

NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY

PERAK



Ministry of Health Malaysia



THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY 2017

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

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Executive Summary

The Adolescent Nutrition Survey (ANS) is the second nation-wide study among adolescents in Malaysia, the first being 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 in Malaysia. A multistage stratified cluster sampling design was used to recruit national representative samples from students in Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age). The survey was conducted using self-administered questionnaires. Total response rates for self-administered questionnaire were 89.5% for ANS.

Based on the indicator height for age (HAZ), the prevalence of normal height ($HAZ \geq -2SD$) was 92.5% and stunting was 7.5%. The prevalence of stunting was higher in rural areas (10.3%) as compared to urban areas (4.7%). In terms of BMI for age (BAZ), the prevalence of thinness was 6.4%, overweight was 16.8% and obesity was 15.2%.

Among those school-going adolescents who had actual normal weight, 47.8% correctly perceived their weight to be normal. Among those who were actually thin, 78.0% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 45.7% and 10.6% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 53.6% preferring exercise as an option to lose weight; 46.0% 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 30.5%. The majority of them had breakfast one to six days per week (57.4%) and some of them did not have breakfast in a week (12.1%). Among those who had breakfast, 65.6% had it at home. Adolescents from urban areas (29.9%) reported having breakfast daily (seven days per week), lower than rural areas (31.2%). The two main reasons of skipping breakfast were no appetite (42.5%) and no time (30.9%).

The prevalence of having lunch seven days per week among school-going adolescents was 53.2%; 43.8% had lunch up to six days per week and 2.9% did not have lunch in a week. No appetite (50.9%) and no time (17.6%) were the two main reasons for skipping lunch. As for dinner, 56.0% of school-going adolescents had dinner seven days per week, 40.9% 1-6 days per week and 3.1% did not have dinner in a week. Only 5.1% took heavy meals after dinner seven days per week. There were 1.9% who had fast food daily and 16.0% did not have fast food. Social media (YouTube, Facebook, Instagram, etc.) and television ads were reported as

the main sources which affected dietary pattern among 37.2% and 36.2% adolescents respectively. A percentage of 29.8% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Perak was 46.0%. 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 Perak was 41.9% and 29.6%. In average, the vitamin/mineral and food supplements were consumed everyday by 13.1% and 9.7% 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 33.1% and bee product 14.5%. The main reason for taking vitamin / minerals and food supplements was due to parent's advised 39.3% and 29.0%

Food and nutrition labelling use was assessed among secondary school-going adolescents; 32.9% always reading food and nutrition labelling. Another 50.1% reported as sometimes and only 17.0% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 48.4% of adolescents both answered correctly on nutrition facts and 26.9% 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 they 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 behavioral 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 adolescents aged 10 – 17 years old to continue exploring issues pertaining to nutrition related component in adolescents in Malaysian such as nutritional status, body weight perception, meal pattern, habitual food intake, dietary intake, physical activity level, vitamin/mineral and food supplement intake and food and nutrition labelling.

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1.1 Objectives

1.1.1 General Objectives

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

1.1.2 Specific Objectives

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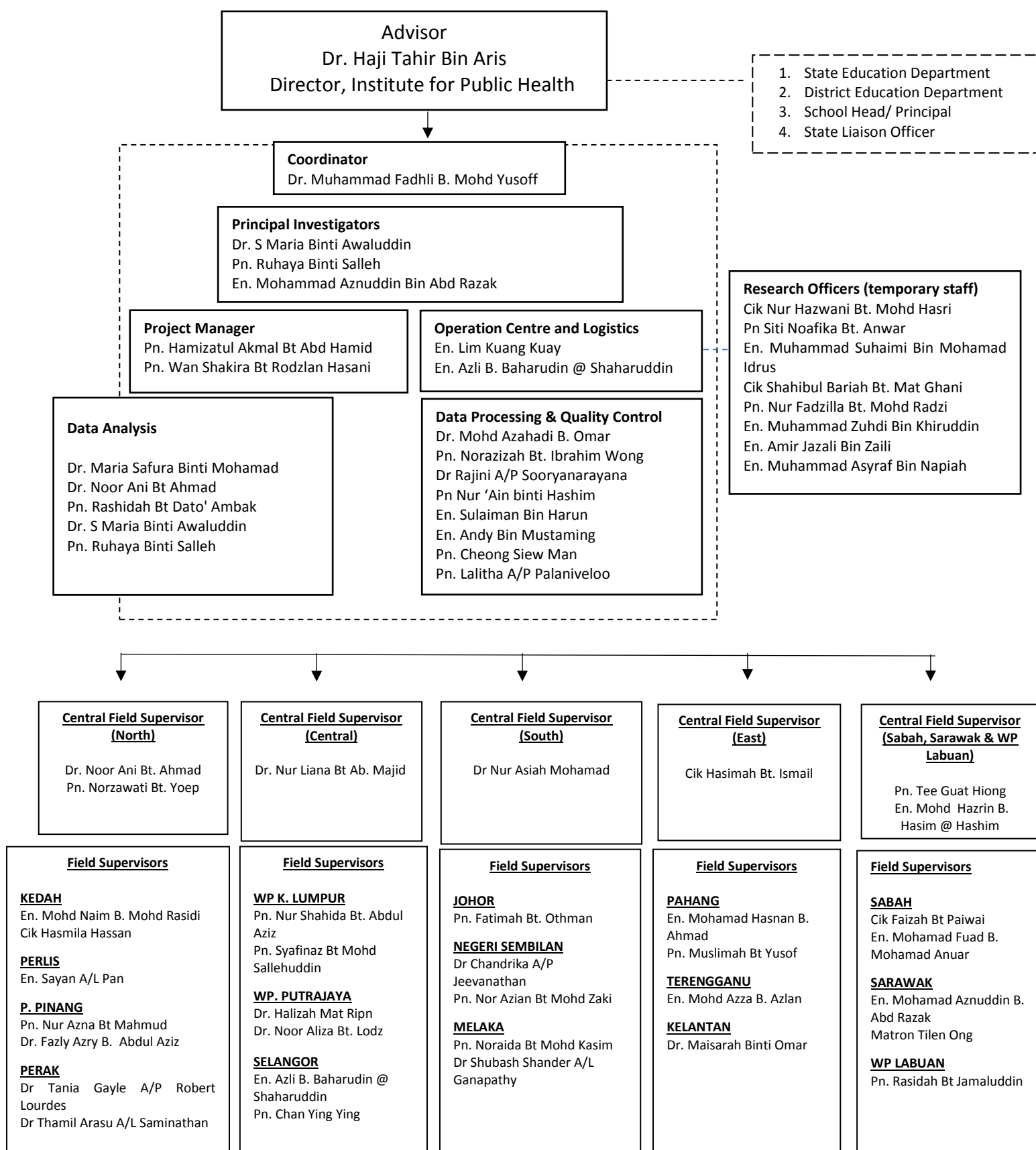


Figure 1: Organisation chart for data collection teams NHMS 2017

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 Standard 4 until Standard 6 (primary school) and Form 1 until Form 5 (secondary school) were used. There were 7926 primary schools and 2688 secondary schools in 2016. Both public and private schools were included in the sampling frame.

2.3 Sample Size Determination

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

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

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

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

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

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

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

2. Adjusted for the design effect (deff) (based on previous survey: MSNS 2012), n(complex) = n * deff
3. Adjusted the n(complex) taking into account expected non-response rate of 25%, n(adj) = n(complex) * (1 + 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 Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age). Malaysia was stratified into 16 states (including Federal Territory of Kuala Lumpur, Putrajaya and Labuan). The first stage of sampling involved a random selection of school from list of eligible schools provided by Ministry of Education. Schools were selected randomly with probability proportional to school enrolment size. A total of 311 schools were selected to participate in this survey. The second stage of sampling was selection of classes. All classes in each selected school were included in the sampling frame. Systematic random sampling was

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

2.5 Ethical Approval

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

2.6 Data Collection

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

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

2.7 Data Management

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

2.7.1 Data Operation Centre

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

Station 1: Respondent ID checking

Station 2: Scanning

Station 3: Verification

Station 4: Storage

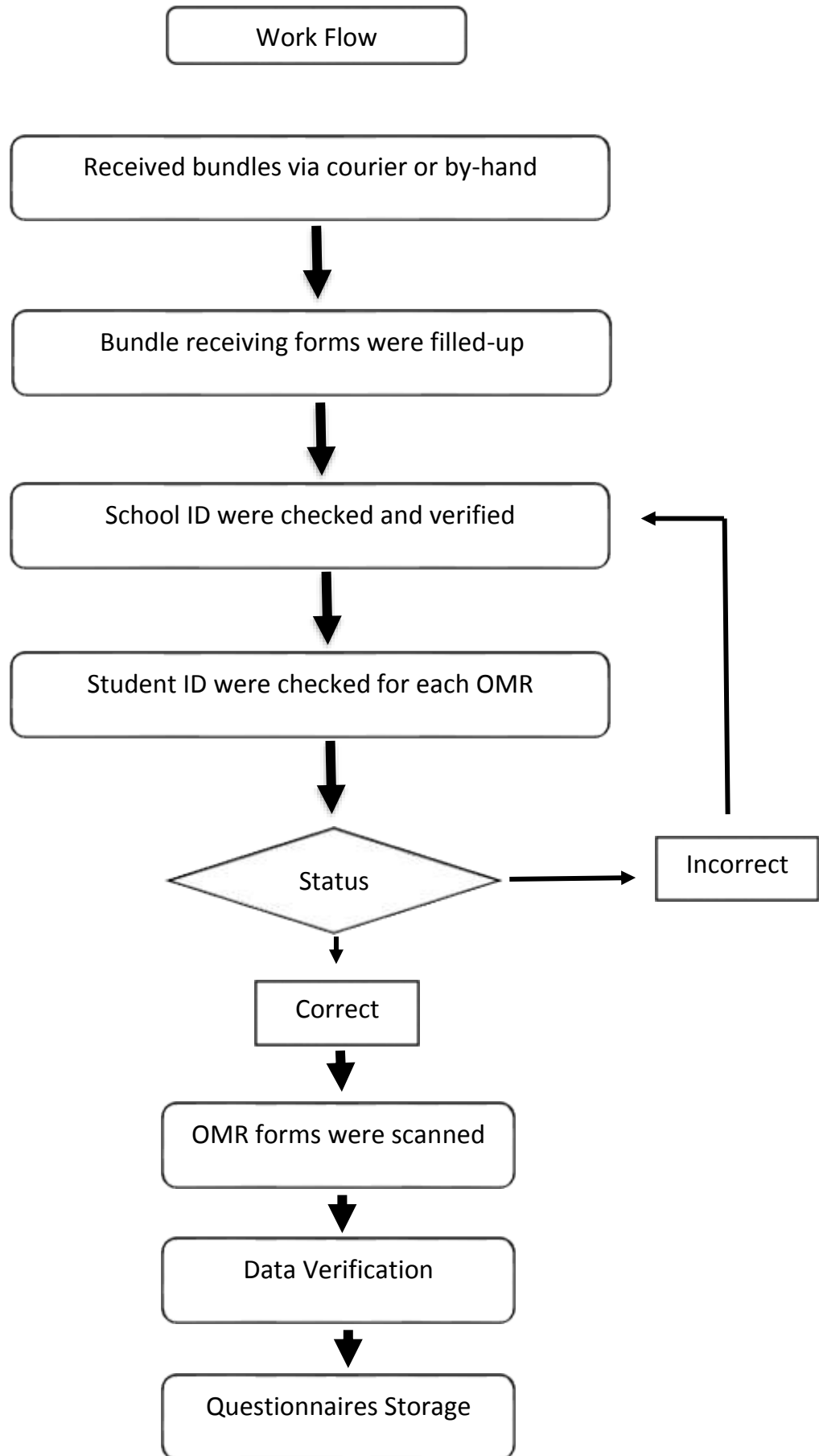


Figure 2: Work Flow of NHMS 2017

2.7.2 Data Analysis

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

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

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

Where;

W1 = the inverse of the probability of selecting the school

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

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

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

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

2.8 Survey Instruments

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

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

3.0 Findings

3.1 General Findings

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

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

State	Selected School	Eligible Student	Interviewed Student	Response Rate (%)
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

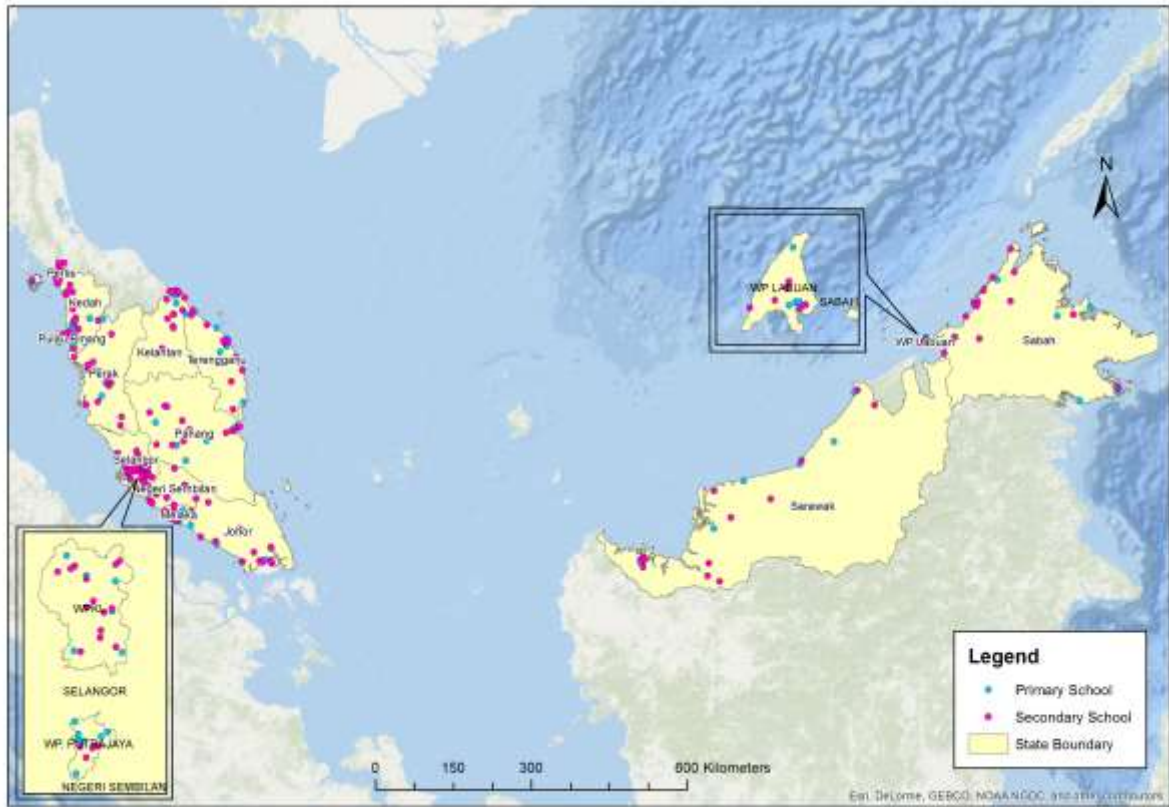


Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017.3.2

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

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

3.2.1 Introduction

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

3.2.2 Objectives

General objective:

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

Specific objective:

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

3.2.3 Variable definition

The nutritional status of adolescents was identified based on the World Health Organization Growth Reference 2007 (WHO 2007)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 92.5% (95% CI: 89.67-94.67) 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 [10.3% (95% CI: 7.40, 14.22)] compared to urban area [4.7% (95% CI: 2.85, 7.78)]. In term of sexes, girls had higher percentage of total stunting [8.5% (95% CI: 6.39, 11.23)] compared to boys [6.4% (95% CI: 3.93, 10.31)]. Comparing class category,

secondary level had higher percentage of total stunting [8.4% (95% CI: 5.67, 12.15)] compared to primary level [5.8% (95% CI: 3.25, 10.18)].

3.2.4.2 BMI-for-Age z-score

In terms of BMI-for-age status, the findings showed that 61.6% (95% CI: 59.21-63.91) 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, urban area had higher percentage of thinness [6.9% (95% CI: 4.70, 10.02)] compared to rural area [5.9% (95% CI: 4.50, 7.67%)]. According to sexes, more boys [7.6% (95% CI: 6.14, 9.29)] were thinner than girls [5.2 (95% CI: 3.48, 7.83)]. In term of class category, primary level had higher percentage of thinness [6.9% (95% CI: 4.03, 11.42)] compared to secondary level [6.2% (95% CI: 4.91, 7.70)].

On the other hand, the prevalence of overweight in Perak (BMI-for-age: $> +1SD$ to $\leq +2SD$) was 16.8% (95% CI: 15.20, 18.55). The state prevalence was higher than national prevalence [15.6% (95% CI: 15.06, 16.19)]. In term of strata, rural strata had higher prevalence of overweight [16.9% (95% CI: 14.53, 19.61)] compared with urban strata [16.7% (95% CI: 14.64, 19.00)]. Comparing sexes, girls had higher prevalence of overweight [17.7% (95% CI: 14.93, 20.93)] than boys [15.9% (95% CI: 13.47, 18.66)]. According to class category, secondary level had higher prevalence of overweight [17.6% (95% CI: 15.57, 19.89)] compared with primary level [15.3% (95% CI: 13.26, 17.64)].

For the prevalence of obesity (BMI-for-age: $> +2SD$), the state prevalence was 15.2% (95% CI: 13.52, 17.05), whereas the prevalence was higher than national prevalence [14.8 (95% CI: 14.00, 15.73)]. Between strata, urban strata showed higher prevalence of obesity [15.8% (95% CI: 13.27, 18.82)] than rural strata [14.5% (95% CI: 12.63, 16.63)]. Comparing between sexes, boys had much higher prevalence of obesity [18.1% (95% CI: 14.80, 21.86)] than girl [12.3% (95% CI: 10.52, 14.39)]. In term of class category, 18.3% (95% CI: 16.87, 19.72) primary level were obese compared to secondary level [13.5% (95% CI: 11.75, 15.52)].

3.2.5 Conclusion

The prevalence of stunted for adolescent aged 10 to 17 years in Perak was 7.5%. On the other hand, the prevalence of overweight and obesity among this population were 16.8% and 15.2% respectively. In contrast, 6.4% 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 Perak. Various agencies have to take the initiative to set up plan of action to overcome such problem. Healthy eating and living concept should be carried out at a younger age. 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 and Ministry of Education is to empower Parental and Teacher Association in school to disseminate and implement healthy eating programs in schools. With that, it can give the concept of healthy eating and living to the children during school hours 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 an immediately applicable technique for assessing person's developmental 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

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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
Perak	199	20974	7.5	5.33	10.33	2327	260290	92.5	89.67	94.67
Locality of School										
Urban	62	6832	4.7	2.85	7.78	1143	137436	95.3	92.22	97.15
Rural	137	14142	10.3	7.40	14.22	1184	122855	89.7	85.78	92.60
Sex										
Boys	83	9057	6.4	3.93	10.31	1185	132019	93.6	89.69	96.07
Girls	116	11917	8.5	6.39	11.23	1142	128271	91.5	88.77	93.61
Class										
Standard 4	22	2209	6.7	3.80	11.43	311	30935	93.3	88.57	96.20
Standard 5	31	3272	9.9	5.48	17.39	246	29615	90.1	82.61	94.52
Standard 6	2	312	0.9	0.22	3.78	159	33288	99.1	96.22	99.78
Form 1	19	2143	5.6	3.21	9.68	327	35917	94.4	90.32	96.79
Form 2	29	2731	7.7	4.25	13.56	343	32727	92.3	86.44	95.75
Form 3	27	2570	7.1	4.19	11.77	365	33652	92.9	88.23	95.81
Form 4	39	3555	10.1	6.23	15.94	337	31666	89.9	84.06	93.77
Form 5	30	4182	11.4	6.54	19.13	239	32490	88.6	80.87	93.46
Class Category										
Primary Level	55	5793	5.8	3.25	10.18	716	93838	94.2	89.82	96.75
Secondary Level	144	15180	8.4	5.67	12.15	1611	166453	91.6	87.85	94.33
Ethnicity										
Malay	152	16325	8.9	6.72	11.63	1515	167600	91.1	88.37	93.28
Chinese	20	2030	2.6	1.12	6.08	629	74938	97.4	93.92	98.88
Indian	9	887	7.4	2.73	18.49	110	11113	92.6	81.51	97.27
Bumiputera Sabah	1	85	19.5	8.65	38.36	4	348	80.5	61.64	91.35
Bumiputera Sarawak	2	178	21.2	6.38	51.37	8	664	78.8	48.63	93.62
Others	15	1469	20.7	6.99	47.58	61	5627	79.3	52.42	93.01

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

Characteristic	Thinness (<-2SD)					Normal BMI (≥ -2SD to ≤ +1SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	171	18002	6.4	5.01	8.15	1560	173069	61.6	59.21	63.91
Locality of School										
Urban	89	9937	6.9	4.70	10.02	726	87197	60.5	57.04	63.94
Rural	82	8065	5.9	4.50	7.67	834	85872	62.7	59.60	65.66
Sex										
Boys	101	10656	7.6	6.14	9.29	744	82359	58.5	55.61	61.29
Girls	70	7346	5.2	3.48	7.83	816	90710	64.7	60.89	68.34
Class										
Standard 4	27	2661	8.0	5.21	12.18	195	19339	58.4	50.79	65.54
Standard 5	30	3303	10.0	5.50	17.65	160	19044	57.9	49.22	66.13
Standard 6	5	863	2.6	1.05	6.14	102	20973	62.4	52.01	71.80
Form 1	22	2433	6.4	3.76	10.67	194	21277	55.9	48.91	62.67
Form 2	23	2156	6.1	4.04	9.05	230	22025	62.1	55.63	68.19
Form 3	31	2794	7.7	4.55	12.84	250	23199	64.2	56.93	70.87
Form 4	21	2083	5.9	3.34	10.27	257	23796	67.6	60.69	73.75
Form 5	12	1710	4.7	2.55	8.43	172	23416	64.1	60.28	67.78
Class Category										
Primary Level	62	6826	6.9	4.03	11.42	457	59357	59.6	56.67	62.41
Secondary Level	109	11176	6.2	4.91	7.70	1103	113712	62.7	59.60	65.68
Ethnicity										
Malay	117	12453	6.8	5.28	8.66	1004	110947	60.4	57.64	63.09
Chinese	32	3469	4.5	2.47	8.09	425	49544	64.4	60.01	68.50
Indian	16	1566	13.1	6.97	23.11	67	6740	56.2	47.73	64.26
Bumiputera Sabah						4	348	80.5	61.64	91.35
Bumiputera Sarawak	1	90	10.7	1.03	57.77	7	570	67.7	44.77	84.46
Others	5	424	6.0	2.52	13.48	53	4920	69.3	56.67	79.62

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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
Perak	421	47240	16.8	15.20	18.55	372	42714	15.2	13.52	17.05
Locality of School										
Urban	204	24067	16.7	14.64	19.00	184	22828	15.8	13.27	18.82
Rural	217	23174	16.9	14.53	19.61	188	19886	14.5	12.63	16.63
Sex										
Boys	205	22384	15.9	13.47	18.66	216	25439	18.1	14.80	21.86
Girls	216	24856	17.7	14.93	20.93	156	17276	12.3	10.52	14.39
Class										
Standard 4	55	5647	17.0	13.07	21.90	56	5497	16.6	14.51	18.89
Standard 5	41	5409	16.4	10.90	24.06	46	5131	15.6	10.88	21.86
Standard 6	21	4208	12.5	5.92	24.55	33	7557	22.5	15.36	31.70
Form 1	72	7995	21.0	15.06	28.51	58	6355	16.7	13.98	19.82
Form 2	64	6103	17.2	14.04	20.92	55	5174	14.6	11.08	18.97
Form 3	54	4958	13.7	10.67	17.47	56	5183	14.3	10.86	18.70
Form 4	61	5785	16.4	13.46	19.89	37	3558	10.1	6.91	14.53
Form 5	53	7136	19.5	15.63	24.15	31	4260	11.7	8.55	15.72
Class Category										
Primary Level	117	15264	15.3	13.26	17.64	135	18184	18.3	16.87	19.72
Secondary Level	304	31977	17.6	15.57	19.89	237	24530	13.5	11.75	15.52
Ethnicity										
Malay	284	31571	17.2	14.91	19.74	260	28716	15.6	14.04	17.37
Chinese	109	12976	16.9	15.14	18.74	83	10979	14.3	9.93	20.07
Indian	18	1784	14.9	8.97	23.64	18	1910	15.9	10.27	23.84
Bumiputera Sabah	1	85	19.5	8.65	38.36					
Bumiputera Sarawak	1	88	10.5	1.04	56.71	1	94	11.1	3.57	29.65
Others	8	736	10.4	5.54	18.61	10	1016	14.3	10.65	18.99

3.3 Perception on body weight management among adolescents (Primary 4 to Secondary 5) in Perak

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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, 41.8% (95% CI: 39.05, 44.56) of the adolescents in Perak perceived that they have normal weight. There was no significant different in school locality, however there were significant different in gender whereby boys were higher in perceived thin 31.6% (95%CI: 25.48, 38.42) as compared to girls, while girls were significantly higher in perceived overweight 34.3% (95% CI: 28.78, 40.38) compared with boys 20.9% (95% CI: 17.81, 24.42) (**Table 3.3.1**).

Among the actual normal 47.8% (95% CI: 43.86, 51.74) correctly perceived their weight to be normal, 31.6% (95% CI: 25.02, 39.06) underestimated their body weight, perceived to be thin, while 17.6% (95% CI: 14.20, 22.34) and 2.7% (95% CI: 1.92, 3.71) overestimated to be overweight and obese respectively. However, among the actual overweight, 45.7% (95% CI: 37.57, 54.07) correctly perceived their weight to be overweight, but 11.6% (95% CI: 7.09, 18.41) and 34.0% (95% CI: 28.63, 39.86), underestimated their body weight to be thin and normal respectively (**Table 3.3.2**).

Among all the adolescents who correctly perceived thin and have actual thin body weight, 70.5% (95% CI: 60.63, 78.69) reported they wanted to increase weight while adolescents who perceived normal and have actual normal body weight, 31.8% (95% CI: 26.77, 37.36) have no plan to change their weight. There were no significant different in school locality, sex and school category among adolescent who correctly perceived thin and overweight between four categories of action taken (**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 63.0% (95% CI: 52.14, 72.69) wanted to lose weight while 22.7% (95% CI: 16.42, 30.59) wanted to increase their weight. There were no significant different in school locality, sex and school category among 4 categories of action taken (**Table 3.3.4**).

About 67.8% (95% CI: 62.99, 72.32) adolescents choose health purpose as the main factor that motivate to lose weight followed by increase self-confidence 21.9% (95% CI: 17.74, 26.63). If compared by sex, boys were higher than girls who choose health purpose as main factors to motivate them to reduce body weight, 68.9% (95%CI: 63.59, 73.74), 67.0% (95% CI: 60.80, 72.68) respectively (**Table 3.3.5**).

In addition, main factor to motivate adolescents to increase body weight was also health purpose 56.2% (95% CI: 48.77, 63.43) and followed by increase self-confidence 29.1% (95% CI: 22.27, 37.12). There were no significant different in school locality, sex and school category (**Table 3.3.6**).

Exercise was the highest option preferred by adolescent to lose body weight 53.6% (95% CI: 47.82, 59.22). However, there were no significant different in school locality, sex and school category (**Table 3.3.7**).

Increasing quantity of food was the favourite option preferred by adolescents to increase their body weight, 46.0% (95% CI: 41.23, 50.78) and followed by taking supplement, 31.1% (95% CI: 26.91, 35.62). **(Table 3.3.8).**

3.3.5 Discussion/Conclusion

Perception of being normal weight among adolescents in Perak was similar with the national prevalence 41.8 % and 41.4% respectively.

Among the actual thin adolescent in Perak, 63.0% correctly perceived to be thin, which is slightly lower compared with the national prevalence, 69.6 %. Among Adolescents with actual normal body weight, 50.9% correctly perceived their weight to be normal which is slightly higher than national prevalence of 50.2%.

In Perak, the main factors to lose body weight among adolescent are similar with the national factors . Health purpose is the most common factor (67.8%) to lose body weight; followed by the desire to increase self confidence (21.9%) , beauty purpose (7.9) % and to have more friends (2.5%) .

Increasing body weight for health purpose is commonest factor in Perak at 56.2%, which was higher compared to national prevalence. Its followed by increase self confidence (29.1%) , beauty purpose (8.8%) and to have more friends (5.8%).

Adolescents choose exercise as the preferred option to lose weight (53.6%). However its was lower compared with the national prevalence of 62.5%. Reduction of high fat foods consumption (25.1%), increase intake of fruits and vegetables (7.4 %) and reduce intake of high sugar foods (5.1%) are other common options to lose weight among adolescent. This is similar with the national prevalence.

Nearly half (46.0%) preferred increasing quantity of food to increase body weight but the prevalence was lower compared with the national prevalence at 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
Perak	661	71312	25.4	19.81	31.87	1040	117432	41.8	39.05	44.56
Locality of School										
Urban	281	33464	23.2	15.43	33.38	516	62371	43.3	38.87	47.77
Rural	380	37848	27.6	20.68	35.89	524	55061	40.2	37.54	42.95
Sex										
Boys	412	44578	31.6	25.48	38.42	537	60509	42.9	39.28	46.58
Girls	249	26734	19.1	13.84	25.75	503	56923	40.7	37.32	44.09
School Category										
Primary	314	35390	35.6	24.42	48.52	301	41271	41.5	35.48	47.72
Secondary	347	35922	19.8	16.60	23.41	739	76160	41.9	39.34	44.60
Class										
Standard 4	164	15673	47.3	37.08	57.73	120	12315	37.2	32.40	42.17
Standard 5	111	12246	37.4	25.00	51.62	105	12833	39.2	31.29	47.61
Standard 6	39	7471	22.2	10.64	40.72	76	16123	48.0	38.75	57.36
Form 1	65	7126	18.7	13.12	26.01	166	18208	47.8	40.44	55.34
Form 2	87	8234	23.2	17.33	30.37	149	14214	40.1	33.17	47.43
Form 3	69	6265	17.3	13.74	21.54	181	16784	46.3	39.44	53.38
Form 4	78	7496	21.3	16.49	27.13	151	14236	40.5	35.31	45.93
Form 5	48	6802	18.5	14.91	22.83	92	12719	34.7	28.35	41.61
Ethnicity										
Malay	463	50790	27.6	21.48	34.79	696	76934	41.9	39.04	44.76
Chinese	116	12957	16.8	11.46	24.05	267	33090	43.0	36.72	49.50
Indian	40	3959	33.0	21.99	46.23	42	4145	34.5	27.85	41.90
Bumiputera Sabah	3	244	56.4	18.55	87.99	1	81	18.7	8.31	36.87
Bumiputera Sarawak	5	399	47.4	22.21	73.92	5	443	52.6	26.08	77.79
Others	34	2964	41.8	18.02	70.06	29	2738	38.6	18.05	64.19

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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
Perak	687	77606	27.6	23.43	32.23	136	14727	5.2	3.85	7.10
Locality of School										
Urban	335	39993	27.7	22.55	33.61	72	8332	5.8	3.79	8.72
Rural	352	37613	27.5	21.12	34.89	64	6395	4.7	3.01	7.18
Sex										
Boys	262	29518	20.9	17.81	24.42	57	6472	4.6	3.37	6.22
Girls	425	48088	34.3	28.78	40.38	79	8255	5.9	3.95	8.71
School Category										
Primary	129	19429	19.5	14.32	26.04	26	3432	3.4	1.99	5.90
Secondary	558	58177	32.0	28.17	36.19	110	11295	6.2	4.50	8.54
Class										
Standard 4	35	3850	11.6	7.81	16.94	14	1305	3.9	1.34	10.99
Standard 5	52	6598	20.1	14.94	26.56	8	1102	3.4	1.91	5.84
Standard 6	42	8981	26.7	21.73	32.40	4	1025	3.1	1.21	7.51
Form 1	102	11331	29.8	25.12	34.88	13	1395	3.7	1.90	6.96
Form 2	109	10449	29.5	24.09	35.48	27	2562	7.2	4.45	11.52
Form 3	124	11507	31.8	26.44	37.62	18	1666	4.6	2.55	8.15
Form 4	118	10825	30.8	24.38	38.07	28	2585	7.4	4.42	12.01
Form 5	105	14064	38.4	30.04	47.41	24	3086	8.4	6.05	11.60
Ethnicity										
Malay	448	49836	27.1	22.05	32.88	58	6177	3.4	2.44	4.61
Chinese	204	24025	31.2	25.33	37.78	62	6896	9.0	6.46	12.30
Indian	26	2765	23.0	16.08	31.87	11	1131	9.4	4.35	19.24
Bumiputera Sabah	1	108	24.9	1.57	87.38	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	8	872	12.3	9.00	16.55	5	522	7.4	4.06	12.96

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
Perak	106	78.0	69.66	84.59	28	17.9	12.54	24.94	3	2.3	0.71	7.10	2	1.8	0.35	8.62
Locality of school																
Urban	52	58.0	47.07	68.17	30	33.1	25.93	41.11	5	6.5	1.56	23.21	2	2.5	0.66	8.68
Rural	59	69.1	54.12	80.92	21	28.1	18.09	40.86	2	2.8	0.79	9.50	0	0.0	0.00	0.00
Sex																
Boys	64	61.4	49.08	72.45	31	32.0	22.85	42.76	4	4.3	1.64	10.81	2	2.3	0.59	8.52
Girls	47	65.2	52.82	75.83	20	29.2	20.60	39.58	3	5.6	1.11	23.84	-	-	-	-
School Category																
Primary	37	57.8	50.29	64.96	22	37.1	29.64	45.14	2	3.3	1.05	10.00	1	1.8	0.30	10.33
Secondary	74	66.1	52.21	77.72	29	27.1	18.68	37.44	5	5.8	1.40	20.83	1	1.1	0.13	8.08

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
Perak	489	31.6	25.02	39.06	802	47.8	43.86	51.74	326	17.9	14.20	22.34	46	2.7	1.92	3.71
Locality of school																
Urban	189	26.3	17.32	37.91	388	53.3	46.94	59.63	133	18.0	12.54	25.18	16	2.3	1.00	5.27
Rural	265	31.4	22.60	41.70	396	48.5	43.85	53.08	145	17.2	11.21	25.54	27	3.0	1.48	5.81
Sex																
Boys	279	37.2	29.80	45.21	379	51.5	44.79	58.21	68	8.7	6.43	11.61	18	2.6	1.56	4.34
Girls	175	21.2	15.17	28.92	405	50.4	45.76	54.94	210	25.8	19.59	33.05	25	2.6	1.21	5.70
School Category																
Primary	222	43.2	30.38	57.00	191	45.8	37.63	54.19	34	9.0	5.00	15.63	10	2.0	0.86	4.69
Secondary	232	21.3	17.78	25.37	593	53.6	49.72	57.41	244	22.1	17.72	27.29	33	2.9	1.55	5.55

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
Perak	41	11.6	7.09	18.41	122	34.0	28.63	39.86	186	45.7	37.57	54.07	32	8.7	5.94	12.51
Locality of school																
Urban	19	8.6	3.56	19.33	68	34.4	27.11	42.55	98	47.8	37.59	58.27	19	9.1	4.95	16.28
Rural	29	11.4	5.90	21.05	74	34.5	26.00	44.20	101	48.6	36.12	61.22	13	5.4	3.11	9.33
Sex																
Boys	30	13.4	7.78	21.96	78	38.5	30.51	47.08	84	42.2	32.51	52.44	13	6.0	2.97	11.84
Girls	18	7.0	3.41	13.72	64	30.9	23.11	39.93	115	53.6	43.31	63.68	19	8.5	5.02	14.02
School Category																
Primary	28	18.2	8.35	35.25	53	44.9	35.43	54.67	32	32.8	20.45	48.11	4	4.1	1.08	14.49
Secondary	20	6.1	3.63	9.97	89	29.5	24.36	35.27	167	55.6	48.22	62.65	28	8.9	5.65	13.60

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
Perak	52	15.4	10.48	22.00	59	17.2	12.59	23.17	210	56.8	48.53	64.68	43	10.6	6.43	16.97
Locality of school																
Urban	21	11.7	6.84	19.41	30	18.9	11.44	29.57	99	53.4	47.37	59.35	33	16.0	9.92	24.69
Rural	27	13.6	8.64	20.86	33	16.2	10.74	23.75	104	57.1	48.45	65.25	24	13.1	8.71	19.22
Sex																
Boys	39	17.4	11.59	25.22	49	23.8	17.20	31.96	106	49.0	41.04	57.11	22	9.8	6.85	13.78
Girls	9	5.6	3.16	9.65	14	8.5	4.19	16.54	97	64.1	56.05	71.41	35	21.8	14.55	31.38
School Category																
Primary	27	16.7	10.61	25.38	35	26.1	18.80	34.96	61	49.0	39.93	58.18	11	8.2	6.02	10.99
Secondary	21	9.6	5.93	15.14	28	11.4	7.57	16.90	142	59.6	55.16	63.88	46	19.4	14.21	25.89

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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	
Perak	9	863	7.7	3.88	14.65	77	7913	70.5	60.63	78.69
Locality of school										
Urban	2	219	3.9	0.96	14.40	35	3948	69.8	56.77	80.23
Rural	7	643	11.5	6.01	21.04	42	3965	71.1	55.69	82.86
Sex										
Boys	7	688	10.5	4.67	22.00	45	4569	69.8	56.20	80.63
Girls	2	174	3.7	0.83	15.12	32	3344	71.4	54.34	83.92
School category										
Primary	4	363	9.5	3.37	23.79	23	2537	66.0	51.83	77.86
Secondary	5	499	6.8	2.67	16.07	54	5376	72.7	60.08	82.56

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	
Perak	14	1389	12.4	6.96	21.04	10	1067	9.5	4.68	18.32
Locality of school										
Urban	6	653	11.5	5.60	22.30	8	838	14.8	7.24	27.88
Rural	8	736	13.2	5.42	28.76	2	229	4.1	0.96	15.89
Sex										
Boys	7	754	11.5	4.54	26.28	5	534	8.2	3.36	18.53
Girls	7	635	13.6	5.82	28.49	5	532	11.4	4.71	24.91
School category										
Primary	4	355	9.2	2.45	29.22	5	586	15.3	6.37	32.28
Secondary	10	1034	14.0	7.48	24.67	5	480	6.5	2.64	15.15

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	
Perak	222	24730	28.1	22.39	34.57	59	7166	8.1	6.11	10.76
Locality of school										
Urban	98	11340	24.4	16.15	35.06	33	4175	9.0	6.06	13.10
Rural	124	13390	32.2	27.23	37.63	26	2991	7.2	4.80	10.65
Sex										
Boys	92	9976	23.5	17.51	30.79	38	4789	11.3	8.13	15.45
Girls	130	14754	32.3	26.24	39.08	21	2376	5.2	3.12	8.58
School category										
Primary	59	7704	28.3	15.81	45.45	21	2923	10.8	7.72	14.79
Secondary	163	17026	28.0	22.60	34.03	38	4242	7.0	4.69	10.22

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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
Perak	249	28034	31.8	26.77	37.36	254	28145	32.0	28.66	35.44
Locality of school										
Urban	132	16140	34.7	27.22	43.03	125	14852	31.9	27.12	37.17
Rural	117	11894	28.6	23.40	34.47	129	13293	32.0	27.69	36.60
Sex										
Boys	118	13057	30.8	23.65	38.94	131	14614	34.4	30.68	38.40
Girls	131	14977	32.8	27.59	38.50	123	13531	29.6	24.59	35.26
School category										
Primary	54	8418	31.0	20.95	43.16	57	8137	29.9	22.17	39.06
Secondary	195	19617	32.2	26.64	38.35	197	20008	32.9	29.90	35.96

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
Perak	153	17576	77.5	68.12	84.68	4	630	2.8	0.48	14.48
Locality of school										
Urban	76	9016	78.3	66.16	86.97	1	107	0.9	0.13	6.55
Rural	77	8560	76.6	61.38	87.06	3	522	4.7	0.60	28.61
Sex										
Boys	62	6820	72.3	58.83	82.62	3	426	4.5	0.90	19.75
Girls	91	10757	81.2	72.05	87.80	1	203	1.5	0.19	11.45
School category										
Primary	22	3657	74.2	51.30	88.74	3	522	10.6	1.66	45.51
Secondary	131	13920	78.4	67.92	86.09	1	107	0.6	0.08	4.58

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
Perak	28	2953	13.0	7.89	20.73	13	1531	6.7	3.73	11.91
Locality of school										
Urban	14	1484	12.9	6.54	23.85	7	905	7.9	3.40	17.11
Rural	14	1469	13.1	6.20	25.71	6	627	5.6	2.64	11.51
Sex										
Boys	15	1581	16.8	7.37	33.75	4	609	6.5	2.43	16.04
Girls	13	1372	10.4	6.48	16.14	9	922	7.0	2.87	15.89
School category										
Primary	3	356	7.2	2.56	18.77	3	391	7.9	2.62	21.59
Secondary	25	2597	14.6	8.59	23.78	10	1141	6.4	3.17	12.56

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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	
Perak	60	6362	63.0	52.14	72.69	22	2296	22.7	16.42	30.59
Locality of school										
Urban	27	3250	68.6	51.15	82.06	6	717	15.1	9.56	23.17
Rural	33	3112	58.0	47.21	68.11	16	1579	29.4	22.13	37.97
Sex										
Boys	41	4445	60.0	44.75	73.51	18	1922	25.9	18.21	35.55
Girls	19	1918	71.3	56.61	82.54	4	373	13.9	5.51	30.82
School category										
Primary	34	3708	63.9	53.11	73.38	15	1504	25.9	18.22	35.44
Secondary	26	2655	61.8	40.85	79.17	7	791	18.4	9.95	31.61

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	
Perak	12	1240	12.3	6.67	21.53	2	200	2.0	0.53	7.20
Locality of school										
Urban	7	768	16.2	7.03	33.12	-	-	-	-	-
Rural	5	472	8.8	3.70	19.53	2	200	3.7	1.25	10.67
Sex										
Boys	8	841	11.4	4.59	25.42	2	200	2.7	0.72	9.60
Girls	4	399	14.8	6.16	31.58	-	-	-	-	-
School category										
Primary	4	393	6.8	3.19	13.79	2	200	3.5	0.98	11.48
Secondary	8	847	19.7	9.68	36.05	-	-	-	-	-

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	
Perak	342	36404	43.0	36.90	49.33	193	21229	25.1	19.96	31.00
Locality of school										
Urban	133	15468	38.2	30.16	46.91	83	10048	24.8	17.21	34.36
Rural	209	20936	47.4	39.60	55.40	110	11181	25.3	18.94	33.00
Sex										
Boys	120	12684	32.0	24.80	40.14	124	13450	33.9	26.91	41.71
Girls	222	23720	52.7	46.45	58.91	69	7779	17.3	12.19	23.94
School category										
Primary	109	12263	38.3	27.42	50.56	73	8682	27.1	17.76	39.11
Secondary	233	24141	45.9	39.35	52.50	120	12546	23.8	18.44	30.22

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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	Estimated	Prevalence	95% CI		Unweighted	Estimated	Prevalence	95% CI	
	Count	Population	(%)	Lower	Upper	Count	Population	(%)	Lower	Upper
Perak	164	18563	21.9	17.48	27.15	74	8449	10.0	7.87	12.58
Locality of school										
Urban	79	9649	23.8	18.04	30.76	42	5344	13.2	10.72	16.13
Rural	85	8914	20.2	14.13	28.02	32	3105	7.0	5.14	9.55
Sex										
Boys	78	8999	22.7	17.26	29.24	41	4519	11.4	8.15	15.71
Girls	86	9564	21.3	16.30	27.23	33	3930	8.7	5.36	13.93
School category										
Primary	58	7886	24.6	17.83	33.03	25	3163	9.9	6.76	14.23
Secondary	106	10676	20.3	14.87	27.03	49	5286	10.0	7.40	13.49

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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
Perak	769	85216	67.8	62.99	72.32	88	9864	7.9	5.40	11.28
Locality of school										
Urban	350	41481	68.9	62.85	74.32	39	4963	8.2	5.12	13.01
Rural	419	43736	66.9	59.38	73.59	49	4901	7.5	4.20	13.03
Sex										
Boys	342	37728	68.9	63.59	73.74	27	2931	5.4	3.04	9.24
Girls	427	47488	67.0	60.80	72.68	61	6933	9.8	6.71	14.04
School category										
Primary	255	31809	75.9	73.62	78.00	26	3618	8.6	5.44	13.43
Secondary	514	53407	63.8	58.00	69.22	62	6246	7.5	4.41	12.36
Class										
Standard 4	118	11851	79.3	72.81	84.60	8	774	5.2	2.78	9.45
Standard 5	86	10165	72.8	60.67	82.27	12	1429	10.2	5.27	18.94
Standard 6	51	9793	75.3	64.44	83.61	6	1415	10.9	4.76	22.96
Form 1	126	14011	70.5	58.19	80.35	9	992	5.0	2.03	11.76
Form 2	112	10912	64.0	54.88	72.14	11	1025	6.0	2.90	12.04
Form 3	115	10671	65.2	53.81	75.10	16	1476	9.0	4.41	17.57
Form 4	95	8838	63.4	53.38	72.33	14	1226	8.8	4.32	17.08
Form 5	66	8977	54.5	47.51	61.38	12	1526	9.3	4.16	19.37
Ethnicity										
Malay	573	63337	68.8	63.79	73.33	45	4940	5.4	3.74	7.64
Chinese	121	14594	60.2	45.80	73.09	37	4346	17.9	11.94	26.05
Indian	48	4723	80.1	66.90	88.96	5	485	8.2	3.15	19.83
Bumiputera Sabah	2	169	61.0	6.99	97.03	-	-	-	-	-
Bumiputera Sarawak	3	253	73.0	29.78	94.52	-	-	-	-	-
Others	22	2140	77.4	41.97	94.17	1	93	3.3	0.28	29.77

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Table 3.3.5 : Main factors that motivate to lose 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
Perak	256	27463	21.9	17.74	26.63	29	3090	2.5	1.71	3.53
Locality of school										
Urban	111	11967	19.9	14.45	26.68	16	1816	3.0	2.12	4.26
Rural	145	15497	23.7	18.21	30.21	13	1274	1.9	1.00	3.74
Sex										
Boys	116	12404	22.6	17.53	28.74	17	1704	3.1	1.66	5.75
Girls	140	15059	21.3	16.34	27.16	12	1386	2.0	1.15	3.30
School category										
Primary	43	5060	12.1	7.94	17.92	13	1433	3.4	2.24	5.18
Secondary	213	22404	26.8	23.11	30.76	16	1656	2.0	1.16	3.37
Class										
Standard 4	16	1511	10.1	6.09	16.33	8	805	5.4	2.87	9.90
Standard 5	17	1743	12.5	5.21	27.00	5	628	4.5	2.08	9.47
Standard 6	10	1806	13.9	6.36	27.65					
Form 1	39	4307	21.7	13.80	32.32	5	574	2.9	1.15	7.02
Form 2	47	4479	26.3	20.39	33.09	7	645	3.8	1.96	7.17
Form 3	43	4021	24.6	16.37	35.15	2	195	1.2	0.16	8.45
Form 4	41	3780	27.1	19.13	36.88	1	102	0.7	0.09	5.70
Form 5	43	5817	35.3	27.25	44.37	1	141	0.9	0.10	6.73
Ethnicity										
Malay	202	22229	24.1	19.71	29.18	15	1615	1.8	1.14	2.69
Chinese	41	3992	16.5	7.47	32.52	12	1297	5.4	2.47	11.24
Indian	7	685	11.6	4.99	24.76	-	-	-	-	-
Bumiputera Sabah	1	108	39.0	2.97	93.01	-	-	-	-	-
Bumiputera Sarawak	1	94	27.0	5.48	70.22	-	-	-	-	-
Others	4	355	12.8	2.78	43.16	2	178	6.4	1.47	24.06

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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
Perak	204	21874	56.2	48.77	63.43	32	3442	8.8	6.51	11.93
Locality of school										
Urban	83	9709	51.3	40.55	61.96	13	1556	8.2	4.40	14.85
Rural	121	12165	60.9	51.84	69.26	19	1886	9.4	7.54	11.76
Sex										
Boys	129	13539	55.5	46.07	64.47	20	2101	8.6	5.79	12.60
Girls	75	8336	57.5	45.38	68.86	12	1341	9.3	4.43	18.36
School category										
Primary	81	9401	60.7	52.82	68.00	13	1432	9.2	5.88	14.23
Secondary	123	12473	53.3	42.42	63.87	19	2010	8.6	5.65	12.84
Class										
Standard 4	40	3789	65.1	48.92	78.36	6	599	10.3	5.49	18.44
Standard 5	29	3359	58.4	43.77	71.72	6	654	11.4	4.67	25.19
Standard 6	12	2253	57.4	31.24	80.04	1	178	4.5	0.52	30.44
Form 1	16	1718	45.8	30.52	61.92	1	125	3.3	0.38	23.48
Form 2	28	2599	62.5	44.97	77.20	5	492	11.8	6.86	19.57
Form 3	26	2379	56.8	38.15	73.74	5	470	11.2	3.60	30.05
Form 4	38	3684	60.3	47.18	72.15	5	498	8.2	3.46	18.02
Form 5	15	2093	40.3	20.14	64.32	3	426	8.2	2.45	24.06
Ethnicity										
Malay	133	14359	54.1	45.77	62.22	21	2282	8.6	5.88	12.41
Chinese	55	6110	67.4	51.25	80.26	5	609	6.7	3.24	13.45
Indian	6	601	38.4	15.23	68.38	2	199	12.7	2.98	40.81
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	85	100.0	100.00	100.00	-	-	-	-	-
Others	9	720	43.8	39.67	48.04	4	352	21.4	10.02	40.04

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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
Perak	100	11335	29.1	22.27	37.12	18	2247	5.8	3.58	9.20
Locality of school										
Urban	53	6180	32.7	21.75	45.85	10	1475	7.8	4.13	14.23
Rural	47	5154	25.8	18.62	34.57	8	771	3.9	2.26	6.51
Sex										
Boys	59	6723	27.5	19.02	38.07	16	2050	8.4	4.86	14.14
Girls	41	4612	31.8	22.75	42.56	2	196	1.4	0.37	4.85
School category										
Primary	28	3351	21.6	13.66	32.49	9	1312	8.5	5.01	13.95
Secondary	72	7984	34.1	25.17	44.36	9	935	4.0	1.84	8.44
Class										
Standard 4	11	1040	17.9	12.69	24.56	4	395	6.8	3.25	13.64
Standard 5	13	1523	26.5	15.30	41.82	2	213	3.7	1.29	10.19
Standard 6	4	787	20.1	5.71	51.03	3	703	17.9	3.74	55.15
Form 1	16	1806	48.1	31.18	65.53	1	103	2.7	0.29	21.25
Form 2	6	585	14.1	5.85	30.13	5	486	11.7	4.86	25.49
Form 3	15	1337	31.9	20.65	45.84					
Form 4	17	1721	28.2	16.91	43.10	2	202	3.3	0.81	12.52
Form 5	18	2534	48.8	25.33	72.75	1	144	2.8	0.35	18.69
Ethnicity										
Malay	75	8620	32.5	24.81	41.22	11	1280	4.8	2.73	8.37
Chinese	16	1722	19.0	7.67	39.82	4	624	6.9	2.72	16.36
Indian	4	422	27.0	13.85	45.93	3	343	21.9	5.20	58.96
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	5	571	34.8	18.57	55.45	-	-	-	-	-

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

Characteristics	Exercise					Reduce consumption of high fat foods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	609	67665	53.6	47.82	59.22	288	31712	25.1	21.01	29.70
Locality of school										
Urban	298	35203	58.3	51.01	65.24	113	13022	21.6	16.59	27.54
Rural	311	32462	49.2	41.97	56.54	175	18690	28.3	23.26	34.06
Sex										
Boys	325	36124	65.8	60.72	70.49	91	9602	17.5	13.28	22.67
Girls	284	31540	44.2	37.58	50.99	197	22110	31.0	26.57	35.74
School category										
Primary	201	25259	58.7	49.81	66.97	67	8517	19.8	12.11	30.61
Secondary	408	42405	50.9	44.12	57.72	221	23196	27.9	24.40	31.61
Class										
Standard 4	98	9934	64.4	47.89	78.10	31	3025	19.6	9.31	36.73
Standard 5	65	7863	55.8	44.09	66.94	20	2356	16.7	10.48	25.62
Standard 6	38	7463	55.0	47.07	62.75	16	3136	23.1	15.15	33.62
Form 1	100	11119	56.0	44.63	66.73	49	5456	27.5	20.42	35.84
Form 2	86	8237	49.1	41.15	57.10	48	4596	27.4	19.43	37.13
Form 3	92	8432	51.5	42.51	60.31	47	4372	26.7	18.33	37.11
Form 4	77	7129	51.8	39.87	63.59	34	3164	23.0	16.16	31.65
Form 5	53	7488	45.5	31.58	60.10	43	5607	34.0	25.47	43.80
Ethnicity										
Malay	444	49129	53.1	45.82	60.17	220	24372	26.3	21.34	31.99
Chinese	114	13654	55.8	47.16	64.13	44	4973	20.3	14.67	27.45
Indian	29	2769	47.8	35.38	60.41	17	1724	29.7	20.26	41.34
Bumiputera Sabah	-	-	-	-	-	1	108	39.0	2.97	93.01
Bumiputera Sarawak	3	257	60.9	26.77	86.94	1	75	17.8	5.29	45.49
Others	19	1857	67.1	42.31	85.04	5	461	16.7	11.49	23.56

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

Characteristics	Reduce intake of high sugar foods					Increase intake of fruits & vegetables				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	62	6459	5.1	3.90	6.68	84	9319	7.4	6.08	8.92
Locality of school										
Urban	26	2997	5.0	3.64	6.73	39	4671	7.7	6.10	9.77
Rural	36	3463	5.3	3.42	7.99	45	4649	7.1	5.24	9.43
Sex										
Boys	24	2636	4.8	2.87	7.92	36	3979	7.2	5.40	9.65
Girls	38	3823	5.4	3.94	7.24	48	5340	7.5	5.81	9.58
School category										
Primary	27	2986	6.9	4.70	10.11	32	3941	9.2	7.18	11.60
Secondary	35	3473	4.2	3.06	5.66	52	5379	6.5	5.02	8.28
Class										
Standard 4	9	861	5.6	3.66	8.43	12	1118	7.2	3.93	13.01
Standard 5	16	1611	11.4	5.76	21.42	12	1481	10.5	6.58	16.40
Standard 6	2	515	3.8	0.96	13.89	8	1342	9.9	5.31	17.71
Form 1	3	316	1.6	0.55	4.54	15	1626	8.2	4.72	13.84
Form 2	12	1188	7.1	4.43	11.14	12	1181	7.0	3.57	13.42
Form 3	8	764	4.7	2.49	8.58	8	777	4.7	2.15	10.12
Form 4	9	814	5.9	3.40	10.12	11	1016	7.4	4.14	12.84
Form 5	3	390	2.4	0.84	6.47	6	778	4.7	2.47	8.85
Ethnicity										
Malay	45	4631	5.0	3.59	6.93	58	6556	7.1	5.71	8.75
Chinese	11	1271	5.2	3.88	6.93	19	2095	8.6	6.22	11.67
Indian	4	388	6.7	3.57	12.22	4	416	7.2	3.44	14.32
Bumiputera Sabah	1	85	30.5	7.41	70.69	1	85	30.5	7.41	70.69
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	1	85	3.1	0.72	12.10	2	168	6.1	1.40	22.87

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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
Perak	37	4345	3.4	2.38	4.96	6	623	0.5	0.20	1.20
Locality of school										
Urban	20	2472	4.1	2.77	6.02	1	141	0.2	0.03	1.66
Rural	17	1873	2.8	1.48	5.37	5	482	0.7	0.27	1.97
Sex										
Boys	7	839	1.5	0.69	3.35	2	171	0.3	0.04	2.60
Girls	30	3507	4.9	3.14	7.62	4	452	0.6	0.23	1.73
School category										
Primary	6	1027	2.4	1.04	5.39	2	171	0.4	0.05	3.26
Secondary	31	3318	4.0	2.69	5.87	4	452	0.5	0.22	1.34
Class										
Standard 4	1	123	0.8	0.11	5.44	2	171	1.1	0.17	6.95
Standard 5	2	206	1.5	0.53	3.95	-	-	-	-	-
Standard 6	3	698	5.1	1.48	16.42	-	-	-	-	-
Form 1	6	670	3.4	1.41	7.85	-	-	-	-	-
Form 2	5	502	3.0	1.07	8.07	1	90	0.5	0.06	4.38
Form 3	9	897	5.5	2.68	10.87	1	96	0.6	0.08	4.37
Form 4	5	459	3.3	1.52	7.18	-	-	-	-	-
Form 5	6	790	4.8	2.60	8.68	2	266	1.6	0.43	5.88
Ethnicity										
Malay	23	2677	2.9	1.71	4.85	3	362	0.4	0.12	1.25
Chinese	10	1265	5.2	3.06	8.61	2	171	0.7	0.09	5.09
Indian	2	208	3.6	0.99	12.06	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	90	21.3	1.75	80.49
Others	2	195	7.1	2.25	20.05	-	-	-	-	-

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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
Perak	50	5349	4.2	2.63	6.76	9	843	0.7	0.32	1.37
Locality of school										
Urban	15	1611	2.7	1.52	4.64	3	271	0.4	0.15	1.30
Rural	35	3738	5.7	3.17	9.93	6	572	0.9	0.35	2.12
Sex										
Boys	11	1120	2.0	1.13	3.66	5	452	0.8	0.28	2.43
Girls	39	4229	5.9	3.59	9.62	4	391	0.5	0.17	1.72
School category										
Primary	8	987	2.3	1.24	4.21	2	177	0.4	0.11	1.58
Secondary	42	4363	5.2	3.08	8.77	7	666	0.8	0.36	1.78
Class										
Standard 4	1	96	0.6	0.08	4.59	1	93	0.6	0.09	3.83
Standard 5	5	484	3.4	1.41	8.13	1	85	0.6	0.10	3.43
Standard 6	2	407	3.0	0.56	14.46	-	-	-	-	-
Form 1	6	678	3.4	1.13	9.82	-	-	-	-	-
Form 2	7	714	4.3	1.42	12.04	3	265	1.6	0.47	5.15
Form 3	9	861	5.3	2.35	11.35	2	187	1.1	0.29	4.32
Form 4	12	1084	7.9	4.04	14.82	1	88	0.6	0.09	4.65
Form 5	8	1025	6.2	3.03	12.36	1	125	0.8	0.11	5.08
Ethnicity										
Malay	40	4385	4.7	2.69	8.20	5	478	0.5	0.16	1.63
Chinese	8	755	3.1	1.07	8.57	3	280	1.1	0.38	3.37
Indian	2	209	3.6	0.61	18.67	1	85	1.5	0.15	12.89
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-

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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
Perak	162	17978	46.0	41.23	50.78	109	12162	31.1	26.91	35.62
Locality of school										
Urban	78	9705	50.0	43.61	56.41	53	6002	30.9	24.62	38.04
Rural	84	8273	42.0	36.26	47.93	56	6161	31.3	25.98	37.08
Sex										
Boys	99	10780	42.9	36.53	49.46	69	7808	31.1	25.81	36.84
Girls	63	7198	51.5	42.51	60.47	40	4355	31.2	23.67	39.83
School category										
Primary	57	7053	43.1	36.24	50.26	40	4700	28.7	22.20	36.28
Secondary	105	10924	48.0	41.93	54.17	69	7462	32.8	27.74	38.30
Class										
Standard 4	26	2560	41.6	29.00	55.36	14	1278	20.7	14.69	28.47
Standard 5	20	2423	41.1	26.93	56.94	20	2316	39.3	28.68	51.01
Standard 6	11	2070	48.1	30.55	66.06	6	1107	25.7	14.13	42.09
Form 1	8	870	27.3	14.84	44.75	10	1098	34.5	16.88	57.72
Form 2	21	1994	46.8	37.57	56.20	12	1157	27.1	15.24	43.56
Form 3	24	2195	54.9	43.90	65.39	13	1196	29.9	18.51	44.47
Form 4	35	3438	56.3	47.43	64.83	18	1767	28.9	21.06	38.34
Form 5	17	2427	46.7	23.53	71.38	16	2244	43.2	23.11	65.77
Ethnicity										
Malay	105	11706	44.6	38.26	51.08	80	9055	34.5	30.24	39.00
Chinese	42	4912	52.7	45.55	59.79	21	2265	24.3	16.14	34.89
Indian	8	794	45.7	23.94	69.24	2	195	11.2	2.48	38.66
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	7	566	34.5	17.57	56.65	6	647	39.5	10.19	79.04

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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
Perak	51	5610	14.3	10.73	18.92	32	3360	8.6	5.76	12.62
Locality of school										
Urban	19	2324	12.0	7.30	19.02	12	1373	7.1	3.95	12.35
Rural	32	3286	16.7	12.03	22.64	20	1986	10.1	5.98	16.50
Sex										
Boys	38	4137	16.5	11.81	22.45	23	2418	9.6	5.88	15.35
Girls	13	1472	10.5	5.95	17.99	9	941	6.7	3.67	12.06
School category										
Primary	19	2328	14.2	9.36	21.05	21	2278	13.9	9.83	19.35
Secondary	32	3281	14.4	9.65	21.02	11	1082	4.8	2.73	8.17
Class										
Standard 4	10	939	15.2	9.44	23.69	15	1381	22.4	15.24	31.75
Standard 5	5	465	7.9	1.70	29.74	5	691	11.7	5.43	23.50
Standard 6	4	925	21.5	10.43	39.12	1	205	4.8	0.89	21.85
Form 1	6	682	21.4	9.86	40.47	5	534	16.8	6.61	36.46
Form 2	9	829	19.4	8.42	38.77	3	284	6.6	1.70	22.63
Form 3	4	345	8.6	1.93	31.10	3	264	6.6	2.17	18.44
Form 4	9	900	14.7	7.88	25.88	-	-	-	-	-
Form 5	4	526	10.1	2.89	29.84	-	-	-	-	-
Ethnicity										
Malay	31	3355	12.8	9.21	17.45	20	2143	8.2	4.91	13.26
Chinese	9	1164	12.5	5.92	24.46	9	976	10.5	6.93	15.52
Indian	7	748	43.1	18.21	71.98	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	85	53.1	53.06	53.06	1	75	46.9	46.94	46.94
Others	3	258	15.7	6.93	31.92	2	166	10.2	2.35	34.78

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

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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 is 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 Perak (Primary 4 to Secondary 5).

Specific objective:

- To determine the prevalence of 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 consumed during 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 bringing food or drinks to school practice.
- To identify common types 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

In this study, there were 2,527 respondents that represent 281,354 adolescents (10 to 17 years old) in Perak. More than a quarter of adolescents (30.5%; 95% CI: 25.03, 36.65) take their breakfast daily, while 57.4% (CI: 52.84, 61.86) take breakfast "1 to 6 days" a week and the least proportion (12.1%; 95% CI: 9.25, 15.58) does not take breakfast. It was observed that more adolescents take lunch (53.2%; 95% CI: 47.89, 58.52) and dinner (56.0%; 95% CI: 46.31, 65.27) everyday compared to breakfast. Most of food sources for main meals are prepared at home and the second main food source is the school canteen (breakfast and lunch). Nearly half of the adolescents claim that having no appetite as their reason for skipping main meals intake. It should be noted that 30.9% (95% CI: 26.76, 35.35) of them have no time to take breakfast. At school, 66.4% (95% CI: 61.26, 71.23) take food/drinks during recess time and majority claims having food during recess from the school canteen. Most of the adolescents take afternoon tea and heavy meal after dinner for 1 to 6 days per week and the main food source are from home. Percentage of adolescents taking food to school every day is low (6.4%; 95% CI: 4.92, 8.23) and the most dishes brought to school are nasi lemak/fried rice/mixed rice and bread/bun/sandwich. However, considerably high proportion of adolescents (41.5%; 95% CI: 35.64, 47.67) bring drinks to school every day with plain water as the main type of drinks brought. About 58.8% adolescents reported to spend their pocket money to buy food and/or drinks and majority of them eating out occasionally in a week. The three-top type of snack foods usually consumed by the adolescents are bread/ bun/ sandwich, followed by biscuits and fruits where the percentage of each type is almost quarter proportion of total respondents. The highest frequency of snack consumption is 1 to 3 times per week (65.6%; 95% CI: 63.29, 67.82). About 30.3% (95% CI: 23.57, 38.09) of adolescents do not buy snack food out of school whereas the other majority 57.4% (95% CI: 50.15, 64.31) has the frequency of 1 to 4 times a week. The most favoured snack food bought out of school is flavoured drink/carbonated drinks compared to other type of snack foods such as candy/chocolate and French fries/nugget/sausage. Television and social media are the most common media sources that affected dietary patterns of the adolescents compared to radio and printed media.

3.4.5 Discussions/Conclusion

Even though taking breakfast is the most essential main meal intake, many adolescents failed to do so on daily basis. They might prefer taking their first meal of the day during recess time which explains no appetite reason of skipping breakfast. The fact that quarter of the respondents having no time to take breakfast should not be ignored. Further research and programs should be done to consider providing sufficient time for students to enjoy their breakfast before entering the class. The practice of taking heavy meal after dinner should be corrected to avoid health problems such as obesity and indigestion problem. As most of the sources of this meal is from home, parents should be educated on healthy dietary intake as well to assist the adolescent to practice healthy lifestyle and to avoid having late dinner. Other

than that, having food/drinks sold outside of school give bad influence to dietary intake practices among the adolescent as they favour for flavoured drink/carbonated drinks among adolescents in Perak. Hence, the seller should be recommended to sell healthy snacks instead of unhealthy snack at his/her premise.

3.4.6 Recommendation

Taken together from the survey, several recommendations were proposed. Advocacy on proper meal pattern practice among adolescent is crucial therefore, a holistic and comprehensive nutrition intervention should be implemented nation-wide, where every 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 and Ministry of Education together with support and cooperation from Parents and Teacher Association and also professional bodies (Nutrition Society of Malaysia, Malaysian Dietitians' Association, Malaysian Association for the Study of Obesity), that are related to diet and lifestyle should work hand-in-hand to educate and empower the adolescent on proper nutrition intakes daily especially on main meals.

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

Socio-demographic Characteristics	Breakfast frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	751	85671	30.5	25.03	36.65	1462	161086	57.4	52.84	61.86
Locality of school										
Urban	347	43101	29.9	22.29	38.86	683	81015	56.2	49.67	62.59
Rural	404	42569	31.2	23.68	39.81	779	80071	58.6	52.45	64.59
Sex										
Boys	374	43339	30.8	24.79	37.50	753	82405	58.5	52.85	63.99
Girls	377	42332	30.3	24.09	37.29	709	78681	56.3	51.59	60.87
Ethnicity										
Malay	436	48725	26.6	20.63	33.54	1038	113545	62.0	58.17	65.62
Chinese	258	31218	40.6	31.61	50.19	289	34638	45.0	40.88	49.19
Indian	31	3335	27.8	16.85	42.23	71	7018	58.5	47.84	68.39
Bumiputera Sabah	1	81	18.7	8.31	36.87	4	352	81.3	63.13	91.69
Bumiputera Sarawak	3	252	30.0	14.13	52.67	7	590	70.0	47.33	85.87
Others	22	2059	29.0	16.16	46.42	53	4944	69.7	54.66	81.41
School level										
Primary school	244	33530	33.8	22.78	46.87	449	55959	56.4	47.47	64.88
Secondary school	507	52140	28.8	23.38	34.80	1013	105128	58.0	52.88	62.92
Class										
Standard 4	107	11299	34.4	20.68	51.23	195	18927	57.5	42.22	71.55
Standard 5	82	10331	31.5	18.34	48.54	169	19601	59.8	47.01	71.39
Standard 6	55	11899	35.4	22.59	50.75	85	17430	51.9	41.18	62.40
Form 1	118	13045	34.5	25.04	45.32	181	19985	52.8	43.32	62.11
Form 2	112	10507	29.7	22.92	37.53	210	20121	56.9	48.57	64.84
Form 3	99	9215	25.4	18.70	33.62	232	21377	59.0	52.93	64.84
Form 4	111	10246	29.1	21.05	38.69	226	21287	60.4	54.04	66.50
Form 5	67	9128	24.9	17.22	34.55	164	22357	61.0	55.11	66.53
School session										
Morning session	487	54716	31.1	24.19	39.00	906	99582	56.6	50.64	62.44
Evening session	107	10968	29.4	21.18	39.14	204	21110	56.5	46.67	65.87
Morning and evening session	156	19897	29.8	23.89	36.43	348	39890	59.7	53.59	65.54
BMI-for-age status (BAZ)										
Thinness (<-2sd)	41	4575	25.4	17.64	35.15	117	12093	67.2	58.67	74.69
Normal (≥-2sd - ≤+1sd)	483	54584	31.6	26.13	37.72	881	97159	56.3	51.68	60.85
Overweight (>+1sd - ≤+2sd)	123	14891	31.5	23.71	40.54	254	27420	58.0	50.07	65.62
Obese (>+2sd)	104	11621	27.3	21.03	34.57	208	24177	56.7	49.76	63.48
Height-for-age status (HAZ)										
Stunting (<-2sd)	52	5314	25.3	19.33	32.47	127	13570	64.7	58.78	70.21
Normal (≥-2sd)	699	80356	31.0	25.36	37.17	1335	147516	56.8	52.20	61.33

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
Perak	306	33831	12.1	9.25	15.58
Locality of school					
Urban	173	19942	13.8	9.88	19.05
Rural	133	13890	10.2	6.89	14.76
Sex					
Boys	138	15051	10.7	7.36	15.29
Girls	168	18780	13.4	10.02	17.78
Ethnicity					
Malay	186	20979	11.4	8.21	15.74
Chinese	102	11112	14.4	9.09	22.15
Indian	17	1647	13.7	7.00	25.17
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	94	1.3	0.26	6.42
School level					
Primary school	74	9778	9.9	5.49	17.05
Secondary school	232	24054	13.3	10.10	17.24
Class					
Standard 4	28	2665	8.1	4.10	15.39
Standard 5	25	2842	8.7	3.75	18.78
Standard 6	21	4271	12.7	7.84	19.96
Form 1	45	4809	12.7	7.31	21.18
Form 2	49	4741	13.4	7.99	21.63
Form 3	61	5629	15.5	12.01	19.87
Form 4	39	3689	10.5	7.03	15.33
Form 5	38	5186	14.1	9.27	20.98
School session					
Morning session	196	21537	12.2	9.32	15.93
Evening session	52	5274	14.1	8.21	23.21
Morning and evening session	58	7020	10.5	6.60	16.32
BMI-for-age status (BAZ)					
Thinness (<-2sd)	13	1335	7.4	4.59	11.77
Normal (≥-2sd - ≤+1sd)	190	20762	12.0	9.04	15.85
Overweight (>+1sd - ≤+2sd)	44	4930	10.4	7.04	15.19
Obese (>+2sd)	59	6805	16.0	10.62	23.33
Height-for-age status (HAZ)					
Stunting (<-2sd)	20	2089	10.0	6.33	15.34
Normal (≥-2sd)	286	31743	12.2	9.37	15.81

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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
Perak	1419	159821	65.6	59.54	71.21	283	32660	13.4	10.34	17.21
Locality of school										
Urban	674	81862	67.0	60.97	72.54	131	16645	13.6	9.69	18.83
Rural	745	77959	64.2	53.64	73.54	152	16015	13.2	8.86	19.18
Sex										
Boys	724	81923	66.0	61.22	70.40	165	18692	15.0	11.45	19.53
Girls	695	77898	65.2	56.05	73.43	118	13968	11.7	8.40	16.07
Ethnicity										
Malay	954	106456	66.4	57.52	74.30	169	18695	11.7	8.17	16.39
Chinese	348	41987	64.5	59.85	68.81	85	11319	17.4	12.41	23.80
Indian	75	7623	75.1	64.40	83.37	17	1665	16.4	10.69	24.32
Bumiputera Sabah	5	433	100.0	0.00	100.00					
Bumiputera Sarawak	5	430	56.3	30.07	79.49	2	150	19.6	7.08	43.86
Others	32	2892	42.2	14.43	75.97	10	832	12.1	2.02	48.11
School level										
Primary school	503	65231	74.3	69.14	78.85	129	16685	19.0	15.13	23.60
Secondary school	916	94591	60.7	53.56	67.43	154	15975	10.3	7.48	13.90
Class										
Standard 4	199	20206	69.1	62.68	74.78	69	6622	22.6	16.76	29.83
Standard 5	193	23151	77.9	66.93	85.93	40	4702	15.8	8.05	28.71
Standard 6	111	21873	75.9	56.42	88.49	20	5362	18.6	7.67	38.64
Form 1	172	18988	57.9	48.25	67.06	30	3329	10.2	5.49	18.02
Form 2	183	17469	58.0	51.89	63.86	34	3146	10.4	6.08	17.35
Form 3	215	19896	65.4	53.14	75.95	33	3066	10.1	5.94	16.61
Form 4	214	20034	64.4	54.35	73.24	35	3350	10.8	6.11	18.27
Form 5	132	18204	58.0	43.15	71.61	22	3085	9.8	6.12	15.44
School session										
Morning session	920	103273	67.5	61.60	72.91	188	20474	13.4	10.75	16.54
Evening session	199	20836	65.3	57.17	72.70	33	3350	10.5	6.24	17.17
Morning and evening session	295	35119	60.4	49.93	70.00	62	8836	15.2	8.15	26.58
BMI-for-age status (BAZ)										
Thinness (<-2sd)	110	11622	71.3	63.01	78.44	24	2462	15.1	11.49	19.63
Normal (≥-2sd - ≤+1sd)	892	100556	67.2	60.45	73.33	153	17807	11.9	8.86	15.80
Overweight (>+1sd - ≤+2sd)	208	23709	56.5	48.12	64.49	62	6992	16.7	11.81	22.98
Obese (>+2sd)	207	23696	66.8	58.99	73.75	44	5399	15.2	10.50	21.54
Height-for-age status (HAZ)										
Stunting (<-2sd)	100	10742	58.1	44.56	70.50	23	2402	13.0	8.21	19.96
Normal (≥-2sd)	1319	149079	66.2	60.22	71.75	260	30258	13.4	10.30	17.35

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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	
Perak	209	22299	9.2	6.62	12.53	237	24776	10.2	4.51	21.33
Locality of school										
Urban	112	12894	10.6	7.19	15.24	79	8530	7.0	2.36	18.88
Rural	97	9405	7.7	4.55	12.88	158	16246	13.4	4.50	33.60
Sex										
Boys	123	12755	10.3	7.29	14.28	79	8193	6.6	2.95	14.09
Girls	86	9544	8.0	5.45	11.58	158	16583	13.9	5.72	30.01
Ethnicity										
Malay	115	12141	7.6	5.23	10.85	203	21365	13.3	5.74	28.00
Chinese	85	9223	14.2	8.40	22.89	4	339	0.5	0.14	1.93
Indian	4	496	4.9	1.91	11.92	3	283	2.8	0.83	8.98
Bumiputera Sabah										
Bumiputera Sarawak	2	183	24.0	7.93	53.75					
Others	3	256	3.7	1.01	12.89	27	2788	40.7	5.71	88.59
School level										
Primary school	28	3686	4.2	2.65	6.59	8	960	1.1	0.27	4.24
Secondary school	181	18613	11.9	8.99	15.71	229	23816	15.3	7.14	29.74
Class										
Standard 4	14	1379	4.7	2.76	7.94	5	506	1.7	0.53	5.45
Standard 5	9	1093	3.7	1.93	6.89	1	97	0.3	0.05	2.26
Standard 6	5	1215	4.2	1.77	9.73	2	357	1.2	0.16	9.16
Form 1	40	4367	13.3	7.44	22.73	51	5640	17.2	7.59	34.49
Form 2	46	4255	14.1	8.35	22.90	52	5067	16.8	7.98	32.04
Form 3	34	3130	10.3	7.06	14.77	41	3774	12.4	3.75	34.03
Form 4	34	3187	10.2	7.40	14.00	42	3793	12.2	4.96	26.93
Form 5	27	3673	11.7	7.45	17.93	43	5542	17.7	7.37	36.66
School session										
Morning session	120	13089	8.6	6.51	11.17	127	13389	8.8	3.81	18.85
Evening session	61	6143	19.3	12.66	28.21	13	1221	3.8	0.48	24.75
Morning and evening session	28	3068	5.3	3.14	8.74	97	10165	17.5	7.41	35.93
BMI-for-age status (BAZ)										
Thinness (<-2sd)	15	1698	10.4	5.58	18.63	4	401	2.5	0.70	8.26
Normal (≥-2sd - ≤+1sd)	128	13420	9.0	6.07	13.06	148	15276	10.2	4.46	21.70
Overweight (>+1sd - ≤+2sd)	43	4574	10.9	7.12	16.33	60	6488	15.5	6.88	31.13
Obese (>+2sd)	23	2608	7.3	4.74	11.22	25	2612	7.4	3.04	16.76
Height-for-age status (HAZ)										
Stunting (<-2sd)	17	1744	9.4	5.57	15.54	33	3385	18.3	7.49	38.29
Normal (≥-2sd)	192	20555	9.1	6.61	12.49	204	21390	9.5	4.13	20.37

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

Socio-demographic Characteristics	Source of food for breakfast				
	Count	Estimated Population	Prevalence (%)	Others	
				95% CI Lower	95% CI Upper
Perak	37	4042	1.7	1.09	2.52
Locality of school					
Urban	19	2234	1.8	1.08	3.08
Rural	18	1808	1.5	0.77	2.88
Sex					
Boys	23	2642	2.1	1.26	3.57
Girls	14	1400	1.2	0.68	2.01
Ethnicity					
Malay	15	1600	1.0	0.53	1.87
Chinese	20	2270	3.5	2.46	4.91
Indian	1	88	0.9	0.12	6.00
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	85	1.2	0.23	6.36
School level					
Primary school	11	1241	1.4	0.63	3.16
Secondary school	26	2801	1.8	1.11	2.90
Class					
Standard 4	4	447	1.4	0.55	3.34
Standard 5	2	186	0.6	0.15	2.45
Standard 6	6	544	1.8	0.77	4.07
Form 1	8	768	2.5	1.30	4.64
Form 2	6	856	2.7	1.10	6.62
Form 3					
Form 4	5	548	1.9	0.88	3.94
Form 5	6	693	2.3	1.02	5.24
School session					
Morning session	25	2752	1.8	1.06	3.05
Evening session	3	336	1.1	0.41	2.65
Morning and evening session	9	954	1.6	0.88	3.05
BMI-for-age status (BAZ)					
Thinness (<-2sd)	1	108	0.7	0.08	5.35
Normal (≥-2sd - ≤+1sd)	25	2551	1.7	1.05	2.75
Overweight (>+1sd - ≤+2sd)	1	215	0.5	0.07	3.83
Obese (>+2sd)	10	1169	3.3	1.65	6.46
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	219	1.2	0.30	4.55
Normal (≥-2sd)	35	3824	1.7	1.09	2.64

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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	
Perak	142	15643	9.1	7.38	11.07	674	73379	42.5	37.28	47.84
Locality of school										
Urban	63	7582	8.7	6.20	12.14	296	33781	38.9	32.09	46.09
Rural	79	8061	9.4	7.41	11.84	378	39598	46.1	39.45	52.98
Sex										
Boys	80	8924	10.5	8.53	12.81	294	30894	36.3	31.57	41.24
Girls	62	6719	7.7	5.48	10.65	380	42485	48.5	41.80	55.29
Ethnicity										
Malay	104	11314	9.1	6.97	11.69	533	57987	46.4	40.87	52.06
Chinese	27	3270	9.1	7.76	10.60	90	10600	29.4	21.87	38.34
Indian	6	586	8.9	3.36	21.45	30	2960	44.8	31.92	58.40
Bumiputera Sabah						2	159	45.3	13.10	81.96
Bumiputera Sarawak	1	75	12.7	5.52	26.52	3	257	43.5	22.93	66.66
Others	4	398	9.3	5.90	14.37	16	1416	33.1	21.48	47.27
School level										
Primary school	48	6070	11.2	8.49	14.66	176	21832	40.3	32.80	48.34
Secondary school	94	9573	8.1	6.21	10.43	498	51547	43.5	36.89	50.26
Class										
Standard 4	22	2078	11.4	8.15	15.69	84	8193	44.9	37.29	52.73
Standard 5	14	1529	8.7	4.12	17.46	59	6863	39.1	29.86	49.10
Standard 6	12	2463	13.4	10.71	16.76	33	6776	37.0	26.80	48.52
Form 1	11	1264	5.8	2.79	11.70	96	10517	48.3	39.49	57.28
Form 2	20	1861	8.1	4.37	14.37	107	10291	44.6	34.77	54.78
Form 3	17	1523	6.1	4.03	9.00	138	12838	51.0	42.66	59.27
Form 4	32	3010	12.9	8.60	19.00	80	7447	32.0	24.34	40.76
Form 5	14	1915	7.6	4.76	11.84	77	10454	41.3	30.28	53.30
School session										
Morning session	85	8930	8.4	6.20	11.26	409	44432	41.7	35.30	48.48
Evening session	22	2212	9.8	6.79	13.95	104	10680	47.3	40.34	54.45
Morning and evening session	35	4501	10.4	6.93	15.35	157	17763	41.1	34.88	47.58
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	1322	11.2	7.13	17.29	47	4955	42.2	33.16	51.71
Normal (≥-2sd - ≤+1sd)	94	10237	9.8	7.78	12.31	416	44933	43.1	37.08	49.26
Overweight (>+1sd - ≤+2sd)	18	2001	6.9	4.27	10.87	118	12717	43.7	35.93	51.71
Obese (>+2sd)	16	1933	7.1	4.33	11.36	92	10687	39.1	32.35	46.39
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	1386	10.1	6.43	15.56	60	6464	47.2	40.37	54.04
Normal (≥-2sd)	128	14257	9.0	7.28	10.99	614	66915	42.1	36.70	47.64

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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	
Perak	486	53361	30.9	26.76	35.35	104	11257	6.5	4.87	8.67
Locality of school										
Urban	240	28406	32.7	26.99	38.92	56	6182	7.1	4.64	10.75
Rural	246	24955	29.1	23.68	35.14	48	5075	5.9	4.07	8.52
Sex										
Boys	241	27015	31.7	26.32	37.65	56	5997	7.0	4.95	9.92
Girls	245	26346	30.1	25.86	34.68	48	5261	6.0	3.92	9.10
Ethnicity										
Malay	344	38178	30.6	25.09	36.65	70	7889	6.3	4.65	8.53
Chinese	112	12360	34.3	29.64	39.34	26	2626	7.3	4.18	12.43
Indian	16	1538	23.3	15.47	33.45	3	296	4.5	1.29	14.46
Bumiputera Sabah	2	192	54.7	18.04	86.90					
Bumiputera Sarawak						2	183	31.1	11.04	62.12
Others	12	1092	25.5	13.51	42.98	3	262	6.1	1.75	19.31
School level										
Primary school	161	19863	36.7	29.22	44.86	23	2579	4.8	3.23	6.97
Secondary school	325	33498	28.2	24.40	32.43	81	8678	7.3	5.21	10.19
Class										
Standard 4	58	5595	30.6	25.26	36.63	10	911	5.0	2.57	9.46
Standard 5	66	7141	40.6	27.26	55.57	9	933	5.3	1.78	14.82
Standard 6	37	7127	38.9	31.00	47.48	4	735	4.0	1.84	8.53
Form 1	45	4892	22.5	14.65	32.89	21	2324	10.7	5.36	20.15
Form 2	65	6183	26.8	20.26	34.47	20	1999	8.7	4.60	15.69
Form 3	69	6388	25.4	21.10	30.17	19	1768	7.0	4.50	10.79
Form 4	94	8914	38.3	30.68	46.54	9	921	4.0	1.64	9.22
Form 5	52	7120	28.1	21.41	36.02	12	1667	6.6	4.24	10.09
School session										
Morning session	317	35155	33.0	27.88	38.61	61	6711	6.3	4.45	8.86
Evening session	42	4121	18.3	12.95	25.13	26	2607	11.6	8.04	16.33
Morning and evening session	127	14085	32.6	26.34	39.49	17	1939	4.5	2.14	9.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	39	4019	34.2	23.96	46.13	7	634	5.4	2.53	11.16
Normal (≥-2sd - ≤+1sd)	285	31124	29.8	25.28	34.82	52	5576	5.3	3.84	7.40
Overweight (>+1sd - ≤+2sd)	86	9209	31.6	25.62	38.28	19	2001	6.9	4.28	10.84
Obese (>+2sd)	76	9010	33.0	25.07	42.04	26	3046	11.2	6.71	18.00
Height-for-age status (HAZ)										
Stunting (<-2sd)	35	3582	26.1	20.15	33.16	4	447	3.3	0.86	11.60
Normal (≥-2sd)	451	49778	31.3	26.87	36.10	100	10810	6.8	5.08	9.05

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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	
Perak	51	5236	3.0	2.05	4.45	127	13876	8.0	5.62	11.35
Locality of school										
Urban	27	2817	3.2	1.72	6.03	72	8165	9.4	5.42	15.79
Rural	24	2419	2.8	1.89	4.18	55	5711	6.7	4.68	9.39
Sex										
Boys	40	3962	4.7	3.11	6.91	75	8397	9.9	6.64	14.39
Girls	11	1274	1.5	0.75	2.81	52	5479	6.3	3.93	9.83
Ethnicity										
Malay	27	2899	2.3	1.50	3.58	60	6652	5.3	3.98	7.09
Chinese	19	1864	5.2	2.68	9.78	48	5287	14.7	7.88	25.71
Indian	3	264	4.0	1.81	8.59	10	964	14.6	9.30	22.15
Bumiputera Sabah										
Bumiputera Sarawak	1	75	12.7	5.52	26.52					
Others	1	134	3.1	0.64	13.93	9	973	22.8	16.98	29.78
School level										
Primary school	16	1657	3.1	2.00	4.65	16	2137	3.9	2.66	5.82
Secondary school	35	3579	3.0	1.77	5.11	111	11738	9.9	6.90	14.00
Class										
Standard 4	12	1130	6.2	5.33	7.18	4	347	1.9	0.61	5.75
Standard 5	3	348	2.0	0.83	4.65	7	758	4.3	1.64	10.86
Standard 6	1	178	1.0	0.16	5.61	5	1032	5.6	4.23	7.47
Form 1	8	821	3.8	1.36	10.00	18	1941	8.9	4.48	16.97
Form 2	10	958	4.1	1.75	9.49	19	1805	7.8	5.07	11.86
Form 3	5	449	1.8	0.32	9.27	24	2211	8.8	5.77	13.14
Form 4	8	794	3.4	1.73	6.60	24	2190	9.4	5.61	15.36
Form 5	4	557	2.2	0.89	5.36	26	3590	14.2	8.19	23.46
School session										
Morning session	30	2958	2.8	1.70	4.52	77	8260	7.8	4.57	12.87
Evening session	12	1242	5.5	2.80	10.53	17	1699	7.5	4.34	12.75
Morning and evening session	9	1036	2.4	1.17	4.86	33	3916	9.1	5.82	13.83
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	263	2.2	0.51	9.33	5	561	4.8	1.69	12.75
Normal (≥-2sd - ≤+1sd)	32	3309	3.2	2.01	4.97	83	9153	8.8	5.80	13.05
Overweight (>+1sd - ≤+2sd)	7	708	2.4	1.28	4.56	23	2495	8.6	5.72	12.62
Obese (>+2sd)	10	956	3.5	1.56	7.67	16	1666	6.1	3.16	11.46
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	472	3.4	1.24	9.19	12	1357	9.9	4.51	20.34
Normal (≥-2sd)	47	4764	3.0	1.98	4.51	115	12519	7.9	5.63	10.90

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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
Perak	1337	149210	53.2	47.89	58.52	1110	122883	43.8	38.57	49.26
Locality of school										
Urban	681	80644	56.2	49.08	62.99	491	59028	41.1	34.57	47.98
Rural	656	68566	50.2	42.74	57.59	619	63855	46.7	39.05	54.56
Sex										
Boys	653	73168	52.1	45.60	58.47	570	62632	44.6	38.19	51.14
Girls	684	76041	54.4	48.97	59.75	540	60250	43.1	37.92	48.46
Ethnicity										
Malay	796	88739	48.4	44.02	52.84	814	89181	48.7	44.12	53.23
Chinese	450	51726	67.5	61.00	73.40	181	22474	29.3	24.54	34.63
Indian	54	5414	45.1	33.63	57.16	62	6272	52.3	39.82	64.44
Bumiputera Sabah	2	189	43.6	12.01	81.45	3	244	56.4	18.55	87.99
Bumiputera Sarawak	2	182	21.6	9.57	41.79	7	575	68.3	49.78	82.47
Others	33	2960	41.7	25.76	59.63	43	4136	58.3	40.37	74.24
School level										
Primary school	363	48481	49.0	41.11	56.92	383	47435	47.9	39.37	56.61
Secondary school	974	100729	55.6	48.94	61.99	727	75448	41.6	35.40	48.11
Class										
Standard 4	145	14893	45.2	30.57	60.73	177	17162	52.1	38.12	65.76
Standard 5	138	17298	52.8	37.64	67.44	131	14691	44.8	30.64	59.93
Standard 6	80	16291	49.0	33.83	64.33	75	15582	46.9	34.86	59.22
Form 1	182	19973	52.6	42.27	62.80	153	16872	44.5	35.14	54.20
Form 2	194	18451	52.0	41.84	62.07	168	16095	45.4	35.62	55.53
Form 3	199	18325	50.6	42.37	58.78	172	15916	43.9	35.76	52.46
Form 4	242	22628	64.4	55.60	72.34	128	12003	34.2	26.07	43.31
Form 5	157	21352	58.4	46.96	69.04	106	14562	39.8	28.69	52.17
School session										
Morning session	918	101262	57.6	50.49	64.36	633	70124	39.9	33.39	46.72
Evening session	157	16255	43.7	34.45	53.34	192	19652	52.8	43.85	61.56
Morning and evening session	261	31582	47.5	44.15	50.93	283	32782	49.3	44.92	53.76
BMI-for-age status (BAZ)										
Thinness (<-2sd)	79	8477	47.1	36.55	57.90	86	8878	49.3	39.21	59.48
Normal (≥-2sd - ≤+1sd)	856	94641	54.9	48.79	60.87	657	73308	42.5	36.81	48.44
Overweight (>+1sd - ≤+2sd)	222	25637	54.5	47.11	61.75	190	20411	43.4	36.04	51.08
Obese (>+2sd)	179	20304	47.6	42.07	53.28	176	20198	47.4	42.06	52.80
Height-for-age status (HAZ)										
Stunting (<-2sd)	85	8668	41.5	36.03	47.20	105	11418	54.7	49.01	60.23
Normal (≥-2sd)	1252	140542	54.2	48.82	59.46	1005	111464	43.0	37.67	48.45

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

Characteristics	Lunch frequency per week				
	Count	Estimated Population	Prevalence (%)	Did not take lunch	
				Lower	Upper
Perak	72	8169	2.9	2.09	4.05
Locality of school					
Urban	29	3929	2.7	1.80	4.13
Rural	43	4240	3.1	1.86	5.14
Sex					
Boys	42	4713	3.4	2.21	5.07
Girls	30	3456	2.5	1.59	3.82
Ethnicity					
Malay	51	5346	2.9	1.85	4.56
Chinese	17	2425	3.2	1.90	5.22
Indian	3	314	2.6	0.67	9.70
Bumiputera Sabah					
Bumiputera Sarawak	1	85	10.0	3.25	27.07
Others					
School level					
Primary school	21	3048	3.1	2.09	4.52
Secondary school	51	5121	2.8	1.76	4.51
Class					
Standard 4	9	886	2.7	1.32	5.39
Standard 5	7	778	2.4	1.01	5.46
Standard 6	5	1384	4.2	1.28	12.67
Form 1	10	1095	2.9	1.65	5.00
Form 2	10	913	2.6	1.26	5.17
Form 3	21	1981	5.5	3.28	8.99
Form 4	5	500	1.4	0.38	5.16
Form 5	5	632	1.7	0.62	4.70
School session					
Morning session	39	4498	2.6	1.77	3.68
Evening session	13	1318	3.5	2.47	5.05
Morning and evening session	17	2085	3.1	1.45	6.64
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	647	3.6	1.45	8.64
Normal (≥-2sd - ≤+1sd)	43	4440	2.6	1.81	3.66
Overweight (>+1sd - ≤+2sd)	7	969	2.1	0.73	5.71
Obese (>+2sd)	16	2112	5.0	2.51	9.54
Height-for-age status (HAZ)					
Stunting (<-2sd)	8	796	3.8	1.96	7.28
Normal (≥-2sd)	64	7373	2.8	2.02	3.99

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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	
Perak	1459	162202	59.9	53.58	65.89	438	49972	18.5	15.59	21.70
Locality of school										
Urban	683	81214	58.5	53.63	63.14	204	25462	18.3	14.52	22.87
Rural	776	80988	61.4	49.39	72.15	234	24511	18.6	14.52	23.47
Sex										
Boys	717	79232	58.7	54.23	62.99	243	27210	20.2	16.36	24.56
Girls	742	82970	61.1	50.88	70.43	195	22762	16.8	13.64	20.42
Ethnicity										
Malay	967	107933	60.9	51.70	69.42	303	33719	19.0	15.48	23.17
Chinese	372	42776	57.9	49.35	66.02	96	12485	16.9	12.21	22.93
Indian	79	7867	68.4	57.59	77.53	28	2875	25.0	17.50	34.38
Bumiputera Sabah	4	325	75.1	12.62	98.43					
Bumiputera Sarawak	5	420	55.4	23.19	83.68	1	75	9.9	2.81	29.35
Others	32	2882	40.6	14.16	73.92	10	818	11.5	2.53	39.50
School level										
Primary school	467	60345	63.1	58.34	67.58	196	24453	25.6	24.00	27.18
Secondary school	992	101857	58.1	48.93	66.83	242	25520	14.6	12.63	16.75
Class										
Standard 4	191	19433	60.8	52.59	68.49	99	9299	29.1	20.06	40.18
Standard 5	167	19340	60.7	53.34	67.66	64	7811	24.5	16.83	34.28
Standard 6	109	21572	67.7	50.38	81.20	33	7343	23.0	13.61	36.25
Form 1	167	18393	50.2	41.17	59.18	77	8404	22.9	17.94	28.81
Form 2	192	18148	53.2	43.41	62.66	67	6518	19.1	15.16	23.76
Form 3	255	23651	69.4	57.04	79.52	32	2879	8.4	5.10	13.69
Form 4	232	21627	62.6	50.83	73.10	35	3340	9.7	5.83	15.63
Form 5	146	20038	56.0	40.88	70.11	31	4379	12.2	6.49	21.90
School session										
Morning session	984	108193	63.4	56.84	69.53	236	26888	15.8	12.11	20.26
Evening session	187	19419	54.7	47.21	61.93	90	9307	26.2	22.01	30.88
Morning and evening session	285	34154	53.1	40.51	65.37	112	13778	21.4	16.51	27.35
BMI-for-age status (BAZ)										
Thinness (<-2sd)	99	10392	60.3	51.36	68.52	42	4421	25.6	17.17	36.42
Normal (≥-2sd - ≤+1sd)	906	100562	60.2	53.13	66.90	257	29441	17.6	14.67	21.04
Overweight (>+1sd - ≤+2sd)	224	25075	54.7	46.24	62.87	74	8343	18.2	13.67	23.80
Obese (>+2sd)	228	25935	64.0	56.55	70.89	65	7767	19.2	14.73	24.59
Height-for-age status (HAZ)										
Stunting (<-2sd)	97	10480	52.2	38.26	65.75	41	4266	21.2	14.31	30.32
Normal (≥-2sd)	1362	151723	60.5	54.32	66.38	397	45707	18.2	15.46	21.36

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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	
Perak	235	25613	9.5	6.19	14.19	237	25359	9.4	4.35	18.99
Locality of school										
Urban	164	18471	13.3	8.30	20.62	80	9187	6.6	2.52	16.25
Rural	71	7142	5.4	3.05	9.44	157	16172	12.3	4.25	30.53
Sex										
Boys	139	15241	11.3	7.29	17.08	83	8956	6.6	3.19	13.29
Girls	96	10372	7.6	4.96	11.57	154	16403	12.1	5.03	26.27
Ethnicity										
Malay	100	10915	6.2	4.41	8.55	199	21059	11.9	5.13	25.17
Chinese	125	13657	18.5	10.17	31.23	7	1184	1.6	0.62	4.09
Indian	4	479	4.2	1.18	13.61	1	82	0.7	0.08	6.23
Bumiputera Sabah	1	108	24.9	1.57	87.38					
Bumiputera Sarawak	2	183	24.2	10.44	46.66	1	79	10.5	1.11	54.90
Others	3	272	3.8	0.74	17.58	29	2955	41.6	6.52	87.95
School level										
Primary school	45	5792	6.1	3.92	9.24	14	1951	2.0	1.05	3.94
Secondary school	190	19822	11.3	6.84	18.15	223	23408	13.4	6.16	26.59
Class										
Standard 4	11	1168	3.7	2.61	5.10	10	911	2.9	1.45	5.55
Standard 5	27	3229	10.1	7.19	14.12					
Standard 6	7	1395	4.4	1.59	11.47	4	1040	3.3	1.06	9.58
Form 1	28	3118	8.5	5.12	13.80	52	5765	15.7	6.71	32.62
Form 2	41	3840	11.2	5.72	20.91	52	5063	14.8	6.92	28.97
Form 3	40	3682	10.8	6.23	18.10	34	3129	9.2	2.75	26.57
Form 4	48	4602	13.3	7.37	22.90	41	3741	10.8	4.32	24.64
Form 5	33	4580	12.8	6.24	24.46	44	5711	16.0	6.60	33.79
School session										
Morning session	157	17283	10.1	6.14	16.26	127	13649	8.0	3.61	16.79
Evening session	43	4348	12.2	8.38	17.55	14	1298	3.7	0.59	19.50
Morning and evening session	35	3982	6.2	3.94	9.61	96	10412	16.2	7.30	32.19
BMI-for-age status (BAZ)										
Thinness (<-2sd)	16	1720	10.0	5.43	17.59	4	401	2.3	0.66	7.87
Normal (≥-2sd - ≤+1sd)	152	16329	9.8	6.18	15.13	148	15890	9.5	4.34	19.59
Overweight (>+1sd - ≤+2sd)	41	4623	10.1	5.66	17.32	60	6497	14.2	6.62	27.76
Obese (>+2sd)	26	2941	7.3	4.83	10.79	25	2572	6.4	2.76	13.96
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	1285	6.4	3.72	10.78	34	3524	17.5	6.72	38.59
Normal (≥-2sd)	223	24329	9.7	6.33	14.59	203	21835	8.7	4.01	17.88

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
Perak	66	7686	2.8	1.86	4.32
Locality of school					
Urban	34	4585	3.3	1.79	5.99
Rural	32	3101	2.4	1.44	3.81
Sex					
Boys	34	4391	3.3	1.64	6.35
Girls	32	3295	2.4	1.50	3.89
Ethnicity					
Malay	34	3554	2.0	1.26	3.18
Chinese	28	3763	5.1	3.24	7.92
Indian	2	198	1.7	0.50	5.77
Bumiputera Sabah					
Bumiputera Sarawak					
Others	2	170	2.4	0.59	9.21
School level					
Primary school	22	3126	3.3	1.38	7.54
Secondary school	44	4560	2.6	1.75	3.85
Class					
Standard 4	10	1136	3.6	1.89	6.58
Standard 5	10	1467	4.6	1.49	13.38
Standard 6	2	523	1.6	0.54	4.89
Form 1	9	975	2.7	1.18	5.90
Form 2	6	573	1.7	0.80	3.50
Form 3	8	728	2.1	0.99	4.54
Form 4	13	1221	3.5	1.56	7.81
Form 5	8	1063	3.0	1.49	5.86
School session					
Morning session	40	4588	2.7	1.59	4.51
Evening session	11	1147	3.2	1.47	6.96
Morning and evening session	15	1951	3.0	1.57	5.79
BMI-for-age status (BAZ)					
Thinness (<-2sd)	3	314	1.8	0.56	5.77
Normal (≥-2sd - ≤+1sd)	41	4770	2.9	1.96	4.14
Overweight (>+1sd - ≤+2sd)	11	1315	2.9	1.27	6.33
Obese (>+2sd)	11	1287	3.2	1.54	6.45
Height-for-age status (HAZ)					
Stunting (<-2sd)	6	532	2.6	0.80	8.42
Normal (≥-2sd)	60	7153	2.9	1.84	4.40

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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	
Perak	111	12195	10.9	8.84	13.31	518	57056	50.9	46.74	55.03
Locality of school										
Urban	52	6069	11.5	7.90	16.44	209	24513	46.5	42.63	50.31
Rural	59	6126	10.3	8.65	12.27	309	32543	54.8	49.54	60.02
Sex										
Boys	63	6979	12.2	9.45	15.58	237	25909	45.3	40.53	50.06
Girls	48	5216	9.5	6.86	13.04	281	31146	56.8	51.21	62.15
Ethnicity										
Malay	86	9471	11.1	8.69	13.97	414	45500	53.1	48.98	57.20
Chinese	15	1687	9.6	6.30	14.41	61	7442	42.4	33.97	51.35
Indian	6	668	15.6	6.97	31.40	17	1757	41.1	23.17	61.78
Bumiputera Sabah						2	169	100.0	100.00	100.00
Bumiputera Sarawak	1	75	11.3	3.79	29.30	5	421	63.7	48.97	76.30
Others	3	294	7.7	4.14	13.95	19	1767	46.4	33.27	59.99
School level										
Primary school	39	4836	11.9	8.13	17.04	178	21413	52.6	44.51	60.55
Secondary school	72	7359	10.3	8.12	12.99	340	35643	49.9	45.46	54.37
Class										
Standard 4	17	1591	10.4	7.59	14.18	85	8598	56.4	43.82	68.15
Standard 5	13	1483	12.2	6.44	21.80	60	6430	52.8	43.18	62.14
Standard 6	9	1762	13.3	8.03	21.17	33	6385	48.1	36.76	59.68
Form 1	11	1257	8.1	4.47	14.19	75	8332	53.6	41.87	64.94
Form 2	13	1174	8.0	4.55	13.78	74	7116	48.7	38.85	58.61
Form 3	17	1570	10.0	6.18	15.66	87	8229	52.2	44.04	60.21
Form 4	21	1987	16.9	10.30	26.59	53	4996	42.6	31.36	54.61
Form 5	10	1371	10.0	4.83	19.47	51	6970	50.7	42.66	58.73
School session										
Morning session	64	6837	10.7	8.00	14.24	311	34039	53.4	48.67	58.04
Evening session	17	1685	9.6	6.53	13.86	78	7926	45.1	37.07	53.36
Morning and evening session	30	3673	12.2	8.61	16.92	127	14766	48.9	43.19	54.68
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	1136	14.2	8.12	23.69	34	3593	45.0	33.81	56.62
Normal (≥-2sd - ≤+1sd)	68	7362	11.0	8.35	14.23	316	34663	51.6	46.95	56.14
Overweight (>+1sd - ≤+2sd)	17	1914	10.4	5.95	17.68	87	9478	51.7	42.77	60.49
Obese (>+2sd)	15	1783	9.7	5.91	15.38	80	9233	50.0	41.20	58.82
Height-for-age status (HAZ)										
Stunting (<-2sd)	9	995	8.7	4.65	15.88	57	6347	55.8	46.37	64.86
Normal (≥-2sd)	102	11200	11.1	8.79	13.97	461	50709	50.3	46.04	54.62

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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	
Perak	183	19717	17.6	14.58	21.06	109	12270	10.9	7.90	14.96
Locality of school										
Urban	89	10457	19.8	15.64	24.78	64	7735	14.7	10.62	19.89
Rural	94	9260	15.6	12.11	19.87	45	4535	7.6	4.64	12.33
Sex										
Boys	104	10890	19.0	15.85	22.66	58	6528	11.4	7.62	16.72
Girls	79	8827	16.1	11.94	21.32	51	5742	10.5	7.13	15.10
Ethnicity										
Malay	137	14755	17.2	13.63	21.53	78	8536	10.0	6.66	14.65
Chinese	34	3796	21.6	16.81	27.39	22	2823	16.1	10.59	23.70
Indian	8	733	17.1	7.43	34.77	5	553	12.9	5.36	28.08
Bumiputera Sabah										
Bumiputera Sarawak						1	90	13.6	1.39	63.75
Others	4	434	11.4	9.79	13.21	3	268	7.0	2.64	17.40
School level										
Primary school	64	7848	19.3	14.48	25.20	22	3158	7.8	3.51	16.26
Secondary school	119	11870	16.6	13.12	20.83	87	9112	12.8	9.55	16.85
Class										
Standard 4	26	2349	15.4	9.20	24.64	9	884	5.8	1.78	17.27
Standard 5	25	2815	23.1	16.74	30.99	6	579	4.7	1.87	11.57
Standard 6	13	2684	20.2	14.31	27.80	7	1695	12.8	4.98	29.03
Form 1	21	2310	14.9	8.75	24.12	17	1827	11.8	5.75	22.52
Form 2	26	2464	16.9	11.27	24.43	22	2133	14.6	8.93	22.93
Form 3	33	3006	19.1	15.02	23.89	18	1673	10.6	7.19	15.38
Form 4	26	2442	20.8	11.99	33.65	17	1565	13.3	7.36	22.95
Form 5	13	1647	12.0	5.77	23.26	13	1914	13.9	8.31	22.42
School session										
Morning session	101	11088	17.4	13.55	22.05	57	6484	10.2	7.04	14.47
Evening session	35	3616	20.6	16.55	25.27	24	2420	13.8	8.62	21.26
Morning and evening session	44	4745	15.7	11.63	20.91	28	3366	11.2	6.87	17.60
BMI-for-age status (BAZ)										
Thinness (<-2sd)	17	1678	21.0	12.60	32.86	6	571	7.1	3.65	13.51
Normal (≥-2sd - ≤+1sd)	107	11195	16.6	13.32	20.62	56	6878	10.2	6.55	15.63
Overweight (>+1sd - ≤+2sd)	28	3250	17.7	12.52	24.47	26	2542	13.9	8.25	22.35
Obese (>+2sd)	31	3595	19.5	12.33	29.35	21	2279	12.3	7.44	19.79
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	1516	13.3	6.99	23.94	12	1268	11.1	6.61	18.19
Normal (≥-2sd)	168	18202	18.1	15.17	21.37	97	11002	10.9	7.60	15.45

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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	
Perak	43	4699	4.2	3.27	5.36	59	6182	5.5	3.92	7.70
Locality of school										
Urban	16	1874	3.6	2.64	4.76	19	2124	4.0	2.51	6.41
Rural	27	2826	4.8	3.38	6.66	40	4058	6.8	4.51	10.23
Sex										
Boys	30	3292	5.7	4.19	7.85	35	3654	6.4	4.24	9.51
Girls	13	1408	2.6	1.40	4.65	24	2528	4.6	2.87	7.32
Ethnicity										
Malay	33	3747	4.4	3.27	5.84	34	3655	4.3	3.04	5.96
Chinese	5	472	2.7	1.28	5.57	13	1322	7.5	4.12	13.39
Indian	3	272	6.4	1.62	21.84	3	291	6.8	0.92	36.69
Bumiputera Sabah										
Bumiputera Sarawak	1	75	11.3	3.79	29.30					
Others	1	134	3.5	0.81	14.00	9	914	24.0	20.87	27.40
School level										
Primary school	18	1961	4.8	3.22	7.15	14	1494	3.7	2.33	5.74
Secondary school	25	2738	3.8	2.90	5.05	45	4689	6.6	4.44	9.61
Class										
Standard 4	13	1263	8.3	4.46	14.88	7	569	3.7	1.07	12.16
Standard 5	3	339	2.8	1.27	5.97	5	541	4.4	3.48	5.65
Standard 6	2	358	2.7	0.51	13.09	2	384	2.9	1.04	7.75
Form 1	6	636	4.1	1.88	8.66	11	1183	7.6	3.68	15.07
Form 2	7	713	4.9	2.08	10.98	11	1019	7.0	4.22	11.30
Form 3	4	373	2.4	0.53	9.94	10	918	5.8	3.22	10.29
Form 4	3	292	2.5	0.83	7.26	5	452	3.9	1.59	9.05
Form 5	5	724	5.3	1.93	13.60	8	1117	8.1	3.50	17.76
School session										
Morning session	24	2672	4.2	2.71	6.44	25	2640	4.1	2.83	6.01
Evening session	8	793	4.5	2.44	8.21	11	1140	6.5	3.73	11.03
Morning and evening session	11	1234	4.1	2.10	7.82	23	2403	8.0	4.25	14.41
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	316	3.9	1.24	11.90	6	699	8.8	4.32	16.91
Normal (≥-2sd - ≤+1sd)	30	3307	4.9	3.65	6.59	37	3830	5.7	3.64	8.82
Overweight (>+1sd - ≤+2sd)	2	220	1.2	0.29	4.89	9	936	5.1	2.68	9.52
Obese (>+2sd)	8	857	4.6	2.04	10.20	7	716	3.9	1.13	12.46
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	297	2.6	0.87	7.58	9	948	8.3	3.85	17.11
Normal (≥-2sd)	40	4402	4.4	3.37	5.66	50	5234	5.2	3.83	7.02

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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
Perak	1382	156580	56.0	46.31	65.27	1045	114214	40.9	32.40	49.89
Locality of school										
Urban	767	92958	64.7	51.13	76.28	402	47337	33.0	22.46	45.48
Rural	615	63621	46.8	36.32	57.59	643	66876	49.2	39.20	59.27
Sex										
Boys	747	84888	60.7	50.16	70.31	477	51629	36.9	27.99	46.83
Girls	635	71692	51.3	41.62	60.93	568	62584	44.8	36.15	53.78
Ethnicity										
Malay	726	81289	44.5	39.23	49.97	857	93552	51.3	46.42	56.07
Chinese	548	65062	84.8	79.59	88.94	89	10818	14.1	10.31	19.01
Indian	63	6267	52.2	38.95	65.19	53	5435	45.3	33.25	57.91
Bumiputera Sabah	2	156	36.0	14.69	64.73	3	277	64.0	35.27	85.31
Bumiputera Sarawak	5	434	51.6	24.59	77.67	5	408	48.4	22.33	75.41
Others	38	3373	47.5	30.04	65.64	38	3724	52.5	34.36	69.96
School level										
Primary school	396	54996	55.8	39.40	71.08	346	41302	41.9	27.65	57.70
Secondary school	986	101584	56.1	44.16	67.38	699	72911	40.3	30.16	51.28
Class										
Standard 4	158	16351	50.0	31.25	68.76	159	15235	46.6	28.60	65.52
Standard 5	146	18330	56.6	36.51	74.66	122	13573	41.9	24.72	61.26
Standard 6	92	20315	60.8	46.61	73.42	65	12495	37.4	25.52	51.05
Form 1	204	22354	58.7	46.00	70.40	133	14708	38.6	28.05	50.44
Form 2	193	18112	51.8	38.00	65.29	159	15334	43.8	31.86	56.57
Form 3	223	20523	56.8	45.62	67.36	148	13723	38.0	27.81	49.35
Form 4	223	21040	59.7	43.91	73.76	138	12789	36.3	23.90	50.86
Form 5	143	19555	53.3	38.73	67.37	121	16358	44.6	31.69	58.29
School session										
Morning session	904	102000	58.2	46.94	68.60	626	67727	38.6	29.02	49.20
Evening session	204	21075	56.4	40.26	71.32	148	15155	40.6	26.98	55.78
Morning and evening session	272	33304	50.4	42.02	58.66	267	30828	46.6	39.10	54.26
BMI-for-age status (BAZ)										
Thinness (<-2sd)	89	9497	52.8	40.88	64.33	76	7883	43.8	33.13	55.06
Normal (≥-2sd - ≤+1sd)	902	100838	58.6	49.35	67.37	602	66510	38.7	30.64	47.39
Overweight (>+1sd - ≤+2sd)	202	23587	50.4	38.03	62.66	195	20911	44.6	33.92	55.90
Obese (>+2sd)	187	22419	52.7	41.99	63.15	172	18910	44.4	34.40	54.96
Height-for-age status (HAZ)										
Stunting (<-2sd)	91	9550	45.7	36.16	55.65	98	10422	49.9	40.36	59.48
Normal (≥-2sd)	1291	147030	56.8	47.00	66.17	947	103792	40.1	31.61	49.28

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	
Perak	83	8769	3.1	2.20	4.46
Locality of school					
Urban	30	3345	2.3	1.09	4.91
Rural	53	5424	4.0	3.08	5.16
Sex					
Boys	32	3361	2.4	1.52	3.78
Girls	51	5408	3.9	2.75	5.42
Ethnicity					
Malay	71	7668	4.2	3.07	5.72
Chinese	9	803	1.0	0.46	2.35
Indian	3	298	2.5	0.93	6.45
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	19	2207	2.2	1.31	3.80
Secondary school	64	6562	3.6	2.39	5.46
Class					
Standard 4	11	1113	3.4	1.93	5.93
Standard 5	5	507	1.6	0.62	3.89
Standard 6	3	587	1.8	0.50	6.04
Form 1	9	998	2.6	1.25	5.42
Form 2	15	1536	4.4	2.46	7.71
Form 3	20	1876	5.2	3.03	8.77
Form 4	15	1392	4.0	1.98	7.75
Form 5	5	759	2.1	0.82	5.11
School session					
Morning session	55	5634	3.2	2.16	4.75
Evening session	11	1123	3.0	1.40	6.33
Morning and evening session	17	2013	3.0	1.57	5.80
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	622	3.5	1.61	7.24
Normal (≥-2sd - ≤+1sd)	45	4591	2.7	1.76	4.03
Overweight (>+1sd - ≤+2sd)	21	2336	5.0	2.99	8.22
Obese (>+2sd)	11	1220	2.9	1.52	5.35
Height-for-age status (HAZ)					
Stunting (<-2sd)	9	907	4.3	2.04	9.01
Normal (≥-2sd)	74	7862	3.0	2.03	4.52

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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
Perak	1817	202742	75.7	69.75	80.76	274	31866	11.9	9.88	14.25
Locality of school										
Urban	895	106752	76.8	72.06	81.01	154	19282	13.9	11.68	16.41
Rural	922	95990	74.4	62.87	83.33	120	12584	9.8	7.14	13.19
Sex										
Boys	922	102229	75.8	72.41	78.92	166	18929	14.0	11.92	16.46
Girls	895	100513	75.5	65.36	83.47	108	12937	9.7	7.49	12.53
Ethnicity										
Malay	1162	128759	74.5	65.40	81.85	158	18198	10.5	8.38	13.15
Chinese	506	59510	79.2	77.62	80.65	103	12496	16.6	14.92	18.48
Indian	102	10335	89.6	78.03	95.48	4	417	3.6	1.00	12.23
Bumiputera Sabah	5	433	100.0	0.00	100.00					
Bumiputera Sarawak	7	579	68.8	28.84	92.31	2	183	21.8	9.26	43.16
Others	35	3125	44.0	12.45	81.32	7	572	8.1	1.91	28.30
School level										
Primary school	589	76271	80.5	77.12	83.47	94	12879	13.6	11.54	15.94
Secondary school	1228	126470	73.0	64.47	80.17	180	18987	11.0	8.30	14.35
Class										
Standard 4	252	25448	81.7	76.56	85.87	32	3135	10.1	7.44	13.47
Standard 5	214	25703	82.1	78.02	85.59	36	4135	13.2	9.26	18.50
Standard 6	123	25120	77.8	65.14	86.77	26	5609	17.4	11.53	25.31
Form 1	245	26863	72.5	60.41	81.97	31	3431	9.3	5.76	14.55
Form 2	257	24405	73.4	63.02	81.67	31	2830	8.5	5.33	13.31
Form 3	290	26762	79.8	67.53	88.22	34	3195	9.5	6.91	12.99
Form 4	263	24663	73.3	64.21	80.72	49	4742	14.1	10.81	18.15
Form 5	173	23778	66.7	54.85	76.79	35	4789	13.4	8.97	19.65
School session										
Morning session	1176	130347	77.6	72.20	82.15	174	20124	12.0	9.70	14.70
Evening session	271	27864	77.7	69.68	84.11	46	4669	13.0	10.08	16.67
Morning and evening session	365	43916	69.4	58.53	78.41	53	6983	11.0	7.47	16.00
BMI-for-age status (BAZ)										
Thinness (<-2sd)	131	13762	79.2	68.06	87.16	24	2636	15.2	8.45	25.72
Normal (≥-2sd - ≤+1sd)	1139	127084	76.5	70.05	81.92	158	18137	10.9	8.85	13.39
Overweight (>+1sd - ≤+2sd)	271	30702	70.3	60.11	78.79	47	5273	12.1	8.25	17.32
Obese (>+2sd)	275	31106	76.8	70.58	82.07	44	5670	14.0	9.86	19.51
Height-for-age status (HAZ)										
Stunting (<-2sd)	125	13386	68.0	51.51	80.92	18	1893	9.6	5.51	16.25
Normal (≥-2sd)	1692	189356	76.3	70.74	81.06	256	29973	12.1	10.07	14.41

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

Socio-demographic Characteristics	Source of food for dinner									
	Hostel					Others				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	238	25047	9.3	4.33	19.03	72	8267	3.1	2.21	4.30
Locality of school										
Urban	82	9039	6.5	2.41	16.39	28	3864	2.8	1.75	4.39
Rural	156	16007	12.4	4.35	30.62	44	4403	3.4	2.11	5.48
Sex										
Boys	82	8660	6.4	3.26	12.26	40	5029	3.7	2.17	6.33
Girls	156	16387	12.3	4.95	27.48	32	3238	2.4	1.52	3.86
Ethnicity										
Malay	201	21313	12.3	5.39	25.75	43	4591	2.7	1.80	3.91
Chinese	4	422	0.6	0.20	1.53	19	2733	3.6	2.19	5.99
Indian	5	485	4.2	1.39	12.01	3	291	2.5	0.82	7.52
Bumiputera Sabah										
Bumiputera Sarawak	1	79	9.4	0.93	53.58					
Others	27	2748	38.7	6.13	85.94	7	652	9.2	5.69	14.49
School level										
Primary school	14	1565	1.7	0.63	4.25	33	4042	4.3	2.76	6.54
Secondary school	224	23481	13.6	6.36	26.61	39	4225	2.4	1.61	3.69
Class										
Standard 4	10	935	3.0	1.94	4.61	18	1642	5.3	3.37	8.15
Standard 5	1	94	0.3	0.05	1.95	12	1371	4.4	2.56	7.38
Standard 6	3	537	1.7	0.23	11.24	3	1029	3.2	0.59	15.39
Form 1	52	5750	15.5	6.64	32.15	9	1019	2.7	1.42	5.26
Form 2	52	5087	15.3	7.56	28.52	10	939	2.8	1.41	5.56
Form 3	35	3228	9.6	2.82	28.06	4	357	1.1	0.41	2.73
Form 4	41	3707	11.0	4.21	25.84	6	550	1.6	0.75	3.51
Form 5	44	5710	16.0	7.05	32.44	10	1360	3.8	1.75	8.12
School session										
Morning session	124	13166	7.8	3.43	16.92	40	4412	2.6	1.64	4.17
Evening session	19	1815	5.1	1.43	16.42	12	1506	4.2	2.14	8.07
Morning and evening session	95	10065	15.9	7.04	32.07	20	2350	3.7	2.31	5.92
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	577	3.3	1.29	8.30	4	405	2.3	0.95	5.57
Normal (≥-2sd - ≤+1sd)	150	15596	9.4	4.26	19.43	45	5314	3.2	2.18	4.68
Overweight (>+1sd - ≤+2sd)	59	6449	14.8	6.79	29.16	12	1255	2.9	1.48	5.51
Obese (>+2sd)	23	2424	6.0	2.50	13.64	11	1293	3.2	1.69	5.96
Height-for-age status (HAZ)										
Stunting (<-2sd)	36	3663	18.6	8.11	37.19	7	749	3.8	1.51	9.28
Normal (≥-2sd)	202	21383	8.6	3.90	17.95	65	7518	3.0	2.19	4.18

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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
Perak	97	10822	9.9	7.53	12.92	503	55496	50.8	45.05	56.51
Locality of school										
Urban	42	5105	11.2	7.40	16.54	173	20729	45.4	39.47	51.43
Rural	55	5717	9.0	6.33	12.61	330	34767	54.7	47.22	61.92
Sex										
Boys	50	5632	11.6	9.10	14.62	214	23074	47.4	39.65	55.34
Girls	47	5190	8.6	5.66	12.75	289	32422	53.5	47.70	59.18
Ethnicity										
Malay	84	9235	10.1	7.39	13.67	436	48131	52.7	47.02	58.22
Chinese	7	920	9.4	5.69	15.08	32	4102	41.8	30.81	53.73
Indian	3	360	9.1	2.82	25.61	11	1125	28.4	11.52	54.64
Bumiputera Sabah						3	277	100.0	100.00	100.00
Bumiputera Sarawak						4	333	100.0	0.00	100.00
Others	3	307	8.8	6.64	11.69	17	1528	44.0	22.59	67.99
School level										
Primary school	35	4358	11.3	7.58	16.40	177	21464	55.5	44.68	65.74
Secondary school	62	6463	9.2	6.31	13.11	326	34032	48.2	42.42	54.08
Class										
Standard 4	18	1777	12.0	6.93	20.04	77	7475	50.6	30.74	70.19
Standard 5	8	845	7.2	5.72	8.99	64	6986	59.4	49.35	68.75
Standard 6	9	1736	14.3	8.62	22.72	36	7003	57.6	49.14	65.61
Form 1	15	1630	11.7	7.82	17.12	65	7230	51.8	40.12	63.34
Form 2	12	1152	8.0	4.14	14.93	78	7548	52.5	41.15	63.58
Form 3	9	823	6.1	2.64	13.30	78	7380	54.3	44.71	63.66
Form 4	16	1503	11.7	6.48	20.17	55	5049	39.3	33.45	45.44
Form 5	10	1355	8.6	3.78	18.33	50	6824	43.2	31.64	55.55
School session										
Morning session	53	5879	8.9	6.21	12.73	315	34333	52.2	45.71	58.71
Evening session	24	2415	17.9	12.35	25.32	48	4923	36.6	31.41	42.02
Morning and evening session	20	2527	8.5	5.61	12.73	138	15915	53.6	45.10	61.96
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	802	11.1	5.05	22.55	38	3918	54.0	36.05	71.03
Normal (≥-2sd - ≤+1sd)	61	6906	10.7	7.47	15.13	300	33295	51.7	45.94	57.33
Overweight (>+1sd - ≤+2sd)	11	1128	5.7	3.14	10.07	95	10361	52.2	43.23	61.03
Obese (>+2sd)	17	1985	11.2	7.06	17.34	70	7922	44.7	32.64	57.47
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	782	7.6	3.62	15.41	48	5152	50.4	38.35	62.36
Normal (≥-2sd)	89	10040	10.1	7.70	13.23	455	50344	50.8	44.96	56.68

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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
Perak	111	12007	11.0	8.67	13.83	182	19636	18.0	14.08	22.66
Locality of school										
Urban	47	5562	12.2	8.74	16.71	82	9262	20.3	14.10	28.27
Rural	64	6445	10.1	7.47	13.61	100	10374	16.3	12.05	21.72
Sex										
Boys	57	6111	12.6	9.41	16.58	73	7805	16.0	11.86	21.34
Girls	54	5896	9.7	7.24	12.94	109	11831	19.5	14.95	25.06
Ethnicity										
Malay	96	10365	11.3	8.73	14.61	149	16206	17.7	13.95	22.26
Chinese	9	1017	10.4	6.91	15.29	18	1872	19.1	6.33	45.15
Indian	4	377	9.5	2.32	31.72	12	1267	31.9	20.43	46.19
Bumiputera Sabah										
Bumiputera Sarawak										
Others	2	247	7.1	2.06	21.79	3	291	8.4	4.23	15.93
School level										
Primary school	45	5236	13.5	9.95	18.13	35	3954	10.2	6.53	15.64
Secondary school	66	6771	9.6	7.00	13.02	147	15682	22.2	18.14	26.92
Class										
Standard 4	24	2258	15.3	11.45	20.07	18	1784	12.1	4.06	30.77
Standard 5	15	1765	15.0	6.78	30.02	11	1162	9.9	4.80	19.27
Standard 6	6	1212	10.0	8.10	12.21	6	1008	8.3	3.64	17.79
Form 1	12	1330	9.5	5.59	15.79	21	2380	17.1	11.47	24.63
Form 2	22	2122	14.8	8.72	23.88	23	2215	15.4	10.09	22.81
Form 3	9	783	5.8	2.72	11.82	33	3119	23.0	15.32	32.95
Form 4	14	1311	10.2	6.72	15.19	37	3438	26.7	17.09	39.27
Form 5	9	1225	7.8	2.80	19.67	33	4530	28.7	19.89	39.44
School session										
Morning session	67	7423	11.3	8.16	15.43	116	12454	19.0	13.72	25.58
Evening session	20	1966	14.6	10.01	20.81	25	2612	19.4	13.53	27.01
Morning and evening session	23	2528	8.5	5.07	13.98	41	4569	15.4	11.28	20.66
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	1132	15.6	6.58	32.73	7	682	9.4	3.84	21.27
Normal (≥-2sd - ≤+1sd)	61	6693	10.4	8.18	13.09	93	10040	15.6	11.81	20.27
Overweight (>+1sd - ≤+2sd)	16	1747	8.8	4.77	15.68	42	4487	22.6	16.29	30.48
Obese (>+2sd)	24	2434	13.7	8.39	21.70	40	4427	25.0	17.38	34.54
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	871	8.5	5.15	13.74	18	1790	17.5	11.03	26.62
Normal (≥-2sd)	104	11136	11.2	8.88	14.15	164	17846	18.0	13.88	23.06

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

Socio-demographic Characteristics	Reasons for skipping dinner									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	23	2450	2.2	1.35	3.71	80	8857	8.1	5.91	11.03
Locality of school										
Urban	10	1151	2.5	1.15	5.43	31	3868	8.5	4.47	15.47
Rural	13	1299	2.0	1.07	3.87	49	4989	7.8	5.91	10.34
Sex										
Boys	14	1458	3.0	1.75	5.10	38	4566	9.4	5.38	15.87
Girls	9	992	1.6	0.84	3.15	42	4291	7.1	5.27	9.45
Ethnicity										
Malay	16	1774	1.9	1.12	3.36	55	5703	6.2	4.54	8.51
Chinese	1	86	0.9	0.12	5.92	12	1810	18.5	10.23	31.01
Indian	4	356	9.0	5.13	15.25	5	481	12.1	2.66	41.00
Bumiputera Sabah										
Bumiputera Sarawak										
Others	2	234	6.7	1.96	20.75	8	863	24.9	14.65	38.99
School level										
Primary school	10	1042	2.7	1.42	5.05	19	2652	6.9	3.38	13.39
Secondary school	13	1408	2.0	0.96	4.11	61	6205	8.8	6.44	11.90
Class										
Standard 4	8	739	5.0	3.48	7.12	8	754	5.1	2.87	8.89
Standard 5	1	125	1.1	0.16	6.67	7	875	7.4	4.16	12.95
Standard 6	1	178	1.5	0.26	7.78	4	1024	8.4	2.48	24.89
Form 1	4	439	3.1	1.05	9.01	9	941	6.7	2.67	16.01
Form 2	2	203	1.4	0.37	5.21	12	1140	7.9	4.72	13.01
Form 3	2	169	1.2	0.31	4.79	14	1307	9.6	6.08	14.91
Form 4	2	189	1.5	0.42	5.07	15	1363	10.6	5.43	19.68
Form 5	3	409	2.6	0.65	9.68	11	1454	9.2	4.77	17.04
School session										
Morning session	14	1392	2.1	1.30	3.43	41	4228	6.4	4.52	9.09
Evening session	4	442	3.3	1.11	9.28	11	1110	8.2	4.88	13.57
Morning and evening session	5	615	2.1	0.65	6.44	28	3519	11.9	7.41	18.45
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	301	4.1	1.49	10.98	4	415	5.7	1.77	16.94
Normal (≥-2sd - ≤+1sd)	14	1590	2.5	1.34	4.50	53	5930	9.2	6.82	12.31
Overweight (>+1sd - ≤+2sd)	3	260	1.3	0.27	6.15	17	1866	9.4	5.06	16.82
Obese (>+2sd)	3	299	1.7	0.35	7.70	6	645	3.6	1.38	9.30
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	351	3.4	1.16	9.76	12	1282	12.5	6.34	23.29
Normal (≥-2sd)	20	2099	2.1	1.18	3.79	68	7575	7.6	5.40	10.73

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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	
Perak	1627	186435	66.4	61.26	71.23	808	85779	30.6	25.98	35.56
Locality of school										
Urban	791	98397	68.4	59.47	76.16	363	40587	28.2	21.06	36.68
Rural	836	88038	64.3	59.75	68.70	445	45192	33.0	28.74	37.63
Sex										
Boys	817	93646	66.6	61.05	71.69	399	42041	29.9	24.64	35.73
Girls	810	92789	66.3	60.08	71.96	409	43737	31.2	26.11	36.87
Ethnicity										
Malay	1069	119599	65.2	60.21	69.89	566	61037	33.3	28.66	38.24
Chinese	436	55036	71.5	58.14	81.93	161	16898	22.0	14.32	32.14
Indian	65	6531	54.9	47.94	61.61	50	5069	42.6	34.44	51.16
Bumiputera Sabah	3	264	60.9	31.02	84.39	2	169	39.1	15.61	68.98
Bumiputera Sarawak	4	360	42.8	21.81	66.68	6	482	57.2	33.32	78.19
Others	50	4645	65.5	55.62	74.13	23	2123	29.9	24.01	36.59
School level										
Primary school	550	74398	74.9	66.69	81.64	195	22599	22.8	16.45	30.58
Secondary school	1077	112036	61.8	57.66	65.75	613	63180	34.8	30.68	39.25
Class										
Standard 4	215	21767	66.0	57.72	73.45	99	9568	29.0	21.19	38.35
Standard 5	204	24877	75.9	63.99	84.83	67	7358	22.5	13.95	34.09
Standard 6	131	27754	82.6	70.72	90.32	29	5673	16.9	9.26	28.79
Form 1	225	24621	64.9	56.48	72.43	113	12574	33.1	25.52	41.75
Form 2	206	19628	55.4	47.54	62.91	146	13941	39.3	31.63	47.56
Form 3	232	21556	59.8	51.66	67.51	143	13120	36.4	30.08	43.28
Form 4	242	22848	64.9	56.44	72.46	121	11210	31.8	24.81	39.78
Form 5	172	23384	63.8	54.51	72.10	90	12335	33.6	25.93	42.32
School session										
Morning session	1040	117845	67.0	61.38	72.17	495	52727	30.0	25.25	35.18
Evening session	206	21368	57.2	48.55	65.48	137	13956	37.4	29.74	45.69
Morning and evening session	376	46636	69.9	63.17	75.86	175	18977	28.4	22.42	35.34
BMI-for-age status (BAZ)										
Thinness (<-2sd)	115	12193	67.7	60.24	74.41	51	5232	29.1	21.61	37.85
Normal (≥-2sd - ≤+1sd)	1022	116733	67.5	62.25	72.39	489	51408	29.7	25.11	34.82
Overweight (>+1sd - ≤+2sd)	254	29297	62.4	54.98	69.30	145	15865	33.8	27.05	41.27
Obese (>+2sd)	236	28212	66.2	58.43	73.21	121	13035	30.6	24.41	37.57
Height-for-age status (HAZ)										
Stunting (<-2sd)	118	12486	59.5	53.67	65.13	77	8106	38.6	32.94	44.69
Normal (≥-2sd)	1509	173949	67.0	61.44	72.09	731	77673	29.9	25.08	35.23

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	
Perak	85	8445	3.0	1.92	4.68
Locality of school					
Urban	47	4862	3.4	1.87	6.04
Rural	38	3582	2.6	1.33	5.08
Sex					
Boys	48	4968	3.5	2.28	5.43
Girls	37	3477	2.5	1.17	5.21
Ethnicity					
Malay	27	2781	1.5	1.03	2.23
Chinese	52	5034	6.5	3.66	11.43
Indian	3	303	2.5	0.96	6.53
Bumiputera Sabah					
Bumiputera Sarawak					
Others	3	328	4.6	2.10	9.85
School level					
Primary school	23	2337	2.4	1.09	5.02
Secondary school	62	6108	3.4	1.99	5.65
Class					
Standard 4	17	1631	4.9	3.28	7.41
Standard 5	5	532	1.6	0.35	7.13
Standard 6	1	173	0.5	0.06	4.09
Form 1	7	757	2.0	0.95	4.13
Form 2	20	1890	5.3	2.44	11.24
Form 3	15	1345	3.7	1.37	9.77
Form 4	13	1164	3.3	1.64	6.56
Form 5	7	953	2.6	1.22	5.46
School session					
Morning session	55	5317	3.0	1.75	5.16
Evening session	20	2016	5.4	2.92	9.77
Morning and evening session	10	1111	1.7	0.71	3.86
BMI-for-age status (BAZ)					
Thinness (<-2sd)	5	577	3.2	0.92	10.52
Normal (≥-2sd - ≤+1sd)	47	4727	2.7	1.61	4.60
Overweight (>+1sd - ≤+2sd)	19	1782	3.8	2.07	6.87
Obese (>+2sd)	14	1359	3.2	1.85	5.44
Height-for-age status (HAZ)					
Stunting (<-2sd)	4	382	1.8	0.66	4.93
Normal (≥-2sd)	81	8063	3.1	1.95	4.91

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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	
Perak	425	50142	18.6	13.60	24.90	1766	195883	72.6	66.51	78.02
Locality of school										
Urban	216	28782	20.9	14.06	29.93	850	99534	72.3	63.99	79.32
Rural	209	21361	16.2	10.02	25.07	916	96350	73.0	63.60	80.67
Sex										
Boys	201	23830	17.8	12.90	24.04	878	97115	72.5	65.56	78.56
Girls	224	26313	19.4	13.56	26.92	888	98769	72.7	66.19	78.42
Ethnicity										
Malay	216	24229	13.5	9.97	18.07	1284	141879	79.1	75.16	82.60
Chinese	159	21013	29.6	18.83	43.23	372	43419	61.2	49.43	71.72
Indian	33	3366	29.5	22.50	37.65	75	7531	66.0	58.05	73.18
Bumiputera Sabah	2	165	38.2	15.37	67.85	3	267	61.8	32.15	84.63
Bumiputera Sarawak	1	85	10.0	3.25	27.07	6	495	58.8	27.43	84.30
Others	14	1285	19.2	7.26	41.93	26	2293	34.3	9.53	72.10
School level										
Primary school	207	27619	28.7	19.31	40.36	492	63895	66.4	53.48	77.23
Secondary school	218	22524	13.0	10.57	15.85	1274	131988	76.1	70.96	80.59
Class										
Standard 4	100	9916	31.8	21.63	44.09	190	19170	61.5	47.56	73.78
Standard 5	74	9337	29.2	18.17	43.33	180	20885	65.3	48.72	78.81
Standard 6	33	8366	25.3	12.48	44.55	122	23840	72.1	53.11	85.45
Form 1	53	5733	15.5	11.07	21.16	244	26946	72.6	65.72	78.60
Form 2	45	4332	13.2	9.38	18.30	261	24819	75.7	67.71	82.24
Form 3	42	3831	11.1	6.89	17.50	290	26938	78.3	70.01	84.75
Form 4	47	4436	13.1	9.33	17.98	285	26743	78.7	72.90	83.59
Form 5	31	4191	11.9	8.54	16.41	194	26542	75.5	64.42	83.99
School session										
Morning session	279	32549	19.3	13.35	26.97	1129	124532	73.7	65.77	80.31
Evening session	67	7162	20.4	13.82	29.13	241	24592	70.1	61.19	77.78
Morning and evening session	78	10227	15.8	10.48	23.02	391	46260	71.3	60.36	80.20
BMI-for-age status (BAZ)										
Thinness (<-2sd)	29	3172	18.2	10.74	29.16	127	13252	76.0	67.26	83.07
Normal (≥-2sd - ≤+1sd)	252	29483	17.7	12.66	24.30	1091	121128	72.9	66.22	78.68
Overweight (>+1sd - ≤+2sd)	68	8045	18.0	12.21	25.64	294	32908	73.5	65.50	80.19
Obese (>+2sd)	76	9442	23.0	16.61	30.91	252	28358	69.0	60.50	76.47
Height-for-age status (HAZ)										
Stunting (<-2sd)	24	2548	12.4	8.06	18.71	139	14786	72.2	56.57	83.76
Normal (≥-2sd)	401	47594	19.1	13.96	25.58	1627	181097	72.7	66.50	78.09

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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
Perak	88	9596	3.6	2.57	4.91	85	8749	3.2	1.20	8.50
Locality of school										
Urban	41	4954	3.6	2.30	5.59	12	1327	1.0	0.32	2.90
Rural	47	4642	3.5	2.18	5.61	73	7422	5.6	1.88	15.63
Sex										
Boys	59	6326	4.7	3.44	6.45	35	3725	2.8	0.94	7.98
Girls	29	3270	2.4	1.48	3.91	50	5024	3.7	1.32	9.91
Ethnicity										
Malay	40	4189	2.3	1.61	3.38	56	5862	3.3	1.25	8.25
Chinese	42	4810	6.8	5.48	8.35	1	86	0.1	0.02	0.91
Indian	4	413	3.6	1.17	10.65	1	95	0.8	0.09	7.40
Bumiputera Sabah										
Bumiputera Sarawak	2	183	21.8	9.26	43.16					
Others						27	2706	40.5	5.59	88.64
School level										
Primary school	22	2749	2.9	1.56	5.17	2	171	0.2	0.02	1.38
Secondary school	66	6847	3.9	2.72	5.69	83	8578	4.9	1.91	12.21
Class										
Standard 4	11	1098	3.5	2.11	5.83	2	171	0.5	0.09	3.31
Standard 5	10	1308	4.1	2.14	7.66					
Standard 6	1	343	1.0	0.19	5.39	1	343	1.0	0.19	5.39
Form 1	16	1763	4.8	2.51	8.82	17	1852	5.0	1.96	12.15
Form 2	11	1092	3.3	1.55	6.99	20	1870	5.7	2.44	12.77
Form 3	17	1505	4.4	2.25	8.32	16	1485	4.3	0.92	17.93
Form 4	12	1136	3.3	1.52	7.19	13	1165	3.4	1.18	9.57
Form 5	10	1351	3.8	1.90	7.61	17	2205	6.3	1.40	24.04
School session										
Morning session	50	5322	3.1	2.14	4.62	35	3623	2.1	0.89	5.10
Evening session	20	2087	6.0	3.09	11.18	3	304	0.9	0.34	2.19
Morning and evening session	18	2186	3.4	2.02	5.58	47	4821	7.4	2.37	20.99
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	707	4.1	1.78	9.00	1	95	0.5	0.07	4.12
Normal (≥-2sd - ≤+1sd)	55	5652	3.4	2.39	4.82	61	6198	3.7	1.32	10.07
Overweight (>+1sd - ≤+2sd)	12	1487	3.3	1.57	6.89	18	1859	4.2	1.65	10.06
Obese (>+2sd)	14	1749	4.3	2.54	7.06	5	596	1.5	0.26	7.72
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	804	3.9	1.77	8.45	22	2269	11.1	2.89	34.25
Normal (≥-2sd)	80	8792	3.5	2.50	4.95	63	6480	2.6	1.01	6.51

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
Perak	49	5304	2.0	1.23	3.13
Locality of school					
Urban	25	3054	2.2	1.11	4.39
Rural	24	2250	1.7	0.96	3.01
Sex					
Boys	28	2885	2.2	1.24	3.71
Girls	21	2420	1.8	1.01	3.12
Ethnicity					
Malay	27	3148	1.8	0.95	3.22
Chinese	16	1673	2.4	0.93	5.81
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	1	79	9.4	0.93	53.58
Others	5	404	6.0	1.58	20.54
School level					
Primary school	17	1815	1.9	0.77	4.52
Secondary school	32	3489	2.0	1.17	3.44
Class					
Standard 4	9	814	2.6	1.16	5.76
Standard 5	5	466	1.5	0.43	4.84
Standard 6	3	535	1.6	0.22	10.95
Form 1	7	805	2.2	0.90	5.14
Form 2	7	672	2.0	1.14	3.67
Form 3	7	658	1.9	0.80	4.51
Form 4	5	488	1.4	0.62	3.28
Form 5	6	866	2.5	1.13	5.26
School session					
Morning session	28	2995	1.8	1.00	3.14
Evening session	9	915	2.6	1.25	5.37
Morning and evening session	12	1394	2.1	0.80	5.61
BMI-for-age status (BAZ)					
Thinness (<-2sd)	2	199	1.1	0.25	5.11
Normal ($\geq -2sd$ - $\leq +1sd$)	35	3698	2.2	1.41	3.51
Overweight ($> +1sd$ - $\leq +2sd$)	4	481	1.1	0.39	2.93
Obese ($> +2sd$)	8	926	2.3	0.96	5.20
Height-for-age status (HAZ)					
Stunting (<-2sd)	1	85	0.4	0.05	3.19
Normal ($\geq -2sd$)	48	5220	2.1	1.30	3.36

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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	
Perak	680	74988	26.7	23.91	29.67	1404	157792	56.2	52.20	60.06
Locality of school										
Urban	312	37172	25.8	22.31	29.55	641	78040	54.1	48.31	59.76
Rural	368	37816	27.7	23.44	32.34	763	79752	58.4	53.46	63.10
Sex										
Boys	360	39719	28.2	25.55	31.01	684	76650	54.4	50.10	58.68
Girls	320	35269	25.2	21.15	29.68	720	81142	57.9	53.00	62.69
Ethnicity										
Malay	473	51398	28.0	25.01	31.13	977	108501	59.0	55.51	62.47
Chinese	141	17257	22.4	17.08	28.92	304	37279	48.5	42.81	54.22
Indian	41	4146	34.8	26.22	44.57	63	6390	53.7	45.11	62.07
Bumiputera Sabah	1	108	24.9	1.57	87.38	4	325	75.1	12.62	98.43
Bumiputera Sarawak	1	85	10.0	3.25	27.07	7	590	70.0	47.33	85.87
Others	23	1995	28.1	24.82	31.66	49	4707	66.3	62.06	70.35
School level										
Primary school	209	26743	26.9	24.43	29.48	472	60544	60.9	56.35	65.19
Secondary school	471	48245	26.6	22.57	31.04	932	97248	53.6	48.72	58.41
Class										
Standard 4	92	9098	27.5	22.52	33.01	210	20673	62.4	55.74	68.57
Standard 5	77	8758	26.7	21.35	32.94	160	19165	58.5	51.35	65.36
Standard 6	40	8887	26.4	19.57	34.71	102	20707	61.6	54.53	68.26
Form 1	120	13193	34.8	29.30	40.83	182	20163	53.3	46.32	60.06
Form 2	98	9269	26.1	21.53	31.35	214	20511	57.8	50.28	65.06
Form 3	122	11442	31.6	22.95	41.72	181	16719	46.2	38.17	54.35
Form 4	90	8619	24.5	18.73	31.29	194	17945	51.0	42.14	59.70
Form 5	41	5721	15.6	11.88	20.22	161	21909	59.7	51.54	67.44
School session										
Morning session	400	43566	24.7	21.02	28.85	884	99378	56.4	51.94	60.77
Evening session	113	11870	31.8	27.70	36.15	205	21001	56.2	49.36	62.86
Morning and evening session	163	19078	28.6	24.02	33.70	313	37183	55.8	49.00	62.33
BMI-for-age status (BAZ)										
Thinness (<-2sd)	47	4794	26.6	19.97	34.54	101	10740	59.7	52.04	66.83
Normal (≥-2sd - ≤+1sd)	441	48382	28.0	24.39	31.89	850	95127	55.0	51.44	58.56
Overweight (>+1sd - ≤+2sd)	99	11197	23.7	19.47	28.53	239	26881	56.9	51.33	62.31
Obese (>+2sd)	93	10615	24.9	21.22	29.06	212	24806	58.3	50.12	65.98
Height-for-age status (HAZ)										
Stunting (<-2sd)	46	4684	22.3	14.89	32.09	130	13872	66.1	57.85	73.55
Normal (≥-2sd)	634	70304	27.0	24.30	29.98	1274	143920	55.4	51.39	59.27

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

Characteristics	Afternoon tea frequency per week				
	Count	Did not take afternoon tea			
		Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
Perak	439	48146	17.1	12.99	22.27
Locality of school					
Urban	252	29056	20.1	14.16	27.82
Rural	187	19091	14.0	9.40	20.27
Sex					
Boys	222	24469	17.4	12.85	23.07
Girls	217	23677	16.9	12.57	22.34
Ethnicity					
Malay	216	23883	13.0	10.47	16.02
Chinese	203	22337	29.1	20.01	40.13
Indian	14	1365	11.5	7.15	17.88
Bumiputera Sabah					
Bumiputera Sarawak	2	168	19.9	3.46	63.32
Others	4	394	5.6	3.29	9.25
School level					
Primary school	89	12201	12.3	9.37	15.89
Secondary school	350	35945	19.8	14.20	26.94
Class					
Standard 4	31	3372	10.2	6.70	15.16
Standard 5	39	4822	14.7	9.51	22.10
Standard 6	19	4007	11.9	10.27	13.81
Form 1	42	4508	11.9	7.19	19.08
Form 2	60	5678	16.0	9.47	25.79
Form 3	89	8061	22.3	15.31	31.18
Form 4	92	8657	24.6	17.70	33.05
Form 5	67	9041	24.7	16.94	34.43
School session					
Morning session	309	33250	18.9	13.57	25.63
Evening session	45	4482	12.0	7.49	18.66
Morning and evening session	85	10415	15.6	11.33	21.14
BMI-for-age status (BAZ)					
Thinness (<-2sd)	23	2469	13.7	8.00	22.52
Normal (≥-2sd - ≤+1sd)	267	29364	17.0	13.10	21.73
Overweight (>+1sd - ≤+2sd)	83	9162	19.4	14.29	25.78
Obese (>+2sd)	66	7152	16.8	11.19	24.44
Height-for-age status (HAZ)					
Stunting (<-2sd)	23	2418	11.5	7.39	17.55
Normal (≥-2sd)	416	45729	17.6	13.34	22.83

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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	
Perak	1280	142598	62.1	56.50	67.39	282	31828	13.9	10.18	18.60
Locality of school										
Urban	587	69888	61.4	55.40	67.12	146	17856	15.7	11.05	21.80
Rural	693	72710	62.8	53.27	71.36	136	13972	12.1	7.10	19.76
Sex										
Boys	634	69861	61.0	54.37	67.25	167	18439	16.1	11.88	21.45
Girls	646	72737	63.2	55.29	70.44	115	13389	11.6	7.91	16.78
Ethnicity										
Malay	913	101669	63.9	56.89	70.43	219	23955	15.1	10.47	21.19
Chinese	257	30320	57.4	48.19	66.10	38	5498	10.4	6.97	15.26
Indian	73	7296	71.3	62.92	78.47	15	1577	15.4	9.45	24.14
Bumiputera Sabah	3	244	56.4	18.55	87.99					
Bumiputera Sarawak	5	416	61.7	39.07	80.21	1	75	11.1	5.40	21.43
Others	29	2654	41.1	15.13	73.25	9	724	11.2	1.98	44.12
School level										
Primary school	432	54743	64.3	57.47	70.67	152	18346	21.6	17.13	26.78
Secondary school	848	87855	60.8	52.90	68.13	130	13482	9.3	6.47	13.27
Class										
Standard 4	181	18145	62.0	54.39	69.10	76	7086	24.2	14.18	38.21
Standard 5	153	17439	64.3	52.23	74.80	53	6191	22.8	14.62	33.82
Standard 6	98	19159	66.7	47.27	81.79	23	5070	17.7	12.35	24.62
Form 1	169	18734	56.5	46.46	66.04	53	5745	17.3	9.83	28.72
Form 2	173	16443	55.6	47.48	63.36	44	4251	14.4	9.06	22.03
Form 3	210	19572	69.9	57.17	80.20	8	741	2.6	0.62	10.59
Form 4	180	16895	63.8	52.03	74.19	16	1545	5.8	3.17	10.52
Form 5	116	16210	59.3	45.08	72.06	9	1200	4.4	2.32	8.15
School session										
Morning session	835	91697	65.2	58.98	70.93	146	17077	12.1	7.77	18.48
Evening session	165	17195	52.9	43.75	61.92	82	8400	25.9	19.30	33.72
Morning and evening session	275	33091	59.3	49.35	68.57	54	6351	11.4	7.39	17.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	101	10724	69.9	59.65	78.48	27	2742	17.9	11.36	26.99
Normal (≥-2sd - ≤+1sd)	789	86976	61.5	55.25	67.31	157	18255	12.9	8.98	18.18
Overweight (>+1sd - ≤+2sd)	186	21473	57.2	48.76	65.23	53	5543	14.8	9.40	22.42
Obese (>+2sd)	202	23188	66.3	60.06	72.02	45	5288	15.1	10.67	20.99
Height-for-age status (HAZ)										
Stunting (<-2sd)	94	10041	54.9	45.25	64.25	23	2455	13.4	7.32	23.37
Normal (≥-2sd)	1186	132558	62.7	57.00	68.10	259	29373	13.9	10.34	18.43

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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	
Perak	232	25843	11.3	7.90	15.80	217	23117	10.1	4.48	21.08
Locality of school										
Urban	119	14478	12.7	8.06	19.51	63	7216	6.3	2.27	16.46
Rural	113	11365	9.8	5.70	16.38	154	15901	13.7	4.71	33.87
Sex										
Boys	133	14882	13.0	9.19	18.06	67	7300	6.4	2.86	13.60
Girls	99	10960	9.5	6.24	14.26	150	15817	13.7	5.71	29.53
Ethnicity										
Malay	104	11517	7.2	5.48	9.52	186	19650	12.4	5.17	26.74
Chinese	110	12587	23.8	15.99	33.94	3	650	1.2	0.32	4.62
Indian	10	1031	10.1	5.80	16.96	2	182	1.8	0.48	6.42
Bumiputera Sabah	2	189	43.6	12.01	81.45					
Bumiputera Sarawak	2	183	27.2	9.21	57.88					
Others	4	335	5.2	1.35	18.00	26	2635	40.8	6.43	87.40
School level										
Primary school	52	7253	8.5	5.49	13.00	12	1785	2.1	1.05	4.16
Secondary school	180	18590	12.9	8.18	19.64	205	21331	14.8	6.59	29.83
Class										
Standard 4	28	2872	9.8	6.74	14.08	5	493	1.7	0.49	5.58
Standard 5	12	1426	5.3	2.89	9.37	4	592	2.2	0.75	6.15
Standard 6	12	2955	10.3	5.04	19.87	3	700	2.4	0.84	6.89
Form 1	31	3438	10.4	6.31	16.57	42	4688	14.1	5.26	32.83
Form 2	33	3061	10.3	5.21	19.47	53	5164	17.4	8.34	32.95
Form 3	45	4160	14.9	9.90	21.72	33	3061	10.9	2.94	33.22
Form 4	41	3833	14.5	7.52	26.08	40	3631	13.7	5.63	29.77
Form 5	30	4098	15.0	8.58	24.87	37	4789	17.5	7.27	36.49
School session										
Morning session	146	16272	11.6	7.61	17.21	111	12136	8.6	3.75	18.61
Evening session	45	4549	14.0	8.22	22.85	11	1013	3.1	0.45	18.51
Morning and evening session	40	4932	8.8	6.40	12.10	95	9967	17.9	7.85	35.71
BMI-for-age status (BAZ)										
Thinness (<-2sd)	12	1260	8.2	4.73	13.88	4	393	2.6	0.72	8.68
Normal (≥-2sd - ≤+1sd)	156	17083	12.1	8.43	16.99	137	14529	10.3	4.49	21.78
Overweight (>+1sd - ≤+2sd)	36	3861	10.3	5.94	17.22	52	5702	15.2	6.88	30.26
Obese (>+2sd)	28	3638	10.4	6.95	15.28	24	2493	7.1	2.87	16.60
Height-for-age status (HAZ)										
Stunting (<-2sd)	17	1791	9.8	5.47	16.94	34	3465	19.0	7.53	40.18
Normal (≥-2sd)	215	24052	11.4	7.93	16.06	183	19652	9.3	4.08	19.81

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
Perak	47	6247	2.7	1.32	5.54
Locality of school					
Urban	29	4346	3.8	1.45	9.71
Rural	18	1901	1.6	0.99	2.71
Sex					
Boys	28	4035	3.5	1.41	8.56
Girls	19	2212	1.9	1.07	3.41
Ethnicity					
Malay	21	2219	1.4	0.80	2.43
Chinese	24	3780	7.2	3.46	14.23
Indian	1	144	1.4	0.14	12.84
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	104	1.6	0.13	16.93
School level					
Primary school	16	2953	3.5	0.85	13.16
Secondary school	31	3294	2.3	1.38	3.75
Class					
Standard 4	6	660	2.3	0.89	5.58
Standard 5	7	1472	5.4	0.85	27.73
Standard 6	3	821	2.9	0.70	10.95
Form 1	5	551	1.7	0.62	4.36
Form 2	7	676	2.3	1.08	4.78
Form 3	5	455	1.6	0.71	3.68
Form 4	6	558	2.1	0.72	6.04
Form 5	8	1055	3.9	1.87	7.78
School session					
Morning session	26	3472	2.5	1.06	5.67
Evening session	11	1329	4.1	1.96	8.33
Morning and evening session	10	1447	2.6	1.08	6.11
BMI-for-age status (BAZ)					
Thinness (<-2sd)	2	223	1.5	0.39	5.22
Normal (≥-2sd - ≤+1sd)	35	4693	3.3	1.68	6.45
Overweight (>+1sd - ≤+2sd)	6	966	2.6	0.60	10.33
Obese (>+2sd)	4	366	1.0	0.28	3.84
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	528	2.9	1.25	6.53
Normal (≥-2sd)	42	5720	2.7	1.24	5.79

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

Characteristics	Heavy meal after dinner frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	132	14367	5.1	4.21	6.22	1756	193877	69.1	63.95	73.77
Locality of school										
Urban	56	6750	4.7	3.49	6.28	799	95020	66.1	58.05	73.24
Rural	76	7617	5.6	4.32	7.14	957	98857	72.3	66.98	76.97
Sex										
Boys	73	8302	5.9	4.25	8.15	908	100003	71.1	65.72	76.04
Girls	59	6065	4.3	3.16	5.90	848	93874	67.0	61.27	72.27
Ethnicity										
Malay	100	10611	5.8	4.71	7.09	1247	137123	74.8	72.20	77.23
Chinese	26	3190	4.1	2.45	6.92	349	41302	53.7	49.68	57.60
Indian	3	314	2.6	1.21	5.55	80	8190	68.3	58.64	76.52
Bumiputera Sabah						5	433	100.0	0.00	100.00
Bumiputera Sarawak						10	842	100.0	100.00	100.00
Others	3	252	3.6	2.23	5.62	65	5987	84.4	66.72	93.56
School level										
Primary school	45	5487	5.5	4.29	7.09	556	69374	69.8	60.29	77.94
Secondary school	87	8880	4.9	3.73	6.41	1200	124503	68.7	62.54	74.19
Class										
Standard 4	24	2299	7.0	4.99	9.66	252	24615	74.7	62.68	83.81
Standard 5	15	1602	4.9	2.84	8.29	195	22231	67.9	51.13	80.99
Standard 6	6	1586	4.7	2.06	10.45	109	22527	67.0	59.14	74.09
Form 1	18	1914	5.0	3.41	7.35	241	26564	69.8	59.61	78.35
Form 2	17	1589	4.5	1.91	10.34	255	24252	69.0	62.07	75.13
Form 3	21	1965	5.4	3.55	8.20	266	24556	67.8	61.99	73.10
Form 4	19	1729	4.9	2.72	8.69	255	23985	68.1	58.69	76.23
Form 5	12	1684	4.6	2.59	8.02	183	25146	68.6	58.96	76.82
School session										
Morning session	77	8263	4.7	3.69	5.97	1086	119607	68.0	62.41	73.20
Evening session	20	2044	5.5	3.79	7.80	261	26545	70.9	60.44	79.51
Morning and evening session	35	4060	6.1	4.16	8.83	406	47288	70.9	65.42	75.78
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	956	5.3	2.96	9.47	121	12800	71.6	62.43	79.27
Normal (≥-2sd - ≤+1sd)	90	9564	5.5	4.46	6.87	1083	119324	69.1	63.96	73.87
Overweight (>+1sd - ≤+2sd)	16	1667	3.5	2.07	5.96	290	31973	67.7	61.68	73.15
Obese (>+2sd)	16	2180	5.1	2.69	9.48	260	29541	69.2	61.65	75.78
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	1198	5.7	3.12	10.33	142	15149	72.7	66.63	77.97
Normal (≥-2sd)	120	13169	5.1	4.07	6.30	1614	178727	68.8	63.50	73.64

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

Characteristics	Heavy meal after dinner frequency per week				
	Did not take heavy meal after dinner				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
Perak	632	72417	25.8	20.90	31.40
Locality of school					
Urban	346	42067	29.2	21.87	37.91
Rural	286	30351	22.2	17.23	28.08
Sex					
Boys	282	32249	22.9	17.91	28.90
Girls	350	40168	28.7	23.11	34.96
Ethnicity					
Malay	314	35588	19.4	16.64	22.52
Chinese	274	32476	42.2	36.69	47.90
Indian	36	3496	29.1	20.54	39.52
Bumiputera Sabah					
Bumiputera Sarawak					
Others	8	857	12.1	3.78	32.44
School level					
Primary school	167	24465	24.6	17.07	34.17
Secondary school	465	47953	26.4	20.36	33.58
Class					
Standard 4	55	6049	18.4	9.67	32.05
Standard 5	66	8928	27.3	13.81	46.69
Standard 6	46	9487	28.2	21.26	36.44
Form 1	87	9583	25.2	16.35	36.69
Form 2	97	9320	26.5	19.13	35.49
Form 3	105	9700	26.8	21.26	33.13
Form 4	102	9508	27.0	19.31	36.37
Form 5	74	9842	26.8	17.70	38.49
School session					
Morning session	426	47915	27.3	21.78	33.52
Evening session	83	8859	23.7	14.54	36.08
Morning and evening session	120	15374	23.0	18.40	28.45
BMI-for-age status (BAZ)					
Thinness (<-2sd)	39	4122	23.1	15.97	32.10
Normal (\geq -2sd - \leq +1sd)	382	43702	25.3	20.12	31.34
Overweight (>+1sd - \leq +2sd)	115	13600	28.8	22.91	35.48
Obese (>+2sd)	96	10993	25.7	19.65	32.94
Height-for-age status (HAZ)					
Stunting (<-2sd)	44	4502	21.6	15.88	28.66
Normal (\geq -2sd)	588	67915	26.1	21.08	31.93

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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	
Perak	990	110458	54.4	49.75	59.07	602	66046	32.6	27.52	38.04
Locality of school										
Urban	451	54716	55.1	48.46	61.57	286	33326	33.6	28.72	38.77
Rural	539	55742	53.8	47.22	60.29	316	32720	31.6	23.25	41.32
Sex										
Boys	491	54968	52.2	46.76	57.65	340	37075	35.2	29.73	41.15
Girls	499	55490	56.8	51.45	62.08	262	28971	29.7	24.01	36.05
Ethnicity										
Malay	679	74646	51.7	48.42	55.06	447	49286	34.2	28.77	40.00
Chinese	242	29108	67.1	55.14	77.13	101	11425	26.3	17.75	37.17
Indian	40	4090	51.6	37.92	65.09	32	3385	42.7	31.58	54.66
Bumiputera Sabah	1	108	24.9	1.57	87.38	3	250	57.8	18.54	89.16
Bumiputera Sarawak	4	314	41.2	19.36	67.16	5	448	58.8	32.84	80.64
Others	24	2192	36.0	15.31	63.64	14	1253	20.6	8.74	41.20
School level										
Primary school	344	43690	61.5	51.17	70.93	179	21902	30.8	22.39	40.80
Secondary school	646	66768	50.6	47.40	53.88	423	44144	33.5	27.43	40.13
Class										
Standard 4	155	15407	61.7	46.99	74.58	73	6852	27.4	17.95	39.56
Standard 5	126	14565	64.2	52.25	74.59	65	7209	31.8	22.30	43.03
Standard 6	63	13719	58.7	47.40	69.18	41	7841	33.6	22.75	46.42
Form 1	135	14780	52.7	45.86	59.43	83	9228	32.9	24.56	42.48
Form 2	129	12302	49.2	41.23	57.24	78	7420	29.7	21.29	39.71
Form 3	151	13985	53.3	45.32	61.05	98	9027	34.4	26.79	42.87
Form 4	137	12824	49.9	44.25	55.50	101	9611	37.4	29.74	45.71
Form 5	94	12876	48.0	39.85	56.24	63	8857	33.0	24.97	42.19
School session										
Morning session	631	70054	55.8	49.73	61.67	382	41462	33.0	27.04	39.59
Evening session	140	14393	53.1	45.50	60.57	95	9733	35.9	30.06	42.21
Morning and evening session	217	25686	51.6	45.86	57.39	124	14740	29.6	22.55	37.86
BMI-for-age status (BAZ)										
Thinness (<-2sd)	67	7158	53.5	44.22	62.46	46	4858	36.3	28.87	44.40
Normal (≥-2sd - ≤+1sd)	619	68626	54.5	50.19	58.79	385	42367	33.7	28.56	39.17
Overweight (>+1sd - ≤+2sd)	143	16302	49.8	39.14	60.41	95	10211	31.2	23.38	40.18
Obese (>+2sd)	161	18371	60.0	52.32	67.28	74	8372	27.4	20.28	35.80
Height-for-age status (HAZ)										
Stunting (<-2sd)	72	7629	48.1	37.98	58.44	41	4437	28.0	19.32	38.69
Normal (≥-2sd)	918	102829	55.0	50.30	59.58	561	61609	32.9	27.79	38.55

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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
Perak	138	14459	7.1	3.55	13.78	110	11898	5.9	4.68	7.33
Locality of school										
Urban	49	5564	5.6	2.04	14.50	49	5695	5.7	3.99	8.17
Rural	89	8895	8.6	3.39	20.09	61	6204	6.0	4.53	7.88
Sex										
Boys	58	6302	6.0	3.14	11.11	65	6899	6.6	4.59	9.28
Girls	80	8157	8.4	3.47	18.78	45	4999	5.1	3.56	7.31
Ethnicity										
Malay	111	11645	8.1	3.68	16.80	78	8677	6.0	4.60	7.83
Chinese	3	528	1.2	0.44	3.30	22	2341	5.4	3.03	9.42
Indian	4	361	4.6	0.72	23.84	1	86	1.1	0.16	6.88
Bumiputera Sabah						1	75	17.3	7.72	34.30
Bumiputera Sarawak										
Others	20	1925	31.6	5.89	77.36	8	719	11.8	8.71	15.83
School level										
Primary school	10	1351	1.9	0.94	3.83	36	4073	5.7	4.43	7.40
Secondary school	128	13108	9.9	4.91	19.11	74	7826	5.9	4.32	8.10
Class										
Standard 4	6	556	2.2	1.22	4.03	23	2147	8.6	5.78	12.61
Standard 5	1	94	0.4	0.07	2.52	8	824	3.6	2.36	5.54
Standard 6	3	702	3.0	1.19	7.36	5	1102	4.7	3.07	7.19
Form 1	21	2305	8.2	3.71	17.23	16	1735	6.2	3.13	11.85
Form 2	31	2934	11.7	6.04	21.59	25	2341	9.4	5.27	16.10
Form 3	23	2138	8.1	2.56	23.06	12	1106	4.2	2.00	8.64
Form 4	28	2483	9.7	3.82	22.35	8	795	3.1	1.60	5.89
Form 5	25	3248	12.1	5.01	26.47	13	1849	6.9	3.68	12.55
School session										
Morning session	65	7021	5.6	2.70	11.20	64	7048	5.6	4.47	7.03
Evening session	13	1249	4.6	1.20	16.12	18	1728	6.4	3.04	12.88
Morning and evening session	60	6190	12.4	5.84	24.58	28	3122	6.3	4.08	9.55
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	480	3.6	1.06	11.41	9	895	6.7	3.39	12.77
Normal (≥-2sd - ≤+1sd)	77	8184	6.5	3.17	12.86	64	6691	5.3	4.11	6.84
Overweight (>+1sd - ≤+2sd)	42	4447	13.6	6.20	27.19	18	1801	5.5	2.87	10.29
Obese (>+2sd)	14	1347	4.4	2.06	9.15	19	2511	8.2	6.05	11.03
Height-for-age status (HAZ)										
Stunting (<-2sd)	22	2213	14.0	5.92	29.50	14	1570	9.9	5.77	16.49
Normal (≥-2sd)	116	12246	6.5	3.24	12.80	96	10328	5.5	4.27	7.11

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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	
Perak	48	5257	1.9	1.30	2.70	2080	230234	82.1	76.21	86.78
Locality of school										
Urban	26	3189	2.2	1.31	3.75	945	112023	78.1	68.42	85.45
Rural	22	2069	1.5	1.04	2.18	1135	118211	86.3	81.68	89.88
Sex										
Boys	29	3132	2.2	1.43	3.46	1021	113221	80.6	73.76	86.01
Girls	19	2125	1.5	0.86	2.68	1059	117013	83.6	78.17	87.89
Ethnicity										
Malay	39	4189	2.3	1.47	3.54	1455	160855	87.7	85.07	89.90
Chinese	8	988	1.3	0.80	2.06	440	51372	66.9	60.10	73.11
Indian						106	10711	90.3	79.53	95.75
Bumiputera Sabah						5	433	100.0	0.00	100.00
Bumiputera Sarawak						9	754	89.5	43.29	98.96
Others	1	80	1.1	0.25	4.88	65	6110	86.1	63.95	95.58
School level										
Primary school	21	2522	2.5	1.45	4.43	640	80512	81.4	69.18	89.48
Secondary school	27	2735	1.5	0.99	2.28	1440	149722	82.5	75.70	87.70
Class										
Standard 4	14	1335	4.0	1.89	8.39	273	26478	79.9	65.56	89.24
Standard 5	3	312	1.0	0.26	3.51	238	27715	85.2	71.36	92.96
Standard 6	4	875	2.6	1.18	5.78	129	26318	79.2	68.69	86.80
Form 1	5	554	1.5	0.67	3.15	279	30681	80.6	71.35	87.41
Form 2	9	807	2.3	1.01	5.02	301	29057	81.9	74.52	87.57
Form 3	7	647	1.8	0.88	3.61	322	29838	82.4	74.16	88.39
Form 4	3	305	0.9	0.18	3.98	311	29101	82.6	75.44	88.04
Form 5	3	422	1.2	0.15	8.26	227	31045	85.0	74.21	91.76
School session										
Morning session	23	2674	1.5	0.98	2.35	1319	145546	82.8	76.22	87.87
Evening session	11	1066	2.8	1.15	6.88	288	29824	79.6	70.39	86.55
Morning and evening session	14	1517	2.3	1.06	4.83	467	54160	81.4	72.62	87.86
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	490	2.7	1.04	6.92	146	15302	85.0	74.07	91.83
Normal (≥-2sd - ≤+1sd)	30	3378	2.0	1.32	2.89	1273	140525	81.4	74.99	86.47
Overweight (>+1sd - ≤+2sd)	6	591	1.3	0.59	2.67	349	38635	82.2	76.54	86.66
Obese (>+2sd)	7	799	1.9	0.84	4.13	310	35535	83.5	77.34	88.29
Height-for-age status (HAZ)										
Stunting (<-2sd)	2	208	1.0	0.27	3.52	170	18161	86.6	80.39	91.05
Normal (≥-2sd)	46	5049	1.9	1.35	2.80	1910	212073	81.7	75.56	86.63

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
Perak	393	44936	16.0	11.30	22.22
Locality of school					
Urban	229	28219	19.7	12.05	30.44
Rural	164	16717	12.2	8.84	16.61
Sex					
Boys	214	24101	17.2	11.74	24.39
Girls	179	20835	14.9	10.55	20.60
Ethnicity					
Malay	170	18402	10.0	7.99	12.52
Chinese	200	24394	31.8	25.44	38.88
Indian	12	1145	9.7	4.25	20.47
Bumiputera Sabah					
Bumiputera Sarawak	1	88	10.5	1.04	56.71
Others	10	907	12.8	4.17	33.01
School level					
Primary school	106	15904	16.1	8.08	29.44
Secondary school	287	29032	16.0	10.76	23.11
Class					
Standard 4	46	5330	16.1	6.93	33.02
Standard 5	34	4520	13.9	6.37	27.67
Standard 6	26	6054	18.2	10.78	29.10
Form 1	62	6826	17.9	11.24	27.38
Form 2	62	5595	15.8	10.10	23.81
Form 3	63	5736	15.8	10.25	23.67
Form 4	62	5815	16.5	11.16	23.74
Form 5	38	5061	13.9	7.33	24.65
School session					
Morning session	248	27533	15.7	10.61	22.52
Evening session	65	6557	17.5	10.27	28.25
Morning and evening session	80	10846	16.3	10.21	25.02
BMI-for-age status (BAZ)					
Thinness (<-2sd)	20	2210	12.3	5.73	24.38
Normal (≥-2sd - ≤+1sd)	254	28718	16.6	11.57	23.34
Overweight (>+1sd - ≤+2sd)	65	7801	16.6	12.09	22.34
Obese (>+2sd)	54	6208	14.6	10.07	20.68
Height-for-age status (HAZ)					
Stunting (<-2sd)	27	2604	12.4	7.73	19.35
Normal (≥-2sd)	366	42332	16.3	11.39	22.83

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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	
Perak	160	17912	6.4	4.92	8.23	1085	123167	43.8	38.01	49.85
Locality of school										
Urban	68	8614	6.0	4.52	7.88	514	63341	44.0	36.12	52.20
Rural	92	9299	6.8	4.42	10.28	571	59826	43.7	35.23	52.49
Sex										
Boys	84	9361	6.6	4.76	9.21	437	49326	35.0	29.79	40.63
Girls	76	8552	6.1	4.68	7.93	648	73842	52.7	45.79	59.53
Ethnicity										
Malay	80	8893	4.8	3.90	6.01	708	79933	43.5	35.53	51.89
Chinese	51	6131	8.0	5.15	12.12	271	33169	43.1	34.64	51.97
Indian	17	1715	14.3	8.16	23.84	65	6356	53.0	47.44	58.42
Bumiputera Sabah	1	81	18.7	8.31	36.87	3	277	64.0	35.27	85.31
Bumiputera Sarawak	2	165	19.5	7.24	43.05	3	266	31.7	17.53	50.22
Others	9	927	13.1	5.40	28.38	35	3166	44.6	26.42	64.39
School level										
Primary school	69	8298	8.3	5.61	12.24	435	55735	56.1	51.08	60.94
Secondary school	91	9615	5.3	3.98	7.02	650	67433	37.1	31.98	42.62
Class										
Standard 4	38	3423	10.3	5.07	19.90	176	17709	53.4	48.14	58.64
Standard 5	20	2675	8.2	4.46	14.57	170	20049	61.4	55.54	66.95
Standard 6	11	2201	6.5	5.17	8.26	89	17976	53.5	42.74	63.94
Form 1	13	1376	3.9	1.70	8.66	118	13146	34.5	27.18	42.72
Form 2	26	2807	7.4	4.16	12.74	142	13681	38.7	30.83	47.16
Form 3	12	1086	3.0	1.47	6.02	130	11999	33.1	27.06	39.81
Form 4	25	2374	6.7	4.06	10.99	146	13457	38.2	30.92	46.07
Form 5	15	1972	5.4	2.80	10.07	114	15149	41.3	31.96	51.33
School session										
Morning session	101	11040	6.3	4.37	8.93	706	79420	45.1	38.81	51.63
Evening session	16	1687	4.5	2.28	8.70	134	13958	37.3	24.81	51.69
Morning and evening session	42	4980	7.5	4.72	11.58	244	29700	44.4	35.13	54.16
BMI-for-age status (BAZ)										
Thinness (<-2sd)	18	1689	9.4	5.12	16.57	72	7789	43.3	32.33	54.90
Normal (≥-2sd - ≤+1sd)	91	10192	5.9	4.35	7.94	657	74324	43.0	37.25	48.94
Overweight (>+1sd - ≤+2sd)	19	2306	4.9	2.75	8.51	187	21621	45.8	37.95	53.80
Obese (>+2sd)	32	3726	8.7	6.10	12.38	169	19434	45.6	38.63	52.77
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	1520	7.2	4.46	11.56	84	8935	42.6	33.76	51.94
Normal (≥-2sd)	145	16393	6.3	4.84	8.18	1001	114232	43.9	38.10	49.96

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
Perak	1278	139867	49.8	43.07	56.50
Locality of school					
Urban	620	71995	50.0	40.96	59.07
Rural	658	67872	49.5	39.72	59.40
Sex					
Boys	745	82181	58.3	51.35	65.01
Girls	533	57686	41.2	34.04	48.71
Ethnicity					
Malay	876	94781	51.6	42.88	60.27
Chinese	327	37668	48.9	37.59	60.40
Indian	37	3929	32.7	22.81	44.51
Bumiputera Sabah	1	75	17.3	7.72	34.30
Bumiputera Sarawak	5	411	48.8	47.80	49.81
Others	32	3003	42.3	18.40	70.46
School level					
Primary school	265	35365	35.6	30.65	40.84
Secondary school	1013	104502	57.6	51.36	63.53
Class					
Standard 4	119	12012	36.2	30.63	42.25
Standard 5	85	9930	30.4	22.02	40.34
Standard 6	61	13423	39.9	30.00	50.81
Form 1	118	13146	34.5	27.18	42.72
Form 2	216	20317	57.4	48.17	66.20
Form 3	250	23137	63.9	57.16	70.09
Form 4	205	19390	55.1	45.45	64.29
Form 5	140	19551	53.3	44.49	61.93
School session					
Morning session	784	85501	48.6	41.13	56.12
Evening session	214	21803	58.2	42.54	72.40
Morning and evening session	276	32153	48.1	39.17	57.17
BMI-for-age status (BAZ)					
Thinness (<-2sd)	81	8524	47.4	36.18	58.80
Normal (≥-2sd - ≤+1sd)	810	88344	51.1	44.25	57.93
Overweight (>+1sd - ≤+2sd)	215	23314	49.4	40.13	58.61
Obese (>+2sd)	170	19447	45.6	38.19	53.30
Height-for-age status (HAZ)					
Stunting (<-2sd)	100	10519	50.2	41.47	58.83
Normal (≥-2sd)	1178	129348	49.8	42.97	56.55

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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	
Perak	487	55028	40.6	32.40	49.39	135	15760	11.6	9.37	14.35
Locality of school										
Urban	193	23292	33.9	23.62	45.95	68	8517	12.4	9.91	15.39
Rural	294	31736	47.5	36.48	58.84	67	7243	10.8	7.36	15.71
Sex										
Boys	194	21608	38.8	28.97	49.73	56	6474	11.6	8.10	16.45
Girls	293	33420	41.8	33.95	50.19	79	9286	11.6	9.16	14.65
Ethnicity										
Malay	401	45080	52.5	46.97	57.91	93	10785	12.6	9.51	16.40
Chinese	49	6427	17.1	12.71	22.61	29	3654	9.7	7.80	12.06
Indian	19	1877	25.1	17.51	34.69	7	719	9.6	4.46	19.56
Bumiputera Sabah	2	165	46.2	13.54	82.52					
Bumiputera Sarawak	1	85	24.7	10.23	48.51					
Others	15	1394	36.5	25.67	48.96	6	602	15.8	10.35	23.31
School level										
Primary school	204	25171	41.0	29.10	54.14	65	8638	14.1	11.23	17.51
Secondary school	283	29856	40.3	29.44	52.13	70	7122	9.6	6.93	13.17
Class										
Standard 4	84	8233	40.1	24.49	58.11	24	2381	11.6	10.46	12.87
Standard 5	75	8064	37.1	22.58	54.31	24	2863	13.2	9.83	17.39
Standard 6	45	8874	46.5	33.80	59.75	17	3394	17.8	13.29	23.42
Form 1	53	5902	38.9	30.19	48.37	13	1440	9.5	5.12	16.93
Form 2	65	6344	45.1	36.90	53.55	20	1915	13.6	8.54	21.01
Form 3	53	4919	39.5	23.89	57.64	11	1013	8.1	4.09	15.55
Form 4	56	5233	33.2	22.22	46.44	16	1447	9.2	6.36	13.10
Form 5	56	7458	44.6	23.94	67.37	10	1307	7.8	5.39	11.23
School session										
Morning session	284	31883	36.5	28.13	45.71	90	9949	11.4	9.06	14.20
Evening session	56	5851	40.2	30.80	50.37	14	1407	9.7	5.77	15.74
Morning and evening session	146	17204	51.8	42.41	61.07	30	4198	12.6	7.98	19.44
BMI-for-age status (BAZ)										
Thinness (<-2sd)	40	4318	46.5	29.23	64.59	10	1098	11.8	6.62	20.19
Normal (≥-2sd - ≤+1sd)	279	31065	38.6	29.38	48.79	68	7583	9.4	7.34	12.04
Overweight (>+1sd - ≤+2sd)	77	9099	39.7	30.22	50.11	26	3101	13.5	9.13	19.63
Obese (>+2sd)	91	10545	46.1	38.34	53.99	31	3978	17.4	11.53	25.34
Height-for-age status (HAZ)										
Stunting (<-2sd)	46	4933	48.4	35.62	61.46	11	1258	12.4	8.18	18.23
Normal (≥-2sd)	441	50095	40.0	31.76	48.81	124	14502	11.6	9.33	14.27

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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	
Perak	434	48954	36.1	27.86	45.31	68	7714	5.7	4.13	7.79
Locality of school										
Urban	235	29084	42.3	30.57	55.01	32	3936	5.7	3.23	9.97
Rural	199	19871	29.8	20.39	41.21	36	3778	5.7	4.32	7.39
Sex										
Boys	171	19022	34.2	26.18	43.23	35	3960	7.1	4.62	10.81
Girls	263	29932	37.5	27.34	48.85	33	3754	4.7	3.12	7.02
Ethnicity										
Malay	190	20944	24.4	20.22	29.08	53	6327	7.4	5.65	9.55
Chinese	193	22981	61.1	54.03	67.81	8	759	2.0	0.64	6.23
Indian	35	3480	46.6	31.35	62.55	5	454	6.1	2.61	13.53
Bumiputera Sabah	1	108	30.2	2.03	90.00					
Bumiputera Sarawak	2	174	50.9	17.82	83.18	1	94	27.3	11.17	52.87
Others	13	1266	33.2	20.69	48.61	1	81	2.1	0.59	7.31
School level										
Primary school	149	19809	32.3	20.29	47.20	29	3596	5.9	3.50	9.66
Secondary school	285	29145	39.3	29.02	50.64	39	4119	5.6	3.73	8.19
Class										
Standard 4	62	6625	32.3	19.38	48.65	8	728	3.6	1.88	6.62
Standard 5	61	8454	38.9	18.48	64.04	11	1171	5.4	3.00	9.47
Standard 6	26	4730	24.8	14.49	39.12	10	1696	8.9	3.26	22.06
Form 1	42	4742	31.2	19.01	46.79	7	789	5.2	2.15	12.02
Form 2	39	3761	26.7	18.06	37.65	15	1451	10.3	6.41	16.19
Form 3	59	5436	43.7	30.53	57.77	5	475	3.8	1.47	9.53
Form 4	96	8782	55.8	45.94	65.15	5	486	3.1	0.94	9.64
Form 5	49	6425	38.5	21.12	59.32	7	917	5.5	1.97	14.39
School session										
Morning session	313	35360	40.4	30.55	51.20	46	5130	5.9	3.91	8.71
Evening session	45	4774	32.8	21.59	46.36	8	791	5.4	2.70	10.64
Morning and evening session	76	8820	26.6	19.41	35.19	14	1794	5.4	3.30	8.71
BMI-for-age status (BAZ)										
Thinness (<-2sd)	24	2636	28.4	18.33	41.14	3	312	3.4	1.39	7.91
Normal (≥-2sd - ≤+1sd)	275	31007	38.6	28.96	49.15	47	5391	6.7	4.34	10.23
Overweight (>+1sd - ≤+2sd)	69	8395	36.7	24.14	51.29	10	1076	4.7	2.23	9.64
Obese (>+2sd)	66	6916	30.2	21.43	40.74	8	935	4.1	1.84	8.81
Height-for-age status (HAZ)										
Stunting (<-2sd)	18	1881	18.5	11.98	27.38	9	963	9.5	4.24	19.76
Normal (≥-2sd)	416	47073	37.6	29.05	46.93	59	6751	5.4	3.80	7.58

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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	
Perak	176	19170	14.1	10.07	19.53	40	4610	3.4	2.16	5.33
Locality of school										
Urban	82	9785	14.2	9.75	20.33	20	2603	3.8	2.41	5.90
Rural	94	9385	14.1	7.86	23.87	20	2007	3.0	1.27	6.97
Sex										
Boys	53	6053	10.9	7.07	16.39	26	3137	5.6	3.26	9.58
Girls	123	13116	16.4	10.68	24.41	14	1473	1.8	0.94	3.60
Ethnicity										
Malay	118	12933	15.1	9.52	22.99	24	2576	3.0	1.79	4.97
Chinese	47	5172	13.8	10.65	17.59	6	1114	3.0	1.30	6.60
Indian	7	669	9.0	3.24	22.40	4	404	5.4	1.59	16.87
Bumiputera Sabah	1	85	23.6	8.53	50.63	1	81	22.6	8.21	48.82
Bumiputera Sarawak						1	75	21.8	9.17	43.58
Others	3	311	8.2	0.82	48.81	4	360	9.4	4.22	19.81
School level										
Primary school	46	5796	9.4	6.29	13.96	26	3161	5.2	3.31	7.94
Secondary school	130	13374	18.0	12.32	25.63	14	1449	2.0	0.98	3.85
Class										
Standard 4	23	2341	11.4	6.98	18.11	12	1074	5.2	2.50	10.66
Standard 5	15	2084	9.6	4.91	17.85	9	959	4.4	1.83	10.25
Standard 6	8	1370	7.2	2.06	22.21	5	1128	5.9	1.96	16.53
Form 1	29	3170	20.9	10.39	37.54	4	423	2.8	0.84	8.85
Form 2	20	2039	14.5	7.52	26.10	2	190	1.4	0.29	6.05
Form 3	24	2208	17.7	8.91	32.23	1	88	0.7	0.08	5.64
Form 4	37	3357	21.3	12.70	33.53	6	614	3.9	1.27	11.32
Form 5	20	2600	15.6	9.62	24.19	1	134	0.8	0.11	5.55
School session										
Morning session	118	12903	14.8	11.07	19.42	27	2953	3.4	2.04	5.54
Evening session	17	1799	12.4	6.15	23.28	7	679	4.7	1.94	10.79
Morning and evening session	41	4467	13.5	7.00	24.30	6	978	2.9	1.09	7.69
BMI-for-age status (BAZ)										
Thinness (<-2sd)	16	1650	17.8	9.08	31.80	5	511	5.5	2.00	14.21
Normal (≥-2sd - ≤+1sd)	111	12412	15.4	11.49	20.42	17	1968	2.4	1.30	4.56
Overweight (>+1sd - ≤+2sd)	31	3209	14.0	7.39	24.98	10	1064	4.6	2.46	8.60
Obese (>+2sd)	18	1899	8.3	4.64	14.39	8	1067	4.7	1.92	10.90
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	1529	15.0	8.85	24.32	3	302	3.0	0.64	12.64
Normal (≥-2sd)	161	17640	14.1	10.03	19.41	37	4309	3.4	2.16	5.43

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
Perak	91	10837	8.0	5.78	10.97
Locality of school					
Urban	46	6284	9.1	6.13	13.44
Rural	45	4553	6.8	4.08	11.19
Sex					
Boys	42	4985	9.0	6.27	12.65
Girls	49	5852	7.3	4.94	10.74
Ethnicity					
Malay	36	4328	5.0	3.38	7.44
Chinese	42	5290	14.1	11.77	16.74
Indian	9	893	12.0	8.09	17.33
Bumiputera Sabah					
Bumiputera Sarawak					
Others	4	326	8.5	3.30	20.36
School level					
Primary school	44	6027	9.8	6.91	13.79
Secondary school	47	4809	6.5	3.82	10.80
Class					
Standard 4	14	1251	6.1	2.84	12.62
Standard 5	21	2620	12.0	9.01	15.91
Standard 6	9	2156	11.3	6.27	19.54
Form 1	9	930	6.1	2.80	12.90
Form 2	9	873	6.2	3.21	11.64
Form 3	11	991	8.0	3.54	16.95
Form 4	10	935	5.9	3.29	10.49
Form 5	8	1081	6.5	2.44	16.04
School session					
Morning session	63	7308	8.4	5.79	11.92
Evening session	11	1092	7.5	4.17	13.13
Morning and evening session	17	2437	7.3	3.91	13.34
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	571	6.1	2.10	16.68
Normal (≥-2sd - ≤+1sd)	58	6921	8.6	5.52	13.19
Overweight (>+1sd - ≤+2sd)	12	1484	6.5	3.72	11.04
Obese (>+2sd)	15	1861	8.1	4.85	13.32
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	453	4.5	1.87	10.23
Normal (≥-2sd)	86	10383	8.3	5.99	11.35

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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	
Perak	1053	116723	41.5	35.64	47.67	826	92315	32.8	27.83	38.29
Locality of school										
Urban	554	63969	44.4	37.88	51.13	374	44976	31.2	23.69	39.89
Rural	499	52754	38.5	29.14	48.81	452	47339	34.6	28.61	41.02
Sex										
Boys	446	49742	35.3	27.91	43.44	403	44197	31.4	25.10	38.37
Girls	607	66981	47.8	41.97	53.71	423	48119	34.3	29.02	40.10
Ethnicity										
Malay	600	67366	36.7	30.26	43.55	652	72375	39.4	36.47	42.35
Chinese	342	38553	50.1	37.29	62.99	110	13583	17.7	13.16	23.31
Indian	72	7234	60.3	54.52	65.77	32	3242	27.0	20.90	34.16
Bumiputera Sabah	3	240	55.5	18.53	87.27	2	192	44.5	12.73	81.47
Bumiputera Sarawak	6	529	62.9	41.93	79.85	2	163	19.4	7.48	41.69
Others	30	2801	39.5	19.08	64.34	28	2760	38.9	21.06	60.30
School level										
Primary school	313	40410	40.6	35.18	46.27	281	35551	35.7	28.07	44.19
Secondary school	740	76313	42.0	33.54	51.03	545	56764	31.3	25.08	38.20
Class										
Standard 4	114	11623	35.1	27.85	43.05	124	12266	37.0	31.97	42.35
Standard 5	135	16282	49.7	41.21	58.19	92	10705	32.7	23.20	43.81
Standard 6	64	12505	37.2	22.16	55.24	65	12580	37.4	25.59	51.02
Form 1	140	15380	40.4	30.53	51.13	122	13521	35.5	27.66	44.26
Form 2	136	13104	37.0	29.83	44.70	130	12438	35.1	27.72	43.22
Form 3	150	13856	38.4	27.30	50.75	127	11768	32.6	25.57	40.45
Form 4	184	16852	47.8	36.29	59.64	91	8721	24.8	17.91	33.17
Form 5	130	17121	46.7	31.99	61.98	75	10317	28.1	19.17	39.26
School session										
Morning session	695	75666	43.0	35.96	50.33	506	57244	32.5	26.61	39.07
Evening session	134	13882	37.1	28.96	45.99	120	12235	32.7	24.27	42.35
Morning and evening session	221	26791	40.0	29.56	51.51	198	22606	33.8	27.17	41.10
BMI-for-age status (BAZ)										
Thinness (<-2sd)	71	7738	43.0	33.13	53.43	58	6030	33.5	23.64	45.05
Normal (≥-2sd - ≤+1sd)	621	68415	39.6	33.47	46.03	525	58961	34.1	28.91	39.73
Overweight (>+1sd - ≤+2sd)	185	21231	44.9	37.59	52.52	125	13989	29.6	23.78	36.20
Obese (>+2sd)	175	19252	45.1	36.26	54.20	118	13334	31.2	25.68	37.35
Height-for-age status (HAZ)										
Stunting (<-2sd)	58	6173	29.4	18.33	43.67	84	8792	41.9	34.50	49.72
Normal (≥-2sd)	995	110550	42.5	36.82	48.40	742	83524	32.1	27.07	37.62

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
Perak	645	72012	25.6	20.48	31.55
Locality of school					
Urban	275	35109	24.4	17.99	32.13
Rural	370	36903	26.9	19.22	36.36
Sex					
Boys	418	47017	33.4	26.06	41.55
Girls	227	24995	17.8	13.55	23.13
Ethnicity					
Malay	414	44063	24.0	17.73	31.57
Chinese	196	24740	32.2	24.19	41.37
Indian	15	1524	12.7	10.57	15.19
Bumiputera Sabah					
Bumiputera Sarawak	2	150	17.8	5.49	44.57
Others	18	1535	21.6	16.50	27.83
School level					
Primary school	176	23549	23.7	13.66	37.79
Secondary school	469	48463	26.7	21.74	32.32
Class					
Standard 4	95	9254	27.9	19.17	38.75
Standard 5	49	5780	17.6	10.84	27.40
Standard 6	32	8516	25.3	8.07	56.77
Form 1	84	9159	24.1	17.20	32.60
Form 2	106	9917	28.0	23.74	32.63
Form 3	114	10505	29.1	21.82	37.59
Form 4	101	9649	27.4	20.31	35.84
Form 5	64	9233	25.2	15.98	37.32
School session					
Morning session	390	43072	24.5	19.40	30.38
Evening session	110	11332	30.3	22.50	39.33
Morning and evening session	144	17519	26.2	17.41	37.38
BMI-for-age status (BAZ)					
Thinness (<-2sd)	42	4233	23.5	15.10	34.70
Normal (\geq -2sd - \leq +1sd)	412	45479	26.3	21.60	31.63
Overweight ($>$ +1sd - \leq +2sd)	111	12021	25.4	19.91	31.91
Obese ($>$ +2sd)	79	10129	23.7	13.60	38.03
Height-for-age status (HAZ)					
Stunting (<-2sd)	57	6008	28.6	18.98	40.75
Normal (\geq -2sd)	588	66004	25.4	20.31	31.21

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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
Perak	1668	185300	88.6	85.50	91.18	187	21238	10.2	8.64	11.91
Locality of school										
Urban	831	96795	88.8	84.11	92.30	95	11768	10.8	8.39	13.80
Rural	837	88505	88.4	83.87	91.82	92	9471	9.5	8.01	11.15
Sex										
Boys	716	79382	84.5	79.40	88.53	99	10840	11.5	8.46	15.55
Girls	952	105918	92.0	89.32	94.09	88	10398	9.0	7.07	11.48
Ethnicity										
Malay	1105	123069	88.1	84.08	91.16	129	14644	10.5	8.44	12.94
Chinese	422	48239	92.5	86.55	95.97	39	4828	9.3	6.98	12.19
Indian	81	8252	78.8	62.95	89.01	14	1333	12.7	5.57	26.48
Bumiputera Sabah	5	433	100.0	0.00	100.00					
Bumiputera Sarawak	6	519	75.0	53.44	88.71	1	94	13.5	3.31	41.65
Others	49	4789	86.1	54.47	96.99	4	340	6.1	1.17	26.39
School level										
Primary school	493	63791	84.0	81.53	86.16	73	9269	12.2	11.24	13.24
Secondary school	1175	121510	91.3	87.55	94.01	114	11969	9.0	7.03	11.43
Class										
Standard 4	189	19097	79.9	75.18	83.98	29	2867	12.0	7.76	18.12
Standard 5	192	23150	85.8	77.55	91.34	31	3813	14.1	10.82	18.24
Standard 6	112	21543	85.9	76.90	91.74	13	2589	10.3	6.64	15.71
Form 1	228	25150	87.0	79.72	91.96	31	3427	11.9	8.42	16.44
Form 2	231	22125	86.6	79.26	91.65	27	2633	10.3	7.87	13.40
Form 3	258	23854	93.1	86.34	96.64	19	1797	7.0	3.10	15.09
Form 4	263	24366	95.3	89.84	97.88	23	2235	8.7	5.38	13.88
Form 5	195	26014	94.8	91.13	97.01	14	1877	6.8	4.45	10.37
School session										
Morning session	1083	119481	89.9	86.07	92.76	122	13843	10.4	8.04	13.40
Evening session	215	22153	84.8	79.23	89.12	25	2635	10.1	7.68	13.14
Morning and evening session	366	43171	87.4	82.14	91.27	39	4641	9.4	7.56	11.63
BMI-for-age status (BAZ)										
Thinness (<-2sd)	111	12016	87.3	79.79	92.25	20	2081	15.1	10.40	21.45
Normal (≥-2sd - ≤+1sd)	1017	112529	88.3	84.59	91.28	118	13701	10.8	8.89	12.97
Overweight (>+1sd - ≤+2sd)	278	31714	90.0	85.88	93.08	23	2589	7.4	5.07	10.55
Obese (>+2sd)	261	28953	88.9	84.71	91.98	26	2867	8.8	5.64	13.47
Height-for-age status (HAZ)										
Stunting (<-2sd)	124	13141	87.8	79.84	92.91	19	2039	13.6	8.06	22.10
Normal (≥-2sd)	1544	172159	88.7	85.46	91.30	168	19200	9.9	8.23	11.85

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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									
	Carbonated drink					Milk/ cultured drink				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	27	2916	1.4	1.01	1.93	56	5866	2.8	1.82	4.29
Locality of school										
Urban	13	1490	1.4	0.87	2.13	19	2351	2.2	1.25	3.69
Rural	14	1426	1.4	0.89	2.27	37	3515	3.5	1.93	6.31
Sex										
Boys	18	1903	2.0	1.35	3.02	29	2987	3.2	1.91	5.25
Girls	9	1012	0.9	0.44	1.74	27	2879	2.5	1.41	4.40
Ethnicity										
Malay	14	1633	1.2	0.71	1.93	36	3602	2.6	1.53	4.31
Chinese	8	779	1.5	0.84	2.63	13	1611	3.1	1.32	7.07
Indian	4	410	3.9	1.08	13.22	3	303	2.9	1.08	7.50
Bumiputera Sabah										
Bumiputera Sarawak						1	75	10.8	2.70	34.58
Others	1	94	1.7	0.33	8.02	3	276	5.0	1.48	15.35
School level										
Primary school	8	954	1.3	0.80	1.97	28	2982	3.9	2.16	7.04
Secondary school	19	1961	1.5	0.96	2.25	28	2884	2.2	1.21	3.85
Class										
Standard 4						17	1633	6.8	4.11	11.17
Standard 5	7	751	2.8	1.38	5.54	9	871	3.2	1.35	7.53
Standard 6	1	203	0.8	0.16	4.12	2	478	1.9	0.41	8.38
Form 1	8	883	3.1	1.65	5.58	4	444	1.5	0.49	4.75
Form 2	9	837	3.3	1.21	8.60	7	691	2.7	1.14	6.30
Form 3	1	91	0.4	0.05	2.60	8	737	2.9	1.01	7.93
Form 4						4	344	1.3	0.41	4.30
Form 5	1	150	0.5	0.06	4.52	5	668	2.4	1.05	5.55
School session										
Morning session	11	1234	0.9	0.54	1.58	37	3833	2.9	1.80	4.58
Evening session	10	1021	3.9	2.19	6.88	7	652	2.5	0.92	6.58
Morning and evening session	6	661	1.3	0.68	2.63	12	1381	2.8	1.25	6.12
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	186	1.4	0.28	6.26	5	487	3.5	1.67	7.32
Normal (≥-2sd - ≤+1sd)	18	1888	1.5	0.97	2.25	28	3082	2.4	1.40	4.16
Overweight (>+1sd - ≤+2sd)	2	311	0.9	0.20	3.77	14	1512	4.3	2.57	7.09
Obese (>+2sd)	5	529	1.6	0.71	3.68	9	786	2.4	0.79	7.14
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	88	0.6	0.07	4.53	2	201	1.3	0.31	5.59
Normal (≥-2sd)	26	2827	1.5	1.03	2.06	54	5665	2.9	1.91	4.44

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
Perak	34	4427	2.1	1.29	3.47
Locality of school					
Urban	19	2904	2.7	1.47	4.80
Rural	15	1523	1.5	0.72	3.17
Sex					
Boys	17	1993	2.1	1.05	4.24
Girls	17	2434	2.1	1.09	4.05
Ethnicity					
Malay	20	2560	1.8	0.92	3.62
Chinese	10	1515	2.9	1.43	5.83
Indian	2	182	1.7	0.50	5.80
Bumiputera Sabah					
Bumiputera Sarawak					
Others	2	170	3.1	0.76	11.43
School level					
Primary school	19	2833	3.7	2.04	6.72
Secondary school	15	1593	1.2	0.73	1.95
Class					
Standard 4	5	448	1.9	0.67	5.17
Standard 5	6	612	2.3	0.73	6.82
Standard 6	8	1773	7.1	3.11	15.29
Form 1	6	670	2.3	1.13	4.67
Form 2	4	402	1.6	0.52	4.66
Form 3	3	268	1.0	0.38	2.88
Form 4	1	101	0.4	0.05	3.00
Form 5	1	152	0.6	0.07	4.32
School session					
Morning session	19	2310	1.7	1.03	2.92
Evening session	4	422	1.6	0.55	4.65
Morning and evening session	11	1694	3.4	1.57	7.35
BMI-for-age status (BAZ)					
Thinness (<-2sd)					
Normal ($\geq -2sd - \leq +1sd$)	25	3174	2.5	1.65	3.75
Overweight ($> +1sd - \leq +2sd$)	6	669	1.9	0.61	5.78
Obese ($> +2sd$)	3	584	1.8	0.47	6.55
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	172	1.1	0.27	4.70
Normal ($\geq -2sd$)	32	4255	2.2	1.30	3.67

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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	
Perak	1428	160588	58.8	53.15	64.20	114	12274	4.5	3.59	5.61
Locality of school										
Urban	654	79162	56.2	49.26	62.92	47	5509	3.9	3.09	4.94
Rural	774	81426	61.5	53.01	69.38	67	6765	5.1	3.64	7.14
Sex										
Boys	703	79761	58.3	52.37	64.00	56	6036	4.4	3.28	5.90
Girls	725	80827	59.3	52.68	65.53	58	6238	4.6	3.30	6.30
Ethnicity										
Malay	1072	118982	65.9	61.97	69.61	56	5989	3.3	2.38	4.61
Chinese	258	32084	43.4	37.60	49.31	36	4097	5.5	3.86	7.88
Indian	98	10420	14.1	8.94	21.49	13	1348	11.9	6.59	20.59
Bumiputera Sabah	55	5563	49.2	36.39	62.06					
Bumiputera Sarawak	5	433	100.0	0.00	100.00					
Others	8	674	80.1	36.68	96.54	9	841	13.9	8.50	21.94
School level										
Primary school	444	57407	60.2	51.21	68.62	42	4634	4.9	3.15	7.45
Secondary school	984	103182	58.0	50.86	64.82	72	7640	4.3	3.35	5.49
Class										
Standard 4	177	17773	57.0	42.83	70.12	24	2176	7.0	4.87	9.90
Standard 5	169	19945	62.6	52.25	71.93	13	1394	4.4	1.89	9.82
Standard 6	98	19689	61.0	49.32	71.58	5	1064	3.3	2.16	5.00
Form 1	202	22324	59.3	52.53	65.76	14	1545	4.1	2.21	7.49
Form 2	188	18116	53.0	42.93	62.85	16	1577	4.6	2.72	7.74
Form 3	206	19129	54.1	45.05	62.96	14	1328	3.8	1.92	7.24
Form 4	226	21326	61.6	54.20	68.56	11	947	2.7	1.03	7.07
Form 5	162	22288	61.7	50.68	71.57	17	2243	6.2	3.48	10.84
School session										
Morning session	912	101335	58.9	51.49	66.00	67	7177	4.2	2.95	5.87
Evening session	183	18860	51.5	41.82	61.10	20	2065	5.6	3.14	9.94
Morning and evening session	330	39978	62.5	56.35	68.31	26	2921	4.6	2.91	7.11
BMI-for-age status (BAZ)										
Thinness (<-2sd)	102	10875	62.0	53.34	69.92	10	1024	5.8	2.94	11.25
Normal (≥-2sd - ≤+1sd)	904	101970	60.5	54.26	66.44	71	7495	4.4	3.15	6.25
Overweight (>+1sd - ≤+2sd)	224	25284	55.7	47.97	63.17	20	2199	4.8	3.10	7.50
Obese (>+2sd)	197	22372	53.9	46.42	61.18	13	1556	3.7	2.04	6.80
Height-for-age status (HAZ)										
Stunting (<-2sd)	105	11275	56.7	45.62	67.06	13	1321	6.6	3.05	13.83
Normal (≥-2sd)	1323	149314	58.9	53.10	64.55	101	10954	4.3	3.39	5.51

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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	
Perak	711	79510	29.1	25.85	32.58	198	20817	7.6	5.35	10.74
Locality of school										
Urban	382	45372	32.2	28.16	36.56	96	10791	7.7	4.97	11.64
Rural	329	34138	25.8	22.02	29.96	102	10026	7.6	4.28	13.06
Sex										
Boys	345	38522	28.2	24.75	31.84	120	12484	9.1	6.19	13.26
Girls	366	40988	30.1	26.04	34.39	78	8333	6.1	3.93	9.38
Ethnicity										
Malay	421	46487	25.7	22.90	28.81	87	9110	5.0	3.56	7.11
Chinese	232	27389	37.0	33.05	41.16	98	10420	14.1	8.94	21.49
Indian	41	4056	35.9	23.73	50.12	3	345	3.1	1.47	6.24
Bumiputera Sabah										
Bumiputera Sarawak	2	168	19.9	3.46	63.32					
Others	15	1410	23.3	17.16	30.88	10	942	15.6	10.58	22.35
School level										
Primary school	212	28707	30.1	24.11	36.90	38	4551	4.8	2.74	8.19
Secondary school	499	50803	28.6	24.90	32.53	160	16266	9.1	6.24	13.20
Class										
Standard 4	90	9152	29.4	20.08	40.73	23	2075	6.7	2.93	14.40
Standard 5	75	9448	29.7	21.88	38.83	10	1068	3.4	1.72	6.44
Standard 6	47	10106	31.3	24.34	39.26	5	1408	4.4	1.54	11.71
Form 1	102	11261	29.9	25.97	34.20	24	2506	6.7	3.23	13.24
Form 2	114	10913	31.9	25.31	39.38	39	3570	10.4	6.24	16.97
Form 3	127	11609	32.9	26.70	39.66	35	3266	9.2	5.78	14.46
Form 4	101	9424	27.2	22.06	33.11	31	2904	8.4	5.12	13.45
Form 5	55	7595	21.0	15.27	28.20	31	4020	11.1	6.44	18.54
School session										
Morning session	464	52024	30.3	25.28	35.75	108	11396	6.6	4.21	10.28
Evening session	109	11330	30.9	25.17	37.38	43	4355	11.9	6.00	22.20
Morning and evening session	138	16156	25.3	20.89	30.21	45	4887	7.6	5.49	10.55
BMI-for-age status (BAZ)										
Thinness (<-2sd)	45	4781	27.2	20.68	34.98	9	866	4.9	2.57	9.27
Normal (≥-2sd - ≤+1sd)	420	46309	27.5	23.62	31.72	121	12726	7.6	5.32	10.62
Overweight (>+1sd - ≤+2sd)	129	14441	31.8	26.62	37.51	32	3464	7.6	4.70	12.15
Obese (>+2sd)	116	13830	33.3	27.86	39.24	36	3761	9.1	5.24	15.22
Height-for-age status (HAZ)										
Stunting (<-2sd)	48	5159	25.9	19.12	34.13	22	2146	10.8	6.16	18.20
Normal (≥-2sd)	663	74351	29.4	25.92	33.04	176	18671	7.4	5.06	10.62

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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	
Perak	130	14068	5.0	3.72	6.74	292	32152	11.5	9.25	14.15
Locality of school										
Urban	80	9066	6.3	4.31	9.12	153	17789	12.4	8.84	17.02
Rural	50	5002	3.7	2.58	5.20	139	14363	10.5	8.32	13.27
Sex										
Boys	82	8884	6.3	4.55	8.73	184	20420	14.5	11.91	17.62
Girls	48	5183	3.7	2.41	5.66	108	11732	8.4	6.07	11.50
Ethnicity										
Malay	74	8069	4.4	3.06	6.31	1244	136929	74.8	71.02	78.15
Chinese	50	5478	7.1	4.09	12.11	427	51761	67.2	61.09	72.86
Indian	2	174	1.5	0.24	8.68	90	9074	77.5	72.02	82.19
Bumiputera Sabah						4	352	81.3	63.13	91.69
Bumiputera Sarawak						8	688	81.7	61.43	92.59
Others	4	347	4.9	2.54	9.21	46	4424	62.3	56.16	68.15
School level										
Primary school	43	5195	5.2	3.80	7.18	121	14415	14.5	9.94	20.76
Secondary school	87	8873	4.9	3.17	7.51	171	17737	9.8	8.16	11.72
Class										
Standard 4	22	2156	6.5	3.73	11.12	58	5467	16.5	10.94	24.11
Standard 5	14	1575	4.8	3.10	7.36	44	5230	15.9	10.52	23.43
Standard 6	7	1464	4.4	2.68	7.18	19	3718	11.2	6.97	17.50
Form 1	16	1758	4.6	2.88	7.40	30	3315	8.8	5.79	13.02
Form 2	24	2199	6.2	3.96	9.69	40	3756	10.7	7.55	14.82
Form 3	17	1556	4.3	2.19	8.34	32	2905	8.1	5.30	12.08
Form 4	20	1969	5.6	2.97	10.28	43	4172	11.8	7.97	17.25
Form 5	10	1391	3.8	1.50	9.25	26	3589	9.8	6.53	14.42
School session										
Morning session	75	8167	4.7	3.37	6.38	183	19685	11.2	8.52	14.62
Evening session	26	2674	7.1	4.64	10.84	47	4989	13.3	8.75	19.78
Morning and evening session	28	3137	4.7	2.80	7.86	62	7477	11.3	8.65	14.51
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	564	3.2	1.27	7.69	30	3185	17.9	12.53	24.88
Normal (≥-2sd - ≤+1sd)	79	8855	5.1	3.63	7.19	168	18505	10.7	8.49	13.45
Overweight (>+1sd - ≤+2sd)	25	2609	5.6	3.09	9.85	54	5854	12.5	8.71	17.61
Obese (>+2sd)	20	2040	4.8	3.34	6.78	39	4457	10.4	7.75	13.90
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	865	4.1	1.85	9.02	27	2875	13.8	9.51	19.51
Normal (≥-2sd)	122	13203	5.1	3.79	6.82	265	29277	11.3	9.00	14.07

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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	
Perak	1819	203227	72.5	69.22	75.60	276	30778	11.0	8.95	13.42
Locality of school										
Urban	857	102994	71.6	67.10	75.65	112	14061	9.8	7.26	13.02
Rural	962	100233	73.5	68.69	77.86	164	16717	12.3	9.30	16.01
Sex										
Boys	874	96977	69.0	65.07	72.71	123	14218	10.1	7.65	13.28
Girls	945	106250	76.0	71.95	79.70	153	16560	11.9	9.19	15.15
Ethnicity										
Malay	178	20211	11.0	8.40	14.36	1244	136929	74.8	71.02	78.15
Chinese	87	9342	12.1	8.17	17.66	427	51761	67.2	61.09	72.86
Indian	14	1414	12.1	7.75	18.34	90	9074	77.5	72.02	82.19
Bumiputera Sabah						4	352	81.3	63.13	91.69
Bumiputera Sarawak	1	75	8.9	2.89	24.20	8	688	81.7	61.43	92.59
Others	12	1110	15.6	10.71	22.28	46	4424	62.3	56.16	68.15
School level										
Primary school	524	68741	69.3	62.91	75.06	80	10811	10.9	7.28	16.02
Secondary school	1295	134486	74.3	70.86	77.41	196	19967	11.0	8.75	13.80
Class										
Standard 4	219	22035	66.5	56.61	75.10	34	3486	10.5	5.30	19.80
Standard 5	188	22412	68.3	61.59	74.37	30	3586	10.9	7.58	15.51
Standard 6	117	24294	73.1	68.21	77.55	16	3740	11.3	7.13	17.32
Form 1	259	28554	75.4	71.56	78.90	39	4237	11.2	9.06	13.75
Form 2	258	24814	70.4	62.70	77.04	48	4493	12.7	8.05	19.59
Form 3	299	27703	76.9	71.15	81.74	42	3878	10.8	7.68	14.87
Form 4	274	25479	72.3	66.49	77.51	39	3603	10.2	6.37	16.02
Form 5	205	27936	76.2	68.43	82.52	28	3756	10.2	6.11	16.68
School session										
Morning session	1161	128936	73.4	69.15	77.28	170	18837	10.7	9.00	12.74
Evening session	259	26491	70.7	63.27	77.24	32	3294	8.8	6.24	12.25
Morning and evening session	396	47363	71.3	67.75	74.57	72	8468	12.7	8.82	18.07
BMI-for-age status (BAZ)										
Thinness (<-2sd)	119	12576	70.6	60.91	78.77	14	1482	8.3	4.60	14.59
Normal (≥-2sd - ≤+1sd)	1139	126611	73.3	69.84	76.58	170	18657	10.8	8.45	13.72
Overweight (>+1sd - ≤+2sd)	299	33580	71.7	64.93	77.61	40	4795	10.2	8.21	12.69
Obese (>+2sd)	261	30373	71.1	65.61	76.05	52	5845	13.7	10.53	17.59
Height-for-age status (HAZ)										
Stunting (<-2sd)	144	15386	73.7	66.19	79.97	19	1763	8.4	4.93	14.08
Normal (≥-2sd)	1675	187841	72.4	69.12	75.51	257	29015	11.2	9.09	13.70

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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
Perak	179	19536	7.0	5.91	8.24	563	62706	22.4	20.51	24.48
Locality of school										
Urban	84	9834	6.9	5.45	8.59	275	32034	22.3	20.05	24.79
Rural	95	9702	7.1	5.59	9.04	288	30672	22.5	19.49	25.91
Sex										
Boys	91	10275	7.3	5.81	9.24	291	32636	23.3	21.18	25.60
Girls	88	9261	6.6	5.06	8.66	272	30070	21.5	18.82	24.54
Ethnicity										
Malay	118	13000	7.1	5.91	8.54	388	43036	23.5	21.33	25.91
Chinese	54	5893	7.7	5.20	11.24	129	15009	19.6	16.91	22.60
Indian	3	315	2.6	0.80	8.39	26	2759	23.2	16.21	32.01
Bumiputera Sabah						1	108	24.9	1.57	87.38
Bumiputera Sarawak	2	173	20.5	8.57	41.63	3	262	31.1	8.60	68.42
Others	2	154	2.2	1.57	3.05	16	1532	21.8	17.13	27.36
School level										
Primary school	48	6081	6.2	5.02	7.58	150	20055	20.4	16.59	24.74
Secondary school	131	13455	7.4	6.00	9.17	413	42651	23.6	21.81	25.40
Class										
Standard 4	23	2368	7.2	4.59	11.17	60	5860	17.9	14.97	21.18
Standard 5	15	1775	5.5	3.18	9.36	52	6401	19.8	13.40	28.36
Standard 6	10	1938	5.8	3.84	8.67	38	7794	23.3	19.77	27.30
Form 1	19	2144	5.6	3.43	9.17	76	8435	22.2	16.38	29.43
Form 2	37	3490	9.9	6.96	13.81	69	6560	18.5	16.28	21.05
Form 3	20	1882	5.2	3.29	8.24	110	10261	28.6	23.97	33.62
Form 4	34	3131	8.9	5.35	14.49	96	9016	25.7	21.46	30.36
Form 5	21	2808	7.7	5.34	10.86	62	8379	22.8	19.95	26.03
School session										
Morning session	106	11595	6.6	5.15	8.48	366	40050	22.9	19.83	26.22
Evening session	31	3396	9.1	6.27	13.01	73	7419	19.9	17.83	22.06
Morning and evening session	42	4544	6.8	4.51	10.26	124	15237	23.0	20.33	25.81
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	700	3.9	1.68	8.95	39	4194	23.6	15.74	33.76
Normal (≥-2sd - ≤+1sd)	128	13895	8.1	6.70	9.68	371	41216	23.9	21.13	26.99
Overweight (>+1sd - ≤+2sd)	28	3105	6.6	4.54	9.52	79	8895	18.9	15.76	22.54
Obese (>+2sd)	16	1836	4.3	2.77	6.72	74	8401	19.9	15.38	25.23
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	1470	7.1	4.17	11.68	52	5525	26.5	21.87	31.77
Normal (≥-2sd)	165	18066	7.0	5.82	8.35	511	57180	22.1	20.07	24.28

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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

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	
Perak	1656	183364	65.6	63.29	67.82	113	13955	5.0	3.00	8.20
Locality of school										
Urban	777	92419	64.4	61.33	67.39	63	9181	6.4	3.34	11.90
Rural	879	90946	66.8	63.55	69.94	50	4774	3.5	1.82	6.67
Sex										
Boys	801	87752	62.7	59.16	66.09	75	9306	6.6	3.94	11.02
Girls	855	95612	68.5	66.22	70.68	38	4649	3.3	1.83	5.98
Ethnicity										
Malay	1121	123496	67.6	64.98	70.05	30	3237	1.8	1.29	2.42
Chinese	392	46095	60.2	56.88	63.39	71	9595	12.5	9.58	16.22
Indian	82	8132	68.3	60.47	75.26	7	696	5.8	3.45	9.73
Bumiputera Sabah	4	325	75.1	12.62	98.43					
Bumiputera Sarawak	5	407	48.4	20.60	77.16					
Others	52	4908	69.9	64.56	74.76	5	427	6.1	3.22	11.21
School level										
Primary school	524	65948	67.0	62.31	71.30	40	6408	6.5	2.66	15.06
Secondary school	1132	117417	64.8	62.41	67.21	73	7547	4.2	2.47	6.95
Class										
Standard 4	229	22722	69.3	66.28	72.10	18	1854	5.7	2.73	11.32
Standard 5	195	22923	71.0	63.56	77.54	10	1166	3.6	1.46	8.67
Standard 6	100	20302	60.7	53.54	67.51	12	3388	10.1	2.86	30.18
Form 1	236	25856	68.1	60.66	74.78	14	1514	4.0	1.84	8.45
Form 2	246	23616	66.8	62.86	70.46	19	1703	4.8	2.84	8.06
Form 3	248	22848	63.6	57.80	68.99	11	947	2.6	1.44	4.78
Form 4	231	21693	61.7	55.72	67.40	14	1302	3.7	1.72	7.79
Form 5	171	23403	63.8	57.63	69.58	15	2081	5.7	2.14	14.23
School session										
Morning session	1036	114799	65.6	62.24	68.73	76	8672	5.0	3.04	7.96
Evening session	242	24796	66.4	61.47	70.95	17	1747	4.7	2.38	9.00
Morning and evening session	372	43064	64.9	58.88	70.43	20	3536	5.3	1.73	15.27
BMI-for-age status (BAZ)										
Thinness (<-2sd)	118	12357	69.5	60.04	77.52	5	535	3.0	0.98	8.86
Normal (≥-2sd - ≤+1sd)	980	108662	63.1	60.05	66.05	74	8429	4.9	3.18	7.47
Overweight (>+1sd - ≤+2sd)	295	33097	70.4	66.08	74.38	17	1917	4.1	2.30	7.14
Obese (>+2sd)	261	29010	68.5	60.21	75.84	17	3074	7.3	2.10	22.26
Height-for-age status (HAZ)										
Stunting (<-2sd)	127	13350	64.1	56.63	70.91	5	487	2.3	0.66	7.89
Normal (≥-2sd)	1529	170014	65.7	63.06	68.27	108	13468	5.2	3.13	8.53

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

Characteristics	Type of snack foods									
	Bread/ bun/ sandwich					French fries				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	850	92500	33.0	29.68	36.55	378	41515	14.8	13.10	16.72
Locality of school										
Urban	402	46435	32.3	28.19	36.80	174	20536	14.3	12.60	16.20
Rural	448	46065	33.7	28.62	39.26	204	20979	15.4	12.48	18.77
Sex										
Boys	426	45661	32.6	28.31	37.13	190	20824	14.9	12.70	17.30
Girls	424	46839	33.5	29.53	37.67	188	20691	14.8	12.28	17.71
Ethnicity										
Malay	591	64234	35.1	30.87	39.55	241	26502	14.5	12.25	17.03
Chinese	181	20682	26.9	23.19	31.04	108	12194	15.9	13.39	18.74
Indian	47	4676	39.3	32.49	46.53	18	1785	15.0	9.25	23.39
Bumiputera Sabah	1	108	24.9	1.57	87.38	1	85	19.5	8.65	38.36
Bumiputera Sarawak	3	253	30.0	12.47	56.42	1	90	10.7	1.03	57.77
Others	27	2548	35.9	22.94	51.31	9	860	12.1	8.61	16.79
School level										
Primary school	203	25965	26.2	22.99	29.74	126	15804	16.0	13.72	18.49
Secondary school	647	66535	36.7	33.65	39.94	252	25712	14.2	11.96	16.78
Class										
Standard 4	80	7900	24.0	20.81	27.42	54	5237	15.9	10.98	22.41
Standard 5	76	9388	28.6	22.02	36.30	49	5640	17.2	14.29	20.56
Standard 6	47	8678	26.1	16.52	38.67	23	4927	14.8	12.88	17.00
Form 1	106	11795	31.1	24.15	38.97	56	6126	16.1	11.01	23.05
Form 2	124	11764	33.3	27.09	40.06	59	5645	16.0	11.48	21.77
Form 3	145	13173	36.5	30.28	43.14	60	5585	15.5	10.61	21.99
Form 4	165	15304	43.6	38.06	49.23	51	4767	13.6	9.79	18.51
Form 5	107	14499	39.7	32.91	46.89	26	3588	9.8	6.54	14.50
School session										
Morning session	535	58236	33.1	29.15	37.36	227	24614	14.0	11.96	16.33
Evening session	108	10969	29.4	22.49	37.36	66	6830	18.3	14.19	23.25
Morning and evening session	206	23205	35.0	27.93	42.81	82	9635	14.5	11.71	17.90
BMI-for-age status (BAZ)										
Thinness (<-2sd)	56	5833	32.4	25.78	39.81	22	2143	11.9	8.52	16.39
Normal (≥-2sd - ≤+1sd)	522	56574	32.8	29.01	36.88	249	27821	16.1	14.19	18.30
Overweight (>+1sd - ≤+2sd)	146	16125	34.3	28.60	40.58	64	7041	15.0	11.26	19.68
Obese (>+2sd)	124	13730	32.3	26.59	38.53	43	4510	10.6	7.14	15.45
Height-for-age status (HAZ)										
Stunting (<-2sd)	70	7529	35.9	28.69	43.80	38	3994	19.0	11.18	30.54
Normal (≥-2sd)	780	84971	32.8	29.46	36.31	340	37522	14.5	13.11	15.96

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

Characteristics	Type of snack foods									
	Biscuit					Fruits				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	587	65472	23.4	19.98	27.14	557	63487	22.7	18.20	27.85
Locality of school										
Urban	286	33369	23.2	18.77	28.42	295	36896	25.7	19.09	33.65
Rural	301	32103	23.5	18.63	29.21	262	26591	19.5	14.98	24.92
Sex										
Boys	242	26717	19.1	16.35	22.09	279	32000	22.8	18.64	27.62
Girls	345	38755	27.7	22.67	33.36	278	31486	22.5	17.47	28.49
Ethnicity										
Malay	389	43497	23.8	19.49	28.64	305	33205	18.1	15.64	20.94
Chinese	160	18232	23.7	17.75	31.01	212	26349	34.3	26.40	43.21
Indian	18	1911	16.1	12.94	19.75	23	2383	20.0	13.80	28.13
Bumiputera Sabah	1	85	19.5	8.65	38.36	1	81	18.7	8.31	36.87
Bumiputera Sarawak	2	177	21.0	1.70	80.36	3	262	31.1	8.60	68.42
Others	17	1571	22.1	15.16	31.14	13	1207	17.0	5.33	42.68
School level										
Primary school	131	17509	17.7	15.59	19.99	197	26219	26.5	16.96	38.84
Secondary school	456	47963	26.5	22.42	30.99	360	37268	20.6	17.10	24.55
Class										
Standard 4	53	5559	16.9	11.94	23.27	95	9937	30.1	22.21	39.45
Standard 5	43	4967	15.1	12.39	18.38	72	9423	28.7	15.75	46.52
Standard 6	35	6983	21.0	13.40	31.36	30	6860	20.6	12.20	32.73
Form 1	86	9536	25.1	16.87	35.69	76	8348	22.0	15.29	30.58
Form 2	89	8636	24.4	19.97	29.50	70	6570	18.6	15.18	22.53
Form 3	86	8092	22.4	16.27	30.00	75	6996	19.4	14.05	26.09
Form 4	106	9903	28.2	22.74	34.36	86	8197	23.3	17.53	30.34
Form 5	89	11796	32.3	26.00	39.30	53	7156	19.6	13.45	27.63
School session										
Morning session	381	41831	23.8	19.90	28.19	359	40618	23.1	18.20	28.87
Evening session	64	6588	17.6	12.80	23.81	86	8861	23.7	17.20	31.78
Morning and evening session	142	17053	25.7	20.56	31.67	111	13897	21.0	15.19	28.20
BMI-for-age status (BAZ)										
Thinness (<-2sd)	35	3670	20.4	14.89	27.27	45	4819	26.8	20.93	33.55
Normal (≥-2sd - ≤+1sd)	387	42490	24.7	20.58	29.24	325	36353	21.1	16.97	25.90
Overweight (>+1sd - ≤+2sd)	97	11719	25.0	17.70	33.96	85	10189	21.7	14.33	31.46
Obese (>+2sd)	68	7592	17.8	13.65	23.00	102	12126	28.5	22.81	34.97
Height-for-age status (HAZ)										
Stunting (<-2sd)	45	4694	22.4	13.67	34.42	30	3076	14.7	9.52	21.92
Normal (≥-2sd)	542	60778	23.5	20.17	27.10	527	60411	23.3	18.74	28.61

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

Characteristics	Type of snack foods									
	Nuts					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	85	9882	3.5	2.61	4.75	340	37730	13.5	10.70	16.83
Locality of school										
Urban	32	4174	2.9	1.83	4.59	152	17928	12.5	8.34	18.29
Rural	53	5707	4.2	2.86	6.06	188	19803	14.5	11.47	18.17
Sex										
Boys	50	6117	4.4	2.99	6.34	164	18249	13.0	10.24	16.40
Girls	35	3764	2.7	1.54	4.65	176	19482	13.9	10.56	18.15
Ethnicity										
Malay	63	6917	3.8	2.73	5.20	274	31028	16.9	14.65	19.53
Chinese	18	2539	3.3	1.74	6.19	39	4207	5.5	3.21	9.21
Indian	4	425	3.6	1.42	8.72	14	1306	11.0	7.45	15.88
Bumiputera Sabah										
Bumiputera Sarawak						2	178	21.2	6.38	51.37
Others						11	1011	14.3	11.78	17.14
School level										
Primary school	23	3397	3.4	1.94	6.00	94	12193	12.3	7.41	19.78
Secondary school	62	6485	3.6	2.53	5.05	246	25538	14.1	11.13	17.70
Class										
Standard 4	10	1045	3.2	1.51	6.54	28	2674	8.1	5.45	11.89
Standard 5	9	1395	4.3	1.75	9.99	35	3837	11.7	6.61	19.88
Standard 6	4	957	2.9	1.06	7.57	31	5682	17.1	8.44	31.57
Form 1	17	1853	4.9	2.99	7.88	40	4340	11.4	7.63	16.79
Form 2	11	1086	3.1	1.55	5.97	49	4820	13.6	9.21	19.71
Form 3	14	1291	3.6	1.74	7.19	64	5916	16.4	12.77	20.77
Form 4	11	1001	2.9	1.09	7.26	58	5595	15.9	10.07	24.27
Form 5	9	1253	3.4	2.04	5.71	35	4866	13.3	8.38	20.52
School session										
Morning session	45	5158	2.9	2.02	4.24	209	22742	12.9	9.56	17.28
Evening session	15	1538	4.1	2.40	6.98	35	3876	10.4	6.23	16.80
Morning and evening session	23	3007	4.5	2.92	6.98	95	11022	16.6	12.70	21.47
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	337	1.9	0.59	5.78	24	2584	14.4	9.92	20.32
Normal (≥-2sd - ≤+1sd)	49	5570	3.2	2.17	4.79	218	24590	14.3	11.03	18.26
Overweight (>+1sd - ≤+2sd)	17	1975	4.2	2.78	6.32	49	5188	11.0	8.32	14.53
Obese (>+2sd)	16	2000	4.7	2.94	7.43	49	5368	12.6	8.44	18.44
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	100	0.5	0.06	3.74	39	4110	19.6	14.98	25.21
Normal (≥-2sd)	84	9781	3.8	2.79	5.08	301	33621	13.0	10.17	16.42

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
Perak	309	34737	12.4	10.51	14.58
Locality of school					
Urban	156	19042	13.3	10.49	16.64
Rural	153	15695	11.5	9.28	14.16
Sex					
Boys	121	13372	9.5	7.81	11.60
Girls	188	21365	15.3	11.74	19.63
Ethnicity					
Malay	185	20966	11.5	9.14	14.25
Chinese	102	11664	15.2	12.69	18.08
Indian	11	1142	9.6	4.71	18.56
Bumiputera Sabah	1	75	17.3	7.72	34.30
Bumiputera Sarawak	3	239	28.4	15.37	46.31
Others	7	652	9.2	4.95	16.42
School level					
Primary school	115	15319	15.5	13.72	17.41
Secondary school	194	19419	10.7	8.54	13.38
Class					
Standard 4	41	4030	12.2	10.48	14.21
Standard 5	42	5109	15.6	12.58	19.14
Standard 6	32	6180	18.6	12.80	26.21
Form 1	34	3700	9.8	6.04	15.36
Form 2	51	4964	14.0	10.67	18.24
Form 3	45	4224	11.7	8.17	16.46
Form 4	48	4393	12.5	8.44	18.14
Form 5	16	2138	5.9	3.55	9.50
School session					
Morning session	208	23179	13.2	11.25	15.40
Evening session	48	4798	12.9	8.98	18.05
Morning and evening session	53	6760	10.2	7.19	14.26
BMI-for-age status (BAZ)					
Thinness (<-2sd)	24	2712	15.1	9.44	23.18
Normal (\geq -2sd - \leq +1sd)	206	23270	13.5	11.00	16.46
Overweight (>+1sd - \leq +2sd)	38	4205	9.0	6.79	11.72
Obese (>+2sd)	41	4550	10.7	7.31	15.39
Height-for-age status (HAZ)					
Stunting (<-2sd)	25	2554	12.2	8.66	16.86
Normal (\geq -2sd)	284	32184	12.4	10.47	14.67

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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	
Perak	287	34425	12.3	8.65	17.14	1469	160889	57.4	50.15	64.31
Locality of school										
Urban	164	21673	15.1	9.14	23.81	705	81049	56.3	45.14	66.92
Rural	123	12752	9.3	7.33	11.83	764	79840	58.5	49.64	66.80
Sex										
Boys	169	20257	14.4	10.54	19.37	745	80849	57.5	50.15	64.51
Girls	118	14168	10.1	6.26	16.00	724	80039	57.3	48.78	65.35
Ethnicity										
Malay	185	21557	11.8	7.13	18.79	1042	115046	62.8	55.95	69.08
Chinese	80	10823	14.1	9.10	21.19	299	33118	43.1	33.05	53.82
Indian	11	1080	9.1	5.34	15.01	75	7770	65.3	49.85	78.05
Bumiputera Sabah	1	108	24.9	1.57	87.38	2	169	39.1	15.61	68.98
Bumiputera Sarawak	1	85	10.0	3.25	27.07	5	411	48.8	47.80	49.81
Others	9	772	10.9	2.73	34.68	46	4376	61.7	50.33	71.86
School level										
Primary school	136	18961	19.1	11.89	29.22	463	56462	56.9	39.59	72.62
Secondary school	151	15465	8.5	6.90	10.53	1006	104427	57.7	51.83	63.29
Class										
Standard 4	55	5524	16.8	11.90	23.12	191	18751	56.9	43.77	69.16
Standard 5	46	5432	16.6	10.66	24.90	178	20110	61.4	43.51	76.69
Standard 6	35	8004	23.8	12.25	41.20	94	17601	52.4	29.09	74.69
Form 1	39	4320	11.4	8.43	15.11	200	21956	57.7	48.63	66.25
Form 2	35	3189	9.0	6.07	13.13	221	21389	60.3	51.33	68.66
Form 3	37	3490	9.7	6.79	13.71	229	21337	59.4	52.04	66.33
Form 4	25	2412	6.9	4.78	9.77	210	19802	56.4	50.14	62.43
Form 5	15	2053	5.6	2.90	10.63	146	19944	54.6	46.21	62.71
School session										
Morning session	915	99587	56.7	49.94	63.29	188	22185	12.6	8.64	18.13
Evening session	224	22931	61.2	50.99	70.57	47	5031	13.4	9.61	18.46
Morning and evening session	325	37756	56.6	45.35	67.20	51	7120	10.7	6.46	17.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	22	2211	12.4	6.87	21.28	108	11705	65.5	56.37	73.68
Normal (≥-2sd - ≤+1sd)	187	22557	13.1	8.89	18.79	900	98065	56.8	49.36	63.93
Overweight (>+1sd - ≤+2sd)	42	5328	11.3	7.61	16.55	243	26566	56.5	48.52	64.19
Obese (>+2sd)	36	4329	10.2	7.23	14.09	216	24315	57.1	46.94	66.62
Height-for-age status (HAZ)										
Stunting (<-2sd)	21	2287	11.0	6.57	17.95	124	13079	63.1	53.20	72.00
Normal (≥-2sd)	266	32138	12.4	8.57	17.55	1345	147809	56.9	49.48	64.07

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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

Characteristics	snack food and/ or drinks usually bought out of school area in a week				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
Perak	762	85080	30.3	23.57	38.09
Locality of school					
Urban	332	41146	28.6	19.41	39.98
Rural	430	43933	32.2	22.95	43.05
Sex					
Boys	350	39527	28.1	22.21	34.87
Girls	412	45553	32.6	24.22	42.24
Ethnicity					
Malay	435	46734	25.5	17.95	34.86
Chinese	268	32842	42.8	36.78	48.98
Indian	32	3053	25.7	13.84	42.56
Bumiputera Sabah	2	156	36.0	14.69	64.73
Bumiputera Sarawak	4	346	41.2	30.56	52.63
Others	21	1948	27.5	10.16	55.86
School level					
Primary school	169	23866	24.0	12.00	42.33
Secondary school	593	61214	33.8	27.48	40.76
Class					
Standard 4	85	8668	26.3	14.59	42.74
Standard 5	52	7203	22.0	8.34	46.62
Standard 6	32	7996	23.8	10.93	44.29
Form 1	107	11785	31.0	21.68	42.09
Form 2	116	10881	30.7	22.12	40.83
Form 3	123	11103	30.9	23.12	39.95
Form 4	140	12906	36.7	29.96	44.10
Form 5	107	14539	39.8	33.53	46.41
School session					
Morning session	484	53757	30.6	23.63	38.65
Evening session	93	9486	25.3	16.74	36.40
Morning and evening session	185	21836	32.7	23.33	43.76
BMI-for-age status (BAZ)					
Thinness (<-2sd)	40	3944	22.1	14.15	32.77
Normal (≥-2sd - ≤+1sd)	469	52052	30.1	23.34	37.95
Overweight (>+1sd - ≤+2sd)	134	15114	32.2	25.56	39.54
Obese (>+2sd)	119	13969	32.8	23.56	43.55
Height-for-age status (HAZ)					
Stunting (<-2sd)	52	5364	25.9	16.84	37.56
Normal (≥-2sd)	710	79716	30.7	23.99	38.33

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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	
Perak	393	42140	15.0	12.04	18.59	314	35834	12.8	10.39	15.60
Locality of school										
Urban	167	18727	13.0	9.48	17.60	147	18555	12.9	9.51	17.24
Rural	226	23414	17.1	13.01	22.25	167	17279	12.6	9.57	16.54
Sex										
Boys	167	18197	13.0	10.41	16.02	156	18256	13.0	10.06	16.64
Girls	226	23943	17.1	12.78	22.48	158	17578	12.5	9.55	16.32
Ethnicity										
Malay	257	28829	15.7	12.70	19.31	190	20825	11.4	8.69	14.72
Chinese	92	9154	11.9	6.32	21.28	102	12825	16.7	13.75	20.04
Indian	25	2442	20.5	14.16	28.77	12	1267	10.6	4.71	22.31
Bumiputera Sabah	2	165	38.2	15.37	67.85					
Bumiputera Sarawak	2	159	18.9	5.80	46.96					
Others	15	1391	19.6	13.56	27.48	10	917	12.9	6.91	22.87
School level										
Primary school	113	13411	13.5	7.63	22.86	80	11243	11.3	7.54	16.73
Secondary school	280	28729	15.8	13.22	18.86	234	24591	13.6	10.77	16.92
Class										
Standard 4	43	3972	12.1	6.26	21.98	39	4283	13.0	7.58	21.41
Standard 5	41	4337	13.2	7.01	23.59	27	3450	10.5	7.22	15.11
Standard 6	29	5101	15.3	7.93	27.41	14	3510	10.5	5.38	19.52
Form 1	51	5551	14.6	9.87	21.14	50	5528	14.6	8.59	23.62
Form 2	55	5219	14.7	11.02	19.38	52	5022	14.2	10.81	18.34
Form 3	62	5779	16.0	12.55	20.17	47	4600	12.7	5.64	26.26
Form 4	69	6334	18.0	13.47	23.60	44	4060	11.5	8.37	15.67
Form 5	43	5845	15.9	10.81	22.88	41	5381	14.7	9.59	21.80
School session										
Morning session	247	26227	14.9	11.68	18.85	201	22619	12.9	10.03	16.34
Evening session	54	5483	14.7	11.28	18.90	54	5644	15.1	9.40	23.41
Morning and evening session	92	10430	15.7	10.62	22.48	58	7366	11.1	7.95	15.18
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	2627	14.6	8.54	23.81	22	2296	12.8	7.17	21.67
Normal (≥-2sd - ≤+1sd)	266	28556	16.5	12.77	21.13	198	22131	12.8	10.19	15.98
Overweight (>+1sd - ≤+2sd)	52	5658	12.1	8.37	17.06	50	5907	12.6	9.35	16.73
Obese (>+2sd)	49	5149	12.1	8.21	17.46	44	5500	12.9	9.24	17.76
Height-for-age status (HAZ)										
Stunting (<-2sd)	41	4334	20.7	14.54	28.51	28	2935	14.0	8.87	21.39
Normal (≥-2sd)	352	37806	14.6	11.67	18.03	286	32899	12.7	10.35	15.43

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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	
Perak	684	74331	26.5	21.30	32.44	64	8069	2.9	1.88	4.37
Locality of school										
Urban	391	44416	30.9	23.64	39.15	37	5192	3.6	2.10	6.13
Rural	293	29915	21.9	15.89	29.40	27	2877	2.1	1.26	3.49
Sex										
Boys	395	42658	30.4	25.06	36.27	43	5226	3.7	2.62	5.25
Girls	289	31673	22.6	16.95	29.48	21	2843	2.0	0.93	4.38
Ethnicity										
Malay	502	54945	30.0	24.37	36.26	42	4956	2.7	1.63	4.45
Chinese	144	15500	20.1	11.39	33.09	16	2536	3.3	1.32	7.96
Indian	24	2527	21.2	14.88	29.35	3	315	2.6	1.22	5.64
Bumiputera Sabah	1	108	24.9	1.57	87.38					
Bumiputera Sarawak	1	88	10.5	1.04	56.71					
Others	12	1163	16.4	12.03	21.93	3	262	3.7	0.71	17.00
School level										
Primary school	157	20223	20.4	11.18	34.31	30	4378	4.4	2.65	7.27
Secondary school	527	54108	29.8	25.32	34.76	34	3691	2.0	1.20	3.42
Class										
Standard 4	58	5858	17.8	9.96	29.72	8	832	2.5	1.56	4.07
Standard 5	64	7786	23.8	13.31	38.76	16	2143	6.5	4.49	9.43
Standard 6	35	6579	19.7	8.18	40.33	6	1403	4.2	1.48	11.34
Form 1	95	10372	27.3	20.58	35.31	9	969	2.6	1.67	3.89
Form 2	133	12836	36.2	28.80	44.31	7	692	2.0	0.85	4.42
Form 3	125	11584	32.1	27.00	37.59	8	774	2.1	0.93	4.87
Form 4	112	10718	30.4	23.30	38.65	5	521	1.5	0.37	5.79
Form 5	62	8599	23.4	17.36	30.88	5	735	2.0	0.64	6.13
School session										
Morning session	430	47127	26.8	20.90	33.65	36	4811	2.7	1.58	4.69
Evening session	110	11090	29.7	21.00	40.17	13	1311	3.5	2.11	5.79
Morning and evening session	139	15615	23.4	16.82	31.67	15	1947	2.9	1.43	5.86
BMI-for-age status (BAZ)										
Thinness (<-2sd)	58	6284	34.9	25.25	45.99	3	333	1.9	0.57	5.83
Normal (≥-2sd - ≤+1sd)	414	45436	26.3	20.69	32.80	37	4930	2.9	1.72	4.71
Overweight (>+1sd - ≤+2sd)	118	12614	26.9	21.93	32.47	9	1190	2.5	1.12	5.63
Obese (>+2sd)	93	9909	23.3	16.29	32.07	15	1616	3.8	2.13	6.68
Height-for-age status (HAZ)										
Stunting (<-2sd)	43	4624	22.0	14.43	32.17	6	687	3.3	1.49	7.06
Normal (≥-2sd)	641	69707	26.9	21.66	32.78	58	7382	2.8	1.82	4.41

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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	
Perak	204	23198	8.3	6.59	10.34	193	21851	7.8	5.83	10.33
Locality of school										
Urban	103	13161	9.1	7.63	10.92	76	9280	6.4	3.64	11.18
Rural	101	10038	7.3	4.69	11.33	117	12571	9.2	7.35	11.47
Sex										
Boys	91	10333	7.4	5.59	9.62	98	11326	8.1	5.61	11.46
Girls	113	12866	9.2	6.91	12.11	95	10525	7.5	5.32	10.51
Ethnicity										
Malay	102	11563	6.3	5.04	7.88	159	18337	10.0	8.26	12.07
Chinese	90	10518	13.7	11.96	15.57	16	1782	2.3	1.38	3.86
Indian	5	466	3.9	2.53	6.02	6	604	5.1	2.57	9.76
Bumiputera Sabah						1	85	19.5	8.65	38.36
Bumiputera Sarawak	1	79	9.4	0.93	53.58					
Others	6	572	8.1	6.29	10.26	11	1043	14.7	9.18	22.71
School level										
Primary school	66	8995	9.1	6.02	13.46	75	9614	9.7	5.86	15.65
Secondary school	138	14204	7.8	6.02	10.12	118	12237	6.7	5.01	9.03
Class										
Standard 4	22	1959	5.9	2.15	15.37	24	2300	7.0	4.59	10.48
Standard 5	27	3324	10.1	5.47	18.05	26	2703	8.3	4.37	15.05
Standard 6	17	3711	11.1	6.70	17.87	25	4611	13.8	5.90	29.05
Form 1	17	1931	5.1	2.96	8.60	23	2556	6.7	4.76	9.45
Form 2	19	1736	4.9	2.84	8.31	19	1863	5.3	2.87	9.43
Form 3	32	2955	8.2	4.94	13.24	34	3173	8.8	6.06	12.56
Form 4	42	3958	11.2	8.05	15.48	27	2554	7.3	4.39	11.74
Form 5	28	3625	9.9	6.20	15.39	15	2090	5.7	3.27	9.77
School session										
Morning session	140	15617	8.9	6.85	11.44	127	13797	7.8	5.50	11.07
Evening session	22	2341	6.3	4.62	8.45	14	1459	3.9	2.25	6.72
Morning and evening session	41	5151	7.7	5.50	10.77	52	6594	9.9	7.27	13.34
BMI-for-age status (BAZ)										
Thinness (<-2sd)	12	1289	7.2	3.93	12.70	16	1714	9.5	5.97	14.86
Normal (≥-2sd - ≤+1sd)	142	16033	9.3	7.20	11.89	112	12384	7.2	4.99	10.19
Overweight (>+1sd - ≤+2sd)	22	2860	6.1	3.74	9.78	30	3418	7.3	4.79	10.92
Obese (>+2sd)	28	3016	7.1	4.51	10.95	35	4335	10.2	8.15	12.63
Height-for-age status (HAZ)										
Stunting (<-2sd)	11	1206	5.8	2.84	11.29	17	1780	8.5	5.71	12.45
Normal (≥-2sd)	193	21992	8.5	6.81	10.50	176	20071	7.7	5.70	10.41

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				
	Ice cream				
	Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper	
Perak	295	33299	11.9	9.08	15.37
Locality of school					
Urban	140	16220	11.3	7.64	16.32
Rural	155	17079	12.5	8.65	17.74
Sex					
Boys	120	13563	9.7	7.54	12.30
Girls	175	19736	14.1	9.64	20.12
Ethnicity					
Malay	211	24268	13.2	9.53	18.11
Chinese	61	6716	8.7	6.33	11.91
Indian	17	1777	14.9	6.76	29.83
Bumiputera Sabah					
Bumiputera Sarawak	2	178	21.2	6.38	51.37
Others	4	360	5.1	2.54	9.84
School level					
Primary school	140	17024	17.2	11.64	24.62
Secondary school	155	16275	9.0	7.54	10.64
Class					
Standard 4	58	5768	17.5	11.29	26.14
Standard 5	48	5288	16.1	12.33	20.84
Standard 6	34	5969	17.9	8.81	32.90
Form 1	31	3444	9.1	6.26	12.97
Form 2	31	3022	8.5	5.41	13.19
Form 3	31	2902	8.0	5.66	11.28
Form 4	35	3233	9.2	6.93	12.07
Form 5	27	3674	10.0	5.72	16.97
School session					
Morning session	194	21293	12.1	9.28	15.65
Evening session	37	4051	10.8	7.14	16.15
Morning and evening session	64	7955	11.9	6.79	20.16
BMI-for-age status (BAZ)					
Thinness (<-2sd)	21	2330	12.9	7.17	22.25
Normal (\geq -2sd - \leq +1sd)	182	20677	12.0	9.36	15.18
Overweight ($>$ +1sd - \leq +2sd)	45	4892	10.4	7.57	14.18
Obese ($>$ +2sd)	47	5400	12.7	7.98	19.55
Height-for-age status (HAZ)					
Stunting (<-2sd)	28	2987	14.2	9.07	21.67
Normal (\geq -2sd)	267	30312	11.7	8.95	15.10

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

Characteristics	Sources of media									
	Social media					Television				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	938	104154	37.2	33.11	41.43	927	102495	36.6	30.90	42.67
Locality of school										
Urban	456	54014	37.6	32.87	42.67	410	48265	33.6	24.96	43.58
Rural	482	50140	36.7	30.18	43.72	517	54229	39.7	33.72	45.96
Sex										
Boys	437	49116	35.1	30.35	40.08	463	51160	36.5	29.44	44.24
Girls	501	55038	39.3	33.97	44.88	464	51335	36.6	31.22	42.43
Ethnicity										
Malay	675	73770	40.3	35.28	45.55	725	80363	43.9	41.05	46.81
Chinese	208	24799	32.3	26.87	38.16	123	14550	18.9	15.61	22.75
Indian	33	3468	29.1	20.34	39.83	42	4226	35.5	27.93	43.88
Bumiputera Sabah	3	277	64.0	35.27	85.31					
Bumiputera Sarawak	5	431	51.2	50.19	52.20	4	351	41.7	20.27	66.79
Others	14	1409	19.9	16.77	23.34	33	3005	42.3	34.29	50.83
School level										
Primary school	205	27792	28.0	24.67	31.51	320	39361	39.6	28.25	52.20
Secondary school	733	76362	42.2	38.89	45.67	607	63134	34.9	29.16	41.17
Class										
Standard 4	82	7872	23.8	17.78	31.14	130	12604	38.1	29.31	47.83
Standard 5	72	8377	25.6	21.37	30.31	121	13594	41.5	28.44	55.91
Standard 6	51	11543	34.4	25.75	44.13	69	13163	39.2	25.30	55.05
Form 1	123	13529	35.8	30.30	41.79	128	14174	37.6	29.04	46.90
Form 2	137	13084	37.0	30.50	43.99	134	12888	36.4	30.47	42.86
Form 3	171	16098	44.8	36.47	53.41	122	11344	31.6	25.28	38.59
Form 4	176	16538	47.0	41.53	52.45	129	12047	34.2	25.55	44.05
Form 5	126	17113	46.9	40.78	53.09	94	12681	34.7	27.69	42.54
School session										
Morning session	588	64244	36.6	31.48	41.97	574	62872	35.8	29.46	42.65
Evening session	138	13784	37.1	30.80	43.91	132	13647	36.8	27.06	47.65
Morning and evening session	210	25916	38.9	31.86	46.42	221	25975	39.0	33.30	44.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	63	6571	36.8	28.23	46.27	70	7516	42.1	30.61	54.48
Normal (≥-2sd - ≤+1sd)	572	63929	37.1	32.51	41.85	560	61262	35.5	29.52	41.99
Overweight (>+1sd - ≤+2sd)	159	17396	36.9	30.85	43.40	150	17100	36.3	29.87	43.21
Obese (>+2sd)	144	16257	38.3	32.50	44.53	145	16379	38.6	30.46	47.48
Height-for-age status (HAZ)										
Stunting (<-2sd)	77	8223	39.5	29.99	49.82	88	9341	44.8	37.22	52.72
Normal (≥-2sd)	861	95930	37.0	33.03	41.14	839	93153	35.9	30.13	42.15

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

Characteristics	Sources of media									
	Radio					Printed media				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Perak	78	9438	3.4	2.32	4.87	155	16655	5.9	4.76	7.40
Locality of school										
Urban	41	5708	4.0	2.75	5.71	65	7228	5.0	3.74	6.76
Rural	37	3730	2.7	1.34	5.48	90	9427	6.9	5.22	9.06
Sex										
Boys	48	6036	4.3	2.83	6.50	73	7681	5.5	4.24	7.07
Girls	30	3402	2.4	1.50	3.90	82	8975	6.4	4.72	8.64
Ethnicity										
Malay	40	4694	2.6	1.69	3.88	93	10265	5.6	4.06	7.69
Chinese	25	3436	4.5	2.10	9.26	45	4815	6.3	4.26	9.11
Indian	11	1123	9.4	5.56	15.58	8	760	6.4	3.84	10.43
Bumiputera Sabah										
Bumiputera Sarawak										
Others	2	184	2.6	1.86	3.61	4	184	391667.9	216.66	148.77
School level										
Primary school	41	5521	5.6	3.67	8.32	47	5636	5.7	3.79	8.40
Secondary school	37	3917	2.2	1.49	3.15	108	11019	6.1	4.68	7.91
Class										
Standard 4	20	1900	5.7	3.18	10.16	18	1735	5.2	3.85	7.12
Standard 5	12	1498	4.6	2.52	8.15	19	1921	5.9	3.18	10.57
Standard 6	9	2123	6.3	3.27	11.85	10	1980	5.9	2.94	11.46
Form 1	10	1085	2.9	1.24	6.50	17	1900	5.0	3.27	7.67
Form 2	13	1292	3.7	1.80	7.27	25	2367	6.7	4.84	9.18
Form 3	6	548	1.5	0.65	3.52	10	873	2.4	1.04	5.57
Form 4	2	205	0.6	0.14	2.44	36	3266	9.3	5.86	14.38
Form 5	6	786	2.2	0.90	5.05	20	2613	7.2	4.49	11.22
School session										
Morning session	40	4951	2.8	1.64	4.80	95	9659	5.5	4.25	7.09
Evening session	17	1784	4.8	2.53	8.94	23	2413	6.5	4.40	9.50
Morning and evening session	21	2702	4.1	2.51	6.50	37	4583	6.9	4.51	10.36
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	520	2.9	0.90	8.98	16	1671	9.4	6.25	13.78
Normal (≥-2sd - ≤+1sd)	46	5948	3.4	2.24	5.27	96	10326	6.0	4.56	7.82
Overweight (>+1sd - ≤+2sd)	10	1137	2.4	1.24	4.63	23	2571	5.5	3.40	8.64
Obese (>+2sd)	17	1833	4.3	2.09	8.74	20	2087	4.9	2.99	7.99
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	414	2.0	0.79	4.92	11	1086	5.2	2.70	9.83
Normal (≥-2sd)	74	9024	3.5	2.39	5.04	144	15570	6.0	4.71	7.62

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
Perak	748	83531	29.8	24.22	36.09
Locality of school					
Urban	384	46362	32.3	23.57	42.49
Rural	364	37169	27.2	21.39	33.90
Sex					
Boys	373	40678	29.0	23.07	35.82
Girls	375	42854	30.6	24.16	37.88
Ethnicity					
Malay	367	40277	22.0	20.31	23.80
Chinese	323	37788	49.2	44.64	53.68
Indian	30	2953	24.8	14.63	38.87
Bumiputera Sabah	2	156	36.0	14.69	64.73
Bumiputera Sarawak	3	238	28.3	15.29	46.24
Others	23	2120	29.9	18.36	44.67
School level					
Primary school	47	5636	5.7	3.79	8.40
Secondary school	108	11019	6.1	4.68	7.91
Class					
Standard 4	96	10195	30.8	18.46	46.77
Standard 5	78	10338	31.6	16.77	51.38
Standard 6	41	8601	25.6	21.20	30.55
Form 1	99	10781	28.6	20.26	38.62
Form 2	108	10240	29.0	22.17	36.83
Form 3	132	12015	33.4	25.32	42.65
Form 4	119	11132	31.6	23.65	40.81
Form 5	75	10231	28.0	20.20	37.47
School session					
Morning session	504	56407	32.1	25.48	39.54
Evening session	92	9722	26.2	16.22	39.37
Morning and evening session	148	16907	25.4	21.08	30.20
BMI-for-age status (BAZ)					
Thinness (<-2sd)	38	3880	21.7	13.88	32.33
Normal (≥-2sd - ≤+1sd)	489	54315	31.5	25.65	37.96
Overweight (>+1sd - ≤+2sd)	122	13854	29.4	23.85	35.61
Obese (>+2sd)	99	11483	27.1	20.47	34.89
Height-for-age status (HAZ)					
Stunting (<-2sd)	45	4543	21.8	15.27	30.16
Normal (≥-2sd)	703	78988	30.5	24.61	37.01

3.5 Physical activity among adolescents (Primary 4 to Secondary 5) in Perak

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3.5.1 Introduction

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

3.5.2 Objectives

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

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

3.5.3 Variable definitions

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

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

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

3.5.4 Findings

The mean score for the physical activity level for adolescent in Perak was 2.32 (95% CI: 2.22, 2.43) which falls into the higher side of 'low physical activity' category under PAQ-C (**Table 3.5.1**). Overall prevalence of physically active adolescents was 46.0% (95% CI: 39.50, 52.66). In terms of school locality, there was no significant difference of physically active between students studying in urban area [(44.6% (95% CI: 35.75, 53.80))] and students from rural areas [(47.5% (95% CI: 38.28, 56.90))]. Boys showed higher prevalence of physically active [56.0% (95% CI: 48.76, 63.02)] compared to girls, 36.1% (95% CI: 29.42, 43.43). The prevalence of physically active among primary students was 56.9% (95% CI: 44.39, 68.54)] and 40.5% (95% CI: 35.02, 46.18) among secondary students. In term of BMI-for-age status, there is no significant different among thinness [44.4% (95% CI: 33.45, 55.92)], normal [46.1% (95% CI: 39.22, 53.21)], overweight [45.4% (95% CI: 36.42, 54.72)] and obese [47.1% (95% CI: 39.90, 54.45)] (**Table 3.5.2**).

The most popular spare-time physical activity according to percentage of adolescents in Perak were walking for exercise [83.1% (95% CI: 79.58, 86.09)] (**Table 3.5.3**). About 14.5% (95% CI: 12.31, 17.07)] of adolescents reported they do not attend/very rarely participated in PE class (**Table 3.5.4**). During school days, 32.7% (95% CI: 28.15, 37.58) of adolescent watched television, using computer and playing video games more than 2 hours per day (**Table 3.5.6**). Meanwhile, 51.3% (95% CI: 44.83, 57.63) 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 Perak (46.0%) was higher than national prevalence (44.6%). Boys and primary school students was significantly higher prevalence of physically active than girls and secondary school students. There was no significant difference in terms of school locality and BMI-for-age status of adolescents. The prevalence of adolescents that engaged on screen activities more than 2 hours during was higher during weekends than school days.

3.5.6 Conclusion

Based on National Health and Morbidity Survey (2017), 54.0% of adolescents in Perak were physically inactive. The prevalence of physically inactive among Malaysian adolescents had slightly decreased as compared to the Malaysian School-Based Nutrition Survey (2012) but remains high. Therefore, more programmes and strategies to increase physical activity should be implemented among children and adolescents in Malaysia.

3.5.7 Recommendations

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

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

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

Characteristic	Mean total scores in PAQ-C		
	Mean	95% CI	
		Lower	Upper
PERAK	2.32	2.22	2.43
Locality of school			
Urban	2.29	2.15	2.43
Rural	2.35	2.20	2.51
Sex			
Boys	2.45	2.34	2.56
Girls	2.19	2.08	2.30
Class			
Standard 4	2.49	2.39	2.60
Standard 5	2.45	2.28	2.63
Standard 6	2.51	2.17	2.86
Form 1	2.34	2.23	2.45
Form 2	2.30	2.19	2.41
Form 3	2.24	2.13	2.35
Form 4	2.19	2.09	2.29
Form 5	2.12	1.96	2.28
Ethnicity			
Malay	2.41	2.31	2.50
Chinese	2.08	1.92	2.24
Indian	2.48	2.33	2.62
Bumiputera Sabah	2.01	1.53	2.49
Bumiputera Sarawak	2.48	2.33	2.63
Others	2.58	2.31	2.86
School Category			
Primary	2.49	2.30	2.68
Secondary	2.24	2.14	2.33
BMI-for-age status (BAZ)			
Thinness (<-2sd)	2.32	2.16	2.48
Normal (≥-2sd - ≤+1sd)	2.32	2.21	2.43
Overweight (>+1sd - ≤+2sd)	2.33	2.20	2.46
Obese (>+2sd)	2.32	2.22	2.42
Height-for-age status (HAZ)			
Stunting (<-2sd)	2.33	2.16	2.50
Normal (≥-2sd)	2.33	2.16	2.50

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)

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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
PERAK	1071	119986	46.0	39.50	52.66	1271	140792	54.0	47.34	60.50
Locality of School										
Urban	502	59686	44.6	35.75	53.80	618	74156	55.4	46.20	64.25
Rural	569	60299	47.5	38.28	56.90	653	66636	52.5	43.10	61.72
Sex										
Boys	652	72573	56.0	48.76	63.02	517	56982	44.0	36.98	51.24
Girls	419	47412	36.1	29.42	43.43	754	83810	63.9	56.57	70.58
Class										
Standard 4	169	16884	58.7	50.95	66.02	118	11885	41.3	33.98	49.05
Standard 5	135	15002	51.6	33.21	69.53	109	14085	48.4	30.47	66.79
Standard 6	91	18165	60.3	44.77	73.92	54	11983	39.7	26.08	55.23
Form 1	152	16756	47.5	39.64	55.52	168	18508	52.5	44.48	60.36
Form 2	149	14109	42.3	34.44	50.54	201	19257	57.7	49.46	65.56
Form 3	153	14038	40.9	33.91	48.25	218	20299	59.1	51.75	66.09
Form 4	135	12833	37.6	30.32	45.41	229	21328	62.4	54.59	69.68
Form 5	87	12200	34.2	25.17	44.59	174	23446	65.8	55.41	74.83
Ethnicity										
Malay	782	87770	51.5	45.39	57.59	766	82610	48.5	42.41	54.61
Chinese	190	22577	30.9	21.66	42.01	426	50437	69.1	57.99	78.34
Indian	51	5218	52.3	44.16	60.41	47	4750	47.7	39.59	55.84
Bumiputera Sabah	1	75	21.3	7.64	46.85	3	277	78.7	53.15	92.36
Bumiputera Sarawak	6	528	68.8	47.33	84.40	3	239	31.2	15.60	52.67
Others	41	3818	60.6	39.50	78.43	26	2478	39.4	21.57	60.50
School Category										
Primary	395	50050	56.9	44.39	68.54	281	37953	43.1	31.46	55.61
Secondary	676	69936	40.5	35.02	46.18	990	102839	59.5	53.82	64.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	69	7184	44.4	33.45	55.92	84	8997	55.6	44.08	66.55
Normal (≥-2sd - ≤+1sd)	660	74629	46.1	39.22	53.21	794	87131	53.9	46.79	60.78
Overweight (>+1sd - ≤+2sd)	182	19826	45.4	36.42	54.72	207	23832	54.6	45.28	63.58
Obese (>+2sd)	160	18346	47.1	39.90	54.45	184	20595	52.9	45.55	60.10
Height-for-age status (HAZ)										
Stunting (<-2sd)	78	8099	42.6	35.10	50.49	102	10906	57.4	49.51	64.90
Normal (≥-2sd)	993	111887	46.3	39.47	53.23	1169	129886	53.7	46.77	60.53

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	2087	83.1	79.58	86.09
Jogging/Running	1901	76.4	71.41	80.81
Tagging	1779	71.9	63.70	78.86
Badminton	1714	69.3	62.80	75.12
Cycling	1530	62.0	53.56	69.78

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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
PERAK	373	40723	14.5	12.31	17.07	1514	169990	60.6	57.30	63.90
Locality of school										
Urban	172	20730	14.4	11.50	17.98	717	86420	60.2	56.90	63.40
Rural	201	19994	14.6	11.47	18.47	797	83570	61.1	55.17	66.77
Sex										
Boys	216	24246	17.3	14.85	20.04	690	76973	54.9	50.72	59.01
Girls	157	16477	11.8	8.67	15.76	824	93017	66.4	62.50	70.10
Class										
Standard 4	68	6611	19.9	14.78	26.37	161	16344	49.3	43.60	55.04
Standard 5	38	4131	12.7	8.43	18.65	156	18968	58.3	49.72	66.33
Standard 6	16	3927	11.8	5.75	22.72	106	21721	65.3	61.08	69.31
Form 1	53	5709	15.1	10.30	21.53	208	23036	60.8	51.41	69.51
Form 2	61	5794	16.4	10.91	23.90	225	21417	60.6	52.23	68.39
Form 3	51	4545	12.5	7.56	20.11	254	23497	64.9	56.62	72.32
Form 4	39	3592	10.2	7.13	14.38	236	22051	62.6	55.78	68.97
Form 5	47	6415	17.5	11.36	25.97	168	22956	62.6	56.22	68.57
Ethnicity										
Malay	211	22940	12.5	10.16	15.24	1062	117660	64.0	61.21	66.72
Chinese	130	14750	19.3	16.33	22.69	351	42428	55.5	49.56	61.37
Indian	20	1918	16.2	9.53	26.31	54	5557	47.1	35.85	58.57
Bumiputera Sabah	-	-	-	-	-	4	352	81.3	63.13	91.69
Bumiputera Sarawak	3	238	28.3	15.29	46.24	5	422	50.1	22.38	77.80
Others	9	877	12.5	8.03	19.01	38	3571	51.0	33.65	68.11
School level										
Primary	122	14669	14.8	12.68	17.26	423	57032	57.6	52.06	63.02
Secondary	251	26054	14.4	11.25	18.17	1091	112958	62.3	58.35	66.09
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	2606	14.6	9.46	21.73	108	11461	64.0	54.18	72.78
Normal (≥-2sd - ≤+1sd)	225	24425	14.1	11.88	16.75	925	103842	60.1	56.40	63.72
Overweight (>+1sd - ≤+2sd)	66	7240	15.3	10.67	21.53	251	28002	59.3	53.24	65.04
Obese (>+2sd)	55	6214	14.7	10.97	19.51	230	26685	63.3	59.11	67.29
Height-for-age status (HAZ)										
Stunting (<-2sd)	33	3524	17.0	11.96	23.49	125	13227	63.6	57.13	69.69
Normal (≥-2sd)	340	37199	14.3	12.03	16.99	1389	156763	60.4	56.77	63.94

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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	Always				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERAK	633	69568	24.8	22.28	27.55
Locality of school					
Urban	313	36420	25.4	22.66	28.29
Rural	320	33148	24.2	20.03	29.03
Sex					
Boys	357	38991	27.8	24.94	30.87
Girls	276	30577	21.8	18.31	25.82
Class					
Standard 4	104	10189	30.7	22.69	40.16
Standard 5	81	9457	29.0	24.15	34.49
Standard 6	38	7610	22.9	17.18	29.79
Form 1	83	9123	24.1	16.67	33.49
Form 2	85	8131	23.0	18.81	27.82
Form 3	87	8180	22.6	15.98	30.90
Form 4	101	9578	27.2	20.90	34.56
Form 5	54	7301	19.9	14.70	26.39
Ethnicity					
Malay	393	43208	23.5	20.72	26.54
Chinese	166	19210	25.1	19.93	31.20
Indian	43	4333	36.7	28.74	45.45
Bumiputera Sabah	1	81	18.7	8.31	36.87
Bumiputera Sarawak	2	182	21.6	9.57	41.79
Others	28	2554	36.5	23.28	52.08
School level					
Primary	223	27255	27.5	23.30	32.24
Secondary	410	42313	23.3	20.48	26.46
BMI-for-age status (BAZ)					
Thinness (<-2sd)	37	3839	21.4	14.29	30.88
Normal (≥-2sd - ≤+1sd)	408	44469	25.7	22.58	29.18
Overweight (>+1sd - ≤+2sd)	104	11999	25.4	20.36	31.19
Obese (>+2sd)	84	9262	22.0	18.65	25.69
Height-for-age status (HAZ)					
Stunting (<-2sd)	39	4033	19.4	14.09	26.11
Normal (≥-2sd)	594	65535	25.3	22.54	28.18

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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
PERAK	1215	136447	48.7	42.37	55.17	1298	143459	51.3	44.83	57.63
Locality of school										
Urban	520	64007	44.6	36.08	53.37	679	79627	55.4	46.63	63.92
Rural	695	72441	53.2	44.54	61.59	619	63832	46.8	38.41	55.46
Sex										
Boys	591	65737	46.8	40.73	53.04	670	74608	53.2	46.96	59.27
Girls	624	70710	50.7	43.10	58.20	628	68850	49.3	41.80	56.90
Class										
Standard 4	226	22635	69.9	63.36	75.66	100	9762	30.1	24.34	36.64
Standard 5	169	20044	61.4	56.35	66.16	106	12614	38.6	33.84	43.65
Standard 6	89	17847	53.1	44.51	61.55	72	15753	46.9	38.45	55.49
Form 1	185	20348	53.5	42.55	64.05	161	17712	46.5	35.95	57.45
Form 2	159	15144	43.0	37.46	48.75	210	20065	57.0	51.25	62.54
Form 3	151	13754	38.0	28.55	48.40	241	22468	62.0	51.60	71.45
Form 4	131	12249	34.8	24.84	46.24	245	22972	65.2	53.76	75.16
Form 5	105	14426	39.5	30.17	49.63	163	22112	60.5	50.37	69.83
Ethnicity										
Malay	860	95220	52.1	46.35	57.74	797	87650	47.9	42.26	53.65
Chinese	221	28248	36.7	23.86	51.85	427	48630	63.3	48.15	76.14
Indian	74	7473	62.3	49.52	73.52	45	4528	37.7	26.48	50.48
Bumiputera Sabah	4	325	75.1	12.62	98.43	1	108	24.9	1.57	87.38
Bumiputera Sarawak	7	585	69.5	51.24	83.18	3	257	30.5	16.82	48.76
Others	49	4596	66.8	48.32	81.21	25	2286	33.2	18.79	51.68
School level										
Primary	484	60527	61.4	57.14	65.40	278	38129	38.6	34.60	42.86
Secondary	731	75920	41.9	35.52	48.54	1020	105329	58.1	51.46	64.48
BMI-for-age status (BAZ)										
Thinness (<-2sd)	89	9398	52.2	40.05	64.10	82	8604	47.8	35.90	59.95
Normal (≥-2sd - ≤+1sd)	751	84749	49.2	42.09	56.43	800	87354	50.8	43.57	57.91
Overweight (>+1sd - ≤+2sd)	189	21035	44.5	38.94	50.25	232	26205	55.5	49.75	61.06
Obese (>+2sd)	186	21266	50.2	41.23	59.24	182	21057	49.8	40.76	58.77
Height-for-age status (HAZ)										
Stunting (<-2sd)	110	11705	56.5	46.55	65.91	87	9021	43.5	34.09	53.45
Normal (≥-2sd)	1105	124742	48.1	41.68	54.64	1211	134438	51.9	45.36	58.32

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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
PERAK	1687	188171	67.3	62.42	71.85	823	91394	32.7	28.15	37.58
Locality of school										
Urban	773	92342	64.2	57.87	70.13	428	51420	35.8	29.87	42.13
Rural	914	95829	70.6	63.76	76.56	395	39974	29.4	23.44	36.24
Sex										
Boys	804	89638	64.0	59.97	67.83	455	50441	36.0	32.17	40.03
Girls	883	98532	70.6	63.70	76.74	368	40953	29.4	23.26	36.30
Class										
Standard 4	240	24438	74.8	68.15	80.51	88	8219	25.2	19.49	31.85
Standard 5	210	24978	76.2	73.71	78.58	66	7789	23.8	21.42	26.29
Standard 6	111	21700	64.9	47.73	78.94	49	11727	35.1	21.06	52.27
Form 1	257	28357	74.7	66.65	81.38	88	9595	25.3	18.62	33.35
Form 2	236	22654	64.2	57.52	70.33	134	12645	35.8	29.67	42.48
Form 3	240	22151	61.3	51.69	70.14	151	13972	38.7	29.86	48.31
Form 4	229	21514	61.4	50.01	71.62	145	13540	38.6	28.38	49.99
Form 5	164	22380	61.7	51.99	70.52	102	13907	38.3	29.48	48.01
Ethnicity										
Malay	1187	130677	71.7	67.73	75.27	466	51703	28.3	24.73	32.27
Chinese	350	42654	55.4	45.78	64.66	299	34315	44.6	35.34	54.22
Indian	83	8556	71.3	59.41	80.83	36	3444	28.7	19.17	40.59
Bumiputera Sabah	5	433	100.0	0.00	100.00	-	-	-	-	-
Bumiputera Sarawak	8	692	90.3	71.33	97.18	1	75	9.7	2.82	28.67
Others	54	5159	73.5	42.81	91.16	21	1858	26.5	8.84	57.19
School level										
Primary	561	71116	71.9	67.75	75.78	203	27735	28.1	24.22	32.25
Secondary	1126	117055	64.8	58.09	70.93	620	63659	35.2	29.07	41.91
BMI-for-age status (BAZ)										
Thinness (<-2sd)	128	13627	76.0	65.24	84.28	42	4295	24.0	15.72	34.76
Normal (≥-2sd - ≤+1sd)	1039	115448	67.2	62.02	71.91	510	56467	32.8	28.09	37.98
Overweight (>+1sd - ≤+2sd)	276	31356	66.4	59.17	72.89	145	15884	33.6	27.11	40.83
Obese (>+2sd)	243	27652	65.4	58.15	72.09	125	14597	34.6	27.91	41.85
Height-for-age status (HAZ)										
Stunting (<-2sd)	148	15546	75.5	67.37	82.08	48	5054	24.5	17.92	32.63
Normal (≥-2sd)	1539	172625	66.7	61.87	71.13	775	86340	33.3	28.87	38.13

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

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3.6.1 Introduction

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

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

3.6.2 Objectives

General objective

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

Specific objective

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

3.6.3 Findings

The prevalence of vitamin/minerals and food supplements intake among adolescence in Perak was 41.9% (95% CI: 34.15, 50.15) (**Table 3.6.1**) and 29.6% (95% CI: 23.90, 36.02) (**Table 3.6.5**). In average, the vitamin/mineral and food supplements were consumed everyday by 13.1% (95% CI: 10.25, 16.71) (**Table 3.6.4**) and 9.7% (95% CI 6.98, 13.31). 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 **Table 3.6.5**). The most commonly consumed vitamin / minerals and food supplements were Vitamin C 33.1% (95% CI: 27.00, 39.86) (**Table 3.6.2**) and bee product 14.5% (95% CI: 10.31, 20.10) (**Table 3.6.6**). The main reason for taking vitamin/minerals and food supplements was due to parents advised at 39.3% (95% CI: 35.21, 43.65) (**Table 3.6.3**) and 29.0% (95% CI: 27. 76, 30.31) respectively (**Table 3.6.7**).

3.6.4 Discussions

The prevalence of taking vitamin/minerals and food supplements among adolescence in Perak was slightly lower than national prevalence, which was 44.7% (95% CI: 42.49, 46.91) and 30.6% (95% CI: 28.90, 32.43) respectively. 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 showed that parents advised was the main and significant reason for taking vitamin/mineral and food supplements among adolescents. It suggests the parents as strong influencer for food supplement and vitamin intake of the children.

3.6.5 Conclusions

Overall findings from this survey showed that every four and three of ten adolescents in Perak consumed vitamin / mineral and food supplements. Every four and three in ten parents influenced the children to consume vitamin/ mineral and food supplements. Vitamin C and Bee product remain as the main type of vitamin and food supplement consumed by Perak 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 should also establish guidelines, regulations, and policy of food supplements and vitamin/mineral intake as its consumption has become common among Malaysian adolescents. There is a need for further scientific research involving adolescents with the purpose of assessing the beneficial effects and safety of its long-term use. The guidelines and regulations should be made clear to parents and guardians for appropriate use of food supplements.

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

Characteristics	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
Perak	1050	117455	41.9	34.15	50.15	1466	162623	58.1	49.85	65.85
Locality of School										
Urban	481	58220	40.5	31.01	50.85	718	85365	59.5	49.15	68.99
Rural	569	59235	43.4	31.43	56.19	748	77258	56.6	43.81	68.57
Sex										
Boys	588	65756	46.8	39.13	54.58	675	74816	53.2	45.42	60.87
Girls	462	51699	37.1	28.66	46.33	791	87807	62.9	53.67	71.34
Class										
Standard 4	214	21302	64.6	55.70	72.66	117	11652	35.4	27.34	44.30
Standard 5	177	20249	61.6	46.94	74.37	100	12638	38.4	25.63	53.06
Standard 6	88	16966	51.1	32.93	68.94	71	16252	48.9	31.06	67.07
Remove class										
Form 1	142	15731	41.5	33.17	50.24	203	22219	58.5	49.76	66.83
Form 2	132	12420	35.2	28.30	42.83	238	22839	64.8	57.17	71.70
Form 3	122	11277	31.2	23.66	39.93	269	24844	68.8	60.07	76.34
Form 4	106	9960	28.4	24.26	33.02	268	25059	71.6	66.98	75.74
Form 5	69	9551	26.0	17.40	37.05	200	27120	74.0	62.95	82.60
Ethnicity										
Malay	714	80021	43.7	33.74	54.23	946	103004	56.3	45.77	66.26
Chinese	216	25990	33.8	27.00	41.45	431	50796	66.2	58.55	73.00
Indian	64	6282	52.3	43.86	60.70	55	5718	47.7	39.30	56.14
Bumiputera Sabah	5	433	100.0	100.00	100.00					
Bumiputera Sarawak	6	501	59.5	20.26	89.44	4	341	40.5	10.56	79.74
Others	45	4229	60.5	44.94	74.15	30	2764	39.5	25.85	55.06
BMI-for age status (BAZ)										
Thinness (<-2sd)	100	10746	60.0	46.75	71.99	70	7152	40.0	28.01	53.25
Normal (≥-2sd - ≤+1sd)	652	72421	42.0	34.28	50.21	901	99856	58.0	49.79	65.72
Overweight (>+1sd - ≤+2sd)	145	16560	35.2	27.56	43.70	275	30477	64.8	56.30	72.44
Obese (>+2sd)	153	17728	41.6	32.90	50.83	218	24900	58.4	49.17	67.10
Height-for-age status (HAZ)										
Stunting (<-2sd)	85	8878	42.3	29.18	56.66	114	12096	57.7	43.34	70.82
Normal (≥-2sd)	965	108578	41.9	34.32	49.89	1352	150527	58.1	50.11	65.68

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

Characteristics	Multivitamin					Vitamin C				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	96	10915	3.9	2.96	5.12	844	92670	33.1	27.00	39.86
Locality of School										
Urban	44	5457	3.8	2.74	5.23	377	44858	31.2	22.98	40.74
Rural	52	5458	4.0	2.57	6.22	467	47812	35.2	26.67	44.71
Sex										
Boys	49	5884	4.2	3.04	5.75	461	50568	36.0	29.94	42.56
Girls	47	5032	3.6	2.33	5.54	383	42102	30.2	23.47	37.89
Class										
Standard 4	21	2217	6.7	4.75	9.45	166	16362	49.7	41.82	57.50
Standard 5	20	2345	7.1	5.15	9.84	132	14766	45.0	32.48	58.21
Standard 6	7	1474	4.4	2.08	9.23	68	12690	38.2	24.27	54.38
Remove class										
Form 1	5	536	1.4	0.65	3.04	116	12946	34.1	26.16	43.07
Form 2	113	1064	29.9	22.03	39.21	113	10550	29.9	22.03	39.21
Form 3	9	809	2.2	1.14	4.37	120	11089	30.8	22.86	39.99
Form 4	17	1620	4.6	2.79	7.49	81	7611	21.6	16.44	27.86
Form 5	6	850	2.3	1.05	5.10	48	6655	18.3	13.33	24.54
Ethnicity										
Malay	49	5610	3.1	1.97	4.74	590	65331	35.7	28.50	43.62
Chinese	33	3928	5.1	3.97	6.60	158	18279	23.9	18.50	30.20
Indian	11	1113	9.3	5.51	15.19	53	5213	43.4	36.98	50.13
Bumiputera Sabah						5	433	100.0	100.00	100.00
Bumiputera Sarawak						6	511	60.7	21.53	89.68
Others	3	264	3.8	1.06	12.52	32	2904	41.5	26.59	58.21
BMI-for age status (BAZ)										
Thinness (<-2sd)	5	491	2.7	1.33	5.58	85	9047	50.5	40.81	60.24
Normal ($\geq -2sd - \leq +1sd$)	66	7332	4.3	2.98	6.03	519	56880	33.0	27.35	39.18
Overweight ($> +1sd - \leq +2sd$)	10	1080	2.3	1.27	4.17	128	14496	31.0	23.55	39.52
Obese ($> +2sd$)	15	2013	4.7	2.26	9.65	112	12247	28.8	20.25	39.17
Height-for - age status (HAZ)										
Stunting (<-2sd)	8	784	3.7	1.64	8.28	66	6877	32.8	22.30	45.33
Normal ($\geq -2sd$)	88	10131	3.9	2.93	5.21	778	85793	33.1	27.16	39.72

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

Characteristics	Iron					Others				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	128	14770	5.3	3.81	7.27	164	20363	7.3	5.42	9.70
Locality of School										
Urban	56	7329	5.1	3.05	8.40	82	11214	7.8	5.18	11.56
Rural	72	7441	5.5	3.65	8.12	82	9148	6.7	4.44	10.06
Sex										
Boys	86	10333	7.4	5.28	10.16	90	10713	7.6	5.88	9.84
Girls	42	4437	3.2	2.02	4.99	74	9650	6.9	4.48	10.55
Class										
Standard 4	36	3371	10.2	7.72	13.44	21	2181	6.6	4.77	9.11
Standard 5	21	2701	8.2	4.71	14.01	26	3001	9.1	7.79	10.72
Standard 6	12	2489	7.5	3.33	16.00	20	4878	14.7	9.02	23.01
Remove class										
Form 1	16	1740	4.6	2.85	7.29	27	2934	7.7	4.54	12.86
Form 2	13	1261	3.6	2.23	5.70	17	1663	4.7	2.55	8.57
Form 3	12	1092	3.0	1.32	6.78	21	1970	5.5	3.03	9.68
Form 4	9	855	2.4	1.32	4.41	14	1266	3.6	1.82	6.99
Form 5	9	1262	3.5	1.25	9.23	18	2470	6.8	3.66	12.24
Ethnicity										
Malay	93	10658	5.8	3.90	8.62	111	12918	7.1	5.06	9.77
Chinese	21	2776	3.6	2.00	6.47	35	5585	7.3	3.64	14.06
Indian	6	619	5.2	2.37	10.86	6	597	5.0	2.84	8.57
Bumiputera Sabah										
Bumiputera Sarawak	1	79	9.4	0.93	53.58					
Others	7	639	9.1	4.96	16.22	12	1263	18.1	8.82	33.45
BMI-for age status (BAZ)										
Thinness (<-2sd)	14	1461	8.2	5.24	12.51	12	1247	7.0	4.04	11.77
Normal ($\geq -2sd - \leq +1sd$)	73	8389	4.9	3.43	6.86	95	11907	6.9	4.90	9.65
Overweight ($> +1sd - \leq +2sd$)	18	2055	4.4	2.08	9.05	30	3701	7.9	5.07	12.13
Obese ($> +2sd$)	23	2865	6.7	4.60	9.76	27	3507	8.2	5.19	12.86
Height-for - age status (HAZ)										
Stunting (<-2sd)	9	986	4.7	2.22	9.69	15	1588	7.6	3.76	14.64
Normal ($\geq -2sd$)	119	13784	5.3	3.91	7.22	149	18775	7.3	5.31	9.83

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

Characteristics	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	182	18768	16.1	11.66	21.70	404	45994	39.3	35.21	43.65
Locality of School										
Urban	69	7820	13.5	7.46	23.20	191	23529	40.6	35.26	46.20
Rural	113	10948	18.6	13.25	25.40	213	22465	38.1	32.10	44.50
Sex										
Boys	94	9617	14.7	9.93	21.25	209	23764	36.3	30.87	42.21
Girls	88	9150	17.8	12.73	24.23	195	22231	43.2	37.13	49.39
Class										
Standard 4	61	5817	27.5	20.14	36.40	86	8986	42.5	33.80	51.76
Standard 5	33	3505	17.3	9.09	30.46	71	8322	41.1	34.45	48.08
Standard 6	8	1370	8.2	2.48	23.74	36	6898	41.2	34.26	48.42
Remove class										
Form 1	16	1731	11.0	5.93	19.51	58	6458	41.1	31.19	51.70
Form 2	18	1755	14.2	9.39	21.01	48	4486	36.4	26.71	47.32
Form 3	24	2195	19.6	11.91	30.60	32	2968	26.5	18.04	37.22
Form 4	14	1294	13.0	7.20	22.32	48	4476	44.9	34.58	55.76
Form 5	8	1101	11.5	5.88	21.36	25	3401	35.6	19.68	55.51
Ethnicity										
Malay	131	13831	17.4	12.62	23.46	269	30308	38.1	33.65	42.76
Chinese	17	1692	6.5	3.22	12.81	90	11422	44.1	34.61	54.05
Indian	22	2130	33.9	19.36	52.28	20	2005	31.9	16.77	52.17
Bumiputera Sabah	2	165	38.2	15.37	67.85	3	267	61.8	32.15	84.63
Bumiputera Sarawak	2	168	33.6	19.70	51.14	2	168	33.6	19.70	51.14
Others	8	781	18.5	12.40	26.63	20	1823	43.1	34.94	51.66
BMI-for age status (BAZ)										
Thinness (<-2sd)	237	19945	17.1	14.33	20.26	574	50164	43.0	39.53	46.51
Normal (≥ - 2sd - ≤+ 1sd)	1963	174456	17.7	16.50	18.90	4822	429345	43.5	41.94	45.04
Overweight (> +1sd - ≤+ 2sd)	429	36163	16.1	14.42	18.02	1118	95652	42.7	40.21	45.20
Obese (> + 2sd)	477	40459	18.9	16.33	21.67	967	87031	40.6	38.31	42.87
Height-for - age status (HAZ)										
Stunting (<-2sd)	314	26496	20.3	17.70	23.09	639	56149	42.9	39.34	46.62
Normal (≥-2sd)	2797	244971.359	17.3	16.28	18.42	6848	606851	42.9	41.62	44.24

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

Characteristics	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	316	35071	30.0	26.23	34.07	37	4110	3.5	2.53	4.86
Locality of School										
Urban	148	17282	29.8	23.56	36.97	15	1887	3.3	2.20	4.81
Rural	168	17789	30.2	26.26	34.40	22	2223	3.8	2.25	6.24
Sex										
Boys	195	21584	33.0	27.64	38.87	30	3406	5.2	3.54	7.61
Girls	121	13487	26.2	21.98	30.86	7	704	1.4	0.63	2.93
Class										
Standard 4	41	3859	18.3	12.10	26.63	7	675	3.2	1.86	5.46
Standard 5	48	5607	27.7	19.47	37.75	8	1017	5.0	3.59	6.97
Standard 6	28	5009	29.9	20.04	42.03	2	360	2.1	0.30	13.77
Remove class										
Form 1	46	5105	32.4	23.09	43.46	8	886	5.6	2.61	11.72
Form 2	46	4278	34.7	26.77	43.60	8	753	6.1	1.99	17.25
Form 3	45	4137	37.0	25.26	50.47	1	88	0.8	0.11	5.45
Form 4	36	3422	34.4	27.47	41.98	2	197	2.0	0.46	8.00
Form 5	26	3655	38.3	27.81	49.94	1	134	1.4	0.20	9.24
Ethnicity										
Malay	217	24568	30.9	25.94	36.31	24	2760	3.5	2.26	5.29
Chinese	70	7709	29.8	21.11	40.17	9	990	3.8	2.42	6.00
Indian	16	1507	24.0	16.75	33.13	2	191	3.0	0.84	10.37
Bumiputera Sabah										
Bumiputera Sarawak	1	85	16.9	10.22	26.62					
Others	12	1203	28.4	20.55	37.91	2	168	4.0	0.99	14.69
BMI-for age status (BAZ)										
Thinness (<-2sd)	363	32467	27.8	24.63	31.25	33	2722	2.3	1.54	3.53
Normal (≥ - 2sd - ≤+ 1sd)	3157	278618	28.2	26.85	29.63	238	22409	2.3	1.92	2.68
Overweight (> +1sd - ≤+ 2sd)	733	64223	28.7	26.67	30.74	71	6093	2.7	2.05	3.59
Obese (> + 2sd)	687	61972	28.9	26.43	31.48	57	5684	2.6	1.87	3.75
Height-for - age status (HAZ)										
Stunting (<-2sd)	378	33507	25.6	22.16	29.43	33	3404	2.6	1.69	3.99
Normal (≥-2sd)	4564	404115	28.6	27.50	29.69	367	33517	2.4	2.09	2.69

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

Characteristics	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Perak	71	8996	7.7	5.36	10.94
Locality of School					
Urban	38	5243	9.1	5.35	14.90
Rural	33	3752	6.4	3.93	10.15
Sex					
Boys	39	4837	7.4	4.80	11.23
Girls	32	4159	8.1	5.58	11.54
Class					
Standard 4	6	593	2.8	1.12	6.82
Standard 5	13	1328	6.6	3.21	12.92
Standard 6	10	2559	15.3	5.52	35.73
Remove class					
Form 1	11	1211	7.7	3.42	16.41
Form 2	7	663	5.4	3.28	8.69
Form 3	13	1252	11.2	5.00	23.18
Form 4	4	383	3.8	1.44	9.87
Form 5	7	1008	10.6	3.55	27.45
Ethnicity					
Malay	45	5374	6.8	4.47	10.09
Chinese	19	2919	11.3	6.12	19.85
Indian	4	449	7.1	1.09	34.87
Bumiputera Sabah					
Bumiputera Sarawak					
Others	3	254	6.0	1.47	21.46
BMI-for age status (BAZ)					
Thinness (<-2sd)	75	7553	6.5	5.00	8.34
Normal ($\geq -2sd - \leq +1sd$)	690	58783	6.0	5.30	6.68
Overweight ($> +1sd - \leq +2sd$)	169	15019	6.7	5.56	8.05
Obese ($> +2sd$)	157	13539	6.3	5.15	7.72
Height-for - age status (HAZ)					
Stunting (<-2sd)	90	7814	6.0	4.60	7.72
Normal ($\geq 2sd$)	1003	87279	6.2	5.60	6.80

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

Characteristics	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	321	36762	13.1	10.25	16.71	202	21826	7.8	5.53	10.91
Locality of School										
Urban	149	18260	12.7	9.31	17.09	84	9627	6.7	4.70	9.46
Rural										
Sex										
Boys	166	19521	13.9	10.65	17.97	127	13536	9.6	7.48	12.34
Girls										
Class										
Standard 4	72	7202	21.9	17.40	27.08	55	5238	15.9	12.06	20.67
Standard 5	54	6079	18.5	14.64	23.18	34	3924	12.0	8.08	17.36
Standard 6	32	6455	19.4	11.87	30.17	14	2736	8.2	2.29	25.56
Remove class										
Form 1	34	3745	9.9	6.45	14.80	23	2471	6.5	3.97	10.50
Form 2	34	3371	9.6	5.29	16.67	26	2355	6.7	4.43	9.95
Form 3	39	3584	10.0	7.51	13.18	26	2353	6.6	3.93	10.75
Form 4	30	2775	7.9	5.19	11.78	14	1349	3.8	1.92	7.48
Form 5										
Ethnicity										
Malay	206	23473	12.8	9.11	17.79	137	15363	8.4	5.47	12.68
Chinese	61	8009	10.5	7.37	14.62	44	4570	6.0	3.23	10.75
Indian	30	2998	25.2	18.18	33.73	12	1135	9.5	3.50	23.45
Bumiputera Sabah	3	273	63.2	34.10	85.05					
Bumiputera Sarawak	2	178	21.2	6.38	51.37	3	248	29.4	15.98	47.75
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	32	3443	19.2	11.94	29.50	19	1813	10.1	5.25	18.64
Normal (≥ - 2sd - ≤+ 1sd)	196	22156	12.9	9.67	16.90	115	12475	7.2	5.10	10.19
Overweight (> +1sd - ≤+ 2sd)	49	6046	12.9	8.82	18.54	38	4114	8.8	4.44	16.65
Obese (> + 2sd)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	19	1942	9.3	4.59	17.79	18	1775	8.5	5.14	13.63
Normal (≥-2sd)	302	34820	13.5	10.60	16.94	184	20050	7.8	5.42	10.96

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

Characteristics	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
Perak	242	27566	9.9	8.09	11.96	407	45220	16.2	13.55	19.18
Locality of School										
Urban	116	14539	10.1	7.32	13.81	186	22912	15.9	12.16	20.60
Rural										
Sex										
Boys	149	16558	11.8	9.31	14.84	213	23611	16.8	13.86	20.28
Girls										
Class										
Standard 4	44	4558	13.8	10.94	17.33	68	6675	20.3	16.02	25.27
Standard 5	37	4058	12.4	7.41	19.94	61	7166	21.8	16.46	28.40
Standard 6	24	4832	14.5	11.55	18.16	30	5709	17.2	10.34	27.19
Remove class										
Form 1	32	3554	9.4	6.82	12.72	70	7864	20.7	14.17	29.26
Form 2	34	3175	9.0	6.49	12.36	56	5213	14.8	10.75	19.99
Form 3	31	2930	8.2	4.97	13.16	53	4893	13.6	10.03	18.30
Form 4	25	2420	6.9	4.58	10.18	43	3948	11.2	8.18	15.18
Form 5										
Ethnicity										
Malay	158	17959	9.8	7.52	12.73	304	33485	18.3	15.09	22.04
Chinese	52	6494	8.5	5.86	12.12	74	9065	11.8	8.98	15.43
Indian	20	1960	16.5	9.85	26.19	12	1211	10.2	6.33	15.93
Bumiputera Sabah						2	159	36.8	14.95	65.90
Bumiputera Sarawak	1	75	8.9	2.89	24.20	1	90	10.7	1.03	57.77
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	21	2324	13.0	8.17	20.01	39	4072	22.8	17.84	28.54
Normal (≥ - 2sd - ≤+ 1sd)	167	19363	11.2	9.08	13.83	244	26913	15.6	12.94	18.74
Overweight (> +1sd - ≤+ 2sd)	27	2877	6.1	4.13	9.06	61	6778	14.5	9.80	20.89
Obese (> + 2sd)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	18	1905	9.1	6.26	12.99	36	3816	18.2	12.43	25.85
Normal (≥-2sd)	224	25662	9.9	8.05	12.17	371	41404	16.0	13.44	18.95

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

Characteristics	Taking food supplement					Not taking food supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	722	82385	29.6	23.90	36.02	1779	195958	70.4	63.98	76.10
Locality of School										
Urban	324	39794	27.9	22.50	34.00	869	102903	72.1	66.00	77.50
Rural										
Sex										
Boys	408	46285	33.2	27.28	39.75	845	93037	66.8	60.25	72.72
Girls										
Class										
Standard 4	139	13575	41.9	35.72	48.33	186	18831	58.1	51.67	64.28
Standard 5	116	13259	40.9	33.87	48.25	158	19190	59.1	51.75	66.13
Standard 6	74	15164	46.2	29.69	63.49	83	17694	53.8	36.51	70.31
Remove class										
Form 1	85	9333	24.7	18.82	31.62	259	28503	75.3	68.38	81.18
Form 2	101	9520	27.1	20.96	34.21	268	25638	72.9	65.79	79.04
Form 3	80	7343	20.3	14.44	27.82	311	28791	79.7	72.18	85.56
Form 4	77	7232	20.8	16.57	25.68	295	27598	79.2	74.32	83.43
Form 5										
Ethnicity										
Malay	472	53998	29.7	21.91	38.82	1179	127975	70.3	61.18	78.09
Chinese	171	20778	27.2	20.54	35.02	474	55674	72.8	64.98	79.46
Indian	49	4864	40.9	34.54	47.57	69	7029	59.1	52.43	65.46
Bumiputera Sabah	1	85	19.5	8.65	38.36	4	348	80.5	61.64	91.35
Bumiputera Sarawak	3	248	29.4	15.98	47.75	7	594	70.6	52.25	84.02
Others										
BMI-for age status (BAZ)										
Thinness (< -2sd)	59	6348	35.6	24.64	48.35	110	11475	64.4	51.65	75.36
Normal (≥ - 2sd - ≤+ 1sd)	442	49552	28.9	23.41	35.17	1102	121680	71.1	64.83	76.59
Overweight (> +1sd - ≤+ 2sd)	115	13573	29.2	20.88	39.15	301	32937	70.8	60.85	79.12
Obese (> + 2sd)										
Height-for - age status (HAZ)										
Stunting (< -2sd)	59	6053	29.1	22.97	36.18	138	14721	70.9	63.82	77.03
Normal (≥ -2sd)	663	76332	29.6	23.70	36.34	1641	181237	70.4	63.66	76.30

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

Characteristics	Spirulina					Fish oil				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	99	10988	3.9	2.63	5.87	181	20123	7.2	5.87	8.86
Locality of School										
Urban	49	5906	4.1	2.13	7.86	69	8902	6.2	4.67	8.24
Rural										
Sex										
Boys	64	7097	5.1	2.97	8.51	95	11011	7.9	5.90	10.41
Girls										
Class										
Standard 4	33	3183	9.7	6.75	13.87	33	3409	10.4	7.28	14.75
Standard 5	14	1534	4.7	2.28	9.39	28	3237	9.9	6.90	13.99
Standard 6	10	1951	5.9	3.43	9.98	9	2111	6.4	3.77	10.62
Remove class										
Form 1	5	541	1.4	0.57	3.55	26	2819	7.5	4.58	11.96
Form 2	13	1232	3.5	1.24	9.52	25	2345	6.7	4.05	10.84
Form 3	12	1083	3.0	1.65	5.43	28	2596	7.2	4.36	11.74
Form 4	5	496	1.4	0.38	5.17	17	1492	4.3	2.69	6.68
Form 5										
Ethnicity										
Malay	66	7582	4.2	2.39	7.11	100	11124	6.1	4.69	7.87
Chinese	16	1798	2.4	1.58	3.55	46	5743	7.6	5.41	10.49
Indian	9	853	7.2	4.33	11.65	21	2027	17.0	8.33	31.73
Bumiputera Sabah						1	85	19.5	8.65	38.36
Bumiputera Sarawak						1	79	9.4	0.93	53.58
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	8	917	5.2	2.78	9.37	12	1160	6.5	3.82	10.91
Normal ($\geq -2sd - \leq +1sd$)	62	7117	4.2	2.61	6.53	110	12183	7.1	5.72	8.79
Overweight ($> +1sd - \leq +2sd$)	13	1313	2.8	1.54	5.09	22	2566	5.5	3.34	8.95
Obese ($> +2sd$)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	6	568	2.7	1.18	6.13	10	966	4.6	2.76	7.65
Normal ($\geq -2sd$)	93	10421	4.0	2.68	6.06	171	19157	7.4	5.97	9.22

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

Characteristics	Bee Product					Chicken essence				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	363	40496	14.5	10.31	20.10	125	13626	4.9	3.63	6.56
Locality of School										
Urban	150	17933	12.5	7.49	20.25	59	7107	5.0	4.00	6.16
Rural										
Sex										
Boys	202	21868	15.6	11.83	20.33	86	9338	6.7	4.61	9.55
Girls										
Class										
Standard 4	72	6820	20.9	15.77	27.13	30	2814	8.6	5.78	12.67
Standard 5	70	7533	23.0	12.52	38.47	23	2623	8.0	5.65	11.26
Standard 6	45	8162	24.7	13.28	41.29	6	1109	3.4	1.36	8.05
Remove class										
Form 1	41	4507	11.9	6.98	19.68	20	2205	5.8	3.25	10.28
Form 2	46	4355	12.4	9.17	16.60	15	1423	4.1	2.71	6.03
Form 3	44	4036	11.2	7.03	17.45	11	992	2.8	1.14	6.52
Form 4	29	2836	8.1	5.26	12.25	7	688	2.0	0.96	3.95
Form 5										
Ethnicity										
Malay	293	33168	18.2	13.24	24.41	76	8244	4.5	3.02	6.69
Chinese	44	4917	6.5	4.21	9.84	34	3932	5.2	3.54	7.53
Indian	10	1041	8.8	3.67	19.45	7	725	6.1	2.86	12.52
Bumiputera Sabah						1	85	19.5	8.65	38.36
Bumiputera Sarawak	4	333	39.5	20.49	62.40					
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	39	4056	22.8	12.23	38.50	13	1512	8.5	5.11	13.82
Normal (≥ - 2sd - ≤+ 1sd)	212	23579	13.8	9.79	18.98	80	8813	5.1	3.68	7.13
Overweight (> +1sd - ≤+ 2sd)	58	6670	14.3	9.07	21.85	17	1693	3.6	1.84	7.03
Obese (> + 2sd)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	28	2988	14.3	8.58	22.89	14	1505	7.2	3.65	13.73
Normal (≥-2sd)	335	37509	14.6	10.27	20.21	111	12120	4.7	3.51	6.27

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

Characteristics	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Perak	260	30693	11.0	8.78	13.73
Locality of School					
Urban	115	14578	5.0	7.75	13.30
Rural					
Sex					
Boys	151	17862	12.8	9.78	16.47
Girls					
Class					
Standard 4	41	4038	12.4	9.22	16.39
Standard 5	33	3931	12.0	9.33	15.34
Standard 6	27	6137	18.6	9.61	32.85
Remove class					
Form 1	36	4012	10.6	5.57	19.35
Form 2	40	3782	10.8	7.23	15.80
Form 3	33	3027	8.4	5.56	12.55
Form 4	24	2211	6.3	4.32	9.12
Form 5					
Ethnicity					
Malay	164	18937	10.4	7.47	14.23
Chinese	67	8721	11.5	8.18	15.92
Indian	17	1686	14.2	11.59	17.23
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
BMI-for age status (BAZ)					
Thinness (<-2sd)	24	2378	13.4	8.63	20.14
Normal ($\geq -2sd - \leq +1sd$)	153	17759	10.4	8.16	13.06
Overweight (> +1sd - $\leq +2sd$)	49	6085	13.1	8.49	19.55
Obese (> +2sd)					
Height-for - age status (HAZ)					
Stunting (<-2sd)	25	2804	13.4	7.06	24.03
Normal ($\geq -2sd$)	235	27889	10.8	8.57	13.58

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

Characteristics	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	2018	176793	11.5	10.55	12.46	4839	447478	29.0	27.76	30.31
Locality of School										
Urban	1164	95593	10.9	9.53	12.39	2960	261650	29.8	28.22	31.36
Rural	854	81199	12.3	11.06	13.55	1879	185828	28.0	25.98	30.19
Sex										
Boys	1194	107457	13.0	11.66	14.47	2439	223511	27.0	25.75	28.38
Girls	824	69335	9.7	8.75	10.73	2400	223967	31.3	29.59	33.07
Class										
Standard 4	607	52619	18.4	16.07	20.97	1000	96201	33.6	31.27	36.06
Standard 5	397	38449	14.7	12.87	16.65	846	84218	32.1	30.08	34.21
Standard 6	171	18842	7.8	5.73	10.57	686	83748	34.7	32.21	37.35
Remove class										
Form 1	287	24107	12.2	10.21	14.47	665	51233	25.9	23.15	28.83
Form 2	187	13797	8.8	6.72	11.41	526	41322	26.3	23.85	28.92
Form 3	155	10954	7.6	6.18	9.36	450	33394	23.2	20.58	26.10
Form 4	149	11617	9.3	7.47	11.62	366	30198	24.3	21.70	27.06
Form 5	65	6407	5.0	3.61	6.76	300	27164	21.0	18.21	24.12
Ethnicity										
Malay	1499	124976	12.2	11.14	13.45	3383	294312	28.8	27.28	30.45
Chinese	143	13621	5.7	4.45	7.25	705	75207	31.4	29.22	33.66
Indian	122	13861	17.3	13.98	21.25	201	21934	27.4	23.50	31.68
Bumiputera Sabah	97	8801	9.9	6.91	13.97	268	23497	26.4	22.69	30.48
Bumiputera Sarawak	78	10288	13.7	10.98	17.03	149	20739	27.7	22.80	33.15
Others	79	5246	13.9	10.11	18.73	133	11789	31.2	25.03	38.03
BMI-for age status (BAZ)										
Thinness (<-2sd)	175	15014	12.9	10.65	15.64	360	33686	29.0	26.19	32.08
Normal (≥ - 2sd - ≤+ 1sd)	1245	109703	11.1	10.09	12.27	3093	285822	29.0	27.53	30.53
Overweight (> +1sd - ≤+ 2sd)	269	23526	10.5	8.87	12.41	701	63271	28.3	25.58	31.11
Obese (> + 2sd)	326	28280	13.2	10.92	15.88	675	63334	29.6	27.37	31.87
Height-for - age status (HAZ)										
Stunting (<-2sd)	219	17735	13.6	11.27	16.30	398	37131	28.5	24.94	32.25
Normal (≥-2sd)	1799	159058	11.3	10.35	12.28	4440	410154	29.1	27.84	30.34

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

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	3350	300212	19.5	18.60	20.38	444	40080	2.6	2.22	3.04
Locality of School										
Urban	1941	165687	18.8	17.62	20.14	250	22324	2.5	1.99	3.24
Rural	1409	134525	20.3	19.05	21.60	194	17756	2.7	2.22	3.23
Sex										
Boys	1985	180541	21.8	20.62	23.12	321	27659	3.3	2.87	3.91
Girls	1365	119671	16.7	15.73	17.77	123	12422	1.7	1.32	2.28
Class										
Standard 4	571	51803	18.1	16.54	19.78	109	11231	3.9	3.01	5.11
Standard 5	512	52525	20.0	18.08	22.12	71	6945	2.6	1.98	3.53
Standard 6	445	51911	21.5	19.01	24.28	49	5934	2.5	1.38	4.36
Remove class										
Form 1	462	37109	18.8	16.78	20.90	64	4808	2.4	1.77	3.32
Form 2	381	29310	18.7	16.61	20.91	50	3836	2.4	1.69	3.52
Form 3	397	29279	20.4	17.82	23.17	48	3074	2.1	1.37	3.32
Form 4	295	21797	17.5	15.25	20.06	32	2035	1.6	1.09	2.46
Form 5	287	26477	20.5	17.71	23.56	21	2217	1.7	0.95	3.06
Ethnicity										
Malay	2441	207742	20.4	19.27	21.49	304	25651	2.5	2.06	3.06
Chinese	419	44195	18.5	16.83	20.20	51	5105	2.1	1.49	3.04
Indian	125	13880	17.3	14.46	20.65	26	2565	3.2	2.07	4.94
Bumiputera Sabah	157	14016	15.8	12.75	19.30	26	2578	2.9	1.95	4.28
Bumiputera Sarawak	106	12522	16.7	13.31	20.78	26	3778	5.0	3.81	6.64
Others	102	7856	20.8	16.81	25.37	11	404	1.1	0.35	3.22
BMI-for age status (BAZ)										
Thinness (< -2sd)	244	22310	19.2	16.34	22.50	28	2407	2.1	1.29	3.34
Normal ($\geq -2sd$ - $\leq +1sd$)	2117	189535	19.2	18.28	20.23	283	24854	2.5	2.14	2.96
Overweight ($> +1sd$ - $\leq +2sd$)	505	45524	20.3	18.38	22.44	65	6181	2.8	2.04	3.73
Obese ($> +2sd$)	482	42807	20.0	17.99	22.14	66	6567	3.1	2.34	4.00
Height-for - age status (HAZ)										
Stunting (< -2sd)	279	22879	17.5	15.17	20.17	47	4264	3.3	2.43	4.39
Normal ($\geq -2sd$)	3067	277176	19.6	18.71	20.61	397	35816	2.5	2.15	2.99

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

Characteristics	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Perak	979	90758	5.9	5.42	6.39
Locality of School					
Urban	532	47869	5.4	4.79	6.18
Rural	447	42889	6.5	5.86	7.14
Sex					
Boys	574	51717	6.3	5.63	6.95
Girls	405	39041	5.5	4.75	6.27
Class					
Standard 4	156	18535	6.5	5.42	7.73
Standard 5	148	14938	5.7	4.64	6.97
Standard 6	137	14736	6.1	4.50	8.25
Remove class					
Form 1	131	10606	5.4	4.24	6.75
Form 2	117	8242	5.2	4.20	6.54
Form 3	111	8890	6.2	4.77	7.97
Form 4	83	6362	5.1	3.94	6.62
Form 5	96	8449	6.5	4.96	8.57
Ethnicity					
Malay	666	55978	5.5	4.97	6.05
Chinese	137	16896	7.1	5.63	8.81
Indian	38	3676	4.6	3.21	6.53
Bumiputera Sabah	58	5728	6.4	4.93	8.37
Bumiputera Sarawak	38	4742	6.3	4.84	8.24
Others	42	3737	9.9	6.64	14.45
BMI-for age status (BAZ)					
Thinness (<-2sd)	77	6901	6.0	4.49	7.85
Normal (≥ - 2sd - ≤+ 1sd)	597	56247	5.7	5.11	6.37
Overweight (> +1sd - ≤+ 2sd)	156	14995	6.7	5.71	7.85
Obese (> + 2sd)	147	12491	5.8	4.60	7.37
Height-for - age status (HAZ)					
Stunting (<-2sd)	88	8937	6.8	5.36	8.71
Normal (≥-2sd)	890	81803	5.8	5.31	6.33

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

Characteristics	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Perak	241	27047	9.7	6.98	13.31	138	14937	5.4	3.89	7.33
Locality of School										
Urban	95	10997	7.7	5.15	11.28	50	5632	3.9	2.62	5.85
Rural										
Sex										
Boys	126	14148	10.1	6.60	15.12	82	8597	6.1	4.47	8.34
Girls										
Class										
Standard 4	56	5430	16.6	10.92	24.33	28	2749	8.4	5.15	13.36
Standard 5	36	3994	12.2	8.14	17.99	26	2804	8.6	4.70	15.20
Standard 6	26	5106	15.4	6.52	32.10	10	2050	6.2	2.59	13.98
Remove class										
Form 1	21	2355	6.2	3.68	10.38	14	1514	4.0	2.17	7.31
Form 2	29	2747	7.8	4.93	12.17	22	2048	5.8	3.39	9.84
Form 3	35	3165	8.8	5.56	13.74	21	1898	5.3	4.01	6.96
Form 4	18	1624	4.6	2.69	7.79	12	1170	3.3	1.35	7.96
Form 5										
Ethnicity										
Malay	155	17940	9.8	6.38	14.85	98	10967	6.0	4.19	8.55
Chinese	41	4671	6.1	4.21	8.79	26	2739	3.6	1.98	6.41
Indian	30	2855	24.0	14.66	36.78	4	383	3.2	1.23	8.19
Bumiputera Sabah						1	85	19.5	8.65	38.36
Bumiputera Sarawak	2	182	21.6	9.57	41.79	1	79	9.4	0.93	53.58
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	23	2385	13.5	6.47	25.93	9	960	5.4	2.81	10.21
Normal ($\geq -2sd - \leq +1sd$)	147	16055	9.4	6.72	12.89	89	9683	5.6	3.97	7.95
Overweight ($> +1sd - \leq +2sd$)	39	4717	10.1	6.43	15.45	20	2127	4.5	2.91	7.02
Obese ($> +2sd$)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	22	2290	11.0	7.23	16.28	9	814	3.9	1.85	8.04
Normal ($\geq -2sd$)	219	24757	9.6	6.76	13.43	129	14123	5.5	3.98	7.48

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

Characteristics	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
Perak	233	27341	9.8	7.48	12.75	369	40586	14.5	12.01	17.51
Locality of School										
Urban	110	14234	9.9	6.67	14.52	173	21045	14.7	11.48	18.58
Rural										
Sex										
Boys	152	17390	12.4	9.66	15.79	206	22801	16.3	13.20	19.86
Girls										
Class										
Standard 4	49	4850	14.8	11.84	18.33	72	6784	20.7	14.43	28.75
Standard 5	40	4555	14.0	9.82	19.47	55	6428	19.7	15.45	24.77
Standard 6	31	6103	18.4	14.53	22.95	23	4423	13.3	6.36	25.77
Remove class										
Form 1	25	2742	7.3	4.45	11.64	62	6834	18.1	11.23	27.87
Form 2	27	2536	7.2	4.41	11.57	53	5031	14.3	11.07	18.30
Form 3	21	1982	5.5	2.64	11.22	44	4007	11.2	7.57	16.21
Form 4	22	2072	5.9	4.02	8.54	32	3030	8.6	6.14	11.94
Form 5										
Ethnicity										
Malay	162	18986	10.4	7.29	14.63	256	28047	15.4	12.10	19.30
Chinese	53	6606	8.6	6.28	11.79	76	9010	11.8	9.80	14.12
Indian	9	897	7.5	3.69	14.80	19	1961	16.5	9.93	26.14
Bumiputera Sabah						1	85	19.5	8.65	38.36
Bumiputera Sarawak	1	75	8.9	2.89	24.20	2	165	19.5	7.24	43.05
Others										
BMI-for age status (BAZ)										
Thinness (<-2sd)	21	2237	12.6	6.48	23.18	32	3323	18.8	13.59	25.32
Normal (≥ -2sd - ≤+ 1sd)	148	17492	10.2	7.76	13.28	208	23316	13.6	10.82	16.93
Overweight (> +1sd - ≤+ 2sd)	30	3585	7.7	4.59	12.51	59	6390	13.7	9.25	19.69
Obese (> + 2sd)										
Height-for - age status (HAZ)										
Stunting (<-2sd)	24	2595	12.4	8.53	17.74	26	2863	13.7	9.24	19.85
Normal (≥-2sd)	209	24746	9.6	7.18	12.70	343	37723	14.6	12.04	17.63

3.7 Food and nutrition labeling among adolescents (Secondary 1 to Secondary 5) in Perak

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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 had 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

General objective

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

Specific objective:

- To determine the prevalence of reading food label when buying or receiving food/drink.

- To determine the reason(s) for not reading food labels.
- 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.
- To determine the types of information (expiry date, nutritional claim, nutrition facts, halal logo, food ingredients, storage instruction) read from the food label.
- To determine the understanding of nutrition labelling (nutrition facts and front of pack).
- 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 Perak

The results in **Table 3.7.1** showed 33.5% (95%CI: 28.63, 38.71) of adolescents always read food labels when buying or receiving food. Another 51.8% (95%CI: 48.30, 55.24) of adolescents sometimes does so, while only 14.7% (95%CI: 11.71, 19.94) reported as never read food labels. Among those reported as always read food labels, adolescents in urban area [34.4% (95%CI: 27.03, 42.52)] showed slightly higher percentage compared to rural area [32.6% (95%CI: 26.59, 39.25)].

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

Among those who do not read food labels, the findings showed significantly that the main reasons for not reading food labels were the food labels were not attractive [43.1% (95%CI: 30.27, 57.00)], followed by do not understand food labels [20.2% (95%CI: 15.47, 25.98)] and time constraint [16.10% (95%CI: 10.57, 23.75)]. The results also revealed that 15.1% (95%CI: 10.26, 21.78) do not know the importance of food label; 10.4% (95%CI: 5.98, 17.60) felt that size of the print too small and 10.0% (95%CI: 6.65, 14.86) 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 three most common types of nutritional information being read were fat content [40.2% (95%CI: 35.55, 45.00)], carbohydrate content (including sugar) [37.4% (95%CI: 33.21, 41.74)] and total energy content [36.8% (95%CI: 33.94, 39.69)]. It was followed by vitamin content [22.8% (95%CI: 20.20, 25.67)], protein content [22.4% (95%CI: 19.23, 26.00)], fiber [11.7% (95%CI: 9.18, 14.71)] and the least were mineral content [8.8% (95%CI: 6.45, 11.87)] and sodium content [8.8% (95%CI: 7.15, 10.73)] (**Table 3.7.3a** and **Table 3.7.3b**)

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

Based on types of information (expiry date, nutrition claim, nutrition facts, halal logo, food ingredients, storage instruction) that read on the food label, most of the adolescents read expiry date [79.4% (95%CI: 73.83, 84.08)], followed by halal logo [45.3.7% (95%CI: 32.72, 58.46)], food ingredients [30.8% (95%CI: 25.56, 36.52)], nutrition fact [25.8% (95%CI: 21.12, 31.04)], dietary declaration (nutrition claim) [20.8% (95%CI: 16.01, 26.46)] and storage instruction [18.8% (95%CI: 14.46, 24.12)] (**Table 3.7.4**).

3.7.4.5 Understanding of nutrition facts among adolescents in Perak

Overall, more than half of the adolescents had given a correct response to the question assessing interpretation of the energy content [59.18% (95%CI: 53.78, 64.29) and sugar content [54.3% (95%CI: 50.60, 58.04)] based on the nutrition facts given. While 45.1% (95%CI: 40.22, 50.16)] correct responses for both energy and sugar (**Table 3.7.5**).

3.7.4.6 Understanding of front of pack labelling among adolescents in Perak

Overall, less than half of the adolescents [39.6% (95% CI: 35.57, 43.78)] had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and [45.6% (95%CI: 40.64, 50.70)] 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 a correct response only in [26.0% (95%CI: 23.07, 29.06)] to questions assessing interpretations of both the energy content and the percentage of energy content based on the front of pack labelling given (**Table 3.7.6**).

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

Overall, slightly more than half of the adolescents [55.0% (95%CI: 49.32, 60.58)] had given a correct response to the question assessing interpretation of the mostly used ingredient in the food based on the list of ingredients given. Girls [64.2% (95%CI: 59.19,68.92)] reported a higher prevalence of interpreting correctly as compared to the boys [45.3% (95%CI: 39.06,51.65)]. While, 14.6 % (95%CI: 11.80, 17.86) of adolescents had given 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 low level of correct interpretations of both the mostly and the least used ingredients based on the ingredient list given [7.1% (95%CI: 5.56, 9.10)] (**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 Perak. 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 knows how to determine the highest and lowest ingredients content based on the food ingredient list given.

References

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

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

Characteristic	Yes, always					Yes, sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERAK	583	60611	33.5	28.63	38.71	904	93735	51.8	48.30	55.24
Locality of School										
Urban	288	31051	34.4	27.03	42.52	424	44495	49.2	45.44	53.05
Rural	295	29560	32.6	26.59	39.25	480	49239	54.3	49.49	59.06
Sex										
Boys	296	30181	33.4	28.53	38.72	428	44766	49.6	46.49	52.69
Girls	287	30430	33.5	26.87	40.93	476	48968	54.0	47.61	60.19
Class										
Form 1	149	16411	43.1	34.83	51.81	159	17627	46.3	38.92	53.87
Form 2	111	10753	30.3	24.46	36.91	200	18966	53.5	48.08	58.81
Form 3	135	12426	34.5	28.74	40.70	181	16893	46.9	40.37	53.47
Form 4	110	10216	29.2	20.67	39.43	214	20051	57.3	50.82	63.44
Form 5	78	10806	29.7	20.94	40.18	150	20198	55.4	44.96	65.46
Ethnicity										
Malay	414	43437	36.0	31.75	40.52	618	64729	53.7	49.39	57.90
Chinese	101	10474	23.0	15.38	32.82	226	22753	49.9	43.45	56.29
Indian	52	5199	49.4	33.36	65.61	37	3861	36.7	26.62	48.12
Bumiputera Sabah	1	108	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	177	51.1	4.20	96.14
Others	15	1393	36.5	18.71	58.86	21	2214	57.9	39.42	74.47
BMI-for-age status (BAZ)										
Thinness (<-2sd)	37	3709	33.2	21.16	47.90	52	5327	47.7	36.99	58.56
Normal (≥-2sd - ≤+1sd)	352	36695	32.4	26.83	38.62	581	59737	52.8	48.68	56.92
Overweight (>+1sd - ≤+2sd)	103	10795	33.8	27.20	41.00	164	17424	54.5	48.22	60.62
Obese (>+2sd)	90	9324	38.0	30.70	45.91	107	11247	45.8	38.55	53.32
Height-for-age status (HAZ)										
Stunting (<-2sd)	51	5430	35.8	27.81	44.60	83	8688	57.2	47.49	66.45
Normal (≥-2sd)	532	55181	33.3	28.51	38.41	821	85047	51.3	48.02	54.53

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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
PERAK	262	26672	14.7	10.71	19.94
Locality of School					
Urban	143	14815	16.4	10.95	23.82
Rural	119	11857	13.1	8.02	20.61
Sex					
Boys	149	15330	17.0	12.78	22.21
Girls	113	11342	12.5	7.87	19.29
Class					
Form 1	38	4023	10.6	5.67	18.85
Form 2	61	5739	16.2	11.34	22.58
Form 3	74	6727	18.7	13.17	25.77
Form 4	50	4756	13.6	8.14	21.79
Form 5	39	5427	14.9	9.95	21.71
Ethnicity					
Malay	119	12434	10.3	8.59	12.33
Chinese	124	12398	27.2	24.62	29.88
Indian	15	1458	13.9	7.98	22.98
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	2	169	48.9	3.86	95.80
Others	2	214	5.5936767	3.23	9.52
BMI-for-age status (BAZ)					
Thinness (<-2sd)	20	2139	19.1	12.54	28.11
Normal (≥-2sd - ≤+1sd)	164	16665	14.7	10.12	20.96
Overweight (>+1sd - ≤+2sd)	37	3758	11.8	7.08	18.88
Obese (>+2sd)	40	3959	16.1	11.42	22.33
Height-for-age status (HAZ)					
Stunting (<-2sd)	10	1063	7.0	3.61	13.13
Normal (≥-2sd)	252	25609	15.4	11.35	20.67

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

Characteristic	Size of the print too small					Do not understand				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERAK	27	2784	10.4	5.98	17.60	55	5394	20.2	15.47	25.98
Locality of School										
Urban	10	1038	7.0	2.97	15.64	31	3133	21.1	15.16	28.70
Rural	17	1746	14.7	7.57	26.68	24	2261	19.1	12.06	28.82
Sex										
Boys	15	1596	10.4	4.69	21.55	34	3320	21.7	15.71	29.08
Girls	12	1188	10.5	5.76	18.28	21	2074	18.3	12.07	26.75
Class										
Form 1	5	529	13.2	4.29	33.86	10	1017	25.3	13.20	42.96
Form 2	6	579	10.1	5.15	18.83	19	1766	30.8	17.86	47.63
Form 3	8	700	10.4	4.27	23.23	15	1363	20.3	12.43	31.27
Form 4	4	375	7.9	2.69	20.98	7	677	14.2	8.31	23.27
Form 5	4	600	11.1	3.01	33.28	4	571	10.5	4.16	24.17
Ethnicity										
Malay	16	1635	13.1	6.97	23.42	25	2544	20.5	11.88	32.91
Chinese	6	580	4.7	1.72	12.08	25	2422	19.5	15.64	24.13
Indian	3	356	24.4	6.74	59.04	4	349	23.9	8.43	51.83
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	79	46.9	46.93	46.93	-	-	-	-	-
Others	1	134	62.7	62.73	62.73	1	80	37.3	37.27	37.27
BMI-for-age status (BAZ)										
Thinness (<-2sd)	-	-	-	-	-	5	475	22.2	7.14	51.39
Normal (≥-2sd - ≤+1sd)	16	1698	10.2	5.26	18.81	29	2818	16.9	10.90	25.29
Overweight (>+1sd - ≤+2sd)	4	401	10.7	3.53	28.10	12	1216	32.4	16.45	53.76
Obese (>+2sd)	7	685	17.3	8.74	31.36	9	885	22.4	9.75	43.43
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	390	36.7	12.71	69.76	2	182	17.2	4.40	48.29
Normal (≥-2sd)	24	2394	9.3	5.41	15.69	53	5212	20.4	15.43	26.35

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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
PERAK	113	11505	43.1	30.27	57.00	38.000	4038	15.1	10.26	21.78
Locality of School										
Urban	74	7540	50.9	34.76	66.85	26	2789	18.8	11.97	28.33
Rural	39	3965	33.4	17.31	54.67	12	1249	10.5	5.48	19.30
Sex										
Boys	62	6477	42.2	30.06	55.47	17	1878	12.3	5.11	26.57
Girls	51	5028	44.3	27.03	63.13	21	2160	19.0	13.18	26.71
Class										
Form 1	9	958	23.8	12.66	40.27	3	336	8.4	1.64	33.27
Form 2	18	1678	29.2	13.64	51.94	8	753	13.1	5.60	27.75
Form 3	38	3405	50.6	31.08	69.97	9	824	12.2	6.03	23.28
Form 4	25	2366	49.7	36.63	62.87	9	875	18.4	7.34	39.08
Form 5	23	3099	57.1	29.77	80.69	9	1251	23.0	10.32	43.81
Ethnicity										
Malay	34	3626	29.2	20.47	39.70	14	1547	12.4	6.60	22.21
Chinese	77	7704	62.1	54.39	69.32	20	2119	17.1	9.51	28.79
Indian	2	175	12.0	1.87	49.41	3	283	19.4	3.99	58.18
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	90	53.1	53.07	53.07
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	652	30.5	12.32	57.77	4	458	21.4	6.74	50.60
Normal (≥-2sd - ≤+1sd)	80	8085	48.5	33.69	63.60	23	2411	14.5	9.96	20.56
Overweight (>+1sd - ≤+2sd)	14	1462	38.9	23.80	56.49	6	604	16.1	6.72	33.74
Obese (>+2sd)	12	1156	29.2	12.61	54.11	5	565	14.3	5.34	32.91
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	400	37.7	10.33	76.03	-	-	-	-	-
Normal (≥-2sd)	109	11105	43.4	30.26	57.47	38	4038	15.8	10.86	22.34

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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
PERAK	42	4294	16.1	10.57	23.75	26	2676	10.0	6.65	14.86
Locality of School										
Urban	19	1924	13.0	6.58	24.01	11	1159	7.8	4.06	14.55
Rural	23	2370	20.0	13.09	29.28	15	1517	12.8	8.31	19.19
Sex										
Boys	24	2451	16.0	9.65	25.32	19	1988	13.0	7.96	20.43
Girls	18	1843	16.2	9.11	27.30	7	688	6.1	2.92	12.16
Class										
Form 1	5	509	12.7	5.14	27.95	5	539	13.4	4.46	33.88
Form 2	8	778	13.6	6.74	25.37	10	936	16.3	7.18	32.94
Form 3	12	1110	16.5	7.92	31.22	5	460	6.8	2.77	15.90
Form 4	12	1208	25.4	11.76	46.51	3	289	6.1	2.54	13.86
Form 5	5	688	12.7	5.25	27.57	3	451	8.3	2.30	25.87
Ethnicity										
Malay	29	3038	24.4	19.51	30.13	17	1831	14.7	9.85	21.43
Chinese	10	976	7.9	4.53	13.32	8	733	5.9	2.87	11.78
Indian	3	280	19.2	7.24	42.08	1	112	7.7	0.93	42.76
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	1	95	4.5	0.53	28.99	3	316	14.8	2.81	50.99
Normal (≥-2sd - ≤+1sd)	24	2460	14.8	9.42	22.39	18	1865	11.2	6.90	17.64
Overweight (>+1sd - ≤+2sd)	10	1053	28.0	15.30	45.61	1	91	2.4	0.37	14.21
Obese (>+2sd)	7	685	17.3	7.37	35.50	4	403	10.2	3.61	25.59
Height-for-age status (HAZ)										
Stunting (<-2sd)	1	149	14.1	1.73	60.36	1	160	15.1	1.48	67.74
Normal (≥-2sd)	41	4144	16.2	10.57	23.97	25	2515	9.8	6.40	14.78

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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 Lower Upper		Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower Upper	
PERAK	548	56752	36.8	33.94	39.69	555	57688	37.4	33.21	41.74
Locality of School										
Urban	259	27297	36.1	31.00	41.60	278	29197	38.6	36.35	41.00
Rural	289	29455	37.4	35.12	39.69	277	28491	36.2	28.67	44.38
Sex										
Boys	285	29614	39.5	35.55	43.62	239	24945	33.3	28.05	38.97
Girls	263	27137	34.2	29.70	38.96	316	32743	41.2	35.89	46.80
Class										
Form 1	96	10644	31.3	26.53	36.44	89	9918	29.1	23.68	35.28
Form 2	113	10606	35.7	27.48	44.83	108	10521	35.4	28.66	42.77
Form 3	112	10271	35.0	29.17	41.39	119	11061	37.7	29.72	46.46
Form 4	136	12847	42.4	35.63	49.56	142	13150	43.4	36.56	50.60
Form 5	91	12383	39.9	32.78	47.56	97	13037	42.1	32.80	51.90
Ethnicity										
Malay	387	40137	37.1	34.06	40.26	394	41359	38.2	32.95	43.82
Chinese	113	11683	35.2	27.71	43.41	126	12779	38.5	36.57	40.38
Indian	36	3658	40.4	31.05	50.45	25	2589	28.6	19.91	39.16
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	88	50.0	50.00	50.00	1	88	50.0	50.00	50.00
Others	11	1185	32.9	20.76	47.76	9	873	24.2	13.40	39.71
BMI-for-age status (BAZ)										
Thinness (<-2sd)	34	3373	37.3	26.35	49.78	29	2915	32.3	19.14	48.94
Normal (≥-2sd - ≤+1sd)	351	36376	37.7	34.17	41.41	361	37191	38.6	34.16	43.17
Overweight (>+1sd - ≤+2sd)	88	9140	32.4	27.00	38.29	86	9422	33.4	27.66	39.66
Obese (>+2sd)	75	7863	38.2	32.24	44.59	79	8160	39.7	29.87	50.38
Height-for-age status (HAZ)										
Stunting (<-2sd)	43	4405	31.2	23.29	40.39	47	4882	34.6	24.20	46.68
Normal (≥-2sd)	505	52347	37.3	34.69	40.04	508	52806	37.7	33.87	41.60

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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	
PERAK	595	62018	40.2	35.55	45.00	329	34629	22.4	19.23	26.00
Locality of School										
Urban	279	29486	39.0	33.08	45.33	169	17970	23.8	18.77	29.66
Rural	316	32532	41.3	34.48	48.44	160	16659	21.1	17.53	25.26
Sex										
Boys	232	24644	32.9	27.74	38.47	174	18472	24.6	19.56	30.56
Girls	363	37374	47.1	41.25	52.97	155	16157	20.3	16.96	24.22
Class										
Form 1	99	10972	32.2	26.14	39.00	77	8535	25.1	19.20	32.03
Form 2	113	11007	37.0	30.97	43.55	54	5152	17.3	12.97	22.78
Form 3	105	9911	33.8	23.59	45.79	56	5140	17.5	13.46	22.51
Form 4	166	15337	50.7	43.95	57.37	83	7814	25.8	18.15	35.32
Form 5	112	14791	47.7	36.39	59.26	59	7989	25.8	18.51	34.66
Ethnicity										
Malay	420	43838	40.5	36.00	45.22	229	24050	22.2	19.05	25.78
Chinese	144	14923	44.9	35.81	54.37	82	8727	26.3	19.59	34.25
Indian	24	2524	27.9	16.46	43.07	15	1524	16.8	8.92	29.48
Bumiputera Sabah	1	108	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	6	625	17.3	6.22	39.84	3	327	9.1	5.87	13.77
BMI-for-age status (BAZ)										
Thinness (<-2sd)	30	3021	33.4	19.64	50.79	20	2046	22.6	13.66	35.13
Normal (≥-2sd - ≤+1sd)	358	37138	38.5	33.38	43.92	200	20974	21.7	18.22	25.75
Overweight (>+1sd - ≤+2sd)	116	12476	44.2	37.25	51.41	65	7215	25.6	21.24	30.44
Obese (>+2sd)	91	9383	45.6	36.47	55.06	43	4307	20.9	15.02	28.41
Height-for-age status (HAZ)										
Stunting (<-2sd)	47	4975	35.2	26.41	45.20	25	2822	20.0	15.86	24.88
Normal (≥-2sd)	548	57044	40.7	36.06	45.46	304	31807	22.7	19.41	26.32

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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
PERAK	128	13548	8.8	7.15	10.73	340	35227	22.8	20.20	25.67
Locality of School										
Urban	63	6799	9.0	6.30	12.71	171	18223	24.1	20.97	27.59
Rural	65	6748	8.6	7.01	10.43	169	17004	21.6	17.83	25.87
Sex										
Boys	63	6933	9.3	6.55	12.91	162	16886	22.5	18.80	26.76
Girls	65	6615	8.3	6.48	10.65	178	18341	23.1	19.07	27.68
Class										
Form 1	24	2643	7.8	5.19	11.46	67	7426	21.8	16.51	28.24
Form 2	26	2530	8.5	4.98	14.19	75	7076	23.8	19.54	28.67
Form 3	20	1868	6.4	4.20	9.56	65	6084	20.8	17.00	25.08
Form 4	35	3315	11.0	7.52	15.70	82	7602	25.1	18.38	33.31
Form 5	23	3192	10.3	6.79	15.31	51	7039	22.7	17.90	28.36
Ethnicity										
Malay	89	9407	8.7	7.31	10.31	228	24222	22.4	19.46	25.63
Chinese	29	3080	9.3	4.43	18.38	92	9053	27.2	22.72	32.30
Indian	8	879	9.7	6.78	13.69	10	1024	11.3	7.46	16.78
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	2	181	5.0	1.45	16.02	10	928	25.7	21.59	30.35
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	701	7.8	3.27	17.28	29	2989	33.1	24.08	43.50
Normal (≥-2sd - ≤+1sd)	78	8279	8.6	7.05	10.42	207	21423	22.2	19.46	25.24
Overweight (>+1sd - ≤+2sd)	21	2317	8.2	4.77	13.78	58	6163	21.8	16.06	28.98
Obese (>+2sd)	22	2250	10.9	7.33	16.02	46	4653	22.6	16.27	30.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	9	977	6.9	3.66	12.71	23	2389	16.9	12.80	22.04
Normal (≥-2sd)	119	12571	9.0	7.27	11.01	317	32838	23.4	20.78	26.28

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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	
PERAK	132	13565	8.8	6.45	11.87	171	18003	11.7	9.18	14.71
Locality of School										
Urban	62	6474	8.6	5.06	14.16	98	10454	13.8	11.21	16.96
Rural	70	7092	9.0	6.35	12.61	73	7549	9.6	6.32	14.26
Sex										
Boys	71	7433	9.9	6.23	15.43	85	8970	12.0	8.77	16.13
Girls	61	6132	7.7	5.30	11.12	86	9034	11.4	8.56	14.98
Class										
Form 1	24	2630	7.7	5.06	11.63	31	3421	10.1	6.52	15.18
Form 2	25	2348	7.9	5.15	11.93	35	3349	11.3	7.56	16.48
Form 3	24	2232	7.6	5.11	11.19	28	2631	9.0	5.66	13.93
Form 4	40	3792	12.5	7.17	20.99	44	4150	13.7	7.49	23.78
Form 5	19	2564	8.3	4.94	13.52	33	4452	14.4	10.61	19.15
Ethnicity										
Malay	85	8843	8.2	5.87	11.27	115	12206	11.3	8.95	14.13
Chinese	41	4120	12.4	8.02	18.68	47	4917	14.8	9.70	21.93
Indian	4	421	4.6	1.53	13.24	6	601	6.6	1.80	21.56
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	2	182	5.0	1.45	16.00	3	279	7.7	0.50	58.48
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	1185	13.1	6.11	25.90	8	833	9.2	4.00	19.81
Normal (≥-2sd - ≤+1sd)	74	7627	7.9	5.69	10.90	102	10806	11.2	8.49	14.65
Overweight (>+1sd - ≤+2sd)	20	2093	7.4	4.69	11.54	31	3312	11.7	8.38	16.20
Obese (>+2sd)	27	2661	12.9	8.23	19.76	30	3053	14.8	10.99	19.74
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	840	5.9	3.63	9.59	7	742	5.3	2.54	10.57
Normal (≥-2sd)	124	12726	9.1	6.56	12.42	164	17262	12.3	9.67	15.55

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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
PERAK	1181	122580	79.4	73.83	84.08	308	32028	20.8	16.01	26.46
Locality of School										
Urban	598	63347	83.9	78.04	88.35	158	16955	22.4	15.25	31.76
Rural	583	59233	75.2	67.48	81.54	150	15073	19.1	13.69	26.08
Sex										
Boys	530	54933	73.3	65.21	80.08	150	15811	21.1	17.10	25.73
Girls	651	67647	85.2	79.72	89.39	158	16217	20.4	13.90	28.99
Class										
Form 1	223	24777	72.8	62.72	80.98	62	6885	20.2	12.50	31.03
Form 2	231	22150	74.5	66.18	81.40	50	4714	15.9	11.33	21.75
Form 3	253	23509	80.2	70.18	87.43	46	4276	14.6	10.41	20.06
Form 4	283	26293	86.9	79.75	91.75	91	8354	27.6	20.61	35.89
Form 5	191	25850	83.4	73.01	90.30	59	7799	25.2	16.43	36.50
Ethnicity										
Malay	800	84059	77.7	73.93	81.09	172	18191	16.8	13.48	20.79
Chinese	302	30624	92.2	89.86	93.98	114	11656	35.1	28.39	42.42
Indian	49	4994	55.1	38.24	70.89	16	1626	17.9	9.40	31.54
Bumiputera Sabah	1	108	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sarawak	2	177	100.0	100.00	100.00	-	-	-	-	-
Others	27	2619	72.6	54.59	85.40	6	555	15.4	8.21	27.04
BMI-for-age status (BAZ)										
Thinness (<-2sd)	65	6618	73.2	56.13	85.42	16	1621	17.9	8.89	32.88
Normal (≥-2sd - ≤+1sd)	749	77537	80.4	74.87	84.97	192	19742	20.5	15.24	26.94
Overweight (>+1sd - ≤+2sd)	219	23178	82.1	76.30	86.78	56	6145	21.8	16.50	28.18
Obese (>+2sd)	148	15247	74.1	62.31	83.22	44	4521	22.0	15.93	29.50
Height-for-age status (HAZ)										
Stunting (<-2sd)	103	10719	75.9	60.33	86.74	24	2482	17.6	11.66	25.63
Normal (≥-2sd)	1078	111861	79.8	74.25	84.35	284	29546	21.1	16.06	27.14

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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
PERAK	380	39777	25.8	21.12	31.04	674	69886	45.3	32.72	58.46
Locality of School										
Urban	191	20449	27.1	20.53	34.78	305	32002	42.4	24.29	62.74
Rural	189	19329	24.5	18.46	31.81	369	37884	48.1	32.34	64.21
Sex										
Boys	174	18463	24.6	19.48	30.63	284	29114	38.8	28.08	50.82
Girls	206	21314	26.8	21.89	32.45	390	40772	51.4	36.28	66.18
Class										
Form 1	75	8188	24.1	16.04	34.43	134	14886	43.7	31.91	56.32
Form 2	57	5521	18.6	16.06	21.39	149	14401	48.5	34.94	62.21
Form 3	65	6036	20.6	16.00	26.08	145	13628	46.5	33.32	60.15
Form 4	106	9742	32.2	23.66	42.10	149	13815	45.6	30.33	61.83
Form 5	77	10291	33.2	24.49	43.22	97	13157	42.4	25.29	61.62
Ethnicity										
Malay	228	23903	22.1	18.76	25.84	638	66307	61.3	53.44	68.62
Chinese	130	13585	40.9	37.21	44.66	19	1782	5.4	3.92	7.30
Indian	15	1523	16.8	10.27	26.28	13	1363	15.0	9.72	22.55
Bumiputera Sabah	-	-	-	-	-	1	108	100.0	100.00	100.00
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	7	767	21.3	6.38	51.70	3	325	9.0	2.32	29.24
BMI-for-age status (BAZ)										
Thinness (<-2sd)	19	1911	21.1	9.74	39.98	38	3812	42.2	27.09	58.91
Normal (≥-2sd - ≤+1sd)	232	24337	25.2	20.47	30.69	412	42525	44.1	30.76	58.34
Overweight (>+1sd - ≤+2sd)	65	6985	24.8	19.28	31.18	121	12887	45.7	32.74	59.21
Obese (>+2sd)	64	6545	31.8	23.02	42.14	103	10661	51.8	39.09	64.33
Height-for-age status (HAZ)										
Stunting (<-2sd)	24	2466	17.5	9.18	30.69	66	6827	48.4	36.24	60.67
Normal (≥-2sd)	356	37312	26.6	21.99	31.80	608	63059	45.0	32.02	58.64

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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
PERAK	454	47490	30.8	25.56	36.52	281	29045	18.8	14.46	24.12
Locality of School										
Urban	222	23860	31.6	26.07	37.66	162	16965	22.5	17.26	28.67
Rural	232	23630	30.0	21.69	39.85	119	12081	15.3	9.96	22.87
Sex										
Boys	183	19136	25.5	19.26	33.02	118	12432	16.6	11.06	24.13
Girls	271	28353	35.7	29.81	42.08	163	16613	20.9	16.86	25.66
Class										
Form 1	86	9575	28.1	18.65	40.05	51	5646	16.6	10.86	24.50
Form 2	76	7332	24.7	19.76	30.33	49	4823	16.2	10.89	23.50
Form 3	78	7390	25.2	16.91	35.82	52	4855	16.6	11.17	23.85
Form 4	131	12204	40.3	29.03	52.74	82	7566	25.0	18.12	33.42
Form 5	83	10989	35.4	26.31	45.78	47	6154	19.9	11.68	31.68
Ethnicity										
Malay	319	33516	31.0	25.34	37.26	172	17899	16.5	13.05	20.76
Chinese	112	11510	34.6	29.66	39.99	95	9669	29.1	24.21	34.54
Indian	18	1922	21.2	11.35	36.16	13	1389	15.3	8.18	26.90
Bumiputera Sabah	1	108	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	1	88	50.0	50.00	50.00
Others	4	433	12.0	2.11	46.29	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	26	2635	29.2	17.99	43.58	13	1308	14.5	7.23	26.87
Normal (≥-2sd - ≤+1sd)	277	28544	29.6	24.33	35.47	172	17569	18.2	13.26	24.51
Overweight (>+1sd - ≤+2sd)	79	8749	31.0	24.04	38.96	52	5581	19.8	14.60	26.22
Obese (>+2sd)	71	7475	36.3	28.81	44.60	44	4588	22.3	16.40	29.58
Height-for-age status (HAZ)										
Stunting (<-2sd)	39	4235	30.0	21.09	40.72	18	1870	13.2	8.57	19.93
Normal (≥-2sd)	415	43255	30.8	25.42	36.86	263	27175	19.4	14.88	24.84

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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
PERAK	795	82039	45.1	40.22	50.16	1034	107474	59.1	53.78	64.29
Locality of School										
Urban	401	41911	46.2	40.03	52.40	525	55545	61.2	53.07	68.70
Rural	394	40129	44.1	36.54	52.01	509	51929	57.1	50.20	63.76
Sex										
Boys	376	38824	42.9	37.53	48.48	508	52865	58.4	52.61	64.04
Girls	419	43215	47.4	40.18	54.63	526	54609	59.8	52.30	66.93
Class										
Form 1	127	14109	37.1	27.75	47.46	178	19730	51.8	40.60	62.90
Form 2	131	12476	35.2	30.15	40.57	175	16660	47.0	40.05	54.03
Form 3	186	17177	47.4	35.73	59.40	237	21889	60.4	47.78	71.83
Form 4	212	19702	55.8	45.37	65.73	259	24189	68.5	59.38	76.39
Form 5	139	18577	50.7	36.83	64.38	185	25005	68.2	55.56	78.61
Ethnicity										
Malay	535	55568	45.9	40.56	51.40	712	74531	61.6	55.50	67.37
Chinese	213	21834	47.5	41.33	53.78	257	26440	57.5	52.32	62.59
Indian	30	2938	27.9	15.05	45.88	41	4030	38.3	24.60	54.18
Bumiputera Sabah	-	-	-	-	-	1	108	100.0	100.00	100.00
Bumiputera Sarawak	3	267	77.1	29.08	96.49	3	267	77.1	29.08	96.49
Others	14	1433	37.5	27.18	49.11	20	2098	54.9	31.21	76.59
BMI-for-age status (BAZ)										
Thinness (<-2sd)	50	5112	45.7	36.24	55.57	66	6821	61.0	50.85	70.34
Normal (≥-2sd - ≤+1sd)	512	52470	46.1	40.58	51.80	657	67863	59.7	54.44	64.71
Overweight (>+1sd - ≤+2sd)	131	14066	44.0	35.48	52.87	176	18972	59.3	50.05	67.99
Obese (>+2sd)	102	10390	42.4	36.55	48.38	134	13730	56.0	47.34	64.26
Height-for-age status (HAZ)										
Stunting (<-2sd)	60	6349	41.8	32.14	52.18	78	8174	53.8	43.05	64.30
Normal (≥-2sd)	735	75691	45.5	40.61	50.42	956	99300	59.7	54.07	65.00

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
PERAK	957	98761	54.3	50.60	58.04
Locality of School					
Urban	479	50206	55.3	49.95	60.52
Rural	478	48555	53.4	48.18	58.55
Sex					
Boys	463	47913	53.0	47.84	58.03
Girls	494	50848	55.7	49.03	62.20
Class					
Form 1	166	18355	48.2	40.00	56.55
Form 2	177	16898	47.7	41.68	53.70
Form 3	218	20175	55.7	45.54	65.40
Form 4	240	22357	63.3	52.93	72.59
Form 5	156	20976	57.2	44.73	68.82
Ethnicity					
Malay	638	66329	54.8	49.95	59.61
Chinese	252	25736	56.0	50.43	61.43
Indian	48	4823	45.9	34.32	57.85
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	3	267	77.1	29.08	96.49
Others	16	1606	42.0	33.53	51.03
BMI-for-age status (BAZ)					
Thinness (<-2sd)	58	5900	52.8	44.54	60.90
Normal (≥-2sd - ≤+1sd)	612	62754	55.2	50.60	59.68
Overweight (>+1sd - ≤+2sd)	158	16813	52.6	45.78	59.28
Obese (>+2sd)	129	13293	54.2	46.71	61.49
Height-for-age status (HAZ)					
Stunting (<-2sd)	75	8020	52.8	44.00	61.49
Normal (≥-2sd)	882	90740	54.5	50.72	58.26

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

Characteristic	Both correct					Know only the energy content				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERAK	453	47161	26.0	23.07	29.06	689	71965	39.6	35.57	43.78
Locality of School										
Urban	241	25547	28.1	24.54	32.03	354	37642	41.5	36.21	46.91
Rural	212	21614	23.8	19.99	28.02	335	34322	37.7	32.10	43.75
Sex										
Boys	233	24405	27.0	22.50	31.98	349	36949	40.8	36.23	45.63
Girls	220	22756	24.9	20.91	29.44	340	35015	38.4	33.50	43.48
Class										
Form 1	98	10912	28.7	22.09	36.29	138	15352	40.3	30.45	51.08
Form 2	69	6592	18.6	12.89	26.06	116	11064	31.2	22.61	41.32
Form 3	86	7978	22.0	15.64	30.09	126	11708	32.3	25.84	39.56
Form 4	131	12281	34.8	25.21	45.76	192	17911	50.7	39.47	61.90
Form 5	69	9398	25.6	18.78	33.93	117	15928	43.4	32.53	55.01
Ethnicity										
Malay	304	31935	26.4	23.05	30.04	442	46634	38.5	34.61	42.64
Chinese	122	12509	27.2	24.85	29.73	210	21613	47.0	43.25	50.85
Indian	18	1796	17.1	12.10	23.53	24	2397	22.8	17.40	29.25
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	1	88	25.6	4.10	73.36	1	88	25.6	4.10	73.36
Others	8	832	21.8	7.50	48.90	12	1233	32.3	13.51	59.26
BMI-for-age status (BAZ)										
Thinness (<-2sd)	27	2747	24.6	15.86	36.06	39	3935	35.2	26.41	45.14
Normal (≥-2sd - ≤+1sd)	293	30340	26.7	23.37	30.28	439	45662	40.2	35.28	45.23
Overweight (>+1sd - ≤+2sd)	77	8396	26.3	18.45	35.91	125	13406	41.9	33.62	50.72
Obese (>+2sd)	56	5678	23.1	18.31	28.81	86	8962	36.5	32.31	40.98
Height-for-age status (HAZ)										
Stunting (<-2sd)	30	3267	21.5	12.71	34.06	54	5731	37.8	27.38	49.38
Normal (≥-2sd)	423	43894	26.4	23.72	29.20	635	66233	39.8	35.86	43.86

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
PERAK	799	82913	45.6	40.64	50.70
Locality of School					
Urban	392	41478	45.7	37.70	53.89
Rural	407	41435	45.6	39.71	51.56
Sex					
Boys	408	41932	46.4	40.13	52.69
Girls	391	40981	44.9	37.93	52.08
Class					
Form 1	165	18302	48.1	38.94	57.36
Form 2	146	13998	39.5	34.35	44.85
Form 3	171	15759	43.5	34.96	52.46
Form 4	197	18509	52.4	42.14	62.49
Form 5	120	16345	44.6	32.91	56.86
Ethnicity					
Malay	582	60995	50.4	47.29	53.54
Chinese	156	15839	34.5	30.73	38.41
Indian	45	4473	42.5	34.82	50.61
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	3	267	77.1	29.08	96.49
Others	13	1340	35.1	18.85	55.69
BMI-for-age status (BAZ)					
Thinness (<-2sd)	51	5248	47.0	34.55	59.75
Normal (≥-2sd - ≤+1sd)	501	51688	45.5	40.16	50.85
Overweight (>+1sd - ≤+2sd)	137	14883	46.5	38.12	55.17
Obese (>+2sd)	110	11094	45.2	36.59	54.16
Height-for-age status (HAZ)					
Stunting (<-2sd)	60	6373	42.0	30.84	54.00
Normal (≥-2sd)	739	76540	46.0	40.81	51.24

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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
PERAK	106	11001	7.1	5.56	9.10	826	84908	55.0	49.32	60.58
Locality of School										
Urban	45	4825	6.4	4.71	8.61	383	40138	53.1	47.23	58.95
Rural	61	6176	7.8	5.48	11.08	443	44769	56.8	47.44	65.72
Sex										
Boys	41	4291	5.7	3.91	8.31	332	33933	45.3	39.06	51.65
Girls	65	6710	8.5	6.24	11.35	494	50975	64.2	59.19	68.92
Class										
Form 1	16	1705	5.0	2.00	11.98	152	16814	49.4	40.65	58.19
Form 2	23	2198	7.4	4.24	12.59	173	16505	55.5	45.51	65.14
Form 3	24	2306	7.9	4.43	13.58	174	16251	55.4	45.56	64.88
Form 4	25	2364	7.8	4.82	12.42	200	18463	61.0	54.09	67.49
Form 5	18	2428	7.8	4.72	12.71	127	16875	54.4	38.77	69.26
Ethnicity										
Malay	84	8777	8.1	6.22	10.51	569	59070	54.6	47.57	61.47
Chinese	14	1357	4.1	2.43	6.80	198	19919	59.9	49.39	69.65
Indian	5	534	5.9	3.14	10.79	40	4038	44.6	33.53	56.17
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-	2	177	100.0	100.00	100.00
Others	3	333	9.2	5.13	16.09	17	1704	47.2	33.74	61.15
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	337	3.7	1.24	10.69	46	4700	52.0	40.05	63.75
Normal (≥-2sd - ≤+1sd)	68	6898	7.2	5.17	9.83	533	54324	56.3	50.65	61.86
Overweight (>+1sd - ≤+2sd)	15	1589	5.6	3.53	8.86	142	15021	53.2	42.55	63.63
Obese (>+2sd)	20	2177	10.6	6.71	16.29	104	10775	52.4	44.05	60.58
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	756	5.4	2.21	12.40	69	7050	49.9	37.05	62.84
Normal (≥-2sd)	99	10245	7.3	5.75	9.23	757	77857	55.5	49.83	61.07

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
PERAK	215	22488	14.6	11.80	17.86
Locality of School					
Urban	91	9908	13.1	10.68	16.00
Rural	124	12580	16.0	11.57	21.63
Sex					
Boys	113	11942	15.9	12.53	20.05
Girls	102	10546	13.3	10.49	16.68
Class					
Form 1	46	5015	14.7	9.64	21.87
Form 2	42	3961	13.3	9.44	18.49
Form 3	46	4295	14.6	11.17	18.99
Form 4	44	4111	13.6	10.01	18.17
Form 5	37	5106	16.5	10.89	24.14
Ethnicity					
Malay	159	16866	15.6	12.27	19.61
Chinese	36	3554	10.7	8.70	13.09
Indian	10	991	10.9	5.44	20.77
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	-	-	-	-	-
Others	10	1076	29.8	15.79	49.10
BMI-for-age status (BAZ)					
Thinness (<-2sd)	7	698	7.7	3.78	15.12
Normal (≥-2sd - ≤+1sd)	145	15071	15.6	12.26	19.72
Overweight (>+1sd - ≤+2sd)	30	3154	11.2	7.12	17.12
Obese (>+2sd)	33	3566	17.3	12.26	23.93
Height-for-age status (HAZ)					
Stunting (<-2sd)	23	2526	17.9	9.31	31.62
Normal (≥-2sd)	192	19962	14.2	11.94	16.89

Appendices

Appendix 1: Members of Steering Committee NHMS 2015-2018

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

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

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

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

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

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

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

		<p>Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.</p> <p>To ensure adequate logistic support for the data collection and liaise with the District Education Office, District Health Office and other relevant departments to ensure that:</p> <ul style="list-style-type: none"> • 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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NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

PERAK

Liaison Officer

Ms. Zuraini binti Abdullah

Field Supervisor

1. Dr. Tania Gayle a/p Robert Lourdes
2. Dr. Thamil Arasu a/l Saminathan

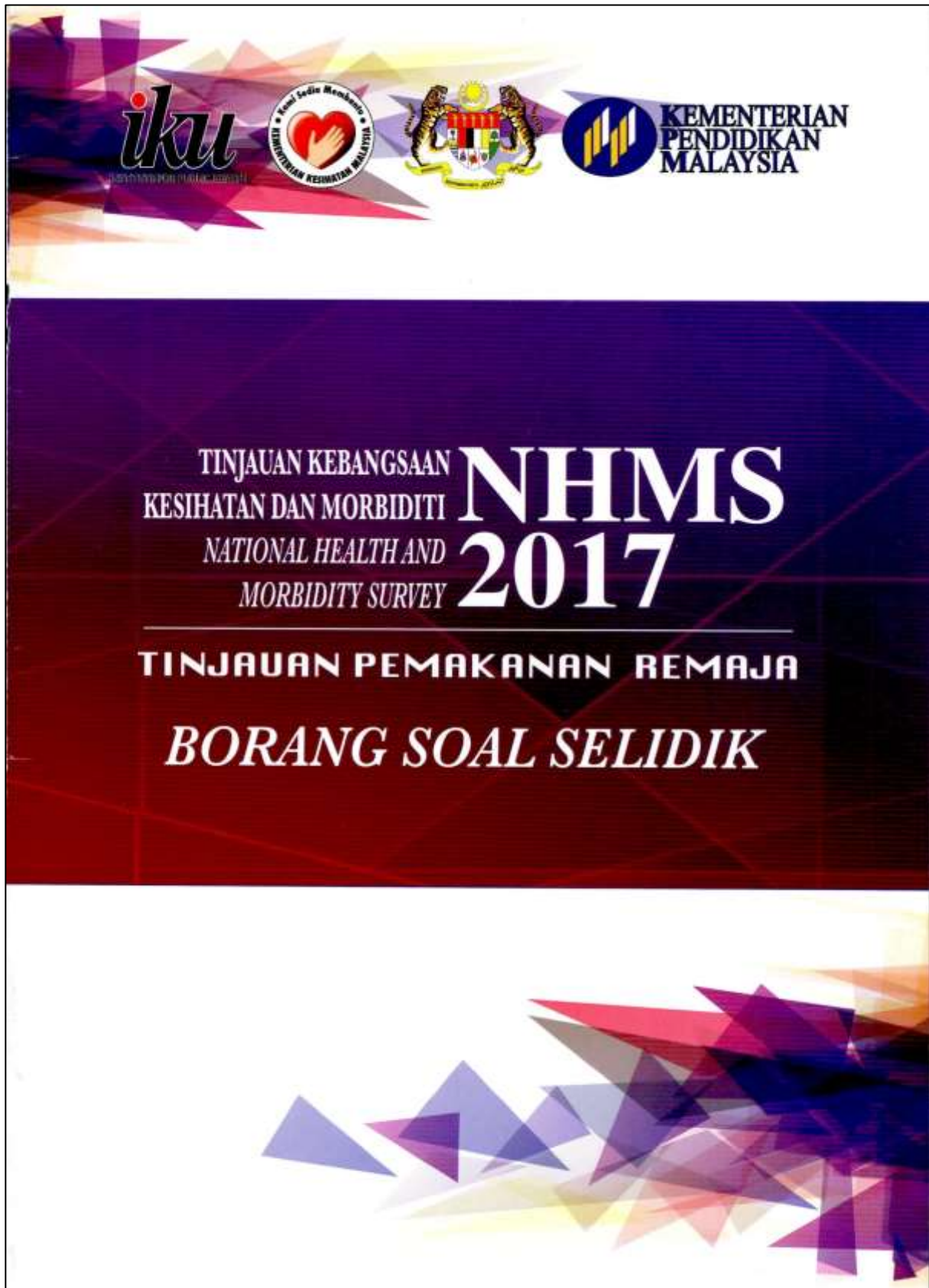
Nutritionist

1. Ms. Zuraini binti Abdullah
2. Mr. Zulkifli bin Jamil
3. Mr. Ng Zei Pei
4. Ms. Ruby Zainureen binti Zahedi
5. Ms. Nursyakirah binti Ahmad Kamil

Research Assistants

1. Nursyafiza binti Zahari
2. Siti 'Aisyah binti Mohamad Johari
3. Nur Zahirah binti Mohd Khairuddin
4. Mohd Azfar bin Ismail
5. Mohamad Sabri bin Mohamad Shariman
6. Kalaivani a/p Ananthan
7. Raja Nor Fatimah binti Raja Omar
8. Adly Akmal bin Md Yunus

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"/>	<input type="text"/>	<input type="text"/>	Negeri மாநில	Strata நிலை	Kategori Sekolah பள்ளி பிரிவு	Kod Sekolah பள்ளி குறியீடு	Kelas வகுப்	Pelajar மாணவர்		
A2	Tarikh lahir பிறந்த திகதி	<input type="text"/>	<input type="text"/>	<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** Apakah sesi persekolahan anda?
உங்கள் பள்ளி எச்சமயத்தில் நடைபெறும் ?
- A Sesi pagi sahaja / காலைமீல் மட்டும்
B Sesi petang sahaja / மதியத்தில் மட்டும்
C Sesi pagi sampai petang / காலை முதல் மாலை வரை
- B2** 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-
லிருந்து காலை மணி 8.00 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 berkaitan / Tidak ambil sarapan
தொடர்பு இல்லை / காலை உணவு உட்கொள்வதில்லை
- B3** Kebiasaannya, dari mana anda dapat makanan itu?
வழக்கமாக எங்கு காலை உணவை உட்கொள்வீர்கள்?
- 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
- B4** Sekiranya anda tidak mengambil sarapan, apakah sebabnya?
ஏன் காலை 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/kerana saya mengambil sarapan setiap hari
தொடர்பு இல்லை/ தினமும் காலை சிற்றுண்டி உட்கொள்வேன்.

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 விரும்பமில்லை
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

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- 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 ஏத்தனை முறை அதிகமான அளவில் உணவு உட்கொண்டீர்கள்?
(உதாரணமாக: நாசி லெமாக், ரொத்தி சாளாய், மீ பிரத்தல், பர்கர், பொரித்தக் கோழி, குரித மீமற்றும் சில. யதில் பால்மற்றும் பிஸ்கிட் போன்ற உணவு அடங்காது. (உதாரணத்திற்கு 2 துண்டு பிஸ்கிட் மற்றும்/ அல்லது ஒரு குவளைப்பால்)
- A 1 hari / 1 நாள்
B 2 hari / 2 நாள்
C 3 hari / 3 நாள்
D 4 hari / 4 நாள்
E 5 hari / 5 நாள்
F 6 hari / 6 நாள்
G 7 hari / 7 நாள்
H Tidak ambil makanan berat selepas makan malam /
பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை
- B16** Di manakah anda mengambil makanan berat tersebut?
எங்கு 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. Nugget / Sosej / Burger / நகெட் / சொசேஜ் / பர்கர்
E. Biskut / பிஸ்கிட்
F. Buah-buahan / பழம்
G. Lain-lain / மற்றது
H. Tidak bawa bekal / பள்ளிக்கு உணவு எடுத்துச் செல்லமாட்டேன்
- B20** Berapa kerap anda membawa bekal minuman ke sekolah?
பொதுவாக எத்தனை முறை பள்ளிக்கு நீர் எடுத்துச்செல்வீர்கள்?
- A. Setiap hari / தினமும்
B. Kadang-kadang / சில நேரத்தில்
C. Tidak / பள்ளிக்கு நீர் எடுத்துச் செல்லமாட்டேன்

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

- B25** Berapa kerap anda mengambil makanan ringan tersebut dalam seminggu?
ஒரு வாரத்தில் எத்தனை முறை துரித உணவு உட்கொள்வீர்கள்?
- A 1 kali / 1 முறை
B 2 kali / 2 முறை
C 3 kali / 3 முறை
D 4 kali / 4 முறை
E 5 kali / 5 முறை
F 6 kali / 6 முறை
G 7 kali atau lebih / 7 முறைக்கு மேல்
H Tidak pernah makanan ringan atau snek / துரித உணவு உட்கொள்வதில்லை
- B26** Apakah jenis makanan dan/atau minuman yang selalu anda beli dari luar pagar sekolah?(Boleh pilih **SATU** atau **DUA** jawapan sahaja)
எத்தகைய உணவை பள்ளி வலாகத்தின் வெளியே பெறுவீர்கள்? (ஒன்று அல்லது யரண்டு விடையை மட்டும் தெர்வு செய்க)
- A Gula-gula/coklat / சாக்டெட்
B Kentang goreng / nuget / sosej / பிரஞ் பிரைஸ்/ நாகெட்/ சொசெஜ்
C Air berperisa/air berkarbonat / குளிர்்பானம்/ காற்போனெட்பானம்
D Makanan jeruk / ஊருகாய்
E Makanan ringan/rapu / துரித உணவு
F Keropok / சிப்ஸ்
G Aiskrim / பனிக்ரூல்
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 நடவடிக்கையை மேற்கொண்டீர்களா? (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 பேல்பாஷ்	A	B	C	D	E
k	Menari நடனம்	A	B	C	D	E
l	Ragbi ரக்பி	A	B	C	D	E
m	Badminton பூப்பந்து	A	B	C	D	E
n	Hoki ஹகி	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 Fizikal

- 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
நின்றுகொண்டு 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
நின்றுகொண்டு 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 சி தேசன், கேம்போய் மற்றும் சில*)?
- A Ya / ஆம்
B Tidak / இல்லை
- C12** Berapa lamakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video pada **hujung minggu**?
எவ்வளவு நேரம் கடந்த வார பறுதியில் தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுபட்டீர்களா?
- A kurang dari 1 jam sehari
1 மணி நேரத்திற்கு குறைவாக
- B 1 jam hingga kurang dari 2 jam sehari
ஒரு நாளில் 1 மணியிலிருந்து 2 மணி நேரம்
- C 2 jam hingga kurang dari 3 jam sehari
ஒரு நாளில் 2 மணியிலிருந்து 3 மணி நேரம்
- D 3 jam hingga kurang dari 4 jam sehari
ஒரு நாளில் 3 மணியிலிருந்து 4 மணி நேரம்
- E Lebih dari 4 jam sehari
4 மணி நேரத்திற்கு மேல்
- C13** Pada **hari persekolahan** adakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video (contoh: *PSP, Playstation, Gameboy dan lain-lain*)?
பள்ளி நாட்களில் தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுபட்டீர்களா?
- A Ya / ஆம்
B Tidak / இல்லை

Tinjauan Persekolahan Kognitif

- 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

<p>MODUL D : PERSEPSI PENGURUSAN BERAT BADAN தொகுதி D : உடல் எடை கட்டுப்பாடு</p>	
<p>Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan. கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்</p>	
<p>D1</p>	<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>
<p>D2</p>	<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>
<p>D3</p>	<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? எதனால் 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 Persekitaran Keluarga

- E5** Adakah anda ada mengambil sebarang suplemen makanan?
நீங்கள் மாற்றுச்சத்துணவு உட்கொள்வீர்களா?
- A Ya / ஆம்
B Tidak / பல்லை
- (Jika **TIDAK**, sila jawab **TIDAK AMBIL SUPLEMEN** di soalan E6, E7, dan E8)
(பல்லை என்றால், விடமின் உட்கொள்ளவில்லை என்று E2, E3, மற்றும் E4 கேள்விகளில் விடையளிக்கவும்)
- E6** Apakah jenis suplemen makanan yang biasa diambil?
எவ்விதமான மாற்றுச்சத்துணவை நீங்கள் உட்கொள்கிறீர்கள்?
- A Spirulina / சிபிருலினா
B Minyak ikan / மீன் எண்ணெய்
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. எதனால் நீங்கள் அவ்வடையாள அட்டையை படிக்கமாதிர்கள்? ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்.</p> <table border="1"> <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"> <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 காண்க.

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

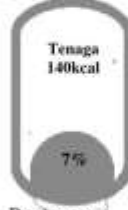
- F5** Jika saya minum 100ml minuman ini, ia membekalkan 56 kcal tenaga.
நான் 100ml குளிர்பானம் குடித்தால், எனக்கு 56 கலோரிச் சத்துகள் கிடைக்கும்.
- A Betul / சரி
B Salah / பிழை
C Tidak tahu / தெரியவில்லை
- F6** Jika saya minum satu kotak minuman ini, bermaksud saya telah mengambil 26.5 gram gula.
ஓர்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



- 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 டீயை குடி செய்தால், 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 : ஆந்தரோபோமெற்றிக் அளவீடுகள்				
Arahan : Bahagian ini akan diisi oleh pelajar di dalam kertas jawapan yang disediakan. கட்டளை: கீழ்க்காணும் பத்திரத்தை நிரப்புக.				
G1	Tarikh pengukuran Antropometri ஆந்தரோபோமெற்றிக் 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如你一样的年轻一代。

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	<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="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	<input type="text"/> <input type="text"/> <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 D. Sabah indigenous/沙巴士著 B. Chinese.华人 E. Sarawak indigenous /沙撈越土著 C. Indian/印度人 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 G. Secondary3/初中3 E. Secondary1/初中1 H. Secondary4/初中4 F. Secondary2/初中2 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 G. 16 year old /16岁 E. 14 year old / 14岁 H. 17 year old / 17岁 F. 15 year old / 15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

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照作答	
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

<p>MODULE E: SUPPLEMENT INTAKE E组：食用营养补助品</p>	
<p><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></p>	
<p>E1</p>	<p>Are you taking any vitamin supplement/ minerals? 你有在食用维生素/矿物质的补助品吗？</p> <p>A Yes/有 B No/没有</p> <p>(If No, please answer 'I DON'T TAKE SUPPLEMENT' at question E2, E3, danE4 (如果没有，请在E2, E3和E4回答没有食用补助品)</p>
<p>E2</p>	<p>What type of vitamin supplement/ minerals that you usually take? 你在食用什么维生素/矿物质补助品？</p> <p>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/没有食用补助品</p>
<p>E3</p>	<p>What is the reason for you to take vitamin supplement/ minerals? 是什么原因使你在食用维生素/矿物质补助品？</p> <p>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/没有食用补助品</p>
<p>E4</p>	<p>How often do you take vitamin supplement / minerals? 你如何食用该维生素/矿物质补助品？</p> <p>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</p>
<p>E5</p>	<p>Are you taking any food supplement? 你有在食用食物补助品吗？</p> <p>A Yes/有 B No/没有</p> <p>(If NO, please answer 'I DON'T TAKE SUPPLEMENT' at question E6, E7, danE8) (如果没有，请在E6, E7和E8回答没有食用补助品)</p>

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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E	No time/没有时间																		
F	Already know the information/已经知道相关资料																		
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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F	Vitamin content/维生素含量																		
G	Mineral content/矿物质含量																		
H	Fiber/纤维																		

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

根据以下饮品为例，你会阅读以下哪些资料？您可以选择多个答案



Type of Information/食品资料	
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

225

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 border="1" style="margin-left: 20px;"> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> <tr> <td colspan="2" style="text-align: center;">Day/日期</td> <td colspan="2" style="text-align: center;">Month/月份</td> <td colspan="2" style="text-align: center;">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;" type="text"/> <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> : <input style="width: 40px;" type="text"/> kg/公斤												
G2b	Weight 2/体重2 <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> : <input style="width: 40px;" 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;" type="text"/> <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> : <input style="width: 40px;" type="text"/> cm/厘米												
G3b	Height 2/身高2 <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> <input style="width: 40px;" type="text"/> : <input style="width: 40px;" type="text"/> cm/厘米												
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Secondary school Questionnaire Answer Sheet

TINJAUAN PEMAKANAN REMAJA 2017
KERTAS JAWAPAN

A1 ID PELAJAR						MODUL C																	
NEGERI	STRATA	KATEGORI SEKOLAH	KOD SEKOLAH	KELAS	PELAJAR	C1(a)	A	B	C	D	E	C1(n)	A	B	C	D	E	C9(a)	A	B	C	D	E
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	C1(b)	A	B	C	D	E	C1(o)	A	B	C	D	E	C9(b)	A	B	C	D	E
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> 1	C1(c)	A	B	C	D	E	C1(p)	A	B	C	D	E	C9(c)	A	B	C	D	E
<input type="radio"/> 2			<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> 2	C1(d)	A	B	C	D	E	C1(q)	A	B	C	D	E	C9(d)	A	B	C	D	E
<input type="radio"/> 3			<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> 3	C1(e)	A	B	C	D	E	C1(r)	A	B	C	D	E	C9(e)	A	B	C	D	E
<input type="radio"/> 4			<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> 4	C1(f)	A	B	C	D	E	C1(s)	A	B	C	D	E	C9(f)	A	B	C	D	E
<input type="radio"/> 5			<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> 5	C1(g)	A	B	C	D	E	C2	A	B	C	D	E	C9(g)	A	B	C	D	E
<input type="radio"/> 6			<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> 6	C1(h)	A	B	C	D	E	C3	A	B	C	D	E	C10	A	B			
<input type="radio"/> 7			<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> 7	C1(i)	A	B	C	D	E	C4	A	B	C	D	E	C11	A	B			
<input type="radio"/> 8			<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> 8	C1(j)	A	B	C	D	E	C5	A	B	C	D	E	C12	A	B	C	D	E
<input type="radio"/> 9			<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> 9	C1(k)	A	B	C	D	E	C6	A	B	C	D	E	C13	A	B			
<input type="radio"/> 0			<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> 0	C1(l)	A	B	C	D	E	C7	A	B	C	D	E	C14	A	B	C	D	E
						C1(m)	A	B	C	D	E	C8	A	B	C	D	E						
A2 <input type="text"/> / <input type="text"/> / <input type="text"/> <small>Tarikh Lahir</small>						A5 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H <input type="radio"/> I <small>Kelas</small>						MODULE											
A3 <input type="radio"/> A <input type="radio"/> B <small>Jantina</small>						A6 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H <input type="radio"/> I <small>Umur</small>						E1 <input type="radio"/> A <input type="radio"/> B											
A4 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <small>Etnik</small>												E2 <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E											

MODUL B

B1	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
B2	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B3	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B4	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
B5	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B6	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B7	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B8	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B9	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
B10	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B11	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B12	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B13	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
B14	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
B15	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B16	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
B17	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B18	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
B19	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B20	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
B21	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
B22	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
B23	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B24	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B25	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B26	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B27	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
B28	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E

MODUL D

D1	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
D2	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
D3	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
D4	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H <input type="radio"/> I
D5	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
D6	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E

MODUL F


F1	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
F2	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
F3	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G <input type="radio"/> H
F4	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F
F5	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
F6	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
F7	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
F8	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C
F9	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E
F10	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> 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="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7
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<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7	<input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7
<input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 0 <input type="radio"/> 1	<input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 0 <input type="radio"/> 1	<input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 0 <input type="radio"/> 1	<input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 0 <input type="radio"/> 1
<input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	<input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	<input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	<input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
<input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9	<input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9	<input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9	<input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9

Berat | Inggan ukur Tinggi | Inggan ukur



6 185441 111745

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

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

(Tandatangan)

Nama Ibubapa/Penjaga* :

Nombor K/P :

Tarikh :

Students Consent Form

Borang Persetujuan Responden (Bawah 18 Tahun) NHMS 2017

RISALAH MAKLUMAT RESPONDEN (BAWAH 18 TAHUN)**1. Tajuk:**

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

2. Nama Penyelidik Utama dan Institusi:

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

3. Nama Penaja:

Kementerian Kesihatan Malaysia

4. Pengenalan:

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

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

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

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

5. Apakah tujuan tinjauan ini dilakukan?

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

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

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

7. Apakah tanggungjawab saya sewaktu menyertai tinjauan ini?

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

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

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

9. Apakah manfaatnya saya menyertai tinjauan ini?

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

10. Adakah maklumat saya akan dirahsiakan?

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

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

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

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

BORANG PERSETUJUAN RESPONDEN BAWAH 18 TAHUN (Untuk Salinan Responden)

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

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

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

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

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

BORANG 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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