.63	181	40785	31.0	22.98	40.40
Morning and evening session	272	77540	58.2	52.32	63.83	166	52132	39.1	32.73	45.90
BMI-for-age status (BAZ)										
Thinness (<-2sd)	117	28911	66.9	54.78	77.16	46	13185	30.5	19.45	44.41
Normal (≥-2sd - ≤+1sd)	993	250919	64.1	56.30	71.15	493	131361	33.5	26.75	41.08
Overweight (>+1sd - ≤+2sd)	246	61616	57.6	47.00	67.51	140	41787	39.0	28.65	50.55
Obese (>+2sd)	214	55153	51.8	42.04	61.40	163	46088	43.3	33.30	53.84
Height-for-age status (HAZ)										
Stunting (<-2sd)	98	24063	60.4	49.59	70.28	54	15108	37.9	28.12	48.83
Normal (≥-2sd)	1474	373061	61.2	52.76	69.11	788	217311	35.7	27.73	44.50

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	
Selangor	75	19377	3.0	2.10	4.23
Locality of school					
Urban	43	11505	2.6	1.57	4.23
Rural	32	7872	3.8	2.81	5.24
Sex					
Boys	27	6796	2.1	1.48	2.94
Girls	48	12581	3.9	2.47	6.06
Ethnicity					
Malay	39	9921	2.4	1.45	3.84
Chinese	11	3006	2.2	0.99	4.61
Indian	18	4492	6.5	3.30	12.28
Bumiputera Sabah	1	200	6.3	0.97	31.69
Bumiputera Sarawak					
Others	6	1759	12.7	4.45	31.10
School level					
Primary school	25	6819	2.6	1.31	5.21
Secondary school	50	12558	3.2	2.26	4.56
Class					
Standard 4	13	3146	3.6	1.45	8.64
Standard 5	6	1320	1.5	0.49	4.66
Standard 6	6	2353	2.8	1.33	5.66
Form 1	9	2046	2.4	1.21	4.88
Form 2	6	1467	1.9	0.85	4.11
Form 3	11	2424	3.1	1.78	5.34
Form 4	18	3682	5.0	2.70	8.93
Form 5	6	2939	3.9	2.16	6.83
School session					
Morning session	47	12277	3.2	2.11	4.84
Evening session	15	3503	2.7	1.75	4.03
Morning and evening session	13	3597	2.7	1.13	6.30
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	1106	2.6	0.64	9.65
Normal (≥-2sd - ≤+1sd)	40	9413	2.4	1.51	3.79
Overweight (>+1sd - ≤+2sd)	12	3607	3.4	1.59	7.00
Obese (>+2sd)	19	5251	4.9	3.08	7.80
Height-for-age status (HAZ)					
Stunting (<-2sd)	3	667	1.7	0.54	5.04
Normal (≥-2sd)	72	18710	3.1	2.15	4.38

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
Selangor	1850	488988	78.3	69.48	85.05	285	76943	12.3	10.04	15.01
Locality of school										
Urban	1178	331624	77.1	65.09	85.84	209	58806	13.7	11.05	16.79
Rural	672	157364	80.9	69.05	88.90	76	18137	9.3	6.71	12.80
Sex										
Boys	919	229612	72.8	57.74	83.98	167	43107	13.7	10.31	17.89
Girls	931	259376	83.8	78.83	87.82	118	33836	10.9	8.74	13.59
Ethnicity										
Malay	1124	311587	76.5	62.73	86.26	150	44245	10.9	7.99	14.60
Chinese	444	106449	78.8	76.31	81.02	104	23952	17.7	15.99	19.59
Indian	231	56062	87.3	83.18	90.52	24	6748	10.5	6.96	15.55
Bumiputera Sabah	8	2145	72.2	25.98	95.04	1	666	22.4	2.78	74.51
Bumiputera Sarawak	10	2531	80.5	67.36	89.23	3	612	19.5	10.77	32.64
Others	33	10214	85.4	73.75	92.45	3	720	6.0	1.49	21.34
School level										
Primary school	652	204793	81.9	78.46	84.91	111	35715	14.3	11.87	17.09
Secondary school	1198	284195	75.8	61.25	86.15	174	41228	11.0	8.05	14.85
Class										
Standard 4	241	68755	82.4	76.36	87.09	36	10613	12.7	8.50	18.58
Standard 5	268	70404	83.2	78.55	86.92	46	11470	13.5	10.04	18.04
Standard 6	143	65634	80.2	76.64	83.29	29	13632	16.7	13.35	20.57
Form 1	275	62237	77.1	66.02	85.39	44	10119	12.5	8.86	17.45
Form 2	263	58577	76.6	63.36	86.10	31	6554	8.6	4.82	14.79
Form 3	255	51965	69.1	46.86	85.02	50	9932	13.2	7.94	21.16
Form 4	285	55790	79.8	61.99	90.53	31	5946	8.5	6.03	11.86
Form 5	120	55626	76.7	53.52	90.37	18	8678	12.0	7.14	19.35
School session										
Morning session	1112	295098	80.4	74.48	85.23	181	49093	13.4	10.93	16.26
Evening session	476	105827	83.3	79.11	86.81	64	14010	11.0	7.45	16.03
Morning and evening session	256	86688	67.1	34.88	88.59	40	13840	10.7	6.62	16.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	127	32423	77.3	66.89	85.19	19	6032	14.4	7.05	27.13
Normal (≥-2sd - ≤+1sd)	1147	300496	79.0	68.84	86.47	174	43945	11.6	9.16	14.46
Overweight (>+1sd - ≤+2sd)	296	79847	78.0	69.07	84.96	37	11108	10.9	7.61	15.25
Obese (>+2sd)	277	75503	75.9	67.46	82.76	55	15858	15.9	12.10	20.74
Height-for-age status (HAZ)										
Stunting (<-2sd)	111	28533	73.1	55.52	85.59	18	5659	14.5	7.60	25.92
Normal (≥-2sd)	1738	460262	78.6	70.21	85.11	267	71284	12.2	10.08	14.63

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	
Selangor	190	41253	6.6	1.61	23.37	70	17686	2.8	2.23	3.58
Locality of school										
Urban	142	27945	6.5	0.96	33.24	44	11894	2.8	2.03	3.76
Rural	48	13308	6.8	1.15	31.58	26	5792	3.0	2.10	4.21
Sex										
Boys	158	32181	10.2	2.01	38.68	43	10523	3.3	2.38	4.66
Girls	32	9071	2.9	0.52	14.88	27	7163	2.3	1.52	3.50
Ethnicity										
Malay	184	40055	9.8	2.30	33.54	46	11535	2.8	2.26	3.55
Chinese	3	612	0.5	0.14	1.48	18	4144	3.1	1.64	5.68
Indian	1	248	0.4	0.04	3.52	4	1163	1.8	0.60	5.35
Bumiputera Sabah	1	161	5.4	0.56	36.66					
Bumiputera Sarawak										
Others	1	177	1.5	0.17	11.94	2	845	7.1	2.35	19.36
School level										
Primary school	5	1677	0.7	0.39	1.15	24	7835	3.1	2.19	4.47
Secondary school	185	39576	10.6	2.52	35.00	46	9851	2.6	1.97	3.49
Class										
Standard 4	2	380	0.5	0.05	3.85	12	3738	4.5	3.30	6.05
Standard 5	2	473	0.6	0.14	2.13	8	2324	2.7	1.58	4.73
Standard 6	1	825	1.0	0.32	3.17	4	1773	2.2	1.15	4.05
Form 1	21	5675	7.0	1.51	27.14	12	2678	3.3	1.96	5.57
Form 2	41	8975	11.7	3.55	32.46	12	2369	3.1	1.79	5.31
Form 3	69	12224	16.3	3.46	51.26	6	1071	1.4	0.52	3.82
Form 4	34	5509	7.9	1.05	40.87	14	2676	3.8	2.44	5.95
Form 5	20	7193	9.9	1.06	53.00	2	1058	1.5	0.38	5.43
School session										
Morning session	51	13662	3.7	0.73	16.80	36	9168	2.5	1.60	3.89
Evening session	13	2740	2.2	0.88	5.18	19	4449	3.5	2.10	5.80
Morning and evening session	126	24851	19.2	2.58	68.17	14	3829	3.0	2.00	4.38
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	1449	3.5	1.09	10.43	9	2032	4.8	2.27	10.05
Normal (≥-2sd - ≤+1sd)	127	27475	7.2	1.67	26.29	31	8535	2.2	1.41	3.55
Overweight (>+1sd - ≤+2sd)	31	7248	7.1	2.26	20.08	17	4128	4.0	2.43	6.62
Obese (>+2sd)	25	5082	5.1	0.93	23.62	13	2991	3.0	1.78	5.05
Height-for-age status (HAZ)										
Stunting (<-2sd)	17	3838	9.8	1.60	42.20	5	982	2.5	0.86	7.15
Normal (≥-2sd)	173	37415	6.4	1.59	22.34	65	16704	2.9	2.23	3.65

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
Selangor	94	24996	11.2	9.01	13.94	368	103983	46.8	41.83	51.78
Locality of school										
Urban	51	14815	10.1	7.70	13.19	213	67256	45.9	38.86	53.16
Rural	43	10181	13.4	9.58	18.49	155	36726	48.4	42.95	53.90
Sex										
Boys	54	13946	13.8	10.82	17.45	181	47888	47.4	41.41	53.50
Girls	40	11049	9.1	6.83	12.04	187	56095	46.2	40.44	52.14
Ethnicity										
Malay	79	21539	12.0	9.46	15.14	305	86778	48.4	43.08	53.73
Chinese	5	1049	7.3	3.80	13.70	25	6246	43.7	30.71	57.60
Indian	8	1641	7.6	3.91	14.16	28	7679	35.4	22.98	50.21
Bumiputera Sabah						1	503	56.3	22.60	85.02
Bumiputera Sarawak	1	530	54.7	7.96	94.41	1	191	19.7	1.64	78.29
Others	1	237	4.6	0.44	34.44	8	2586	50.4	32.25	68.38
School level										
Primary school	37	12149	14.0	10.42	18.52	120	45099	51.9	47.30	56.51
Secondary school	57	12847	9.5	6.97	12.77	248	58884	43.5	38.36	48.72
Class										
Standard 4	20	5699	17.8	11.35	26.83	50	16811	52.5	41.35	63.45
Standard 5	13	4131	15.7	11.23	21.56	47	14153	53.8	40.10	67.04
Standard 6	4	2318	8.1	5.98	10.92	23	14135	49.5	46.47	52.48
Form 1	18	4314	18.5	9.90	31.86	43	9951	42.6	33.71	52.06
Form 2	10	2142	8.8	4.75	15.59	52	11884	48.6	39.42	57.86
Form 3	14	2858	9.4	5.18	16.34	62	12158	39.8	31.87	48.36
Form 4	12	2266	7.9	4.15	14.38	65	12962	44.9	32.94	57.57
Form 5	3	1267	4.5	1.77	10.89	26	11929	42.2	26.73	59.30
School session										
Morning session	53	14738	11.1	8.09	14.99	210	58472	44.0	39.30	48.71
Evening session	26	5808	15.6	8.52	26.78	72	16405	44.0	38.02	50.18
Morning and evening session	15	4449	8.7	5.18	14.14	85	28886	56.2	46.75	65.31
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	1123	8.8	2.67	25.12	27	8446	65.9	42.80	83.31
Normal (≥-2sd - ≤+1sd)	56	13678	11.2	8.15	15.09	225	62076	50.6	43.45	57.80
Overweight (>+1sd - ≤+2sd)	7	1577	3.9	1.21	12.07	58	18264	45.7	35.14	56.63
Obese (>+2sd)	26	8618	18.4	11.10	28.85	58	15198	32.4	24.87	40.94
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	1117	8.4	2.84	22.20	27	7520	56.4	39.12	72.19
Normal (≥-2sd)	89	23879	11.4	9.18	14.14	341	96463	46.2	41.64	50.74

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	
Selangor	86	24722	11.1	8.68	14.14	181	49154	22.1	16.68	28.70
Locality of school										
Urban	49	15639	10.7	7.72	14.60	122	35867	24.5	16.79	34.28
Rural	37	9083	12.0	7.90	17.73	59	13287	17.5	11.89	25.04
Sex										
Boys	47	11671	11.6	9.37	14.17	70	17211	17.0	11.88	23.83
Girls	39	13051	10.8	7.11	15.96	111	31944	26.3	19.65	34.32
Ethnicity										
Malay	64	19599	10.9	8.22	14.39	140	37875	21.1	16.23	27.01
Chinese	8	2110	14.8	8.15	25.27	5	1172	8.2	3.32	18.84
Indian	11	2071	9.6	4.92	17.74	32	9046	41.7	25.87	59.52
Bumiputera Sabah	1	191	21.4	1.29	84.99	1	200	22.4	11.11	39.91
Bumiputera Sarawak						1	247	25.6	2.20	83.97
Others	2	750	14.6	6.21	30.67	2	614	12.0	1.99	47.63
School level										
Primary school	24	10365	11.9	8.63	16.28	32	12303	14.2	13.33	15.04
Secondary school	62	14357	10.6	7.57	14.65	149	36852	27.2	20.58	35.02
Class										
Standard 4	6	2238	7.0	4.35	11.06	13	4032	12.6	9.09	17.20
Standard 5	8	2340	8.9	6.22	12.58	12	3308	12.6	9.93	15.83
Standard 6	10	5787	20.3	17.22	23.67	7	4963	17.4	12.97	22.87
Form 1	10	2314	9.9	6.24	15.39	18	3946	16.9	8.87	29.82
Form 2	17	3966	16.2	8.51	28.69	23	4915	20.1	11.56	32.62
Form 3	13	2727	8.9	5.14	15.09	46	9484	31.1	20.23	44.47
Form 4	18	3427	11.9	7.85	17.60	39	7741	26.8	19.50	35.72
Form 5	4	1923	6.8	1.63	24.26	23	10765	38.1	25.27	52.73
School session										
Morning session	46	13966	10.5	7.27	14.92	119	33559	25.2	18.56	33.31
Evening session	18	3920	10.5	7.99	13.73	37	8127	21.8	14.75	31.00
Morning and evening session	22	6836	13.3	9.76	17.91	23	7039	13.7	8.49	21.38
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	1675	13.1	5.23	29.04	3	955	7.5	1.85	25.60
Normal (≥-2sd - ≤+1sd)	48	13761	11.2	7.56	16.35	92	23666	19.3	13.66	26.56
Overweight (>+1sd - ≤+2sd)	18	5074	12.7	8.64	18.26	38	10946	27.4	18.77	38.09
Obese (>+2sd)	12	4212	9.0	5.51	14.30	48	13587	29.0	22.33	36.61
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	1020	7.6	2.95	18.37	9	2728	20.4	10.19	36.79
Normal (≥-2sd)	81	23702	11.3	8.80	14.50	172	46426	22.2	16.89	28.64

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
Selangor	11	2598	1.2	0.72	1.90	64	16864	7.6	5.70	10.03
Locality of school										
Urban	6	1546	1.1	0.54	2.04	42	11319	7.7	5.45	10.86
Rural	5	1051	1.4	0.70	2.74	22	5545	7.3	4.36	12.01
Sex										
Boys	9	2143	2.1	1.14	3.93	31	8136	8.1	5.87	10.97
Girls	2	455	0.4	0.09	1.49	33	8729	7.2	4.34	11.70
Ethnicity										
Malay	4	858	0.5	0.14	1.60	48	12698	7.1	5.18	9.60
Chinese	3	610	4.3	1.25	13.57	11	3107	21.7	12.83	34.38
Indian	3	600	2.8	1.05	7.06	3	641	3.0	1.05	8.02
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	530	10.3	2.51	33.95	2	418	8.1	1.35	36.45
School level										
Primary school	4	1215	1.4	0.87	2.25	18	5729	6.6	3.67	11.57
Secondary school	7	1382	1.0	0.46	2.26	46	11135	8.2	6.56	10.26
Class										
Standard 4	2	495	1.5	0.51	4.57	9	2730	8.5	4.22	16.47
Standard 5	2	721	2.7	1.11	6.61	6	1630	6.2	2.48	14.69
Standard 6						3	1369	4.8	2.84	7.97
Form 1	2	480	2.1	0.30	12.61	10	2338	10.0	5.58	17.34
Form 2						6	1552	6.3	3.04	12.77
Form 3	3	510	1.7	0.56	4.88	14	2790	9.1	5.56	14.67
Form 4	2	393	1.4	0.39	4.68	11	2049	7.1	3.26	14.78
Form 5						5	2407	8.5	4.87	14.45
School session										
Morning session	7	1623	1.2	0.70	2.13	38	10680	8.0	6.38	10.06
Evening session	1	240	0.6	0.09	4.66	12	2774	7.4	3.91	13.69
Morning and evening session	3	735	1.4	0.38	5.17	14	3411	6.6	3.27	13.01
BMI-for-age status (BAZ)										
Thinness (<-2sd)						3	618	4.8	1.35	15.74
Normal (≥-2sd - ≤+1sd)	6	1243	1.0	0.33	3.09	33	8174	6.7	3.90	11.17
Overweight (>+1sd - ≤+2sd)	1	530	1.3	0.25	6.73	11	3587	9.0	5.63	14.00
Obese (>+2sd)	4	825	1.8	0.56	5.36	17	4486	9.6	5.97	14.96
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	193	1.4	0.17	10.98	2	764	5.7	1.21	23.20
Normal (≥-2sd)	10	2405	1.2	0.69	1.92	62	16101	7.7	5.80	10.17

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	
Selangor	1620	420803	64.5	59.73	69.08	796	210461	32.3	28.01	36.87
Locality of school										
Urban	1053	286343	64.2	57.69	70.24	1053	286343	64.2	57.69	70.24
Rural	567	134460	65.3	59.41	70.70	567	134460	65.3	59.41	70.70
Sex										
Boys	834	206039	62.8	55.21	69.85	443	108139	33.0	26.85	39.73
Girls	786	214764	66.3	63.04	69.37	353	102321	31.6	28.30	35.05
Ethnicity										
Malay	961	259607	61.7	56.27	66.77	555	152011	36.1	31.84	40.60
Chinese	427	101839	72.5	63.19	80.27	137	32699	23.3	16.88	31.23
Indian	189	46411	66.0	61.35	70.29	80	19291	27.4	24.00	31.12
Bumiputera Sabah	9	2460	77.6	38.20	95.10	2	711	22.4	4.90	61.80
Bumiputera Sarawak	9	1985	63.1	30.82	86.82	3	968	30.8	9.51	65.33
Others	25	8502	61.2	47.09	73.62	19	4781	34.4	23.29	47.53
School level										
Primary school	578	176011	67.6	58.42	75.61	224	77315	29.7	20.85	40.38
Secondary school	1042	244792	62.5	56.95	67.75	572	133146	34.0	30.10	38.13
Class										
Standard 4	223	61791	70.0	58.12	79.63	76	23643	26.8	17.13	39.26
Standard 5	229	56751	65.4	55.31	74.23	96	28038	32.3	22.37	44.13
Standard 6	126	57469	67.4	57.10	76.32	52	25634	30.1	21.67	40.09
Form 1	242	55124	65.3	55.18	74.28	118	27438	32.5	24.21	42.11
Form 2	232	51593	66.0	60.54	71.14	111	24118	30.9	26.28	35.88
Form 3	241	48911	62.1	49.80	73.00	139	26827	34.1	25.34	44.01
Form 4	229	44216	59.4	49.31	68.76	145	27910	37.5	29.04	46.79
Form 5	98	44948	59.2	51.68	66.30	59	26853	35.4	30.42	40.64
School session										
Morning session	957	251507	65.4	59.83	70.61	441	119932	31.2	26.25	36.61
Evening session	398	88568	66.9	60.48	72.80	184	40980	31.0	25.32	37.25
Morning and evening session	259	79396	59.4	46.03	71.58	170	49266	36.9	27.73	47.10
BMI-for-age status (BAZ)										
Thinness (<-2sd)	116	29149	66.8	59.29	73.60	47	13231	30.3	22.87	39.01
Normal (≥-2sd - ≤+1sd)	1017	260722	66.3	61.10	71.16	464	120137	30.6	26.25	35.23
Overweight (>+1sd - ≤+2sd)	257	69427	64.8	57.64	71.27	130	34805	32.5	26.78	38.71
Obese (>+2sd)	229	61266	57.1	51.78	62.29	154	42002	39.2	33.25	45.41
Height-for-age status (HAZ)										
Stunting (<-2sd)	109	28214	70.8	56.94	81.67	36	9141	22.9	15.29	32.94
Normal (≥-2sd)	1511	392589	64.2	59.42	68.63	760	201320	32.9	28.50	37.62

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	
Selangor	87	20712	3.2	1.91	5.23
Locality of school					
Urban	56	13353	3.0	1.43	6.17
Rural	31	7359	3.6	2.38	5.34
Sex					
Boys	61	13776	4.2	2.30	7.54
Girls	26	6936	2.1	1.15	3.94
Ethnicity					
Malay	42	9415	2.2	0.98	5.02
Chinese	25	5835	4.2	2.21	7.69
Indian	17	4658	6.6	3.92	10.97
Bumiputera Sabah					
Bumiputera Sarawak	1	191	6.1	0.95	30.37
Others	2	614	4.4	0.79	21.27
School level					
Primary school	29	7026	2.7	1.01	7.04
Secondary school	58	13687	3.5	2.05	5.90
Class					
Standard 4	12	2891	3.3	1.62	6.51
Standard 5	9	2017	2.3	0.69	7.55
Standard 6	8	2117	2.5	0.35	15.67
Form 1	8	1798	2.1	0.58	7.49
Form 2	11	2413	3.1	1.69	5.57
Form 3	17	3037	3.9	1.63	8.82
Form 4	12	2307	3.1	1.74	5.47
Form 5					
School session					
Morning session	51	13025	3.4	2.05	5.56
Evening session	13	2784	2.1	0.87	4.99
Morning and evening session	23	4904	3.7	0.95	13.21
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	1234	2.8	1.05	7.42
Normal (≥-2sd - ≤+1sd)	51	12312	3.1	1.90	5.11
Overweight (>+1sd - ≤+2sd)	12	2980	2.8	1.11	6.79
Obese (>+2sd)	17	3992	3.7	1.70	7.95
Height-for-age status (HAZ)					
Stunting (<-2sd)	10	2483	6.2	1.88	18.77
Normal (≥-2sd)	76	18036	2.9	1.83	4.71

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	
Selangor	439	117854	18.8	13.78	25.09	1826	476440	75.9	69.82	81.15
Locality of school										
Urban	284	79598	18.5	12.69	26.17	1189	327388	76.1	68.78	82.15
Rural	155	38256	19.4	11.00	31.93	637	149052	75.6	63.55	84.62
Sex										
Boys	222	57603	18.4	12.97	25.37	956	234835	74.9	68.54	80.37
Girls	217	60251	19.2	14.14	25.52	870	241605	77.0	70.44	82.41
Ethnicity										
Malay	196	61416	15.0	9.90	22.09	1227	327062	79.9	73.73	84.91
Chinese	180	41570	31.2	21.83	42.34	338	82316	61.7	50.44	71.86
Indian	53	11784	18.1	13.42	23.86	204	50739	77.8	70.78	83.49
Bumiputera Sabah	1	216	6.8	0.82	39.34	10	2955	93.2	60.66	99.18
Bumiputera Sarawak	1	191	6.5	0.89	34.72	11	2762	93.5	65.28	99.11
Others	8	2676	20.1	10.94	34.14	36	10607	79.9	65.86	89.06
School level										
Primary school	270	77965	30.9	23.28	39.77	496	164562	65.3	55.23	74.12
Secondary school	169	39889	10.6	8.32	13.49	1330	311879	83.1	78.77	86.71
Class										
Standard 4	111	28617	33.8	23.79	45.44	173	52206	61.6	50.81	71.37
Standard 5	101	24882	29.4	23.31	36.41	214	57476	68.0	59.55	75.39
Standard 6	58	24466	29.5	20.22	40.94	109	54879	66.2	52.25	77.88
Form 1	52	11790	14.4	10.36	19.57	277	63541	77.4	71.05	82.72
Form 2	31	6792	9.0	6.32	12.66	283	63107	83.6	75.78	89.30
Form 3	39	7802	10.3	6.21	16.71	323	64670	85.7	80.54	89.60
Form 4	32	6225	8.7	5.29	14.02	317	61202	85.7	78.79	90.59
Form 5	15	7280	10.3	6.91	15.04	130	59359	83.9	77.31	88.78
School session										
Morning session	270	71549	19.4	13.45	27.19	1067	284069	77.1	69.07	83.51
Evening session	77	16885	13.1	10.41	16.37	466	103966	80.7	75.66	84.91
Morning and evening session	92	29420	22.9	14.95	33.44	286	86791	67.6	61.80	72.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	32	8970	21.2	13.26	32.03	124	31618	74.6	65.85	81.74
Normal (≥-2sd - ≤+1sd)	250	64941	17.1	11.91	23.98	1139	293057	77.2	70.31	82.92
Overweight (>+1sd - ≤+2sd)	92	24864	24.4	17.83	32.39	261	71002	69.6	60.93	77.11
Obese (>+2sd)	64	18840	18.3	12.91	25.25	302	80763	78.4	72.24	83.48
Height-for-age status (HAZ)										
Stunting (<-2sd)	24	6551	17.5	10.71	27.38	113	29317	78.5	69.69	85.26
Normal (≥-2sd)	415	111303	18.9	13.80	25.25	1713	447123	75.8	69.62	81.03

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
Selangor	59	15077	2.4	1.49	3.86	48	9779	1.6	0.37	6.26
Locality of school										
Urban	42	10724	2.5	1.36	4.52	41	8011	1.9	0.33	9.90
Rural	17	4353	2.2	1.02	4.69	7	1768	0.9	0.28	2.80
Sex										
Boys	37	8335	2.7	1.45	4.83	42	8361	2.7	0.55	11.93
Girls	22	6741	2.1	1.13	4.03	6	1419	0.5	0.10	2.00
Ethnicity										
Malay	18	5437	1.3	0.67	2.62	45	9085	2.2	0.47	9.75
Chinese	32	7329	5.5	3.03	9.78	3	695	0.5	0.23	1.17
Indian	9	2311	3.5	1.93	6.40					
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
School level										
Primary school	16	4633	1.8	0.84	3.99	3	787	0.3	0.10	1.02
Secondary school	43	10444	2.8	1.60	4.80	45	8992	2.4	0.53	10.12
Class										
Standard 4	3	794	0.9	0.24	3.52	2	540	0.6	0.17	2.43
Standard 5	214	57476	68.0	59.55	75.39	6	1153	1.4	0.33	5.39
Standard 6	7	2685	3.2	1.56	6.63	1	247	0.3	0.03	2.94
Form 1	19	4480	5.5	3.07	9.53	5	1133	1.4	0.41	4.52
Form 2	9	1897	2.5	1.36	4.61	16	2802	3.7	0.76	16.28
Form 3	3	592	0.8	0.17	3.50	12	2101	2.8	0.60	11.99
Form 4	8	1527	2.1	0.66	6.70	7	1158	1.6	0.28	8.67
Form 5	4	1949	2.8	0.56	12.39	5	1798	2.5	0.29	18.79
School session										
Morning session	27	7092	1.9	1.00	3.68	10	2142	0.6	0.17	1.99
Evening session	22	5030	3.9	2.29	6.59	7	1408	1.1	0.20	5.74
Morning and evening session	10	2954	2.3	1.37	3.85	31	6229	4.9	0.78	24.92
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	1091	2.6	0.80	8.00	2	465	1.1	0.26	4.54
Normal (≥-2sd - ≤+1sd)	40	10664	2.8	1.75	4.48	28	5755	1.5	0.31	7.08
Overweight (>+1sd - ≤+2sd)	10	2328	2.3	1.04	4.96	11	2310	2.3	0.62	7.88
Obese (>+2sd)	5	994	1.0	0.31	2.98	6	964	0.9	0.11	7.74
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	762	2.0	0.68	5.99	3	493	1.3	0.16	10.24
Normal (≥-2sd)	55	14315	2.4	1.48	3.95	45	9286	1.6	0.39	6.13

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
Selangor	30	8239	1.3	0.92	1.87
Locality of school					
Urban	15	4490	1.0	0.61	1.79
Rural	15	3749	1.9	1.29	2.79
Sex					
Boys	17	4341	1.4	0.83	2.31
Girls	13	3899	1.2	0.70	2.20
Ethnicity					
Malay	23	6373	1.6	1.16	2.09
Chinese	6	1463	1.1	0.35	3.36
Indian	1	403	0.6	0.10	3.79
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	12	4178	1.7	1.10	2.48
Secondary school	18	4062	1.1	0.66	1.77
Class					
Standard 4	7	2587	3.1	1.40	6.51
Standard 5	3	1030	1.2	0.61	2.43
Standard 6	2	561	0.7	0.13	3.58
Form 1	5	1138	1.4	0.64	2.97
Form 2	3	859	1.1	0.25	5.07
Form 3	2	335	0.4	0.10	1.86
Form 4	7	1326	1.9	0.80	4.24
Form 5	1	403	0.6	0.07	4.65
School session					
Morning session	14	3695	1.0	0.59	1.69
Evening session	7	1531	1.2	0.55	2.56
Morning and evening session	9	3013	2.3	1.42	3.85
BMI-for-age status (BAZ)					
Thinness (<-2sd)	1	235	0.6	0.07	4.39
Normal (≥-2sd - ≤+1sd)	18	5052	1.3	0.84	2.09
Overweight (>+1sd - ≤+2sd)	6	1478	1.4	0.63	3.30
Obese (>+2sd)	5	1473	1.4	0.71	2.85
Height-for-age status (HAZ)					
Stunting (<-2sd)	1	231	0.6	0.08	4.77
Normal (≥-2sd)	29	8008	1.4	0.93	1.97

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	
Selangor	608	153438	23.6	21.09	26.26	1404	368833	56.7	52.16	61.07
Locality of school										
Urban	370	97241	21.8	18.99	24.92	905	251034	56.3	50.11	62.31
Rural	238	56197	27.4	25.26	29.68	499	117800	57.5	52.21	62.56
Sex										
Boys	338	80361	24.5	20.64	28.90	740	182940	55.9	51.93	59.71
Girls	270	73077	22.6	20.31	25.08	664	185894	57.5	51.52	63.27
Ethnicity										
Malay	379	99643	23.7	20.42	27.36	911	248817	59.2	54.10	64.14
Chinese	129	29176	20.8	17.88	24.02	292	69454	49.5	45.22	53.74
Indian	78	19151	27.3	21.30	34.32	166	40161	57.3	50.32	64.02
Bumiputera Sabah	7	1858	58.6	25.95	85.10	7	1858	58.6	25.95	85.10
Bumiputera Sarawak	4	861	27.4	7.20	64.73	8	1967	62.6	26.06	88.81
Others	14	3294	23.7	10.12	46.15	20	6576	47.3	24.88	70.89
School level										
Primary school	210	62550	24.1	20.60	27.96	479	153987	59.3	51.04	67.08
Secondary school	398	90888	23.2	19.83	27.03	925	214846	54.9	51.00	58.78
Class										
Standard 4	88	25381	28.9	25.21	32.89	173	49652	56.5	47.56	65.10
Standard 5	88	21582	24.9	19.99	30.61	205	55346	63.9	56.53	70.69
Standard 6	34	15587	18.3	16.47	20.26	101	48989	57.5	46.36	67.90
Form 1	107	24658	29.2	25.11	33.72	199	45462	53.9	48.00	59.67
Form 2	83	17960	23.0	18.83	27.75	209	46064	59.0	53.10	64.58
Form 3	96	19097	24.4	18.22	31.82	208	41250	52.7	48.01	57.28
Form 4	84	16459	22.1	17.64	27.34	221	42502	57.1	50.59	63.38
Form 5	28	12714	16.7	11.94	22.97	88	39569	52.1	42.41	61.66
School session										
Morning session	338	85055	22.2	19.21	25.46	799	211157	55.1	49.98	60.03
Evening session	155	34042	25.7	21.90	29.96	339	75313	56.9	50.18	63.40
Morning and evening session	114	34128	25.6	20.28	31.74	261	81191	60.9	54.72	66.71
BMI-for-age status (BAZ)										
Thinness (<-2sd)	54	14113	32.4	25.45	40.14	92	23036	52.8	44.54	60.94
Normal (≥-2sd - ≤+1sd)	382	94733	24.1	21.43	27.04	865	224039	57.1	52.59	61.40
Overweight (>+1sd - ≤+2sd)	91	23658	22.1	17.92	26.86	225	61623	57.5	49.33	65.24
Obese (>+2sd)	80	20648	19.4	15.82	23.50	220	59703	56.0	49.25	62.56
Height-for-age status (HAZ)										
Stunting (<-2sd)	39	10188	25.6	19.83	32.31	86	21535	54.1	47.31	60.66
Normal (≥-2sd)	569	143250	23.5	20.97	26.14	1317	347105	56.8	52.25	61.29

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	Estimated Population	Prevalence (%)	Did not take afternoon tea	
				Lower	Upper
Selangor	486	128546	19.8	15.70	24.54
Locality of school					
Urban	359	97543	21.9	16.58	28.30
Rural	127	31003	15.1	10.46	21.37
Sex					
Boys	258	64211	19.6	15.88	23.96
Girls	228	64335	19.9	14.83	26.18
Ethnicity					
Malay	264	71697	17.1	12.76	22.45
Chinese	168	41742	29.7	24.66	35.37
Indian	41	10766	15.4	10.00	22.87
Bumiputera Sabah					
Bumiputera Sarawak	1	315	10.0	1.46	45.56
Others	12	4027	29.0	17.08	44.70
School level					
Primary school	139	43107	16.6	10.21	25.84
Secondary school	347	85439	21.8	18.03	26.20
Class					
Standard 4	48	12793	14.6	7.47	26.49
Standard 5	40	9670	11.2	7.41	16.49
Standard 6	51	20644	24.2	14.59	37.42
Form 1	62	14240	16.9	12.52	22.37
Form 2	62	14100	18.0	14.30	22.51
Form 3	91	17976	23.0	16.73	30.63
Form 4	81	15471	20.8	17.10	25.03
Form 5	51	23651	31.1	22.36	41.54
School session					
Morning session	308	87301	22.8	17.82	28.60
Evening session	101	22977	17.4	13.40	22.19
Morning and evening session	76	18038	13.5	7.23	23.89
BMI-for-age status (BAZ)					
Thinness (<-2sd)	23	6465	14.8	10.60	20.34
Normal (≥-2sd - ≤+1sd)	283	73909	18.8	14.82	23.60
Overweight (>+1sd - ≤+2sd)	83	21931	20.5	13.82	29.20
Obese (>+2sd)	97	26241	24.6	18.79	31.55
Height-for-age status (HAZ)					
Stunting (<-2sd)	30	8115	20.4	14.36	28.07
Normal (≥-2sd)	456	120431	19.7	15.68	24.49

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	
Selangor	1245	326189	63.3	57.06	69.13	324	86492	16.8	12.10	22.82
Locality of school										
Urban	774	216545	63.1	54.50	70.92	194	56385	16.4	10.59	24.59
Rural	471	109644	63.7	55.94	70.88	130	30107	17.5	10.66	27.39
Sex										
Boys	617	153540	59.2	49.20	68.57	195	47664	18.4	14.30	23.34
Girls	628	172649	67.4	62.83	71.69	129	38828	15.2	9.57	23.17
Ethnicity										
Malay	803	215894	62.7	53.47	71.02	228	65210	18.9	13.36	26.11
Chinese	224	53856	55.9	51.21	60.56	42	9594	10.0	5.96	16.20
Indian	176	44129	74.9	60.89	85.12	47	9877	16.8	6.99	35.06
Bumiputera Sabah	8	2620	82.6	59.04	94.00	1	161	5.1	0.52	35.21
Bumiputera Sarawak	8	1945	68.8	47.00	84.54	1	254	9.0	1.07	47.54
Others	26	7746	81.4	70.18	89.05	5	1397	14.7	8.12	25.09
School level										
Primary school	428	135829	63.6	59.64	67.32	115	42633	20.0	12.31	30.67
Secondary school	817	190361	63.1	52.70	72.45	209	43859	14.5	10.58	19.67
Class										
Standard 4	164	47555	63.7	57.66	69.41	46	14538	19.5	13.88	26.66
Standard 5	178	47835	62.9	57.81	67.80	47	14195	18.7	10.32	31.42
Standard 6	86	40439	64.1	56.62	70.96	22	13900	22.0	11.80	37.38
Form 1	166	37921	55.2	43.92	65.90	85	18997	27.6	16.95	41.68
Form 2	157	34437	54.2	42.67	65.22	67	14476	22.8	14.45	33.97
Form 3	201	40362	68.0	49.63	82.04	24	4216	7.1	2.79	16.90
Form 4	218	42641	73.6	58.63	84.53	32	5810	10.0	4.08	22.60
Form 5	75	34999	67.5	43.21	84.96	1	360	0.7	0.09	5.21
School session										
Morning session	764	198560	68.1	61.09	74.38	104	29674	10.2	5.58	17.85
Evening session	282	62297	57.7	50.91	64.25	139	30863	28.6	22.99	34.95
Morning and evening session	197	64920	56.8	38.13	73.65	79	25495	22.3	14.24	33.12
BMI-for-age status (BAZ)										
Thinness (<-2sd)	98	25716	69.6	62.02	76.25	23	5222	14.1	7.89	24.03
Normal (≥-2sd - ≤+1sd)	762	195696	62.2	55.09	68.80	195	49974	15.9	11.24	21.96
Overweight (>+1sd - ≤+2sd)	189	51305	61.0	51.98	69.32	58	17042	20.3	13.24	29.73
Obese (>+2sd)	195	53232	67.4	61.59	72.68	48	14254	18.0	12.09	26.05
Height-for-age status (HAZ)										
Stunting (<-2sd)	86	21729	69.7	56.54	80.20	17	3671	11.8	6.24	21.10
Normal (≥-2sd)	1159	304461	62.9	56.79	68.61	307	82821	17.1	12.15	23.54

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	
Selangor	210	52756	10.2	7.30	14.18	103	25192	4.9	1.39	15.78
Locality of school										
Urban	150	38640	11.3	7.14	17.31	58	12742	3.7	0.68	17.74
Rural	60	14116	8.2	5.67	11.74	45	12449	7.2	1.17	33.96
Sex										
Boys	118	28145	10.9	7.42	15.62	71	15968	6.2	1.47	22.47
Girls	92	24612	9.6	6.05	14.94	32	9223	3.6	0.82	14.48
Ethnicity										
Malay	107	29172	8.5	5.59	12.62	96	23742	6.9	1.80	23.05
Chinese	81	18486	19.2	15.38	23.71	6	1202	1.2	0.54	2.84
Indian	15	3705	6.3	3.07	12.43	1	248	0.4	0.04	3.87
Bumiputera Sabah	2	391	12.3	3.53	35.03					
Bumiputera Sarawak	3	629	22.2	7.66	49.65					
Others	2	374	3.9	0.70	19.23					
School level										
Primary school	69	17775	8.3	4.75	14.15	9	2244	1.0	0.55	1.99
Secondary school	141	34982	11.6	8.10	16.34	94	22948	7.6	2.03	24.69
Class										
Standard 4	21	5438	7.3	3.54	14.42	4	928	1.2	0.49	3.11
Standard 5	38	7618	10.0	4.18	22.14	5	1316	1.7	0.83	3.57
Standard 6	22	13900	22.0	11.80	37.38	10	4719	7.5	4.39	12.47
Form 1	26	5880	8.6	4.99	14.27	17	4589	6.7	1.25	28.80
Form 2	26	5790	9.1	7.24	11.40	33	7507	11.8	3.17	35.37
Form 3	35	7178	12.1	7.54	18.81	26	5352	9.0	2.19	30.46
Form 4	33	6426	11.1	7.46	16.17	5	825	1.4	0.26	7.38
Form 5	21	9708	18.7	8.77	35.53	13	4676	9.0	1.03	48.53
School session										
Morning session	142	36240	12.4	8.92	17.07	47	12055	4.1	0.75	19.78
Evening session	46	9992	9.3	6.53	12.96	8	1680	1.6	0.37	6.38
Morning and evening session	20	6012	5.3	2.50	10.71	48	11456	10.0	1.90	39.07
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	2472	6.7	3.32	13.03	4	953	2.6	0.66	9.53
Normal (≥-2sd - ≤+1sd)	138	35851	11.4	8.18	15.66	68	17126	5.4	1.50	17.82
Overweight (>+1sd - ≤+2sd)	30	7642	9.1	6.56	12.45	22	5052	6.0	1.94	17.07
Obese (>+2sd)	31	6791	8.6	4.32	16.39	9	2061	2.6	0.45	13.65
Height-for-age status (HAZ)										
Stunting (<-2sd)	9	2470	7.9	3.64	16.39	6	1812	5.8	1.60	18.98
Normal (≥-2sd)	201	50286	10.4	7.22	14.72	97	23380	4.8	1.31	16.26

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	Prevalence (%)	Other	
				Lower	Upper
Selangor	101	24633	4.8	2.83	7.96
Locality of school					
Urban	78	18932	5.5	2.98	9.99
Rural	23	5701	3.3	1.30	8.19
Sex					
Boys	61	13849	5.3	2.92	9.59
Girls	40	10784	4.2	2.47	7.10
Ethnicity					
Malay	40	10535	3.1	1.65	5.58
Chinese	58	13145	13.7	9.24	19.72
Indian	3	954	1.6	0.45	5.71
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	58	15214	7.1	3.31	14.65
Secondary school	43	9419	3.1	1.63	5.90
Class					
Standard 4	24	6156	8.2	4.03	16.15
Standard 5	22	5034	6.6	3.07	13.70
Standard 6	12	4025	6.4	2.21	17.06
Form 1	6	1360	2.0	0.87	4.46
Form 2	7	1378	2.2	1.23	3.79
Form 3	13	2281	3.8	1.27	11.03
Form 4	12	2262	3.9	1.82	8.17
Form 5	5	2137	4.1	1.33	12.02
School session					
Morning session	61	15036	5.2	2.64	9.83
Evening session	13	3095	2.9	1.84	4.45
Morning and evening session	27	6503	5.7	2.47	12.54
BMI-for-age status (BAZ)					
Thinness (<-2sd)	9	2586	7.0	3.47	13.63
Normal (≥-2sd - ≤+1sd)	68	16024	5.1	2.81	9.05
Overweight (>+1sd - ≤+2sd)	12	3067	3.6	1.73	7.54
Obese (>+2sd)	11	2671	3.4	1.78	6.31
Height-for-age status (HAZ)					
Stunting (<-2sd)	6	1511	4.8	1.24	17.17
Normal (≥-2sd)	95	23122	4.8	2.91	7.73

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	
Selangor	131	35104	5.4	4.23	6.85	1676	442183	67.9	62.56	72.76
Locality of school										
Urban	77	22638	5.1	3.57	7.17	1075	299965	67.3	59.83	73.97
Rural	54	12465	6.1	4.61	7.93	601	142218	69.1	63.43	74.30
Sex										
Boys	77	20523	6.3	4.84	8.08	920	229549	70.1	65.05	74.70
Girls	54	14580	4.5	3.33	6.05	756	212635	65.6	59.92	70.91
Ethnicity										
Malay	88	25225	6.0	4.57	7.82	1099	299616	71.2	65.76	76.09
Chinese	23	5028	3.6	1.69	7.45	333	80530	57.4	50.54	63.92
Indian	15	3665	5.2	2.72	9.82	193	47401	67.6	61.56	73.18
Bumiputera Sabah	2	434	13.7	3.18	43.42	8	2529	79.7	49.03	94.16
Bumiputera Sarawak	1	254	8.1	1.21	38.80	8	1911	60.8	34.97	81.71
Others	2	497	3.6	0.85	13.85	35	10197	73.4	60.65	83.12
School level										
Primary school	56	17784	6.8	5.55	8.39	558	183175	70.4	60.09	79.03
Secondary school	75	17320	4.4	3.17	6.15	1118	259008	66.2	61.56	70.50
Class										
Standard 4	30	7821	8.9	5.83	13.31	205	60716	69.0	57.76	78.31
Standard 5	17	5217	6.0	3.53	10.04	224	59226	68.2	59.16	76.10
Standard 6	9	4746	5.6	3.19	9.54	129	63233	74.2	58.67	85.35
Form 1	18	4193	5.0	2.79	8.73	250	57250	68.0	60.77	74.53
Form 2	14	2930	3.7	2.28	6.12	235	51168	65.5	60.09	70.53
Form 3	14	2864	3.6	2.24	5.86	265	52254	66.3	59.42	72.61
Form 4	22	4276	5.7	3.24	9.99	260	50253	67.5	59.15	74.90
Form 5	7	3057	4.0	1.76	8.93	108	48083	63.3	53.65	72.03
School session										
Morning session	71	18824	4.9	3.52	6.79	955	257387	67.0	59.70	73.56
Evening session	29	6458	4.9	3.16	7.45	403	89104	67.3	62.37	71.94
Morning and evening session	31	9822	7.4	5.29	10.14	313	94497	70.7	67.85	73.49
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	3030	6.9	3.81	12.34	120	31719	72.7	64.75	79.47
Normal (≥-2sd - ≤+1sd)	88	22595	5.8	4.42	7.46	1007	260446	66.3	60.53	71.67
Overweight (>+1sd - ≤+2sd)	19	5306	4.9	3.23	7.50	266	72630	67.7	61.56	73.36
Obese (>+2sd)	12	3981	3.7	2.43	5.62	281	76863	71.7	64.53	77.85
Height-for-age status (HAZ)										
Stunting (<-2sd)	6	1267	3.2	1.16	8.43	105	27019	67.8	56.69	77.25
Normal (≥-2sd)	124	33643	5.5	4.25	7.09	1571	415164	67.9	62.74	72.66

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				
	Count	Estimated Population	Prevalence (%)	Did not take heavy meal after dinner	
				95% CI	
			Lower	Upper	
Selangor	694	174186	26.7	21.25	33.04
Locality of school					
Urban	482	123154	27.6	20.07	36.72
Rural	212	51032	24.8	19.70	30.73
Sex					
Boys	339	77379	23.6	18.54	29.61
Girls	355	96807	29.9	23.95	36.57
Ethnicity					
Malay	370	95972	22.8	17.25	29.52
Chinese	233	54814	39.0	33.11	45.33
Indian	77	19011	27.1	20.65	34.75
Bumiputera Sabah	1	208	6.6	0.68	41.75
Bumiputera Sarawak	4	978	31.1	16.31	51.18
Others	9	3203	23.1	14.80	34.07
School level					
Primary school	216	59110	22.7	14.03	34.65
Secondary school	478	115076	29.4	24.57	34.74
Class					
Standard 4	75	19505	22.2	13.39	34.37
Standard 5	93	22363	25.8	17.31	36.52
Standard 6	48	17241	20.2	8.53	40.83
Form 1	99	22696	27.0	20.37	34.78
Form 2	105	24026	30.8	24.78	37.45
Form 3	118	23656	30.0	23.86	37.02
Form 4	104	19903	26.7	20.41	34.19
Form 5	52	24794	32.7	22.88	44.20
School session					
Morning session	422	107969	28.1	20.97	36.55
Evening session	163	36770	27.8	23.55	32.47
Morning and evening session	108	29246	21.9	18.35	25.91
BMI-for-age status (BAZ)					
Thinness (<-2sd)	38	8866	20.3	13.25	29.89
Normal ($\geq -2sd - \leq +1sd$)	435	109628	27.9	22.00	34.72
Overweight ($> +1sd - \leq +2sd$)	114	29276	27.3	20.79	34.96
Obese ($> +2sd$)	107	26416	24.6	17.99	32.73
Height-for-age status (HAZ)					
Stunting (<-2sd)	44	11551	29.0	19.71	40.46
Normal ($\geq -2sd$)	650	162635	26.6	21.16	32.86

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	
Selangor	957	253544	54.2	48.36	60.02	617	168929	36.1	30.90	41.74
Locality of school										
Urban	585	166181	52.7	45.05	60.26	404	119109	37.8	31.07	45.00
Rural	372	87363	57.4	49.77	64.69	213	49820	32.7	27.64	38.27
Sex										
Boys	457	115487	47.1	38.96	55.45	375	98436	40.2	31.94	48.99
Girls	500	138057	62.1	56.12	67.71	242	70493	31.7	27.23	36.54
Ethnicity										
Malay	625	173776	54.2	46.75	61.55	382	108780	34.0	27.00	41.68
Chinese	203	47457	57.5	46.29	67.92	124	31211	37.8	29.93	46.34
Indian	103	25440	52.3	43.67	60.77	85	20917	43.0	35.91	50.37
Bumiputera Sabah	3	852	28.8	7.28	67.46	6	1950	65.8	28.40	90.34
Bumiputera Sarawak	4	1090	50.4	18.65	81.80	5	1075	49.6	18.20	81.35
Others	19	4929	46.1	31.34	61.56	15	4997	46.7	29.59	64.67
School level										
Primary school	338	107609	55.0	49.08	60.81	228	79225	40.5	33.78	47.61
Secondary school	619	145935	53.7	44.49	62.65	389	89704	33.0	27.38	39.15
Class										
Standard 4	124	34787	51.6	43.09	59.99	89	28272	41.9	31.91	52.65
Standard 5	139	36102	57.0	49.23	64.43	86	24864	39.3	29.40	50.07
Standard 6	75	36721	56.7	52.06	61.15	53	26090	40.3	35.43	45.27
Form 1	156	35735	59.9	49.99	69.07	88	19886	33.3	24.92	42.97
Form 2	122	27166	50.4	41.57	59.21	88	18780	34.8	26.04	44.81
Form 3	136	27769	51.6	35.66	67.26	80	15630	29.1	19.36	41.13
Form 4	147	28890	53.7	44.89	62.34	98	19109	35.5	29.88	41.63
Form 5	58	26375	52.0	35.08	68.51	35	16299	32.1	20.97	45.83
School session										
Morning session	578	154188	56.9	51.07	62.60	351	97587	36.0	30.47	42.00
Evening session	247	54958	58.9	52.04	65.38	159	34991	37.5	31.69	43.66
Morning and evening session	131	44186	43.3	28.08	59.93	103	35369	34.7	21.66	50.46
BMI-for-age status (BAZ)										
Thinness (<-2sd)	83	20936	62.5	50.56	73.03	41	11655	34.8	24.50	46.70
Normal (≥-2sd - ≤+1sd)	577	146933	52.7	45.37	59.83	369	101745	36.5	29.46	44.09
Overweight (>+1sd - ≤+2sd)	143	39203	52.1	42.54	61.59	103	28056	37.3	30.06	45.19
Obese (>+2sd)	153	46279	58.6	49.09	67.54	102	26948	34.1	28.00	40.84
Height-for-age status (HAZ)										
Stunting (<-2sd)	69	18171	65.2	50.82	77.22	26	6580	23.6	16.09	33.23
Normal (≥-2sd)	887	235180	53.5	47.93	59.04	591	162349	37.0	31.78	42.44

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	
Selangor	118	25598	5.5	1.37	19.49	77	19336	4.1	2.78	6.12
Locality of school										
Urban	86	16838	5.3	0.80	28.33	50	13080	4.1	2.42	7.03
Rural	32	8760	5.8	0.96	27.80	27	6256	4.1	2.49	6.71
Sex										
Boys	96	19587	8.0	1.62	31.44	49	11539	4.7	2.64	8.26
Girls	22	6011	2.7	0.52	12.86	28	7797	3.5	2.40	5.09
Ethnicity										
Malay	109	23497	7.3	1.64	27.35	56	14290	4.5	2.68	7.32
Chinese	4	1003	1.2	0.41	3.54	13	2919	3.5	1.85	6.65
Indian	4	739	1.5	0.68	3.38	5	1558	3.2	1.75	5.78
Bumiputera Sabah						1	161	5.4	0.55	37.33
Bumiputera Sarawak										
Others	1	360	3.4	0.34	26.11	2	409	3.8	0.89	14.93
School level										
Primary school	5	1228	0.6	0.17	2.34	26	7529	3.8	2.13	6.86
Secondary school	113	24371	9.0	2.24	29.77	51	11807	4.3	2.59	7.19
Class										
Standard 4	3	800	1.2	0.24	5.64	14	3579	5.3	2.30	11.80
Standard 5	2	428	0.7	0.16	2.86	9	1949	3.1	1.04	8.74
Standard 6						3	2001	3.1	1.58	5.95
Form 1	10	2645	4.4	0.91	18.96	6	1388	2.3	0.72	7.27
Form 2	31	6370	11.8	3.13	35.76	7	1581	2.9	1.19	7.06
Form 3	44	8206	15.3	3.87	44.61	12	2191	4.1	2.06	7.91
Form 4	15	2474	4.6	0.87	21.00	18	3297	6.1	2.93	12.37
Form 5	13	4676	9.2	1.08	48.71	8	3350	6.6	2.08	19.06
School session										
Morning session	34	8322	3.1	0.59	14.41	40	10751	4.0	2.94	5.34
Evening session	6	1224	1.3	0.33	5.04	10	2183	2.3	0.77	6.87
Morning and evening session	78	16052	15.7	2.66	56.06	27	6401	6.3	2.39	15.49
BMI-for-age status (BAZ)										
Thinness (<-2sd)						4	926	2.8	0.48	14.32
Normal (≥-2sd - ≤+1sd)	77	17063	6.1	1.56	21.11	55	13293	4.8	2.89	7.75
Overweight (>+1sd - ≤+2sd)	20	4440	5.9	1.70	18.53	10	3485	4.6	2.37	8.88
Obese (>+2sd)	21	4095	5.2	0.91	24.48	8	1632	2.1	0.85	4.95
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1711	6.1	0.91	31.79	6	1418	5.1	2.20	11.32
Normal (≥-2sd)	110	23888	5.4	1.39	19.05	71	17918	4.1	2.73	6.06

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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	
Selangor	59	16011	2.5	1.51	3.74	2089	549893	84.5	80.92	87.51
Locality of school										
Urban	34	10303	2.3	1.28	4.16	1349	373962	84.0	78.74	88.20
Rural	25	5708	2.8	1.61	4.65	740	175932	85.5	82.83	87.85
Sex										
Boys	44	12233	3.7	2.46	2.46	1091	269422	82.4	78.36	85.81
Girls	15	3778	1.2	0.59	2.28	998	280471	86.6	82.72	89.76
Ethnicity										
Malay	36	10821	2.6	1.47	4.45	1347	367182	87.3	83.61	90.19
Chinese	12	2709	1.9	1.10	3.39	436	104854	75.1	69.15	80.20
Indian	9	2024	2.9	1.18	7.52	243	59921	85.5	79.58	89.93
Bumiputera Sabah	1	216	6.8	0.81	39.34	9	2452	77.3	39.99	94.58
Bumiputera Sarawak			0.0	0.00	0.00	12	2896	92.1	59.81	98.93
Others	1	240	1.7	0.17	14.97	42	12588	90.6	81.35	95.49
School level										
Primary school	32	10318	4.0	3.29	4.79	678	218735	84.2	76.59	89.66
Secondary school	27	5693	1.5	0.71	2.95	1411	331158	84.7	80.92	87.86
Class										
Standard 4	19	4851	5.5	4.41	8.79	246	71948	81.7	73.55	87.79
Standard 5	9	2677	3.1	1.71	5.50	277	73375	84.5	77.66	89.57
Standard 6	4	2789	3.3	1.28	8.13	155	73412	86.4	77.09	92.32
Form 1	6	1300	1.6	0.50	4.68	304	69529	83.1	77.43	87.57
Form 2	5	961	1.2	0.52	2.86	301	66859	85.6	80.19	89.70
Form 3	7	1236	1.6	0.54	4.46	329	65852	83.6	73.88	90.18
Form 4	7	1390	1.9	0.61	5.52	338	65431	87.9	82.69	91.71
Form 5	2	807	1.1	0.13	8.26	139	63486	83.6	76.88	88.66
School session										
Morning session	30	9579	2.5	1.15	5.34	1221	325104	84.7	80.59	88.04
Evening session	13	2742	2.1	0.95	4.51	501	111350	84.6	80.21	88.13
Morning and evening session	16	3689	2.8	9.60	7.68	361	112053	83.9	72.99	90.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	1665	3.8	1.15	9.54	149	38395	88.0	81.56	92.44
Normal (≥-2sd - ≤+1sd)	30	7181	1.8	1.11	3.00	1294	334513	85.2	81.49	88.35
Overweight (>+1sd - ≤+2sd)	11	2990	3.7	1.58	4.86	316	87137	81.5	75.62	86.14
Obese (>+2sd)	12	3934	12.8	1.71	7.23	328	89369	83.5	77.63	88.05
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	1119	2.8	0.97	7.85	131	33628	84.4	75.19	90.63
Normal (≥-2sd)	54	14892	2.4	1.56	7.59	1957	516072	84.5	80.93	87.51

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
Selangor	350	84843	13.0	9.80	17.14
Locality of school					
Urban	248	60766	13.7	9.19	19.81
Rural	102	24076	11.7	9.23	14.74
Sex					
Boys	199	45333	13.9	9.96	18.98
Girls	151	39509	12.2	9.01	16.32
Ethnicity					
Malay	174	42798	10.2	6.90	14.75
Chinese	138	32093	23.0	18.26	28.49
Indian	33	8133	11.6	8.09	16.38
Bumiputera Sabah	1	503	15.9	2.15	61.81
Bumiputera Sarawak	1	247	7.9	1.07	40.19
Others	3	1069	7.7	3.24	17.19
School level					
Primary school	119	30752	11.8	6.44	20.75
Secondary school	231	54091	13.8	10.74	17.64
Class					
Standard 4	45	11243	12.8	7.90	20.00
Standard 5	48	10754	12.4	7.20	20.49
Standard 6	26	8755	10.3	3.98	24.17
Form 1	55	12848	15.4	11.04	20.96
Form 2	48	10304	13.2	9.35	18.28
Form 3	61	11687	14.8	8.76	24.01
Form 4	41	7612	10.2	7.20	14.33
Form 5	26	11641	15.3	10.42	21.99
School session					
Morning session	196	49233	12.8	9.14	17.71
Evening session	78	17557	13.3	10.16	17.31
Morning and evening session	75	17823	13.3	7.18	23.45
BMI-for-age status (BAZ)					
Thinness (<-2sd)	15	3554	8.1	4.17	15.31
Normal ($\geq-2sd - \leq+1sd$)	205	50699	12.9	9.81	16.83
Overweight ($>+1sd - \leq+2sd$)	71	16853	15.8	11.33	21.49
Obese ($>+2sd$)	59	13737	12.8	8.07	19.80
Height-for-age status (HAZ)					
Stunting (<-2sd)	19	5091	12.8	6.81	22.70
Normal ($\geq-2sd$)	331	79751	13.1	9.81	17.18

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	
Selangor	200	51857	8.0	5.57	11.32	1244	339270	52.2	45.93	58.46
Locality of school										
Urban	141	37614	8.5	5.37	13.10	793	230563	51.9	43.41	60.26
Rural	59	14243	6.9	4.03	11.69	451	108707	53.0	44.96	60.81
Sex										
Boys	99	25490	7.8	5.52	10.89	579	148056	45.3	39.21	51.44
Girls	101	26368	8.2	5.24	12.54	665	191215	59.3	51.32	66.83
Ethnicity										
Malay	80	23987	5.7	4.04	8.02	735	212305	50.6	41.88	59.20
Chinese	84	19303	13.8	8.35	22.02	306	73734	52.8	45.11	60.38
Indian	32	7303	10.5	6.37	16.68	160	39281	56.2	51.37	60.97
Bumiputera Sabah						9	2835	89.4	61.67	97.79
Bumiputera Sarawak	2	382	12.1	1.76	51.55	8	2092	66.5	44.16	83.34
Others	2	883	6.4	2.56	14.90	26	9023	64.9	44.06	81.31
School level										
Primary school	116	30942	12.0	6.97	19.85	513	164032	63.5	59.25	67.60
Secondary school	84	20915	5.3	3.76	7.54	731	175238	44.8	41.37	48.22
Class										
Standard 4	48	11349	13.0	5.81	26.58	188	55015	63.0	55.04	70.32
Standard 5	44	9739	11.2	6.20	19.46	214	57160	65.8	60.51	70.81
Standard 6	24	9854	11.7	7.69	17.45	111	51857	61.7	55.35	67.63
Form 1	28	6412	7.6	5.02	11.39	160	36455	43.3	37.07	49.81
Form 2	15	3472	4.4	2.85	6.88	137	30974	39.6	34.30	45.26
Form 3	14	2735	3.5	1.80	6.59	188	37952	48.2	39.17	57.30
Form 4	16	3144	4.2	2.68	6.59	164	32087	43.1	34.59	52.05
Form 5	11	5153	6.8	2.74	15.84	82	37769	49.7	41.92	57.57
School session										
Morning session	120	31532	8.2	5.27	12.62	751	205433	53.6	48.40	58.67
Evening session	38	8341	6.3	4.54	8.72	245	54692	41.4	36.67	46.28
Morning and evening session	42	11985	9.0	5.17	15.37	245	78393	59.2	46.33	70.90
BMI-for-age status (BAZ)										
Thinness (<-2sd)	17	5051	11.6	6.40	20.06	80	21078	48.3	41.85	54.87
Normal (≥-2sd - ≤+1sd)	112	28064	7.2	4.64	10.89	754	201312	51.4	44.37	58.30
Overweight (>+1sd - ≤+2sd)	46	12008	11.2	7.08	17.27	200	56409	52.6	47.69	57.49
Obese (>+2sd)	25	6734	6.3	3.94	10.01	209	60186	56.6	45.97	66.61
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	2497	6.3	2.92	12.96	88	23470	58.9	51.52	65.92
Normal (≥-2sd)	190	49360	8.1	5.72	11.34	1156	315800	51.8	45.26	58.29

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
Selangor	1052	258481	39.8	32.80	47.23
Locality of school					
Urban	697	176174	39.6	30.81	49.22
Rural	355	82308	40.1	29.79	51.37
Sex					
Boys	657	153632	47.0	39.68	54.37
Girls	395	104849	32.5	24.94	41.14
Ethnicity					
Malay	741	183621	43.7	34.75	53.14
Chinese	196	46588	33.4	21.98	47.10
Indian	92	23275	33.3	28.21	38.85
Bumiputera Sabah	2	336	10.6	2.21	38.33
Bumiputera Sarawak	3	670	21.3	5.92	53.82
Others	18	3991	28.7	11.11	56.50
School level					
Primary school	196	63227	24.5	21.14	28.18
Secondary school	856	195254	49.9	46.31	53.47
Class					
Standard 4	71	20954	24.0	19.78	28.79
Standard 5	76	19907	22.9	18.91	27.52
Standard 6	49	22366	26.6	20.90	33.21
Form 1	179	41275	49.1	42.02	56.12
Form 2	202	43677	55.9	49.69	61.95
Form 3	195	38089	48.4	38.98	57.84
Form 4	206	39202	52.7	43.18	61.97
Form 5	74	33012	43.5	37.41	49.74
School session					
Morning session	574	146468	38.2	31.72	45.13
Evening session	311	69082	52.3	46.66	57.86
Morning and evening session	163	42068	31.8	20.68	45.39
BMI-for-age status (BAZ)					
Thinness (<-2sd)	72	17484	40.1	30.17	50.89
Normal (\geq -2sd - \leq +1sd)	661	162549	41.5	33.99	49.38
Overweight ($>$ +1sd - \leq +2sd)	153	38795	36.2	30.56	42.22
Obese ($>$ +2sd)	165	39461	37.1	27.10	48.32
Height-for-age status (HAZ)					
Stunting (<-2sd)	57	13871	34.8	28.09	42.21
Normal (\geq -2sd)	994	244417	40.1	32.85	47.80

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	
Selangor	415	118605	31.3	23.86	39.78	157	42944	11.3	9.56	13.36
Locality of school										
Urban	219	71699	27.5	17.63	40.30	101	29461	11.3	9.46	13.49
Rural	196	46906	39.4	32.57	46.75	56	13484	11.3	7.81	16.17
Sex										
Boys	190	50334	30.4	22.94	38.99	82	22292	13.5	10.39	17.24
Girls	225	68270	32.0	23.33	42.06	75	20652	9.7	7.62	12.20
Ethnicity										
Malay	309	90281	38.9	32.32	45.98	83	24473	10.6	8.22	13.44
Chinese	47	12935	14.3	6.98	27.17	51	12695	14.1	10.02	19.41
Indian	46	11488	26.9	15.56	42.48	19	4349	10.2	7.52	13.70
Bumiputera Sabah	2	416	15.7	4.01	45.48			0.0	0.00	0.00
Bumiputera Sarawak	4	809	41.6	14.58	74.88			0.0	0.00	0.00
Others	7	2676	27.0	8.13	60.74	4	1428	14.4	6.87	27.78
School level										
Primary school	170	61214	32.3	20.18	47.41	74	24083	12.7	10.44	15.39
Secondary school	245	57391	30.2	23.42	38.04	83	18861	9.9	8.06	12.19
Class										
Standard 4	69	21134	32.8	19.09	50.27	25	7219	11.2	8.59	14.50
Standard 5	65	19977	31.3	17.11	50.05	30	8370	13.1	9.67	17.51
Standard 6	36	20103	32.9	19.89	49.19	19	8495	13.9	11.70	16.45
Form 1	62	14333	35.8	25.63	47.42	25	5758	14.4	10.18	19.93
Form 2	57	12857	39.1	31.55	47.18	16	3366	10.2	6.70	15.32
Form 3	53	10588	26.7	20.01	34.74	21	4144	10.5	6.29	16.91
Form 4	53	10430	30.0	21.20	40.47	16	3208	9.2	4.54	17.82
Form 5	20	9181	21.6	9.95	40.75	5	2385	5.6	2.54	11.97
School session										
Morning session	239	69184	29.9	21.01	40.60	89	24764	10.7	8.49	13.39
Evening session	95	21072	35.4	27.08	44.80	39	8590	14.4	11.05	18.67
Morning and evening session	79	27879	31.8	22.15	43.37	28	9307	10.6	6.81	16.21
BMI-for-age status (BAZ)										
Thinness (<-2sd)	30	7804	30.4	19.85	43.53	10	3332	13.0	5.98	25.91
Normal (≥-2sd - ≤+1sd)	238	65859	29.6	21.38	39.34	89	23669	10.6	8.41	13.35
Overweight (>+1sd - ≤+2sd)	70	22116	33.2	22.38	46.08	30	7134	10.7	6.28	17.64
Obese (>+2sd)	76	22541	35.2	27.90	43.36	28	8809	13.8	10.32	18.15
Height-for-age status (HAZ)										
Stunting (<-2sd)	30	7527	29.5	20.93	39.90	7	1877	7.4	2.49	19.84
Normal (≥-2sd)	385	111078	31.4	23.56	40.46	150	41067	11.6	9.84	13.65

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	
Selangor	581	154525	40.7	32.72	49.30	130	36028	9.5	7.10	12.60
Locality of school										
Urban	433	118523	45.5	34.72	56.77	87	26158	10.0	7.02	14.18
Rural	148	36002	30.3	23.39	38.17	43	9870	8.3	5.42	12.51
Sex										
Boys	251	62002	37.4	28.99	46.68	52	14880	9.0	5.37	14.63
Girls	330	92523	43.3	34.92	52.14	78	21148	9.9	7.29	13.32
Ethnicity										
Malay	245	73122	31.5	25.77	37.92	96	27918	12.0	9.85	14.64
Chinese	233	53983	59.8	51.99	67.20	14	3191	3.5	2.44	5.11
Indian	87	22190	52.1	40.28	63.61	17	3837	9.0	4.13	18.50
Bumiputera Sabah	5	1726	65.3	19.82	93.45	1	666	25.2	3.06	78.24
Bumiputera Sarawak	3	696	35.8	8.64	76.71			0.0	0.00	0.00
Others	8	2808	28.3	11.52	54.59	2	416	4.2	0.69	21.58
School level										
Primary school	263	75426	39.8	26.53	54.80	47	17243	9.1	5.59	14.49
Secondary school	318	79099	41.7	34.01	49.75	83	18785	9.9	6.96	13.89
Class										
Standard 4	90	24100	37.4	23.16	54.25	21	6037	9.4	6.35	13.62
Standard 5	110	26140	40.9	26.16	57.50	17	4687	7.3	4.53	11.67
Standard 6	63	25186	41.2	24.96	59.64	9	6519	10.7	3.74	26.84
Form 1	70	15874	39.6	32.27	47.52	8	1817	4.5	2.43	8.30
Form 2	50	11590	35.2	26.89	44.59	11	2701	8.2	4.05	15.94
Form 3	74	14975	37.8	26.84	50.21	35	7139	18.0	10.27	29.71
Form 4	80	15514	44.6	33.80	55.85	24	4636	13.3	9.16	18.96
Form 5	44	21146	49.8	32.37	67.24	5	2492	5.9	2.68	12.35
School session										
Morning session	384	101250	43.7	32.93	55.19	89	23085	10.0	6.89	14.23
Evening session	107	24007	40.4	33.56	47.59	19	4433	7.5	4.75	11.53
Morning and evening session	90	29269	33.4	26.99	40.50	22	8510	9.7	5.98	15.40
BMI-for-age status (BAZ)										
Thinness (<-2sd)	42	10871	42.4	32.82	52.50	11	3560	13.9	7.45	24.38
Normal (\geq -2sd - \leq +1sd)	352	92850	41.7	33.03	50.91	74	19258	8.6	6.42	11.56
Overweight ($>$ +1sd - \leq +2sd)	105	29272	43.9	34.99	53.23	19	6368	9.6	4.94	17.68
Obese ($>$ +2sd)	82	21532	33.7	25.65	42.75	26	6842	10.7	7.70	14.67
Height-for-age status (HAZ)										
Stunting (<-2sd)	44	12112	47.5	34.07	61.37	11	3408	13.4	5.82	27.82
Normal (\geq -2sd)	537	142413	40.3	32.07	49.02	119	32620	9.2	7.04	11.98

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	
Selangor	261	68998	18.2	12.12	26.40	74	19746	5.2	3.88	6.96
Locality of school										
Urban	187	50566	19.4	11.84	30.20	48	13474	5.2	3.51	7.56
Rural	74	18431	15.5	7.25	30.09	26	6272	5.3	3.50	7.86
Sex										
Boys	112	26534	16.0	7.30	31.56	33	7746	4.7	3.31	6.55
Girls	149	42464	19.9	14.23	27.08	41	12000	5.6	3.88	8.08
Ethnicity										
Malay	156	43201	18.6	10.44	31.01	37	10328	4.5	3.25	6.08
Chinese	75	18552	20.6	14.80	27.83	23	5714	6.3	3.00	12.86
Indian	26	6291	14.8	9.79	21.65	10	2341	5.5	2.86	10.30
Bumiputera Sabah	1	218	8.3	0.84	48.86			0.0	0.00	0.00
Bumiputera Sarawak	2	382	19.6	3.88	59.66	1	247	12.7	1.20	63.65
Others	1	353	3.6	0.53	20.35	3	1117	11.3	2.59	37.80
School level										
Primary school	88	25054	13.2	9.13	18.77	41	11273	6.0	3.70	9.43
Secondary school	173	43943	23.1	13.46	36.83	33	8474	4.5	3.21	6.18
Class										
Standard 4	28	6948	10.8	5.15	21.22	17	4113	6.4	2.66	14.55
Standard 5	39	8869	13.9	9.27	20.27	18	4021	6.3	3.63	10.69
Standard 6	21	9237	15.1	11.61	19.44	6	3139	5.1	3.40	7.68
Form 1	26	5862	14.6	9.65	21.59	9	1946	4.9	2.22	10.31
Form 2	27	6547	19.9	8.41	40.21	8	1625	4.9	2.38	9.97
Form 3	49	9991	25.2	11.24	47.35	3	685	1.7	0.61	4.80
Form 4	40	7834	22.5	13.79	34.50	7	1385	4.0	1.85	8.32
Form 5	31	13711	32.3	14.98	56.31	6	2833	6.7	3.22	13.32
School session										
Morning session	156	43942	19.0	13.46	26.10	42	11105	4.8	3.03	7.51
Evening session	38	8276	13.9	8.80	21.33	13	2706	4.6	2.48	8.21
Morning and evening session	67	16780	19.2	5.70	48.13	19	5935	6.8	4.81	9.47
BMI-for-age status (BAZ)										
Thinness (<-2sd)	20	4806	18.7	9.54	33.50	4	808	3.1	1.05	9.08
Normal (≥-2sd - ≤+1sd)	170	44642	20.0	13.30	29.08	42	11518	5.2	3.55	7.48
Overweight (>+1sd - ≤+2sd)	35	9194	13.8	8.00	22.74	16	4243	6.4	2.92	13.31
Obese (>+2sd)	36	10355	16.2	10.52	24.11	12	3178	5.0	2.12	11.22
Height-for-age status (HAZ)										
Stunting (<-2sd)	23	5938	23.3	14.27	35.68	5	1111	4.4	1.44	12.44
Normal (≥-2sd)	238	63060	17.8	11.73	26.15	69	18635	5.3	4.02	6.87

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
Selangor	137	36435	9.6	7.75	11.85
Locality of school					
Urban	86	23817	9.1	7.02	11.84
Rural	51	12619	10.6	7.46	14.87
Sex					
Boys	73	19728	11.9	9.17	15.32
Girls	64	16707	7.8	5.58	10.87
Ethnicity					
Malay	66	19282	8.3	6.23	11.01
Chinese	49	10915	12.1	10.25	14.22
Indian	14	3339	7.8	3.36	17.18
Bumiputera Sabah	1	503	19.0	2.68	66.68
Bumiputera Sarawak			0.0	0.00	0.00
Others	7	2397	24.2	9.04	50.63
School level					
Primary school	79	23282	12.3	10.39	14.48
Secondary school	58	13153	6.9	4.68	10.14
Class					
Standard 4	35	10513	16.3	13.22	19.99
Standard 5	28	6399	10.0	6.08	16.05
Standard 6	16	6370	10.4	6.97	15.31
Form 1	11	2567	6.4	3.65	11.02
Form 2	11	2446	7.4	3.93	13.62
Form 3	19	3542	8.9	5.39	14.49
Form 4	12	2300	6.6	3.59	11.84
Form 5	5	2298	5.4	1.36	19.13
School session					
Morning session	77	21197	9.2	7.15	11.66
Evening session	16	3439	5.8	3.21	10.21
Morning and evening session	44	11799	13.5	9.15	19.38
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	1470	5.7	2.23	13.92
Normal ($\geq-2sd - \leq+1sd$)	91	22743	10.2	7.82	13.23
Overweight ($>+1sd - \leq+2sd$)	20	4869	7.3	4.44	11.78
Obese ($>+2sd$)	22	7354	11.5	7.12	18.05
Height-for-age status (HAZ)					
Stunting (<-2sd)	3	658	2.6	0.87	7.44
Normal ($\geq-2sd$)	134	35778	10.1	8.13	12.51

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	
Selangor	1262	338477	52.0	46.00	57.93	746	192773	29.6	24.82	34.90
Locality of school										
Urban	848	241248	54.2	46.87	61.31	458	122839	27.6	21.79	34.25
Rural	414	97229	47.3	38.62	56.07	288	69934	34.0	27.07	41.68
Sex										
Boys	557	139750	42.7	34.26	51.60	424	103701	31.7	24.88	39.38
Girls	705	198727	61.4	57.08	65.50	322	89072	27.5	23.83	31.53
Ethnicity										
Malay	684	198531	47.2	39.49	54.95	564	146094	34.7	29.42	40.39
Chinese	342	80435	57.4	48.07	66.25	99	24431	17.4	12.94	23.08
Indian	197	47963	68.9	60.85	75.88	61	15748	22.6	17.92	28.11
Bumiputera Sabah	7	2390	75.4	48.80	90.77	3	620	19.5	6.61	45.48
Bumiputera Sarawak	9	1945	61.9	26.79	87.80	2	466	14.8	1.84	61.86
Others	23	7212	51.9	36.65	66.79	17	5415	39.0	25.35	54.55
School level										
Primary school	452	140720	54.2	47.01	61.15	227	74757	28.8	21.81	36.90
Secondary school	810	197756	50.6	42.05	59.02	519	118016	30.2	23.87	37.32
Class										
Standard 4	171	47665	54.3	46.84	61.57	86	25325	28.8	21.79	37.11
Standard 5	182	47901	55.2	45.72	64.28	93	24479	28.2	18.68	40.18
Standard 6	99	45154	53.0	40.99	64.65	48	24953	29.3	19.32	41.72
Form 1	209	46803	55.6	42.49	68.04	115	27162	32.3	23.87	42.04
Form 2	167	37636	48.2	36.58	59.97	101	22281	28.5	19.93	39.02
Form 3	176	36609	46.5	35.89	57.38	147	28110	35.7	27.75	44.49
Form 4	165	32408	43.6	32.71	55.23	111	21176	28.5	21.32	37.00
Form 5	93	44301	58.3	40.99	73.84	45	19286	25.4	14.08	41.42
School session										
Morning session	729	199737	52.1	45.43	58.66	417	109402	28.5	23.24	34.48
Evening session	338	74918	56.6	47.06	65.70	156	35130	26.5	20.37	33.81
Morning and evening session	193	63326	47.4	32.36	62.95	171	47781	35.8	24.79	48.48
BMI-for-age status (BAZ)										
Thinness (<-2sd)	87	23805	54.6	45.09	63.75	57	13724	31.5	25.29	38.38
Normal (≥-2sd - ≤+1sd)	761	204049	52.0	45.44	58.54	467	117934	30.1	24.87	35.83
Overweight (>+1sd - ≤+2sd)	216	59943	55.9	49.23	62.39	100	26123	24.4	18.76	31.01
Obese (>+2sd)	196	50155	46.8	38.94	54.74	122	34992	32.6	25.66	40.45
Height-for-age status (HAZ)										
Stunting (<-2sd)	75	20103	50.5	38.85	62.02	49	12454	31.3	25.29	37.93
Normal (≥-2sd)	1187	318374	52.1	46.22	57.94	697	180319	29.5	24.62	34.93

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
Selangor	491	119764	18.4	15.63	21.53
Locality of school					
Urban	326	81211	18.2	15.04	21.94
Rural	165	38553	18.7	13.83	24.89
Sex					
Boys	354	83786	25.6	21.91	29.69
Girls	137	35978	11.1	8.11	15.05
Ethnicity					
Malay	310	76407	18.1	14.80	22.06
Chinese	147	35252	25.2	20.79	30.09
Indian	25	5941	8.5	5.53	12.94
Bumiputera Sabah	1	161	5.1	0.52	35.21
Bumiputera Sarawak	2	732	23.3	4.66	65.34
Others	6	1271	9.1	3.82	20.31
School level					
Primary school	150	44336	17.1	12.23	23.30
Secondary school	341	75428	19.3	16.62	22.25
Class					
Standard 4	52	14797	16.9	12.21	22.82
Standard 5	59	14426	16.6	12.33	22.03
Standard 6	39	15113	17.7	10.33	28.75
Form 1	43	10150	12.1	7.49	18.86
Form 2	86	18207	23.3	18.06	29.53
Form 3	74	14055	17.8	13.83	22.71
Form 4	109	20669	27.8	19.69	37.77
Form 5	29	12347	16.3	10.76	23.82
School session					
Morning session	299	74361	19.4	16.14	23.11
Evening session	101	22284	16.8	13.02	21.51
Morning and evening session	88	22459	16.8	10.87	25.10
BMI-for-age status (BAZ)					
Thinness (<-2sd)	25	6085	14.0	9.65	19.76
Normal (\geq -2sd - \leq +1sd)	300	70226	17.9	14.40	22.05
Overweight ($>$ +1sd - \leq +2sd)	83	21145	19.7	16.23	23.75
Obese ($>$ +2sd)	82	22114	20.6	17.86	23.68
Height-for-age status (HAZ)					
Stunting (<-2sd)	31	7281	18.3	12.53	25.89
Normal (\geq -2sd)	459	112289	18.4	15.52	21.63

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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
Selangor	1828	487051	91.7	88.53	94.02	223	56991	10.7	7.97	14.29
Locality of school										
Urban	1208	339834	93.3	89.91	95.66	129	33979	9.3	6.34	13.53
Rural	620	147218	88.1	82.88	91.84	94	23012	13.8	9.56	19.42
Sex										
Boys	857	213230	87.6	83.27	90.91	131	31482	12.9	8.97	18.29
Girls	971	273821	95.1	92.20	97.01	92	25510	8.9	6.19	12.54
Ethnicity										
Malay	1142	318039	92.3	87.93	95.15	137	34708	10.1	6.74	14.78
Chinese	404	95745	91.3	85.33	94.98	53	13839	13.2	8.28	20.39
Indian	232	58416	91.7	87.08	94.75	23	5475	8.6	6.67	11.01
Bumiputera Sabah	9	2794	92.8	59.10	99.14			0.0	0.00	0.00
Bumiputera Sarawak	8	1737	72.0	37.25	91.79	1	208	8.6	1.52	36.54
Others	33	10321	81.7	70.15	89.51	9	2761	21.9	9.44	42.92
School level										
Primary school	609	195261	90.6	84.89	94.32	81	23838	11.1	7.12	16.80
Secondary school	1219	291790	92.4	88.23	95.18	142	33154	10.5	6.97	15.51
Class										
Standard 4	222	63475	87.0	80.69	91.41	33	9161	12.6	10.97	14.32
Standard 5	247	64990	89.8	84.84	93.25	36	9024	12.5	7.11	20.94
Standard 6	140	66797	95.3	89.61	97.93	12	5653	8.1	3.38	18.04
Form 1	293	66777	90.3	80.23	95.51	37	8823	11.9	7.37	18.74
Form 2	250	56358	94.1	86.42	97.53	23	4705	7.9	4.76	12.69
Form 3	290	58581	90.5	84.12	94.50	46	8429	13.0	7.04	22.84
Form 4	256	49667	92.7	85.27	96.53	20	3930	7.3	4.15	12.63
Form 5	130	60406	95.0	85.18	98.43	16	7267	11.4	5.51	22.21
School session										
Morning session	1062	287475	93.0	90.40	94.92	119	33164	10.7	7.92	14.38
Evening session	458	101813	92.5	85.59	96.26	47	10604	9.6	6.77	13.54
Morning and evening session	305	97047	87.3	75.50	93.93	56	12984	11.7	4.95	25.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	131	34082	90.8	84.43	94.74	11	2252	6.0	2.83	12.25
Normal (≥-2sd - ≤+1sd)	1122	296548	92.1	88.30	94.74	142	34615	10.8	7.46	15.26
Overweight (>+1sd - ≤+2sd)	289	79269	92.1	87.97	94.90	38	11989	13.9	9.10	20.73
Obese (>+2sd)	285	76913	90.3	83.83	94.39	32	8135	9.6	5.71	15.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	109	28960	89.0	79.47	94.37	16	3509	10.8	5.15	21.17
Normal (≥-2sd)	1719	458091	91.9	88.69	94.19	207	53482	10.7	7.97	14.29

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	
Selangor	25	6322	1.2	0.86	1.65	93	23820	4.5	3.26	6.15
Locality of school										
Urban	18	4708	1.3	0.92	1.82	61	16462	4.5	2.93	6.91
Rural	7	1614	1.0	0.47	1.97	32	7357	4.4	3.03	6.35
Sex										
Boys	17	4025	1.7	1.12	2.44	52	12973	5.3	3.42	8.21
Girls	8	2297	0.8	0.44	1.44	41	10847	3.8	2.37	5.95
Ethnicity										
Malay	12	3461	1.0	0.60	1.68	60	16043	4.7	3.36	6.42
Chinese	5	1108	1.1	0.36	3.04	20	4738	4.5	2.20	9.06
Indian	7	1532	2.4	1.23	4.64	8	1636	2.6	1.34	4.85
Bumiputera Sabah				0.00	0.00	1	216	7.2	0.86	40.90
Bumiputera Sarawak			0.0	0.00	0.00	3	657	27.3	7.70	62.72
Others	1	222	1.8	0.20	14.04	1	530	4.2	0.85	18.35
School level										
Primary school	9	3135	1.5	1.12	1.88	42	12616	5.9	4.15	8.21
Secondary school	16	3187	1.0	0.59	1.71	51	11203	3.5	2.19	5.70
Class										
Standard 4	4	1381	1.9	0.95	3.75	14	3356	4.6	2.11	9.72
Standard 5	3	594	0.8	0.28	2.42	20	5125	7.1	5.14	9.67
Standard 6	2	1161	1.7	0.87	3.12	8	4135	5.9	3.43	9.96
Form 1	6	1352	1.8	0.81	4.07	10	2403	3.2	1.80	5.80
Form 2	4	730	1.2	0.37	3.98	9	1958	3.3	1.55	6.75
Form 3	4	744	1.2	0.50	2.65	13	2352	3.6	1.63	7.90
Form 4	2	360	0.7	0.17	2.68	15	2752	5.1	2.70	9.57
Form 5			0.0	0.00	0.00	4	1738	2.7	0.68	10.36
School session										
Morning session	10	2485	0.8	0.44	1.45	51	13290	4.3	2.72	6.73
Evening session	8	1607	1.5	0.61	3.46	13	2941	2.7	1.61	4.42
Morning and evening session	7	2230	2.0	1.08	3.71	29	7589	6.8	4.30	10.69
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	639	1.7	0.56	5.05	7	2902	7.7	2.69	20.26
Normal (≥-2sd - ≤+1sd)	17	4785	1.5	0.90	2.43	54	13517	4.2	2.90	6.05
Overweight (>+1sd - ≤+2sd)	3	554	0.6	0.20	2.09	12	2611	3.0	1.43	6.33
Obese (>+2sd)	2	344	0.4	0.09	1.88	20	4789	5.6	3.66	8.56
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	208	0.6	0.09	4.57	10	2270	7.0	2.97	15.50
Normal (≥-2sd)	24	6114	1.2	0.87	1.72	83	21550	4.3	3.12	5.96

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 Percentage (%)	95% CI	
				Lower	Upper
Selangor	31	7821	1.5	0.90	2.39
Locality of school					
Urban	18	4669	1.3	0.70	2.33
Rural	13	3152	1.9	0.87	4.04
Sex					
Boys	18	3992	1.6	0.74	3.60
Girls	13	3829	1.3	0.63	2.78
Ethnicity					
Malay	15	3978	1.2	0.61	2.18
Chinese	11	2909	2.8	1.19	6.32
Indian	5	934	1.5	0.58	3.64
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	11	3328	1.5	0.63	3.73
Secondary school	20	4493	1.4	0.82	2.45
Class					
Standard 4	3	1169	1.6	0.64	3.96
Standard 5	3	677	0.9	0.23	3.79
Standard 6	5	1482	2.1	0.36	11.41
Form 1	4	924	1.2	0.35	4.31
Form 2	5	1170	2.0	0.64	5.82
Form 3	5	886	1.4	0.33	5.43
Form 4	5	976	1.8	0.59	5.47
Form 5	1	537	0.8	0.13	5.23
School session					
Morning session	18	4432	1.4	0.70	2.92
Evening session	6	1415	1.3	0.35	4.60
Morning and evening session	7	1974	1.8	0.96	3.26
BMI-for-age status (BAZ)					
Thinness (<-2sd)	2	469	1.2	0.28	5.42
Normal ($\geq-2sd - \leq+1sd$)	16	3992	1.2	0.74	2.07
Overweight ($>+1sd - \leq+2sd$)	7	1760	2.0	0.84	4.88
Obese ($>+2sd$)	5	1314	1.5	0.44	5.31
Height-for-age status (HAZ)					
Stunting (<-2sd)	3	660	2.0	0.61	6.55
Normal ($\geq-2sd$)	28	7161	1.4	0.86	2.38

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	
Selangor	1494	396296	61.8	56.06	67.20	70	20601	3.2	2.06	4.98
Locality of school										
Urban	958	270641	61.6	54.15	68.51	49	15401	3.5	2.02	6.01
Rural	536	125655	62.2	53.52	70.22	21	5200	2.6	1.65	4.00
Sex										
Boys	780	191954	59.6	54.57	64.49	39	12640	3.9	1.91	7.92
Girls	714	204342	64.0	56.08	71.16	31	7960	2.5	1.53	4.03
Ethnicity										
Malay	1006	276867	66.5	61.39	71.26	33	11778	2.8	1.30	6.03
Chinese	293	69926	51.0	43.24	58.72	19	4554	3.3	1.76	6.19
Indian	152	37402	54.3	45.77	62.59	18	4268	6.2	3.63	10.37
Bumiputera Sabah	4	1025	32.3	10.25	66.63					
Bumiputera Sarawak	9	1991	68.7	29.47	92.04					
Others	30	9085	69.8	59.36	78.61					
School level										
Primary school	479	158928	62.0	49.51	73.04	37	13237	5.2	3.72	7.11
Secondary school	1015	237368	61.7	56.83	66.28	33	7364	1.9	1.15	3.16
Class										
Standard 4	188	54464	63.1	54.33	71.15	14	5022	5.8	3.04	10.86
Standard 5	193	54068	63.2	45.19	78.14	11	2598	3.0	2.09	4.39
Standard 6	98	50396	59.6	43.48	73.81	12	5617	6.6	4.33	10.05
Form 1	230	52467	62.7	56.00	68.98	13	2985	3.6	2.03	6.21
Form 2	217	48211	63.4	57.14	69.17	3	612	0.8	0.27	2.35
Form 3	242	48606	63.2	58.30	67.88	6	1162	1.5	0.56	4.01
Form 4	233	45029	61.6	56.02	66.83	10	2102	2.9	1.34	6.05
Form 5	93	43055	57.3	43.87	69.69	1	503	0.7	0.09	4.89
School session										
Morning session	850	229011	60.6	54.09	66.77	39	11986	3.2	1.83	5.45
Evening session	376	84010	64.3	59.40	68.95	14	2946	2.3	1.08	4.66
Morning and evening session	263	82163	62.6	51.19	72.73	16	5449	4.2	2.38	7.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	96	24420	57.2	44.40	69.09	6	2579	6.0	1.79	18.49
Normal (≥-2sd - ≤+1sd)	961	251989	65.1	57.96	71.66	35	8690	2.2	1.47	3.42
Overweight (>+1sd - ≤+2sd)	218	59693	56.5	49.32	63.42	16	4687	4.4	2.68	7.25
Obese (>+2sd)	217	59669	56.6	50.47	62.60	13	4644	4.4	2.28	8.33
Height-for-age status (HAZ)										
Stunting (<-2sd)	92	23288	59.0	50.41	67.02	6	1353	3.4	1.28	8.84
Normal (≥-2sd)	1402	373008	62.0	56.17	67.49	64	19248	3.2	1.99	5.09

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	
Selangor	792	199686	31.1	26.19	36.55	100	24789	3.9	2.56	5.80
Locality of school										
Urban	523	134422	30.6	24.29	37.70	74	19008	4.3	2.55	7.26
Rural	269	65264	32.3	25.84	39.57	26	5781	2.9	1.81	4.49
Sex										
Boys	429	103517	32.2	27.25	37.49	62	13805	4.3	2.76	6.61
Girls	363	96169	30.1	24.38	36.52	38	10984	3.4	1.78	6.55
Ethnicity										
Malay	452	116377	28.0	22.43	34.23	46	11305	2.7	1.79	4.09
Chinese	229	54556	39.8	33.06	46.94	33	8055	5.9	3.34	10.13
Indian	92	22907	33.3	27.28	39.83	17	4302	6.2	2.70	13.78
Bumiputera Sabah	5	1444	45.5	15.75	78.88	2	702	22.2	2.71	74.42
Bumiputera Sarawak	3	905	31.3	7.96	70.53			0.0	0.00	0.00
Others	11	3497	26.9	17.90	38.28	2	425	3.3	0.62	15.49
School level										
Primary school	275	78112	30.5	20.34	42.90	23	6165	2.4	1.35	4.25
Secondary school	517	121574	31.6	27.96	35.45	77	18624	4.8	3.16	7.34
Class										
Standard 4	87	23213	26.9	18.87	36.83	13	3560	4.1	2.59	6.51
Standard 5	117	27101	31.7	18.93	47.92	7	1797	2.1	0.82	5.28
Standard 6	71	27798	32.9	19.94	49.01	3	808	1.0	0.17	5.10
Form 1	111	25752	30.8	24.87	37.41	11	2451	2.9	1.51	5.59
Form 2	111	24041	31.6	25.82	38.00	15	3224	4.2	2.24	7.89
Form 3	124	24308	31.6	27.15	36.46	15	2805	3.6	1.87	7.00
Form 4	112	21465	29.3	24.77	34.38	24	4539	6.2	3.86	9.84
Form 5	59	26008	34.6	24.74	45.98	12	5605	7.5	3.57	14.93
School session										
Morning session	474	122753	32.5	26.70	38.86	57	14101	3.7	2.23	6.17
Evening session	179	39208	30.0	25.76	34.65	19	4455	3.4	1.99	5.78
Morning and evening session	138	37441	28.5	19.27	40.01	24	6233	4.7	2.35	9.37
BMI-for-age status (BAZ)										
Thinness (<-2sd)	56	14168	33.2	25.30	42.13	6	1529	3.6	1.47	8.44
Normal (\geq -2sd - \leq +1sd)	450	111343	28.8	23.30	34.95	59	14927	3.9	2.50	5.90
Overweight ($>$ +1sd - \leq +2sd)	145	37942	35.9	29.35	43.05	13	3321	3.1	1.47	6.61
Obese ($>$ +2sd)	140	36040	34.2	27.91	41.11	22	5013	4.8	2.79	8.00
Height-for-age status (HAZ)										
Stunting (<-2sd)	49	13268	33.6	25.88	42.30	6	1583	4.0	1.76	8.89
Normal (\geq -2sd)	742	186225	31.0	25.80	36.63	94	23206	3.9	2.52	5.85

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	
Selangor	121	33924	5.2	3.83	7.09	312	85205	13.1	11.05	15.51
Locality of school										
Urban	83	24210	5.5	3.98	7.42	207	59718	13.4	11.05	16.27
Rural	38	9714	4.7	2.27	9.59	105	25488	12.4	8.91	17.01
Sex										
Boys	72	19646	6.0	4.12	8.72	184	48921	15.0	11.46	19.35
Girls	49	14278	4.4	2.91	6.66	128	36284	11.2	8.78	14.25
Ethnicity										
Malay	58	18838	4.5	2.78	7.15	171	50279	12.0	9.70	14.66
Chinese	53	12243	8.8	7.20	10.66	97	22180	15.9	12.43	20.11
Indian	6	1885	2.7	1.29	5.60	35	9484	13.6	9.56	19.13
Bumiputera Sabah	1	216	6.8	0.82	39.34	1	666	21.0	2.53	73.16
Bumiputera Sarawak	2	502	16.0	5.05	40.41			0.0	0.00	0.00
Others	1	240	1.7	0.17	14.98	8	2597	18.7	10.62	30.78
School level										
Primary school	72	21660	8.4	7.20	9.67	132	40563	15.6	12.93	18.81
Secondary school	49	12264	3.1	1.91	5.13	180	44642	11.4	9.17	14.18
Class										
Standard 4	38	9837	11.2	7.94	15.50	51	14959	17.0	13.01	21.89
Standard 5	20	5446	6.3	4.51	8.71	62	15793	18.2	14.85	22.19
Standard 6	14	6377	7.5	4.88	11.48	19	9810	11.6	8.08	16.37
Form 1	16	3603	4.3	2.21	8.15	42	9764	11.6	8.97	14.90
Form 2	12	2528	3.2	1.63	6.33	32	6872	8.8	6.29	12.17
Form 3	9	1806	2.3	0.87	5.98	32	6100	7.8	4.35	13.60
Form 4	4	711	1.0	0.37	2.46	48	9429	12.7	9.21	17.37
Form 5	8	3615	4.8	2.42	9.16	26	12476	16.4	10.18	25.44
School session										
Morning session	67	20193	5.3	3.72	7.45	192	52623	13.8	11.49	16.40
Evening session	28	6206	4.7	2.81	7.76	66	14859	11.2	8.76	14.34
Morning and evening session	26	7524	5.6	3.33	9.38	53	17503	13.1	8.43	19.82
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	2855	6.5	3.46	12.05	24	5963	13.7	8.93	20.37
Normal (≥-2sd - ≤+1sd)	61	17305	4.4	3.10	6.28	199	52156	13.3	11.09	15.94
Overweight (>+1sd - ≤+2sd)	28	7456	7.0	4.28	11.10	42	13052	12.2	8.28	17.54
Obese (>+2sd)	23	6068	5.7	3.52	9.03	47	14034	13.1	9.51	17.87
Height-for-age status (HAZ)										
Stunting (<-2sd)	6	1418	3.6	1.42	8.65	19	6252	15.7	8.22	27.89
Normal (≥-2sd)	115	32506	5.3	3.89	7.26	293	78953	13.0	10.94	15.27

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	
Selangor	1837	476799	73.4	70.66	75.97	223	53688	8.3	6.03	11.23
Locality of school										
Urban	1183	322721	72.7	69.64	75.50	154	37468	8.4	5.50	12.74
Rural	654	154078	75.0	69.59	79.69	69	16220	7.9	5.54	11.13
Sex										
Boys	941	229471	70.3	66.43	73.87	135	28454	8.7	5.00	14.75
Girls	896	247328	76.5	73.44	79.39	88	25234	7.8	6.03	10.06
Ethnicity										
Malay	1171	313225	74.5	70.83	77.87	155	38043	9.0	6.03	13.37
Chinese	392	95086	68.1	63.30	72.62	44	10031	7.2	5.17	9.92
Indian	219	52915	76.2	69.95	81.42	22	5197	7.5	5.07	10.91
Bumiputera Sabah	8	2128	67.1	26.65	91.97	1	161	5.1	0.52	35.21
Bumiputera Sarawak	11	2642	84.0	59.59	94.95			0.0	0.00	0.00
Others	36	10803	77.7	67.54	85.42	1	257	1.9	0.28	11.32
School level										
Primary school	573	181034	69.8	66.48	72.99	50	15980	6.2	5.29	7.17
Secondary school	1264	295766	75.8	72.76	78.53	173	37708	9.7	6.33	14.47
Class										
Standard 4	199	56783	64.5	59.98	68.76	22	6463	7.3	6.52	8.26
Standard 5	234	60700	70.1	64.04	75.51	17	4664	5.4	4.02	7.18
Standard 6	140	63551	75.1	68.77	80.56	11	4852	5.7	3.82	8.52
Form 1	274	62607	74.4	69.59	78.72	35	8150	9.7	6.05	15.16
Form 2	272	60659	77.6	70.73	83.31	38	8064	10.3	6.79	15.39
Form 3	305	61479	78.6	68.64	86.06	48	8817	11.3	5.13	23.00
Form 4	292	56431	76.3	71.26	80.63	40	7425	10.0	6.73	14.70
Form 5	121	54589	71.9	64.45	78.29	12	5253	6.9	3.36	13.72
School session										
Morning session	1079	283807	74.2	71.38	76.89	102	25716	6.7	5.30	8.50
Evening session	447	99194	75.1	70.44	79.23	53	11837	9.0	6.57	12.10
Morning and evening session	306	92633	69.4	64.44	73.87	67	15904	11.9	5.43	24.15
BMI-for-age status (BAZ)										
Thinness (<-2sd)	127	32749	75.1	65.83	82.51	10	2048	4.7	2.18	9.84
Normal (≥-2sd - ≤+1sd)	1131	290766	74.3	71.80	76.69	133	30997	7.9	5.48	11.32
Overweight (>+1sd - ≤+2sd)	280	72765	67.9	61.56	73.59	49	13939	13.0	8.93	18.56
Obese (>+2sd)	298	80235	75.1	70.46	79.21	30	6511	6.1	3.57	10.20
Height-for-age status (HAZ)										
Stunting (<-2sd)	110	27717	69.6	62.75	75.63	20	4451	11.2	5.24	22.24
Normal (≥-2sd)	1727	449083	73.7	70.93	76.24	202	49043	8.0	5.94	10.82

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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
Selangor	198	50729	7.8	6.20	9.82	632	159737	24.6	21.23	28.36
Locality of school										
Urban	136	35533	8.0	5.87	10.87	417	108538	24.5	20.93	28.44
Rural	62	15196	7.4	5.63	9.65	215	51199	24.9	17.98	33.44
Sex										
Boys	110	24984	7.6	5.29	10.94	362	86959	26.6	22.94	30.66
Girls	88	25746	8.0	6.43	9.90	270	72779	22.6	18.13	27.80
Ethnicity										
Malay	142	37065	8.8	6.66	11.62	455	116582	27.8	23.11	33.00
Chinese	32	7965	5.7	3.81	8.47	100	23012	16.5	13.26	20.34
Indian	19	4705	6.8	4.91	9.28	62	15613	22.5	17.80	28.02
Bumiputera Sabah	1	161	5.1	0.52	35.21	2	623	19.6	3.94	59.24
Bumiputera Sarawak	2	428	13.6	3.25	42.46	2	399	12.7	3.01	40.49
Others	2	406	2.9	0.58	13.41	11	3510	25.3	17.06	35.68
School level										
Primary school	57	17959	6.9	5.67	8.47	155	49197	19.0	16.84	21.41
Secondary school	141	32770	8.4	6.02	11.61	477	110541	28.3	24.52	32.51
Class										
Standard 4	23	5692	6.5	2.90	13.83	53	15657	17.8	15.58	20.32
Standard 5	24	7476	8.6	5.31	13.67	67	16702	19.2	15.62	23.47
Standard 6	10	4792	5.7	4.91	6.61	35	16838	20.0	16.96	23.53
Form 1	23	5443	6.5	4.03	10.17	87	20315	24.1	18.33	30.95
Form 2	29	6599	8.5	5.89	12.12	86	19215	24.8	19.62	30.72
Form 3	43	8099	10.3	7.10	14.73	136	27138	34.5	26.95	42.98
Form 4	30	5464	7.3	4.32	12.19	123	23563	31.7	27.83	35.75
Form 5	16	7166	9.6	5.08	17.24	45	20311	27.1	21.15	33.94
School session										
Morning session	111	30133	7.9	6.02	10.29	373	96735	25.3	21.49	29.63
Evening session	37	8178	6.2	4.29	8.82	134	29828	22.5	19.28	26.17
Morning and evening session	50	12418	9.3	5.13	16.40	123	32762	24.6	16.89	34.43
BMI-for-age status (BAZ)										
Thinness (<-2sd)	19	5121	11.9	6.98	19.42	47	11875	27.5	21.90	33.87
Normal (≥-2sd - ≤+1sd)	134	32885	8.4	6.28	11.18	396	100752	25.8	21.79	30.22
Overweight (>+1sd - ≤+2sd)	18	5821	5.4	3.45	8.50	98	25133	23.5	19.39	28.21
Obese (>+2sd)	26	6663	6.2	4.01	9.54	90	21785	20.3	16.13	25.33
Height-for-age status (HAZ)										
Stunting (<-2sd)	18	4509	11.3	5.08	23.35	42	9773	24.5	16.50	34.85
Normal (≥-2sd)	180	46220	7.6	6.16	9.33	589	149771	24.6	21.27	28.27

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	
Selangor	1563	412971	63.7	58.79	68.27	101	25245	3.9	2.77	5.44
Locality of school										
Urban	1005	281191	63.4	57.44	69.06	70	17947	4.0	2.61	6.23
Rural	558	131780	64.1	55.48	71.96	31	7299	3.6	2.17	5.77
Sex										
Boys	802	200854	61.5	55.58	67.07	59	13852	4.2	3.03	5.90
Girls	761	212117	65.9	60.13	71.17	42	11393	3.5	2.22	5.59
Ethnicity										
Malay	927	258164	61.5	54.59	68.03	31	7764	1.9	1.32	2.60
Chinese	403	95578	68.5	63.18	73.40	51	12944	9.3	7.57	11.33
Indian	184	44790	64.5	59.36	69.41	18	4289	6.2	3.97	9.50
Bumiputera Sabah	8	2388	75.3	37.90	93.84			0.0	0.00	0.00
Bumiputera Sarawak	8	2070	65.8	46.08	81.30	1	247	7.9	1.07	40.19
Others	33	9982	71.8	63.33	79.00			0.0	0.00	0.00
School level										
Primary school	575	181321	70.1	67.37	72.70	40	10175	3.9	1.94	7.80
Secondary school	988	231650	59.4	53.76	64.78	61	15070	3.9	2.81	5.29
Class										
Standard 4	214	61299	69.8	62.42	76.25	19	5195	5.9	3.12	10.92
Standard 5	229	59517	68.6	65.32	71.63	14	3111	3.6	1.96	6.47
Standard 6	132	60505	72.0	70.35	73.64	7	1869	2.2	0.32	13.84
Form 1	237	53888	63.9	56.72	70.47	21	4714	5.6	3.61	8.55
Form 2	224	49031	63.2	55.23	70.47	13	2769	3.6	2.20	5.74
Form 3	210	42094	53.6	43.59	63.25	7	1267	1.6	0.50	5.11
Form 4	222	43363	58.3	51.57	64.65	11	2043	2.7	1.44	5.18
Form 5	95	43274	57.7	50.48	64.57	9	4277	5.7	3.46	9.25
School session										
Morning session	900	239842	62.8	58.33	67.14	57	14963	3.9	2.61	5.84
Evening session	395	87669	66.2	61.07	71.06	29	6658	5.0	3.67	6.87
Morning and evening session	263	84257	63.3	48.53	75.97	15	3625	2.7	1.02	7.10
BMI-for-age status (BAZ)										
Thinness (<-2sd)	96	24911	57.7	49.56	65.35	6	1304	3.0	1.18	7.51
Normal (≥-2sd - ≤+1sd)	945	243898	62.4	56.97	67.55	51	13284	3.4	2.12	5.40
Overweight (>+1sd - ≤+2sd)	258	70904	66.3	61.28	71.05	24	5018	4.7	2.46	8.79
Obese (>+2sd)	263	72972	68.2	62.34	73.47	20	5640	5.3	3.51	7.84
Height-for-age status (HAZ)										
Stunting (<-2sd)	91	24745	62.1	46.22	75.77	4	811	2.0	0.67	6.03
Normal (≥-2sd)	1472	388226	63.8	59.36	67.99	97	24434	4.0	2.86	5.61

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	
Selangor	881	226943	34.9	30.09	40.09	356	95178	14.6	12.33	17.32
Locality of school										
Urban	617	165992	37.3	30.85	44.32	215	61343	13.8	10.99	17.18
Rural	264	60951	29.7	24.24	35.80	141	33835	16.5	12.62	21.24
Sex										
Boys	492	118038	36.2	30.57	42.14	178	44519	13.6	10.89	16.95
Girls	389	108905	33.7	28.56	39.22	178	50658	15.7	12.74	19.12
Ethnicity										
Malay	548	143206	34.1	27.97	40.87	209	59149	14.1	10.96	17.95
Chinese	169	41240	29.5	25.54	33.76	96	22771	16.3	12.99	20.21
Indian	134	33737	48.1	41.23	55.13	35	8852	12.6	8.75	17.90
Bumiputera Sabah	7	1625	51.3	21.44	80.21					
Bumiputera Sarawak	5	1526	48.6	17.74	80.50	2	512	16.3	4.91	42.27
Others	18	5608	40.4	28.66	53.26	14	3893	28.0	13.37	49.54
School level										
Primary school	218	69044	26.6	23.17	30.39	147	46438	17.9	15.74	20.30
Secondary school	663	157898	40.4	35.83	45.23	209	48739	12.5	9.81	15.76
Class										
Standard 4	78	22069	25.2	18.99	32.64	49	14195	16.2	10.58	24.03
Standard 5	85	22636	26.2	22.70	29.93	62	16135	18.6	17.00	20.40
Standard 6	55	24340	28.6	23.42	34.33	36	16109	18.9	15.40	22.99
Form 1	126	28738	34.2	29.14	39.57	54	12448	14.8	11.54	18.78
Form 2	125	26627	34.1	26.27	42.87	44	9768	12.5	8.80	17.46
Form 3	157	30470	38.8	30.53	47.68	56	11579	14.7	9.15	22.85
Form 4	170	32525	43.9	37.08	51.05	40	7896	10.7	7.73	14.54
Form 5	85	39538	52.3	42.71	61.76	15	7049	9.3	4.70	17.68
School session										
Morning session	518	137389	35.8	30.33	41.76	226	61956	16.2	13.10	19.79
Evening session	218	48809	36.9	32.85	41.24	76	16793	12.7	9.99	16.04
Morning and evening session	142	40086	30.2	24.29	36.82	53	16146	12.2	7.53	19.05
BMI-for-age status (BAZ)										
Thinness (<-2sd)	64	16331	37.4	28.43	47.42	23	6003	13.8	9.02	20.44
Normal (≥-2sd - ≤+1sd)	534	137835	35.2	30.63	40.09	222	57635	14.7	12.19	17.68
Overweight (>+1sd - ≤+2sd)	146	37192	34.7	23.16	48.35	45	13813	12.9	8.72	18.63
Obese (>+2sd)	137	35585	33.3	26.84	40.46	66	17726	16.6	12.99	20.95
Height-for-age status (HAZ)										
Stunting (<-2sd)	57	14522	36.5	26.59	47.60	22	4998	12.5	7.01	21.45
Normal (≥-2sd)	824	212421	34.8	29.85	40.18	334	90180	14.8	12.36	17.59

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	
Selangor	636	161614	24.9	19.85	30.67	568	147463	22.7	19.26	26.54
Locality of school										
Urban	446	115549	26.0	19.73	33.42	383	103471	23.3	18.52	28.82
Rural	190	46065	22.4	14.91	32.33	185	43992	21.4	18.67	24.48
Sex										
Boys	340	79487	24.3	16.26	34.79	263	64241	19.7	16.12	23.79
Girls	296	82127	25.4	21.75	29.44	305	83222	25.7	21.92	29.97
Ethnicity										
Malay	414	107653	25.7	18.70	34.11	301	83058	19.8	17.73	22.04
Chinese	159	39119	28.0	23.16	33.33	192	45323	32.4	25.25	40.47
Indian	53	12646	18.0	15.60	20.77	57	14213	20.3	16.04	25.30
Bumiputera Sabah	3	554	17.5	3.05	58.71	3	894	28.2	9.16	60.45
Bumiputera Sarawak	2	416	13.2	1.89	54.65	3	611	19.4	7.10	43.26
Others	5	1227	8.8	2.67	25.48	12	3365	24.2	13.85	38.83
School level										
Primary school	172	53106	20.5	16.92	24.56	230	66970	25.8	18.86	34.28
Secondary school	464	108508	27.8	20.54	36.42	338	80493	20.6	17.34	24.32
Class										
Standard 4	62	15920	18.2	12.02	26.56	82	21215	24.2	14.30	38.00
Standard 5	69	17282	20.0	15.56	25.24	95	22731	26.3	19.85	33.86
Standard 6	41	19905	23.4	19.94	27.16	53	23024	27.0	19.93	35.51
Form 1	79	18364	21.8	16.20	28.75	70	16026	19.1	14.67	24.37
Form 2	100	22625	29.0	19.90	40.08	86	18883	24.2	18.61	30.76
Form 3	135	26492	33.7	22.48	47.12	81	16841	21.4	15.64	28.62
Form 4	98	18386	24.8	16.94	34.88	68	13253	17.9	12.51	24.96
Form 5	52	22641	30.0	19.04	43.75	33	15490	20.5	16.24	25.54
School session										
Morning session	358	95987	25.0	21.18	29.35	347	90953	23.7	18.93	29.30
Evening session	133	29501	22.3	18.45	26.76	134	29619	22.4	19.77	25.31
Morning and evening session	145	36126	27.2	11.68	51.36	86	26679	20.1	14.85	26.60
BMI-for-age status (BAZ)										
Thinness (<-2sd)	44	11251	25.8	17.32	36.58	38	9434	21.6	15.20	29.83
Normal (≥-2sd - ≤+1sd)	402	98559	25.2	19.01	32.55	348	87901	22.5	18.16	27.43
Overweight (>+1sd - ≤+2sd)	110	30011	28.0	23.11	33.46	95	26045	24.3	20.66	28.33
Obese (>+2sd)	79	21599	20.2	15.16	26.43	87	24084	22.5	18.75	26.85
Height-for-age status (HAZ)										
Stunting (<-2sd)	44	10848	27.2	16.03	42.32	36	8652	21.7	14.32	31.53
Normal (≥-2sd)	591	150573	24.7	19.98	30.10	532	138811	22.8	19.38	26.55

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	
Selangor	636	161614	24.9	19.85	30.67	568	147463	22.7	19.26	26.54
Locality of school										
Urban	446	115549	26.0	19.73	33.42	383	103471	23.3	18.52	28.82
Rural	190	46065	22.4	14.91	32.33	185	43992	21.4	18.67	24.48
Sex										
Boys	340	79487	24.3	16.26	34.79	263	64241	19.7	16.12	23.79
Girls	296	82127	25.4	21.75	29.44	305	83222	25.7	21.92	29.97
Ethnicity										
Malay	414	107653	25.7	18.70	34.11	301	83058	19.8	17.73	22.04
Chinese	159	39119	28.0	23.16	33.33	192	45323	32.4	25.25	40.47
Indian	53	12646	18.0	15.60	20.77	57	14213	20.3	16.04	25.30
Bumiputera Sabah	3	554	17.5	3.05	58.71	3	894	28.2	9.16	60.45
Bumiputera Sarawak	2	416	13.2	1.89	54.65	3	611	19.4	7.10	43.26
Others	5	1227	8.8	2.67	25.48	12	3365	24.2	13.85	38.83
School level										
Primary school	172	53106	20.5	16.92	24.56	230	66970	25.8	18.86	34.28
Secondary school	464	108508	27.8	20.54	36.42	338	80493	20.6	17.34	24.32
Class										
Standard 4	62	15920	18.2	12.02	26.56	82	21215	24.2	14.30	38.00
Standard 5	69	17282	20.0	15.56	25.24	95	22731	26.3	19.85	33.86
Standard 6	41	19905	23.4	19.94	27.16	53	23024	27.0	19.93	35.51
Form 1	79	18364	21.8	16.20	28.75	70	16026	19.1	14.67	24.37
Form 2	100	22625	29.0	19.90	40.08	86	18883	24.2	18.61	30.76
Form 3	135	26492	33.7	22.48	47.12	81	16841	21.4	15.64	28.62
Form 4	98	18386	24.8	16.94	34.88	68	13253	17.9	12.51	24.96
Form 5	52	22641	30.0	19.04	43.75	33	15490	20.5	16.24	25.54
School session										
Morning session	358	95987	25.0	21.18	29.35	347	90953	23.7	18.93	29.30
Evening session	133	29501	22.3	18.45	26.76	134	29619	22.4	19.77	25.31
Morning and evening session	145	36126	27.2	11.68	51.36	86	26679	20.1	14.85	26.60
BMI-for-age status (BAZ)										
Thinness (<-2sd)	44	11251	25.8	17.32	36.58	38	9434	21.6	15.20	29.83
Normal (≥-2sd - ≤+1sd)	402	98559	25.2	19.01	32.55	348	87901	22.5	18.16	27.43
Overweight (>+1sd - ≤+2sd)	110	30011	28.0	23.11	33.46	95	26045	24.3	20.66	28.33
Obese (>+2sd)	79	21599	20.2	15.16	26.43	87	24084	22.5	18.75	26.85
Height-for-age status (HAZ)										
Stunting (<-2sd)	44	10848	27.2	16.03	42.32	36	8652	21.7	14.32	31.53
Normal (≥-2sd)	591	150573	24.7	19.98	30.10	532	138811	22.8	19.38	26.55

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	
Selangor	58	14537	2.2	1.47	3.38	418	109860	16.9	13.79	20.56
Locality of school										
Urban	37	9627	2.2	1.20	3.86	233	66197	14.9	10.91	20.00
Rural	21	4909	2.4	1.57	3.62	185	43663	21.3	17.65	25.41
Sex										
Boys	34	7976	2.4	1.56	3.81	232	58830	18.0	14.38	22.35
Girls	24	6561	2.0	1.23	3.34	186	51029	15.8	12.24	20.12
Ethnicity										
Malay	33	8294	2.0	1.22	3.20	328	87064	20.7	18.26	23.48
Chinese	16	3950	2.8	1.23	6.33	54	12730	9.1	5.66	14.31
Indian	7	1904	2.7	1.17	6.17	28	7084	10.1	6.93	14.51
Bumiputera Sabah										
Bumiputera Sarawak	1	202	6.4	0.98	32.37	2	410	13.0	4.22	33.76
Others	1	186	1.3	0.15	10.77	6	2572	18.5	7.03	40.54
School level										
Primary school	21	5678	2.2	0.88	5.36	126	44009	17.0	11.80	23.80
Secondary school	37	8858	2.3	1.60	3.21	292	65851	16.9	13.26	21.21
Class										
Standard 4	10	2391	2.7	1.36	5.40	46	14094	16.1	10.29	24.30
Standard 5	6	1630	1.9	0.87	4.05	54	16180	18.7	12.25	27.46
Standard 6	5	1658	1.9	0.42	8.51	26	13735	16.1	10.05	24.83
Form 1	8	1843	2.2	0.92	5.15	55	12737	15.1	10.13	22.03
Form 2	8	1807	2.3	1.08	4.87	69	15837	20.3	14.64	27.37
Form 3	9	1595	2.0	0.87	4.67	64	12751	16.2	10.18	24.85
Form 4	7	1373	1.9	0.76	4.44	86	16552	22.4	18.95	26.20
Form 5	5	2240	3.0	1.42	6.08	18	7974	10.6	8.49	13.04
School session										
Morning session	32	8309	2.2	1.29	3.63	238	61006	15.9	12.64	19.85
Evening session	16	3644	2.8	1.51	4.99	90	19797	15.0	11.19	19.78
Morning and evening session	10	2584	1.9	0.98	3.83	87	28385	21.4	15.72	28.38
BMI-for-age status (BAZ)										
Thinness (<-2sd)						40	10512	24.1	18.53	30.72
Normal (≥-2sd - ≤+1sd)	30	7893	2.0	1.23	3.28	243	62573	16.0	12.61	20.07
Overweight (>+1sd - ≤+2sd)	13	3158	2.9	1.36	6.27	62	17572	16.4	11.32	23.14
Obese (>+2sd)	15	3486	3.3	1.49	7.00	73	19203	18.0	14.66	21.84
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	427	1.1	0.14	7.51	32	8624	21.6	15.46	29.46
Normal (≥-2sd)	57	14110	2.3	1.50	3.56	386	101235	16.6	13.53	20.21

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
Selangor	321	85447	13.2	11.22	15.35
Locality of school					
Urban	230	63260	14.2	11.74	17.15
Rural	91	22187	10.8	8.69	13.37
Sex					
Boys	136	34118	10.5	8.36	12.98
Girls	185	51329	15.9	13.15	19.05
Ethnicity					
Malay	174	48896	11.7	9.97	13.57
Chinese	96	22655	16.2	12.44	20.82
Indian	44	11890	17.0	11.46	24.39
Bumiputera Sabah	1	666	21.0	2.53	73.16
Bumiputera Sarawak	1	191	6.1	0.95	30.37
Others	5	1149	8.3	2.10	27.47
School level					
Primary school	110	33284	12.8	10.16	16.09
Secondary school	211	52163	13.4	10.83	16.38
Class					
Standard 4	39	11195	12.8	9.42	17.12
Standard 5	43	10879	12.6	9.69	16.15
Standard 6	28	11210	13.2	8.80	19.21
Form 1	63	14384	17.1	12.98	22.19
Form 2	34	8064	10.3	6.56	15.88
Form 3	42	8750	11.1	8.50	14.45
Form 4	48	9576	12.9	9.55	17.31
Form 5	24	11388	15.1	8.97	24.20
School session					
Morning session	189	50384	13.1	10.74	16.00
Evening session	85	19156	14.5	11.41	18.27
Morning and evening session	46	15707	11.8	7.67	17.80
BMI-for-age status (BAZ)					
Thinness (<-2sd)	21	5364	12.3	8.25	17.96
Normal (≥-2sd - ≤+1sd)	217	56994	14.6	12.39	17.04
Overweight (>+1sd - ≤+2sd)	42	12172	11.4	8.23	15.47
Obese (>+2sd)	40	10631	10.0	7.14	13.70
Height-for-age status (HAZ)					
Stunting (<-2sd)	18	4586	11.5	7.80	16.66
Normal (≥-2sd)	303	80861	13.3	11.34	15.45

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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	
Selangor	1317	353384	54.4	46.28	62.21	237	64728	10.0	7.52	13.06
Locality of school										
Urban	809	233672	52.6	41.37	63.49	146	42614	9.6	6.48	13.95
Rural	508	119711	58.3	48.98	66.98	91	22114	10.8	7.62	14.99
Sex										
Boys	677	170729	52.2	43.98	60.30	144	37940	11.6	8.51	15.62
Girls	640	182654	56.5	47.44	65.23	93	26788	8.3	5.80	11.73
Ethnicity										
Malay	889	246517	58.7	49.64	67.17	104	32229	7.7	4.93	11.75
Chinese	244	58932	42.1	34.63	49.99	93	22900	16.4	12.07	21.81
Indian	143	34486	49.3	39.12	59.61	32	7837	11.2	7.54	16.36
Bumiputera Sabah	5	1807	57.0	29.12	81.03	1	216	6.8	0.82	39.34
Bumiputera Sarawak	7	1856	59.0	36.45	78.36	2	451	14.4	4.54	37.12
Others	29	9786	70.4	46.15	86.86	5	1095	7.9	2.13	25.15
School level										
Primary school	449	152441	58.8	43.07	72.99	129	40105	15.5	12.19	19.47
Secondary school	868	200943	51.4	45.13	57.59	108	24623	6.3	5.04	7.84
Class										
Standard 4	165	50683	57.6	41.97	71.79	58	15801	17.9	14.75	21.66
Standard 5	195	56315	65.7	43.64	82.51	35	7616	8.9	4.50	16.79
Standard 6	89	45443	53.3	39.11	67.02	36	16688	19.6	14.39	26.08
Form 1	209	47908	56.9	47.39	65.97	36	8275	9.8	5.91	15.93
Form 2	200	43715	56.0	45.96	65.49	17	3857	4.9	2.88	8.34
Form 3	202	40719	51.8	42.38	61.11	23	4310	5.5	3.21	9.20
Form 4	186	36024	48.5	41.12	55.98	25	4787	6.4	3.45	11.74
Form 5	71	32576	42.9	36.27	49.80	7	3394	4.5	1.93	9.99
School session										
Morning session	728	198305	51.8	43.74	59.71	150	41172	10.7	7.53	15.12
Evening session	350	77556	58.7	52.15	64.95	40	8805	6.7	4.36	10.05
Morning and evening session	235	76650	57.5	39.84	73.41	46	14512	10.9	7.09	16.35
BMI-for-age status (BAZ)										
Thinness (<-2sd)	94	23986	55.0	48.03	61.77	23	5988	13.7	9.28	19.84
Normal (≥-2sd - ≤+1sd)	808	211192	53.9	45.85	61.79	136	36910	9.4	6.82	12.88
Overweight (>+1sd - ≤+2sd)	198	57469	53.7	43.17	63.92	41	11389	10.6	7.28	15.31
Obese (>+2sd)	215	60213	56.2	46.29	65.70	37	10441	9.8	6.61	14.16
Height-for-age status (HAZ)										
Stunting (<-2sd)	84	22575	56.7	45.14	67.52	17	3884	9.8	5.11	17.81
Normal (≥-2sd)	1233	330809	54.2	46.12514	62.10574	220	60844	10.0	7.48	13.17

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
Selangor	942	231997	35.7	27.35	44.99
Locality of school					
Urban	675	168333	37.9	26.29	50.99
Rural	267	63663	31.0	22.28	41.27
Sex					
Boys	513	118418	36.2	26.77	46.84
Girls	429	113579	35.2	26.74	44.62
Ethnicity					
Malay	562	141327	33.6	23.02	46.23
Chinese	250	58092	41.5	34.49	48.91
Indian	109	27577	39.5	29.96	49.81
Bumiputera Sabah	5	1148	36.2	13.83	66.73
Bumiputera Sarawak	4	837	26.6	9.41	55.88
Others	12	3016	21.7	9.40	42.55
School level					
Primary school	249	66497	25.7	15.13	40.09
Secondary school	693	165500	42.3	35.62	49.32
Class					
Standard 4	87	21559	24.5	14.30	38.66
Standard 5	101	21850	25.5	12.74	44.44
Standard 6	61	23089	27.1	16.06	41.93
Form 1	122	27974	33.2	25.66	41.80
Form 2	137	30551	39.1	30.30	48.69
Form 3	171	33569	42.7	32.45	53.64
Form 4	174	33442	45.0	35.36	55.11
Form 5	89	39964	52.6	43.33	61.75
School session					
Morning session	566	143548	37.5	29.17	46.60
Evening session	204	45769	34.6	28.47	41.37
Morning and evening session	170	42177	31.6	15.43	53.98
BMI-for-age status (BAZ)					
Thinness (<-2sd)	52	13640	31.3	23.51	40.25
Normal (≥-2sd - ≤+1sd)	583	143583	36.7	28.28	45.93
Overweight (>+1sd - ≤+2sd)	159	38152	35.7	25.14	47.75
Obese (>+2sd)	147	36429	34.0	24.52	45.00
Height-for-age status (HAZ)					
Stunting (<-2sd)	54	13379	33.6	24.46	44.12
Normal (≥-2sd)	887	218425	35.8	27.34	45.25

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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	
Selangor	254	67529	10.39	8.69	12.37	389	105978	16.30	12.64	20.76
Locality of school										
Urban	153	43471	9.78	7.82	12.17	217	66126	14.88	10.85	20.06
Rural	101	24058	11.69	9.03	15.02	172	39852	19.37	12.38	29.00
Sex										
Boys	104	24883	7.61	6.07	9.49	191	48364	14.79	11.40	18.96
Girls	150	42646	13.20	10.73	16.12	198	57614	17.83	12.64	24.55
Ethnicity										
Malay	169	44379	10.56	8.74	12.71	226	64071	15.25	10.29	22.01
Chinese	46	12382	8.85	5.71	13.45	115	29692	21.21	15.48	28.36
Indian	31	8312	11.89	7.37	18.64	38	9088	13.00	8.72	18.96
Bumiputera Sabah	1	218	6.88	0.82	39.87					
Bumiputera Sarawak	2	410	13.04	4.22	33.76	2	399	12.70	4.10	33.12
Others	5	1828	13.15	6.34	25.31	8	2729	19.63	12.47	29.52
School level										
Primary school	66	21566	8.32	6.16	11.16	169	54660	21.09	17.55	25.12
Secondary school	188	45962	11.75	9.90	13.90	220	51318	13.12	9.08	18.59
Class										
Standard 4	29	8425	9.57	5.62	15.83	54	14472	16.44	11.83	22.38
Standard 5	22	6102	7.03	4.60	10.60	76	20221	23.29	16.96	31.11
Standard 6	15	7040	8.35	6.41	10.81	39	19967	23.67	18.22	30.16
Form 1	43	9922	11.76	8.77	15.59	54	12222	14.49	9.44	21.59
Form 2	41	9371	11.99	8.27	17.08	46	10288	13.17	9.23	18.44
Form 3	50	10052	12.79	9.82	16.49	55	10739	13.66	7.50	23.59
Form 4	33	6404	8.60	6.21	11.81	46	8966	12.05	5.31	25.06
Form 5	21	10213	13.52	8.47	20.91	19	9103	12.05	6.86	20.31
School session										
Morning session	138	39806	10.40	7.98	13.45	228	62363	16.29	11.96	21.81
Evening session	67	15314	11.57	8.33	15.85	88	19636	14.84	11.45	19.02
Morning and evening session	48	12209	9.14	6.71	12.33	72	23739	17.77	12.30	24.99
BMI-for-age status (BAZ)										
Thinness (<-2sd)	20	5656	13.09	8.90	18.84	29	7607	17.61	11.05	26.88
Normal (≥-2sd - ≤+1sd)	160	40916	10.44	8.31	13.04	243	62378	15.91	12.27	20.38
Overweight (>+1sd - ≤+2sd)	44	13428	12.52	9.76	15.93	56	15844	14.78	11.20	19.25
Obese (>+2sd)	30	7528	7.03	4.34	11.19	61	20148	18.82	11.19	29.89
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	3590	9.01	5.54	14.34	28	6615	16.60	10.94	24.39
Normal (≥-2sd)	239	63938	10.48	8.69	12.58	361	99363	16.28	12.55	20.86

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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	
Selangor	561	141431	21.8	18.59	25.28	49	12726	2.0	1.21	3.14
Locality of school										
Urban	352	92856	20.9	17.14	25.22	31	8308	1.9	1.03	3.38
Rural	209	48575	23.6	18.56	29.54	18	4418	2.1	0.97	4.67
Sex										
Boys	343	84935	26.0	21.77	30.66	36	9120	2.8	1.72	4.48
Girls	218	56496	17.5	13.58	22.22	13	3606	1.1	0.55	2.25
Ethnicity										
Malay	368	94503	22.5	19.18	26.20	13	4284	1.0	0.50	2.05
Chinese	113	26928	19.2	12.12	29.16	27	6729	4.8	2.92	7.82
Indian	64	15310	21.9	14.99	30.85	7	1331	1.9	0.58	6.09
Bumiputera Sabah						1	191	6.0	0.73	35.78
Bumiputera Sarawak	4	939	29.9	10.34	61.11	1	191	6.1	0.95	30.37
Others	12	3752	27.0	18.07	38.28					
School level										
Primary school	138	45594	17.6	14.46	21.23	34	9465	3.7	2.35	5.63
Secondary school	423	95837	24.5	20.53	28.97	15	3261	0.8	0.39	1.78
Class										
Standard 4	41	12013	13.6	10.57	17.44	20	5526	6.3	3.96	9.81
Standard 5	57	14993	17.3	12.87	22.78	9	1757	2.0	0.65	6.11
Standard 6	40	18588	22.0	16.71	28.49	5	2183	2.6	1.27	5.22
Form 1	108	24444	29.0	20.61	39.06	4	936	1.1	0.35	3.43
Form 2	94	20552	26.3	20.86	32.59	3	554	0.7	0.15	3.20
Form 3	93	18086	23.0	16.44	31.22	3	522	0.7	0.13	3.22
Form 4	94	18057	24.3	19.80	29.35	4	744	1.0	0.32	3.09
Form 5	34	14699	19.5	14.79	25.16	1	506	0.7	0.10	4.30
School session										
Morning session	295	75414	19.7	16.65	23.16	31	8152	2.1	1.27	3.54
Evening session	175	38440	29.0	23.30	35.55	6	1249	0.9	0.39	2.29
Morning and evening session	88	26905	20.1	16.12	24.87	12	3325	2.5	1.08	5.65
BMI-for-age status (BAZ)										
Thinness (<-2sd)	42	9486	22.0	13.56	33.53	2	381	0.9	0.20	3.77
Normal (≥-2sd - ≤+1sd)	342	86665	22.1	18.90	25.69	27	6767	1.7	0.96	3.08
Overweight (>+1sd - ≤+2sd)	79	20332	19.0	14.39	24.57	10	3186	3.0	1.33	6.50
Obese (>+2sd)	98	24948	23.3	17.60	30.17	10	2392	2.2	0.79	6.15
Height-for-age status (HAZ)										
Stunting (<-2sd)	36	9667	24.3	17.93	31.97	2	457	1.1	0.25	5.13
Normal (≥-2sd)	525	131765	21.6	18.33	25.26	47	12269	2.0	1.27	3.16

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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	
Selangor	221	56336	8.7	6.52	11.43	166	42602	6.6	5.07	8.43
Locality of school										
Urban	158	41577	9.4	6.51	13.26	97	26153	5.9	4.29	8.02
Rural	63	14760	7.2	4.96	10.27	69	16450	8.0	5.61	11.27
Sex										
Boys	122	30121	9.2	7.05	11.95	88	21344	6.5	4.88	8.67
Girls	99	26216	8.1	5.61	11.60	78	21258	6.6	4.67	9.18
Ethnicity										
Malay	119	32417	7.7	6.35	9.34	125	31323	7.5	5.46	10.11
Chinese	77	18517	13.2	8.24	20.57	23	6014	4.3	2.17	8.34
Indian	17	3523	5.0	3.36	7.49	12	3007	4.3	2.92	6.29
Bumiputera Sabah	1	229	7.2	0.76	44.36	1	666	21.0	2.53	73.16
Bumiputera Sarawak	1	254	8.1	1.21	38.80					
Others	6	1396	10.0	3.05	28.38	5	1592	11.5	3.77	29.92
School level										
Primary school	90	26242	10.1	5.68	17.40	55	16215	6.3	3.95	9.77
Secondary school	131	30095	7.7	6.24	9.46	111	26388	6.7	5.01	9.03
Class										
Standard 4	28	7387	8.4	3.92	17.06	27	7670	8.7	5.09	14.50
Standard 5	36	8879	10.2	6.43	15.89	23	5942	6.8	3.13	14.32
Standard 6	26	9976	11.8	5.04	25.30	5	2603	3.1	2.08	4.55
Form 1	26	6321	7.5	4.30	12.74	21	4908	5.8	3.49	9.53
Form 2	20	4400	5.6	3.98	7.91	25	5613	7.2	4.03	12.48
Form 3	46	8958	11.4	7.53	16.89	29	5988	7.6	4.93	11.59
Form 4	27	5145	6.9	4.26	11.03	24	4528	6.1	3.47	10.45
Form 5	12	5270	7.0	3.79	12.49	12	5352	7.1	4.21	11.69
School session										
Morning session	145	38139	10.0	7.07	13.88	94	25056	6.5	4.89	8.71
Evening session	34	7450	5.6	3.94	7.98	33	7621	5.8	3.43	9.52
Morning and evening session	41	10535	7.9	5.39	11.41	39	9925	7.4	4.66	11.64
BMI-for-age status (BAZ)										
Thinness (<-2sd)	22	5806	13.4	9.02	19.55	17	4004	9.3	4.57	17.89
Normal (≥-2sd - ≤+1sd)	142	35702	9.1	6.36	12.87	99	24937	6.4	4.60	8.74
Overweight (>+1sd - ≤+2sd)	25	6618	6.2	4.05	9.30	27	8012	7.5	5.12	10.79
Obese (>+2sd)	31	7925	7.4	4.80	11.24	23	5649	5.3	3.11	8.81
Height-for-age status (HAZ)										
Stunting (<-2sd)	25	6066	15.2	11.00	20.70	10	2886	7.2	3.89	13.09
Normal (≥-2sd)	196	50270	8.2	6.10	11.03	156	39716	6.5	5.01	8.41

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				
	Count	Estimated Population	Ice cream Percentage (%)	95% CI	
				Lower	Upper
Selangor	285	91517	14.1	8.45	22.52
Locality of school					
Urban	207	71989	16.2	8.96	27.51
Rural	78	19528	9.5	6.37	13.92
Sex					
Boys	134	40350	12.3	6.57	21.98
Girls	151	51166	15.8	10.12	23.91
Ethnicity					
Malay	166	60144	14.3	7.12	26.70
Chinese	69	17273	12.3	10.31	14.70
Indian	42	10740	15.4	10.19	22.51
Bumiputera Sabah	1	666	21.0	2.53	73.16
Bumiputera Sarawak	2	721	22.9	4.54	65.06
Others	5	1973	14.2	4.88	34.79
School level					
Primary school	133	52971	20.4	10.64	35.64
Secondary school	152	38546	9.9	7.02	13.68
Class					
Standard 4	42	15659	17.8	7.82	35.56
Standard 5	61	19088	22.0	13.25	34.22
Standard 6	30	18224	21.6	11.33	37.29
Form 1	32	7276	8.6	5.77	12.69
Form 2	38	8025	10.3	6.27	16.38
Form 3	26	5708	7.3	3.93	13.04
Form 4	34	6668	9.0	5.21	14.96
Form 5	22	10869	14.4	7.77	25.11
School session					
Morning session	165	52432	13.7	8.77	20.78
Evening session	65	14628	11.1	8.30	14.57
Morning and evening session	54	24257	18.2	7.00	39.57
BMI-for-age status (BAZ)					
Thinness (<-2sd)	20	6011	13.9	7.62	24.04
Normal (≥-2sd - ≤+1sd)	172	51949	13.3	8.53	20.01
Overweight (>+1sd - ≤+2sd)	48	17535	16.4	8.92	28.09
Obese (>+2sd)	45	16022	15.0	7.63	27.26
Height-for-age status (HAZ)					
Stunting (<-2sd)	11	4025	10.1	4.97	19.46
Normal (≥-2sd)	274	87492	14.3	8.61	22.92

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	
Selangor	1078	287791	44.4	40.35	48.43	861	221689	34.2	30.78	37.72
Locality of school										
Urban	736	205695	46.3	41.37	51.32	544	146497	33.0	28.68	37.59
Rural	342	82096	40.1	34.43	46.07	317	75192	36.7	31.75	42.02
Sex										
Boys	528	129935	39.9	37.68	42.19	463	112326	34.5	30.30	38.96
Girls	550	157856	48.8	42.70	54.99	398	109363	33.8	29.97	37.91
Ethnicity										
Malay	739	199651	47.7	42.98	52.44	588	153403	36.6	33.32	40.09
Chinese	204	51862	37.1	31.18	43.36	141	35174	25.1	21.34	29.37
Indian	101	25910	37.0	26.56	48.76	112	26135	37.3	26.72	49.25
Bumiputera Sabah	4	1355	42.7	16.19	74.22	5	1720	54.2	20.04	84.86
Bumiputera Sarawak	5	1232	39.2	9.81	79.28	2	727	23.1	4.41	66.19
Others	25	7780	56.0	43.82	67.48	13	4531	32.6	21.45	46.15
School level										
Primary school	302	100576	38.9	34.17	43.87	282	90499	35.0	30.95	39.30
Secondary school	776	187215	48.0	43.07	52.89	579	131190	33.6	28.88	38.68
Class										
Standard 4	112	31443	35.8	32.01	39.83	120	34978	39.9	34.79	45.15
Standard 5	109	30730	35.6	27.76	44.28	112	31485	36.5	29.07	44.56
Standard 6	81	38403	45.5	38.16	53.05	50	24036	28.5	24.56	32.75
Form 1	121	28074	33.5	26.91	40.77	137	31220	37.2	29.91	45.21
Form 2	154	35041	44.9	36.30	53.72	126	27775	35.6	29.67	41.90
Form 3	206	42245	53.9	45.20	62.36	141	28084	35.8	28.04	44.45
Form 4	204	39479	53.3	48.72	57.81	135	25657	34.6	27.11	43.01
Form 5	91	42375	55.8	44.07	66.93	40	18454	24.3	15.66	35.70
School session										
Morning session	666	180528	47.2	41.34	53.16	462	121221	31.7	27.86	35.81
Evening session	217	49056	37.1	30.65	43.99	218	48025	36.3	30.47	42.55
Morning and evening session	192	57511	43.4	39.56	47.32	176	51323	38.7	33.82	43.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	66	17052	40.1	31.38	49.46	67	17374	40.8	32.86	49.32
Normal (\geq -2sd - \leq +1sd)	666	172969	44.2	38.96	49.50	516	129439	33.0	29.33	36.99
Overweight ($>$ +1sd - \leq +2sd)	171	46657	43.7	36.60	51.03	135	37360	35.0	29.50	40.88
Obese ($>$ +2sd)	173	50587	47.2	39.82	54.78	142	37323	34.9	30.57	39.39
Height-for-age status (HAZ)										
Stunting (<-2sd)	71	19432	48.8	35.81	61.91	65	16123	40.5	31.66	49.94
Normal (\geq -2sd)	1007	268359	44.1	39.84	48.41	795	205373	33.7	30.49	37.14

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	
Selangor	58	14918	2.3	1.55	3.40	167	45881	7.1	5.82	8.57
Locality of school										
Urban	33	8928	2.0	1.18	3.42	107	31963	7.2	5.52	9.33
Rural	25	5990	2.9	1.69	5.03	60	13918	6.8	5.69	8.11
Sex										
Boys	34	8116	2.5	1.45	4.24	88	21263	6.5	5.38	7.90
Girls	24	6802	2.1	1.28	3.45	79	24618	7.6	5.70	10.10
Ethnicity										
Malay	17	5575	1.3	0.62	2.86	102	29878	7.1	5.57	9.10
Chinese	19	4662	3.3	1.68	6.52	34	8497	6.1	3.61	10.04
Indian	17	3725	5.3	3.31	8.43	27	6699	9.6	5.89	15.16
Bumiputera Sabah	1	191	6.0	0.73	35.78	2	434	13.7	3.18	43.42
Bumiputera Sarawak	3	584	18.6	5.75	46.05	1	191	6.1	0.95	30.37
Others	1	180	1.3	0.15	10.44	1	182	1.3	0.13	11.71
School level										
Primary school	36	10309	4.0	2.99	5.30	56	19352	7.5	5.36	10.36
Secondary school	22	4608	1.2	0.58	2.39	111	26529	6.8	5.49	8.39
Class										
Standard 4	16	4976	5.7	3.27	9.64	16	4341	4.9	3.15	7.68
Standard 5	12	2475	2.9	1.10	7.25	29	8309	9.6	7.31	12.57
Standard 6	8	2859	3.4	1.55	7.22	11	6702	7.9	4.14	14.70
Form 1	9	1970	2.3	1.10	4.96	26	6070	7.2	4.90	10.57
Form 2	2	410	0.5	0.13	2.17	22	4849	6.2	4.08	9.33
Form 3	2	354	0.5	0.05	3.80	29	5465	7.0	4.87	9.90
Form 4	9	1874	2.5	0.98	6.38	21	4012	5.4	3.89	7.49
Form 5						13	6133	8.1	4.10	15.30
School session										
Morning session	30	7081	1.9	1.08	3.17	89	24757	6.5	4.94	8.45
Evening session	10	2140	1.6	0.68	3.79	38	8446	6.4	5.18	7.84
Morning and evening session	18	5697	4.3	2.27	8.01	40	12677	9.6	6.90	13.13
BMI-for-age status (BAZ)										
Thinness (<-2sd)	9	1948	4.6	2.01	10.10	12	3365	7.9	4.47	13.61
Normal (≥-2sd - ≤+1sd)	30	8688	2.2	1.22	3.99	93	24732	6.3	4.96	8.01
Overweight (>+1sd - ≤+2sd)	12	2630	2.5	1.29	4.66	28	7055	6.6	3.99	10.74
Obese (>+2sd)	7	1652	1.5	0.51	4.56	34	10730	10.0	5.87	16.59
Height-for-age status (HAZ)										
Stunting (<-2sd)	2	461	1.2	0.26	5.05	14	2996	7.5	4.10	13.38
Normal (≥-2sd)	56	14457	2.4	1.60	3.50	153	42885	7.0	5.65	8.75

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
Selangor	740	185491	28.6	23.99	33.68
Locality of school					
Urban	502	129325	29.1	22.78	36.38
Rural	238	56166	27.4	22.98	32.41
Sex					
Boys	411	99394	30.5	25.86	35.64
Girls	329	86097	26.6	20.98	33.16
Ethnicity					
Malay	364	96692	23.1	20.35	26.09
Chinese	280	63470	45.4	40.50	50.31
Indian	77	20769	29.6	22.29	38.21
Bumiputera Sabah	2	383	12.1	2.50	42.40
Bumiputera Sarawak	4	797	25.4	7.09	60.19
Others	13	3380	24.3	13.97	38.88
School level					
Primary school	262	72928	28.2	19.11	39.54
Secondary school	478	112563	28.8	24.89	33.13
Class					
Standard 4	83	21649	24.7	15.78	36.40
Standard 5	112	24945	28.9	16.48	45.56
Standard 6	67	26335	31.2	20.53	44.33
Form 1	123	28058	33.5	27.88	39.56
Form 2	110	23808	30.5	24.61	37.05
Form 3	91	17180	21.9	14.77	31.27
Form 4	98	18898	25.5	19.84	32.15
Form 5	56	24618	32.4	24.29	41.77
School session					
Morning session	437	112766	29.5	24.33	35.23
Evening session	200	44545	33.7	29.13	38.52
Morning and evening session	103	28180	21.3	15.36	28.67
BMI-for-age status (BAZ)					
Thinness (<-2sd)	44	10933	25.7	18.95	33.84
Normal (≥-2sd - ≤+1sd)	470	117903	30.1	25.27	35.42
Overweight (>+1sd - ≤+2sd)	119	32124	30.1	25.20	35.44
Obese (>+2sd)	107	24531	22.9	14.05	35.08
Height-for-age status (HAZ)					
Stunting (<-2sd)	33	8352	21.0	13.67	30.77
Normal (≥-2sd)	707	177139	29.1	24.31	34.40

3.5 Physical activity among adolescents (Primary 4 To Secondary 5) in Selangor

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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 of Malaysia 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 Selangor was 2.31 (95% CI: 2.23, 2.38) (**Table 3.5.1**). Overall, a total of 42.9% (95% CI: 37.89, 48.08) adolescents were physically active and 57.1% (95% CI: 51.92, 62.11) of them were not active. In terms of school locality, the prevalence of students who are active in urban area were 53.0% (95% CI: 44.29, 61.49) and from rural areas were 38.4% (95% CI: 34.30, 42.77). The prevalence of physically active was significantly higher among boys (52.9% (95% CI: 47.09, 58.54) compared to girls, 33.0% (95% CI: 26.43, 40.27). By school level, primary students [(50.3% (95% CI: 40.61, 59.92))] showed higher prevalence of physically active than secondary students [(38.2% (95% CI: 33.26, 43.39))]. In term of BMI-for-age status, there is no significant different of physically active among thinness [44.6% (95% CI: 36.59, 52.97)], normal [42.7% (95% CI: 37.41, 48.16)], overweight [38.4% (95% CI: 28.89, 48.93)] and obese [47.3% (95% CI: 41.78, 52.83)] (**Table 3.5.2**).

The most popular spare-time physical activity according to percentage of adolescents in Selangor were walking for exercise [79.8% (95% CI: 76.19, 83.02)] (**Table 3.5.3**). The prevalence of students who reported do not attend/very rare participated in PE class were 17.3% (95% CI: 13.10, 22.41)] (**Table 3.5.4**). During school days, 29.2% (95% CI: 24.22, 34.66) of adolescent watched television, using computer and playing video games more than 2 hours per day (**Table 3.5.6**). Meanwhile, 48.6% (95% CI: 42.62, 54.57) of the adolescents engaged on these activities more than 2 hours during weekend (**Table 3.5.5**).

3.5.5 Discussion

The prevalence of physically active among adolescents in Selangor (42.9%) was lower than national prevalence (44.6%). The prevalence of physically active was higher among boys and primary school 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 the findings of National Health and Morbidity Survey (2017), 57.1% of children and adolescents in Selangor 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 it still remains high. Therefore, more effective 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 instill active lifestyle, limit the amount of sedentary and screen time behaviors as for their children. Improving technique for physical activity assessment is necessary.

References

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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
SELANGOR	2.31	2.23	2.38
Locality of school			
Urban	2.25	2.18	2.32
Rural	2.43	2.29	2.56
Sex			
Boys	2.43	2.35	2.52
Girls	2.18	2.10	2.26
Class			
Standard 4	2.45	2.34	2.55
Standard 5	2.47	2.31	2.63
Standard 6	2.35	2.24	2.46
Form 1	2.37	2.28	2.45
Form 2	2.29	2.20	2.37
Form 3	2.18	2.08	2.29
Form 4	2.12	2.04	2.20
Form 5	2.19	2.04	2.34
Ethnicity			
Malay	2.32	2.23	2.40
Chinese	2.19	2.05	2.33
Indian	2.41	2.24	2.59
Bumiputera Sabah	2.68	1.69	3.66
Bumiputera Sarawak	2.23	1.65	2.81
Others	2.57	2.40	2.74
School Category			
Primary	2.42	2.30	2.54
Secondary	2.23	2.16	2.30
BMI-for-age status (BAZ)			
Thinness (<-2sd)	2.32	2.21	2.43
Normal (≥-2sd - ≤+1sd)	2.31	2.23	2.39
Overweight (>+1sd - ≤+2sd)	2.26	2.13	2.40
Obese (>+2sd)	2.33	2.24	2.41
Height-for-age status (HAZ)			
Stunting (<-2sd)	2.29	2.12	2.45
Normal (≥-2sd)	2.31	2.24	2.38

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	
SELANGOR	1019	262692	42.9	37.89	48.08	1322	349480	57.1	51.92	62.11
Locality of School										
Urban	601	163083	38.4	34.30	42.77	947	261077	61.6	57.23	65.70
Rural	418	99609	53.0	44.29	61.49	375	88403	47.0	38.51	55.71
Sex										
Boys	639	161702	52.9	47.09	58.54	604	144250	47.1	41.46	52.91
Girls	380	100990	33.0	26.43	40.27	718	205230	67.0	59.73	73.57
Class										
Standard 4	132	36644	47.5	37.59	57.68	135	40442	52.5	42.32	62.41
Standard 5	173	43837	54.3	43.02	65.22	133	36840	45.7	34.78	56.98
Standard 6	93	39647	48.8	38.95	58.84	82	41518	51.2	41.16	61.05
Form 1	160	36761	46.5	38.15	55.15	185	42212	53.5	44.85	61.85
Form 2	142	30487	41.1	35.65	46.73	194	43728	58.9	53.27	64.35
Form 3	141	27238	35.5	27.61	44.32	245	49429	64.5	55.68	72.39
Form 4	121	23049	32.7	27.42	38.37	245	47530	67.3	61.63	72.58
Form 5	57	25029	34.4	24.81	45.40	103	47781	65.6	54.60	75.19
Ethnicity										
Malay	629	168527	42.4	36.31	48.79	835	228659	57.6	51.21	63.69
Chinese	211	48914	37.1	28.34	46.74	342	83031	62.9	53.26	71.66
Indian	142	33742	52.9	38.71	66.61	117	30064	47.1	33.39	61.29
Bumiputera Sabah	4	1330	44.6	13.62	80.45	6	1651	55.4	19.55	86.38
Bumiputera Sarawak	6	1342	45.5	17.61	76.46	6	1611	54.5	23.54	82.39
Others	27	8838	66.4	51.47	78.69	16	4466	33.6	21.31	48.53
School Category										
Primary	398	120127	50.3	40.61	59.92	350	118801	49.7	40.08	59.39
Secondary	621	142565	38.2	33.26	43.39	972	230679	61.8	56.61	66.74
BMI-for-age status (BAZ)										
Thinness (<-2sd)	68	18174	44.6	36.59	52.97	88	22542	55.4	47.03	63.41
Normal (≥-2sd - ≤+1sd)	626	158260	42.7	37.41	48.16	815	212382	57.3	51.84	62.59
Overweight (>+1sd - ≤+2sd)	151	38707	38.4	28.89	48.93	221	62050	61.6	51.07	71.11
Obese (>+2sd)	172	47073	47.3	41.78	52.83	198	52505	52.7	47.17	58.22
Height-for-age status (HAZ)										
Stunting (<-2sd)	50	13485	36.4	27.92	45.72	93	23611	63.6	54.28	72.08
Normal (≥-2sd)	968	249014	43.3	38.28	48.50	1229	325869	56.7	51.50	61.72

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	1990	79.8	76.19	83.02
Jogging/Running	1887	75.4	72.28	78.36
Tagging	1715	67.9	67.86	67.86
Badminton	1624	66.5	59.14	73.17
Cycling	1363	55.1	47.12	62.76

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
SELANGOR	418	112232	17.3	13.10	22.41	1437	374144	57.6	54.02	61.01
Locality of school										
Urban	309	87242	19.6	14.46	26.01	960	261093	58.7	53.97	63.18
Rural	109	24991	12.2	8.69	16.84	477	113052	55.2	50.89	59.36
Sex										
Boys	258	64123	19.6	13.09	28.36	700	169700	51.9	47.93	55.92
Girls	160	48109	14.9	11.49	19.04	737	204444	63.2	58.58	67.64
Class										
Standard 4	54	14035	16.0	11.27	22.31	175	51237	58.5	50.06	66.55
Standard 5	32	8667	10.0	8.16	12.22	200	53028	61.3	53.54	68.46
Standard 6	39	22880	26.8	13.74	45.82	97	42681	50.1	42.01	58.15
Form 1	42	9483	11.3	7.23	17.32	180	41301	49.3	42.90	55.80
Form 2	41	8445	10.8	5.73	19.47	219	49179	63.0	57.98	67.66
Form 3	80	14281	18.1	8.28	35.21	249	50520	64.1	53.48	73.56
Form 4	95	18237	24.6	15.06	37.41	223	43110	58.1	50.44	65.31
Form 5	35	16204	21.3	14.20	30.78	94	43089	56.7	45.86	67.02
Ethnicity										
Malay	251	69188	16.5	10.80	24.30	921	249567	59.4	54.66	64.00
Chinese	103	26513	18.9	14.22	24.72	337	78924	56.3	51.97	60.57
Indian	50	12745	18.2	14.43	22.79	146	36267	51.9	46.20	57.55
Bumiputera Sabah	2	361	11.4	2.86	35.83	4	1333	42.0	15.80	73.72
Bumiputera Sarawak	2	721	22.9	4.54	65.06	6	1315	41.8	17.20	71.32
Others	10	2705	19.7	12.35	29.99	23	6738	49.1	36.63	61.72
School level										
Primary	125	45582	17.6	12.33	24.44	472	146945	56.7	53.85	59.45
Secondary	293	66650	17.1	11.46	24.62	965	227199	58.1	52.52	63.55
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	6599	15.1	8.91	24.53	107	28635	65.7	57.03	73.36
Normal (≥-2sd - ≤+1sd)	235	59188	15.1	11.16	20.16	882	228489	58.4	53.71	62.88
Overweight (>+1sd - ≤+2sd)	76	23262	21.7	15.47	29.55	218	56910	53.1	49.03	57.09
Obese (>+2sd)	80	22658	21.2	15.19	28.68	230	60110	56.1	50.65	61.50
Height-for-age status (HAZ)										
Stunting (<-2sd)	33	7879	19.8	11.77	31.31	90	23565	59.2	48.19	69.27
Normal (≥-2sd)	385	104353	17.1	12.89	22.34	1347	350579	57.5	54.12	60.74

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

Characteristic	Count	Estimated population	Always		
			Prevalence (%)	95% CI	
				Lower	Upper
SELANGOR	640	163713	25.2	21.29	29.52
Locality of school					
Urban	362	96808	21.7	18.01	26.02
Rural	278	66905	32.6	28.83	36.71
Sex					
Boys	375	92914	28.4	23.92	33.43
Girls	265	70799	21.9	17.00	27.73
Class					
Standard 4	79	22247	25.4	18.92	33.24
Standard 5	101	24866	28.7	21.72	36.93
Standard 6	50	19659	23.1	15.15	33.49
Form 1	143	32920	39.3	32.26	46.88
Form 2	94	20500	26.2	20.52	32.90
Form 3	68	13974	17.7	11.65	26.06
Form 4	67	12905	17.4	12.26	24.05
Form 5	38	16641	21.9	12.99	34.54
Ethnicity					
Malay	382	101279	24.1	19.07	30.00
Chinese	148	34713	24.8	19.77	30.55
Indian	88	20863	29.9	22.20	38.83
Bumiputera Sabah	5	1477	46.6	14.95	81.23
Bumiputera Sarawak	5	1108	35.3	11.26	70.02
Others	12	4273	31.2	19.88	45.21
School level					
Primary	230	66773	25.8	19.17	33.65
Secondary	410	96940	24.8	20.15	30.13
BMI-for-age status (BAZ)					
Thinness (<-2sd)	37	8380	19.2	12.28	28.78
Normal (≥-2sd - ≤+1sd)	408	103811	26.5	22.35	31.15
Overweight (>+1sd - ≤+2sd)	105	27040	25.2	20.59	30.49
Obese (>+2sd)	89	24290	22.7	18.43	27.59
Height-for-age status (HAZ)					
Stunting (<-2sd)	32	8394	21.1	15.36	28.20
Normal (≥-2sd)	607	155126	25.4	21.45	29.86

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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
SELANGOR	1270	333371	51.4	45.43	57.38	1221	314907	48.6	42.62	54.57
Locality of school										
Urban	815	224557	50.6	43.34	57.86	814	219122	49.4	42.14	56.66
Rural	455	108815	53.2	42.55	63.54	407	95785	46.8	36.46	57.45
Sex										
Boys	641	152927	47.0	41.60	52.51	688	172318	53.0	47.49	58.40
Girls	629	180444	55.9	46.38	64.93	533	142589	44.1	35.07	53.62
Class										
Standard 4	209	59496	68.0	60.51	74.59	99	28052	32.0	25.41	39.49
Standard 5	207	52378	60.6	54.67	66.31	125	33992	39.4	33.69	45.33
Standard 6	103	47679	56.5	46.84	65.68	82	36716	43.5	34.32	53.16
Form 1	179	41113	48.9	42.54	55.24	188	43007	51.1	44.76	57.46
Form 2	172	37775	48.5	40.64	56.39	181	40149	51.5	43.61	59.36
Form 3	176	33860	43.1	32.50	54.33	220	44738	56.9	45.67	67.50
Form 4	157	30223	40.7	33.17	48.70	228	44029	59.3	51.30	66.83
Form 5	67	30848	41.1	32.25	50.55	98	44223	58.9	49.45	67.75
Ethnicity										
Malay	778	213862	51.0	43.90	58.05	776	205502	49.0	41.95	56.10
Chinese	286	66195	47.2	34.20	60.64	302	73978	52.8	39.36	65.80
Indian	166	40636	59.0	49.49	67.84	115	28267	41.0	32.16	50.51
Bumiputera Sabah	4	1734	58.2	25.74	84.80	6	1246	41.8	15.20	74.26
Bumiputera Sarawak	10	2401	76.4	49.48	91.45	3	742	23.6	8.55	50.52
Others	26	8544	62.3	41.87	79.12	19	5173	37.7	20.88	58.13
School level										
Primary	519	159553	61.8	55.29	67.85	306	98760	38.2	32.15	44.71
Secondary	751	173818	44.6	39.78	49.47	915	216147	55.4	50.53	60.22
BMI-for-age status (BAZ)										
Thinness (<-2sd)	89	21155	48.7	37.67	59.86	79	22282	51.3	40.14	62.33
Normal ($\geq -2sd$ - $\leq +1sd$)	766	199359	51.0	45.03	57.00	757	191317	49.0	43.00	54.97
Overweight ($> +1sd$ - $\leq +2sd$)	207	56278	52.9	44.91	60.75	191	50109	47.1	39.25	55.09
Obese ($> +2sd$)	207	56339	52.6	42.91	62.15	192	50721	47.4	37.85	57.09
Height-for-age status (HAZ)										
Stunting (<-2sd)	84	21782	54.7	47.00	62.14	71	18056	45.3	37.86	53.00
Normal ($\geq -2sd$)	1186	311590	51.2	45.06	57.36	1149	296658	48.8	42.64	54.94

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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
SELANGOR	1736	457071	70.8	65.34	75.78	745	188206	29.2	24.22	34.66
Locality of school										
Urban	1129	311855	70.7	63.26	77.16	492	129294	29.3	22.84	36.74
Rural	607	145216	71.1	63.87	77.46	253	58912	28.9	22.54	36.13
Sex										
Boys	888	217418	67.4	61.42	72.90	432	105048	32.6	27.10	38.58
Girls	848	239653	74.2	65.68	81.27	313	83158	25.8	18.73	34.32
Class										
Standard 4	239	67732	77.4	70.67	82.90	69	19816	22.6	17.10	29.33
Standard 5	252	64683	75.4	71.68	78.69	79	21157	24.6	21.31	28.32
Standard 6	144	67206	80.7	68.28	89.07	39	16049	19.3	10.93	31.72
Form 1	244	55957	66.5	61.27	71.39	123	28163	33.5	28.61	38.73
Form 2	251	55314	71.2	63.73	77.68	101	22367	28.8	22.32	36.27
Form 3	255	50484	64.9	53.71	74.60	137	27346	35.1	25.40	46.29
Form 4	242	46430	62.8	55.07	69.92	141	27501	37.2	30.08	44.93
Form 5	109	49265	65.6	53.08	76.31	56	25806	34.4	23.69	46.92
Ethnicity										
Malay	1091	300360	72.0	65.53	77.75	455	116540	28.0	22.25	34.47
Chinese	401	94799	67.6	57.05	76.67	187	45373	32.4	23.33	42.95
Indian	195	47496	69.2	61.90	75.57	85	21185	30.8	24.43	38.10
Bumiputera Sabah	7	2158	72.4	40.00	91.17	3	822	27.6	8.83	60.00
Bumiputera Sarawak	9	2199	77.7	48.68	92.79	3	629	22.3	7.21	51.32
Others	33	10060	73.3	58.46	84.32	12	3657	26.7	15.68	41.54
School level										
Primary	635	199622	77.8	72.73	82.13	187	57022	22.2	17.87	27.27
Secondary	1101	257450	66.2	60.43	71.60	558	131184	33.8	28.40	39.57
BMI-for-age status (BAZ)										
Thinness (<-2sd)	112	28262	66.6	59.67	72.83	54	14193	33.4	27.17	40.33
Normal (≥-2sd - ≤+1sd)	1058	275319	70.6	64.88	75.76	461	114566	29.4	24.24	35.12
Overweight (>+1sd - ≤+2sd)	280	75450	71.0	63.32	77.69	117	30777	29.0	22.31	36.68
Obese (>+2sd)	285	77801	73.4	66.49	79.33	111	28192	26.6	20.67	33.51
Height-for-age status (HAZ)										
Stunting (<-2sd)	107	28209	70.8	59.56	79.98	48	11629	29.2	20.02	40.44
Normal (≥-2sd)	1629	428863	70.86	65.45	75.73	696	176384	29.1	24.27	34.55

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

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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 found 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 type 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 adolescence in Selangor was 44.9% (95% CI: 37.30, 52.81) (**Table 3.6.1**) and 32.1% (95% CI: 25.96, 38.84) (**Table 3.6.5**). In average, the vitamin/mineral and food supplements were consumed everyday by 16.2% (95% CI: 12.99, 19.93) and 10.1 % (95% CI 7.41, 13.55) respectively (**Table 3.6.4 and Table 3.6.8**). 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**). The most commonly consumed vitamin / minerals and food supplements were Vitamin C 34.2% (95% CI: 28.31, 40.64) (**Table 3.6.2**) and bee product 16.5% (95% CI: 11.54, 23.00) (**Table 3.6.6**). The main reason for taking vitamin / minerals and food supplements was due to parent's advised 44.5% (95% CI: 41.70, 47.4) (**Table 3.6.3**) and 31.0% (95% CI: 27.10, 35.30) respectively (**Table 3.6.7**).

3.6.4 Discussions

The prevalence of taking vitamin/minerals among adolescence in Selangor was almost similar to the national prevalence, which was 44.7% (95% CI: 42.49, 46.91). However, the average intake of food supplements was slightly higher than the national prevalence, which was 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 also showed that parent's advised was the main and significant reason for taking vitamin / mineral and food supplements among adolescents in Selangor. It suggests the parents, as a strong influencer for food supplement and vitamin intake of the children.

3.6.5 Conclusions

Overall findings from this survey showed that approximate four and three of ten adolescents consumed vitamin/mineral and food supplements. Every four and three of 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 Selangor adolescents.

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 Malaysia should also establish guidelines, regulations, and policy of food supplements and vitamin/mineral intake as it's 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
Selangor	1077	291883	44.9	37.30	52.81	1421	357745	55.1	47.19	62.70
Locality of School										
Urban	681	197536	44.5	35.67	53.69	950	246377	55.5	46.31	64.33
Rural	396	94347	45.9	31.49	60.95	471	111369	54.1	39.05	68.51
Sex										
Boys	599	152397	46.8	39.76	53.98	734	173210	53.2	46.02	60.24
Girls	478	139487	43.0	34.56	51.96	687	184535	57.0	48.04	65.44
Class										
Standard 4	197	57717	65.6	56.08	73.94	113	30325	34.4	26.06	43.92
Standard 5	194	48268	56.3	44.35	67.54	194	37479	43.7	32.46	55.65
Standard 6	97	47288	56.0	44.15	67.26	88	37107	44.0	32.74	55.85
Remove class										
Form 1	151	34437	40.8	33.00	49.13	217	49923	59.2	50.87	67.00
Form 2	115	24207	31.0	23.64	39.44	239	53917	69.0	60.56	76.36
Form 3	141	27819	35.3	29.47	41.64	256	50956	64.7	58.36	70.53
Form 4	117	22361	30.1	23.10	38.21	268	51892	69.9	61.79	76.90
Form 5	65	29786	39.2	29.38	50.03	102	46147	60.8	49.97	70.62
Ethnicity										
Malay	674	194821	46.4	36.63	56.38	883	225387	53.6	43.62	63.37
Chinese	235	54326	38.7	27.23	51.58	354	86047	61.3	48.42	72.77
Indian	127	31263	44.6	36.53	52.99	158	38815	55.4	47.01	63.47
Bumiputera Sabah	6	1885	59.4	25.71	86.12	5	1286	40.6	13.88	74.29
Bumiputera Sarawak	10	2125	81.3	46.65	95.59	2	488	18.7	4.41	53.35
Others	25	7463	56.6	40.50	71.41	19	5724	43.4	28.59	59.50
BMI-for age status (BAZ)										
Thinness (<-2sd)	81	21020	48.2	37.75	58.80	88	22594	51.8	41.20	62.25
Normal (≥-2sd - ≤+1sd)	679	183035	46.6	38.74	54.65	851	209673	53.4	45.35	61.26
Overweight (>+1sd - ≤+2sd)	159	41576	39.3	30.71	48.56	238	64282	60.7	51.44	69.29
Obese (>+2sd)	155	45534	42.7	33.45	52.41	244	61196	57.3	47.59	66.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	74	19388	48.7	38.02	59.43	81	20450	51.3	40.57	61.98
Normal (≥-2sd)	1002	272302	44.7	36.67	52.95	1340	337295	55.3	47.05	63.33

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
Selangor	137	38036	5.9	4.84	7.12	822	221349	34.2	28.31	40.64
Locality of School										
Urban	97	28766	6.5	5.28	8.00	512	146762	33.2	26.67	40.45
Rural	40	9270	4.5	3.37	6.05	310	74587	36.4	24.64	50.02
Sex										
Boys	88	23717	7.3	5.79	9.16	438	107989	33.2	28.14	38.73
Girls	49	14319	4.4	3.61	5.47	384	113360	35.2	27.70	43.52
Class										
Standard 4	25	6320	7.2	4.63	10.96	151	42155	47.9	37.52	58.43
Standard 5	22	5395	6.3	5.03	7.85	149	38220	44.6	37.22	52.18
Standard 6	12	6278	7.4	4.61	11.79	76	38034	45.1	35.50	55.01
Remove class										
Form 1	14	3198	3.8	2.35	6.18	123	27820	33.3	24.88	43.04
Form 2	19	4328	5.6	3.35	9.08	85	18156	23.3	17.84	29.81
Form 3	11	2091	2.7	1.80	3.98	113	22323	28.6	23.39	34.50
Form 4	18	3381	4.6	2.88	7.16	88	16876	22.8	17.89	28.55
Form 5	16	7045	9.3	6.79	12.73	37	17764	23.6	16.16	32.99
Ethnicity										
Malay	67	20784	5.0	3.60	6.83	523	149790	35.8	28.04	44.41
Chinese	38	8549	6.1	3.94	9.30	178	41873	29.8	23.44	37.12
Indian	26	6837	9.8	6.46	14.63	93	22041	31.6	25.35	38.69
Bumiputera Sabah	2	604	19.1	4.27	55.42	4	1294	40.8	12.13	77.49
Bumiputera Sarawak	1	191	7.3	1.21	33.60	7	1485	56.8	34.21	76.89
Others	3	1071	8.3	1.92	29.22	17	4866	37.5	25.37	51.38
BMI-for age status (BAZ)										
Thinness (<-2sd)	13	4031	9.2	4.43	18.29	66	16483	37.8	27.90	48.82
Normal (≥ - 2sd - ≤+ 1sd)	90	25077	6.4	4.96	8.27	521	139106	35.6	29.02	42.83
Overweight (> +1sd - ≤+ 2sd)	18	4225	4.0	2.22	7.09	123	33409	31.6	23.00	41.58
Obese (> + 2sd)	16	4703	4.4	2.68	7.22	110	31917	30.0	24.42	36.27
Height-for - age status (HAZ)										
Stunting (<-2sd)	7	2346	6.0	2.87	12.09	67	17322	44.3	36.54	52.28
Normal (≥-2sd)	130	35690	5.9	4.75	7.25	754	203833	33.5	27.54	40.13

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
Selangor	109	27718	4.3	3.13	5.83	160	46034	7.1	5.07	9.90
Locality of School										
Urban	60	16238	3.7	2.59	5.19	106	16238	7.4	4.93	11.08
Rural	49	11481	5.6	3.33	9.28	54	13138	6.4	3.71	10.85
Sex										
Boys	71	17821	5.5	3.95	7.56	95	26248	8.1	5.81	11.13
Girls	38	9898	3.1	2.07	4.54	65	19786	6.1	3.83	9.73
Class										
Standard 4	26	7470	8.5	4.77	14.64	39	13434	15.3	8.03	27.08
Standard 5	19	4972	5.8	3.85	8.64	29	7227	8.4	5.68	12.33
Standard 6	6	2248	2.7	1.51	4.66	16	7145	8.5	5.90	12.00
Remove class										
Form 1	13	3043	3.6	2.09	6.30	20	4617	5.5	3.84	7.92
Form 2	16	3192	4.1	2.38	6.97	10	2202	2.8	1.87	4.25
Form 3	12	2406	3.1	1.63	5.77	16	2984	3.8	2.12	6.81
Form 4	12	2351	3.2	1.70	5.86	19	3560	3.2	1.70	5.86
Form 5	5	2035	2.7	0.87	8.08	11	4865	6.5	3.11	12.89
Ethnicity										
Malay	74	19661	4.7	3.35	6.57	86	27507	6.6	4.27	10.00
Chinese	18	3987	2.8	1.62	4.93	50	11827	8.4	5.17	13.44
Indian	13	3060	4.4	1.83	10.19	13	3219	4.6	2.05	10.08
Bumiputera Sabah	1	216	6.8	0.82	39.34	1	503	15.9	2.15	61.81
Bumiputera Sarawak						2	450	17.2	5.87	40.94
Others	3	794	6.1	1.76	19.14	8	2528	19.5	9.33	36.23
BMI-for age status (BAZ)										
Thinness (<-2sd)	10	3238	7.4	3.30	15.86	4	771	1.8	0.68	4.51
Normal ($\geq -2sd - \leq +1sd$)	57	13874	3.6	2.47	5.08	102	29255	7.5	5.06	10.96
Overweight ($> +1sd - \leq +2sd$)	18	4099	3.9	2.02	7.31	27	7595	7.2	4.67	10.86
Obese ($> +2sd$)	23	6222	5.9	3.53	9.54	27	8412	7.9	4.71	12.99
Height-for - age status (HAZ)										
Stunting (<-2sd)	5	1556	4.0	1.65	9.27	2	540	1.4	0.30	6.15
Normal ($\geq -2sd$)	104	26162	4.3	3.14	5.88	158	45494	7.5	5.33	10.42

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
Selangor	151	42531	14.6	11.77	18.03	481	129500	44.5	41.73	47.38
Locality of School										
Urban	84	26623	13.5	9.71	18.58	316	89732	45.6	41.92	49.40
Rural	67	15908	16.9	13.66	20.72	165	39767	42.2	38.21	46.35
Sex										
Boys	84	23301	15.3	10.77	21.36	242	60968	40.1	37.17	43.15
Girls	67	19230	13.9	11.27	16.92	239	68531	49.4	44.91	53.83
Class										
Standard 4	32	9979	17.4	12.13	24.24	88	25321	44.1	41.05	47.12
Standard 5	30	7513	15.6	13.56	17.81	84	21796	45.2	35.39	55.31
Standard 6	52	7031	15.0	9.58	22.58	52	22679	48.2	32.95	63.85
Remove class										
Form 1	27	6016	17.5	10.99	26.62	70	15973	46.4	38.22	54.75
Form 2	11	2434	10.1	5.20	18.80	52	10806	45.0	31.19	59.59
Form 3	17	3290	12.0	8.17	17.29	63	12569	45.9	37.30	54.66
Form 4	15	2944	13.2	7.16	22.96	49	9430	42.2	33.28	51.61
Form 5	7	3323	11.2	4.36	25.69	23	10925	36.7	23.93	51.61
Ethnicity										
Malay	93	29385	15.1	11.60	19.50	296	83774	43.1	40.23	46.08
Chinese	21	4750	8.8	6.56	11.77	111	26173	48.6	43.95	53.36
Indian	29	6733	21.5	14.03	31.59	54	13331	42.6	33.59	52.22
Bumiputera Sabah	2	391	20.7	4.31	60.28	2	882	46.8	11.20	85.98
Bumiputera Sarawak	3	657	30.9	9.40	65.88	4	798	37.5	21.68	56.61
Others	3	615	8.2	2.81	21.84	14	4541	60.9	44.46	75.11
BMI-for age status (BAZ)										
Thinness (<-2sd)	9	3125	14.9	7.15	28.37	36	8873	42.2	29.81	55.68
Normal (≥ - 2sd - ≤+ 1sd)	93	24401	13.4	10.61	16.79	308	84069	46.2	42.38	49.99
Overweight (> +1sd - ≤+ 2sd)	23	5922	14.2	9.79	20.27	74	18844	45.3	37.68	53.20
Obese (> + 2sd)	26	9083	20.0	12.62	30.29	62	17474	38.5	34.41	42.82
Height-for - age status (HAZ)										
Stunting (<-2sd)	12	2888	14.9	7.93	26.24	40	10074	52.0	37.08	66.49
Normal (≥-2sd)	139	39643	14.6	11.61	18.25	441	119426	44.0	40.97	47.15

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
Selangor	326	88932	30.6	27.22	34.17	24	5371	1.8	1.24	2.75
Locality of School										
Urban	203	59995	30.5	26.51	34.83	17	3833	1.9	1.17	3.24
Rural	123	28937	30.7	24.81	37.37	7	1539	1.6	0.91	2.91
Sex										
Boys	202	50414	33.2	28.44	38.28	20	4406	2.9	2.02	4.15
Girls	124	38518	27.7	22.75	33.36	4	966	0.7	0.25	1.92
Class										
Standard 4	41	12314	21.4	18.98	24.10	41	724	1.3	0.54	2.89
Standard 5	60	14661	30.4	24.05	37.54	4	813	1.7	0.72	3.90
Standard 6	25	14206	30.2	20.22	42.50	3	1336	2.8	1.28	6.18
Remove class										
Form 1	45	10303	29.9	19.35	43.18	1	217	0.6	0.08	4.64
Form 2	38	8123	33.8	24.20	44.97	5	899	3.7	1.49	9.11
Form 3	47	9238	33.7	25.75	42.69	5	847	3.1	0.81	11.09
Form 4	42	7845	35.1	30.52	39.94	3	534	2.4	0.93	5.99
Form 5	28	12242	41.1	30.11	53.05					
Ethnicity										
Malay	226	65205	33.6	30.46	36.83	15	3388	1.7	0.99	3.04
Chinese	56	12341	22.9	18.13	28.57	6	1329	2.5	1.31	4.62
Indian	34	8548	27.3	20.19	35.89	2	415	1.3	0.30	5.62
Bumiputera Sabah	2	612	32.5	5.59	79.64	-	-	-	-	-
Bumiputera Sarawak	2	416	19.6	3.29	63.53	-	-	-	-	-
Others	6	1810	24.2	13.47	39.69	1	240	3.2	0.32	25.66
BMI-for age status (BAZ)										
Thinness (<-2sd)	26	6853	32.6	22.01	45.34	1	197	0.9	0.10	7.98
Normal (≥ - 2sd - ≤+ 1sd)	207	56322	30.9	26.50	35.73	16	3167	1.7	0.89	3.36
Overweight (> +1sd - ≤+ 2sd)	43	11739	28.2	23.18	33.91	2	465	1.1	0.24	4.95
Obese (> + 2sd)	48	13540	29.9	21.40	39.95	5	1543	3.4	1.71	6.67
Height-for - age status (HAZ)										
Stunting (<-2sd)	18	5462	28.2	14.94	46.70	-	-	-	-	-
Normal (≥-2sd)	307	83277	30.7	27.31	34.33	24	5371	2.0	1.31	2.99

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

Characteristic	Count	Estimated population	Others		
			Prevalence (%)	95% CI Lower Upper	
Selangor	68	18553	6.4	4.45	9.08
Locality of School					
Urban	45	13094	6.7	4.11	10.61
Rural	23	5459	5.8	3.67	9.05
Sex					
Boys	39	10659	7.0	4.70	10.34
Girls	29	7894	5.7	3.08	10.27
Class					
Standard 4	21	5760	10.0	5.74	16.93
Standard 5	13	2849	5.9	2.04	15.91
Standard 6	4	1773	3.8	2.09	6.71
Remove class	-	-	-	-	-
Form 1	7	1642	4.8	2.38	9.31
Form 2	5	1019	4.2	1.46	11.71
Form 3	6	1177	4.3	1.92	9.31
Form 4	5	1037	4.6	1.77	11.57
Form 5	7	3296	11.1	6.34	18.61
Ethnicity					
Malay	30	9165	4.7	3.38	6.55
Chinese	31	7360	13.7	9.46	19.37
Indian	7	2028	6.5	3.58	11.48
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	-	-	-	-	-
BMI-for age status (BAZ)					
Thinness (<-2sd)	7	1521	7.2	3.24	15.36
Normal ($\geq -2sd - \leq +1sd$)	39	10642	5.8	3.67	9.19
Overweight ($> +1sd - \leq +2sd$)	11	3044	7.3	4.70	11.23
Obese ($> +2sd$)	11	3346	7.4	4.20	12.64
Height-for - age status (HAZ)					
Stunting (<-2sd)	2	481	2.5	0.52	10.97
Normal ($\geq -2sd$)	66	18072	6.7	4.73	9.32

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
Selangor	383	104383	16.2	12.99	19.93	175	50228	7.8	5.70	10.52
Locality of School										
Urban	236	69135	15.7	11.86	20.40	103	33183	7.5	5.11	10.94
Rural	147	35248	17.2	11.94	24.22	72	17045	8.3	4.83	14.01
Sex										
Boys	214	54831	16.9	13.97	20.36	98	28258	8.7	5.68	13.18
Girls	169	49552	15.4	11.37	20.49	77	21970	6.8	5.21	8.88
Class										
Standard 4	82	24133	27.5	23.82	31.62	31	8138	9.3	4.39	18.60
Standard 5	75	18734	21.8	17.64	26.74	37	10195	11.9	8.69	16.06
Standard 6	41	17486	20.8	15.63	27.12	15	9470	11.3	5.29	22.38
Remove class										
Form 1	58	13241	15.8	9.83	24.49	18	4033	4.8	3.10	7.42
Form 2	30	6353	8.2	5.75	11.43	21	4861	6.2	3.87	9.89
Form 3	43	8621	11.1	7.39	16.36	20	3882	5.0	2.78	8.85
Form 4	33	6426	8.7	5.91	12.63	20	3783	5.1	2.29	11.08
Form 5	21	9389	12.4	7.65	19.62	13	5865	7.8	3.86	15.03
Ethnicity										
Malay	206	61638	14.8	10.97	19.55	111	34451	8.2	5.78	11.64
Chinese	104	24647	17.6	11.80	25.38	35	7805	5.6	4.31	7.16
Indian	52	12137	17.5	10.65	27.32	20	4800	6.9	3.70	12.55
Bumiputera Sabah	4	1264	39.9	14.04	72.93	2	634	20.0	3.77	61.42
Bumiputera Sarawak	4	826	31.6	8.01	71.02					
Others	13	3870	30.3	17.69	46.84	7	2539	19.9	8.12	41.09
BMI-for age status (BAZ)										
Thinness (<-2sd)	29	6521	15.0	9.12	23.55	17	5409	12.4	6.19	23.30
Normal (≥ - 2sd - ≤+ 1sd)	234	63840	16.4	12.93	20.48	111	31909	8.2	5.79	11.42
Overweight (> +1sd - ≤+ 2sd)	64	17598	16.7	11.88	22.99	25	6287	6.0	3.66	9.58
Obese (> + 2sd)	53	15706	14.8	10.89	19.87	22	6624	6.3	4.12	9.38
Height-for - age status (HAZ)										
Stunting (<-2sd)	20	6010	15.4	10.21	22.46	10	2488	6.4	3.42	11.52
Normal (≥-2sd)	362	98180	16.2	12.94	20.05	165	47741	7.9	5.75	10.68

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
Selangor	245	102376	10.2	8.33	12.34	376	102376	15.8	12.93	19.28
Locality of School										
Urban	160	44653	10.1	8.05	12.64	246	71767	16.3	12.65	20.65
Rural	85	20979	10.3	6.91	14.96	130	30609	15.0	10.87	20.25
Sex										
Boys	134	33282	10.3	8.46	12.43	212	53988	16.7	13.67	20.17
Girls	111	32350	10.0	7.55	13.25	164	48389	15.0	11.70	19.09
Class										
Standard 4	43	11635	13.3	10.42	16.78	68	21158	24.2	17.82	31.87
Standard 5	35	7694	9.0	4.36	17.58	64	17802	20.8	15.15	27.78
Standard 6	27	14513	17.3	11.49	25.10	25	12108	14.4	12.30	16.79
Remove class										
Form 1	38	8703	10.4	7.03	15.12	48	10798	12.9	9.69	16.98
Form 2	28	6084	7.8	5.12	11.73	44	9141	11.7	7.47	17.94
Form 3	36	6794	8.8	6.22	12.18	48	9520	12.3	8.92	16.64
Form 4	27	5115	6.9	4.51	10.49	55	10552	14.3	10.53	19.10
Form 5	11	5095	6.8	3.42	12.92	24	11297	15.0	7.45	27.83
Ethnicity										
Malay	169	48512	11.6	9.29	14.42	242	68902	16.5	12.75	21.07
Chinese	48	11123	7.9	5.84	10.70	78	18228	13.0	9.74	17.15
Indian	21	4326	6.2	3.56	10.67	47	12718	18.3	12.85	25.41
Bumiputera Sabah						1	216	6.8	0.82	39.34
Bumiputera Sarawak	3	590	22.6	16.49	30.08	2	455	17.4	3.83	52.76
Others	4	1081	8.5	3.16	20.78	6	1856	14.5	9.09	22.45
BMI-for age status (BAZ)										
Thinness (<-2sd)	19	4923	11.3	6.43	19.06	31	8884	20.4	13.91	28.83
Normal (≥ - 2sd - ≤+ 1sd)	165	42634	10.9	9.31	12.77	232	62914	16.1	12.52	20.50
Overweight (> +1sd - ≤+ 2sd)	32	9032	8.6	5.35	13.46	53	14060	13.3	10.23	17.23
Obese (> + 2sd)	29	9043	8.5	5.55	12.91	60	16518	15.6	13.45	18.01
Height-for - age status (HAZ)										
Stunting (<-2sd)	20	4858	12.4	7.25	20.45	28	7792	19.9	14.24	27.13
Normal (≥-2sd)	225	60774	10.0	7.97	12.51	348	94584	15.6	12.67	19.04

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
Selangor	757	207520	32.1	25.96	38.84	1731	373711	67.9	61.16	74.04
Locality of School										
Urban	464	137403	31.0	23.23	40.07	1163	305460	69.0	59.93	76.77
Rural	293	70117	34.3	25.26	44.65	568	134267	65.7	55.35	74.74
Sex										
Boys	432	113071	34.8	27.46	43.00	896	211587	65.2	57.00	72.54
Girls	325	94449	29.3	23.83	35.39	835	228141	70.7	64.61	76.17
Class										
Standard 4	143	42630	48.8	42.00	55.67	164	44701	51.2	44.33	58.00
Standard 5	137	33145	38.8	30.11	48.20	194	52356	61.2	51.80	69.89
Standard 6	74	37777	44.8	32.21	58.02	111	46618	55.2	41.98	67.79
Remove class										
Form 1	101	22920	27.2	20.79	34.65	267	61440	72.8	65.35	79.21
Form 2	77	16787	21.6	16.64	27.52	275	60978	78.4	72.48	83.36
Form 3	99	19024	24.2	18.24	31.36	297	59593	75.8	68.64	81.76
Form 4	85	16457	22.3	15.93	30.26	298	57390	77.7	69.74	84.07
Form 5	41	18779	24.9	19.30	31.48	125	56652	75.1	68.52	80.70
Ethnicity										
Malay	444	131992	31.5	22.55	42.12	1106	286743	68.5	57.88	77.45
Chinese	183	43156	30.8	24.39	38.02	405	97022	69.2	61.98	75.61
Indian	110	26766	38.6	32.77	44.75	173	42596	61.4	55.25	67.23
Bumiputera Sabah	3	811	25.6	5.28	67.96	8	2360	74.4	32.04	94.72
Bumiputera Sarawak	2	445	17.0	6.66	37.12	10	2168	83.0	62.88	93.34
Others	15	4349	33.0	14.73	58.38	29	8838	67.0	41.62	85.27
BMI-for age status (BAZ)										
Thinness (<-2sd)	57	15306	35.5	26.48	45.66	110	27823	64.5	54.34	73.52
Normal ($\geq -2sd - \leq +1sd$)	477	125911	32.1	26.91	37.85	1050	265906	67.9	62.15	73.09
Overweight ($> +1sd - \leq +2sd$)	111	31955	30.2	21.66	40.34	286	73902	69.8	59.66	78.34
Obese ($> +2sd$)	109	33630	31.8	21.51	44.26	285	72096	68.2	55.74	78.49
Height-for - age status (HAZ)										
Stunting (<-2sd)	48	11773	29.6	20.47	40.61	107	28065	70.4	59.39	79.53
Normal ($\geq -2sd$)	708	195554	32.2	25.79	39.36	1624	411662	67.8	60.64	74.21

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
Selangor	72	9832	2.9	2.03	4.14	217	59033	9.1	7.46	11.15
Locality of School										
Urban	36	10214	2.3	1.35	3.93	165	46534	10.5	8.51	12.98
Rural	36	8577	4.2	2.82	6.20	52	12499	6.1	4.84	7.68
Sex										
Boys	54	13771	4.2	2.87	6.24	125	31224	9.6	7.62	12.08
Girls	18	5020	1.6	0.84	2.87	92	27809	8.6	6.36	11.64
Class										
Standard 4	17	5103	5.8	3.36	9.82	29	7674	8.7	5.71	13.09
Standard 5	14	3872	4.5	2.83	7.20	29	7202	8.4	6.53	10.85
Standard 6	2	1072	1.3	0.58	2.78	23	10412	12.3	7.95	18.66
Remove class										
Form 1	8	1860	2.2	0.71	6.77	39	8830	10.5	6.09	17.65
Form 2	11	2554	3.3	1.70	6.29	25	5614	7.2	4.41	11.66
Form 3	10	1815	2.3	0.75	6.88	31	6066	7.7	5.19	11.39
Form 4	8	1603	2.2	0.83	5.62	21	4068	5.5	3.36	9.01
Form 5	2	913	1.2	0.31	4.66	20	9167	12.2	8.38	17.31
Ethnicity										
Malay	46	13283	3.2	2.21	4.53	86	26076	6.2	4.66	8.28
Chinese	10	2318	1.7	0.87	3.16	59	14657	10.5	7.82	13.97
Indian	12	2239	3.2	1.33	7.65	62	15371	22.2	18.55	26.34
Bumiputera Sabah										
Bumiputera Sarawak	2	393	15.0	6.13	32.43	3	642	24.6	17.35	33.55
Others	2	557	4.3	1.08	15.58	7	2288	17.6	11.67	25.73
BMI-for age status (BAZ)										
Thinness (<-2sd)	4	803	1.8	0.52	6.27	13	3176	7.3	3.95	13.05
Normal (≥ - 2sd - ≤+ 1sd)	40	10012	2.6	1.61	4.06	137	37338	9.6	7.80	11.71
Overweight (> +1sd - ≤+ 2sd)	12	3387	3.2	1.83	5.55	35	9270	8.8	6.12	12.38
Obese (> + 2sd)	15	4395	4.1	2.43	6.97	32	9248	8.7	5.74	13.02
Height-for - age status (HAZ)										
Stunting (<-2sd)	4	908	2.3	0.83	6.33	13	3492	8.9	5.18	14.95
Normal (≥-2sd)	67	17689	2.9	2.03	4.17	204	55541	9.2	7.39	11.29

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
Selangor	384	106534	16.5	11.54	23.00	88	21981	3.4	2.39	4.82
Locality of School										
Urban	216	66380	15.0	9.20	23.60	44	11315	2.6	1.68	3.88
Rural	168	40154	19.6	11.45	31.56	44	10666	5.2	3.26	8.23
Sex										
Boys	202	57276	17.7	10.95	27.20	54	11940	3.7	2.28	5.89
Girls	182	49258	15.3	11.01	20.89	34	10041	3.1	2.08	4.65
Class										
Standard 4	89	25652	29.1	21.29	38.46	20	5261	6.0	3.93	8.99
Standard 5	71	18936	22.2	14.95	31.64	21	4161	4.9	2.15	10.70
Standard 6	32	19343	22.9	10.85	42.08	10	4943	5.9	3.62	9.34
Remove class										
Form 1	48	11067	13.2	10.21	16.96	8	1820	2.2	0.76	6.06
Form 2	35	7523	9.7	6.01	15.27	11	2463	3.2	1.86	5.37
Form 3	53	10460	13.3	10.21	17.26	6	1040	1.3	0.64	2.72
Form 4	45	8647	11.8	8.34	16.39	12	2294	3.1	1.58	6.10
Form 5	11	4907	6.5	4.83	8.70					
Ethnicity										
Malay	286	83235	19.9	13.95	27.52	42	11875	2.8	1.86	4.31
Chinese	69	15705	11.3	7.60	16.36	33	7461	5.3	3.78	7.50
Indian	22	5048	7.3	4.18	12.42	13	2645	3.8	2.14	6.74
Bumiputera Sabah	3	1286	40.6	11.63	77.98					
Bumiputera Sarawak										
Others	4	1260	9.7	4.56	19.47					
BMI-for age status (BAZ)										
Thinness (<-2sd)	40	11181	25.634999	16.00	38.41	4	675	1.5	0.55	4.25
Normal (≥ - 2sd - ≤+ 1sd)	229	61323	15.728393	11.45	21.22	57	14001	3.6	2.37	5.40
Overweight (> +1sd - ≤+ 2sd)	54	14974	14.145009	8.95	21.63	8	1773	1.7	0.66	4.18
Obese (> + 2sd)	60	18771	17.6873	10.33	28.60	18	5292	5.0	3.34	7.39
Height-for - age status (HAZ)										
Stunting (<-2sd)	30	8442	21.574051	11.89	35.92	7	1656	4.2	1.87	9.32
Normal (≥-2sd)	354	98092	16.163222	11.48	22.27	81	20325	3.3	2.36	4.73

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Selangor	221	62287	9.6	7.36	12.53
Locality of School					
Urban	133	41256	9.3	6.48	13.28
Rural	88	21031	10.3	6.97	14.90
Sex					
Boys	128	33771	10.4	7.90	13.59
Girls	93	28516	8.9	6.49	11.98
Class					
Standard 4	47	16229	18.4	9.03	33.97
Standard 5	41	10655	12.5	9.43	16.37
Standard 6	21	8631	10.2	7.65	13.54
Remove class					
Form 1	29	6508	7.8	5.29	11.29
Form 2	21	4623	6.0	3.26	10.65
Form 3	30	5733	7.3	4.71	11.19
Form 4	18	3481	4.7	2.76	8.04
Form 5	14	6427	8.5	4.94	14.31
Ethnicity					
Malay	127	38695	9.2	6.39	13.19
Chinese	62	15063	10.8	8.01	14.39
Indian	22	5682	8.2	5.20	12.73
Bumiputera Sabah	1	191	6.0	0.73	35.78
Bumiputera Sarawak					
Others	9	2656	20.5	9.21	39.47
BMI-for age status (BAZ)					
Thinness (< -2sd)	16	4949	11.3	7.00	17.87
Normal ($\geq -2sd - \leq +1sd$)	137	37262	9.6	6.81	13.26
Overweight ($> +1sd - \leq +2sd$)	42	13062	12.3	8.49	17.60
Obese ($> +2sd$)	26	7014	6.6	4.58	9.45
Height-for - age status (HAZ)					
Stunting (< -2sd)	10	2934	7.5	4.02	13.56
Normal ($\geq -2sd$)	211	59353	9.8	7.27	13.04

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
Selangor	91	26362	9.0	6.53	12.42	322	90371	31.0	27.1	35.27
Locality of School										
Urban	49	16545	8.4	4.99	13.75	197	59851	30.3	26.0	35.09
Rural	42	9817	10.4	7.97	13.58	125	30519	32.5	24.8	41.24
Sex										
Boys	59	17457	11.5	6.92	18.46	161	41742	27.5	23.9	31.30
Girls	32	8905	6.4	5.06	8.04	161	48629	34.9	29.8	40.42
Class										
Standard 4	26	7713	13.4	9.17	19.07	73	21255	36.8	32.8	41.01
Standard 5	20	5465	11.3	7.44	16.86	63	15604	32.3	28.6	36.30
Standard 6	5	4178	8.8	3.04	23.08	43	19890	42.1	34.5	50.01
Remove class										
Form 1	18	4018	11.7	6.19	20.92	41	9093	26.4	17.1	38.37
Form 2	3	645	2.7	0.64	10.61	33	6964	29.0	21.8	37.41
Form 3	8	1629	5.9	3.04	11.15	31	5942	21.5	15.8	28.56
Form 4	9	1673	7.5	3.00	17.71	24	4863	21.9	14.9	31.06
Form 5	2	1040	3.5	1.03	11.22	14	6760	22.7	15.7	31.64
Ethnicity										
Malay	57	18481	9.5	6.13	14.45	193	58272	30.0	25.2	35.19
Chinese	9	1915	3.5	1.90	6.48	79	18958	35.0	31.1	39.15
Indian	22	5165	16.5	10.98	24.10	34	8335	26.7	19.3	35.59
Bumiputera Sabah	-	-	-	-	-	3	1073	56.9	14.7	91.05
Bumiputera Sarawak	-	-	-	-	-	4	844	39.7	14.5	71.85
Others	3	800	10.7	1.95	41.99	9	2889	38.7	25.3	54.10
BMI-for age status (BAZ)										
Thinness (<-2sd)	5	1464	7.0	3.74	12.82	29	7500	36.0	27.2	45.90
Normal ($\geq -2sd - \leq +1sd$)	53	14278	7.8	5.83	10.38	203	55946	30.6	26.1	35.50
Overweight (>+1sd - $\leq +2sd$)	13	3664	8.8	5.06	14.92	41	11893	28.6	18.7	41.18
Obese (>+2sd)	20	6956	15.3	8.46	26.20	46	14313	31.6	26.3	37.40
Height-for - age status (HAZ)										
Stunting (<-2sd)	3	917	4.7	1.37	15.02	30	7795	40.2	25.7	56.66
Normal ($\geq -2sd$)	88	25445	9.4	6.93	12.53	291	82382	30.3	26.6	34.35

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
Selangor	207	57567	19.8	16.94	22.92	19	5007	1.7	1.01	2.92
Locality of School										
Urban	127	38560	19.5	15.92	23.76	12	3404	1.7	0.98	3.01
Rural	80	19007	20.2	16.18	24.99	7	1604	1.7	0.53	5.38
Sex										
Boys	132	35484	23.3	19.34	27.88	13	3312	2.2	1.30	3.62
Girls	75	22083	15.9	13.32	18.77	6	1695	1.2	0.55	2.65
Class										
Standard 4	33	9485	16.4	13.16	20.33	5	1984	3.4	1.30	8.78
Standard 5	41	10656	22.1	17.13	27.97	3	629	1.3	0.31	5.25
Standard 6	19	10503	22.2	15.13	31.37	-	-	-	-	-
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	26	6130	17.8	11.17	27.17	4	928	2.7	0.86	8.14
Form 2	23	4815	20.0	13.30	29.05	2	347	1.4	0.35	5.83
Form 3	31	6134	22.2	14.84	31.87	1	177	0.6	0.08	5.11
Form 4	20	3720	16.8	9.47	28.00	3	538	2.4	0.85	6.76
Form 5	14	6123	20.6	14.72	27.95	1	403	1.4	0.15	11.38
Ethnicity										
Malay	137	40330	20.7	17.34	24.61	13	3854	2.0	1.16	3.35
Chinese	40	9224	17.0	13.69	21.00	2	339	0.6	0.10	3.85
Indian	24	6195	19.8	14.74	26.10	3	638	2.0	0.87	4.71
Bumiputera Sabah	1	404	21.5	2.27	76.23	-	-	-	-	-
Bumiputera Sarawak	1	191	9.0	1.70	35.95	-	-	-	-	-
Others	4	1223	16.4	7.43	32.37	1	177	2.4	0.26	18.34
BMI-for age status (BAZ)										
Thinness (<-2sd)	13	4003	19.2	10.29	33.05	1	245	1.2	0.15	8.63
Normal (≥ - 2sd - ≤+ 1sd)	132	35735	19.5	16.23	23.34	12	3043	1.7	0.89	3.08
Overweight (> +1sd - ≤+ 2sd)	31	8517	20.5	13.88	29.18	3	558	1.3	0.38	4.65
Obese (> + 2sd)	31	9311	20.5	16.34	25.47	3	1161	2.6	1.08	5.93
Height-for - age status (HAZ)										
Stunting (<-2sd)	12	3222	16.6	10.04	26.26	2	363	1.9	0.41	8.04
Normal (≥-2sd)	195	54344	20.0	16.98	23.41	17	4645	1.7	0.96	3.03

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
Selangor	61	15713	5.4	3.94	7.34
Locality of School					
Urban	35	9689	4.9	3.09	7.73
Rural	26	6023	6.4	5.27	7.78
Sex					
Boys	33	8094	5.3	4.00	7.06
Girls	28	7619	5.5	3.18	9.24
Class					
Standard 4	19	5707	9.9	7.63	12.72
Standard 5	11	2386	4.9	2.38	9.97
Standard 6	5	1532	3.2	0.60	15.61
Remove class					
Form 1	8	1799	5.2	2.31	11.38
Form 2	1	197	0.8	0.10	6.66
Form 3	10	1917	6.9	2.98	15.34
Form 4	4	776	3.5	1.70	7.06
Form 5	3	1400	4.7	1.86	11.34
Ethnicity					
Malay	30	8247	4.2	2.99	5.97
Chinese	25	6184	11.4	8.35	15.43
Indian	5	1042	3.3	1.57	6.96
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	1	240	3.2	0.32	25.66
BMI-for age status (BAZ)					
Thinness (<-2sd)	4	806	3.9	1.28	11.12
Normal ($\geq -2sd - \leq +1sd$)	35	9549	5.2	3.44	7.86
Overweight ($> +1sd - \leq +2sd$)	11	2893	7.0	4.57	10.45
Obese ($> +2sd$)	11	2464	5.4	2.18	12.93
Height-for - age status (HAZ)					
Stunting (<-2sd)	3	647	3.3	0.89	11.74
Normal ($\geq -2sd$)	58	15065	5.5	4.01	7.62

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
Selangor	236	65073	10.1	7.41	13.55	153	42368	6.6	4.84	8.82
Locality of School										
Urban	138	41576	9.4	6.17	14.11	82	24899	5.6	3.73	8.45
Rural	98	23497	11.5	7.45	17.32	71	17469	8.5	5.45	13.16
Sex										
Boys	137	37094	11.4	8.45	15.29	89	22619	7.0	5.30	9.13
Girls	99	27979	8.7	5.64	13.19	64	19749	6.1	4.05	9.22
Class										
Standard 4	52	15436	17.5	14.49	21.06	38	10562	12.0	8.11	17.40
Standard 5	57	15008	17.5	14.62	20.82	25	6460	7.5	4.20	13.16
Standard 6	26	11229	13.3	10.69	16.44	12	7668	9.1	4.51	17.45
Remove class										
Form 1	35	8122	9.7	5.79	15.73	19	4312	5.1	3.13	8.32
Form 2	18	3691	4.8	3.06	7.32	23	5155	6.6	4.38	9.96
Form 3	24	4530	5.8	3.58	9.30	19	3793	4.9	3.69	6.39
Form 4	14	2739	3.8	2.01	6.90	13	2557	3.5	1.75	6.91
Form 5	10	4320	5.7	2.33	13.42	4	1860	2.5	0.93	6.39
Ethnicity										
Malay	127	38828	9.3	6.17	13.76	87	26987	6.5	4.03	10.19
Chinese	62	14810	10.6	6.51	16.70	34	8044	5.7	4.45	7.37
Indian	36	8090	11.7	8.12	16.52	25	5495	7.9	4.75	12.96
Bumiputera Sabah	2	857	27.0	5.17	71.53	1	229	7.2	0.76	44.36
Bumiputera Sarawak	1	202	7.7	1.24	35.90	1	197	7.5	1.08	37.75
Others	8	2286	17.6	10.62	27.75	5	1416	10.9	2.93	33.17
BMI-for age status (BAZ)										
Thinness (<-2sd)	17	4601	10.6	6.20	17.54	16	4268	9.8	6.70	14.21
Normal ($\geq -2sd - \leq +1sd$)	132	35708	9.2	6.59	12.60	96	25250	6.5	4.60	9.04
Overweight ($> +1sd - \leq +2sd$)	43	11169	10.6	7.03	15.53	16	4898	4.6	2.69	7.86
Obese ($> +2sd$)	41	12877	12.1	8.10	17.79	25	7952	7.5	4.23	12.92
Height-for - age status (HAZ)										
Stunting (<-2sd)	12	3907	10.0	4.75	19.81	9	2391	6.1	2.90	12.42
Normal ($\geq -2sd$)	223	60973	10.0	7.44	13.43	144	39977	6.6	4.94	8.74

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
Selangor	197	53569	8.3	6.66	10.27	346	96127	14.9	11.82	18.56
Locality of School										
Urban	135	38577	8.7	6.74	11.26	224	67703	15.3	11.63	19.94
Rural	62	14993	7.3	5.26	10.14	122	28424	13.9	9.44	20.02
Sex										
Boys	118	31419	9.7	6.91	13.41	185	49444	15.2	11.43	20.03
Girls	79	22150	6.9	5.57	8.49	161	46683	14.5	11.50	18.16
Class										
Standard 4	36	10325	11.7	8.95	15.23	63	19535	22.2	16.47	29.20
Standard 5	35	8901	10.4	8.14	13.14	58	14313	16.7	13.04	21.12
Standard 6	19	9639	11.4	8.75	14.77	28	15395	18.2	10.64	29.48
Remove class										
Form 1	23	5155	6.1	3.83	9.71	48	10928	13.0	9.93	16.89
Form 2	20	4527	5.8	3.86	8.74	39	8442	10.9	7.40	15.73
Form 3	32	5997	7.7	5.14	11.36	39	7687	9.9	7.68	12.57
Form 4	21	4022	5.5	3.68	8.18	48	9243	12.7	9.41	16.84
Form 5	11	5002	6.6	4.77	9.15	23	10585	14.0	7.88	23.75
Ethnicity										
Malay	126	36054	8.6	6.59	11.22	213	63642	15.2	11.09	20.55
Chinese	45	10377	7.4	5.06	10.71	78	18288	13.0	10.44	16.18
Indian	21	5413	7.8	5.92	10.25.02	46	11358	16.4	12.26	21.60
Bumiputera Sabah	1	404	12.8	1.40	60.10	2	719	22.7	5.42	60.01
Bumiputera Sarawak						2	382	14.6	2.22	56.30
Others	4	1321	10.2	4.10	23.07	5	1739	13.4	7.01	24.06
BMI-for age status (BAZ)										
Thinness (<-2sd)	11	3828	8.8	4.12	17.86	28	6924	15.9	10.74	23.02
Normal (≥ - 2sd - ≤+ 1sd)	134	34888	8.9	7.14	11.16	215	59410	15.2	11.82	19.42
Overweight (> +1sd - ≤+ 2sd)	30	9227	8.7	5.73	13.04	53	14566	13.8	9.99	18.65
Obese (> + 2sd)	22	5626	5.3	3.64	7.66	50	15227	14.3	10.08	20.02
Height-for - age status (HAZ)										
Stunting (<-2sd)	11	3034	7.8	3.86	14.98	26	6448	16.5	11.13	23.71
Normal (≥-2sd)	186	50535	8.3	6.76	10.22	320	89680	14.8	11.63	18.61

3.7 Food and nutrition labeling among Adolescents (Secondary 1 To Secondary 5) in Selangor

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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 (Form 1 to Form 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 fiber content) that is read from the food label.
4. To determine the types of information (expiry date, nutrition facts, halal logo, food ingredients, storage instruction) that is read on 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 Selangor

The results in **Table 3.7.1** showed that 29.5% (95%CI: 29.5, 25.00) of adolescents reported always reading food labels when buying or receiving food. Another 52.0% (95%CI: 49.02, 54.94) of adolescents reported sometimes read food labels, while only 18.5% (95%CI: 15.75, 21.69) reported never read food labels. Among those reported always reading food labels, girls [30.9% (95%CI: 24.90, 37.58)] showed slightly higher percentage compared to boys [28.1% (95%CI: 23.25, 33.41)].

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

Among those who do not read food labels, the findings showed that the main reasons for not reading food labels were the food labels were not interesting [39.8% (95%CI: 32.43, 47.61)], followed by do not understand food labels [17.74% (95%CI: 12.30, 24.92)] and time constraint [21.3% (95%CI: 15.28, 28.81)]. The results also revealed that 16.5% (95%CI: 10.32, 25.43) of them do not know the importance of food label, 13.8% (95%CI: 9.52, 19.49) felt that the size of the printed label is too small and 8.97% (95%CI: 6.41, 12.40) reported 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 fiber content) that read from the food labels.

Among those who read the nutrition fact information, the four most common types of nutritional information being read were fat content [44.9% (95%CI: 39.11, 50.84)], carbohydrate content (including sugar) [41.5% (95%CI: 34.81, 48.44)], total energy content [40.2% (95%CI: 36.02, 44.51)] and protein content [25.1% (95%CI: 22.47, 27.94)]. It was followed by vitamin content [23.3% (95%CI: 19.45, 27.55)], sodium content [11.2% (95%CI: 8.24, 15.17)], mineral content [10.4% (95%CI: 8.50, 12.59)] and the least were fiber [9.6% (95%CI: 7.77, 11.88)] (**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, dietary declaration (nutrition claim), nutrition facts, halal logo, food ingredients, storage instruction) that available on the food labels, most of the adolescents read expiry date [82.8% (95%CI: 78.72, 86.29)], followed by halal logo [46.9% (95%CI: 37.15, 56.94)], food ingredients [33.9% (95%CI: 28.39, 39.81)], nutrition fact [32.8% (95%CI: 27.35, 38.76)], storage instruction [21.2% (95%CI: 17.23, 25.74)] and dietary declaration (nutrition claim) [20.0% (95%CI: 16.31, 24.39)] (**Table 3.7.4**).

3.7.4.5 Understanding of nutrition facts among adolescents in Selangor

Overall, more than half of the adolescents [61.6% (95%CI: 54.48, 68.20) and 5.2% (95%CI: 49.77, 62.46)] of the adolescents had given a correct answer to the question assessing interpretation of the energy content and sugar content based on the nutrition facts given. While 45.4 % (95%CI: 37.19, 53.91)] correct responses for both energy and sugar (Table 3.7.5).

3.7.4.6 Understanding of front of pack labelling among adolescents in Selangor

Overall, less than half of the adolescents [41.0% (95%CI : 32.88, 49.61)] had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and 45.3% (95%CI: 41.01,49.73) 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 that only 26.2% (95% CI:20.75, 32.52) provided a correct answer 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 Selangor

Overall, slightly more than half of the adolescents [58.3% (95%CI: 52.98 63.50)] 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 [64.0% (95%CI: 58.51,69.18)] reported a higher prevalence of interpreting correctly as compared to the boys [52.1% (95%CI: 46.38,57.78)]. While, 13.0 % (95%CI: 10.91, 15.49) of adolescents gave correct response to the question assessing interpretation of the least used ingredient in the food based on the list of ingredients given. However, the results showed a lower rate of adolescents provided correct answer[7.2% (95%CI: 5.78,9.00)] 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 Selangor. 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 fact is necessary. Boys had a higher prevalence of not reading food label. Thus, we need to be creative in education and promotion to ensure that adolescents know how to interpret the overall information that is stated at the food and nutrition labelling before choosing packaged food and drinks. In this survey, low prevalence of the adolescents know how to determine the highest and lowest ingredients content based on the food ingredient list given.

3.7.6 Recommendations

The findings provide significant information for the policymakers and health authorities to plan nutrition education and promotion programme to create awareness and knowledge on benefits of reading food and nutrition labelling. Awareness and continuous effort to better understand the food and nutrition labelling should be inculcated within all nutrition intervention programmes.

References

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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
SELANGOR	483	115000	29.5	25.00	34.38	869	202868	52.0	49.02	54.94
Locality of School										
Urban	348	84059	29.6	23.83	36.15	622	147601	52.0	48.51	55.50
Rural	135	30940	29.1	24.30	34.34	247	55266	51.9	46.35	57.45
Sex										
Boys	250	54491	28.1	23.25	33.41	460	97208	50.0	46.42	53.66
Girls	233	60509	30.9	24.90	37.58	409	105659	53.9	49.03	58.73
Class										
Form 1	144	33049	39.2	34.47	44.09	162	37167	44.1	38.80	49.45
Form 2	93	20446	26.2	19.42	34.28	182	40860	52.3	45.80	58.73
Form 3	91	18164	23.1	16.58	31.29	237	47278	60.2	54.77	65.36
Form 4	107	20995	28.3	23.83	33.19	203	39231	52.8	47.62	57.98
Form 5	48	22346	29.8	19.01	43.49	85	38331	51.2	44.68	57.59
Ethnicity										
Malay	314	72878	27.9	22.96	33.35	618	141851	54.2	50.26	58.14
Chinese	47	11582	21.3	15.72	28.09	102	25146	46.1	37.98	54.53
Indian	113	28110	43.0	37.68	48.52	126	30634	46.9	40.58	53.28
Bumiputera Sabah	1	503	26.9	4.03	76.31	6	1366	73.1	23.69	95.97
Bumiputera Sarawak	1	247	28.4	12.11	53.31	2	416	47.7	17.67	79.53
Others	7	1680	27.9	15.14	45.53	15	3454	57.3	38.66	74.05
BMI-for-age status (BAZ)										
Thinness (<-2sd)	42	9996	35.9	28.56	43.95	60	13526	48.6	42.97	54.21
Normal (≥-2sd - ≤+1sd)	299	71312	28.9	23.86	34.42	532	126047	51.0	47.27	54.72
Overweight (>+1sd - ≤+2sd)	60	15204	26.1	21.67	31.17	140	33374	57.4	52.71	61.92
Obese (>+2sd)	81	18294	32.2	25.31	39.91	137	29920	52.6	45.55	59.59
Height-for-age status (HAZ)										
Stunting (<-2sd)	34	7660	30.3	18.82	44.96	55	13781	54.6	39.81	68.54
Normal (≥-2sd)	448	107147	29.4	24.74	34.48	814	189086	51.8	48.41	55.25

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
SELANGOR	316	72350	18.5	15.75	21.69
Locality of School					
Urban	222	52115	18.4	14.96	22.35
Rural	94	20234	19.0	14.74	24.17
Sex					
Boys	203	42563	21.9	18.85	25.32
Girls	113	29787	15.2	11.15	20.38
Class					
Form 1	62	14144	16.8	11.68	23.48
Form 2	79	16817	21.5	15.86	28.53
Form 3	68	13111	16.7	11.72	23.22
Form 4	75	14026	18.9	14.66	23.99
Form 5	32	14251	19.0	11.37	30.08
Ethnicity					
Malay	211	46878	17.9	15.07	21.17
Chinese	73	17762	32.6	26.80	38.98
Indian	28	6606	10.1	6.13	16.22
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	1	208	23.9	1.30	88.20
Others	3	895	14.849669	3.60	44.89
BMI-for-age status (BAZ)					
Thinness (<-2sd)	18	4325	15.5	9.45	24.46
Normal ($\geq-2sd$ - $\leq+1sd$)	212	49796	20.1	16.57	24.27
Overweight ($>+1sd$ - $\leq+2sd$)	44	9584	16.5	11.45	23.14
Obese ($>+2sd$)	42	8644	15.2	10.56	21.40
Height-for-age status (HAZ)					
Stunting (<-2sd)	18	3820	15.1	8.31	25.94
Normal ($\geq-2sd$)	298	68530	18.8	15.83	22.15

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
SELANGOR	42	9959	13.8	9.52	19.49	57	12838	17.7	12.29	24.92
Locality of School										
Urban	28	6722	12.9	7.78	20.63	32	7472	14.3	9.21	21.65
Rural	14	3237	16.0	10.84	22.98	25	5366	26.5	17.19	38.56
Sex										
Boys	29	6597	15.5	10.90	21.57	31	6325	14.9	10.29	20.99
Girls	13	3362	11.3	6.81	18.13	26	6513	21.9	11.79	36.95
Class										
Form 1	14	3183	22.5	11.94	38.35	13	2993	21.2	14.49	29.83
Form 2	6	1441	8.6	2.91	22.68	13	2945	17.5	11.94	24.94
Form 3	6	1135	8.7	3.90	18.10	13	2587	19.7	10.54	33.89
Form 4	11	2091	14.9	8.67	24.43	15	2862	20.4	11.34	33.93
Form 5	5	2109	14.8	5.10	35.96	3	1452	10.2	2.58	32.71
Ethnicity										
Malay	29	6777	14.5	8.38	23.80	40	8553	18.2	11.61	27.49
Chinese	6	1575	8.9	4.96	15.35	14	3237	18.2	12.69	25.47
Indian	7	1607	24.3	9.97	48.28	3	1047	15.9	4.01	45.95
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	573	13.2	2.90	43.77	2	365	8.4	1.72	32.72
Normal (≥-2sd - ≤+1sd)	26	6352	12.8	7.73	20.32	37	8527	17.1	11.38	24.95
Overweight (>+1sd - ≤+2sd)	8	1846	19.3	11.47	30.53	9	2006	20.9	8.37	43.40
Obese (>+2sd)	6	1188	13.7	7.85	22.95	9	1940	22.4	10.78	40.94
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	1188	31.1	16.52	50.75	6	1241	32.5	17.21	52.69
Normal (≥-2sd)	37	8771	12.8	8.32	19.19	51	11597	16.9	11.77	23.73

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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
SELANGOR	127	28777	39.8	32.43	47.61	50.000	11964	16.5	10.32	25.43
Locality of School										
Urban	97	22378	42.9	34.42	51.89	31	8016	15.4	7.63	28.57
Rural	30	6399	31.6	23.88	40.54	19	3948	19.5	14.87	25.18
Sex										
Boys	84	17481	41.1	31.71	51.12	27	5887	13.8	7.52	24.07
Girls	43	11296	37.9	28.84	47.94	23	6077	20.4	12.73	31.05
Class										
Form 1	21	4666	33.0	20.64	48.22	10	2283	16.1	8.82	27.70
Form 2	34	7239	43.0	33.10	53.59	9	1937	11.5	4.34	27.18
Form 3	34	6408	48.9	33.23	64.75	16	3076	23.5	14.72	35.25
Form 4	24	4389	31.3	20.96	43.89	8	1509	10.8	3.94	26.17
Form 5	14	6074	42.6	33.31	52.49	7	3160	22.2	8.96	45.20
Ethnicity										
Malay	78	16919	36.1	27.03	46.26	32	7272	15.5	8.12	27.60
Chinese	40	9279	52.2	43.80	60.55	13	3646	20.5	10.32	36.69
Indian	6	1678	25.4	14.53	40.55	5	1047	15.8	5.03	40.09
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	208	100.0	100.00	100.00	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	2015	46.6	22.59	72.28	3	857	19.8	4.55	56.11
Normal (≥-2sd - ≤+1sd)	84	19197	38.6	32.73	44.72	37	8896	17.9	11.05	27.58
Overweight (>+1sd - ≤+2sd)	23	4963	51.8	29.66	73.23	3	762	7.9	2.85	20.23
Obese (>+2sd)	12	2601	30.1	17.80	46.12	7	1449	16.8	6.74	35.95
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	1348	35.3	15.33	62.17	3	574	15.0	5.88	33.33
Normal (≥-2sd)	120	27428	40.0	32.44	48.12	47	11390	16.6	10.18	25.96

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
SELANGOR	68	15389	21.3	15.28	28.81	27.000	6487	9.0	6.41	12.40
Locality of School										
Urban	53	11957	22.9	16.12	31.57	19	4809	9.2	6.38	13.17
Rural	15	3432	17.0	7.38	34.36	8	1678	8.3	3.96	16.54
Sex										
Boys	53	11255	26.4	20.97	32.76	14	2555	6.0	3.46	10.23
Girls	15	4133	13.9	6.51	27.17	13	3932	13.2	8.16	20.65
Class										
Form 1	9	2142	15.1	6.60	31.09	8	1886	13.3	7.42	22.81
Form 2	20	4046	24.1	12.88	40.43	3	675	4.0	1.50	10.29
Form 3	17	3228	24.6	13.12	41.40	2	358	2.7	0.63	11.06
Form 4	14	2559	18.2	10.00	30.95	11	2018	14.4	8.29	23.79
Form 5	8	3413	24.0	12.88	40.14	3	1549	10.9	3.80	27.38
Ethnicity										
Malay	54	12025	25.7	18.90	33.81	18	4249	9.1	5.39	14.85
Chinese	8	2071	11.7	3.13	35.03	6	1698	9.6	5.39	16.39
Indian	5	1090	16.5	9.08	28.12	3	540	8.2	3.23	19.19
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	1118	25.8	8.89	55.46	3	579	13.4	4.65	32.88
Normal (≥-2sd - ≤+1sd)	47	10812	21.7	15.17	30.08	19	4893	9.8	6.83	13.94
Overweight (>+1sd - ≤+2sd)	7	1694	17.7	5.07	46.29	4	852	8.9	3.07	23.08
Obese (>+2sd)	9	1765	20.4	8.53	41.40	1	163	1.9	0.22	14.33
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	954	25.0	12.52	43.63	3	637	16.7	7.91	31.76
Normal (≥-2sd)	63	14435	21.1	14.73	29.19	24	5850	8.5	5.95	12.11

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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
SELANGOR	547	127753	40.2	36.02	44.51	547	131799	41.5	34.81	48.44
Locality of School										
Urban	372	89083	38.5	33.47	43.69	412	101034	43.6	35.17	52.44
Rural	175	38670	44.9	40.28	49.53	135	30764	35.7	31.06	40.60
Sex										
Boys	324	68320	45.0	39.88	50.31	260	56614	37.3	29.06	46.39
Girls	223	59433	35.8	31.67	40.09	287	75185	45.2	39.87	50.73
Class										
Form 1	101	23239	33.1	28.02	38.60	108	24901	35.5	26.99	44.96
Form 2	124	27330	44.6	37.60	51.78	102	23212	37.9	32.07	44.02
Form 3	140	27196	41.6	34.79	48.66	150	30352	46.4	38.12	54.84
Form 4	124	23873	39.6	31.93	47.90	124	23952	39.8	29.63	50.87
Form 5	58	26114	43.0	34.10	52.46	63	29382	48.4	34.34	62.76
Ethnicity										
Malay	369	83866	39.1	33.22	45.22	411	96847	45.1	38.23	52.17
Chinese	54	13388	36.5	30.32	43.06	51	13673	37.2	24.71	51.73
Indian	106	26220	44.6	38.32	51.13	73	18021	30.7	23.64	38.75
Bumiputera Sabah	4	1057	56.5	20.33	86.90	6	1708	91.4	45.36	99.27
Bumiputera Sarawak	3	663	100.0	100.00	100.00	1	219	33.0	33.02	33.02
Others	11	2560	49.9	19.03	80.79	5	1331	25.9	15.28	40.45
BMI-for-age status (BAZ)										
Thinness (<-2sd)	54	12803	54.4	43.72	64.74	40	9335	39.7	28.28	52.34
Normal (≥-2sd - ≤+1sd)	329	78372	39.7	34.63	45.02	338	80884	41.0	34.57	47.72
Overweight (>+1sd - ≤+2sd)	81	19042	39.2	31.92	46.99	83	21630	44.5	32.67	57.04
Obese (>+2sd)	82	17343	36.0	29.84	42.59	86	19950	41.4	32.19	51.21
Height-for-age status (HAZ)										
Stunting (<-2sd)	27	6500	30.3	18.85	44.89	39	9440	44.0	34.13	54.42
Normal (≥-2sd)	519	121060	40.9	36.72	45.15	508	122359	41.3	34.47	48.49

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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
SELANGOR	590	142730	44.9	39.11	50.84	339	79809	25.1	22.47	27.94
Locality of School										
Urban	436	107350	46.3	38.82	54.03	249	60175	26.0	22.78	29.45
Rural	154	35380	41.0	36.71	45.52	90	19634	22.8	20.23	25.54
Sex										
Boys	261	56405	37.2	32.58	42.03	201	44221	29.2	24.00	34.90
Girls	329	86325	52.0	45.98	57.86	138	35588	21.4	18.97	24.08
Class										
Form 1	121	27532	39.2	28.83	50.67	74	16911	24.1	17.48	32.21
Form 2	110	25516	41.6	34.19	49.45	68	14827	24.2	17.88	31.86
Form 3	148	29814	45.6	38.02	53.30	79	15483	23.7	19.23	28.74
Form 4	142	27671	45.9	36.05	56.17	78	14919	24.8	18.80	31.90
Form 5	69	32198	53.1	40.71	65.05	40	17669	29.1	23.22	35.81
Ethnicity										
Malay	416	97382	45.4	39.31	51.53	233	53093	24.7	22.07	27.58
Chinese	67	17321	47.2	33.10	61.68	45	10916	29.7	22.48	38.15
Indian	92	24482	41.7	30.13	54.21	54	14220	24.2	19.89	29.12
Bumiputera Sabah	4	1104	59.1	22.17	87.97	3	783	41.9	9.08	83.90
Bumiputera Sarawak	1	197	29.7	29.67	29.67	-	-	-	-	-
Others	10	2244	43.7	21.51	68.76	4	796	15.5	4.19	43.44
BMI-for-age status (BAZ)										
Thinness (<-2sd)	33	8385	35.6	24.78	48.22	32	7651	32.5	22.12	45.00
Normal (≥-2sd - ≤+1sd)	356	87338	44.3	37.95	50.75	210	49317	25.0	21.33	29.04
Overweight (>+1sd - ≤+2sd)	92	22816	47.0	35.85	58.39	47	11552	23.8	18.89	29.47
Obese (>+2sd)	109	24191	50.2	42.90	57.44	50	11289	23.4	17.57	30.48
Height-for-age status (HAZ)										
Stunting (<-2sd)	42	10716	50.0	36.44	63.52	19	4767	22.2	16.57	29.16
Normal (≥-2sd)	548	132014	44.6	38.56	50.73	320	75041	25.3	22.69	28.17

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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
SELANGOR	138	35753	11.2	8.24	15.17	318	73934	23.3	19.45	27.55
Locality of School										
Urban	108	28974	12.5	8.82	17.45	231	54386	23.5	18.58	29.19
Rural	30	6779	7.9	6.12	10.05	87	19548	22.7	18.57	27.38
Sex										
Boys	60	13633	9.0	5.40	14.60	180	37592	24.8	19.81	30.53
Girls	78	22120	13.3	10.68	16.48	138	36342	21.9	17.10	27.53
Class										
Form 1	28	6489	9.2	5.50	15.13	83	19115	27.2	21.24	34.17
Form 2	23	5092	8.3	5.59	12.17	69	15451	25.2	19.70	31.65
Form 3	33	6580	10.1	7.49	13.37	68	12646	19.3	13.08	27.59
Form 4	29	5769	9.6	6.70	13.52	68	12939	21.5	15.11	29.61
Form 5	25	11824	19.5	11.92	30.20	30	13783	22.7	13.27	36.09
Ethnicity										
Malay	100	25235	11.8	8.85	15.45	210	47214	22.0	18.42	26.02
Chinese	16	4149	11.3	5.40	22.11	45	11092	30.2	22.87	38.70
Indian	17	4861	8.3	4.30	15.35	56	13952	23.8	18.29	30.24
Bumiputera Sabah	4	1333	71.3	45.75	88.02	2	711	38.0	9.40	78.39
Bumiputera Sarawak	-	-	-	-	-	2	416	62.7	62.69	62.69
Others	1	176	3.4	0.32	28.40	3	549	10.7	2.45	36.32
BMI-for-age status (BAZ)										
Thinness (<-2sd)	15	4351	18.5	11.49	28.41	32	7653	32.5	22.79	44.08
Normal (≥-2sd - ≤+1sd)	79	20052	10.2	7.57	13.51	214	48785	24.7	20.10	30.00
Overweight (>+1sd - ≤+2sd)	21	5375	11.1	6.29	18.74	36	8904	18.3	14.50	22.89
Obese (>+2sd)	23	5975	12.4	6.56	22.19	36	8591	17.8	12.76	24.32
Height-for-age status (HAZ)										
Stunting (<-2sd)	11	2832	13.2	6.47	25.09	20	4590	21.4	12.32	34.55
Normal (≥-2sd)	127	32922	11.1	7.91	15.40	298	69344	23.4	19.25	28.15

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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
SELANGOR	137	32950	10.4	8.50	12.59	124	30616	9.6	7.77	11.88
Locality of School										
Urban	95	23779	10.3	8.01	13.06	90	22677	9.8	7.40	12.84
Rural	42	9171	10.6	7.77	14.40	34	7940	9.2	7.36	11.47
Sex										
Boys	74	15592	10.3	6.94	14.97	54	11542	7.6	5.30	10.81
Girls	63	17358	10.4	8.98	12.12	70	19074	11.5	9.20	14.23
Class										
Form 1	23	5191	7.4	4.61	11.65	26	6112	8.7	5.28	14.02
Form 2	29	6466	10.5	6.98	15.62	23	5056	8.2	5.01	13.28
Form 3	36	6967	10.6	7.41	15.06	33	6676	10.2	6.22	16.28
Form 4	31	6003	10.0	6.98	14.03	26	5207	8.6	6.42	11.55
Form 5	18	8324	13.7	7.78	23.06	16	7565	12.5	6.97	21.30
Ethnicity										
Malay	93	21327	9.9	8.71	11.31	82	19085	8.9	7.38	10.67
Chinese	22	5850	15.9	8.97	26.70	19	4668	12.7	6.91	22.23
Indian	19	4876	8.3	5.39	12.57	20	5912	10.1	5.38	18.04
Bumiputera Sabah	1	503	26.9	4.03	76.31	1	503	26.9	4.03	76.31
Bumiputera Sarawak	1	219	33.0	33.02	33.02	-	-	-	-	-
Others	1	176	3.4	0.32	28.40	2	449	8.7	1.58	36.31
BMI-for-age status (BAZ)										
Thinness (<-2sd)	14	3353	14.3	9.28	21.27	8	2247	9.6	4.16	20.44
Normal (≥-2sd - ≤+1sd)	83	20073	10.2	8.19	12.56	69	16677	8.4	7.04	10.12
Overweight (>+1sd - ≤+2sd)	17	4093	8.4	5.53	12.64	25	6415	13.2	10.02	17.21
Obese (>+2sd)	23	5432	11.3	7.15	17.30	22	5278	10.9	6.91	16.92
Height-for-age status (HAZ)										
Stunting (<-2sd)	11	2818	13.1	7.03	23.23	8	2023	9.4	4.83	17.63
Normal (≥-2sd)	126	30132	10.2	7.97	12.90	116	28594	9.7	7.75	11.95

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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
SELANGOR	1112	263304	82.8	78.72	86.29	261	63723	20.0	16.31	24.39
Locality of School										
Urban	807	194302	83.9	78.62	88.03	189	47565	20.5	16.22	25.64
Rural	305	69002	80.0	75.25	84.10	72	16158	18.7	12.37	27.38
Sex										
Boys	563	121036	79.8	74.18	84.43	133	27896	18.4	13.94	23.86
Girls	549	142268	85.6	82.62	88.17	128	35827	21.6	17.86	25.79
Class										
Form 1	248	56886	81.0	72.47	87.37	64	14608	20.8	15.48	27.37
Form 2	223	49971	81.5	74.60	86.87	43	10118	16.5	11.04	23.95
Form 3	280	55754	85.2	79.28	89.64	71	13812	21.1	15.82	27.58
Form 4	247	48195	80.0	71.44	86.51	50	9519	15.8	12.34	20.02
Form 5	114	52498	86.5	76.34	92.74	33	15666	25.8	15.26	40.21
Ethnicity										
Malay	781	180921	84.3	80.33	87.52	151	34963	16.3	13.14	20.00
Chinese	132	32661	88.9	81.37	93.66	48	13142	35.8	24.04	49.52
Indian	167	42057	71.6	62.17	79.44	55	13777	23.5	18.79	28.86
Bumiputera Sabah	7	1869	100.0	100.00	100.00	3	929	49.7	20.03	79.59
Bumiputera Sarawak	3	663	100.0	100.00	100.00	1	197	29.7	29.67	29.67
Others	22	5134	100.0	100.00	100.00	3	715	13.9	5.79	29.87
BMI-for-age status (BAZ)										
Thinness (<-2sd)	81	19065	81.0	69.24	89.04	25	6205	26.4	17.81	37.21
Normal (≥-2sd - ≤+1sd)	694	165025	83.6	79.11	87.31	170	41607	21.1	17.49	25.18
Overweight (>+1sd - ≤+2sd)	155	39137	80.6	72.16	86.89	26	6699	13.8	9.32	19.94
Obese (>+2sd)	181	39884	82.7	75.43	88.19	40	9212	19.1	12.66	27.80
Height-for-age status (HAZ)										
Stunting (<-2sd)	70	16632	77.6	60.53	88.64	16	3915	18.3	12.27	26.29
Normal (≥-2sd)	1041	246478	83.2	79.25	86.53	245	59808	20.2	16.01	25.13

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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	Nutrition fact					Halal logo				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
SELANGOR	427	104263	32.8	27.35	38.76	149154	46.9	37.15	56.94	
Locality of School										
Urban	311	78445	33.9	26.76	41.78	108383	46.8	34.38	59.60	
Rural	116	25817	29.9	26.73	33.38	40770	47.3	34.93	59.99	
Sex										
Boys	229	50555	33.3	26.73	40.65	68946	45.4	32.86	58.65	
Girls	198	53708	32.3	26.24	39.06	80208	48.3	37.53	59.17	
Class										
Form 1	91	21007	29.9	22.71	38.28	27845	39.7	28.17	52.41	
Form 2	75	16419	26.8	19.64	35.37	27435	44.8	33.84	56.19	
Form 3	109	21722	33.2	24.62	43.05	33061	50.5	38.16	62.82	
Form 4	93	17854	29.6	21.79	38.92	32015	53.2	38.05	67.71	
Form 5	59	27261	44.9	34.23	56.11	28797	47.5	32.37	63.02	
Ethnicity										
Malay	284	67057	31.2	24.84	38.42	134049	62.4	53.67	70.44	
Chinese	52	13239	36.0	23.71	50.54	2485	6.8	5.12	8.89	
Indian	79	20735	35.3	28.12	43.21	9763	16.6	12.08	22.43	
Bumiputera Sabah	4	1300	69.6	35.52	90.47	962	51.5	16.52	85.03	
Bumiputera Sarawak	2	416	62.7	62.69	62.69	197	29.7	29.67	29.67	
Others	6	1516	29.5	7.77	67.55	1698	33.1	16.91	54.54	
BMI-for-age status (BAZ)										
Thinness (<-2sd)	39	9254	39.3	30.54	48.88	9535	40.5	29.47	52.66	
Normal (≥-2sd - ≤+1sd)	260	63716	32.3	26.59	38.56	95598	48.4	37.68	59.35	
Overweight (>+1sd - ≤+2sd)	62	16284	33.5	25.25	42.94	21436	44.1	32.51	56.42	
Obese (>+2sd)	66	15009	31.1	24.03	39.25	22584	46.8	39.03	54.81	
Height-for-age status (HAZ)										
Stunting (<-2sd)	24	6847	31.9	20.07	46.72	12474	58.2	47.88	67.81	
Normal (≥-2sd)	403	97416	32.9	27.43	38.85	136679	46.1	36.18	56.42	

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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
SELANGOR	449	107654	33.9	28.39	39.81	274	67311	21.2	17.23	25.74
Locality of School										
Urban	338	82698	35.7	28.74	43.32	199	50628	21.9	16.97	27.67
Rural	111	24955	28.9	25.81	32.31	75	16683	19.4	14.57	25.24
Sex										
Boys	218	47692	31.4	23.14	41.12	141	30745	20.3	14.61	27.41
Girls	231	59961	36.1	31.71	40.70	133	36566	22.0	19.23	25.06
Class										
Form 1	90	20955	29.8	19.89	42.16	63	14573	20.8	13.65	30.27
Form 2	77	17022	27.8	21.43	35.14	53	11908	19.4	14.31	25.81
Form 3	112	22633	34.6	27.24	42.74	59	11234	17.2	10.84	26.11
Form 4	115	22087	36.7	28.86	45.25	60	11596	19.3	13.28	27.08
Form 5	55	24957	41.1	27.87	55.82	39	18000	29.7	21.74	39.03
Ethnicity										
Malay	311	74173	34.5	29.03	40.51	178	42008	19.6	15.80	23.96
Chinese	55	13269	36.1	23.71	50.72	51	13016	35.4	23.57	49.41
Indian	69	16723	28.5	21.94	36.04	41	10949	18.6	12.77	26.38
Bumiputera Sabah	4	1333	71.3	45.75	88.02	3	1115	59.7	22.75	88.14
Bumiputera Sarawak	2	416	62.7	62.69	62.69	-	-	-	-	-
Others	8	1741	33.9	16.91	56.39	1	222	4.3	0.55	26.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	41	9911	42.1	30.44	54.78	29	7562	32.1	21.68	44.79
Normal (≥-2sd - ≤+1sd)	274	65832	33.4	27.86	39.35	174	42666	21.6	17.56	26.32
Overweight (>+1sd - ≤+2sd)	65	15765	32.5	22.12	44.84	26	6690	13.8	7.20	24.73
Obese (>+2sd)	69	16146	33.5	28.37	39.03	45	10393	21.6	17.13	26.76
Height-for-age status (HAZ)										
Stunting (<-2sd)	30	7584	35.4	28.28	43.17	15	3946	18.4	12.35	26.54
Normal (≥-2sd)	419	100070	33.8	28.08	40.00	259	63365	21.4	17.34	26.08

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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
SELANGOR	750	177882	45.4	37.19	53.91	1020	241120	61.6	54.48	68.20
Locality of School										
Urban	564	135826	47.6	37.16	58.31	749	180340	63.2	53.92	71.66
Rural	186	42056	39.5	31.95	47.61	271	60779	57.1	52.24	61.83
Sex										
Boys	416	89547	46.1	37.66	54.68	569	122684	63.1	55.78	69.86
Girls	334	88335	44.8	35.36	54.63	451	118435	60.1	52.13	67.50
Class										
Form 1	141	31738	37.6	26.70	49.97	207	46986	55.7	45.93	65.04
Form 2	159	36095	46.2	32.37	60.65	212	47832	61.2	46.81	73.91
Form 3	192	38154	48.4	37.14	59.89	243	48273	61.3	51.20	70.48
Form 4	172	32630	43.8	30.47	58.17	244	46451	62.4	48.23	74.74
Form 5	86	39266	51.7	33.42	69.56	114	51578	67.9	50.70	81.35
Ethnicity										
Malay	548	126779	48.4	39.28	57.67	728	168214	64.2	56.87	71.01
Chinese	99	25039	46.0	35.01	57.30	129	32297	59.3	48.77	68.99
Indian	89	22773	34.3	26.33	43.31	142	35474	53.5	45.57	61.18
Bumiputera Sabah	2	369	19.7	2.95	66.52	4	744	39.8	16.57	68.74
Bumiputera Sarawak	1	197	22.6	9.89	43.68	2	416	47.7	17.67	79.53
Others	11	2726	43.9	18.34	73.16	15	3976	64.0	35.22	85.36
BMI-for-age status (BAZ)										
Thinness (<-2sd)	57	14191	51.0	35.71	66.03	76	18184	65.3	50.76	77.45
Normal (≥-2sd - ≤+1sd)	480	114931	46.3	37.60	55.30	641	153146	61.7	53.73	69.16
Overweight (>+1sd - ≤+2sd)	97	22649	38.6	28.91	49.30	139	33167	56.5	46.31	66.23
Obese (>+2sd)	115	25917	45.6	36.81	54.63	163	36430	64.1	57.01	70.58
Height-for-age status (HAZ)										
Stunting (<-2sd)	43	10524	41.7	32.09	51.91	61	14616	57.9	49.52	65.77
Normal (≥-2sd)	706	167165	45.7	37.24	54.32	958	226311	61.8	54.36	68.73

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
SELANGOR	926	220164	56.2	49.77	62.46
Locality of School					
Urban	684	165373	58.0	49.71	65.84
Rural	242	54791	51.5	46.28	56.64
Sex					
Boys	499	106600	54.8	47.85	61.61
Girls	427	113564	57.6	50.35	64.52
Class					
Form 1	192	43406	51.5	40.18	62.58
Form 2	194	43567	55.8	45.47	65.59
Form 3	233	46657	59.2	49.77	68.05
Form 4	204	38889	52.2	41.21	63.06
Form 5	103	47645	62.7	47.38	75.91
Ethnicity					
Malay	652	150480	57.5	50.29	64.36
Chinese	119	29956	55.0	44.68	64.86
Indian	134	34732	52.3	43.78	60.77
Bumiputera Sabah	3	773	41.4	7.52	85.96
Bumiputera Sarawak	3	652	74.9	52.00	89.11
Others	15	3570	57.5	28.79	81.90
BMI-for-age status (BAZ)					
Thinness (<-2sd)	74	18077	64.9	53.64	74.73
Normal (≥-2sd - ≤+1sd)	582	140099	56.5	49.62	63.10
Overweight (>+1sd - ≤+2sd)	127	30354	51.7	43.72	59.67
Obese (>+2sd)	142	31442	55.3	46.17	64.09
Height-for-age status (HAZ)					
Stunting (<-2sd)	55	13408	53.1	39.95	65.79
Normal (≥-2sd)	870	206563	56.4	49.92	62.69

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
SELANGOR	431	102655	26.2	20.75	32.52	664	160516	41.0	32.88	49.61
Locality of School										
Urban	330	80321	28.2	21.35	36.15	503	124515	43.7	33.58	54.29
Rural	101	22334	21.0	17.51	24.94	161	36001	33.8	26.95	41.45
Sex										
Boys	257	55597	28.6	22.40	35.72	382	83683	43.0	34.73	51.76
Girls	174	47059	23.9	17.96	30.98	282	76833	39.0	30.29	48.40
Class										
Form 1	87	19888	23.6	16.27	32.87	141	32273	38.3	27.27	50.59
Form 2	73	16287	20.8	14.64	28.79	124	27388	35.1	27.06	43.99
Form 3	109	21187	26.9	20.47	34.46	159	31177	39.6	29.02	51.21
Form 4	106	19845	26.7	17.04	39.14	150	28383	38.1	27.09	50.55
Form 5	56	25449	33.5	22.88	46.14	90	41295	54.4	38.40	69.52
Ethnicity										
Malay	306	72323	27.6	21.46	34.78	423	99965	38.2	29.55	47.62
Chinese	65	15499	28.4	21.14	37.08	111	28529	52.4	40.38	64.07
Indian	53	13041	19.7	15.28	24.91	115	28358	42.7	37.00	48.67
Bumiputera Sabah	2	565	30.2	4.40	80.31	3	773	41.4	7.52	85.96
Bumiputera Sarawak	1	197	22.6	9.89	43.68	2	405	46.5	14.54	81.57
Others	4	1030	16.6	6.45	36.46	10	2487	40.0	22.59	60.45
BMI-for-age status (BAZ)										
Thinness (<-2sd)	31	7356	26.4	17.51	37.77	53	12834	46.1	32.84	59.91
Normal (≥-2sd - ≤+1sd)	276	66147	26.7	21.63	32.38	432	105589	42.6	34.05	51.55
Overweight (>+1sd - ≤+2sd)	60	14224	24.2	16.81	33.64	85	20853	35.5	26.65	45.57
Obese (>+2sd)	64	14929	26.3	18.53	35.79	94	21240	37.4	28.64	46.98
Height-for-age status (HAZ)										
Stunting (<-2sd)	28	7109	28.1	18.44	40.42	40	9547	37.8	27.08	49.85
Normal (≥-2sd)	403	95547	26.1	20.57	32.50	624	150969	41.2	32.93	50.06

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
SELANGOR	757	177537	45.3	41.01	49.73
Locality of School					
Urban	549	130734	45.8	40.08	51.72
Rural	208	46802	44.0	41.03	46.95
Sex					
Boys	415	87768	45.1	40.01	50.38
Girls	342	89768	45.5	38.94	52.28
Class					
Form 1	156	35479	42.1	35.08	49.36
Form 2	157	35421	45.3	38.61	52.24
Form 3	192	38283	48.6	40.22	57.05
Form 4	176	33510	45.0	35.29	55.14
Form 5	76	34845	45.9	33.35	58.97
Ethnicity					
Malay	553	127452	48.7	44.41	52.96
Chinese	92	21769	40.0	32.51	47.89
Indian	100	25425	38.3	31.11	46.07
Bumiputera Sabah	3	765	40.9	12.03	77.83
Bumiputera Sarawak	2	416	47.7	17.67	79.53
Others	7	1710	27.5	12.76	49.67
BMI-for-age status (BAZ)					
Thinness (<-2sd)	54	12409	44.6	34.90	54.64
Normal (≥-2sd - ≤+1sd)	469	110555	44.6	40.23	48.99
Overweight (>+1sd - ≤+2sd)	110	27013	46.0	40.40	51.80
Obese (>+2sd)	123	27366	48.1	41.74	54.59
Height-for-age status (HAZ)					
Stunting (<-2sd)	51	12822	50.8	39.81	61.64
Normal (≥-2sd)	705	164521	44.9	40.80	49.13

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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 Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
SELANGOR	100	22980	7.2	5.78	9.00	773	185423	58	53.0	63.50
Locality of School										
Urban	67	15501	6.7	4.92	9.04	570	139133	60	53.3	66.47
Rural	33	7479	8.7	7.81	9.63	203	46290	54	50.1	57.27
Sex										
Boys	58	12059	7.9	6.03	10.41	365	79041	52	46.4	57.78
Girls	42	10920	6.6	5.09	8.44	408	106382	64	58.5	69.18
Class										
Form 1	27	6270	8.9	5.43	14.33	167	38167	54	50.8	57.88
Form 2	21	4582	7.5	4.83	11.40	158	36656	60	51.1	67.88
Form 3	25	4966	7.6	5.19	10.98	194	39442	60	49.9	69.80
Form 4	20	3921	6.5	4.00	10.43	173	33679	56	46.2	65.21
Form 5	7	3240	5.3	2.49	11.08	81	37479	62	54.5	68.55
Ethnicity										
Malay	59	13237	6.2	4.91	7.72	515	120958	56	50.9	61.58
Chinese	14	3084	8.4	5.72	12.16	92	22109	60	52.0	67.89
Indian	24	6068	10.3	7.73	13.67	148	37590	64	54.0	72.88
Bumiputera Sabah	-	-	-	-	-	3	1082	58	28.3	82.71
Bumiputera Sarawak	-	-	-	-	-	2	466	70	70.3	70.33
Others	3	591	11.5	3.02	35.22	13	3217	63	39.2	81.36
BMI-for-age status (BAZ)										
Thinness (<-2sd)	9	1965	8.4	3.54	18.47	52	11730	50	38.8	60.92
Normal (≥-2sd - ≤+1sd)	57	13267	6.7	5.14	8.75	469	113979	58	51.0	64.27
Overweight (>+1sd - ≤+2sd)	14	3315	6.8	4.13	11.07	118	29354	60	51.7	68.54
Obese (>+2sd)	20	4432	9.2	5.77	14.33	134	30360	63	55.5	69.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	1754	8.2	4.73	13.77	52	12812	60	44.8	73.12
Normal (≥-2sd)	93	21226	7.2	5.68	9.01	721	172611	58	53.3	63.03

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
SELANGOR	181	41406	13.026077	11	15.5
Locality of School					
Urban	117	27081	11.690001	10	14.0
Rural	64	14325	16.61647	13	20.9
Sex					
Boys	101	21069	13.888383	11	17.3
Girls	80	20337	12.238858	11	14.1
Class					
Form 1	50	11595	16.513189	12	23.1
Form 2	40	8778	14.318616	10	20.7
Form 3	42	8256	12.616489	8	19.5
Form 4	37	7291	12.106857	8	17.4
Form 5	12	5485	9.0389788	5	16.1
Ethnicity					
Malay	120	26758	12.461463	10	15.5
Chinese	23	5349	14.564561	9	21.9
Indian	34	8487	14.447972	11	19.5
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	4	811	15.789074	4	48.1
BMI-for-age status (BAZ)					
Thinness (<-2sd)	19	4170	17.72736	12	26.3
Normal (≥-2sd - ≤+1sd)	111	25845	13.095558	11	15.4
Overweight (>+1sd - ≤+2sd)	25	5705	11.744505	8	16.6
Obese (>+2sd)	26	5685	11.791437	7	18.5
Height-for-age status (HAZ)					
Stunting (<-2sd)	11	2736	12.762536	9	18.2
Normal (≥-2sd)	170	38669	13.053647	11	15.7

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

Appendix 6: List of Data Collection Teams

SELANGOR

Liaison Officer

Mr. Ja'afar bin Mohamed Idris

Ms. Shamsuriati binti Awang Kechik

Field Supervisor

Mr. Azli bin Baharudin @ Shahrudin

Ms. Chan Ying Ying

Nutritionists

1. Ms. Norazaidah binti Yusof
2. Ms. Adibah binti Zakaria
3. Ms. Zamzurina binti Muhamad Kamaruzaman
4. Mr. Ng Chee Kai
5. Ms. Amirah binti Mohamed Jalal
6. Ms. Argeela a/p Subramaniam
7. Ms. Nor Hasyimah Binti Khalid
8. Ms. Ellin Kiung
9. Ms. Nadiyah binti Isa

Research Assistants

1. Nurul Hidayah binti Mat Yusoff
2. Illya Natasha binti Zulkefli
3. Shazana binti Che Hassandi
4. Nurlis bin Yunarlis
5. Ihsan Sabri bin Ahmad Khairi
6. Fatin Norhasny binti Leman
7. Nur Syuhada binti Sadrani
8. Mohd Syamim bin Mat Sakry
9. Aida Marina binti Jamin
10. Abdul Aziz bin Nazaruddin

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"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Negeri மாநில	Strata நிலை	Kategori Sekolah பள்ளி பிரிவு	Kod Sekolah பள்ளி குறியீடு
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
A2	Tarikh lahir பிறந்த திகதி	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Hari நாள்	Bulan மாதம்	Tahun ஆண்டு	
A3	Jantina பால்	A. Lelaki -ன் B. Perempuan பெண்			
A4	Bangsa மனம்	A. Melayu மலாய் B. Cina சீனர் C. India மத்தியர் D. Bumiputra Sabah சபா பூர்வீகம் E. Bumiputra Sarawak சரவாக்பூர்வீகம் F. Lain-Lain மற்றது			
		Sekolah Rendah ஆரம்பப்பள்ளி		Sekolah Menengah 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 ÀÁÁ	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	

MODUL B :	CORAK PEMAKANAN
தொகுதி B :	உணவு பழக்கம்
Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.	
கட்டளை : சரியான விடையைத் தெரிவு செய்து கொடுக்கப்பட்டுள்ள விடைத்தாளில் கருமையாக்குக .	
B1	<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>
B2	<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>
B3	<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>
B4	<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 English

- B5** Kebiasaannya, dalam seminggu berapa hari anda makan dan/atau minum pada waktu rehat sekolah?
வழக்கமாக ஒரு வாரத்தில் எத்தனை 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 அவ்வணவை 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 எத்தனை 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 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 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-லிருந்துமாலை 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-லிருந்துயரவு 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, துரித 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 யல்வண்ணை 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

Tinjauan Persekitaran Keluarga

- 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/ கார்போனெட்பானம்
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 எவ்வாறு செய்தீர்? (கடந்த வாரம்). ஆம் என்றால் எத்துனை முறை?

	Aktiviti நடவடிக்கை	Tiada	1-2 kali முறை	3-4 kali முறை	5-6 kali முறை	7 kali atau lebih முறை
a	Lompat tali சிகிப்பிங்	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 பேல்பாஸ	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

Tinjauan Persekitaran Keluarga

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 சிதேசன், 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

MODUL D : PERSEPSI PENGURUSAN BERAT BADAN	
தொகுதி D : உடல் எடை கட்டுப்பாடு	
Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.	
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்	
D1	<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>
D2	<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>
D3	<p>Sekiranya anda berhasrat untuk mengurangkan berat badan, 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

MODUL E :	PENGAMBILAN SUPLEMEN
தொகுதி E :	விடமின் மற்றும் மாற்றுச்சத்துணவு உட்கொள்ளுதல்
Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.	
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்	
E1	<p>Adakah anda ada mengambil sebarang suplemen vitamin / mineral? நீங்கள் விடமின் ஏதாவது உட்கொள்கிறீர்களா?</p> <p>A Ya / ஆம்</p> <p>B Tidak / இல்லை</p> <p>(Jika TIDAK, sila jawab TIDAK AMBIL SUPLEMEN di soalan E2, E3, dan E4) (இல்லை என்றால், விடமின் உட்கொள்ளவில்லை என்று E2, E3, மற்றும் E4 கேள்விகளில் விடையளிக்கவும்)</p>
E2	<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>
E3	<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>
E4	<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 Perseorangan 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

MODUL F :	LABEL MAKANAN DAN PEMAKANAN (SEKOLAH MENENGAH SAHAJA)																		
தொகுதி F :	உணவு மற்றும் உணவு உல்கொள்ளும்முறையையும்குறிப்பிடுக. (படைநிலைப்பள்ளி மட்டும்)																		
Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.																			
கட்டளை : சரியான விடையைத் தேர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்																			
F1	<p>Adakah anda membaca label makanan ketika membeli atau menerima makanan/minuman? ஒர் உணவுப் பொருளை வாங்குவதற்கு முன் நீங்கள் அதன் அடையாள அட்டையை படிப்பீர்களா?</p> <p>A. Ya, setiap kali (terus ke soalan F3 dan jawab hingga soalan F10) ஆம், ஒவ்வொருமுறையும் (கேள்வி F3- டல்பருந்து F10 வரை பதிலளிக்கவும்)</p> <p>B. Ya, kadang-kadang / ஆம், சில சமயத்தில்</p> <p>C. Tidak (silalah jawab soalan F2 dan terus ke soalan F5 hingga F8) டல்லை (கேள்வி F2 மற்றும் F5 பின் அதிலிருந்து தொடர்ந்து F8 வரை பதிலளிக்கவும்)</p>																		
F2	<p>Jika anda tidak membaca label makanan, nyatakan sebab-sebabnya? Anda boleh memilih lebih daripada satu jawapan. எனால் நீங்கள் அவ்வடையாள அட்டையை படிக்கமாதிர்கள்? ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்.</p> <table border="1" style="margin-left: 40px;"> <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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F3	<p>Apakah jenis maklumat panel maklumat pemakanan yang anda baca? Anda boleh memilih lebih daripada satu jawapan. எந்த வகையான தகவலை நீங்கள் உணவு அடையாள அட்டையில் படித்தீர்கள்? ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்</p> <table border="1" style="margin-left: 40px;"> <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.**

கீழ்க்காட்டுக்கப்பட்டிருள்ள 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 தகவல்கள் கொடுக்கப்பட்டுள்ளது. அதை படித்தப்பின் கொடுக்கப்பட்டுள்ள கூற்றுக்கள் 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

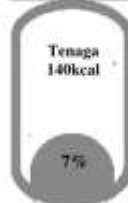
- F5** Jika saya minum 100ml minuman ini, ia membekalkan 56 kcal tenaga.
நான் 100ml குளிர்பானம் குடித்தால், எனக்கு 56 கலோரிச் சத்துகள் கிடைக்கும்.
- A Betul / சரி
B Salah / பிழை
C Tidak tahu / தெரியவில்லை
- F6** Jika saya minum satu kotak minuman ini, bermaksud saya telah mengambil 26.5 gram gula.
ஓர்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

MODUL G : PENGUKURAN ANTROPOMETRI தொகுதி G : ஆந்த்ரோபோமெற்றிக் அளவீடுகள்				
Arahan : Bahagian ini akan diisi oleh pelajar di dalam kertas jawapan yang disediakan. கட்டளை: கீழ்க்காணும் பத்திரத்தை நிரப்புக.				
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
Hari நாள்	Bulan மாதம்	Tahun ஆண்டு		
G2	Berat Badan உடல் எடை G2a Berat 1 எடை 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> kg G2b Berat 2 எடை 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> kg Enggan diukur அளக்கவில்லை <input type="checkbox"/>			
G3	Tinggi உயரம் G3a Tinggi 1 உயரம் 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm G3b Tinggi 2 உயரம் 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm Enggan diukur அளக்கவில்லை <input type="checkbox"/>			

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

Survei Kesihatan Kebangsaan

MODULE A : PERSONAL INFORMATION															
A组：个人资料															
INSTRUCTION : Fill the student ID, date of birth and shade your answer on the answer sheet provided															
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															
A1	Student ID/ 学生编号	<table border="1"> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>State 州属</td> <td>Strata 区域</td> <td>School Category 学校类别</td> <td>School code 学校编号</td> <td>Class 班级</td> <td>Student 学生</td> </tr> </table>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	State 州属	Strata 区域	School Category 学校类别	School code 学校编号	Class 班级	Student 学生	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>										
State 州属	Strata 区域	School Category 学校类别	School code 学校编号	Class 班级	Student 学生										
A2	Date of birth/ 出生日期	<table border="1"> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>Day/日期</td> <td>Month/月</td> <td colspan="4">Year/年份</td> </tr> </table>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Day/日期	Month/月	Year/年份				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>										
Day/日期	Month/月	Year/年份													
A3	Gender/性别	A. Male/男 B. Female/女													
A4	Ethnicity/种族	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													
		Primary school/小学	Secondary school/中学												
A5	Class/年级	A. Primary 4/4年级 B. Primary 5/5年级 C. Primary 6/6年级	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												
A6	Age/年龄	A. 10 year old/10岁 B. 11 year old /11岁 C. 12 year old /12岁	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												

MODULE B: Meal pattern	
组 B: 饮食习惯	
Instruction: Choose the answer and shade on the answer sheet provided	
指示: 请在准备好的答案纸上划圈作答	
B1	<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>
B2	<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>
B3	<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>
B4	<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 Persekitaran / Survey

MODULE C : PHYSICAL ACTIVITY						
C组：体能活动						
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						
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?						
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？						
	Activity/活动	Never/ 没有	1-2 times/ 1-2次	3-4 times/ 3-4次	5-6 times/ 5-6次	7 times or more/ 7次或以上
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, danE4
 (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, danE8)
 (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

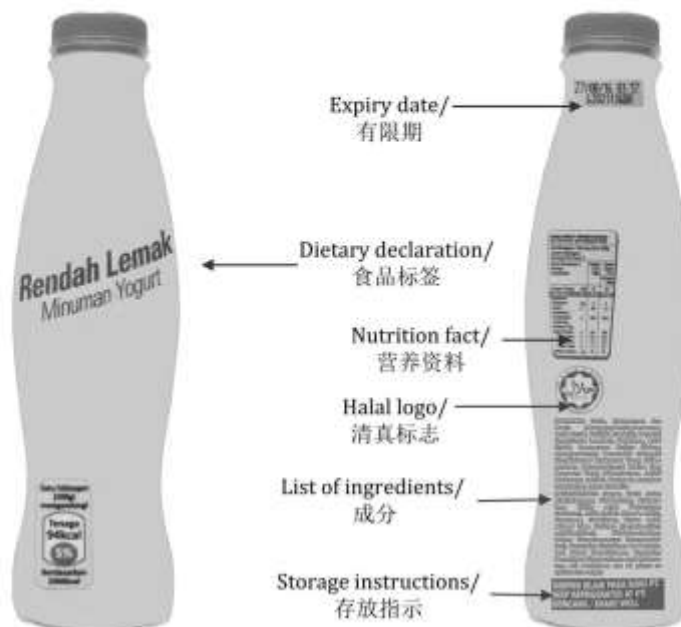
E8 How often do you take food supplement?
你如何食用该维生素/矿物质补助品？

- 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

MODULE F: NUTRITION AND FOOD LABELLING																			
F 组：食品标签（只限于中学生作答）																			
<i>Instruction: Choose the answer and shade on the answer sheet provided</i> <i>指示：请在准备好的答案纸上划黑作答</i>																			
F1	<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 style="text-align: right;">} (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 style="text-align: right;">(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>																		
F2	<p>If you do not read food labels, specify the reason? You may choose more than one answer 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" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Reasons for not reading food labels/ 没有阅读食品标签的原因</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td>Small printing font/字体太小</td> </tr> <tr> <td style="text-align: center;">B</td> <td>Do not understand food labels/不明白</td> </tr> <tr> <td style="text-align: center;">C</td> <td>Not interesting/不感兴趣</td> </tr> <tr> <td style="text-align: center;">D</td> <td>Do not know the importance/不懂其重要性</td> </tr> <tr> <td style="text-align: center;">E</td> <td>No time/没有时间</td> </tr> <tr> <td style="text-align: center;">F</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		A	Small printing font/字体太小	B	Do not understand food labels/不明白	C	Not interesting/不感兴趣	D	Do not know the importance/不懂其重要性	E	No time/没有时间	F	Already know the information/已经知道相关资料				
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F3	<p>What kind of information do you read from the food label? You may choose more than one answer. 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" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Nutrition fact information/营养资料</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td>Energy content/日能</td> </tr> <tr> <td style="text-align: center;">B</td> <td>Carbohydrate/sugar content/碳水化合物/糖含量</td> </tr> <tr> <td style="text-align: center;">C</td> <td>Fat content/脂肪含量</td> </tr> <tr> <td style="text-align: center;">D</td> <td>Protein content/蛋白质含量</td> </tr> <tr> <td style="text-align: center;">E</td> <td>Salt/ sodium content/钠含量</td> </tr> <tr> <td style="text-align: center;">F</td> <td>Vitamin content/维生素含量</td> </tr> <tr> <td style="text-align: center;">G</td> <td>Mineral content/矿物质含量</td> </tr> <tr> <td style="text-align: center;">H</td> <td>Fiber/纤维</td> </tr> </tbody> </table>	Nutrition fact information/营养资料		A	Energy content/日能	B	Carbohydrate/sugar content/碳水化合物/糖含量	C	Fat content/脂肪含量	D	Protein content/蛋白质含量	E	Salt/ sodium content/钠含量	F	Vitamin content/维生素含量	G	Mineral content/矿物质含量	H	Fiber/纤维
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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	
A	Expiry date/有限期
B	Dietary declaration/食品标签
C	Nutrition fact/营养资料
D	Halal logo/清真标志
E	List of Ingredients/成分
F	Storage instruction/存放指示

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

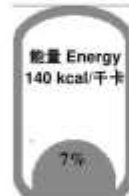
F6 If I drink 1 box of this packed drink, I obtain 26.5 gram of sugar.
如果我喝下这包饮料，就等于我摄取了26.5克糖。

- 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

22

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MODULE G : ANTHROPOMETRIC MEASUREMENT							
G组： 人体测量							
<i>Instruction: This section will be completed by the student in the answer sheets provided</i> 指示： 在这环节， 学生将在所准备的答案纸上作答							
G1	Anthropometry measurement date/测量日期: <table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="border: 1px solid black; width: 33%; text-align: center; padding: 2px;"> </td> <td style="border: 1px solid black; width: 33%; text-align: center; padding: 2px;"> </td> <td style="border: 1px solid black; width: 33%; text-align: center; padding: 2px;"> </td> </tr> <tr> <td style="text-align: center; padding: 2px;">Day/日期</td> <td style="text-align: center; padding: 2px;">Month/月份</td> <td style="text-align: center; padding: 2px;">Year/年份</td> </tr> </table>				Day/日期	Month/月份	Year/年份
Day/日期	Month/月份	Year/年份					
G2	Body weight/体重 G2a Weight 1/体重1 <input style="width: 40px; height: 20px;" type="text"/> : <input style="width: 40px; height: 20px;" type="text"/> kg/公斤 G2b Weight 2/体重2 <input style="width: 40px; height: 20px;" type="text"/> : <input style="width: 40px; height: 20px;" type="text"/> kg/公斤 Refuse to be measured 不愿被测量 <input style="width: 30px; height: 30px;" type="text"/>						
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



Secondary school Questionnaire Answer Sheet

TINJAUAN PEMAKANAN REMAJA 2017
KERTAS JAWAPAN

A1 ID PELAJAR					
NEGERI	STRATA	KATEGORI SEKOLAH	KOD SEKOLAH	KELAS	PELAJAR
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1
<input type="radio"/> 2			<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2
<input type="radio"/> 3			<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3
<input type="radio"/> 4			<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4
<input type="radio"/> 5			<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5
<input type="radio"/> 6			<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6
<input type="radio"/> 7			<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7
<input type="radio"/> 8			<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8
<input type="radio"/> 9			<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9

A2 / / / / / Tarikh Lahir

A3 A B Jantina

A4 A B C D E F Email

A5 A B C D E F G H I Kelas

A6 A B C D E F G H I Umur

MODUL C

C1(a)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(n)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(a)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(b)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(o)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(b)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(c)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(p)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(c)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(d)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(q)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(d)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(e)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(r)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(e)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(f)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C1(s)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(f)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(g)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C2	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C9(g)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(h)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C3	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C10	<input type="radio"/> A <input type="radio"/> B
C1(i)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C4	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C11	<input type="radio"/> A <input type="radio"/> B
C1(j)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C5	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C12	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(k)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C6	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C13	<input type="radio"/> A <input type="radio"/> B
C1(l)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C7	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C14	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
C1(m)	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E	C8	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E		

MODUL B

B1 A B C

B2 A B C D E F G H

B3 A B C D E F

B4 A B C D E F G

B5 A B C D E F

B6 A B C D E F

B7 A B C D E F G H

B8 A B C D E F

B9 A B C D E F G

B10 A B C D E F G H

B11 A B C D E F

B12 A B C D E F G H

B13 A B C D E

B14 A B C D E F G

B15 A B C D E F G H

B16 A B C D E

B17 A B C D E F G H

B18 A B C

B19 A B C D E F G H

B20 A B C

B21 A B C D E F

B22 A B C D E

B23 A B C D E F G H

B24 A B C D E F G H

B25 A B C D E F G H

B26 A B C D E F G H

B27 A B C D E F G H

B28 A B C D E

MODUL D

D1 A B C D E

D2 A B C D

D3 A B C D E

D4 A B C D E F G H I

D5 A B C D E

D6 A B C D E

MODUL E

E1 A B

E2 A B C D E

E3 A B C D E F

E4 A B C D E

E5 A B

E6 A B C D E F

E7 A B C D E F

E8 A B C D E

MODUL F

F1 A B C

F2 A B C D E F

F3 A B C D E F G H

F4 A B C D E F

F5 A B C

F6 A B C

F7 A B C

F8 A B C

F9 A B C D E


F10 A B C D E

MODUL G

G1 / / / / / Tarikh Pengukuran Antropometri

G2(a) Berat 1		G2(b) Berat 2		G3(a) Tinggi 1		G3(b) Tinggi 2	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0
<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1
<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2
<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3
<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4
<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5
<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6
<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7
<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8
<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9

Berat | Inggan ukur Tinggi | Inggan ukur

 6 1 8 5 4 4 1 1 1 7 4 5

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 merbahaya 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 \checkmark 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 \checkmark 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 Iubapa/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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