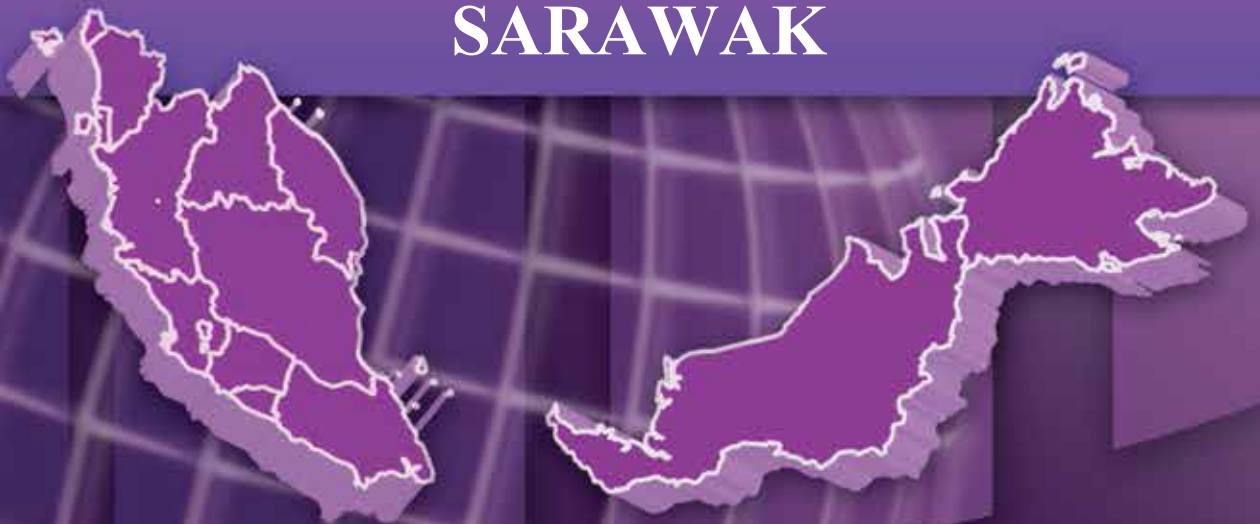


NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY

SARAWAK



THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY 2017

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Executive Summary

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

Based on the indicator height for age (HAZ), the prevalence of normal height ($HAZ \geq -2SD$) was 89.9% and stunting was 10.2%. The prevalence of stunting was higher in rural areas (12.1%) as compared to urban areas (8.2%). In terms of BMI for age (BAZ), the prevalence of thinness was 6.8%, overweight was 16.1% and obesity was 16.1%.

Among those school-going adolescents who had actual normal weight, 50.1% correctly perceived their weight to be normal. Among those who were actually thin, 62.0% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 34.7% and 13.6% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 62.8% preferring exercise as an option to lose weight; 49.3% 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 30.9%. The majority of them had breakfast one to six days per week (60.3%) and some of them did not having breakfast in a week (8.8%). Among those who had breakfast, 69.2% had it at home. Girl adolescents (33.8%) reported having breakfast daily (seven days per week), higher than boy (28.0%). The two main reasons of skipping breakfast were no appetite (47.7%) and no time (28.6%).

The prevalence of having lunch seven days per week among school-going adolescents was 44.8%; 52.5% had lunch up to six days per week and 2.7% did not have lunch in a week. No appetite (50.2%) and no time (18.3%) were the two main reasons for skipping lunch. As for dinner, 55.1% of school-going adolescents had dinner seven days per week, 42.4% 1-6 days per week and 2.5% did not have dinner in a week. Only 7.4% took heavy meals after dinner seven days per week.

There were 3.6% who had fast food daily and 12.4% did not have fast food in a week. Social media (YouTube, Facebook, Instagram, etc.) and television were reported as the main sources which affected dietary pattern in 37.5% and 38.1%. A percentage of 28.6% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Sarawak was 44.3%. 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 Sarawak was 41.4% and 27.0%. There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, school classes and localities. In average, the vitamin/mineral and food supplements were consumed everyday by 16.8 % and 12.2 % respectively. The most commonly consumed vitamin / minerals and food supplements were Vitamin C, 38.9% and bee product 12.7%. The main reason for taking vitamin / minerals and food supplements was due to parent's advised which, was 42.3% and 26.5% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 34.8% always reading food and nutrition labelling. Another 49.5% reported as sometimes and only 15.8% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 37.6% of adolescents both answered correctly on nutrition facts and 20.0% of adolescents answered correctly questions regarding the front of pack labelling and only 6.9% answered both correctly regarding the most and least ingredients based on the food ingredient list.

1.0 Introduction

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

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

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

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

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

High-calorie intake and sedentary lifestyle are two common 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 age 10 – 17 years old to continue exploring issues pertaining to nutrition related component in adolescents in Malaysian such as nutritional status, body weight perception, meal pattern, habitual food intake, dietary intake, physical activity level, vitamin/mineral and food supplement intake and food and nutrition labelling.

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1.1 Objectives

1.1.1 General Objectives

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

1.1.2 Specific Objectives

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

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

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

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

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

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

1.2 The NHMS 2017 Organisation Team

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

1.2.1 NHMS Steering Committee

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

1.2.2 Central Coordinating Team (CCT)

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

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

1.2.3 Research Team Members

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

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

1.2.4 State Liaison Officers and Data Collection Team

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

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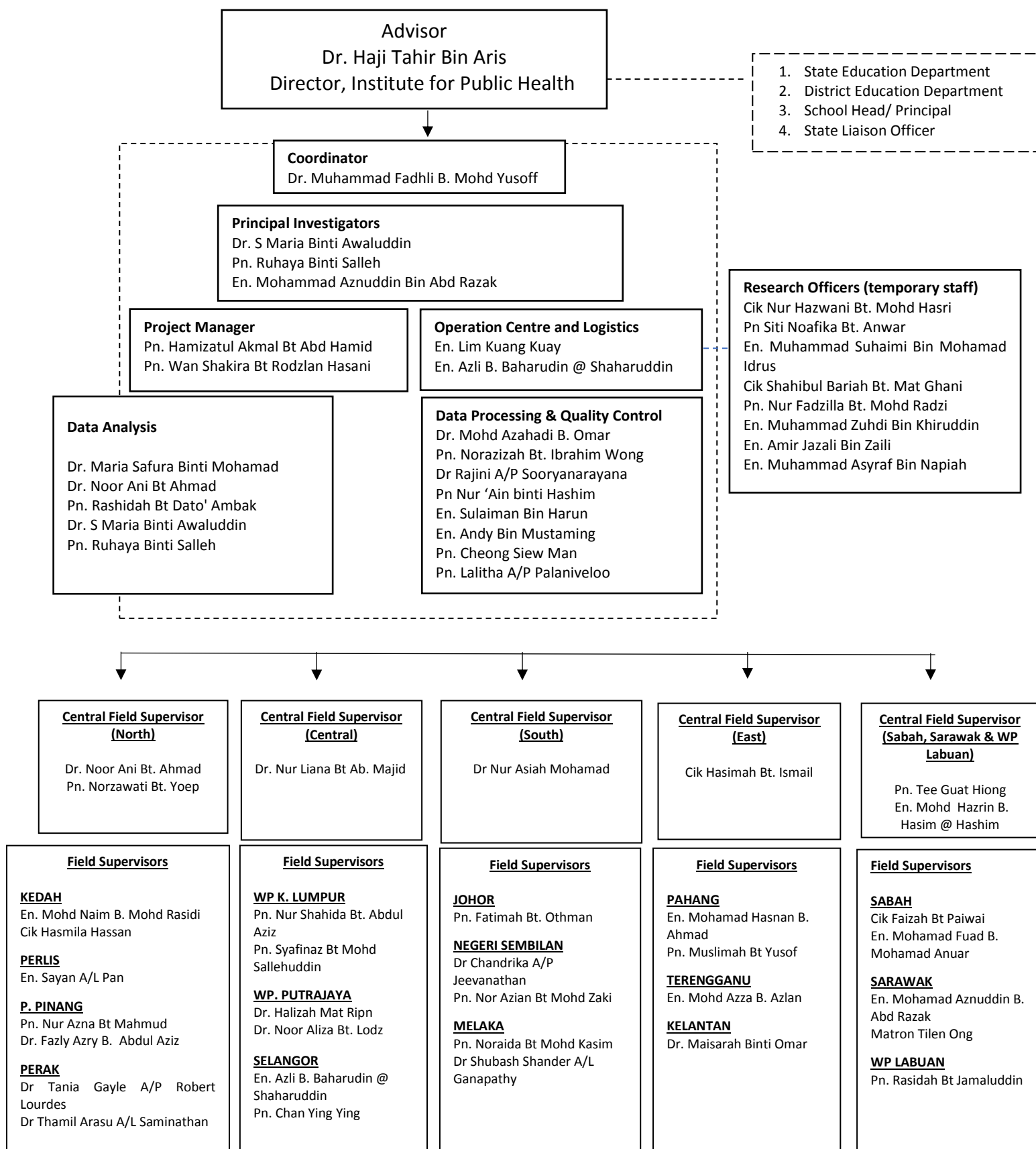


Figure 1: Organisation chart for data collection teams NHMS 2017

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

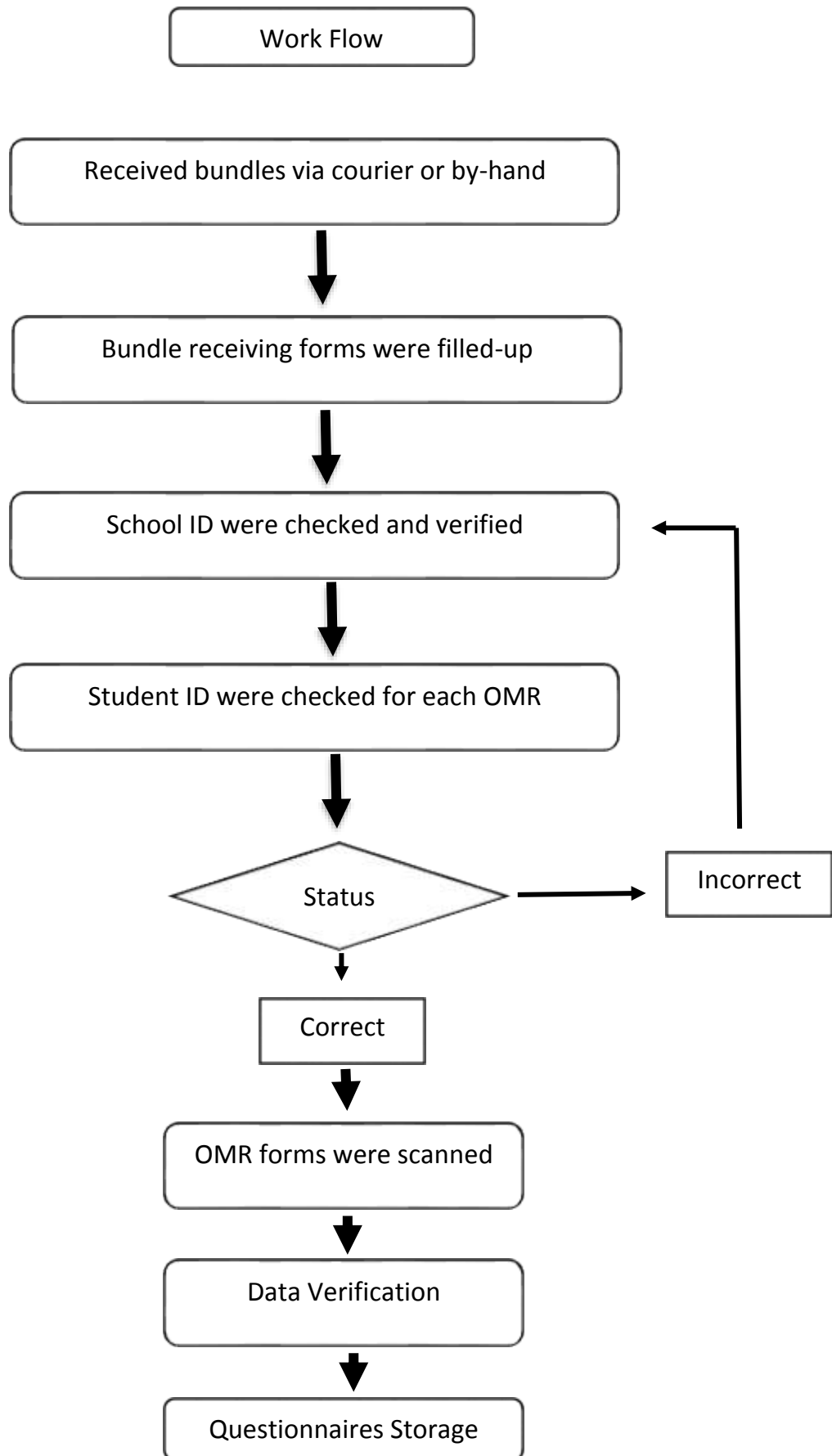


Figure 2: Work Flow of NHMS 2017

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 normally in CSV form or excel. The analysis was done according to the objectives, and dummy tables prepared. Complex samples analysis procedures were used in the analysis and was carried out at 95% confidence interval. Finally, the data is representative of all students attending school from Standard 4 to Form 5 in Malaysia.

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

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

Where;

W1 = the inverse of the probability of selecting the school

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

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

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

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

2.8 Survey Instruments

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

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

3.0 Findings

3.1 General Findings

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

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

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

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

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

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

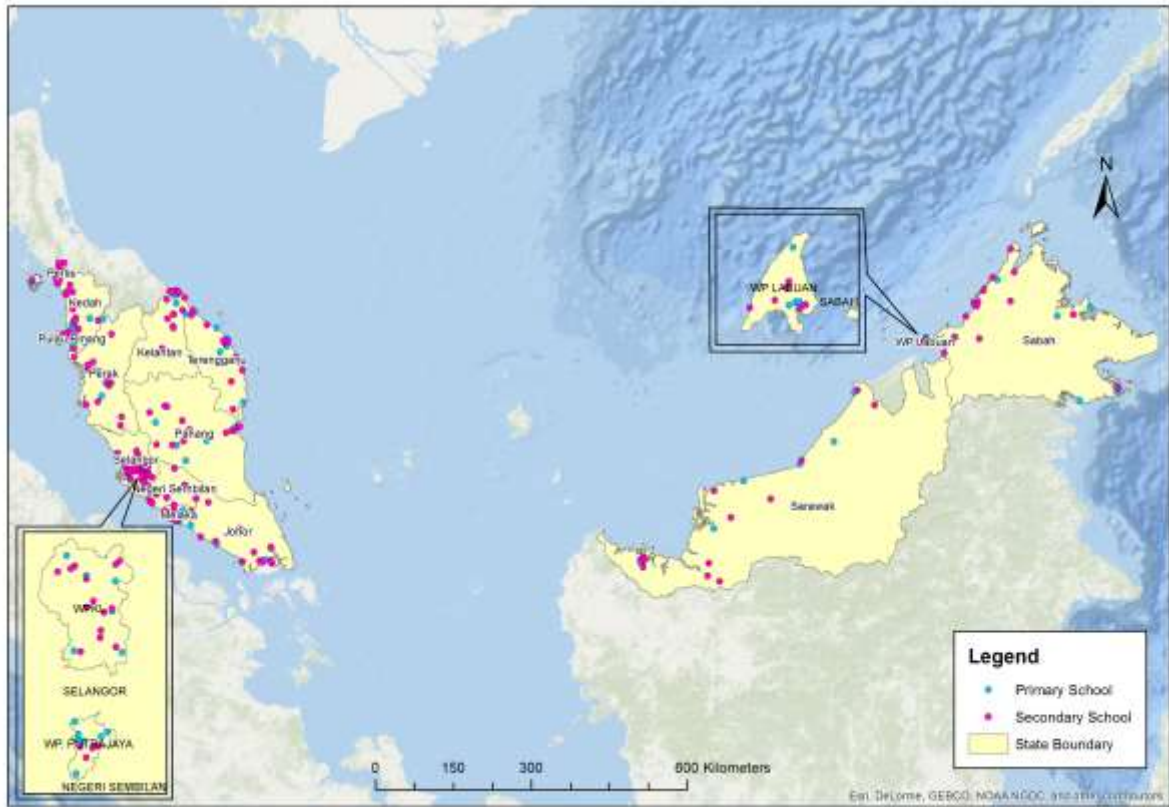


Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017

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

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3.2.1 Introduction

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

3.2.2 Objectives

General objective:

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

Specific objective:

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

3.2.3 Variable definition

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

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

3.2.4 Findings

3.2.4.1 Height-for-Age z-score

The finding of the survey showed that 89.8% (95% CI: 86.91, 92.05) of the adolescents had normal height-for-age status (HAZ: $\geq -2SD$ to $< +2SD$). The prevalence was lower than national level [91.8% (95% CI: 91.19, 92.29)]. Comparing between strata, rural area had higher percentage of total stunting [12.1% (95% CI: 8.68, 16.5)] compared to urban area [8.2% (95% CI: 5.86, 11.28)]. In term of sexes, girls had higher percentage of total stunting [11.4% (95% CI: 8.62, 14.81)] compared to boys [9.1% (95% CI: 6.80, 12.20)]. Comparing class category, secondary level had higher percentage of total stunting [10.9% (95% CI: 7.83, 15.00)] compared to primary level [9.2% (95% CI: 6.36, 13.03)].

3.2.4.2 BMI-for-Age z-score

In terms of BMI-for-age status, the findings showed that 61.0% (95% CI: 57.42, 64.52) of the population was in the normal range ($\geq -2SD$ to $< +1SD$). The prevalence was lower than national level [62.9% (95% CI: 61.84, 64.02)]. Comparing between strata, there was no different percentage of thinness between urban [6.8% (95% CI: 5.34, 8.57)] and rural [6.8% (95% CI: 5.38, 8.57)] strata. According to sexes, more boys [7.8% (95% CI: 5.95, 10.06)] were thinner than girls [5.8 (95% CI: 4.35, 7.69)]. In term of class category, secondary level had higher percentage of thinness [7.0% (95% CI: 5.59, 8.74)] compared to primary level [6.4% (95% CI: 5.11, 8.10)].

On the other hand, the prevalence of overweight in Sarawak (BMI-for-age: $> +1SD$ to $\leq +2SD$) was 16.1% (95% CI: 14.11, 18.26). The state prevalence was higher than national prevalence [15.6% (95% CI: 15.06, 16.19)]. In term of strata, urban strata had higher prevalence of overweight [17.7% (95% CI: 15.39, 20.27)] compared with rural strata [14.7% (95% CI: 11.87, 17.95)]. Comparing sexes, girls had higher prevalence of overweight [17.3% (95% CI: 14.17, 20.92)] than boys [14.9% (95% CI: 13.17, 16.80)]. According to class category, primary level had higher prevalence of overweight [17.2% (95% CI: 14.29, 20.48)] compared with secondary level [15.4% (95% CI: 12.91, 18.28)].

For the prevalence of obesity (BMI-for-age: $> +2SD$), the state prevalence was 16.1% (95% CI: 13.56, 19.01), 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 [16.8% (95% CI: 13.72, 20.50)] than rural strata [15.4% (95% CI: 11.76, 20.03)]. Comparing between sexes, boys had much higher prevalence of obesity [21.0% (95% CI: 17.04, 25.51)] than girls [11.1% (95% CI: 8.54, 14.36)]. In term of class category, 21.3% (95% CI: 18.90, 23.91) primary level were obese compared to secondary level [12.9% (95% CI: 10.47, 15.70)].

3.2.5 Conclusion

The prevalence of stunted for adolescent aged 10 to 17 years in Sarawak was 10.2%. On the other hand, the prevalence of overweight and obesity among this population were 16.1% respectively. In contrast, 6.8% 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 are still a problem to be addressed for adolescent aged 10 to 17 years in Sabah. Various agencies have to take the initiative to set up plan of action to overcome such problem. Healthy eating and living concept should be carrying out at an

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

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

References

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

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

Characteristic	Stunting (<-2SD)					Normal (≥-2SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	267	32827	10.2	7.95	13.09	2263	287834	89.8	86.91	92.05
Locality of School										
Urban	95	12254	8.2	5.86	11.28	1080	137707	91.8	88.72	94.14
Rural	172	20574	12.1	8.68	16.50	1183	150127	87.9	83.50	91.32
Sex										
Boys	128	14825	9.1	6.80	12.20	1219	147268	90.9	87.80	93.20
Girls	139	18002	11.4	8.62	14.81	1044	140566	88.6	85.19	91.38
Class										
Standard 4	24	3690	9.1	5.72	14.13	251	36937	90.9	85.87	94.28
Standard 5	16	2476	6.0	3.07	11.49	239	38615	94.0	88.51	96.93
Standard 6	27	5117	12.3	9.43	16.00	198	36323	87.7	84.00	90.57
Form 1	31	3004	6.8	3.27	13.72	381	40945	93.2	86.28	96.73
Form 2	29	4219	10.4	6.06	17.29	252	36342	89.6	82.71	93.94
Form 3	59	5185	13.2	8.80	19.21	372	34226	86.8	80.79	91.20
Form 4	47	5142	13.7	9.98	18.61	304	32289	86.3	81.39	90.02
Form 5	34	3994	11.0	6.99	17.03	266	32159	89.0	82.97	93.01
Class Category										
Primary Level	67	11283	9.2	6.36	13.03	688	111874	90.8	86.97	93.64
Secondary Level	200	21545	10.9	7.83	15.00	1575	175960	89.1	85.00	92.17
Ethnicity										
Malay	101	11366	11.9	7.48	18.48	689	83931	88.1	81.52	92.52
Chinese	32	3380	5.3	2.96	9.42	505	60049	94.7	90.58	97.04
Indian						5	579	100.0	0.00	100.00
Bumiputera Sabah	2	251	10.2	2.45	33.96	17	2210	89.8	66.04	97.55
Bumiputera Sarawak	130	17490	11.3	9.64	13.18	1021	137399	88.7	86.82	90.36
Others	2	340	8.5	2.08	28.91	26	3666	91.5	71.09	97.92

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

Characteristic	Thinness (<-2SD)					Normal BMI (\geq -2SD to \leq +1SD)				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	175	21759	6.8	5.75	8.01	1562	195577	61.0	57.42	64.52
Locality of School										
Urban	82	10166	6.8	5.34	8.57	688	88043	58.7	55.46	61.84
Rural	93	11593	6.8	5.38	8.57	874	107533	63.1	57.08	68.73
Sex										
Boys	110	12577	7.8	5.95	10.06	772	91386	56.4	52.06	60.61
Girls	65	9181	5.8	4.35	7.69	790	104191	65.8	61.26	70.05
Class										
Standard 4	21	3280	8.1	4.95	12.89	149	22000	54.1	48.74	59.46
Standard 5	9	1492	3.6	2.87	4.59	141	22896	55.7	50.27	61.04
Standard 6	16	3158	7.6	5.48	10.57	124	22876	55.4	49.42	61.22
Form 1	24	2452	5.6	3.47	8.93	253	26978	61.7	55.52	67.43
Form 2	18	2532	6.2	3.31	11.46	183	26526	65.4	58.49	71.71
Form 3	36	3423	8.7	6.08	12.21	281	25294	64.0	55.83	71.48
Form 4	29	2987	8.0	5.39	11.72	230	24584	65.8	57.44	73.32
Form 5	22	2435	6.7	4.38	10.15	201	24423	67.3	60.97	73.14
Class Category										
Primary Level	46	7930	6.4	5.11	8.10	414	67772	55.1	51.31	58.82
Secondary Level	129	13829	7.0	5.59	8.74	1148	127805	64.7	60.84	68.44
Ethnicity										
Malay	72	8443	8.9	6.63	11.78	506	60112	63.2	56.28	69.57
Chinese	33	3770	5.9	4.08	8.51	330	39279	61.6	54.69	68.15
Indian	1	139	24.0	4.64	67.32	2	242	41.9	7.06	87.22
Bumiputera Sabah	1	163	6.6	0.94	34.59	8	1060	43.1	22.01	66.95
Bumiputera Sarawak	66	9049	5.9	4.40	7.76	701	92733	60.0	55.06	64.76
Others	2	195	4.9	0.69	27.33	15	2150	53.7	35.17	71.20

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
Sarawak	399	51522	16.1	14.11	18.26	392	51591	16.1	13.56	19.01
Locality of School										
Urban	209	26547	17.7	15.39	20.27	197	25265	16.8	13.72	20.50
Rural	190	24975	14.7	11.87	17.95	195	26326	15.4	11.76	20.03
Sex										
Boys	201	24143	14.9	13.17	16.80	264	33978	21.0	17.04	25.51
Girls	198	27379	17.3	14.17	20.92	128	17614	11.1	8.54	14.36
Class										
Standard 4	40	5665	13.9	10.18	18.81	65	9683	23.8	21.00	26.92
Standard 5	53	8197	19.9	17.18	23.03	52	8505	20.7	15.60	26.94
Standard 6	39	7250	17.6	12.59	23.95	45	8011	19.4	16.49	22.68
Form 1	64	7057	16.1	11.97	21.37	69	7272	16.6	12.62	21.56
Form 2	40	5827	14.4	10.36	19.59	40	5675	14.0	9.22	20.66
Form 3	61	5775	14.6	9.77	21.31	54	5013	12.7	10.01	15.97
Form 4	58	6307	16.9	11.33	24.41	33	3469	9.3	7.24	11.85
Form 5	44	5444	15.0	11.06	20.07	34	3963	10.9	7.49	15.67
Class Category										
Primary Level	132	21112	17.2	14.29	20.48	162	26199	21.3	18.90	23.91
Secondary Level	267	30410	15.4	12.91	18.28	230	25392	12.9	10.47	15.70
Ethnicity										
Malay	123	15790	16.6	13.10	20.79	88	10808	11.4	7.59	16.65
Chinese	88	10242	16.1	13.38	19.19	89	10430	16.4	10.72	24.18
Indian	1	91	15.7	1.49	69.50	1	107	18.4	3.80	56.40
Bumiputera Sabah	3	370	15.0	2.72	52.78	7	869	35.3	17.69	58.09
Bumiputera Sarawak	179	24226	15.7	12.98	18.81	201	28520	18.5	15.42	21.94
Others	5	804	20.1	6.65	46.96	6	858	21.4	8.69	43.81

3.3 Perception on body weight management Adolescent (Primary 4 To Secondary 5) In Sarawak

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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, 42.2% (95%CI:38.18,46.40) of the adolescents in Sarawak perceived that they had normal weight. Rural adolescents had higher perceptions of being normal weight; 42.6% (95% CI: 37.59, 47.67) than urban, 41.9% (95%CI: 35.41, 48.64). Girls had a higher perception of being normal weight, 43.0% (95%CI: 38.52, 47.64) compared to boys 41.5% (95%CI: 36.58, 46.53). However, girls also had higher perception of being overweight 24.6% (95%CI: 20.25, 29.51), compared to boys 17.4% (95%CI: 14.61, 20.51) (**Table 3.3.1**)

Among the adolescents with actual normal body weight, 50.1% (95% CI: 45.29, 54.82) correctly perceived normal weight, 35.8% (95% CI: 30.1, 41.82) perceived thinness, 12.0% (95% CI: 9.43, 15.17) perceived overweight, 2.2% (95% CI: 1.51, 3.12) perceived obese. However among those with actual overweight 34.7% (95% CI: 28.07,42.02) had correctly perceived overweight, but 19.7% (95% CI: 13.28,28.32), and 39.6% (95% CI: 32.77,46.90), perceived thinness or normal weight respectively (**Table 3.3.2**).

Among all the adolescents who correctly perceived thinness and had actual thin body weight, 63.9% (95% CI: 52.95, 73.64) reported they wanted to increase weight while adolescents who perceived normal weight and had actual normal body weight 28.4% (95% CI: 25.13,31.95) had no plan to change their weight. There were no significant different by school locality, sex and school category among adolescent who correctly perceived thinness and overweight. However there was significant different by sex among adolescents who correctly perceived normal body weight which more boys 15.2% (95%CI: 12.95, 17.81) than girls 9.4% (95% CI: 6.71, 12.94) wanted to increase their body weight (**Table 3.3.3**).

Adolescents who, perceived thinness but actually were overweight and obese, 60.5% (95% CI: 49.20, 70.74) wanted to lose weight while 18.0% (95% CI: 10.96, 28.03) wanted to increase their weight. Among adolescents who wanted to lose weight, there were higher in urban 67.6% (95% CI: 47.83, 82.63) girls, 77.8% (95% CI: 66.75, 85.91) and primary schoolers 60.9% (95% CI: 45.22, 74.55) (**Table 3.3.4**).

About 70.0% (95% CI: 64.69, 74.75) adolescents chose health as a the main factor that motivate them to lose weight followed by to increase in self-confidence 19.2%(95% CI: 15.05,24.22). By sex, more boys 71.4% (95% CI: 64.57,77.30), got motivated by health factor to lose weight than girls 68.8% (95% CI: 61.42, 75.29) (**Table 3.3.5**)

Main factor to motivate adolescents to increase body weight was also health purpose 62.0% (95% CI: 54.92, 68.63) and followed by increase self-confidence 21.3% (95% CI: 17.10, 26.18). Adolescents in urban, 66.7% (95% CI: 59.35, 73.33), girls 67.8% (95% CI: 59.04, 75.38) and secondary schooler adolescents 64.8% (95% CI: 55.73, 72.96) were found to be higher in choosing health purpose as the main factor to increase body weight compared with the secondary adolescent (**Table 3.3.6**).

Most adolescents preferred exercise to lose body weight, 62.8% (95% CI: 58.17, 67.15). To lose body weight exercise was mostly favoured among adolescent in urban, 65.6% (95% CI:57.66, 72.77) boys, 65.9% (95% CI: 61.35, 70.12), primary scholars 67.6% (95% CI: 60.34, 74.08) (**Table 3.3.7**). To increase body weight, most adolescents chose to increase quantity of food 49.3%(42.39,56.19). Hence, this is more prevalent among adolescents in urban, 55.7% (95% CI:46.39, 64.71), girls 50.1% (95% CI: 41.43, 58.70) and secondary schoolers, 55.9% (95% CI:48.48, 63.15) (**Table 3.3.8**).

3.3.5 Discussion/Conclusion

Perception of normal weight among adolescents in Sarawak was 42.2% higher than the national prevalence, 41.4%.

Among the adolescents with actual thinness weight, 62.0% correctly perceived thin, and it is slightly lower compared with the national prevalence, 69.9 %. Adolescents with actual normal body weight, 50.1% correctly perceived their weight to be normal and this is similar with the national prevalence 50.2%.

In Sarawak, the main factors to lose body weight among adolescents are similar with the national trend. Health 70.0% is the highest main factor to lose body weight, followed by self confidence improvement 19.2%, beauty 7.8% and to have more friends 3.0%.

This survey shows health factor, 62.0 % is the main factor to increase body weight and It is higher compared to the national prevalence. This is followed by self confidence improvement, 21.3% , beauty purpose, 10.6% and to have more friends, 6.1%.

Adolescents also had chose exercise as the preferred option to lose weight and it is similar with the prevalence as of the national prevalence.. This is followed by reduction of high fat foods consumption, ,21.2%, increase intake of fruits and vegetables 7.9 % and reduce intake of high sugary foods, 4.2%. These patterns are similar with the the national prevalence.

49.3% adolescents in Sarawak choose to increase quantity of food as the most preferred option to increase body weight. However, it is lower compared with the national prevalence, 52.4%.

3.3.6 Recommendation

Body weight perception is rather a complex concept affected by the `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 this could influence inaccurate perception of healthy body weight or image. On the other hand, mass media often portray unusually thin models, especially among the 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 schools by 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 an important role, by broadcasting more information to adolescents 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
Sarawak	794	103329	32.3	27.31	37.62	1094	135317	42.2	38.18	46.40
Locality of School										
Urban	341	44387	29.6	22.44	37.88	505	62836	41.9	35.41	48.64
Rural	453	58942	34.6	28.36	41.42	589	72481	42.6	37.59	47.67
Sex										
Boys	475	59324	36.7	31.18	42.55	579	67066	41.5	36.58	46.53
Girls	319	44006	27.7	22.32	33.90	515	68251	43.0	38.52	47.64
School Category										
Primary	295	48399	39.4	31.72	47.72	288	46921	38.2	33.35	43.37
Secondary	499	54930	27.8	23.03	33.11	806	88396	44.7	39.41	50.15
Class										
Standard 4	107	16267	40.0	27.54	53.99	116	16985	41.8	32.31	51.96
Standard 5	105	16946	41.4	35.61	47.46	85	13542	33.1	27.75	38.91
Standard 6	83	15186	36.9	28.82	45.77	87	16395	39.8	34.72	45.16
Form 1	121	12549	28.6	20.32	38.64	207	22094	50.4	42.92	57.81
Form 2	91	13138	32.4	24.97	40.82	110	15476	38.2	28.41	48.96
Form 3	133	12190	30.8	23.51	39.25	171	15326	38.8	31.49	46.56
Form 4	83	8698	23.2	18.10	29.32	173	18212	48.7	42.74	54.61
Form 5	71	8354	23.0	16.44	31.29	145	17288	47.7	39.49	55.97
Ethnicity										
Malay	261	31983	33.6	28.99	38.53	373	43765	46.0	40.38	51.65
Chinese	101	11908	18.7	15.29	22.64	250	29655	46.5	39.20	54.03
Indian	2	257	44.4	15.31	77.93	1	125	21.5	2.14	77.45
Bumiputera Sabah	4	584	23.7	7.82	53.29	8	985	40.0	20.63	63.14
Bumiputera Sarawak	413	56629	36.7	30.19	43.69	452	59532	38.6	33.10	44.32
Others	13	1968	49.1	31.77	66.67	10	1256	31.3	16.84	50.70

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
Sarawak	524	67101	20.9	17.85	24.41	118	14632	4.6	3.26	6.37
Locality of School										
Urban	268	34924	23.3	18.64	28.67	63	7890	5.3	3.08	8.84
Rural	256	32178	18.9	15.33	23.05	55	6741	4.0	2.80	5.57
Sex										
Boys	233	28085	17.4	14.61	20.51	59	7246	4.5	2.88	6.91
Girls	291	39016	24.6	20.25	29.51	59	7385	4.7	3.29	6.55
School Category										
Primary	132	21532	17.5	13.15	23.02	38	5863	4.8	2.37	9.39
Secondary	392	45569	23.1	19.48	27.06	80	8768	4.4	3.23	6.07
Class										
Standard 4	38	5539	13.6	8.12	21.99	14	1837	4.5	1.18	15.76
Standard 5	46	7622	18.6	11.94	27.87	18	2813	6.9	3.31	13.72
Standard 6	48	8371	20.3	12.05	32.23	6	1214	2.9	1.38	6.19
Form 1	65	7401	16.9	11.43	24.21	18	1820	4.1	2.06	8.18
Form 2	71	10585	26.1	20.51	32.58	9	1361	3.4	1.46	7.51
Form 3	104	9708	24.5	18.19	32.25	25	2319	5.9	4.24	8.05
Form 4	78	8636	23.1	17.55	29.70	17	1884	5.0	2.45	10.08
Form 5	74	9239	25.5	18.03	34.70	11	1384	3.8	1.66	8.54
Ethnicity										
Malay	136	17261	18.1	15.45	21.16	19	2205	2.3	1.45	3.67
Chinese	139	16421	25.8	22.57	29.25	50	5737	9.0	5.91	13.47
Indian	2	197	34.1	11.07	68.23	-	-	-	-	-
Bumiputera Sabah	6	779	31.6	13.27	58.34	1	113	4.6	0.56	29.32
Bumiputera Sarawak	236	31660	20.5	16.01	25.87	48	6577	4.3	3.25	5.56
Others	5	783	19.6	7.01	43.93	-	-	-	-	-

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
Sarawak	108	62.0	49.34	73.22	57	33.0	22.43	45.57	6	3.4	1.28	8.78	3	1.6	0.50	5.03
Locality of school																
Urban	49	61.4	42.11	77.61	28	34.1	20.16	51.52	2	2.0	0.26	13.77	2	2.5	0.63	9.39
Rural	59	62.6	45.72	76.83	29	32.0	17.83	50.45	4	4.6	1.59	12.69	1	0.8	0.11	6.05
Sex																
Boys	67	60.8	46.54	73.48	34	31.2	19.05	46.53	5	5.2	1.86	13.75	3	2.8	0.89	8.49
Girls	41	63.6	47.11	77.39	23	35.4	21.59	52.25	1	1.0	0.11	7.85	-	-	-	-
School Category																
Primary	31	66.5	37.40	86.83	13	28.5	10.04	58.66	1	3.2	0.47	19.10	1	1.8	0.22	13.68
Secondary	77	59.4	48.57	69.39	44	35.6	26.15	46.29	5	3.5	1.16	10.15	2	1.5	0.40	5.40

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
Sarawak	541	35.8	30.10	41.85	800	50.1	45.29	54.82	185	12.0	9.43	15.17	33	2.2	1.51	3.12
Locality of school																
Urban	234	34.7	25.77	44.76	351	49.9	42.84	56.87	87	13.2	8.67	19.69	15	2.3	1.39	3.63
Rural	307	36.7	29.75	44.18	449	50.2	43.76	56.68	98	11.0	8.74	13.77	18	2.1	1.23	3.58
Sex																
Boys	309	42.2	36.11	48.57	392	49.0	43.06	55.00	58	7.3	5.04	10.53	10	1.4	0.75	2.79
Girls	232	30.1	23.92	37.18	408	51.0	46.29	55.62	127	16.1	12.56	20.39	23	2.8	1.71	4.56
School Category																
Primary	192	46.2	39.66	52.79	173	42.6	38.15	47.13	33	8.0	5.02	12.62	14	3.2	2.13	4.85
Secondary	349	30.3	24.50	36.76	627	54.0	48.34	59.56	152	14.1	11.13	17.72	19	1.6	0.97	2.69

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

Perceived	Actual overweight															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
Sarawak	71	19.7	13.28	28.32	162	39.6	32.77	46.90	141	34.7	28.07	42.02	25	5.9	3.35	10.21
Locality of school																
Urban	30	15.1	8.53	25.45	84	39.3	28.91	50.74	78	37.9	28.77	47.91	17	7.7	3.95	14.48
Rural	41	24.6	15.11	37.50	78	40.0	31.64	48.93	63	31.4	22.90	41.32	8	4.0	1.55	10.00
Sex																
Boys	43	24.2	15.23	36.25	97	47.4	37.76	57.16	51	23.7	16.45	32.78	10	4.8	2.48	8.96
Girls	28	15.8	10.12	23.83	65	32.8	23.94	43.08	90	44.5	34.89	54.50	15	6.9	3.61	12.87
School Category																
Primary	32	26.9	14.68	43.92	61	44.6	34.48	55.21	34	25.4	18.97	33.03	5	3.2	0.42	20.16
Secondary	39	14.8	9.37	22.62	101	36.2	28.55	44.53	107	41.2	33.35	49.57	20	7.8	5.46	11.07

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
Sarawak	72	19.0	13.30	26.42	73	19.3	13.73	26.45	190	48.1	39.16	57.19	57	13.6	8.61	20.73
Locality of school																
Urban	28	14.9	8.50	24.74	40	19.8	11.65	31.53	100	51.0	40.34	61.65	29	14.3	6.95	27.20
Rural	44	23.0	15.34	32.94	33	18.9	12.04	28.30	90	45.3	32.07	59.25	28	12.9	7.49	21.18
Sex																
Boys	55	22.0	15.25	30.70	56	21.3	14.83	29.50	117	43.7	34.74	53.06	36	13.0	7.99	20.57
Girls	17	13.2	6.89	23.83	17	15.5	7.83	28.49	73	56.7	44.31	68.24	21	14.6	8.17	24.71
School Category																
Primary	40	24.3	16.12	35.00	41	25.1	17.52	34.60	63	39.6	28.16	52.24	18	11.0	4.51	24.38
Secondary	32	13.5	7.96	22.00	32	13.3	7.58	22.37	127	56.9	47.60	65.80	39	16.2	10.26	24.74

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
Sarawak	12	1791	13.4	6.76	24.69	72	8570	63.9	52.95	73.64
Locality of school										
Urban	3	427	6.9	2.43	18.27	37	4690	76.2	65.96	84.17
Rural	9	1364	18.8	9.06	34.99	35	3880	53.5	40.60	65.96
Sex										
Boys	8	1013	13.4	6.13	26.80	43	4587	60.6	49.24	70.97
Girls	4	777	13.3	4.34	34.21	29	3984	68.2	47.02	83.87
School category										
Primary	7	1284	24.3	13.76	39.37	17	2790	52.9	31.96	72.87
Secondary	5	507	6.2	1.64	20.95	55	5781	71.1	61.82	78.90

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
Sarawak	19	2457	18.3	11.10	28.74	5	585	4.4	1.87	9.86
Locality of school										
Urban	7	836	13.6	6.07	27.68	2	198	3.2	0.79	12.24
Rural	12	1621	22.4	11.74	38.39	3	387	5.3	1.90	14.09
Sex										
Boys	12	1516	20.0	10.48	34.94	4	449	5.9	2.58	13.06
Girls	7	941	16.1	5.53	38.64	1	137	2.3	0.26	18.18
School category										
Primary	6	1030	19.5	6.47	45.98	1	170	3.2	0.55	16.75
Secondary	13	1427	17.5	11.48	25.88	4	416	5.1	1.95	12.78

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
Sarawak	215	26915	27.6	22.85	32.85	96	11755	12.0	9.96	14.49
Locality of school										
Urban	86	10929	24.9	18.26	33.09	40	4837	11.0	8.71	13.90
Rural	129	15986	29.7	23.68	36.52	56	6919	12.9	9.78	16.71
Sex										
Boys	96	11138	25.0	19.52	31.44	58	6779	15.2	12.95	17.81
Girls	119	15777	29.7	23.83	36.35	38	4977	9.4	6.71	12.94
School category										
Primary	52	9414	32.8	21.78	46.20	18	2996	10.5	7.46	14.46
Secondary	163	17501	25.4	21.37	29.85	78	8759	12.7	10.14	15.80

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
Sarawak	226	27741	28.4	25.13	31.95	263	31225	32.0	28.16	36.06
Locality of school										
Urban	101	12408	28.3	22.98	34.35	124	15636	35.7	31.77	39.82
Rural	125	15333	28.5	24.56	32.77	139	15589	29.0	23.39	35.26
Sex										
Boys	108	12064	27.1	23.06	31.54	130	14553	32.7	28.62	37.02
Girls	118	15677	29.5	24.07	35.63	133	16672	31.4	26.41	36.85
School category										
Primary	50	8291	28.9	22.84	35.86	53	7967	27.8	18.49	39.50
Secondary	176	19451	28.2	24.38	32.37	210	23258	33.7	30.96	36.60

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
Sarawak	114	14487	81.0	70.71	88.25	2	230	1.3	0.34	4.76
Locality of school										
Urban	60	7702	76.6	60.94	87.31	2	230	2.3	0.69	7.30
Rural	54	6786	86.6	76.07	92.91	-	-	-	-	-
Sex										
Boys	40	4489	78.6	56.13	91.33	1	101	1.8	0.24	11.94
Girls	74	9998	82.1	73.29	88.47	1	128	1.1	0.12	8.46
School category										
Primary	25	4106	76.7	45.74	92.78	1	128	2.4	0.36	14.32
Secondary	89	10381	82.8	75.27	88.42	1	101	0.8	0.13	4.87

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
Sarawak	18	2296	12.8	8.54	18.85	7	876	4.9	2.35	9.91
Locality of school										
Urban	11	1492	14.8	8.79	23.95	5	629	6.3	2.67	13.97
Rural	7	804	10.3	5.64	17.95	2	247	3.1	0.82	11.33
Sex										
Boys	7	776	13.6	6.56	26.03	3	346	6.1	1.30	23.94
Girls	11	1521	12.5	7.54	19.99	4	530	4.4	1.91	9.62
School category										
Primary	5	728	13.6	4.78	33.02	3	391	7.3	2.06	22.87
Secondary	13	1568	12.5	8.70	17.67	4	485	3.9	1.74	8.38

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	
Sarawak	84	12084	60.5	49.20	70.74	27	3589	18.0	10.96	28.03
Locality of school										
Urban	37	5260	67.6	47.83	82.63	7	802	10.3	4.92	20.33
Rural	47	6824	55.9	44.42	66.83	20	2787	22.8	13.90	35.18
Sex										
Boys	49	6911	51.8	36.43	66.92	21	2656	19.9	12.03	31.18
Girls	35	5173	77.8	66.75	85.91	6	933	14.0	6.05	29.23
School category										
Primary	43	7332	60.9	45.22	74.55	14	2240	18.6	8.95	34.66
Secondary	41	4752	59.9	44.06	73.91	13	1348	17.0	9.86	27.71

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	
Sarawak	18	2488	12.5	7.45	20.10	14	1820	9.1	5.19	15.50
Locality of school										
Urban	6	739	9.5	3.90	21.38	8	977	12.6	5.53	26.10
Rural	12	1749	14.3	7.84	24.78	6	842	6.9	3.46	13.31
Sex										
Boys	15	2066	15.5	8.58	26.39	13	1696	12.7	7.35	21.14
Girls	3	423	6.4	1.89	19.27	1	124	1.9	0.22	14.06
School category										
Primary	11	1778	14.8	8.49	24.42	4	696	5.8	2.20	14.34
Secondary	7	710	9.0	3.33	21.89	10	1123	14.2	8.52	22.61

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	
Sarawak	291	37263	38.3	35.13	41.47	258	32395	33.3	28.83	38.00
Locality of school										
Urban	121	16149	36.6	32.96	40.50	115	14721	33.4	27.51	39.88
Rural	170	21113	39.6	34.92	44.43	143	17674	33.1	26.85	40.08
Sex										
Boys	121	14798	31.9	27.29	36.99	147	17689	38.2	33.05	43.60
Girls	170	22464	44.0	37.95	50.17	111	14707	28.8	22.25	36.34
School category										
Primary	86	14267	36.9	32.81	41.19	74	11835	30.6	24.92	36.96
Secondary	205	22996	39.1	34.89	43.56	184	20561	35.0	28.99	41.52

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

Characteristic	Actual Normal - Perceived thin/overweight/obese									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower Upper		Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower Upper	
Sarawak	134	17850	18.3	14.32	23.15	76	9906	10.2	7.89	13.01
Locality of school										
Urban	65	8528	19.4	14.02	26.09	35	4667	10.6	7.09	15.53
Rural	69	9322	17.5	12.05	24.66	41	5240	9.8	7.16	13.33
Sex										
Boys	61	7758	16.7	12.38	22.27	48	6081	13.1	9.88	17.23
Girls	73	10092	19.8	14.14	26.90	28	3826	7.5	4.86	11.36
School category										
Primary	58	9111	23.6	17.58	30.83	21	3449	8.9	5.70	13.71
Secondary	76	8739	14.9	10.74	20.24	55	6457	11.0	8.14	14.68

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 Lower Upper		Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower Upper	
	Sarawak	728	95065	70.0	64.69	74.75	84	10600	7.8	5.89
Locality of school										
Urban	315	41024	65.6	55.26	74.73	51	6760	10.8	7.97	14.52
Rural	413	54041	73.6	70.33	76.68	33	3840	5.2	3.78	7.20
Sex										
Boys	361	44494	71.4	64.57	77.30	25	3026	4.9	3.18	7.33
Girls	367	50571	68.8	61.42	75.29	59	7574	10.3	6.98	14.95
School category										
Primary	252	42366	76.8	70.06	82.44	21	3227	5.9	3.06	10.90
Secondary	476	52699	65.3	59.46	70.66	63	7373	9.1	7.19	11.53
Class										
Standard 4	95	14118	80.0	72.40	85.89	9	1229	7.0	3.39	13.77
Standard 5	85	14377	77.5	64.23	86.80	5	707	3.8	1.03	13.08
Standard 6	72	13870	73.3	58.91	83.95	7	1291	6.8	3.47	12.95
Form 1	147	15436	76.4	70.40	81.49	8	1019	5.0	3.10	8.09
Form 2	84	12266	74.7	67.24	80.92	9	1362	8.3	5.60	12.10
Form 3	113	10275	62.1	50.89	72.11	20	1914	11.6	7.17	18.13
Form 4	76	8245	58.1	44.07	70.99	12	1250	8.8	4.46	16.69
Form 5	56	6478	48.4	34.91	62.17	14	1829	13.7	9.02	20.19
Ethnicity										
Malay	220	26597	68.8	62.53	74.47	17	1989	5.1	3.08	8.48
Chinese	103	12050	56.4	47.28	65.02	36	4409	20.6	16.93	24.87
Indian	2	197	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sabah	8	1089	78.1	46.20	93.67	-	-	-	-	-
Bumiputera Sarawak	386	53831	74.4	69.41	78.78	31	4203	5.8	4.33	7.75
Others	9	1300	69.0	41.46	87.50	-	-	-	-	-

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

	To increase self-confidence					To have more friends				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	209	26122	19.2	15.05	24.22	32	4101	3.0	1.76	5.12
Locality of school										
Urban	100	12707	20.3	12.75	30.84	16	1999	3.2	1.44	6.97
Rural	109	13415	18.3	14.96	22.14	16	2102	2.9	1.38	5.84
Sex										
Boys	98	11468	18.4	14.21	23.46	26	3367	5.4	3.07	9.32
Girls	111	14654	19.9	14.82	26.26	6	733	1.0	0.48	2.07
School category										
Primary	39	7040	12.8	8.09	19.57	17	2513	4.6	2.12	9.52
Secondary	170	19082	23.6	18.89	29.14	15	1588	2.0	1.21	3.18
Class										
Standard 4	7	1023	5.8	2.96	11.05	8	1280	7.2	2.79	17.54
Standard 5	16	2661	14.3	8.86	22.37	6	815	4.4	1.26	14.22
Standard 6	16	3356	17.7	7.95	34.95	3	418	2.2	0.26	16.16
Form 1	31	3315	16.4	11.99	22.04	4	436	2.2	0.86	5.32
Form 2	16	2400	14.6	9.34	22.14	3	396	2.4	0.96	5.90
Form 3	45	4098	24.8	17.08	34.45	3	265	1.6	0.50	5.03
Form 4	39	4196	29.6	19.76	41.76	5	491	3.5	1.04	10.90
Form 5	39	5071	37.9	26.24	51.17	-	-	-	-	-
Ethnicity										
Malay	69	8813	22.8	18.22	28.14	10	1253	3.2	1.44	7.14
Chinese	38	4211	19.7	12.01	30.59	6	712	3.3	1.33	8.09
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	3	305	21.9	6.33	53.80	-	-	-	-	-
Bumiputera Sarawak	95	12208	16.9	12.22	22.83	16	2136	3.0	1.33	6.40
Others	4	584	31.0	12.50	58.54	-	-	-	-	-

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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
Sarawak	289	35686	62.0	54.92	68.63	44	6083	10.6	7.48	14.74
Locality of school										
Urban	137	17048	66.7	59.35	73.33	15	2080	8.1	5.09	12.77
Rural	152	18638	58.3	47.76	68.07	29	4003	12.5	8.10	18.83
Sex										
Boys	162	18655	57.6	47.37	67.16	30	4129	12.7	7.98	19.73
Girls	127	17031	67.8	59.04	75.38	14	1954	7.8	3.79	15.28
School category										
Primary	70	11480	56.8	46.83	66.29	16	2741	13.6	10.57	17.25
Secondary	219	24206	64.8	55.73	72.96	28	3342	9.0	5.03	15.42
Class										
Standard 4	31	4793	69.9	54.32	81.91	3	377	5.5	1.67	16.58
Standard 5	24	3847	59.8	41.94	75.47	7	1182	18.4	10.67	29.83
Standard 6	15	2840	41.1	25.57	58.55	6	1182	17.1	10.52	26.53
Form 1	43	4719	76.2	62.41	86.01	3	334	5.4	1.06	23.19
Form 2	38	5437	68.1	52.84	80.22	6	870	10.9	3.98	26.49
Form 3	54	4932	63.0	47.87	75.92	5	444	5.7	2.20	13.88
Form 4	47	4807	61.2	49.80	71.55	6	714	9.1	3.25	22.98
Form 5	37	4311	57.7	41.41	72.41	8	980	13.1	5.87	26.73
Ethnicity										
Malay	102	12040	67.2	59.40	74.23	12	1343	7.5	3.91	13.91
Chinese	52	6126	73.7	58.91	84.56	4	562	6.8	2.73	15.75
Indian	1	139	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	129	16785	55.6	47.69	63.24	27	3995	13.2	9.19	18.69
Others	5	595	59.5	20.40	89.38	1	183	18.3	1.54	76.30

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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
Sarawak	100	12250	21.3	17.10	26.18	25	3525	6.1	3.04	11.96
Locality of school										
Urban	46	5756	22.5	17.00	29.21	5	672	2.6	1.03	6.56
Rural	54	6494	20.3	14.61	27.50	20	2853	8.9	4.14	18.16
Sex										
Boys	65	7561	23.3	18.33	29.20	16	2062	6.4	3.08	12.70
Girls	35	4690	18.7	11.94	27.94	9	1463	5.8	2.36	13.66
School category										
Primary	21	3483	17.2	11.26	25.48	16	2499	12.4	5.95	23.94
Secondary	79	8767	23.5	18.54	29.25	9	1026	2.7	1.23	6.03
Class										
Standard 4	7	992	14.5	7.19	26.94	5	696	10.2	3.82	24.32
Standard 5	4	657	10.2	1.52	45.56	5	742	11.5	5.90	21.35
Standard 6	10	1835	26.5	21.49	32.26	6	1060	15.3	5.51	36.00
Form 1	10	1059	17.1	9.49	28.85	1	84	1.4	0.16	10.44
Form 2	9	1310	16.4	9.23	27.45	3	371	4.6	1.01	18.93
Form 3	23	2363	30.2	17.98	46.00	1	91	1.2	0.14	9.14
Form 4	20	2101	26.8	17.32	38.94	2	227	2.9	0.79	10.02
Form 5	17	1934	25.9	16.48	38.16	2	252	3.4	0.50	19.39
Ethnicity										
Malay	33	3864	21.6	15.16	29.77	5	658	3.7	1.23	10.45
Chinese	13	1496	18.0	8.01	35.64	1	128	1.5	0.19	11.48
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	53	6792	22.5	17.20	28.87	18	2614	8.7	3.91	18.10
Others	1	98	9.8	3.34	25.27	1	125	12.4	1.02	66.21

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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
Sarawak	661	84953	62.8	58.17	67.15	226	28639	21.2	17.57	25.26
Locality of school										
Urban	318	40728	65.6	57.66	72.77	96	12666	20.4	14.57	27.81
Rural	343	44225	60.4	55.93	64.63	130	15974	21.8	17.82	26.39
Sex										
Boys	335	41040	65.9	61.35	70.12	101	12120	19.5	16.44	22.87
Girls	326	43913	60.1	52.68	67.13	125	16519	22.6	17.30	28.99
School category										
Primary	225	37365	67.6	60.34	74.08	52	8606	15.6	11.59	20.59
Secondary	436	47588	59.4	54.40	64.29	174	20034	25.0	21.25	29.22
Class										
Standard 4	92	13854	78.5	71.77	83.97	11	1521	8.6	5.72	12.78
Standard 5	66	10594	56.6	43.15	69.23	25	3999	21.4	14.89	29.72
Standard 6	67	12917	68.2	59.12	76.11	16	3086	16.3	10.86	23.74
Form 1	127	13154	65.2	52.48	76.07	35	3951	19.6	11.93	30.47
Form 2	62	8919	54.8	46.02	63.26	33	4947	30.4	22.87	39.12
Form 3	115	10644	64.0	50.54	75.57	45	4021	24.2	17.51	32.38
Form 4	70	7420	53.4	41.93	64.59	35	3895	28.0	20.11	37.65
Form 5	62	7452	56.9	44.69	68.36	26	3220	24.6	15.48	36.76
Ethnicity										
Malay	188	23089	60.6	53.04	67.74	74	9020	23.7	18.27	30.11
Chinese	118	13674	63.3	54.13	71.57	33	3824	17.7	11.59	26.07
Indian	1	107	54.1	5.42	96.03	1	91	45.9	3.97	94.58
Bumiputera Sabah	4	504	36.1	9.65	74.97	6	777	55.7	19.92	86.44
Bumiputera Sarawak	341	46302	64.1	58.89	69.09	110	14663	20.3	16.16	25.21
Others	9	1278	67.8	40.03	86.95	2	264	14.0	2.64	49.50

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
Sarawak	39	5728	4.2	2.94	6.05	78	10748	7.9	5.97	10.49
Locality of school										
Urban	14	1933	3.1	1.69	5.65	30	4176	6.7	4.56	9.81
Rural	25	3796	5.2	3.43	7.75	48	6571	9.0	6.20	12.81
Sex										
Boys	22	3010	4.8	3.02	7.65	29	3870	6.2	4.09	9.33
Girls	17	2718	3.7	2.17	6.32	49	6878	9.4	6.88	12.76
School category										
Primary	21	3741	6.8	5.00	9.09	22	4137	7.5	4.24	12.88
Secondary	18	1988	2.5	1.59	3.86	56	6611	8.3	6.09	11.10
Class										
Standard 4	3	434	2.5	0.66	8.78	8	1201	6.8	4.27	10.66
Standard 5	12	2019	10.8	5.84	19.10	7	1648	8.8	2.02	31.23
Standard 6	6	1287	6.8	3.25	13.69	7	1288	6.8	3.20	13.89
Form 1	4	429	2.1	0.79	5.59	18	2035	10.1	6.45	15.43
Form 2	3	410	2.5	0.84	7.34	10	1566	9.6	5.39	16.59
Form 3	4	394	2.4	0.98	5.60	9	768	4.6	1.40	14.19
Form 4	5	484	3.5	1.78	6.71	13	1429	10.3	6.08	16.90
Form 5	2	271	2.1	0.49	8.22	6	813	6.2	2.35	15.41
Ethnicity										
Malay	8	1041	2.7	1.51	4.89	26	3151	8.3	6.33	10.74
Chinese	7	868	4.0	2.22	7.16	13	1648	7.6	4.23	13.38
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	1	113	8.1	0.87	47.12
Bumiputera Sarawak	23	3636	5.0	3.26	7.70	37	5677	7.9	4.87	12.46
Others	1	183	9.7	1.33	46.24	1	159	8.4	1.17	41.55

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
Sarawak	18	2207	1.6	0.89	2.96	4	445	0.3	0.12	0.87
Locality of school										
Urban	9	1198	1.9	0.85	4.32	1	133	0.2	0.03	1.53
Rural	9	1009	1.4	0.57	3.27	3	313	0.4	0.14	1.26
Sex										
Boys	6	670	1.1	0.48	2.37	3	313	0.5	0.15	1.62
Girls	12	1537	2.1	1.06	4.12	1	133	0.2	0.02	1.38
School category										
Primary	5	649	1.2	0.29	4.65	2	265	0.5	0.13	1.76
Secondary	13	1558	1.9	1.08	3.49	2	180	0.2	0.06	0.89
Class										
Standard 4	4	509	2.9	0.81	9.75	-	-	-	-	-
Standard 5	1	140	0.7	0.09	5.86	1	133	0.7	0.10	5.06
Standard 6	-	-	-	-	-	1	132	0.7	0.10	4.88
Form 1	3	358	1.8	0.57	5.35	1	88	0.4	0.06	3.30
Form 2	2	309	1.9	0.59	5.94	-	-	-	-	-
Form 3	3	263	1.6	0.51	4.80	1	92	0.6	0.07	4.47
Form 4	3	341	2.5	0.63	9.10	-	-	-	-	-
Form 5	2	287	2.2	0.54	8.41	-	-	-	-	-
Ethnicity										
Malay	5	609	1.6	0.65	3.88	1	133	0.3	0.06	2.06
Chinese	6	725	3.4	1.45	7.57	-	-	-	-	-
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	7	873	1.2	0.51	2.84	3	313	0.4	0.14	1.32
Others	-	-	-	-	-	-	-	-	-	-

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

Characteristics	Fasting					Professional advise				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	15	1633	1.2	0.62	2.32	8	991	0.7	0.33	1.60
Locality of school										
Urban	8	855	1.4	0.55	3.38	3	391	0.6	0.21	1.90
Rural	7	778	1.1	0.41	2.73	5	601	0.8	0.28	2.37
Sex										
Boys	8	732	1.2	0.46	2.98	5	551	0.9	0.30	2.60
Girls	7	901	1.2	0.53	2.85	3	441	0.6	0.19	1.90
School category										
Primary	2	355	0.6	0.16	2.52	1	168	0.3	0.04	2.19
Secondary	13	1278	1.6	0.78	3.22	7	823	1.0	0.46	2.28
Class										
Standard 4	1	131	0.7	0.11	5.04	-	-	-	-	-
Standard 5	-	-	-	-	-	1	168	0.9	0.15	5.20
Standard 6	1	224	1.2	0.13	9.77	-	-	-	-	-
Form 1	1	76	0.4	0.05	2.99	1	82	0.4	0.05	3.18
Form 2	-	-	-	-	-	1	128	0.8	0.10	5.74
Form 3	5	448	2.7	1.32	5.44	-	-	-	-	-
Form 4	3	316	2.3	0.49	9.92	-	-	-	-	-
Form 5	4	437	3.3	1.07	9.95	5	613	4.7	2.48	8.66
Ethnicity										
Malay	6	673	1.8	0.69	4.43	3	366	1.0	0.28	3.21
Chinese	7	766	3.5	1.58	7.74	1	103	0.5	0.05	4.01
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	2	194	0.3	0.03	2.15	4	523	0.7	0.23	2.26
Others	-	-	-	-	-	-	-	-	-	-

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

Characteristics	Increase quantity of food					Taking supplement				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	234	28306	49.3	42.39	56.19	122	15470	26.9	22.12	32.36
Locality of school										
Urban	116	14323	55.7	46.39	64.71	50	6359	24.8	17.87	33.22
Rural	118	13983	44.0	35.86	52.57	72	9111	28.7	22.54	35.77
Sex										
Boys	142	16109	48.7	41.52	55.94	66	8131	24.6	18.06	32.51
Girls	92	12196	50.1	41.43	58.70	56	7339	30.1	22.23	39.41
School category										
Primary	44	7238	36.6	29.74	44.03	36	5748	29.1	20.28	39.73
Secondary	190	21067	55.9	48.48	63.15	86	9722	25.8	20.34	32.18
Class										
Standard 4	16	2404	35.1	23.94	48.22	14	2251	32.9	19.28	50.14
Standard 5	16	2467	40.0	27.18	54.31	14	2179	35.3	22.61	50.48
Standard 6	12	2367	35.0	25.89	45.30	8	1318	19.5	7.67	41.32
Form 1	32	3335	51.0	39.41	62.41	14	1546	23.6	13.81	37.40
Form 2	27	3992	51.7	34.31	68.73	20	2793	36.2	20.43	55.61
Form 3	45	4256	54.0	44.61	63.08	21	1978	25.1	19.16	32.11
Form 4	47	4900	61.9	43.81	77.16	15	1590	20.1	11.14	33.50
Form 5	39	4585	60.4	39.23	78.30	16	1815	23.9	14.76	36.32
Ethnicity										
Malay	85	10042	53.4	45.75	60.96	40	4482	23.9	16.69	32.88
Chinese	41	4768	56.8	43.33	69.32	20	2527	30.1	20.03	42.55
Indian	1	139	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	107	13357	46.1	37.84	54.65	59	8126	28.1	21.18	36.17
Others	-	-	-	-	-	3	335	28.9	11.75	55.28

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
Sarawak	45	5796	10.1	6.34	15.68	58	7867	13.7	9.91	18.64
Locality of school										
Urban	17	2219	8.6	4.28	16.67	21	2791	10.9	7.66	15.18
Rural	28	3577	11.3	6.18	19.65	37	5076	16.0	10.15	24.29
Sex										
Boys	32	3924	11.9	7.35	18.60	39	4915	14.9	10.47	20.67
Girls	13	1872	7.7	4.01	14.24	19	2952	12.1	7.00	20.17
School category										
Primary	19	3028	15.3	10.95	20.99	21	3770	19.1	13.20	26.70
Secondary	26	2768	7.4	3.17	16.12	37	4097	10.9	7.33	15.85
Class										
Standard 4	8	1106	16.2	6.87	33.51	7	1082	15.8	12.43	19.92
Standard 5	6	1038	16.8	7.97	32.08	3	487	7.9	3.18	18.27
Standard 6	5	884	13.1	9.04	18.48	11	2200	32.5	22.56	44.32
Form 1	5	492	7.5	2.89	18.14	10	1172	17.9	10.84	28.11
Form 2	3	396	5.1	1.75	14.12	4	537	7.0	2.11	20.60
Form 3	9	813	10.3	4.98	20.16	8	838	10.6	5.54	19.43
Form 4	2	226	2.9	0.71	10.82	12	1203	15.2	7.40	28.64
Form 5	7	841	11.1	2.07	42.34	3	348	4.6	1.64	12.15
Ethnicity										
Malay	13	1493	7.9	4.81	12.86	22	2775	14.8	8.86	23.60
Chinese	2	259	3.1	0.48	17.37	8	841	10.0	4.58	20.53
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	29	3861	13.3	7.94	21.55	23	3609	12.5	7.30	20.49
Others	1	183	15.8	1.45	70.47	5	641	55.3	28.54	79.35

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

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3.4.1 Introduction

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

3.4.2 Objective

General objective:

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

Specific objective:

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

3.4.3 Variable Definition

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

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

3.4.4 Findings

There were 2,528 respondents that represent 320,172 adolescents aged 10 to 17 years old in Sarawak responded to this module. About 30.9% (95% CI: 25.49, 36.85), 44.8% (95% CI: 37.05, 52.83) and 55.1% (95% CI: 46.21, 63.73) had consumed breakfast, lunch and dinner seven days per week respectively. Majority of adolescent in Sarawak having their source of food for

main meal from home especially for dinner. About half of the adolescent in Sarawak told that they had no appetite and tend to not consume food during breakfast, lunch or dinner. About 58.3% (95% CI: 53.04, 63.36) adolescents in Sarawak reported that they took meal during recess everyday (5 days per week) and the main source of the meal was from school canteen and some of them bring the food from home. There was 7.4% (95% CI: 6.20, 8.88) adolescents in Sarawak having daily heavy meal after dinner. The source of food for heavy meal after dinner mainly from home and restaurant or kiosk. About 3.6% (95% CI: 2.69, 4.84) adolescents in Sarawak consumed fast food in daily basis. During the school hours, 16.0% (95% CI: 12.91, 19.72) and 57.6% (95% CI: 52.75, 62.39) of adolescent practice in everyday to bring food and drink respectively. The most food and drink brought to school were nasi lemak/fried rice/mixed rice and bread/bun/sandwich plain water. More than half of the adolescent in Sarawak spend their pocket money for buying food or drink. About 4.3% (95% CI: 3.48, 5.42) of adolescents in Sarawak had eating out as frequent as seven times or more in a week. Majority of adolescent in Sarawak consume snack food and most of them consume snack food in one to three times per week. In term of the type of snack food, bread/bun/sandwich and fish cracker being the most popular snack food consumed by adolescent in Sarawak. About three quarters of this adolescent had bought food or drink out of school area at least one time in a week. The analysis also revealed that, flavoured/carbonated drink 25.5% (95% CI: 20.54, 31.08) followed by candy/chocolate 15.3% (95% CI: 12.11, 19.14) and French fries/nugget/sausage 14.0% (95% CI: 11.83, 16.45) were the top three of food or drink that adolescent in Sarawak bought out of school. Social media and television become the two main medias source that influence the dietary pattern of the adolescent.

3.4.5 Discussions/Conclusion

The prevalence of main meal intake in daily basis was a bit of concern in Sarawak as it consider is low. Skipping main meal must be avoided as it will lead to misbalance in the dietary intake. Deeper understanding on the reason why adolescents had no appetite and then skipping main meal is needed so the appropriate and effective action can be taken. Type of food brought to school and type of food or drink bought out of school area among adolescent also rise the concern as the food that they brought and the drink that they bought was categorized in high calorie. The social media and television can be the best media to deliver information to enhance the promotion of healthy food to be choose.

3.4.6 Recommendation

Taken together from the survey, several recommendations were proposed. Advocacy on proper meal pattern practice among adolescent is crucial therefore, an a holistic and comprehensive nutrition intervention should be implemented nation-wide, where every stakeholders must work together. Current adolescent is the future adult, thus healthier adolescent generation is warranted for a healthier nation. As the most of adolescents are

school-aged individuals, therefore, more health promotion such as healthy eating habits in house, school and eating out must be addressed systematically. Positive behavioral 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
Sarawak	805	98843	30.9	25.49	36.85	1497	193002	60.3	54.37	65.95
Locality of school										
Urban	366	45925	30.7	22.59	40.10	693	88291	58.9	51.09	66.35
Rural	439	52919	31.1	24.22	38.89	804	104711	61.5	52.80	69.53
Sex										
Boys	394	45400	28.0	22.73	33.98	841	103240	63.7	57.54	69.44
Girls	411	53443	33.8	27.66	40.60	656	89762	56.8	50.54	62.87
Ethnicity										
Malay	256	30186	31.8	24.74	39.82	466	56321	59.4	53.73	64.73
Chinese	244	29320	46.0	38.04	54.20	231	26984	42.3	34.89	50.17
Indian	2	246	42.5	5.86	89.76	3	333	57.5	10.24	94.14
Bumiputera Sabah	4	543	23.5	9.53	47.33	12	1504	65.2	40.37	83.84
Bumiputera Sarawak	295	38045	24.6	19.33	30.79	764	104825	67.8	60.71	74.19
Others	4	504	12.6	4.15	32.29	21	3035	75.7	54.65	89.00
School level										
Primary school	232	36037	29.4	18.53	43.19	443	74720	60.9	48.07	72.36
Secondary school	573	62807	31.8	27.16	36.89	1054	118281	59.9	54.40	65.23
Class										
Standard 4	89	12699	31.6	17.99	49.32	150	22672	56.4	38.98	72.40
Standard 5	78	11706	28.5	15.41	46.55	147	24545	59.7	42.94	74.52
Standard 6	65	11632	28.1	15.17	45.99	146	27503	66.4	48.96	80.24
Form 1	141	15627	35.7	27.62	44.76	243	25422	58.1	48.17	67.47
Form 2	82	11594	28.8	18.23	42.23	178	25895	64.2	50.92	75.65
Form 3	168	14803	37.4	28.84	46.79	229	21288	53.8	46.10	61.23
Form 4	89	9448	25.2	17.44	35.05	219	23592	63.0	53.89	71.32
Form 5	93	11335	31.3	26.83	36.05	185	22085	60.9	54.12	67.28
School session										
Morning session	598	72990	31.1	24.61	38.45	1088	139855	59.6	52.67	66.18
Evening session	141	17501	36.9	28.00	46.82	210	26978	56.9	45.99	67.17
Morning and evening session	65	8238	21.7	16.41	28.21	199	26169	69.1	58.07	78.24
BMI-for-age status (BAZ)										
Thinness (<-2sd)	63	7701	35.7	24.73	48.31	102	12830	59.4	47.35	70.42
Normal (≥-2sd - ≤+1sd)	498	60577	31.1	25.88	36.78	925	117852	60.4	54.68	65.94
Overweight (>+1sd - ≤+2sd)	132	16424	31.9	25.95	38.46	229	30129	58.5	51.86	64.80
Obese (>+2sd)	109	13832	26.9	17.90	38.35	239	31987	62.2	51.39	72.00
Height-for-age status (HAZ)										
Stunting (<-2sd)	72	8608	26.3	20.31	33.42	177	21985	67.3	61.05	72.97
Normal (≥-2sd)	732	90144	31.4	25.90	37.49	1317	170724	59.5	53.33	65.35

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
Sarawak	225	28221	8.8	6.58	11.71
Locality of school					
Urban	117	15592	10.4	7.19	14.84
Rural	108	12629	7.4	4.88	11.11
Sex					
Boys	112	13435	8.3	5.53	12.26
Girls	113	14786	9.4	7.06	12.31
Ethnicity					
Malay	65	8389	8.8	5.37	14.21
Chinese	65	7417	11.6	8.15	16.35
Indian					
Bumiputera Sabah	2	260	11.3	2.76	36.23
Bumiputera Sarawak	90	11688	7.6	4.91	11.47
Others	3	468	11.7	2.77	38.09
School level					
Primary school	77	11960	9.7	5.80	15.93
Secondary school	148	16261	8.2	5.93	11.35
Class					
Standard 4	33	4816	12.0	4.14	30.01
Standard 5	30	4839	11.8	8.13	16.76
Standard 6	14	2305	5.6	1.54	18.16
Form 1	26	2684	6.1	3.60	10.26
Form 2	20	2829	7.0	3.64	13.10
Form 3	36	3512	8.9	5.40	14.24
Form 4	43	4391	11.7	7.33	18.25
Form 5	23	2845	7.8	4.63	12.98
School session					
Morning session	175	21795	9.3	6.56	13.00
Evening session	25	2936	6.2	3.97	9.53
Morning and evening session	25	3491	9.2	3.48	22.19
BMI-for-age status (BAZ)					
Thinness (<-2sd)	9	1067	4.9	1.89	12.31
Normal (≥-2sd - ≤+1sd)	135	16530	8.5	6.31	11.30
Overweight (>+1sd - ≤+2sd)	38	4970	9.6	5.65	15.99
Obese (>+2sd)	42	5571	10.8	7.34	15.72
Height-for-age status (HAZ)					
Stunting (<-2sd)	17	2079	6.4	3.09	12.66
Normal (≥-2sd)	208	26142	9.1	6.97	11.82

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
Sarawak	1550	200055	69.2	59.88	77.14	329	41366	14.3	11.19	18.11
Locality of school										
Urban	784	99404	74.9	68.62	80.24	162	20821	15.7	11.50	21.03
Rural	766	100651	64.3	48.84	77.32	167	20545	13.1	9.03	18.72
Sex										
Boys	810	99576	67.7	58.28	75.86	209	25279	17.2	13.37	21.82
Girls	740	100480	70.7	60.72	79.03	120	16087	11.3	8.36	15.16
Ethnicity										
Malay	531	64498	74.9	68.20	80.51	87	10305	12.0	8.48	16.62
Chinese	345	41032	74.0	65.28	81.15	54	6947	12.5	5.55	25.88
Indian	3	337	58.1	12.78	92.94	1	125	21.5	2.14	77.45
Bumiputera Sabah	12	1555	76.0	46.12	92.11	1	123	6.0	0.93	30.26
Bumiputera Sarawak	639	89691	63.4	48.31	76.29	182	23369	16.5	13.30	20.34
Others	20	2943	83.2	53.61	95.48	4	498	14.1	4.09	38.66
School level										
Primary school	457	76828	70.2	54.62	82.22	126	18974	17.3	11.74	24.88
Secondary school	1093	123227	68.5	56.63	78.41	203	22393	12.5	9.40	16.32
Class										
Standard 4	161	24127	69.4	56.68	79.71	57	8423	24.2	15.75	35.35
Standard 5	162	27005	75.5	58.42	87.12	42	6192	17.3	8.51	32.05
Standard 6	134	25696	66.1	41.39	84.37	27	4358	11.2	5.76	20.70
Form 1	258	28481	70.1	55.91	81.30	38	3824	9.4	5.90	14.70
Form 2	172	24856	66.3	47.95	80.78	28	3988	10.6	7.42	15.03
Form 3	271	25095	69.8	61.16	77.32	54	4883	13.6	9.21	19.61
Form 4	207	22284	68.6	53.19	80.84	31	3427	10.6	4.36	23.39
Form 5	185	22511	67.6	51.26	80.48	52	6270	18.8	10.76	30.81
School session										
Morning session	1141	147156	69.9	60.28	77.96	255	31932	15.2	11.28	20.07
Evening session	275	35169	79.7	72.10	85.57	30	3686	8.3	5.58	12.31
Morning and evening session	133	17615	51.4	37.11	65.49	44	5748	16.8	12.33	22.41
BMI-for-age status (BAZ)										
Thinness (<-2sd)	108	13719	67.6	55.28	77.96	20	2306	11.4	6.46	19.25
Normal (≥-2sd - ≤+1sd)	933	119761	67.7	57.44	76.43	201	25209	14.2	11.02	18.22
Overweight (>+1sd - ≤+2sd)	262	33892	73.3	63.00	81.51	52	6606	14.3	10.26	19.54
Obese (>+2sd)	244	32360	71.7	63.05	78.99	56	7245	16.1	11.10	22.65
Height-for-age status (HAZ)										
Stunting (<-2sd)	152	18753	61.6	51.45	70.76	39	5310	17.4	12.91	23.12
Normal (≥-2sd)	1395	181030	70.1	60.76	77.97	289	35944	13.9	10.72	17.87

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	
Sarawak	89	11382	3.9	2.75	5.61	258	29554	10.2	4.91	20.04
Locality of school										
Urban	62	7714	5.8	3.95	8.47	10	1329	1.0	0.36	2.73
Rural	27	3668	2.3	1.59	3.44	248	28225	18.0	9.36	31.94
Sex										
Boys	48	5613	3.8	2.58	5.60	113	11586	7.9	3.45	16.97
Girls	41	5769	4.1	2.45	6.66	145	17968	12.6	6.20	24.06
Ethnicity										
Malay	20	2854	3.3	1.73	6.26	64	6697	7.8	2.62	20.88
Chinese	53	5948	10.7	7.29	15.51	7	656	1.2	0.39	3.52
Indian	1	118	20.4	2.01	76.17					
Bumiputera Sabah						2	245	12.0	3.29	35.21
Bumiputera Sarawak	15	2462	1.7	1.01	2.98	185	21956	15.5	7.11	30.63
Others										
School level										
Primary school	27	4441	4.1	2.72	6.02	42	6686	6.1	1.19	26.08
Secondary school	62	6941	3.9	2.27	6.49	216	22868	12.7	5.72	25.91
Class										
Standard 4	9	1177	3.4	1.43	7.82	5	625	1.8	0.41	7.43
Standard 5	8	1102	3.1	0.87	10.29	6	764	2.1	0.24	16.51
Standard 6	10	2161	5.6	2.67	11.22	31	5297	13.6	2.92	45.28
Form 1	12	1203	3.0	0.57	13.91	60	5881	14.5	6.37	29.66
Form 2	11	1610	4.3	2.29	7.90	43	6176	16.5	5.59	39.64
Form 3	16	1519	4.2	1.44	11.79	48	3911	10.9	5.17	21.48
Form 4	12	1309	4.0	2.29	7.00	41	4208	13.0	6.33	24.70
Form 5	11	1300	3.9	1.92	7.78	24	2693	8.1	2.39	23.98
School session										
Morning session	50	6699	3.2	2.43	4.15	184	19988	9.5	4.17	20.16
Evening session	27	3061	6.9	3.44	13.49	11	1672	3.8	1.57	8.85
Morning and evening session	12	1621	4.7	2.04	10.57	63	7893	23.0	11.64	40.48
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	675	3.3	1.51	7.16	22	2782	13.7	6.42	26.94
Normal (≥-2sd - ≤+1sd)	58	7310	4.1	2.64	6.41	189	20860	11.8	5.58	23.20
Overweight (>+1sd - ≤+2sd)	11	1372	3.0	1.52	5.72	28	3574	7.7	2.97	18.61
Obese (>+2sd)	14	2025	4.5	3.02	6.62	17	2147	4.8	1.99	10.94
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	823	2.7	0.92	7.63	43	4889	16.1	8.98	27.03
Normal (≥-2sd)	81	10559	4.1	2.82	5.89	215	24665	9.5	4.47	19.23

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	
				Lower	Upper
Sarawak	55	6844	2.4	1.41	3.94
Locality of school					
Urban	30	3498	2.6	1.06	6.38
Rural	25	3346	2.1	1.34	3.40
Sex					
Boys	43	5040	3.4	1.95	5.94
Girls	12	1804	1.3	0.60	2.65
Ethnicity					
Malay	17	1810	2.1	0.52	8.09
Chinese	8	872	1.6	0.77	3.16
Indian					
Bumiputera Sabah	1	124	6.0	0.74	35.61
Bumiputera Sarawak	28	3941	2.8	1.88	4.10
Others	1	98	2.8	0.42	15.93
School level					
Primary school	14	2461	2.3	1.20	4.19
Secondary school	41	4383	2.4	1.18	4.97
Class					
Standard 4	3	415	1.2	0.34	4.13
Standard 5	4	700	2.0	0.77	4.85
Standard 6	7	1347	3.5	1.77	6.68
Form 1	12	1221	3.0	1.77	5.05
Form 2	6	859	2.3	0.55	9.05
Form 3	6	520	1.4	0.55	3.77
Form 4	12	1234	3.8	1.54	9.06
Form 5	5	550	1.6	0.46	5.75
School session					
Morning session	39	4895	2.3	1.35	3.96
Evening session	5	564	1.3	0.46	3.51
Morning and evening session	11	1385	4.0	1.74	9.09
BMI-for-age status (BAZ)					
Thinness (<-2sd)	7	798	3.9	1.27	11.53
Normal (≥-2sd - ≤+1sd)	31	3868	2.2	1.36	3.50
Overweight (>+1sd - ≤+2sd)	6	817	1.8	0.63	4.88
Obese (>+2sd)	11	1361	3.0	1.56	5.76
Height-for-age status (HAZ)					
Stunting (<-2sd)	6	688	2.3	1.02	4.91
Normal (≥-2sd)	49	6156	2.4	1.37	4.10

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	
Sarawak	100	13776	7.0	5.60	8.71	724	93954	47.7	42.74	52.74
Locality of school										
Urban	56	7529	8.0	6.00	10.52	331	42751	45.3	39.35	51.30
Rural	44	6248	6.1	4.37	8.45	393	51204	50.0	42.46	57.52
Sex										
Boys	62	8071	7.7	5.90	10.00	390	47903	45.7	40.40	51.16
Girls	38	5705	6.2	4.23	8.97	334	46051	50.0	43.30	56.65
Ethnicity										
Malay	35	4686	7.8	5.15	11.79	240	28782	48.2	39.54	56.99
Chinese	14	1642	5.8	3.47	9.52	94	10775	38.0	32.21	44.22
Indian	1	118	56.5	5.96	96.40	1	91	43.5	3.60	94.04
Bumiputera Sabah	2	304	22.2	5.38	58.91	4	513	37.5	11.74	73.08
Bumiputera Sarawak	48	7026	6.7	5.18	8.73	374	52211	50.1	44.77	55.40
Others						11	1582	51.8	35.70	67.59
School level										
Primary school	38	6457	8.7	6.65	11.20	192	33761	45.3	38.54	52.19
Secondary school	62	7319	6.0	4.46	7.99	532	60193	49.2	42.42	56.02
Class										
Standard 4	15	2525	12.0	7.81	17.98	49	7531	35.8	24.95	48.24
Standard 5	12	1864	7.3	3.87	13.18	61	10396	40.4	34.78	46.35
Standard 6	11	2067	7.4	5.28	10.38	82	15834	57.0	46.26	67.07
Form 1	21	2219	8.7	5.38	13.85	120	12467	49.0	42.95	55.17
Form 2	15	2097	7.9	4.51	13.62	105	15413	58.4	45.23	70.39
Form 3	7	610	2.7	1.25	5.62	126	11777	51.7	44.81	58.46
Form 4	6	680	2.8	1.07	7.00	108	11581	47.1	40.06	54.31
Form 5	13	1712	7.4	3.72	14.20	73	8956	38.7	27.83	50.87
School session										
Morning session	68	9413	6.6	4.94	8.81	493	64018	45.0	39.48	50.67
Evening session	15	1813	6.7	3.70	11.76	122	15708	57.9	50.82	64.58
Morning and evening session	17	2550	9.3	5.08	16.29	109	14228	51.7	41.98	61.28
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	577	4.7	0.90	20.98	42	5597	45.4	34.06	57.34
Normal (≥-2sd - ≤+1sd)	69	9608	8.1	6.00	10.73	455	57447	48.1	42.63	53.68
Overweight (>+1sd - ≤+2sd)	10	1347	4.2	1.81	9.58	122	16287	51.2	43.32	59.03
Obese (>+2sd)	17	2243	6.8	4.56	9.94	105	14623	44.1	34.92	53.75
Height-for-age status (HAZ)										
Stunting (<-2sd)	11	1525	7.2	4.37	11.57	92	11507	54.2	42.63	65.29
Normal (≥-2sd)	89	12251	7.0	5.59	8.68	631	82358	46.9	41.99	51.95

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	
Sarawak	444	56230	28.6	24.01	33.58	122	16088	8.2	6.35	10.45
Locality of school										
Urban	221	28151	29.8	25.48	34.51	49	6493	6.9	4.80	9.75
Rural	223	28079	27.4	20.08	36.21	73	9595	9.4	6.80	12.77
Sex										
Boys	246	29393	28.1	23.03	33.71	70	9341	8.9	6.18	12.69
Girls	198	26836	29.1	23.73	35.17	52	6748	7.3	5.51	9.66
Ethnicity										
Malay	147	18560	31.1	24.40	38.68	24	2809	4.7	3.20	6.88
Chinese	80	9535	33.7	24.17	44.67	15	1627	5.7	3.37	9.61
Indian										
Bumiputera Sabah	4	460	33.6	10.19	69.38	1	90	6.6	0.71	41.10
Bumiputera Sarawak	208	26839	25.7	21.08	31.05	80	11334	10.9	8.60	13.66
Others	5	836	27.4	14.97	44.65	2	228	7.5	1.16	35.63
School level										
Primary school	132	21550	28.9	22.37	36.44	44	7792	10.4	8.01	13.52
Secondary school	312	34680	28.3	22.39	35.17	78	8296	6.8	4.75	9.59
Class										
Standard 4	45	6645	31.6	19.49	46.74	14	2379	11.3	7.13	17.44
Standard 5	51	8358	32.5	26.73	38.87	17	3153	12.3	7.91	18.54
Standard 6	36	6547	23.6	15.92	33.39	13	2260	8.1	4.58	14.02
Form 1	53	5570	21.9	16.50	28.49	20	2027	8.0	4.01	15.25
Form 2	45	6436	24.4	15.80	35.61	7	998	3.8	1.49	9.27
Form 3	65	6271	27.5	20.34	36.07	20	1715	7.5	3.92	13.95
Form 4	70	7228	29.4	20.27	40.57	17	1865	7.6	3.87	14.36
Form 5	79	9175	39.7	28.89	51.56	14	1692	7.3	4.12	12.65
School session										
Morning session	345	43180	30.4	24.92	36.42	98	12886	9.1	7.24	11.28
Evening session	44	5748	21.2	16.36	26.94	7	826	3.0	1.25	7.22
Morning and evening session	55	7301	26.5	19.42	35.10	17	2376	8.6	5.54	13.20
BMI-for-age status (BAZ)										
Thinness (<-2sd)	34	4152	33.7	24.18	44.78	2	228	1.9	0.46	7.20
Normal (≥-2sd - ≤+1sd)	268	33790	28.3	23.62	33.52	63	8426	7.1	4.84	10.19
Overweight (>+1sd - ≤+2sd)	63	8420	26.5	20.70	33.18	23	2956	9.3	5.98	14.16
Obese (>+2sd)	76	9581	28.9	21.94	37.04	34	4478	13.5	9.41	19.03
Height-for-age status (HAZ)										
Stunting (<-2sd)	47	5831	27.5	19.37	37.34	8	921	4.3	2.14	8.57
Normal (≥-2sd)	396	50287	28.7	24.23	33.54	114	15168	8.6	6.74	11.03

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	
Sarawak	42	4987	2.5	1.73	3.69	97	11865	6.0	4.64	7.79
Locality of school										
Urban	26	3069	3.2	2.17	4.84	51	6472	6.9	5.11	9.13
Rural	16	1918	1.9	0.98	3.55	46	5393	5.3	3.41	8.05
Sex										
Boys	35	4021	3.8	2.58	5.67	50	6023	5.7	4.17	7.87
Girls	7	967	1.0	0.46	2.37	47	5842	6.3	4.03	9.84
Ethnicity										
Malay	16	1820	3.0	1.55	5.92	27	3044	5.1	2.89	8.83
Chinese	9	939	3.3	2.01	5.42	32	3812	13.5	8.51	20.62
Indian										
Bumiputera Sabah										
Bumiputera Sarawak	17	2229	2.1	1.14	3.99	35	4602	4.4	2.85	6.77
Others						3	407	13.3	2.54	47.56
School level										
Primary school	13	1964	2.6	1.37	5.01	19	3044	4.1	2.61	6.34
Secondary school	29	3023	2.5	1.56	3.90	78	8821	7.2	5.51	9.39
Class										
Standard 4	3	414	2.0	0.85	4.50	10	1566	7.4	2.40	20.81
Standard 5	6	926	3.6	1.66	7.65	6	1016	4.0	2.56	6.04
Standard 6	4	625	2.2	0.61	7.93	3	462	1.7	0.51	5.23
Form 1	5	472	1.9	0.70	4.85	24	2666	10.5	7.00	15.43
Form 2	4	635	2.4	1.10	5.17	6	834	3.2	1.75	5.64
Form 3	7	597	2.6	0.72	9.03	19	1825	8.0	5.17	12.19
Form 4	7	671	2.7	1.24	5.93	22	2550	10.4	6.36	16.48
Form 5	6	648	2.8	0.88	8.60	7	946	4.1	1.87	8.72
School session										
Morning session	34	3910	2.7	1.78	4.22	71	8815	6.2	4.60	8.30
Evening session	5	686	2.5	1.10	5.67	20	2372	8.7	5.57	13.44
Morning and evening session	3	391	1.4	0.63	3.19	6	678	2.5	1.18	5.08
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	712	5.8	2.64	12.20	9	1049	8.5	4.56	15.35
Normal (≥-2sd - ≤+1sd)	25	3040	2.5	1.70	3.81	57	7036	5.9	4.20	8.21
Overweight (>+1sd - ≤+2sd)	4	396	1.2	0.35	4.28	19	2402	7.6	3.68	14.88
Obese (>+2sd)	6	839	2.5	1.19	5.31	12	1378	4.2	2.47	6.91
Height-for-age status (HAZ)										
Stunting (<-2sd)	2	277	1.3	0.16	9.84	10	1180	5.6	3.08	9.81
Normal (≥-2sd)	40	4710	2.7	1.79	4.02	87	10685	6.1	4.70	7.85

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
Sarawak	1180	143467	44.8	37.05	52.83	1285	168036	52.5	44.86	60.00
Locality of school										
Urban	584	72768	48.5	37.11	60.03	566	73535	49.0	37.76	60.34
Rural	596	70699	41.6	31.73	52.13	719	94501	55.6	45.79	64.93
Sex										
Boys	588	67136	41.5	33.34	50.23	720	89872	55.6	47.30	63.62
Girls	592	76331	48.1	40.28	56.11	565	78163	49.3	41.71	56.93
Ethnicity										
Malay	360	42646	44.9	37.01	53.09	417	50758	53.5	45.63	61.12
Chinese	377	44685	70.2	62.26	77.16	154	17979	28.3	21.45	36.24
Indian	3	371	64.0	16.40	94.15	2	209	36.0	5.85	83.60
Bumiputera Sabah	6	770	31.3	11.61	61.22	13	1691	68.7	38.78	88.39
Bumiputera Sarawak	423	53474	34.6	27.19	42.84	683	95098	61.5	53.47	69.02
Others	11	1522	38.0	24.48	53.65	16	2301	57.4	39.64	73.50
School level										
Primary school	305	47002	38.4	24.28	54.82	416	70984	58.0	42.77	71.86
Secondary school	875	96465	48.8	41.41	56.19	869	97052	49.1	41.71	56.47
Class										
Standard 4	120	17051	42.1	21.51	65.86	135	21028	51.9	30.18	72.95
Standard 5	110	16541	40.8	26.75	56.50	138	23243	57.3	42.17	71.19
Standard 6	75	13411	32.5	17.41	52.30	143	26713	64.7	46.16	79.62
Form 1	164	17961	40.9	31.22	51.28	241	25207	57.4	47.87	66.33
Form 2	114	15928	39.3	26.52	53.67	156	22750	56.1	42.56	68.77
Form 3	229	20817	52.5	43.49	61.27	199	18317	46.2	37.57	54.97
Form 4	198	21123	56.4	40.83	70.86	147	15747	42.1	28.25	57.25
Form 5	170	20635	57.1	46.24	67.26	126	15030	41.6	31.95	51.88
School session										
Morning session	935	112899	48.1	38.41	58.02	876	115274	49.2	39.71	58.67
Evening session	150	18632	38.9	31.37	47.04	218	27487	57.4	49.30	65.14
Morning and evening session	95	11936	31.7	24.82	39.49	190	25160	66.8	59.16	73.67
BMI-for-age status (BAZ)										
Thinness (<-2sd)	93	11311	52.0	43.18	60.66	78	9941	45.7	38.01	53.57
Normal (≥-2sd - ≤+1sd)	732	87536	44.9	36.35	53.68	787	101975	52.3	43.95	60.44
Overweight (>+1sd - ≤+2sd)	188	23502	46.0	38.22	54.02	199	26225	51.4	43.73	58.92
Obese (>+2sd)	166	21043	40.8	29.94	52.61	216	29374	56.9	45.27	67.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	95	11408	34.8	27.67	42.58	163	20082	61.2	53.45	68.38
Normal (≥-2sd)	1083	131876	46.0	38.01	54.12	1120	147752	51.5	43.63	59.28

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

Characteristics	Lunch frequency per week				
	Did not take lunch				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
Sarawak	63	8646	2.7	1.67	4.34
Locality of school					
Urban	27	3768	2.5	1.61	3.91
Rural	36	4878	2.9	1.32	6.11
Sex					
Boys	37	4607	2.9	1.57	5.13
Girls	26	4039	2.5	1.55	4.16
Ethnicity					
Malay	11	1542	1.6	0.73	3.57
Chinese	8	951	1.5	0.86	2.60
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	43	5970	3.9	2.22	6.64
Others	1	183	4.6	0.60	27.52
School level					
Primary school	29	4381	3.6	1.56	8.00
Secondary school	34	4265	2.2	1.44	3.21
Class					
Standard 4	19	2424	6.0	1.22	24.77
Standard 5	4	773	1.9	0.78	4.56
Standard 6	6	1184	2.9	1.75	4.67
Form 1	7	780	1.8	0.72	4.34
Form 2	11	1882	4.6	1.69	12.08
Form 3	6	550	1.4	0.57	3.32
Form 4	6	560	1.5	0.66	3.38
Form 5	4	493	1.4	0.41	4.43
School session					
Morning session	49	6327	2.7	1.45	4.96
Evening session	11	1759	3.7	1.44	9.03
Morning and evening session	3	560	1.5	0.37	5.72
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	507	2.3	0.86	6.14
Normal (≥-2sd - ≤+1sd)	40	5625	2.9	1.65	5.00
Overweight (>+1sd - ≤+2sd)	9	1339	2.6	1.38	4.92
Obese (>+2sd)	10	1175	2.3	1.12	4.59
Height-for-age status (HAZ)					
Stunting (<-2sd)	9	1337	4.1	1.82	8.84
Normal (≥-2sd)	54	7309	2.5	1.56	4.14

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	
Sarawak	1518	194058	63.0	54.99	70.40	427	54507	17.7	14.21	21.84
Locality of school										
Urban	774	97788	67.5	61.85	72.66	212	27877	19.2	14.27	25.42
Rural	744	96270	59.1	45.32	71.53	215	26631	16.3	11.91	21.99
Sex										
Boys	784	95898	61.7	54.00	68.90	259	31168	20.1	15.84	25.07
Girls	734	98160	64.4	55.50	72.34	168	23339	15.3	11.76	19.67
Ethnicity										
Malay	503	60540	65.5	60.15	70.46	129	15573	16.8	12.33	22.59
Chinese	370	43470	69.5	60.52	77.19	76	9407	15.0	9.72	22.54
Indian	3	337	74.1	15.97	97.72	1	118	25.9	2.28	84.03
Bumiputera Sabah	14	1823	74.1	48.13	89.79	2	247	10.0	2.66	31.20
Bumiputera Sarawak	610	85487	58.5	44.22	71.47	212	28020	19.2	14.70	24.61
Others	18	2401	62.8	42.95	79.08	7	1142	29.9	14.22	52.27
School level										
Primary school	445	73962	63.9	53.11	73.47	144	23006	19.9	14.21	27.10
Secondary school	1073	120096	62.5	51.31	72.49	283	31501	16.4	12.33	21.47
Class										
Standard 4	162	24832	67.3	55.55	77.14	54	7902	21.4	12.96	33.25
Standard 5	164	26643	67.7	58.23	75.95	46	6990	17.8	10.49	28.49
Standard 6	119	22487	57.0	42.69	70.20	44	8114	20.6	15.36	26.97
Form 1	212	23361	54.5	43.82	64.87	99	10367	24.2	16.71	33.70
Form 2	160	22558	58.3	38.90	75.46	56	8175	21.1	13.40	31.70
Form 3	276	25395	65.6	55.38	74.57	62	5664	14.6	9.44	22.00
Form 4	215	22989	62.9	50.08	74.15	45	4833	13.2	7.57	22.10
Form 5	210	25793	72.8	55.41	85.26	21	2462	7.0	3.12	14.78
School session										
Morning session	1152	147454	65.5	57.01	73.07	273	35003	15.5	11.52	20.64
Evening session	229	28472	62.2	55.16	68.75	88	10854	23.7	16.51	32.82
Morning and evening session	136	18017	48.9	33.06	65.04	66	8651	23.5	17.94	30.15
BMI-for-age status (BAZ)										
Thinness (<-2sd)	107	13371	62.9	52.43	72.31	24	2907	13.7	9.17	19.93
Normal (≥-2sd - ≤+1sd)	912	116266	62.2	53.37	70.28	272	34179	18.3	14.05	23.45
Overweight (>+1sd - ≤+2sd)	241	30529	61.9	49.69	72.74	67	8961	18.2	13.59	23.85
Obese (>+2sd)	255	33575	67.5	59.74	74.33	63	8370	16.8	12.05	22.98
Height-for-age status (HAZ)										
Stunting (<-2sd)	147	18153	58.6	46.92	69.43	43	5446	17.6	11.99	25.06
Normal (≥-2sd)	1368	175633	63.5	55.72	70.65	384	49062	17.7	14.06	22.14

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	
Sarawak	137	17551	5.7	3.72	8.64	276	30913	10.0	4.79	19.86
Locality of school										
Urban	105	13232	9.1	6.07	13.52	16	2155	1.5	0.99	2.22
Rural	32	4319	2.6	1.51	4.62	260	28757	17.6	8.74	32.39
Sex										
Boys	83	9650	6.2	3.90	9.75	127	13122	8.4	3.96	17.10
Girls	54	7901	5.2	3.07	8.60	149	17790	11.7	5.45	23.22
Ethnicity										
Malay	48	6532	7.1	3.87	12.54	69	7416	8.0	3.17	18.87
Chinese	58	6871	11.0	8.04	14.83	9	879	1.4	0.54	3.64
Indian										
Bumiputera Sabah	1	146	5.9	0.75	34.53	2	245	10.0	2.51	32.23
Bumiputera Sarawak	30	4002	2.7	1.65	4.52	195	22190	15.2	6.41	31.86
Others						1	183	4.8	0.57	30.68
School level										
Primary school	47	7273	6.3	3.21	11.94	42	6331	5.5	1.13	22.62
Secondary school	90	10278	5.3	3.09	9.11	234	24582	12.8	5.70	26.27
Class										
Standard 4	22	2959	8.0	3.15	18.94	5	671	1.8	0.82	3.96
Standard 5	11	1548	3.9	1.53	9.74	10	1535	3.9	1.40	10.43
Standard 6	14	2766	7.0	3.44	13.75	27	4125	10.5	1.57	46.10
Form 1	16	1713	4.0	2.12	7.43	66	6358	14.8	6.67	29.85
Form 2	9	1463	3.8	1.61	8.62	38	5511	14.2	4.14	38.99
Form 3	19	2010	5.2	2.53	10.37	50	4082	10.5	5.03	20.80
Form 4	27	2939	8.0	4.02	15.43	45	4641	12.7	6.03	24.80
Form 5	19	2152	6.1	2.91	12.28	35	3990	11.3	3.90	28.40
School session										
Morning session	94	11738	5.2	3.14	8.53	201	21552	9.6	4.32	19.89
Evening session	30	3967	8.7	5.20	14.09	11	1532	3.3	1.62	6.80
Morning and evening session	13	1846	5.0	2.55	9.64	64	7828	21.3	9.68	40.49
BMI-for-age status (BAZ)										
Thinness (<-2sd)	15	2045	9.6	5.19	17.16	19	2201	10.4	4.48	22.16
Normal (≥-2sd - ≤+1sd)	71	8869	4.7	2.94	7.56	202	21835	11.7	5.73	22.36
Overweight (>+1sd - ≤+2sd)	24	3172	6.4	3.53	11.43	38	4705	9.5	2.85	27.50
Obese (>+2sd)	27	3465	7.0	4.32	11.02	15	1981	4.0	1.70	9.02
Height-for-age status (HAZ)										
Stunting (<-2sd)	13	1583	5.1	2.90	8.86	43	4722	15.2	8.06	26.97
Normal (≥-2sd)	123	15856	5.7	3.75	8.67	233	26191	9.5	4.41	19.16

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
Sarawak	80	10864	3.5	2.51	4.94
Locality of school					
Urban	31	3849	2.7	1.99	3.54
Rural	49	7015	4.3	2.69	6.81
Sex					
Boys	41	5535	3.6	2.25	5.61
Girls	39	5329	3.5	2.44	4.99
Ethnicity					
Malay	20	2385	2.6	1.31	5.02
Chinese	17	1929	3.1	2.07	4.58
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	42	6453	4.4	2.82	6.85
Others	1	98	2.6	0.38	15.25
School level					
Primary school	29	5153	4.5	2.37	8.22
Secondary school	51	5712	3.0	2.29	3.86
Class					
Standard 4	4	561	1.5	0.45	5.02
Standard 5	14	2625	6.7	2.57	16.25
Standard 6	11	1967	5.0	2.91	8.40
Form 1	9	1029	2.4	1.35	4.25
Form 2	7	972	2.5	1.61	3.90
Form 3	16	1554	4.0	2.08	7.62
Form 4	10	1139	3.1	1.92	5.02
Form 5	9	1017	2.9	1.72	4.75
School session					
Morning session	69	9441	4.2	2.87	6.09
Evening session	7	953	2.1	1.30	3.32
Morning and evening session	4	470	1.3	0.43	3.70
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	728	3.4	1.49	7.67
Normal (≥-2sd - ≤+1sd)	44	5785	3.1	2.18	4.38
Overweight (>+1sd - ≤+2sd)	13	1969	4.0	1.79	8.66
Obese (>+2sd)	17	2383	4.8	2.87	7.89
Height-for-age status (HAZ)					
Stunting (<-2sd)	9	1061	3.4	1.81	6.38
Normal (≥-2sd)	71	9804	3.5	2.44	5.11

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	
Sarawak	114	15343	9.9	8.06	12.03	596	78100	50.2	45.56	54.91
Locality of school										
Urban	62	8095	12.2	10.01	14.84	230	29629	44.7	39.62	49.95
Rural	52	7247	8.1	6.07	10.79	366	48471	54.3	48.21	60.30
Sex										
Boys	75	9821	11.6	9.28	14.48	319	39603	46.9	41.41	52.45
Girls	39	5522	7.8	5.31	11.25	277	38497	54.2	47.32	60.93
Ethnicity										
Malay	47	6048	13.0	10.64	15.77	202	24418	52.4	45.76	59.04
Chinese	15	1760	12.5	6.94	21.42	42	4908	34.8	27.56	42.82
Indian										
Bumiputera Sabah	2	228	22.9	4.48	65.26	2	266	26.7	7.24	62.91
Bumiputera Sarawak	49	7177	7.9	6.05	10.16	342	47428	52.0	47.32	56.56
Others	1	130	5.6	0.87	28.47	8	1081	46.4	21.82	72.80
School level										
Primary school	45	7550	11.5	9.43	13.96	189	33007	50.3	44.04	56.52
Secondary school	69	7792	8.7	6.36	11.72	407	45093	50.2	43.53	56.85
Class										
Standard 4	17	2563	12.1	7.53	18.77	63	9762	46.0	37.20	54.99
Standard 5	15	2614	12.5	9.63	16.15	55	9320	44.7	36.98	52.66
Standard 6	13	2373	10.1	8.08	12.51	71	13925	59.1	45.74	71.31
Form 1	21	2148	9.7	5.31	17.17	107	10964	49.7	38.33	61.04
Form 2	14	1961	8.5	5.69	12.57	80	11273	49.0	34.05	64.12
Form 3	17	1591	9.2	5.79	14.23	96	8791	50.7	39.98	61.32
Form 4	6	688	4.9	1.95	11.65	68	7419	52.4	42.85	61.86
Form 5	11	1404	10.6	4.31	23.74	56	6646	50.1	40.87	59.35
School session										
Morning session	76	10477	9.9	7.80	12.40	415	54819	51.6	46.54	56.69
Evening session	23	2794	10.9	6.72	17.28	78	9428	36.9	29.43	45.00
Morning and evening session	15	2072	8.8	5.07	14.76	103	13852	58.6	49.88	66.90
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	956	9.8	4.77	18.90	44	5949	60.7	46.17	73.59
Normal (≥-2sd - ≤+1sd)	73	9820	10.4	8.24	12.97	365	46586	49.2	42.89	55.54
Overweight (>+1sd - ≤+2sd)	13	1738	7.4	3.90	13.59	105	13983	59.5	51.73	66.87
Obese (>+2sd)	21	2829	10.5	7.30	14.83	81	11493	42.6	36.25	49.18
Height-for-age status (HAZ)										
Stunting (<-2sd)	13	1878	9.7	5.21	17.52	84	10346	53.7	44.15	62.99
Normal (≥-2sd)	101	13465	9.9	8.24	11.85	511	67664	49.7	45.02	54.48

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	
Sarawak	214	28393	18.3	14.51	22.72	139	18324	11.8	9.65	14.32
Locality of school										
Urban	95	12283	18.5	15.57	21.94	53	7407	11.2	7.94	15.53
Rural	119	16110	18.1	12.24	25.81	86	10917	12.2	9.58	15.49
Sex										
Boys	119	15236	18.0	13.46	23.75	75	9498	11.2	8.58	14.61
Girls	95	13156	18.5	15.07	22.56	64	8826	12.4	8.97	16.97
Ethnicity										
Malay	62	7242	15.6	12.65	18.99	39	4858	10.4	7.42	14.47
Chinese	27	3314	23.5	17.14	31.34	15	1627	11.5	7.04	18.33
Indian	1	118	56.5	5.96	96.40	1	91	43.5	3.60	94.04
Bumiputera Sabah	2	237	23.8	4.57	67.11	1	123	12.4	1.90	50.69
Bumiputera Sarawak	118	16739	18.3	13.08	25.11	81	11345	12.4	9.83	15.60
Others	4	742	31.8	9.06	68.63	2	281	12.0	3.09	37.01
School level										
Primary school	80	13224	20.1	13.88	28.31	39	6773	10.3	7.77	13.58
Secondary school	134	15169	16.9	13.09	21.51	100	11552	12.9	9.97	16.43
Class										
Standard 4	37	5335	25.1	14.35	40.19	13	2102	9.9	4.83	19.23
Standard 5	23	4173	20.0	11.68	32.13	18	3108	14.9	8.58	24.63
Standard 6	20	3715	15.8	11.85	20.71	8	1563	6.6	4.33	10.04
Form 1	41	4430	20.1	14.47	27.14	19	1993	9.0	6.43	12.55
Form 2	22	3395	14.8	7.38	27.34	19	3190	13.9	7.01	25.59
Form 3	30	2763	15.9	9.99	24.43	26	2338	13.5	7.89	22.08
Form 4	20	2115	15.0	10.76	20.42	24	2493	17.6	13.35	22.91
Form 5	21	2466	18.6	11.19	29.28	12	1537	11.6	5.97	21.30
School session										
Morning session	140	18565	17.5	13.02	23.07	101	13008	12.3	9.70	15.36
Evening session	43	5612	22.0	15.48	30.16	18	2743	10.7	4.69	22.71
Morning and evening session	30	4101	17.4	12.50	23.60	20	2573	10.9	6.55	17.56
BMI-for-age status (BAZ)										
Thinness (<-2sd)	14	1715	17.5	10.06	28.70	4	383	3.9	1.42	10.33
Normal (≥-2sd - ≤+1sd)	136	18334	19.4	14.90	24.78	66	9075	9.6	7.39	12.35
Overweight (>+1sd - ≤+2sd)	21	2714	11.6	7.58	17.21	25	3249	13.8	7.68	23.65
Obese (>+2sd)	39	5198	19.3	15.28	23.99	44	5618	20.8	14.95	28.22
Height-for-age status (HAZ)										
Stunting (<-2sd)	34	4189	21.7	15.18	30.14	13	1575	8.2	4.27	15.09
Normal (≥-2sd)	179	24092	17.7	13.93	22.26	126	16749	12.3	10.15	14.87

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	
Sarawak	60	7512	4.8	3.30	7.02	62	7805	5.0	3.25	7.69
Locality of school										
Urban	35	4422	6.7	4.11	10.67	35	4405	6.7	4.37	10.00
Rural	25	3090	3.5	2.17	5.48	27	3400	3.8	1.75	8.08
Sex										
Boys	47	5541	6.6	4.28	9.93	40	4756	5.6	3.37	9.26
Girls	13	1971	2.8	1.42	5.37	22	3050	4.3	2.53	7.21
Ethnicity										
Malay	23	2814	6.0	2.88	12.24	10	1180	2.5	1.24	5.11
Chinese	7	676	4.8	1.93	11.40	15	1817	12.9	7.85	20.42
Indian										
Bumiputera Sabah	1	142	14.3	1.59	63.13					
Bumiputera Sarawak	29	3880	4.3	2.81	6.38	36	4711	5.2	3.09	8.51
Others						1	98	4.2	0.66	22.21
School level										
Primary school	18	2878	4.4	2.10	8.92	14	2207	3.4	1.95	5.75
Secondary school	42	4634	5.2	3.41	7.73	48	5598	6.2	3.67	10.38
Class										
Standard 4	3	571	2.7	0.75	9.25	6	903	4.3	0.96	16.90
Standard 5	6	935	4.5	1.66	11.52	4	706	3.4	1.47	7.62
Standard 6	9	1371	5.8	2.21	14.49	4	598	2.5	0.83	7.48
Form 1	11	1189	5.4	3.12	9.16	12	1350	6.1	3.43	10.67
Form 2	11	1501	6.5	3.56	11.67	12	1689	7.3	2.02	23.29
Form 3	7	616	3.5	1.48	8.29	12	1249	7.2	3.44	14.46
Form 4	8	766	5.4	1.06	23.39	6	664	4.7	2.04	10.45
Form 5	5	562	4.2	2.26	7.80	6	647	4.9	2.89	8.11
School session										
Morning session	36	4535	4.3	2.63	6.88	39	4771	4.5	2.93	6.82
Evening session	19	2388	9.3	6.67	12.94	20	2602	10.2	5.03	19.51
Morning and evening session	5	588	2.5	1.03	5.90	3	433	1.8	0.70	4.68
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	258	2.6	0.79	8.46	5	536	5.5	1.80	15.41
Normal (≥-2sd - ≤+1sd)	45	5797	6.1	3.99	9.28	39	5073	5.4	3.36	8.43
Overweight (>+1sd - ≤+2sd)	7	817	3.5	1.65	7.19	8	990	4.2	2.14	8.13
Obese (>+2sd)	5	639	2.4	0.92	5.95	10	1207	4.5	1.90	10.19
Height-for-age status (HAZ)										
Stunting (<-2sd)	6	761	4.0	1.58	9.53	5	516	2.7	0.87	7.90
Normal (≥-2sd)	54	6750	5.0	3.36	7.27	57	7290	5.4	3.55	8.02

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	
Sarawak	1433	176513	55.1	46.21	63.73	1040	135781	42.4	34.15	51.12
Locality of school										
Urban	749	93419	62.2	47.87	74.67	411	54403	36.2	23.89	50.67
Rural	684	83094	48.9	39.29	58.56	629	81378	47.9	38.71	57.20
Sex										
Boys	763	89524	55.4	46.14	64.35	557	68940	42.7	33.74	52.14
Girls	670	86988	54.8	45.73	63.61	483	66841	42.1	34.07	50.63
Ethnicity										
Malay	408	48861	51.4	46.78	55.97	364	44082	46.4	41.82	50.96
Chinese	446	52883	83.0	75.04	88.79	83	9550	15.0	9.76	22.32
Indian	3	337	58.1	12.78	92.94	2	242	41.9	7.06	87.22
Bumiputera Sabah	13	1660	67.5	50.19	81.01	6	801	32.5	18.99	49.81
Bumiputera Sarawak	552	71235	46.2	36.17	56.47	568	78636	51.0	41.22	60.62
Others	11	1537	38.4	23.87	55.27	17	2470	61.6	44.73	76.13
School level										
Primary school	390	60835	49.7	33.35	66.05	339	57489	46.9	31.81	62.64
Secondary school	1043	115678	58.5	49.22	67.25	701	78292	39.6	30.75	49.20
Class										
Standard 4	150	21247	52.3	30.36	73.38	123	19039	46.9	26.25	68.60
Standard 5	135	20898	51.5	37.66	65.15	110	18125	44.7	32.34	57.71
Standard 6	105	18690	45.2	27.33	64.48	106	20325	49.2	31.97	66.63
Form 1	226	24834	56.6	43.42	68.92	184	18943	43.2	30.75	56.53
Form 2	151	21601	53.4	36.08	70.01	123	17894	44.3	27.70	62.22
Form 3	274	24992	63.0	55.17	70.16	147	13429	33.8	27.20	41.19
Form 4	212	22366	59.8	46.22	71.95	134	14575	38.9	27.22	52.09
Form 5	180	21885	60.3	46.40	72.80	113	13451	37.1	24.59	51.59
School session										
Morning session	1080	132314	56.5	46.21	66.21	738	96463	41.2	31.83	51.19
Evening session	240	29894	62.6	52.20	71.99	136	17532	36.7	27.14	47.48
Morning and evening session	113	14304	37.6	29.89	46.04	165	21672	57.0	47.15	66.32
BMI-for-age status (BAZ)										
Thinness (<-2sd)	98	11528	53.0	42.44	63.27	70	9301	42.7	32.17	54.03
Normal (≥-2sd - ≤+1sd)	889	108143	55.4	45.87	64.62	641	82633	42.4	33.59	51.64
Overweight (>+1sd - ≤+2sd)	232	29614	57.6	49.72	65.18	158	20542	40.0	32.72	47.71
Obese (>+2sd)	210	26889	52.3	41.96	62.50	169	23046	44.9	34.86	55.27
Height-for-age status (HAZ)										
Stunting (<-2sd)	112	13260	40.4	32.35	48.98	148	18412	56.1	47.42	64.40
Normal (≥-2sd)	1319	163070	56.8	47.82	65.40	890	117168	40.8	32.61	49.59

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	
Sarawak	55	7878	2.5	1.55	3.89
Locality of school					
Urban	18	2383	1.6	0.88	2.86
Rural	37	5495	3.2	1.85	5.58
Sex					
Boys	24	3049	1.9	1.29	2.75
Girls	31	4828	3.0	1.65	5.56
Ethnicity					
Malay	16	2138	2.2	1.04	4.77
Chinese	11	1287	2.0	1.02	3.98
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	28	4452	2.9	1.54	5.35
Others					
School level					
Primary school	22	4176	3.4	1.64	6.93
Secondary school	33	3702	1.9	1.20	2.92
Class					
Standard 4	2	341	0.8	0.11	6.26
Standard 5	7	1542	3.8	1.04	12.96
Standard 6	13	2293	5.6	2.04	14.20
Form 1	1	96	0.2	0.03	1.72
Form 2	6	925	2.3	0.89	5.74
Form 3	13	1262	3.2	1.86	5.38
Form 4	5	489	1.3	0.51	3.28
Form 5	8	929	2.6	1.34	4.84
School session					
Morning session	41	5519	2.4	1.44	3.83
Evening session	2	312	0.7	0.17	2.43
Morning and evening session	12	2047	5.4	2.91	9.75
BMI-for-age status (BAZ)					
Thinness (<-2sd)	7	929	4.3	1.57	11.09
Normal (≥-2sd - ≤+1sd)	29	4275	2.2	1.28	3.73
Overweight (>+1sd - ≤+2sd)	8	1226	2.4	1.06	5.27
Obese (>+2sd)	11	1448	2.8	1.38	5.66
Height-for-age status (HAZ)					
Stunting (<-2sd)	7	1156	3.5	1.27	9.35
Normal (≥-2sd)	48	6722	2.3	1.48	3.68

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
Sarawak	1851	236740	77.1	67.61	84.50	178	21907	7.1	5.53	9.16
Locality of school										
Urban	980	124658	85.4	81.80	88.37	105	13459	9.2	7.08	11.92
Rural	871	112082	69.6	53.98	81.78	73	8448	5.2	3.61	7.58
Sex										
Boys	973	118146	76.1	67.30	83.17	118	13772	8.9	6.70	11.67
Girls	878	118594	78.2	67.45	86.07	60	8135	5.4	3.96	7.23
Ethnicity										
Malay	586	71815	78.8	70.25	85.44	69	8158	9.0	6.16	12.84
Chinese	455	53829	87.2	82.96	90.53	42	4976	8.1	5.34	12.01
Indian	4	461	79.6	23.83	97.99	1	118	20.4	2.01	76.17
Bumiputera Sabah	17	2216	90.0	67.77	97.49					
Bumiputera Sarawak	765	104991	71.4	54.95	83.63	66	8655	5.9	4.15	8.29
Others	24	3428	85.6	70.73	93.55					
School level										
Primary school	575	93768	81.6	70.76	89.00	54	8132	7.1	4.38	11.24
Secondary school	1276	142972	74.5	60.77	84.60	124	13774	7.2	5.36	9.54
Class										
Standard 4	228	33415	85.2	76.60	90.99	20	2782	7.1	4.32	11.42
Standard 5	190	30625	80.7	69.97	88.19	18	2548	6.7	2.86	14.97
Standard 6	157	29728	78.7	59.94	90.16	16	2803	7.4	4.34	12.40
Form 1	285	31265	72.1	58.27	82.74	28	2771	6.4	3.46	11.52
Form 2	197	28394	72.1	48.85	87.50	20	2873	7.3	4.96	10.62
Form 3	328	30115	78.7	69.48	85.66	27	2671	7.0	3.76	12.60
Form 4	251	26753	73.9	59.47	84.56	23	2566	7.1	4.34	11.38
Form 5	215	26446	76.0	56.41	88.62	26	2894	8.3	4.45	15.02
School session										
Morning session	1377	175984	78.3	68.34	85.78	115	14129	6.3	4.78	8.23
Evening session	304	38445	81.7	75.21	86.83	34	4158	8.8	5.63	13.61
Morning and evening session	169	22197	63.4	45.42	78.24	29	3620	10.3	7.03	14.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	123	15398	76.3	66.84	83.79	13	1584	7.9	4.43	13.54
Normal (≥-2sd - ≤+1sd)	1117	141931	75.6	65.57	83.41	114	13759	7.3	5.44	9.79
Overweight (>+1sd - ≤+2sd)	299	38593	78.4	63.18	88.47	22	2987	6.1	3.73	9.72
Obese (>+2sd)	308	40411	82.3	74.36	88.10	29	3577	7.3	4.64	11.25
Height-for-age status (HAZ)										
Stunting (<-2sd)	178	21973	71.5	58.11	81.99	13	1548	5.0	2.60	9.54
Normal (≥-2sd)	1670	214495	77.7	68.63	84.78	165	20359	7.4	5.72	9.47

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	
Sarawak	271	30756	10.0	4.71	20.05	133	17525	5.7	4.31	7.53
Locality of school										
Urban	14	1605	1.1	0.43	2.81	47	6273	4.3	3.39	5.44
Rural	257	29150	18.1	9.17	32.65	86	11252	7.0	4.80	10.08
Sex										
Boys	128	13450	8.7	4.18	17.11	76	9823	6.3	4.55	8.74
Girls	143	17306	11.4	5.20	23.21	57	7703	5.1	3.62	7.08
Ethnicity										
Malay	62	6339	7.0	2.55	17.59	41	4794	5.3	3.60	7.64
Chinese	6	566	0.9	0.26	3.18	20	2348	3.8	2.49	5.77
Indian										
Bumiputera Sabah	2	245	10.0	2.51	32.23					
Bumiputera Sarawak	200	23422	15.9	7.03	32.19	69	9987	6.8	4.57	9.98
Others	1	183	4.6	0.60	27.52	3	396	9.9	3.49	24.93
School level										
Primary school	34	5617	4.9	1.25	17.28	44	7439	6.5	4.16	9.93
Secondary school	237	25139	13.1	5.65	27.49	89	10087	5.3	3.67	7.46
Class										
Standard 4	7	1267	3.2	0.77	12.50	12	1765	4.5	2.12	9.28
Standard 5	9	1378	3.6	1.09	11.44	21	3417	9.0	5.61	14.14
Standard 6	18	2972	7.9	1.54	31.79	11	2256	6.0	3.37	10.37
Form 1	64	6232	14.4	6.81	27.85	29	3081	7.1	4.47	11.12
Form 2	41	5952	15.1	4.58	39.76	15	2156	5.5	2.74	10.64
Form 3	52	4229	11.0	5.32	21.53	13	1268	3.3	1.58	6.80
Form 4	48	5029	13.9	5.57	30.65	17	1843	5.1	2.56	9.86
Form 5	32	3698	10.6	3.18	30.14	15	1740	5.0	2.87	8.58
School session										
Morning session	202	22097	9.8	4.28	21.00	94	12537	5.6	4.07	7.61
Evening session	16	2029	4.3	2.31	7.91	19	2408	5.1	3.17	8.16
Morning and evening session	53	6630	18.9	8.39	37.32	20	2580	7.4	4.71	11.34
BMI-for-age status (BAZ)										
Thinness (<-2sd)	15	1881	9.3	4.66	17.79	12	1305	6.5	3.20	12.65
Normal (≥-2sd - ≤+1sd)	193	21226	11.3	5.43	22.03	84	10884	5.8	4.48	7.47
Overweight (>+1sd - ≤+2sd)	40	4621	9.4	2.94	26.18	22	3030	6.2	3.36	11.01
Obese (>+2sd)	21	2837	5.8	2.25	14.05	15	2306	4.7	2.71	8.00
Height-for-age status (HAZ)										
Stunting (<-2sd)	45	5116	16.7	8.55	29.94	18	2081	6.8	3.38	13.10
Normal (≥-2sd)	226	25640	9.3	4.31	18.91	115	15445	5.6	4.31	7.24

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
Sarawak	87	11916	9.1	7.28	11.28	532	69544	53.0	48.42	57.54
Locality of school										
Urban	44	5822	10.9	8.42	13.90	201	26682	49.8	44.16	55.41
Rural	43	6093	7.9	5.68	10.76	331	42862	55.2	49.04	61.27
Sex										
Boys	65	8329	12.6	10.71	14.71	259	31914	48.2	43.16	53.26
Girls	22	3587	5.5	3.14	9.52	273	37630	57.9	50.66	64.84
Ethnicity										
Malay	38	4893	11.3	7.74	16.35	191	23397	54.3	48.84	59.59
Chinese	10	1085	11.1	5.91	19.97	40	4729	48.5	38.03	59.08
Indian										
Bumiputera Sabah	1	137	33.1	3.47	87.22					
Bumiputera Sarawak	36	5458	7.2	4.98	10.42	293	40225	53.4	46.76	59.89
Others	2	342	14.8	4.26	40.21	8	1193	51.5	29.04	73.36
School level										
Primary school	35	6173	11.0	8.65	13.91	163	27853	49.7	43.38	56.00
Secondary school	52	5742	7.6	5.66	10.24	369	41691	55.5	50.39	60.47
Class										
Standard 4	15	2392	12.8	7.60	20.76	52	8125	43.5	38.21	48.91
Standard 5	12	2215	13.0	7.49	21.64	52	8455	49.6	40.21	59.11
Standard 6	8	1566	7.7	3.99	14.33	59	11273	55.4	40.49	69.44
Form 1	13	1332	7.7	3.82	15.07	93	9433	54.8	44.73	64.58
Form 2	10	1413	7.9	5.40	11.47	77	11294	63.3	58.88	67.42
Form 3	14	1316	10.0	5.81	16.68	84	7833	59.5	51.32	67.26
Form 4	8	868	6.5	2.27	17.23	58	6402	47.9	36.65	59.43
Form 5	7	814	6.0	1.88	17.54	57	6729	49.6	34.84	64.38
School session										
Morning session	64	8688	9.4	7.31	12.07	357	46782	50.7	45.19	56.27
Evening session	12	1512	9.1	4.26	18.56	69	8783	53.1	42.35	63.66
Morning and evening session	11	1716	7.7	4.32	13.26	106	13978	62.5	53.64	70.64
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	603	6.7	2.09	19.42	43	5915	65.6	50.93	77.84
Normal (≥-2sd - ≤+1sd)	60	8410	10.6	7.99	13.86	335	42237	53.1	46.05	60.01
Overweight (>+1sd - ≤+2sd)	12	1587	8.3	4.61	14.61	72	9680	50.8	41.15	60.46
Obese (>+2sd)	10	1316	5.6	3.39	9.22	82	11712	50.2	42.61	57.75
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	2020	11.2	6.26	19.28	80	9810	54.5	44.87	63.77
Normal (≥-2sd)	73	9896	8.8	7.05	10.83	451	59645	52.8	48.47	57.06

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
Sarawak	140	19213	14.6	11.78	18.07	138	17633	13.4	11.39	15.80
Locality of school										
Urban	56	7776	14.5	10.40	19.88	59	7637	14.2	10.76	18.63
Rural	84	11437	14.7	11.00	19.47	79	9996	12.9	10.51	15.69
Sex										
Boys	72	9270	14.0	10.48	18.45	68	8034	12.1	9.41	15.50
Girls	68	9943	15.3	11.38	20.26	70	9600	14.8	12.00	18.05
Ethnicity										
Malay	50	6286	14.6	10.40	20.07	41	4504	10.4	7.55	14.29
Chinese	5	595	6.1	2.08	16.60	17	1918	19.7	10.87	32.94
Indian	1	125	51.4	4.89	95.59					
Bumiputera Sabah	2	277	66.9	12.78	96.53					
Bumiputera Sarawak	80	11641	15.4	11.46	20.50	78	11000	14.6	12.27	17.28
Others	2	289	12.5	4.59	29.69	2	212	9.2	1.79	35.84
School level										
Primary school	58	10055	17.9	15.80	20.29	36	6398	11.4	8.43	15.27
Secondary school	82	9158	12.2	8.61	16.98	102	11236	15.0	12.30	18.06
Class										
Standard 4	26	3924	21.0	15.25	28.20	13	2037	10.9	5.14	21.63
Standard 5	16	3001	17.6	8.64	32.61	9	1400	8.2	3.62	17.62
Standard 6	16	3130	15.4	10.71	21.61	14	2960	14.6	8.24	24.41
Form 1	20	2121	12.3	6.59	21.90	21	2213	12.9	8.08	19.88
Form 2	12	1641	9.2	5.32	15.42	10	1516	8.5	4.85	14.45
Form 3	14	1297	9.9	6.15	15.43	23	2003	15.2	8.80	25.05
Form 4	19	2060	15.4	7.97	27.74	26	2738	20.5	14.83	27.63
Form 5	17	2040	15.0	9.98	22.00	22	2766	20.4	10.72	35.27
School session										
Morning session	102	14320	15.5	12.78	18.75	108	13298	14.4	11.62	17.77
Evening session	16	1881	11.4	5.88	20.89	11	1739	10.5	5.60	18.90
Morning and evening session	21	2897	13.0	7.23	22.15	19	2597	11.6	5.68	22.28
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	937	10.4	5.24	19.58	3	541	6.0	1.51	21.03
Normal (≥-2sd - ≤+1sd)	96	13369	16.8	12.73	21.87	63	8294	10.4	7.92	13.60
Overweight (>+1sd - ≤+2sd)	16	2087	11.0	7.48	15.77	29	3475	18.2	12.08	26.62
Obese (>+2sd)	19	2562	11.0	5.86	19.63	43	5324	22.8	15.73	31.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	25	3049	16.9	10.66	25.83	12	1563	8.7	5.24	14.04
Normal (≥-2sd)	115	16164	14.3	11.36	17.85	126	16070	14.2	12.11	16.63

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
Sarawak	35	4801	3.7	2.43	5.48	63	8093	6.2	4.58	8.26
Locality of school										
Urban	10	1331	2.5	1.51	4.05	34	4349	8.1	4.88	13.20
Rural	25	3470	4.5	2.70	7.31	29	3744	4.8	3.96	5.87
Sex										
Boys	25	3452	5.2	3.07	8.71	42	5226	7.9	5.89	10.49
Girls	10	1349	2.1	1.14	3.75	21	2867	4.4	2.65	7.27
Ethnicity										
Malay	13	1523	3.5	2.44	5.09	21	2514	5.8	3.64	9.22
Chinese	1	130	1.3	0.17	9.72	11	1296	13.3	7.01	23.75
Indian	1	118	48.6	4.41	95.11					
Bumiputera Sabah										
Bumiputera Sarawak	20	3030	4.0	2.14	7.44	29	4002	5.3	3.75	7.46
Others						2	281	12.1	3.26	36.06
School level										
Primary school	18	2921	5.2	3.13	8.54	16	2658	4.7	3.44	6.51
Secondary school	17	1880	2.5	1.55	4.02	47	5434	7.2	4.91	10.52
Class										
Standard 4	9	1455	7.8	3.21	17.68	5	754	4.0	1.46	10.66
Standard 5	5	794	4.7	1.95	10.75	7	1165	6.8	4.83	9.59
Standard 6	4	672	3.3	1.14	9.19	4	740	3.6	1.99	6.57
Form 1	4	386	2.2	0.71	6.87	15	1715	10.0	5.58	17.21
Form 2	4	571	3.2	1.43	6.99	10	1420	8.0	4.94	12.56
Form 3	3	261	2.0	0.69	5.53	5	446	3.4	1.47	7.61
Form 4	4	413	3.1	1.05	8.78	8	876	6.6	2.43	16.55
Form 5	2	250	1.8	0.26	11.83	9	977	7.2	2.52	18.85
School session										
Morning session	27	3855	4.2	2.43	7.10	41	5259	5.7	3.94	8.18
Evening session	5	558	3.4	1.19	9.24	16	2053	12.4	8.69	17.44
Morning and evening session	3	388	1.7	0.79	3.78	6	781	3.5	1.26	9.33
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	564	6.3	2.44	15.12	4	453	5.0	1.67	14.14
Normal (≥-2sd - ≤+1sd)	22	2834	3.6	1.92	6.52	35	4407	5.5	3.80	8.01
Overweight (>+1sd - ≤+2sd)	4	540	2.8	0.84	9.14	12	1671	8.8	4.38	16.82
Obese (>+2sd)	5	863	3.7	1.73	7.71	12	1561	6.7	3.32	13.01
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	540	3.0	1.22	7.18	8	1024	5.7	2.03	14.90
Normal (≥-2sd)	31	4261	3.8	2.42	5.83	54	6958	6.2	4.70	8.03

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	
Sarawak	1456	186819	58.3	53.04	63.36	952	119648	37.3	32.47	42.47
Locality of school										
Urban	651	83132	55.4	48.89	61.65	453	58197	38.8	31.78	46.22
Rural	805	103687	60.9	53.16	68.09	499	61451	36.1	29.57	43.14
Sex										
Boys	763	92663	57.2	52.22	62.04	514	61585	38.0	33.33	42.94
Girls	693	94156	59.4	52.62	65.85	438	58063	36.6	30.53	43.20
Ethnicity										
Malay	476	58392	61.4	55.24	67.28	284	33564	35.3	30.09	40.91
Chinese	316	37653	59.1	47.49	69.76	169	19749	31.0	23.51	39.63
Indian	3	371	64.0	16.40	94.15	2	209	36.0	5.85	83.60
Bumiputera Sabah	12	1538	62.5	37.47	82.28	5	633	25.7	13.56	43.36
Bumiputera Sarawak	634	86701	56.0	48.36	63.46	480	63748	41.2	34.27	48.52
Others	15	2164	54.0	30.77	75.63	12	1745	43.6	25.21	63.85
School level										
Primary school	478	78390	63.9	56.01	71.08	254	41511	33.8	26.25	42.35
Secondary school	978	108429	54.8	48.76	60.73	698	78136	39.5	33.68	45.64
Class										
Standard 4	157	23647	58.4	49.20	67.12	104	15089	37.3	28.78	46.66
Standard 5	174	27526	67.2	56.94	76.06	77	12980	31.7	22.16	43.05
Standard 6	147	27216	65.9	52.05	77.55	73	13443	32.6	21.50	46.00
Form 1	218	23245	53.0	46.46	59.43	180	19280	44.0	37.57	50.55
Form 2	155	22039	54.3	44.06	64.26	113	16567	40.8	30.67	51.87
Form 3	246	22696	57.2	49.08	64.93	155	13967	35.2	28.74	42.25
Form 4	188	19828	53.0	39.31	66.21	138	14874	39.7	27.92	52.89
Form 5	171	20621	56.9	50.93	62.60	112	13447	37.1	31.59	42.93
School session										
Morning session	1121	143187	61.1	55.54	66.32	641	80170	34.2	29.13	39.64
Evening session	182	23235	48.5	43.65	53.44	182	22724	47.5	42.05	52.94
Morning and evening session	153	20397	53.6	43.21	63.77	128	16639	43.8	34.03	54.00
BMI-for-age status (BAZ)										
Thinness (<-2sd)	104	13308	61.2	51.18	70.28	65	7712	35.4	26.74	45.23
Normal (≥-2sd - ≤+1sd)	913	115204	59.0	53.98	63.90	562	70443	36.1	31.44	41.03
Overweight (>+1sd - ≤+2sd)	226	29674	57.6	48.78	65.95	162	20594	40.0	31.42	49.18
Obese (>+2sd)	209	28202	54.8	46.30	63.04	161	20733	40.3	32.64	48.44
Height-for-age status (HAZ)										
Stunting (<-2sd)	131	16029	49.1	43.18	55.00	125	15440	47.3	41.43	53.19
Normal (≥-2sd)	1324	170699	59.4	53.96	64.58	824	103915	36.2	31.16	41.46

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	
Sarawak	122	14031	4.4	2.89	6.58
Locality of school					
Urban	74	8849	5.9	3.39	10.06
Rural	48	5182	3.0	1.94	4.74
Sex					
Boys	70	7754	4.8	3.41	6.68
Girls	52	6278	4.0	2.07	7.44
Ethnicity					
Malay	28	3087	3.2	2.25	4.66
Chinese	55	6319	9.9	5.81	16.43
Indian					
Bumiputera Sabah	2	289	11.7	2.68	39.19
Bumiputera Sarawak	36	4239	2.7	1.65	4.52
Others	1	98	2.4	0.36	14.85
School level					
Primary school	20	2796	2.3	1.17	4.41
Secondary school	102	11236	5.7	3.68	8.67
Class					
Standard 4	13	1730	4.3	2.19	8.20
Standard 5	3	451	1.1	0.31	3.87
Standard 6	4	614	1.5	0.56	3.87
Form 1	13	1336	3.0	1.59	5.76
Form 2	13	1954	4.8	2.90	7.90
Form 3	33	3021	7.6	5.14	11.13
Form 4	25	2728	7.3	2.45	19.77
Form 5	18	2196	6.1	2.56	13.65
School session					
Morning session	98	11127	4.7	3.06	7.30
Evening session	15	1919	4.0	1.94	8.08
Morning and evening session	9	986	2.6	0.82	7.90
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	739	3.4	1.21	9.17
Normal (≥-2sd - ≤+1sd)	84	9515	4.9	3.08	7.63
Overweight (>+1sd - ≤+2sd)	11	1254	2.4	1.30	4.52
Obese (>+2sd)	21	2523	4.9	2.66	8.86
Height-for-age status (HAZ)					
Stunting (<-2sd)	10	1191	3.6	1.70	7.65
Normal (≥-2sd)	112	12840	4.5	2.96	6.68

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	
Sarawak	695	93178	30.8	25.54	36.63	1299	160739	53.1	45.78	60.38
Locality of school										
Urban	320	41797	29.9	24.08	36.48	686	87442	62.6	56.88	67.97
Rural	375	51381	31.6	23.47	40.98	613	73297	45.0	35.34	55.14
Sex										
Boys	341	43643	28.6	23.97	33.80	719	84086	55.2	47.45	62.66
Girls	354	49535	33.0	26.32	40.48	580	76653	51.1	42.33	59.78
Ethnicity										
Malay	228	28866	31.6	24.77	39.25	419	50497	55.2	47.41	62.76
Chinese	176	20880	37.2	30.33	44.70	244	29325	52.3	44.12	60.34
Indian	2	246	42.5	5.86	89.76	3	333	57.5	10.24	94.14
Bumiputera Sabah	7	896	41.3	27.01	57.16	8	1030	47.4	29.26	66.34
Bumiputera Sarawak	274	41188	27.8	20.33	36.67	607	76842	51.8	40.07	63.34
Others	8	1101	28.9	15.50	47.33	18	2711	71.1	52.67	84.50
School level										
Primary school	284	47344	40.1	32.55	48.12	334	51917	44.0	32.94	55.60
Secondary school	411	45833	24.9	20.43	29.90	965	108822	59.0	51.35	66.31
Class										
Standard 4	119	18579	48.6	36.29	61.08	123	17526	45.8	35.49	56.57
Standard 5	89	13950	34.9	24.66	46.70	116	17595	44.0	29.20	59.92
Standard 6	76	14815	37.1	26.21	49.57	95	16795	42.1	27.00	58.85
Form 1	110	12136	28.8	23.43	34.92	211	22703	53.9	42.59	64.91
Form 2	63	8732	22.9	15.22	32.88	159	23352	61.2	48.04	72.85
Form 3	82	7546	20.9	14.85	28.47	253	23478	64.9	53.98	74.41
Form 4	83	8758	25.8	16.78	37.52	173	18489	54.5	46.95	61.83
Form 5	73	8661	25.5	17.85	35.06	169	20800	61.3	49.20	72.11
School session										
Morning session	513	69545	31.6	25.27	38.66	940	114790	52.1	43.57	60.56
Evening session	104	13143	29.0	24.04	34.50	224	28094	62.0	55.35	68.17
Morning and evening session	77	10375	28.2	19.85	38.42	135	17854	48.6	39.07	58.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	53	7229	35.0	25.94	45.37	84	9649	46.8	33.85	60.12
Normal (≥-2sd - ≤+1sd)	402	54124	29.4	24.01	35.50	816	100231	54.5	46.97	61.83
Overweight (>+1sd - ≤+2sd)	116	15122	30.5	22.73	39.61	205	26391	53.3	45.79	60.58
Obese (>+2sd)	121	16385	34.3	28.55	40.58	194	24468	51.2	41.36	61.03
Height-for-age status (HAZ)										
Stunting (<-2sd)	78	10171	32.7	26.34	39.84	121	14604	47.0	40.29	53.83
Normal (≥-2sd)	617	83007	30.6	25.32	36.51	1175	145862	53.8	46.16	61.31

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
Sarawak	64	7983	2.6	1.80	3.86	202	23137	7.7	3.53	15.79
Locality of school										
Urban	34	4274	3.1	1.65	5.59	4	512	0.4	0.15	0.87
Rural	30	3709	2.3	1.52	3.40	198	22626	13.9	7.09	25.48
Sex										
Boys	41	5062	3.3	1.97	5.55	98	10362	6.8	2.87	15.29
Girls	23	2922	1.9	1.19	3.18	104	12775	8.5	3.86	17.73
Ethnicity										
Malay	21	2638	2.9	1.59	5.19	54	5500	6.0	2.10	16.00
Chinese	20	2200	3.9	2.45	6.24	5	444	0.8	0.19	3.19
Indian										
Bumiputera Sabah						2	245	11.3	2.97	34.60
Bumiputera Sarawak	23	3145	2.1	1.20	3.73	141	16949	11.4	5.11	23.61
Others										
School level										
Primary school	19	3034	2.6	1.69	3.89	41	6564	5.6	1.13	23.19
Secondary school	45	4950	2.7	1.53	4.68	161	16574	9.0	3.78	19.90
Class										
Standard 4	6	873	2.3	0.78	6.49	8	1121	2.9	0.61	12.86
Standard 5	7	1053	2.6	1.58	4.36	7	932	2.3	0.39	12.78
Standard 6	6	1108	2.8	1.31	5.80	26	4511	11.3	2.51	38.74
Form 1	9	927	2.2	0.76	6.20	56	5393	12.8	5.65	26.51
Form 2	8	1162	3.0	1.01	8.82	31	4341	11.4	3.05	34.31
Form 3	10	870	2.4	1.06	5.37	34	2731	7.5	3.15	17.03
Form 4	9	939	2.8	1.52	4.98	28	2774	8.2	4.01	15.95
Form 5	9	1052	3.1	1.05	8.82	12	1335	3.9	1.13	12.81
School session										
Morning session	38	4548	2.1	1.39	3.07	144	15706	7.1	3.20	15.14
Evening session	18	2399	5.3	2.36	11.42	4	541	1.2	0.50	2.83
Morning and evening session	8	1036	2.8	1.62	4.86	54	6890	18.7	8.45	36.55
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	1034	5.0	2.60	9.46	16	1765	8.6	3.13	21.32
Normal (≥-2sd - ≤+1sd)	28	3475	1.9	1.18	3.01	145	16045	8.7	4.03	17.87
Overweight (>+1sd - ≤+2sd)	13	1534	3.1	1.75	5.41	25	3124	6.3	2.31	16.08
Obese (>+2sd)	15	1941	4.1	1.85	8.68	14	2012	4.2	1.76	9.73
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1051	3.4	1.21	9.10	34	3927	12.6	6.41	23.39
Normal (≥-2sd)	55	6820	2.5	1.69	3.73	168	19211	7.1	3.22	14.91

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
Sarawak	117	17401	5.8	2.75	11.64
Locality of school					
Urban	47	5685	4.1	1.96	8.27
Rural	70	11716	7.2	2.60	18.40
Sex					
Boys	64	9247	6.1	2.78	12.72
Girls	53	8154	5.4	2.66	10.77
Ethnicity					
Malay	34	3961	4.3	2.26	8.15
Chinese	29	3232	5.8	1.95	15.82
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	54	10209	6.9	2.20	19.51
Others					
School level					
Primary school	43	9257	7.8	2.15	24.72
Secondary school	74	8144	4.4	2.57	7.50
Class					
Standard 4	1	129	0.3	0.05	2.07
Standard 5	29	6471	16.2	3.03	54.35
Standard 6	13	2656	6.7	3.44	12.51
Form 1	8	924	2.2	1.20	3.99
Form 2	4	590	1.5	0.56	4.22
Form 3	17	1564	4.3	2.25	8.14
Form 4	26	2971	8.8	3.42	20.62
Form 5	19	2096	6.2	2.74	13.31
School session					
Morning session	103	15624	7.1	3.14	15.25
Evening session	9	1159	2.6	1.50	4.34
Morning and evening session	5	618	1.7	0.47	5.85
BMI-for-age status (BAZ)					
Thinness (<-2sd)	5	956	4.6	1.28	15.36
Normal (≥-2sd - ≤+1sd)	71	10028	5.5	2.94	9.90
Overweight (>+1sd - ≤+2sd)	23	3383	6.8	2.94	15.04
Obese (>+2sd)	17	2945	6.2	1.96	17.76
Height-for-age status (HAZ)					
Stunting (<-2sd)	11	1317	4.2	2.33	7.58
Normal (≥-2sd)	106	16084	5.9	2.73	12.42

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
Sarawak	701	85972	26.9	23.78	30.20	1463	189386	59.2	54.82	63.43
Locality of school										
Urban	303	37219	24.8	21.55	28.36	672	87127	58.0	51.08	64.71
Rural	398	48752	28.7	24.06	33.85	791	102259	60.2	54.77	65.40
Sex										
Boys	394	45225	28.0	24.34	32.07	782	96989	60.1	54.49	65.52
Girls	307	40747	25.7	21.55	30.30	681	92397	58.2	53.90	62.45
Ethnicity										
Malay	254	30190	31.8	26.51	37.53	462	55982	58.9	54.24	63.41
Chinese	121	13774	21.6	18.42	25.20	253	30166	47.3	41.78	52.97
Indian	1	107	18.4	3.80	56.40	3	348	60.1	25.59	86.80
Bumiputera Sabah	6	694	28.2	14.21	48.23	9	1212	49.2	30.23	68.47
Bumiputera Sarawak	312	40364	26.2	22.13	30.64	716	98669	64.0	58.88	68.74
Others	7	843	21.9	10.17	40.94	20	3009	78.1	59.06	89.83
School level										
Primary school	201	32037	26.2	21.12	32.02	466	77173	63.1	56.22	69.55
Secondary school	500	53935	27.3	23.53	31.39	997	112213	56.8	51.66	61.72
Class										
Standard 4	81	11712	29.2	18.37	43.00	164	24670	61.5	49.35	72.29
Standard 5	78	12210	29.8	25.68	34.36	154	25164	61.5	56.09	66.63
Standard 6	42	8115	19.7	12.12	30.40	148	27339	66.4	54.96	76.19
Form 1	110	11320	25.8	21.66	30.45	249	26410	60.2	53.39	66.68
Form 2	75	10564	26.0	16.11	39.25	170	24829	61.2	46.34	74.26
Form 3	142	13065	33.0	26.79	39.86	224	20474	51.7	45.78	57.60
Form 4	96	9746	26.0	18.99	34.58	188	20653	55.2	45.78	64.22
Form 5	77	9240	25.5	18.34	34.23	166	19846	54.7	47.02	62.21
School session										
Morning session	541	66105	28.2	24.27	32.53	1045	135419	57.8	52.42	63.01
Evening session	93	11575	24.3	18.38	31.40	224	28333	59.5	50.16	68.19
Morning and evening session	67	8292	21.9	17.94	26.36	193	25519	67.3	61.27	72.77
BMI-for-age status (BAZ)										
Thinness (<-2sd)	55	6722	30.9	22.83	40.31	103	12779	58.7	48.12	68.58
Normal (≥-2sd - ≤+1sd)	447	54067	27.7	23.77	32.03	907	116327	59.6	54.97	64.10
Overweight (>+1sd - ≤+2sd)	103	12928	25.2	20.77	30.16	225	29418	57.3	51.60	62.80
Obese (>+2sd)	95	12178	23.8	17.88	31.01	225	30514	59.7	51.12	67.73
Height-for-age status (HAZ)										
Stunting (<-2sd)	68	8021	24.5	20.81	28.62	165	20450	62.5	57.85	66.89
Normal (≥-2sd)	633	77951	27.2	23.99	30.62	1295	168643	58.8	54.15	63.29

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

Characteristics	Afternoon tea frequency per week				
	Count	Estimated Population	Prevalence (%)	Did not take afternoon tea	
				95% CI Lower	95% CI Upper
Sarawak	362	44582	13.9	9.95	19.17
Locality of school					
Urban	202	25749	17.2	11.03	25.69
Rural	160	18834	11.1	7.00	17.12
Sex					
Boys	166	19068	11.8	8.04	17.06
Girls	196	25514	16.1	11.46	22.10
Ethnicity					
Malay	72	8871	9.3	6.65	12.96
Chinese	166	19782	31.0	24.51	38.43
Indian	1	125	21.5	2.14	77.45
Bumiputera Sabah	4	555	22.6	7.56	50.93
Bumiputera Sarawak	119	15250	9.9	6.94	13.89
Others					
School level					
Primary school	82	13029	10.7	5.53	19.56
Secondary school	280	31554	16.0	11.01	22.57
Class					
Standard 4	27	3762	9.4	4.20	19.61
Standard 5	22	3546	8.7	5.39	13.65
Standard 6	33	5721	13.9	5.68	30.18
Form 1	52	6124	14.0	7.94	23.40
Form 2	36	5167	12.7	6.47	23.55
Form 3	67	6052	15.3	9.75	23.16
Form 4	67	7032	18.8	11.59	28.99
Form 5	58	7179	19.8	12.28	30.31
School session					
Morning session	273	32747	14.0	9.60	19.91
Evening session	60	7716	16.2	11.09	23.07
Morning and evening session	29	4119	10.9	6.23	18.25
BMI-for-age status (BAZ)					
Thinness (<-2sd)	17	2258	10.4	5.50	18.73
Normal (≥-2sd - ≤+1sd)	204	24731	12.7	8.59	18.31
Overweight (>+1sd - ≤+2sd)	70	9004	17.5	12.79	23.56
Obese (>+2sd)	69	8416	16.5	10.37	25.14
Height-for-age status (HAZ)					
Stunting (<-2sd)	33	4261	13.0	8.16	20.15
Normal (≥-2sd)	328	40230	14.0	10.01	19.31

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	
Sarawak	1367	176345	64.6	56.78	71.67	317	39905	14.6	11.48	18.42
Locality of school										
Urban	679	85658	69.3	64.77	73.58	144	19192	15.5	11.18	21.20
Rural	688	90687	60.6	47.51	72.39	173	20713	13.8	9.79	19.23
Sex										
Boys	726	88919	63.3	55.88	70.20	186	22282	15.9	12.57	19.84
Girls	641	87426	65.9	57.04	73.76	131	17623	13.3	9.50	18.26
Ethnicity										
Malay	477	57767	67.9	62.56	72.79	98	12032	14.1	10.30	19.12
Chinese	243	28520	65.3	59.42	70.69	42	4909	11.2	8.31	15.02
Indian	4	455	100.0	0.00	100.00					
Bumiputera Sabah	11	1414	74.2	40.79	92.31	2	247	12.9	3.66	36.81
Bumiputera Sarawak	612	85388	61.8	48.48	73.62	170	21948	15.9	11.76	21.14
Others	20	2802	72.7	62.33	81.15	5	769	20.0	10.68	34.25
School level										
Primary school	431	71960	66.5	54.40	76.77	108	16544	15.3	9.49	23.71
Secondary school	936	104385	63.3	53.09	72.46	209	23362	14.2	11.13	17.87
Class										
Standard 4	162	24596	68.4	56.14	78.58	47	6523	18.1	8.69	34.06
Standard 5	158	25708	69.6	58.54	78.80	34	5154	14.0	7.96	23.32
Standard 6	111	21655	61.3	42.78	77.06	27	4867	13.8	9.72	19.17
Form 1	194	20964	55.8	44.67	66.46	82	8610	22.9	16.56	30.85
Form 2	138	19655	56.0	41.53	69.45	44	6398	18.2	11.81	27.04
Form 3	247	23047	69.1	57.31	78.80	40	3532	10.6	7.32	15.08
Form 4	188	20184	67.1	53.69	78.15	24	2628	8.7	4.56	16.09
Form 5	169	20536	71.4	53.96	84.18	19	2194	7.6	2.66	19.96
School session										
Morning session	1051	135777	68.0	59.19	75.69	195	24426	12.2	8.39	17.50
Evening session	185	23253	58.5	51.94	64.85	75	9349	23.5	18.34	29.67
Morning and evening session	130	17200	51.2	38.26	64.06	47	6130	18.3	13.92	23.59
BMI-for-age status (BAZ)										
Thinness (<-2sd)	98	12291	63.0	53.52	71.63	19	2435	12.5	7.87	19.25
Normal (≥-2sd - ≤+1sd)	847	108703	64.4	56.10	71.84	205	25557	15.1	11.57	19.55
Overweight (>+1sd - ≤+2sd)	211	27087	64.4	51.02	75.84	47	6058	14.4	10.04	20.24
Obese (>+2sd)	209	28030	66.4	58.44	73.61	46	5855	13.9	9.54	19.76
Height-for-age status (HAZ)										
Stunting (<-2sd)	134	17023	59.8	47.85	70.67	40	4978	17.5	13.26	22.70
Normal (≥-2sd)	1231	159141	65.1	57.67	71.93	276	34815	14.3	10.94	18.36

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	
Sarawak	157	19788	7.2	5.49	9.51	213	24074	8.8	4.08	18.03
Locality of school										
Urban	87	11174	9.0	6.08	13.25	11	1276	1.0	0.60	1.76
Rural	70	8614	5.8	4.27	7.72	202	22798	15.2	7.37	28.89
Sex										
Boys	89	10564	7.5	5.46	10.28	104	10880	7.7	3.56	16.06
Girls	68	9224	7.0	5.10	9.41	109	13194	9.9	4.42	20.87
Ethnicity										
Malay	62	7765	9.1	6.39	12.87	53	5361	6.3	2.11	17.32
Chinese	49	5887	13.5	9.83	18.19	5	489	1.1	0.40	3.11
Indian										
Bumiputera Sabah						2	245	12.9	3.16	40.03
Bumiputera Sarawak	45	5953	4.3	3.20	5.79	153	17979	13.0	5.49	27.82
Others	1	183	4.8	0.63	28.22					
School level										
Primary school	52	8199	7.6	4.30	13.01	36	5496	5.1	1.02	21.67
Secondary school	105	11589	7.0	5.42	9.06	177	18578	11.3	4.79	24.27
Class										
Standard 4	17	2490	6.9	2.63	17.04	5	650	1.8	0.41	7.56
Standard 5	16	2307	6.2	2.73	13.65	9	1335	3.6	1.00	12.18
Standard 6	19	3402	9.6	5.10	17.45	22	3511	9.9	1.67	41.71
Form 1	12	1254	3.3	1.90	5.80	56	5350	14.3	6.83	27.38
Form 2	19	2697	7.7	4.61	12.53	32	4562	13.0	3.42	38.59
Form 3	27	2416	7.2	4.48	11.49	37	3042	9.1	4.16	18.80
Form 4	25	2617	8.7	5.24	14.10	31	3249	10.8	4.69	22.93
Form 5	22	2605	9.1	5.84	13.78	21	2375	8.3	2.53	23.82
School session										
Morning session	112	14006	7.0	5.08	9.60	150	16402	8.2	3.62	17.57
Evening session	26	3195	8.0	5.08	12.52	10	1227	3.1	1.36	6.84
Morning and evening session	19	2588	7.7	4.21	13.69	53	6446	19.2	8.32	38.35
BMI-for-age status (BAZ)										
Thinness (<-2sd)	15	1901	9.7	5.62	16.37	17	1861	9.5	3.71	22.42
Normal (≥-2sd - ≤+1sd)	88	11101	6.6	4.76	9.00	149	16160	9.6	4.54	19.05
Overweight (>+1sd - ≤+2sd)	28	3653	8.7	5.81	12.79	29	3593	8.5	2.11	28.81
Obese (>+2sd)	26	3133	7.4	5.00	10.89	16	2269	5.4	2.58	10.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	1314	4.6	2.70	7.78	42	4612	16.2	8.06	29.90
Normal (≥-2sd)	145	18474	7.6	5.69	9.98	171	19462	8.0	3.65	16.50

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 (%)	95% CI	
				Lower	Upper
Sarawak	92	12968	4.7	3.15	7.11
Locality of school					
Urban	47	6216	5.0	2.74	9.05
Rural	45	6752	4.5	2.56	7.84
Sex					
Boys	57	7751	5.5	3.61	8.35
Girls	35	5217	3.9	2.47	6.20
Ethnicity					
Malay	17	2162	2.5	1.27	5.01
Chinese	33	3892	8.9	7.10	11.12
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	41	6816	4.9	2.77	8.64
Others	1	98	2.5	0.38	15.21
School level					
Primary school	34	6000	5.5	2.90	10.34
Secondary school	58	6967	4.2	2.53	6.98
Class					
Standard 4	11	1687	4.7	1.41	14.54
Standard 5	13	2427	6.6	2.87	14.33
Standard 6	10	1886	5.3	2.73	10.18
Form 1	13	1363	3.6	2.27	5.77
Form 2	10	1812	5.2	1.49	16.36
Form 3	13	1328	4.0	1.55	9.85
Form 4	13	1416	4.7	2.44	8.89
Form 5	9	1049	3.6	1.88	6.95
School session					
Morning session	64	9070	4.5	2.93	6.98
Evening session	19	2694	6.8	3.04	14.45
Morning and evening session	9	1204	3.6	1.76	7.18
BMI-for-age status (BAZ)					
Thinness (<-2sd)	9	1013	5.2	2.48	10.55
Normal (≥-2sd - ≤+1sd)	52	7384	4.4	2.87	6.61
Overweight (>+1sd - ≤+2sd)	11	1674	4.0	1.64	9.36
Obese (>+2sd)	20	2896	6.9	4.00	11.53
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	544	1.9	0.71	5.06
Normal (≥-2sd)	87	12424	5.1	3.37	7.61

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	
Sarawak	196	23789	7.4	6.20	8.88	1803	230281	71.9	65.69	77.43
Locality of school										
Urban	80	10009	6.7	5.01	8.80	803	103053	68.6	56.49	78.60
Rural	116	13781	8.1	6.51	10.06	1000	127228	74.9	70.63	78.71
Sex										
Boys	117	13245	8.2	6.42	10.36	969	117711	72.6	66.51	78.03
Girls	79	10544	6.7	5.08	8.70	834	112571	71.2	64.26	77.27
Ethnicity										
Malay	76	9156	9.6	7.14	12.82	609	73492	77.1	71.68	81.78
Chinese	28	3334	5.3	3.98	6.91	287	33750	53.2	39.94	65.99
Indian						4	488	84.3	30.50	98.51
Bumiputera Sabah	1	142	5.8	0.64	36.87	13	1577	64.1	41.78	81.62
Bumiputera Sarawak	88	10737	7.0	5.50	8.77	869	118102	76.5	73.24	79.52
Others	3	420	10.5	3.56	27.10	21	2871	71.7	34.36	92.43
School level										
Primary school	50	8023	6.5	4.73	8.99	532	88316	72.0	57.02	83.30
Secondary school	146	15767	8.0	6.49	9.78	1271	141966	71.9	66.93	76.36
Class										
Standard 4	21	3215	7.9	5.02	12.27	180	27130	66.8	38.73	86.47
Standard 5	11	1620	3.9	2.40	6.42	196	31536	76.7	65.27	85.29
Standard 6	18	3187	7.8	4.84	12.31	156	29650	72.4	60.57	81.80
Form 1	43	4344	9.9	6.40	14.96	284	30072	68.4	59.18	76.41
Form 2	20	3058	7.6	4.79	11.75	215	30914	76.5	67.85	83.36
Form 3	40	3926	9.9	5.79	16.51	301	27492	69.6	63.22	75.23
Form 4	27	2647	7.1	5.01	9.94	250	26941	72.2	64.27	78.88
Form 5	16	1792	4.9	2.82	8.53	221	26547	73.2	67.10	78.54
School session										
Morning session	151	18153	7.7	6.24	9.58	1303	165881	70.8	63.49	77.15
Evening session	27	3531	7.4	4.24	12.60	264	33522	70.2	61.82	77.44
Morning and evening session	18	2105	5.5	3.36	9.03	235	30764	81.1	74.98	85.99
BMI-for-age status (BAZ)										
Thinness (<-2sd)	17	1966	9.0	5.03	15.70	130	16617	76.4	68.73	82.62
Normal (≥-2sd - ≤+1sd)	127	14924	7.6	6.29	9.26	1136	143852	73.7	67.15	79.31
Overweight (>+1sd - ≤+2sd)	29	3719	7.3	5.18	10.14	275	35300	69.1	61.50	75.76
Obese (>+2sd)	22	3104	6.0	3.54	10.11	258	34081	66.2	58.25	73.40
Height-for-age status (HAZ)										
Stunting (<-2sd)	19	2218	6.8	4.31	10.48	209	25825	78.9	71.38	84.80
Normal (≥-2sd)	177	21571	7.5	6.34	8.89	1593	204345	71.2	64.80	76.85

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	
Sarawak	529	66070	20.6	15.05	27.62
Locality of school					
Urban	295	37186	24.7	15.02	37.97
Rural	234	28883	17.0	12.77	22.27
Sex					
Boys	261	31081	19.2	13.92	25.83
Girls	268	34988	22.1	15.96	29.84
Ethnicity					
Malay	105	12648	13.3	10.04	17.35
Chinese	222	26379	41.6	28.59	55.82
Indian	1	91	15.7	1.49	69.50
Bumiputera Sabah	5	742	30.1	14.50	52.33
Bumiputera Sarawak	192	25494	16.5	13.49	20.08
Others	4	716	17.9	3.58	56.00
School level					
Primary school	171	26311	21.5	10.64	38.53
Secondary school	358	39759	20.1	15.35	25.94
Class					
Standard 4	74	10282	25.3	7.35	59.13
Standard 5	48	7935	19.3	11.16	31.31
Standard 6	49	8095	19.8	12.02	30.78
Form 1	85	9533	21.7	13.91	32.20
Form 2	91	8105	20.5	13.25	30.34
Form 3	73	7747	20.8	14.63	28.57
Form 4	64	7925	21.9	16.38	28.53
Form 5					
School session					
Morning session	406	50315	21.5	14.95	29.84
Evening session	87	10685	22.4	15.79	30.73
Morning and evening session	36	5069	13.4	8.20	21.03
BMI-for-age status (BAZ)					
Thinness (<-2sd)	28	3176	14.6	9.04	22.72
Normal (\geq -2sd - \leq +1sd)	296	36456	18.7	13.22	25.71
Overweight (>+1sd - \leq +2sd)	93	12082	23.6	17.17	31.62
Obese (>+2sd)	111	14267	27.7	20.24	36.71
Height-for-age status (HAZ)					
Stunting (<-2sd)	38	4707	14.4	8.56	23.14
Normal (\geq -2sd)	488	61090	21.3	15.56	28.40

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	
Sarawak	1123	143065	58.1	53.01	62.97	513	66835	27.1	22.61	32.18
Locality of school										
Urban	534	68846	62.1	56.22	67.60	265	33275	30.0	24.88	35.68
Rural	589	74219	54.8	47.69	61.72	248	33560	24.8	18.30	32.63
Sex										
Boys	565	68234	54.2	49.63	58.78	314	38673	30.7	26.53	35.30
Girls	558	74831	62.1	55.49	68.24	199	28162	23.4	18.13	29.56
Ethnicity										
Malay	368	45278	55.9	49.13	62.44	204	24620	30.4	25.55	35.70
Chinese	208	24835	68.4	59.04	76.49	73	8395	23.1	15.48	33.07
Indian	2	231	47.3	16.42	80.46	1	139	28.5	6.08	71.06
Bumiputera Sabah	8	1006	58.5	40.42	74.60	5	631	36.7	21.23	55.47
Bumiputera Sarawak	519	69259	56.1	50.08	61.88	227	32606	26.4	19.45	34.75
Others	18	2456	74.6	55.64	87.33	3	443	13.5	4.19	35.61
School level										
Primary school	333	54466	59.0	50.13	67.29	160	27457	29.7	21.85	39.04
Secondary school	790	88599	57.5	51.40	63.44	353	39377	25.6	20.58	31.29
Class										
Standard 4	122	18607	64.1	53.30	73.60	51	7300	25.1	16.81	35.82
Standard 5	122	20013	62.5	49.02	74.28	54	8618	26.9	18.25	37.78
Standard 6	89	15846	50.7	37.17	64.05	55	11540	36.9	21.50	55.51
Form 1	188	19863	59.0	51.87	65.83	68	7493	22.3	15.42	31.04
Form 2	122	17970	55.2	45.14	64.85	63	8757	26.9	19.39	36.01
Form 3	199	18746	60.8	51.67	69.27	90	8163	26.5	20.47	33.53
Form 4	142	15184	52.8	44.01	61.38	67	7187	25.0	15.27	38.10
Form 5	139	16836	59.7	52.38	66.55	65	7777	27.6	19.30	37.71
School session										
Morning session	821	104579	58.5	52.06	64.64	366	47962	26.8	22.02	32.25
Evening session	166	20968	58.6	52.46	64.51	87	10939	30.6	24.90	36.92
Morning and evening session	136	17518	55.3	49.65	60.89	60	7934	25.1	16.44	36.24
BMI-for-age status (BAZ)										
Thinness (<-2sd)	87	11419	62.4	50.92	72.60	36	4552	24.9	16.65	35.41
Normal (≥-2sd - ≤+1sd)	704	88664	57.7	51.60	63.48	315	40918	26.6	21.73	32.13
Overweight (>+1sd - ≤+2sd)	175	22423	59.8	52.19	67.02	76	9694	25.9	19.30	33.74
Obese (>+2sd)	155	20355	56.1	45.61	66.11	84	11443	31.6	23.31	41.15
Height-for-age status (HAZ)										
Stunting (<-2sd)	117	14337	53.2	43.73	62.43	48	6116	22.7	16.87	29.80
Normal (≥-2sd)	1005	128617	58.7	53.71	63.42	465	60719	27.7	23.12	32.78

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	
Sarawak	174	19996	8.1	4.23	15.02	134	16455	6.7	5.00	8.87
Locality of school										
Urban	12	1477	1.3	0.77	2.29	55	7310	6.6	4.05	10.55
Rural	162	18519	13.7	7.62	23.32	79	9145	6.8	4.77	9.48
Sex										
Boys	83	8840	7.0	3.81	12.60	84	10052	8.0	5.68	11.13
Girls	91	11156	9.3	4.52	18.00	50	6404	5.3	3.62	7.73
Ethnicity										
Malay	51	5400	6.7	2.67	15.67	46	5713	7.1	4.99	9.88
Chinese	5	451	1.2	0.39	3.89	22	2620	7.2	4.09	12.42
Indian						1	118	24.1	2.17	82.05
Bumiputera Sabah	1	82	4.8	0.52	32.76					
Bumiputera Sarawak	116	13908	11.3	5.57	21.43	63	7767	6.3	4.17	9.38
Others	1	155	4.7	0.62	28.01	2	237	7.2	1.71	25.82
School level										
Primary school	34	5353	5.8	1.82	16.93	34	5065	5.5	3.16	9.36
Secondary school	140	14643	9.5	4.40	19.36	100	11390	7.4	5.34	10.15
Class										
Standard 4	9	1368	4.7	2.64	8.26	12	1763	6.1	2.89	12.32
Standard 5	9	1245	3.9	1.12	12.63	15	2146	6.7	2.94	14.55
Standard 6	16	2739	8.8	2.03	30.75	7	1156	3.7	1.38	9.54
Form 1	41	3932	11.7	5.23	24.10	22	2361	7.0	4.96	9.84
Form 2	23	3186	9.8	3.15	26.57	17	2641	8.1	4.84	13.30
Form 3	28	2288	7.4	3.48	15.13	17	1626	5.3	3.05	8.97
Form 4	32	3418	11.9	4.86	26.24	28	2979	10.4	6.32	16.51
Form 5	16	1819	6.4	2.06	18.41	16	1783	6.3	2.95	13.01
School session										
Morning session	135	14840	8.3	4.17	15.83	97	11426	6.4	4.57	8.86
Evening session	5	637	1.8	0.60	5.13	23	3229	9.0	5.36	14.81
Morning and evening session	34	4519	14.3	6.75	27.71	13	1686	5.3	3.29	8.50
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	1408	7.7	3.02	18.20	8	928	5.1	2.39	10.41
Normal (≥-2sd - ≤+1sd)	123	13876	9.0	4.68	16.68	87	10335	6.7	4.93	9.10
Overweight (>+1sd - ≤+2sd)	22	2600	6.9	2.53	17.62	20	2759	7.4	4.13	12.78
Obese (>+2sd)	16	2112	5.8	2.50	12.98	18	2357	6.5	3.58	11.52
Height-for-age status (HAZ)										
Stunting (<-2sd)	35	4404	16.3	8.74	28.48	19	2095	7.8	4.74	12.50
Normal (≥-2sd)	139	15592	7.1	3.64	13.43	115	14361	6.5	4.91	8.69

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	
Sarawak	93	11587	3.6	2.69	4.84	2107	269316	84.0	79.97	87.37
Locality of school										
Urban	32	4365	2.9	1.60	5.24	989	126293	84.1	76.31	89.72
Rural	61	7223	4.2	3.22	5.56	1118	143023	83.9	79.83	87.30
Sex										
Boys	61	6863	4.2	2.93	6.09	1114	135375	83.5	78.63	87.45
Girls	32	4724	3.0	1.82	4.83	993	133941	84.5	80.46	87.89
Ethnicity										
Malay	30	3546	3.7	2.21	6.24	718	86697	91.2	87.15	94.12
Chinese	13	1280	2.0	1.10	3.67	374	44293	69.7	63.44	75.38
Indian						5	579	100.0	0.00	100.00
Bumiputera Sabah	2	278	11.3	2.43	39.51	13	1650	67.0	36.58	87.77
Bumiputera Sarawak	47	6328	4.1	2.96	5.61	971	132334	85.4	82.67	87.74
Others	1	155	3.9	0.49	24.83	26	3763	93.9	75.95	98.69
School level										
Primary school	31	4907	4.0	2.23	7.03	633	104356	84.9	75.96	90.86
Secondary school	62	6680	3.4	2.56	4.45	1474	164959	83.5	79.32	86.95
Class										
Standard 4	13	1982	4.9	2.02	11.30	215	32122	79.1	64.89	88.53
Standard 5	7	1151	2.8	1.25	6.14	229	36987	90.0	86.07	92.93
Standard 6	11	1774	4.3	1.97	9.14	189	35247	85.4	76.58	91.32
Form 1	21	1949	4.4	2.38	8.16	339	36548	83.3	76.50	88.49
Form 2	12	1981	4.9	2.44	9.54	235	33755	83.2	77.38	87.79
Form 3	12	1063	2.7	1.31	5.43	354	32618	82.4	76.96	86.70
Form 4	10	935	2.5	1.04	5.88	294	31608	84.4	78.61	88.91
Form 5	7	753	2.1	0.95	4.52	252	30430	84.2	77.89	88.99
School session										
Morning session	75	8971	3.8	2.68	5.42	1523	194197	82.7	78.00	86.60
Evening session	10	1628	3.4	1.51	7.51	321	40686	85.1	77.31	90.61
Morning and evening session	8	987	2.6	1.24	5.41	262	34318	90.6	83.89	94.66
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	900	4.1	1.69	9.80	8	900	4.1	1.69	9.80
Normal (≥-2sd - ≤+1sd)	55	6728	3.4	2.59	4.57	55	6728	3.4	2.59	4.57
Overweight (>+1sd - ≤+2sd)	17	2216	4.3	2.49	7.35	17	2216	4.3	2.49	7.35
Obese (>+2sd)	13	1743	3.4	1.38	8.07	13	1743	3.4	1.38	8.07
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	1760	5.4	3.27	8.71	221	26861	82.0	75.72	86.96
Normal (≥-2sd)	81	9827	3.4	2.47	4.72	1883	242162	84.3	79.87	87.83

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
Sarawak	330	39657	12.4	9.10	16.61
Locality of school					
Urban	156	19461	13.0	7.50	21.49
Rural	174	20196	11.8	8.79	15.79
Sex					
Boys	173	19872	12.3	8.57	17.24
Girls	157	19784	12.5	9.19	16.74
Ethnicity					
Malay	40	4777	5.0	3.30	7.58
Chinese	151	17939	28.2	22.69	34.55
Indian					
Bumiputera Sabah	4	532	21.6	6.46	52.47
Bumiputera Sarawak	134	16320	10.5	8.18	13.46
Others	1	89	2.2	0.25	17.47
School level					
Primary school	90	13711	11.1	5.56	21.09
Secondary school	240	25945	13.1	9.80	17.37
Class					
Standard 4	47	6523	16.1	7.23	31.94
Standard 5	19	2952	7.2	4.27	11.85
Standard 6	24	4236	10.3	4.90	20.27
Form 1	51	5358	12.2	7.72	18.80
Form 2	34	4825	11.9	7.23	18.96
Form 3	67	5925	15.0	10.66	20.60
Form 4	47	4887	13.1	8.92	18.71
Form 5	41	4950	13.7	9.37	19.59
School session					
Morning session	264	31602	13.5	9.66	18.45
Evening session	47	5469	11.4	6.67	18.93
Morning and evening session	19	2586	6.8	3.39	13.28
BMI-for-age status (BAZ)					
Thinness (<-2sd)	19	2326	10.7	5.79	18.91
Normal (≥-2sd - ≤+1sd)	195	23183	11.9	8.51	16.32
Overweight (>+1sd - ≤+2sd)	52	6515	12.7	9.50	16.70
Obese (>+2sd)	63	7543	14.7	9.36	22.22
Height-for-age status (HAZ)					
Stunting (<-2sd)	33	4128	12.6	8.23	18.84
Normal (≥-2sd)	296	35437	12.3	8.91	16.82

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	
Sarawak	383	51314	16.0	12.91	19.72	1275	165023	51.5	47.73	55.33
Locality of school										
Urban	157	20693	13.8	10.34	18.15	604	77507	51.7	47.42	55.86
Rural	226	30621	18.0	13.46	23.65	671	87516	51.4	45.32	57.51
Sex										
Boys	187	23566	14.5	11.44	18.33	654	81109	50.1	44.80	55.33
Girls	196	27748	17.5	13.38	22.65	621	83913	53.0	48.63	57.41
Ethnicity										
Malay	120	15455	16.3	12.40	21.25	402	48934	51.8	46.63	56.85
Chinese	93	10695	16.8	12.24	22.57	289	34778	54.6	47.81	61.18
Indian	1	107	18.4	3.80	56.40	3	348	60.1	25.59	86.80
Bumiputera Sabah	6	763	31.0	16.54	50.51	6	694	28.2	13.71	49.26
Bumiputera Sarawak	161	24033	15.5	11.20	21.10	564	78671	50.8	45.37	56.20
Others	2	261	6.5	1.40	25.61	11	1598	39.9	21.02	62.31
School level										
Primary school	162	27079	22.1	18.93	25.63	412	67697	55.2	49.69	60.66
Secondary school	221	24235	12.3	9.20	16.17	863	97326	49.2	44.67	53.83
Class										
Standard 4	66	9998	24.7	21.56	28.11	156	23122	57.1	50.62	63.35
Standard 5	47	7551	18.4	13.12	25.29	144	23346	57.0	49.81	63.96
Standard 6	49	9530	23.2	16.40	31.68	112	21229	51.6	42.62	60.52
Form 1	54	5954	13.6	9.16	19.66	213	22822	52.0	47.12	56.93
Form 2	21	2794	6.9	3.58	12.84	144	20875	51.5	42.18	60.66
Form 3	51	4740	12.0	7.32	19.02	195	17936	45.4	38.97	51.93
Form 4	57	6145	16.4	10.11	25.55	157	17034	45.5	37.60	53.65
Form 5	38	4602	12.7	8.91	17.76	154	18658	51.5	42.21	60.59
School session										
Morning session	289	38931	16.6	13.24	20.66	926	120375	51.4	46.79	55.99
Evening session	39	5017	10.5	6.64	16.15	204	25733	53.7	47.18	60.18
Morning and evening session	54	7251	19.1	15.26	23.56	145	18915	49.7	42.46	57.04
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	3455	15.9	10.04	24.19	87	11285	51.9	41.41	62.16
Normal (≥-2sd - ≤+1sd)	234	31444	16.1	12.73	20.27	801	101930	52.3	49.05	55.62
Overweight (>+1sd - ≤+2sd)	60	7937	15.4	12.07	19.45	198	25957	50.4	43.63	57.12
Obese (>+2sd)	62	8244	16.0	11.93	21.07	188	25773	50.0	43.39	56.52
Height-for-age status (HAZ)										
Stunting (<-2sd)	45	6061	18.6	12.99	25.86	136	16690	51.2	45.62	56.67
Normal (≥-2sd)	338	45253	15.8	12.64	19.47	1138	148221	51.6	47.46	55.74

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
Sarawak	869	103852	32.4	27.50	37.80
Locality of school					
Urban	416	51856	34.6	28.32	41.37
Rural	453	51996	30.6	23.52	38.65
Sex					
Boys	506	57317	35.4	29.28	42.00
Girls	363	46536	29.4	24.66	34.67
Ethnicity					
Malay	262	30151	31.9	26.66	37.63
Chinese	158	18248	28.6	20.72	38.12
Indian	1	125	21.5	2.14	77.45
Bumiputera Sabah	7	1003	40.8	20.59	64.64
Bumiputera Sarawak	426	52178	33.7	26.41	41.83
Others	15	2148	53.6	31.97	73.95
School level					
Primary school	177	27778	22.7	16.61	30.14
Secondary school	692	76075	38.5	34.59	42.55
Class					
Standard 4	52	7371	18.2	12.13	26.42
Standard 5	63	10040	24.5	18.93	31.14
Standard 6	62	10366	25.2	15.22	38.75
Form 1	144	15073	34.4	29.27	39.86
Form 2	116	16892	41.6	32.74	51.13
Form 3	186	16855	42.6	35.16	50.47
Form 4	137	14251	38.1	28.51	48.66
Form 5	109	13004	35.9	28.43	44.04
School session					
Morning session	642	74868	32.0	26.06	38.52
Evening session	136	17127	35.8	32.16	39.56
Morning and evening session	91	11857	31.2	24.65	38.57
BMI-for-age status (BAZ)					
Thinness (<-2sd)	63	7018	32.3	22.32	44.10
Normal ($\geq-2sd$ - $\leq+1sd$)	520	61345	31.5	26.72	36.72
Overweight ($>+1sd$ - $\leq+2sd$)	141	17628	34.2	26.96	42.29
Obese ($>+2sd$)	142	17574	34.1	27.27	41.58
Height-for-age status (HAZ)					
Stunting (<-2sd)	84	9872	30.3	23.74	37.68
Normal ($\geq-2sd$)	782	93709	32.6	27.55	38.15

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	
Sarawak	621	80052	38.2	32.71	44.10	277	34269	16.4	13.26	20.04
Locality of school										
Urban	250	31364	32.8	26.03	40.42	116	14628	15.3	10.87	21.13
Rural	371	48688	42.8	35.98	49.91	161	19641	17.3	13.21	22.25
Sex										
Boys	323	39986	39.7	33.60	46.20	151	17720	17.6	12.99	23.43
Girls	298	40066	36.9	30.54	43.70	126	16549	15.2	12.33	18.67
Ethnicity										
Malay	226	26703	43.2	35.46	51.29	94	11235	18.2	13.85	23.48
Chinese	85	9997	22.4	17.14	28.72	80	9341	20.9	13.07	31.80
Indian	1	107	23.5	5.98	59.71					
Bumiputera Sabah	8	972	72.9	30.71	94.23	2	260	19.5	4.02	58.25
Bumiputera Sarawak	296	41513	41.8	35.52	48.43	98	12988	13.1	9.81	17.26
Others	5	760	40.9	9.98	81.17	3	445	23.9	8.58	51.36
School level										
Primary school	191	32974	36.2	27.48	45.83	83	13128	14.4	10.95	18.70
Secondary school	430	47078	39.9	33.13	47.00	194	21140	17.9	13.46	23.40
Class										
Standard 4	58	8832	28.0	17.94	40.81	32	4755	15.1	10.45	21.22
Standard 5	66	11125	37.3	28.29	47.23	36	5582	18.7	14.02	24.51
Standard 6	67	13018	43.7	31.46	56.78	15	2791	9.4	5.74	14.93
Form 1	112	11766	42.4	35.70	49.46	37	3907	14.1	9.58	20.25
Form 2	55	7695	33.6	24.52	44.12	30	4206	18.4	12.40	26.36
Form 3	85	7631	35.1	27.58	43.44	43	3784	17.4	10.00	28.56
Form 4	88	9383	40.8	30.55	52.02	49	5072	22.1	13.79	33.43
Form 5	90	10601	46.6	34.68	58.85	35	4172	18.3	13.42	24.51
School session										
Morning session	482	62045	40.2	33.44	47.41	219	26814	17.4	14.07	21.29
Evening session	81	10104	33.9	29.10	39.09	28	3524	11.8	8.07	17.01
Morning and evening session	58	7903	31.4	22.96	41.28	30	3931	15.6	8.24	27.63
BMI-for-age status (BAZ)										
Thinness (<-2sd)	39	5114	35.7	25.34	47.49	14	1853	12.9	6.45	24.20
Normal (≥-2sd - ≤+1sd)	376	47640	37.1	31.40	43.17	173	21348	16.6	13.55	20.23
Overweight (>+1sd - ≤+2sd)	110	13824	41.7	33.50	50.34	42	5138	15.5	10.77	21.77
Obese (>+2sd)	95	13331	40.3	29.60	52.08	48	5930	17.9	12.23	25.54
Height-for-age status (HAZ)										
Stunting (<-2sd)	76	9394	43.7	35.58	52.24	24	2822	13.1	8.86	19.05
Normal (≥-2sd)	545	70659	37.6	31.89	43.76	252	31335	16.7	13.51	20.44

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	
Sarawak	469	60822	29.1	22.27	36.93	153	21277	10.2	8.17	12.58
Locality of school										
Urban	266	34064	35.6	26.03	46.59	63	8823	9.2	7.22	11.74
Rural	203	26758	23.5	15.87	33.41	90	12454	10.9	7.95	14.90
Sex										
Boys	224	27439	27.3	21.01	34.56	80	10767	10.7	8.20	13.85
Girls	245	33383	30.7	22.56	40.30	73	10510	9.7	7.28	12.74
Ethnicity										
Malay	116	14924	24.1	19.95	28.90	63	8223	13.3	10.01	17.47
Chinese	191	23130	51.8	44.37	59.22	15	1914	4.3	2.63	6.92
Indian	3	348	76.5	40.29	94.02					
Bumiputera Sabah	2	264	19.8	4.13	58.64	2	274	20.5	5.06	55.60
Bumiputera Sarawak	154	21696	21.9	15.09	30.58	72	10777	10.9	8.48	13.81
Others	3	460	24.7	5.83	63.52	1	88	4.7	0.48	33.95
School level										
Primary school	155	24205	26.5	16.06	40.54	67	11360	12.5	9.64	15.94
Secondary school	314	36617	31.0	23.01	40.32	86	9917	8.4	6.29	11.12
Class										
Standard 4	68	9632	30.5	16.57	49.23	25	3993	12.6	5.99	24.73
Standard 5	49	7458	25.0	15.44	37.80	18	2719	9.1	6.09	13.41
Standard 6	38	7114	23.9	12.50	40.81	24	4648	15.6	11.76	20.43
Form 1	74	8504	30.7	22.43	40.36	22	2301	8.3	4.86	13.82
Form 2	43	6321	27.6	18.04	39.80	16	2398	10.5	4.64	21.95
Form 3	75	7216	33.2	21.35	47.63	16	1414	6.5	4.53	9.27
Form 4	69	7796	33.9	23.27	46.53	18	1989	8.7	4.58	15.78
Form 5	53	6781	29.8	17.53	45.83	14	1814	8.0	4.55	13.59
School session										
Morning session	324	42272	27.4	19.79	36.62	119	16474	10.7	8.31	13.63
Evening session	94	11733	39.4	32.05	47.22	16	2313	7.8	4.02	14.48
Morning and evening session	50	6702	26.6	20.07	34.42	18	2490	9.9	5.16	18.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	35	4669	32.6	19.63	48.81	8	1286	9.0	4.68	16.48
Normal (≥-2sd - ≤+1sd)	285	36361	28.3	21.30	36.56	94	12962	10.1	8.06	12.57
Overweight (>+1sd - ≤+2sd)	81	10749	32.4	25.99	39.57	32	4272	12.9	9.04	18.02
Obese (>+2sd)	67	8953	27.1	18.59	37.68	19	2758	8.3	5.54	12.39
Height-for-age status (HAZ)										
Stunting (<-2sd)	34	4267	19.9	11.76	31.56	20	2795	13.0	8.38	19.64
Normal (≥-2sd)	434	56443	30.1	23.22	37.94	133	18482	9.8	7.91	12.19

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	
Sarawak	205	27215	13.0	10.46	16.06	64	9743	4.7	3.09	6.95
Locality of school										
Urban	121	15841	16.6	13.15	20.68	34	4815	5.0	2.60	9.53
Rural	84	11374	10.0	7.65	12.97	30	4928	4.3	2.65	6.99
Sex										
Boys	79	10156	10.1	7.66	13.18	31	4796	4.8	2.92	7.68
Girls	126	17059	15.7	12.43	19.64	33	4947	4.6	2.61	7.82
Ethnicity										
Malay	57	7338	11.9	8.39	16.53	23	3250	5.3	2.11	12.48
Chinese	76	9518	21.3	15.68	28.33	5	551	1.2	0.64	2.38
Indian	1	107	23.5	5.98	59.71					
Bumiputera Sabah										
Bumiputera Sarawak	71	10253	10.3	7.73	13.68	36	5941	6.0	4.33	8.23
Others										
School level										
Primary school	72	11610	12.7	9.05	17.62	37	6415	7.0	4.40	11.05
Secondary school	133	15605	13.2	9.93	17.37	27	3327	2.8	1.77	4.45
Class										
Standard 4	36	5330	16.9	9.72	27.69	13	1946	6.2	3.82	9.80
Standard 5	20	3169	10.6	7.71	14.45	13	2052	6.9	3.23	14.04
Standard 6	16	3112	10.4	6.64	16.06	11	2418	8.1	3.94	15.99
Form 1	28	3257	11.7	6.76	19.63	6	669	2.4	1.13	5.07
Form 2	19	2858	12.5	7.06	21.13	7	1014	4.4	1.78	10.62
Form 3	31	2929	13.5	6.99	24.40	5	552	2.5	0.94	6.69
Form 4	27	2972	12.9	9.19	17.91	6	711	3.1	1.38	6.81
Form 5	28	3588	15.8	10.21	23.53	3	381	1.7	0.60	4.60
School session										
Morning session	136	18341	11.9	9.44	14.88	49	7740	5.0	3.11	8.00
Evening session	42	5355	18.0	12.45	25.25	8	1075	3.6	1.89	6.78
Morning and evening session	27	3519	14.0	7.29	25.15	7	927	3.7	1.87	7.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	17	2458	17.1	12.09	23.71	4	571	4.0	1.44	10.54
Normal (≥-2sd - ≤+1sd)	138	17826	13.9	10.98	17.39	39	5908	4.6	2.53	8.22
Overweight (>+1sd - ≤+2sd)	23	3359	10.1	6.50	15.44	8	1448	4.4	1.75	10.49
Obese (>+2sd)	27	3573	10.8	6.53	17.37	13	1815	5.5	3.25	9.12
Height-for-age status (HAZ)										
Stunting (<-2sd)	24	2798	13.0	8.77	18.92	11	1490	6.9	2.89	15.71
Normal (≥-2sd)	181	24417	13.0	10.33	16.26	53	8253	4.4	2.94	6.52

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
Sarawak	193	25409	12.1	10.39	14.13
Locality of school					
Urban	86	11196	11.7	8.95	15.20
Rural	107	14212	12.5	10.42	14.91
Sex					
Boys	83	10114	10.0	8.11	12.40
Girls	110	15295	14.1	11.62	16.95
Ethnicity					
Malay	45	5544	9.0	6.93	11.54
Chinese	61	7118	16.0	12.40	20.28
Indian					
Bumiputera Sabah	1	101	7.6	1.07	38.47
Bumiputera Sarawak	84	12329	12.4	10.30	14.91
Others	2	316	17.0	4.94	44.70
School level					
Primary school	68	11256	12.3	9.88	15.31
Secondary school	125	14153	12.0	9.65	14.79
Class					
Standard 4	27	3807	12.1	7.07	19.82
Standard 5	25	4334	14.5	10.88	19.12
Standard 6	16	3115	10.5	7.79	13.91
Form 1	30	3189	11.5	7.32	17.61
Form 2	21	3257	14.2	7.83	24.46
Form 3	32	2858	13.1	8.97	18.86
Form 4	17	1881	8.2	3.92	16.31
Form 5	25	2969	13.0	8.23	20.03
School session					
Morning session	133	17542	11.4	9.33	13.80
Evening session	35	4846	16.3	12.31	21.19
Morning and evening session	25	3021	12.0	7.17	19.42
BMI-for-age status (BAZ)					
Thinness (<-2sd)	13	1784	12.4	7.14	20.79
Normal (\geq -2sd - \leq +1sd)	126	16599	12.9	10.87	15.29
Overweight ($>$ +1sd - \leq +2sd)	24	3321	10.0	6.42	15.29
Obese ($>$ +2sd)	29	3629	11.0	8.15	14.64
Height-for-age status (HAZ)					
Stunting (<-2sd)	17	2000	9.3	5.41	15.57
Normal (\geq -2sd)	176	23409	12.5	10.61	14.61

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	
Sarawak	1418	184794	57.6	52.75	62.39	748	92914	29.0	25.69	32.51
Locality of school										
Urban	692	89056	59.4	53.89	64.60	323	41145	27.4	22.82	32.57
Rural	726	95738	56.1	48.42	63.57	425	51769	30.4	25.96	35.14
Sex										
Boys	676	83508	51.5	46.16	56.85	422	50675	31.3	27.89	34.85
Girls	742	101286	63.9	58.26	69.18	326	42239	26.6	22.34	31.45
Ethnicity										
Malay	419	52664	55.3	51.10	59.52	267	31297	32.9	29.64	36.31
Chinese	342	40340	63.3	55.35	70.60	110	12898	20.2	15.99	25.29
Indian	4	488	84.3	30.50	98.51	1	91	15.7	1.49	69.50
Bumiputera Sabah	12	1498	60.9	36.91	80.54	5	645	26.2	11.70	48.80
Bumiputera Sarawak	631	88392	57.2	50.03	63.99	354	46210	29.9	25.41	34.76
Others	10	1412	35.2	18.23	57.04	11	1772	44.2	26.21	63.91
School level										
Primary school	474	77523	63.1	57.37	68.50	207	34066	27.7	23.63	32.24
Secondary school	944	107271	54.2	48.07	60.30	541	58848	29.8	25.20	34.75
Class										
Standard 4	182	26250	64.6	50.44	76.61	65	10303	25.4	17.06	35.94
Standard 5	150	24452	59.7	53.88	65.33	82	13074	31.9	27.64	36.58
Standard 6	142	26821	65.0	56.32	72.76	60	10688	25.9	18.36	35.19
Form 1	208	22918	52.1	43.09	61.06	134	13713	31.2	23.87	39.61
Form 2	145	21411	53.0	43.28	62.44	86	12431	30.8	22.52	40.42
Form 3	217	20064	50.6	40.05	61.02	153	13771	34.7	26.95	43.36
Form 4	198	21454	57.3	45.68	68.20	89	9359	25.0	19.35	31.65
Form 5	176	21425	59.1	51.23	66.49	79	9575	26.4	20.33	33.52
School session										
Morning session	1035	134923	57.5	51.52	63.24	552	67982	29.0	25.41	32.80
Evening session	221	28283	59.2	49.71	68.13	98	12347	25.9	19.28	33.75
Morning and evening session	162	21587	56.8	48.68	64.53	97	12471	32.8	27.15	39.00
BMI-for-age status (BAZ)										
Thinness (<-2sd)	86	11241	51.7	42.52	60.70	55	6754	31.0	24.79	38.07
Normal (\geq -2sd - \leq +1sd)	857	110482	56.6	51.44	61.58	475	58048	29.7	25.86	33.91
Overweight ($>$ +1sd - \leq +2sd)	241	32221	62.5	55.93	68.71	105	13091	25.4	20.79	30.66
Obese ($>$ +2sd)	231	30557	59.4	53.08	65.44	110	14718	28.6	22.97	35.01
Height-for-age status (HAZ)										
Stunting (<-2sd)	138	17984	54.8	45.59	63.66	87	10101	30.8	23.67	38.92
Normal (\geq -2sd)	1278	166608	58.0	53.19	62.62	660	82722	28.8	25.57	32.23

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	Prevalence (%)	Never	
				Lower	Upper
Sarawak	365	42874	13.4	10.74	16.53
Locality of school					
Urban	162	19837	13.2	10.32	16.78
Rural	203	23037	13.5	9.51	18.84
Sex					
Boys	250	27898	17.2	13.48	21.71
Girls	115	14976	9.4	7.11	12.45
Ethnicity					
Malay	103	11196	11.8	8.87	15.45
Chinese	88	10482	16.5	11.01	23.87
Indian					
Bumiputera Sabah	2	318	12.9	3.66	36.59
Bumiputera Sarawak	165	20055	13.0	9.57	17.34
Others	7	823	20.5	5.90	51.54
School level					
Primary school	72	11245	9.2	6.55	12.66
Secondary school	293	31629	16.0	12.89	19.68
Class					
Standard 4	28	4074	10.0	5.56	17.44
Standard 5	22	3407	8.3	5.96	11.50
Standard 6	22	3764	9.1	5.83	13.98
Form 1	70	7319	16.7	12.31	22.13
Form 2	49	6579	16.3	11.03	23.37
Form 3	64	5849	14.7	10.12	20.97
Form 4	64	6618	17.7	10.03	29.27
Form 5	46	5265	14.5	9.59	21.38
School session					
Morning session	275	31802	13.5	10.19	17.80
Evening session	59	7108	14.9	10.22	21.18
Morning and evening session	31	3964	10.4	7.42	14.46
BMI-for-age status (BAZ)					
Thinness (<-2sd)	34	3764	17.3	11.06	26.03
Normal ($\geq -2sd - \leq +1sd$)	228	26741	13.7	11.24	16.59
Overweight ($> +1sd - \leq +2sd$)	53	6211	12.1	8.50	16.83
Obese ($> +2sd$)	50	6159	12.0	8.58	16.47
Height-for-age status (HAZ)					
Stunting (<-2sd)	42	4743	14.4	10.44	19.65
Normal ($\geq -2sd$)	322	38042	13.2	10.54	16.50

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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
Sarawak	1734	220510	79.5	72.25	85.18	417	55370	20.0	16.56	23.84
Locality of school										
Urban	867	111438	85.7	78.71	90.60	167	21029	16.2	13.48	19.26
Rural	867	109072	74.0	63.35	82.40	250	34341	23.3	18.33	29.13
Sex										
Boys	831	100459	74.9	66.78	81.61	227	28808	21.5	17.75	25.75
Girls	903	120051	83.7	76.75	88.87	190	26562	18.5	14.91	22.77
Ethnicity										
Malay	552	67494	80.4	74.80	84.99	139	17135	20.4	16.24	25.32
Chinese	423	49835	93.6	90.35	95.81	56	6798	12.8	10.30	15.73
Indian	3	382	78.1	40.39	94.97	1	107	21.9	5.03	59.61
Bumiputera Sabah	15	1883	87.9	62.05	96.97	3	384	17.9	6.16	42.07
Bumiputera Sarawak	725	98475	73.2	63.65	81.01	215	30469	22.7	18.52	27.40
Others	16	2442	76.7	51.43	91.09	3	477	15.0	5.69	33.98
School level										
Primary school	518	83764	75.1	64.12	83.53	154	26185	23.5	18.72	28.98
Secondary school	1216	136746	82.4	72.84	89.11	263	29185	17.6	13.61	22.42
Class										
Standard 4	207	30283	82.8	66.76	92.07	37	5625	15.4	10.22	22.51
Standard 5	164	26238	69.9	60.05	78.24	66	10460	27.9	21.76	34.94
Standard 6	147	27243	72.6	61.72	81.37	51	10100	26.9	17.72	38.67
Form 1	267	29090	79.6	69.48	87.02	77	8003	21.9	16.33	28.72
Form 2	169	25369	75.0	55.70	87.70	50	6763	20.0	11.83	31.73
Form 3	309	28401	84.2	71.79	91.74	55	4946	14.7	9.21	22.53
Form 4	259	27912	90.6	84.94	94.26	37	4058	13.2	8.76	19.33
Form 5	212	25973	83.8	69.70	92.07	44	5416	17.5	10.90	26.82
School session										
Morning session	1288	162400	80.1	72.45	85.99	292	39456	19.5	15.70	23.86
Evening session	265	34145	84.2	73.03	91.34	60	7127	17.6	12.17	24.73
Morning and evening session	181	23965	70.4	56.31	81.39	64	8672	25.5	18.27	34.30
BMI-for-age status (BAZ)										
Thinness (<-2sd)	115	14612	81.2	71.84	87.97	26	3602	20.0	13.38	28.85
Normal (≥-2sd - ≤+1sd)	1053	132431	78.6	70.85	84.70	258	33112	19.6	15.82	24.13
Overweight (>+1sd - ≤+2sd)	299	38915	86.2	79.40	91.06	59	8105	18.0	14.65	21.83
Obese (>+2sd)	263	34182	75.5	65.83	83.13	73	10407	23.0	17.70	29.29
Height-for-age status (HAZ)										
Stunting (<-2sd)	161	20080	71.5	60.03	80.73	49	6087	21.7	15.05	30.19
Normal (≥-2sd)	1571	200248	80.4	73.44	85.85	368	49283	19.8	16.44	23.61

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
Sarawak	84	10826	3.9	3.00	5.07	85	11258	4.1	2.92	5.61
Locality of school										
Urban	44	5560	4.3	2.87	6.32	36	5032	3.9	2.59	5.73
Rural	40	5266	3.6	2.54	5.01	49	6226	4.2	2.55	6.90
Sex										
Boys	58	7140	5.3	4.05	6.97	42	5295	3.9	2.76	5.61
Girls	26	3686	2.6	1.64	4.02	43	5963	4.2	2.91	5.92
Ethnicity										
Malay	34	4108	4.9	3.44	6.91	20	2875	3.4	1.92	6.03
Chinese	11	1312	2.5	1.48	4.07	18	2233	4.2	2.54	6.85
Indian										
Bumiputera Sabah										
Bumiputera Sarawak	38	5247	3.9	2.74	5.52	46	6043	4.5	2.74	7.29
Others	1	159	5.0	0.80	25.41	1	107	3.3	0.34	25.82
School level										
Primary school	28	4541	4.1	3.17	5.22	40	6083	5.5	3.68	8.01
Secondary school	56	6285	3.8	2.50	5.71	45	5174	3.1	1.95	4.94
Class										
Standard 4	9	1450	4.0	2.43	6.42	15	2198	6.0	3.30	10.70
Standard 5	13	2216	5.9	3.20	10.65	14	2037	5.4	3.41	8.53
Standard 6	6	875	2.3	0.73	7.16	11	1849	4.9	2.17	10.81
Form 1	14	1490	4.1	1.80	8.97	16	1654	4.5	2.34	8.58
Form 2	10	1446	4.3	2.52	7.16	9	1304	3.9	1.68	8.61
Form 3	9	905	2.7	1.25	5.67	7	673	2.0	0.79	4.94
Form 4	9	846	2.7	1.26	5.87	3	379	1.2	0.48	3.13
Form 5	14	1597	5.2	1.96	12.86	10	1164	3.8	1.79	7.72
School session										
Morning session	57	7551	3.7	2.74	5.03	60	8089	4.0	2.59	6.09
Evening session	19	2238	5.5	3.02	9.87	13	1502	3.7	1.95	6.94
Morning and evening session	8	1036	3.0	1.79	5.12	12	1667	4.9	1.54	14.52
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	915	5.1	2.43	10.32	6	878	4.9	1.99	11.46
Normal (≥-2sd - ≤+1sd)	51	6435	3.8	2.90	5.02	49	6409	3.8	2.67	5.39
Overweight (>+1sd - ≤+2sd)	13	1662	3.7	1.87	7.12	16	2005	4.4	2.77	7.05
Obese (>+2sd)	13	1813	4.0	2.78	5.74	14	1965	4.3	2.58	7.21
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	1291	4.6	2.68	7.78	7	980	3.5	1.37	8.59
Normal (≥-2sd)	73	9423	3.8	2.84	5.02	78	10278	4.1	3.07	5.52

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
Sarawak	67	8712	3.1	2.31	4.25
Locality of school					
Urban	25	3056	2.3	1.58	3.49
Rural	42	5655	3.8	2.63	5.56
Sex					
Boys	45	5757	4.3	3.00	6.10
Girls	22	2955	2.1	1.27	3.33
Ethnicity					
Malay	17	1848	2.2	1.27	3.80
Chinese	8	973	1.8	0.76	4.34
Indian					
Bumiputera Sabah					
Bumiputera Sarawak	42	5891	4.4	3.05	6.24
Others					
School level					
Primary school	24	4118	3.7	2.43	5.57
Secondary school	43	4594	2.8	1.82	4.20
Class					
Standard 4	6	860	2.4	1.12	4.89
Standard 5	12	2047	5.5	3.66	8.05
Standard 6	6	1210	3.2	1.30	7.78
Form 1	10	967	2.6	1.23	5.59
Form 2	9	1310	3.9	2.69	5.54
Form 3	12	1073	3.2	1.14	8.53
Form 4	7	685	2.2	1.04	4.71
Form 5	5	559	1.8	0.96	3.35
School session					
Morning session	49	6248	3.1	2.35	4.03
Evening session	11	1722	4.2	1.78	9.78
Morning and evening session	7	742	2.2	0.77	5.98
BMI-for-age status (BAZ)					
Thinness (<-2sd)	5	742	4.1	1.53	10.62
Normal (\geq -2sd - \leq +1sd)	46	5831	3.5	2.47	4.83
Overweight ($>$ +1sd - \leq +2sd)	6	928	2.1	0.90	4.62
Obese ($>$ +2sd)	10	1211	2.7	1.44	4.90
Height-for-age status (HAZ)					
Stunting (<-2sd)	10	1008	3.6	1.80	7.04
Normal (\geq -2sd)	57	7704	3.1	2.19	4.34

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 stationary				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
Sarawak	1365	171446	56.9	52.77	60.89	150	20055	6.7	5.01	8.79
Locality of school										
Urban	669	85266	60.1	55.52	64.44	47	6167	4.3	3.45	5.46
Rural	696	86180	54.0	48.05	59.92	103	13888	8.7	6.29	11.94
Sex										
Boys	729	87324	57.1	52.68	61.33	89	11114	7.3	5.23	10.00
Girls	636	84122	56.7	51.48	61.75	61	8941	6.0	4.25	8.48
Ethnicity										
Malay	470	56957	63.2	58.72	67.40	44	4933	5.5	3.66	8.09
Chinese	235	27859	48.7	42.66	54.79	26	3057	5.3	3.74	7.59
Indian	1	125	27.0	2.40	84.74					
Bumiputera Sabah	12	1587	64.5	36.25	85.28	1	82	3.3	0.41	22.54
Bumiputera Sarawak	628	82021	55.7	49.97	61.31	76	11506	7.8	5.28	11.42
Others	19	2897	73.9	50.29	88.81	3	477	12.2	4.18	30.56
School level										
Primary school	412	65227	57.7	51.37	63.88	50	8854	7.8	5.22	11.61
Secondary school	953	106219	56.4	51.04	61.52	100	11201	5.9	4.06	8.63
Class										
Standard 4	159	23109	63.4	55.49	70.65	14	2536	7.0	2.47	18.07
Standard 5	131	20329	53.6	44.90	62.00	21	3536	9.3	6.61	12.98
Standard 6	122	21789	56.5	48.44	64.31	15	2782	7.2	5.11	10.12
Form 1	236	25164	60.0	50.98	68.33	23	2257	5.4	2.99	9.48
Form 2	152	21988	55.9	49.76	61.94	22	3186	8.1	3.89	16.14
Form 3	238	21888	57.9	47.98	67.22	21	1870	4.9	2.72	8.83
Form 4	162	17214	49.1	43.19	54.97	16	1701	4.8	2.72	8.49
Form 5	165	19965	58.2	51.65	64.40	18	2188	6.4	3.27	12.07
School session										
Morning session	994	123549	56.4	51.70	60.94	115	15496	7.1	5.13	9.68
Evening session	213	26558	58.1	50.31	65.43	18	2210	4.8	3.04	7.59
Morning and evening session	158	21340	58.6	49.53	67.16	17	2349	6.5	3.71	10.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	93	11316	55.6	47.60	63.40	5	678	3.3	1.13	9.46
Normal (≥-2sd - ≤+1sd)	852	105808	57.3	52.74	61.67	101	13572	7.3	5.53	9.69
Overweight (>+1sd - ≤+2sd)	214	27528	56.6	51.25	61.81	21	2851	5.9	3.48	9.70
Obese (>+2sd)	203	26453	56.2	47.33	64.61	23	2954	6.3	3.91	9.92
Height-for-age status (HAZ)										
Stunting (<-2sd)	158	19125	60.5	54.47	66.20	15	1950	6.2	3.66	10.22
Normal (≥-2sd)	1205	152138	56.5	52.01	60.83	134	17993	6.7	5.01	8.85

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	
Sarawak	684	87197	28.9	26.49	31.49	189	22730	7.5	5.77	9.79
Locality of school										
Urban	312	40077	28.2	24.91	31.81	85	10442	7.4	4.59	11.59
Rural	372	47120	29.5	26.12	33.22	104	12288	7.7	5.77	10.22
Sex										
Boys	351	42595	27.8	24.99	30.86	107	12005	7.8	5.83	10.47
Girls	333	44602	30.1	26.70	33.64	82	10724	7.2	5.09	10.17
Ethnicity										
Malay	192	23811	26.4	22.62	30.57	41	4469	5.0	3.12	7.78
Chinese	156	18348	32.1	27.80	36.68	68	7935	13.9	8.98	20.82
Indian	3	337	73.0	15.26	97.60					
Bumiputera Sabah	5	668	27.2	12.13	50.16	1	124	5.0	0.60	31.58
Bumiputera Sarawak	323	43488	29.5	26.66	32.59	79	10202	6.9	5.23	9.13
Others	5	545	13.9	2.49	50.59					
School level										
Primary school	204	33716	29.9	26.70	33.21	31	5150	4.6	2.58	7.92
Secondary school	480	53481	28.4	25.05	31.95	158	17580	9.3	7.39	11.71
Class										
Standard 4	66	9683	26.6	21.71	32.06	8	1121	3.1	1.52	6.14
Standard 5	78	12550	33.1	28.09	38.44	10	1546	4.1	2.26	7.22
Standard 6	60	11484	29.8	25.16	34.90	13	2483	6.4	3.11	12.88
Form 1	109	11913	28.4	19.95	38.68	25	2630	6.3	3.90	9.93
Form 2	76	10934	27.8	22.25	34.17	22	3199	8.1	6.21	10.60
Form 3	117	10545	27.9	21.75	35.00	37	3499	9.3	5.79	14.48
Form 4	104	11168	31.8	26.67	37.49	46	4999	14.2	9.12	21.58
Form 5	74	8920	26.0	19.98	33.06	28	3252	9.5	5.07	17.02
School session										
Morning session	497	63215	28.8	26.21	31.62	141	16910	7.7	5.59	10.56
Evening session	98	12922	28.3	21.78	35.76	33	4051	8.9	6.72	11.59
Morning and evening session	88	10946	30.1	25.16	35.49	15	1768	4.9	2.73	8.50
BMI-for-age status (BAZ)										
Thinness (<-2sd)	48	6150	30.2	22.45	39.36	18	2193	10.8	6.97	16.32
Normal (≥-2sd - ≤+1sd)	415	52202	28.3	25.39	31.30	111	13176	7.1	5.28	9.56
Overweight (>+1sd - ≤+2sd)	103	13598	28.0	23.70	32.65	38	4655	9.6	6.43	14.02
Obese (>+2sd)	115	14992	31.8	24.92	39.64	22	2705	5.7	3.52	9.25
Height-for-age status (HAZ)										
Stunting (<-2sd)	69	8527	27.0	21.57	33.15	18	2019	6.4	4.23	9.53
Normal (≥-2sd)	614	78580	29.2	26.43	32.06	171	20711	7.7	5.78	10.16

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	
Sarawak	106	13873	4.3	3.48	5.42	351	47799	15.0	12.28	18.16
Locality of school										
Urban	57	7409	5.0	3.73	6.59	157	20491	13.7	11.58	16.20
Rural	49	6465	3.8	2.75	5.25	194	27308	16.1	11.69	21.70
Sex										
Boys	67	8629	5.3	4.10	6.92	204	26157	16.2	13.15	19.77
Girls	39	5245	3.3	2.60	4.26	147	21642	13.7	10.38	17.97
Ethnicity										
Malay	28	3601	3.8	2.50	5.71	109	14044	14.8	11.09	19.42
Chinese	23	2786	4.4	2.45	7.79	62	7461	11.8	8.96	15.38
Indian										
Bumiputera Sabah						2	233	9.5	2.17	33.14
Bumiputera Sarawak	53	7178	4.7	3.75	5.80	170	24818	16.1	12.83	20.12
Others	2	308	7.7	0.92	42.77	8	1242	31.0	16.59	50.34
School level										
Primary school	45	7046	5.8	4.97	6.69	155	25754	21.1	18.14	24.38
Secondary school	61	6827	3.5	2.47	4.84	196	22044	11.2	9.19	13.57
Class										
Standard 4	15	2379	5.9	4.13	8.43	61	9252	23.0	16.63	30.97
Standard 5	18	2656	6.5	4.05	10.31	54	8921	21.9	16.74	28.04
Standard 6	12	2012	4.9	2.71	8.67	40	7581	18.4	14.35	23.34
Form 1	18	1909	4.4	2.89	6.60	46	4853	11.1	7.52	16.21
Form 2	5	853	2.1	0.74	5.88	35	4980	12.3	8.88	16.84
Form 3	14	1411	3.6	1.78	6.96	43	4015	10.1	7.49	13.53
Form 4	10	1073	2.9	1.72	4.81	44	4838	13.0	7.96	20.55
Form 5	14	1581	4.4	1.92	9.65	28	3359	9.3	6.26	13.60
School session										
Morning session	75	9654	4.1	3.24	5.27	254	35223	15.1	11.72	19.20
Evening session	17	2246	4.7	3.35	6.60	55	6585	13.8	9.88	19.05
Morning and evening session	14	1973	5.2	3.34	8.05	42	5990	15.8	9.93	24.27
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	658	3.0	1.11	8.09	29	3614	16.7	10.58	25.45
Normal (≥-2sd - ≤+1sd)	67	8398	4.3	3.11	5.95	202	27106	13.9	10.99	17.45
Overweight (>+1sd - ≤+2sd)	16	2136	4.2	2.46	7.02	56	7960	15.6	12.25	19.65
Obese (>+2sd)	18	2681	5.3	2.79	9.70	64	9118	17.9	13.84	22.79
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	1091	3.3	1.40	7.74	46	6516	19.9	12.06	31.12
Normal (≥-2sd)	95	12691	4.4	3.45	5.69	305	41283	14.4	11.72	17.65

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	
Sarawak	1755	221896	69.5	66.18	72.71	307	35513	11.1	8.18	14.96
Locality of school										
Urban	844	107548	72.1	67.99	75.81	112	13780	9.2	5.93	14.11
Rural	911	114347	67.3	62.53	71.78	195	21732	12.8	8.52	18.78
Sex										
Boys	930	111351	68.9	66.18	71.52	142	15445	9.6	7.09	12.77
Girls	825	110545	70.2	65.30	74.65	165	20068	12.7	8.73	18.23
Ethnicity										
Malay	563	67836	71.4	67.28	75.14	88	9569	10.1	5.23	18.50
Chinese	359	42645	67.4	62.34	72.12	92	10359	16.4	11.08	23.53
Indian	5	579	100.0	0.00	100.00					
Bumiputera Sabah	17	2227	90.5	66.86	97.83					
Bumiputera Sarawak	796	106478	69.3	64.43	73.71	124	15259	9.9	7.33	13.31
Others	15	2130	53.2	31.83	73.41	3	327	8.2	2.33	24.85
School level										
Primary school	483	79186	64.8	61.18	68.34	65	10132	8.3	5.15	13.11
Secondary school	1272	142710	72.5	68.39	76.18	242	25381	12.9	8.99	18.13
Class										
Standard 4	175	25699	64.0	58.96	68.65	21	2855	7.1	3.76	13.03
Standard 5	157	25486	62.5	54.34	69.97	24	3727	9.1	5.25	15.44
Standard 6	151	28002	68.1	61.90	73.64	20	3550	8.6	4.82	14.96
Form 1	294	31762	72.9	66.58	78.50	50	5016	11.5	7.16	18.01
Form 2	201	29328	72.6	65.21	78.85	39	5259	13.0	7.38	21.93
Form 3	310	28502	71.8	66.17	76.86	67	5756	14.5	9.97	20.62
Form 4	245	26337	70.8	61.12	78.92	50	4945	13.3	8.06	21.14
Form 5	222	26781	74.1	69.64	78.17	36	4406	12.2	7.95	18.25
School session										
Morning session	1280	160543	68.7	64.92	72.33	244	28109	12.0	8.70	16.42
Evening session	273	35092	73.7	66.74	79.73	31	3659	7.7	3.97	14.37
Morning and evening session	201	26147	69.1	63.44	74.19	32	3745	9.9	5.53	17.08
BMI-for-age status (BAZ)										
Thinness (<-2sd)	121	15084	69.8	59.40	78.55	19	2245	10.4	5.94	17.56
Normal (≥-2sd - ≤+1sd)	1087	136414	70.0	66.36	73.43	201	22921	11.8	8.26	16.49
Overweight (>+1sd - ≤+2sd)	280	35906	70.3	65.86	74.45	43	5045	9.9	7.67	12.64
Obese (>+2sd)	262	33970	66.6	59.68	72.90	43	5225	10.2	5.92	17.15
Height-for-age status (HAZ)										
Stunting (<-2sd)	189	22863	69.9	60.68	77.82	21	2220	6.8	3.60	12.45
Normal (≥-2sd)	1564	198830	69.5	65.87	72.94	285	33203	11.6	8.54	15.59

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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
Sarawak	230	28274	8.9	7.59	10.33	607	76716	24.0	21.11	27.25
Locality of school										
Urban	100	12520	8.3	6.67	10.39	257	31913	21.3	18.11	24.81
Rural	130	15754	9.3	7.57	11.44	350	44803	26.5	22.50	30.96
Sex										
Boys	113	13153	8.2	6.57	10.11	341	41411	25.7	21.86	29.97
Girls	117	15121	9.6	7.52	12.12	266	35304	22.4	19.17	25.89
Ethnicity										
Malay	78	9340	9.8	7.19	13.33	214	25133	26.5	21.93	31.61
Chinese	54	6106	9.6	7.31	12.50	110	12646	19.9	17.42	22.58
Indian						2	242	41.9	7.06	87.22
Bumiputera Sabah	2	306	12.4	2.63	42.79	4	481	19.5	7.81	41.05
Bumiputera Sarawak	94	12270	8.0	6.47	9.85	271	37414	24.4	20.38	28.89
Others	2	252	6.3	1.62	21.54	6	799	19.9	6.84	45.84
School level										
Primary school	57	9100	7.5	5.81	9.53	179	30278	24.8	19.47	31.08
Secondary school	173	19174	9.7	8.17	11.55	428	46438	23.6	20.34	27.13
Class										
Standard 4	29	4305	10.7	5.55	19.64	62	9329	23.2	16.35	31.82
Standard 5	16	2455	6.0	4.14	8.69	59	9574	23.5	19.85	27.57
Standard 6	12	2340	5.7	3.46	9.27	58	11376	27.7	19.31	38.13
Form 1	32	3563	8.1	5.60	11.71	87	9139	20.9	17.53	24.73
Form 2	25	3735	9.2	6.25	13.36	53	7650	18.9	13.23	26.17
Form 3	42	3837	9.7	7.87	11.98	111	9887	25.1	19.89	31.10
Form 4	44	4617	12.4	9.12	16.66	93	9925	26.7	22.39	31.43
Form 5	30	3424	9.5	5.49	15.87	84	9836	27.2	20.28	35.50
School session										
Morning session	179	21620	9.3	7.67	11.16	453	57022	24.4	20.64	28.70
Evening session	35	4708	9.9	7.34	13.12	89	11293	23.6	19.37	28.51
Morning and evening session	16	1947	5.1	2.91	8.91	64	8286	21.9	18.36	25.85
BMI-for-age status (BAZ)										
Thinness (<-2sd)	14	1588	7.3	3.81	13.53	56	6744	31.0	21.35	42.64
Normal (≥-2sd - ≤+1sd)	159	18667	9.6	7.91	11.63	386	48123	24.8	21.59	28.26
Overweight (>+1sd - ≤+2sd)	30	4287	8.4	5.58	12.32	76	9764	19.0	15.52	23.11
Obese (>+2sd)	27	3732	7.3	5.48	9.69	88	11995	23.5	17.21	31.18
Height-for-age status (HAZ)										
Stunting (<-2sd)	21	2414	7.4	4.44	12.15	59	7007	21.6	15.58	29.05
Normal (≥-2sd)	207	25680	9.0	7.54	10.65	548	69708	24.4	21.41	27.58

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	
Sarawak	1581	201544	63.2	59.53	66.68	102	12485	3.9	2.86	5.34
Locality of school										
Urban	772	99704	66.4	62.05	70.56	48	5935	4.0	2.44	6.35
Rural	809	101840	60.3	55.45	64.91	54	6550	3.9	2.57	5.80
Sex										
Boys	824	99340	61.7	58.14	65.08	64	7180	4.5	3.13	6.31
Girls	757	102205	64.7	59.84	69.30	38	5306	3.4	2.03	5.51
Ethnicity										
Malay	475	58265	61.4	54.30	68.05	19	2152	2.3	1.46	3.51
Chinese	332	39801	62.6	57.21	67.60	43	5077	8.0	5.63	11.19
Indian	3	337	58.1	12.78	92.94					
Bumiputera Sabah	13	1674	68.0	45.30	84.51					
Bumiputera Sarawak	738	98512	64.2	59.14	68.96	40	5256	3.4	2.09	5.56
Others	20	2955	73.8	47.01	89.90					
School level										
Primary school	483	77798	63.8	57.77	69.41	30	4787	3.9	2.36	6.46
Secondary school	1098	123747	62.8	58.19	67.18	72	7698	3.9	2.62	5.79
Class										
Standard 4	174	25489	63.4	55.74	70.41	8	1090	2.7	1.25	5.80
Standard 5	161	25974	63.7	59.30	67.94	17	2752	6.8	3.48	12.70
Standard 6	148	26334	64.2	50.92	75.67	5	944	2.3	1.23	4.28
Form 1	277	29669	67.8	62.00	73.18	14	1359	3.1	1.82	5.25
Form 2	192	27683	68.3	59.46	75.91	11	1493	3.7	1.74	7.61
Form 3	263	24351	61.8	53.88	69.09	15	1345	3.4	1.31	8.61
Form 4	191	20466	55.0	50.16	59.72	21	2214	5.9	4.17	8.43
Form 5	175	21579	59.7	49.51	69.17	11	1287	3.6	1.00	11.86
School session										
Morning session	1144	145317	62.3	57.51	66.87	76	9291	4.0	2.85	5.54
Evening session	242	30459	63.8	57.59	69.51	12	1312	2.7	1.48	5.05
Morning and evening session	195	25768	68.0	60.58	74.65	14	1882	5.0	2.13	11.16
BMI-for-age status (BAZ)										
Thinness (<-2sd)	100	12856	59.1	45.59	71.33	5	571	2.6	0.96	6.99
Normal (≥-2sd - ≤+1sd)	951	120393	62.0	58.01	65.78	57	7081	3.6	2.51	5.26
Overweight (>+1sd - ≤+2sd)	274	35309	68.8	63.87	73.33	17	1963	3.8	2.31	6.28
Obese (>+2sd)	251	32479	63.6	55.37	71.09	23	2870	5.6	3.38	9.19
Height-for-age status (HAZ)										
Stunting (<-2sd)	177	21880	67.3	57.69	75.68	8	1201	3.7	1.54	8.60
Normal (≥-2sd)	1402	179462	62.7	59.10	66.20	94	11284	3.9	2.80	5.52

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

Characteristics	Type of snack foods									
	Bread/ bun/ sandwich					French fries				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
Sarawak	718	89255	27.9	24.31	31.83	356	46079	14.4	11.73	17.59
Locality of school										
Urban	384	48255	32.2	27.45	37.39	203	25996	17.4	13.60	21.90
Rural	334	41000	24.1	19.91	28.90	153	20083	11.8	8.92	15.50
Sex										
Boys	409	48267	29.9	25.10	35.13	190	23415	14.5	11.72	17.79
Girls	309	40987	25.9	22.71	29.41	166	22665	14.3	11.15	18.24
Ethnicity										
Malay	214	25409	26.8	23.36	30.50	134	16617	17.5	14.47	21.02
Chinese	154	17942	28.2	21.45	36.10	86	10587	16.6	10.43	25.50
Indian	2	230	39.7	12.91	74.51	2	197	34.1	11.07	68.23
Bumiputera Sabah	4	524	21.3	7.48	47.54	6	751	30.5	10.60	61.96
Bumiputera Sarawak	336	43897	28.5	22.58	35.22	123	17103	11.1	9.07	13.50
Others	8	1252	31.3	17.98	48.52	5	824	20.6	4.61	58.13
School level										
Primary school	183	29357	24.0	18.73	30.17	128	20633	16.9	12.29	22.68
Secondary school	535	59897	30.4	26.18	34.88	228	25446	12.9	10.07	16.37
Class										
Standard 4	65	9632	23.9	16.87	32.72	44	6535	16.2	10.78	23.67
Standard 5	61	9449	23.2	17.62	29.99	42	6511	16.0	10.66	23.36
Standard 6	57	10276	24.8	18.49	32.40	42	7587	18.3	11.33	28.22
Form 1	103	11287	25.7	20.37	31.82	59	6289	14.3	11.00	18.41
Form 2	74	10831	27.0	22.37	32.10	40	5618	14.0	8.08	23.11
Form 3	150	13931	35.3	31.14	39.63	46	3942	10.0	6.32	15.42
Form 4	105	11318	30.2	22.47	39.32	44	4803	12.8	8.16	19.61
Form 5	103	12530	34.6	26.77	43.27	39	4794	13.2	8.63	19.72
School session										
Morning session	537	65769	28.1	24.00	32.56	259	33738	14.4	11.54	17.84
Evening session	113	14157	29.8	23.77	36.59	56	6572	13.8	9.94	18.92
Morning and evening session	68	9328	24.6	18.37	32.18	41	5770	15.2	10.50	21.59
BMI-for-age status (BAZ)										
Thinness (<-2sd)	43	5297	24.3	17.32	33.08	26	3302	15.2	10.85	20.83
Normal (≥-2sd - ≤+1sd)	430	52518	27.0	23.65	30.63	210	26871	13.8	10.76	17.57
Overweight (>+1sd - ≤+2sd)	136	17512	34.1	29.15	39.33	61	7897	15.4	10.81	21.37
Obese (>+2sd)	107	13694	26.6	20.83	33.36	59	8008	15.6	12.12	19.79
Height-for-age status (HAZ)										
Stunting (<-2sd)	77	9539	29.3	22.66	36.92	37	4524	13.9	8.42	22.06
Normal (≥-2sd)	640	79627	27.8	24.14	31.72	318	41444	14.5	11.77	17.62

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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
Sarawak	511	65001	20.3	17.81	23.11	478	61769	19.3	16.43	22.58
Locality of school										
Urban	247	31193	20.8	17.33	24.83	228	29506	19.7	14.98	25.47
Rural	264	33809	19.9	16.43	23.88	250	32263	19.0	15.75	22.70
Sex										
Boys	244	28744	17.8	15.05	20.90	240	29339	18.2	15.17	21.58
Girls	267	36257	22.9	19.38	26.90	238	32430	20.5	17.03	24.48
Ethnicity										
Malay	122	15091	15.9	13.27	18.94	131	15627	16.5	13.56	19.85
Chinese	162	18835	29.6	23.78	36.18	151	17937	28.2	21.95	35.41
Indian						1	118	20.4	2.01	76.17
Bumiputera Sabah	5	638	25.9	10.21	51.87	2	207	8.4	2.24	26.90
Bumiputera Sarawak	217	29899	19.4	17.11	21.91	187	27100	17.6	14.09	21.72
Others	5	539	13.4	3.01	43.78	6	780	19.5	7.50	41.91
School level										
Primary school	140	22931	18.7	15.57	22.37	176	28547	23.3	19.32	27.86
Secondary school	371	42070	21.3	17.93	25.16	302	33222	16.8	13.70	20.52
Class										
Standard 4	59	8658	21.5	16.91	26.90	65	9234	22.9	16.52	30.86
Standard 5	38	6216	15.3	11.16	20.59	54	8400	20.7	15.59	26.85
Standard 6	43	8056	19.4	12.32	29.30	57	10913	26.3	17.19	38.10
Form 1	80	8737	19.9	13.73	27.89	86	9189	20.9	15.84	27.07
Form 2	48	7229	18.0	13.56	23.48	41	6060	15.1	12.07	18.69
Form 3	90	8435	21.4	15.34	28.93	80	7350	18.6	12.67	26.49
Form 4	78	8482	22.7	16.05	30.99	56	5924	15.8	10.72	22.75
Form 5	75	9187	25.3	19.71	31.93	39	4700	13.0	8.81	18.66
School session										
Morning session	376	47772	20.4	17.85	23.21	333	42978	18.4	15.28	21.88
Evening session	86	10786	22.7	16.63	30.16	94	11776	24.8	19.12	31.45
Morning and evening session	49	6444	17.0	10.81	25.73	51	7015	18.5	11.64	28.17
BMI-for-age status (BAZ)										
Thinness (<-2sd)	44	5318	24.4	18.54	31.49	33	4135	19.0	13.10	26.75
Normal (\geq -2sd - \leq +1sd)	330	42188	21.7	17.87	26.06	294	37587	19.3	16.47	22.54
Overweight (>+1sd - \leq +2sd)	66	8496	16.5	13.06	20.69	71	9539	18.6	13.79	24.48
Obese (>+2sd)	70	8910	17.3	13.28	22.29	78	10303	20.0	14.07	27.72
Height-for-age status (HAZ)										
Stunting (<-2sd)	47	5585	17.2	12.54	23.00	43	5720	17.6	13.12	23.11
Normal (\geq -2sd)	462	59233	20.7	18.02	23.57	435	56049	19.5	16.60	22.87

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	
Sarawak	60	7134	2.2	1.61	3.09	674	83211	26.0	21.68	30.90
Locality of school										
Urban	27	3398	2.3	1.49	3.44	261	32552	21.7	16.60	27.93
Rural	33	3736	2.2	1.33	3.60	413	50659	29.8	24.10	36.22
Sex										
Boys	39	4456	2.8	1.81	4.18	335	39933	24.7	21.59	28.13
Girls	21	2678	1.7	1.08	2.64	339	43278	27.4	21.36	34.32
Ethnicity										
Malay	22	2470	2.6	1.60	4.21	268	31767	33.5	25.00	43.17
Chinese	15	1732	2.7	1.89	3.90	60	6844	10.8	6.88	16.44
Indian						1	125	21.5	2.14	77.45
Bumiputera Sabah	1	123	5.0	0.55	33.33	5	695	28.2	13.61	49.58
Bumiputera Sarawak	22	2809	1.8	0.97	3.39	334	42962	27.9	24.08	32.01
Others						6	819	20.4	6.97	46.85
School level										
Primary school	18	2504	2.0	0.98	4.24	151	25693	21.0	15.90	27.19
Secondary school	42	4629	2.3	1.72	3.19	523	57518	29.2	23.66	35.32
Class										
Standard 4	7	875	2.2	0.57	7.92	52	7619	18.9	13.64	25.61
Standard 5	7	1034	2.5	1.53	4.21	50	8714	21.4	14.68	30.18
Standard 6	4	595	1.4	0.30	6.50	49	9359	22.6	16.76	29.71
Form 1	12	1197	2.7	1.66	4.43	112	11933	27.2	20.45	35.08
Form 2	6	901	2.2	1.20	4.15	82	11368	28.3	20.75	37.30
Form 3	7	710	1.8	0.85	3.76	127	11458	29.0	23.23	35.56
Form 4	12	1320	3.5	2.06	5.98	107	11231	30.0	21.21	40.56
Form 5	5	501	1.4	0.56	3.38	95	11529	31.8	22.72	42.49
School session										
Morning session	48	5596	2.4	1.59	3.58	516	63263	27.0	22.00	32.70
Evening session	8	992	2.1	0.79	5.36	82	10298	21.7	16.48	27.93
Morning and evening session	4	546	1.4	0.36	5.56	75	9535	25.2	18.70	32.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	1140	5.2	2.83	9.51	49	6226	28.6	22.09	36.17
Normal (≥-2sd - ≤+1sd)	33	3955	2.0	1.42	2.89	427	51509	26.5	21.30	32.40
Overweight (>+1sd - ≤+2sd)	5	551	1.1	0.46	2.49	104	13133	25.5	20.80	30.93
Obese (>+2sd)	12	1488	2.9	1.54	5.37	93	12266	23.9	17.99	30.91
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	911	2.8	1.51	5.14	73	8817	27.1	21.89	32.96
Normal (≥-2sd)	52	6223	2.2	1.55	3.03	601	74394	25.9	21.46	30.99

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
Sarawak	342	45230	14.1	11.91	16.72
Locality of school					
Urban	164	21419	14.3	11.11	18.22
Rural	178	23810	14.0	11.06	17.59
Sex					
Boys	162	20652	12.8	10.39	15.63
Girls	180	24578	15.5	12.68	18.90
Ethnicity					
Malay	96	12670	13.4	9.46	18.52
Chinese	94	11148	17.5	13.88	21.88
Indian					
Bumiputera Sabah	5	670	27.2	9.20	57.97
Bumiputera Sarawak	144	20241	13.1	10.59	16.17
Others	3	500	12.5	3.86	33.62
School level					
Primary school	123	20168	16.5	12.59	21.28
Secondary school	219	25061	12.7	10.46	15.34
Class					
Standard 4	48	7121	17.7	11.75	25.70
Standard 5	43	7164	17.6	12.84	23.70
Standard 6	32	5884	14.2	9.42	20.84
Form 1	57	6135	14.0	11.07	17.45
Form 2	36	5468	13.6	9.03	20.01
Form 3	42	3866	9.8	7.63	12.48
Form 4	46	4983	13.3	8.12	21.07
Form 5	38	4609	12.7	8.34	18.90
School session					
Morning session	246	32757	14.0	11.39	17.07
Evening session	60	7761	16.3	12.98	20.33
Morning and evening session	36	4711	12.4	7.98	18.88
BMI-for-age status (BAZ)					
Thinness (<-2sd)	15	1860	8.5	5.87	12.28
Normal (\geq -2sd - \leq +1sd)	213	28104	14.4	11.47	18.05
Overweight ($>$ +1sd - \leq +2sd)	69	8954	17.4	13.58	22.05
Obese ($>$ +2sd)	45	6312	12.3	9.52	15.69
Height-for-age status (HAZ)					
Stunting (<-2sd)	35	4619	14.2	9.22	21.19
Normal (\geq -2sd)	306	40521	14.1	11.98	16.59

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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	
Sarawak	295	37992	11.9	9.79	14.29	1509	193247	60.3	55.74	64.72
Locality of school										
Urban	114	14594	9.7	7.17	13.06	706	90549	60.3	52.46	67.72
Rural	181	23398	13.7	11.17	16.78	803	102699	60.3	55.11	65.26
Sex										
Boys	170	21044	13.0	10.62	15.85	792	95941	59.3	54.37	64.09
Girls	125	16948	10.7	8.38	13.52	717	97306	61.3	55.51	66.84
Ethnicity										
Malay	94	11457	12.0	8.54	16.66	487	59276	62.2	55.53	68.44
Chinese	58	6466	10.2	7.63	13.53	278	32978	52.1	44.14	59.87
Indian	1	118	20.4	2.01	76.17	4	461	79.6	23.83	97.99
Bumiputera Sabah	2	228	9.3	1.96	34.27	12	1523	61.9	37.60	81.38
Bumiputera Sarawak	138	19409	12.5	9.78	15.96	709	96287	62.2	57.11	67.11
Others	2	313	7.8	2.20	24.27	19	2722	67.9	40.39	86.89
School level										
Primary school	110	17919	14.6	11.50	18.29	455	74949	60.9	52.84	68.49
Secondary school	185	20072	10.2	7.96	12.90	1054	118298	59.9	54.43	65.18
Class										
Standard 4	43	6441	15.9	11.81	20.95	159	23820	58.6	45.63	70.53
Standard 5	35	5309	13.0	9.07	18.23	155	25163	61.5	53.90	68.60
Standard 6	32	6170	14.9	10.48	20.72	141	25966	62.7	55.48	69.32
Form 1	49	4998	11.4	7.68	16.65	245	26127	59.7	51.02	67.80
Form 2	36	5034	12.4	9.15	16.62	174	25271	62.3	51.94	71.66
Form 3	42	3594	9.1	5.14	15.46	260	24130	60.8	55.12	66.22
Form 4	27	2766	7.4	4.85	11.27	201	21942	59.1	48.96	68.49
Form 5	31	3681	10.2	5.26	18.70	174	20828	57.4	50.39	64.18
School session										
Morning session	223	28904	12.3	9.83	15.34	1087	138959	59.2	54.33	63.97
Evening session	49	6217	13.0	8.90	18.69	228	28521	59.8	53.73	65.57
Morning and evening session	23	2871	7.6	5.35	10.55	193	25653	67.5	59.06	74.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	21	2721	12.5	7.93	19.16	97	12214	56.1	46.87	64.98
Normal (≥-2sd - ≤+1sd)	178	22823	11.7	9.15	14.80	952	120648	61.7	57.30	66.00
Overweight (>+1sd - ≤+2sd)	48	5947	11.6	8.59	15.50	227	29750	58.1	50.59	65.18
Obese (>+2sd)	48	6502	12.6	9.69	16.34	229	30199	58.7	52.70	64.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	33	3977	12.1	8.35	17.36	168	20964	64.1	55.70	71.63
Normal (≥-2sd)	262	34015	11.8	9.77	14.28	1337	171899	59.8	55.26	64.25

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
Sarawak	724	89152	27.8	22.67	33.64
Locality of school					
Urban	356	44925	29.9	21.78	39.60
Rural	368	44226	26.0	20.13	32.81
Sex					
Boys	382	44748	27.7	21.65	34.61
Girls	342	44404	28.0	22.62	34.06
Ethnicity					
Malay	209	24564	25.8	19.68	32.99
Chinese	200	23902	37.7	30.54	45.51
Indian					
Bumiputera Sabah	5	711	28.9	11.51	55.88
Bumiputera Sarawak	303	39005	25.2	19.30	32.21
Others	7	971	24.2	11.04	45.20
School level					
Primary school	189	30106	24.5	16.70	34.38
Secondary school	535	59046	29.9	23.69	36.96
Class					
Standard 4	73	10366	25.5	14.08	41.73
Standard 5	64	10435	25.5	17.95	34.90
Standard 6	52	9304	22.5	16.30	30.09
Form 1	116	12644	28.9	21.93	37.01
Form 2	71	10256	25.3	15.99	37.57
Form 3	132	11959	30.1	25.31	35.45
Form 4	120	12431	33.5	25.29	42.79
Form 5	96	11756	32.4	22.36	44.40
School session					
Morning session	550	66694	28.4	22.65	35.03
Evening session	100	12959	27.2	19.72	36.17
Morning and evening session	74	9499	25.0	17.32	34.61
BMI-for-age status (BAZ)					
Thinness (<-2sd)	57	6824	31.4	22.64	41.64
Normal (≥-2sd - ≤+1sd)	431	51923	26.6	21.50	32.35
Overweight (>+1sd - ≤+2sd)	121	15542	30.3	23.71	37.88
Obese (>+2sd)	113	14703	28.6	22.20	36.00
Height-for-age status (HAZ)					
Stunting (<-2sd)	65	7789	23.8	16.72	32.69
Normal (≥-2sd)	659	81362	28.3	23.21	34.06

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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	
Sarawak	379	48935	15.3	12.11	19.14	354	44729	14.0	11.83	16.45
Locality of school										
Urban	138	18030	12.0	9.40	15.32	171	21797	14.6	11.38	18.46
Rural	241	30904	18.2	13.34	24.21	183	22931	13.5	10.76	16.73
Sex										
Boys	170	20159	12.5	9.88	15.63	184	22030	13.6	11.41	16.20
Girls	209	28776	18.2	13.67	23.78	170	22699	14.3	11.70	17.46
Ethnicity										
Malay	130	15471	16.3	11.29	22.83	94	11104	11.7	9.81	13.82
Chinese	58	6842	10.8	8.11	14.22	103	12345	19.5	17.21	21.97
Indian	1	125	21.5	2.14	77.45	3	315	54.5	21.35	84.04
Bumiputera Sabah						2	215	8.7	2.06	30.30
Bumiputera Sarawak	189	26342	17.1	12.58	22.76	146	19910	12.9	9.51	17.28
Others	1	155	3.9	0.49	24.83	6	839	20.9	9.28	40.68
School level										
Primary school	97	17848	14.5	8.99	22.65	117	18604	15.1	11.25	20.09
Secondary school	282	31086	15.8	12.33	19.96	237	26125	13.3	10.99	15.90
Class										
Standard 4	34	5157	12.7	8.37	18.80	46	7123	17.5	11.42	25.96
Standard 5	24	4166	10.2	5.48	18.30	42	6363	15.6	9.95	23.66
Standard 6	39	8525	20.6	9.89	37.93	29	5118	12.4	8.76	17.14
Form 1	55	5717	13.0	8.47	19.54	53	5463	12.5	8.59	17.73
Form 2	41	6149	15.2	11.08	20.53	36	5123	12.7	8.95	17.66
Form 3	81	7219	18.3	12.42	26.07	63	5739	14.5	11.30	18.48
Form 4	57	6298	16.9	10.61	25.76	54	5978	16.0	10.14	24.37
Form 5	48	5704	15.9	10.58	23.08	31	3821	10.6	7.68	14.51
School session										
Morning session	295	37892	16.2	12.39	20.86	277	35327	15.1	12.29	18.39
Evening session	43	6036	12.6	8.57	18.25	48	5624	11.8	7.91	17.16
Morning and evening session	41	5007	13.2	8.18	20.70	29	3778	10.0	6.85	14.32
BMI-for-age status (BAZ)										
Thinness (<-2sd)	34	4726	21.7	14.33	31.52	24	2918	13.4	9.01	19.51
Normal (≥-2sd - ≤+1sd)	243	30282	15.6	12.51	19.17	219	27746	14.2	11.98	16.86
Overweight (>+1sd - ≤+2sd)	46	6022	11.7	8.16	16.54	61	7536	14.7	9.85	21.24
Obese (>+2sd)	56	7904	15.4	9.35	24.25	47	6211	12.1	8.21	17.44
Height-for-age status (HAZ)										
Stunting (<-2sd)	50	6320	19.3	14.35	25.34	38	4602	14.0	11.28	17.30
Normal (≥-2sd)	329	42615	14.9	11.71	18.68	315	40038	14.0	11.64	16.66

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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	
Sarawak	647	81426	25.5	20.54	31.08	78	9652	3.0	2.01	4.50
Locality of school										
Urban	351	44081	29.5	22.43	37.63	41	5125	3.4	1.77	6.54
Rural	296	37345	21.9	16.00	29.30	37	4527	2.7	1.75	4.03
Sex										
Boys	380	45215	28.0	22.32	34.43	55	6580	4.1	2.62	6.27
Girls	267	36211	22.9	17.40	29.46	23	3072	1.9	1.19	3.16
Ethnicity										
Malay	210	25841	27.1	22.95	31.79	30	3563	3.7	2.04	6.75
Chinese	125	14351	22.6	15.74	31.44	7	700	1.1	0.41	2.93
Indian	1	91	15.7	1.49	69.50					
Bumiputera Sabah	7	956	38.8	16.55	67.02	1	167	6.8	0.88	37.36
Bumiputera Sarawak	297	39129	25.4	18.67	33.47	40	5222	3.4	2.11	5.39
Others	7	1058	26.4	10.20	53.12					
School level										
Primary school	158	26221	21.4	15.04	29.40	26	3837	3.1	1.66	5.82
Secondary school	489	55205	28.0	21.65	35.39	52	5815	3.0	1.74	4.95
Class										
Standard 4	35	5447	13.4	7.23	23.52	6	854	2.1	0.82	5.27
Standard 5	57	8773	21.5	14.72	30.38	8	1150	2.8	1.35	5.80
Standard 6	66	12001	29.0	17.79	43.44	12	1833	4.4	2.26	8.48
Form 1	116	12351	28.2	20.92	36.76	20	1995	4.5	1.76	11.25
Form 2	88	12861	31.8	21.02	45.01	11	1535	3.8	1.84	7.69
Form 3	123	11722	29.7	20.74	40.48	7	694	1.8	0.81	3.75
Form 4	81	8417	22.5	17.77	28.16	7	740	2.0	0.86	4.50
Form 5	81	9854	27.4	17.76	39.70	7	851	2.4	1.03	5.35
School session										
Morning session	438	54161	23.1	18.46	28.57	50	6295	2.7	1.87	3.85
Evening session	143	18025	37.7	26.54	50.39	16	1684	3.5	1.15	10.25
Morning and evening session	66	9241	24.4	18.84	31.00	12	1673	4.4	2.34	8.19
BMI-for-age status (BAZ)										
Thinness (<-2sd)	47	6092	28.0	21.17	36.02	5	602	2.8	1.02	7.27
Normal (≥-2sd - ≤+1sd)	386	47957	24.6	19.76	30.24	43	5428	2.8	1.87	4.13
Overweight (>+1sd - ≤+2sd)	110	13906	27.0	20.26	35.10	14	1593	3.1	1.40	6.72
Obese (>+2sd)	103	13381	26.0	20.67	32.21	16	2029	3.9	2.26	6.81
Height-for-age status (HAZ)										
Stunting (<-2sd)	56	6989	21.3	15.28	28.85	8	1139	3.5	1.38	8.44
Normal (≥-2sd)	589	74234	25.9	20.86	31.63	70	8513	3.0	1.88	4.65

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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	
Sarawak	256	33124	10.4	8.98	11.91	343	43284	13.5	11.10	16.40
Locality of school										
Urban	121	15433	10.3	8.25	12.82	120	15170	10.1	7.71	13.22
Rural	135	17691	10.4	8.66	12.42	223	28114	16.5	13.53	20.00
Sex										
Boys	124	15534	9.6	7.76	11.85	164	20426	12.6	10.18	15.58
Girls	132	17590	11.1	9.21	13.35	179	22858	14.4	11.22	18.39
Ethnicity										
Malay	64	7977	8.4	6.51	10.73	130	15419	16.2	12.25	21.10
Chinese	82	9623	15.2	13.47	17.07	37	4406	7.0	4.40	10.82
Indian						1	139	24.0	4.64	67.32
Bumiputera Sabah						4	415	16.9	7.32	34.26
Bumiputera Sarawak	107	15039	9.7	7.78	12.16	167	22284	14.4	11.99	17.30
Others	3	484	12.1	4.26	29.79	4	621	15.5	4.36	42.44
School level										
Primary school	82	13859	11.3	9.09	13.93	93	15512	12.6	8.82	17.77
Secondary school	174	19264	9.8	8.17	11.65	250	27772	14.1	11.17	17.63
Class										
Standard 4	29	4237	10.4	7.11	15.05	37	5738	14.1	7.94	23.87
Standard 5	26	4174	10.2	8.07	12.92	32	5559	13.6	9.35	19.49
Standard 6	27	5448	13.1	9.07	18.67	24	4215	10.2	6.53	15.51
Form 1	35	3866	8.8	6.23	12.34	61	6528	14.9	11.00	19.84
Form 2	16	2437	6.0	2.99	11.78	44	6242	15.4	9.57	23.97
Form 3	44	4011	10.2	7.21	14.11	56	4861	12.3	8.26	17.94
Form 4	43	4636	12.4	9.76	15.68	45	4807	12.9	8.95	18.18
Form 5	36	4314	12.0	7.98	17.63	44	5335	14.8	10.33	20.81
School session										
Morning session	192	24990	10.7	9.07	12.52	258	32279	13.8	10.90	17.29
Evening session	31	3790	7.9	5.11	12.12	40	5223	10.9	7.31	16.04
Morning and evening session	32	4229	11.2	8.24	14.98	45	5783	15.3	11.90	19.40
BMI-for-age status (BAZ)										
Thinness (<-2sd)	14	1604	7.4	4.34	12.26	25	2892	13.3	8.00	21.28
Normal (≥-2sd - ≤+1sd)	159	20052	10.3	8.69	12.17	220	27583	14.2	11.63	17.15
Overweight (>+1sd - ≤+2sd)	43	6478	12.6	7.65	20.04	51	6472	12.6	9.29	16.84
Obese (>+2sd)	40	4990	9.7	7.17	13.02	45	6133	11.9	7.45	18.56
Height-for-age status (HAZ)										
Stunting (<-2sd)	25	2833	8.6	5.32	13.70	45	5453	16.6	12.33	22.00
Normal (≥-2sd)	230	30201	10.5	9.04	12.23	298	37831	13.2	10.80	16.02

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	
Sarawak	254	33287	10.4	8.36	12.88
Locality of school					
Urban	107	13560	9.1	6.50	12.49
Rural	147	19727	11.6	8.82	15.08
Sex					
Boys	118	15134	9.4	7.25	12.02
Girls	136	18153	11.5	9.01	14.49
Ethnicity					
Malay	78	9976	10.5	8.00	13.62
Chinese	66	7854	12.4	10.22	14.95
Indian	1	107	18.4	3.80	56.40
Bumiputera Sabah	4	474	19.3	5.71	48.45
Bumiputera Sarawak	102	14401	9.3	6.47	13.30
Others	3	476	11.9	4.40	28.26
School level					
Primary school	105	16772	13.7	10.94	16.92
Secondary school	149	16515	8.4	6.23	11.18
Class					
Standard 4	45	6352	15.6	10.93	21.87
Standard 5	31	5212	12.8	9.70	16.70
Standard 6	29	5208	12.6	8.99	17.30
Form 1	36	3736	8.5	4.77	14.77
Form 2	26	3586	8.9	5.73	13.49
Form 3	29	2747	7.0	3.77	12.49
Form 4	35	3719	10.0	7.49	13.13
Form 5	23	2727	7.6	4.33	12.93
School session					
Morning session	184	24396	10.4	8.70	12.43
Evening session	37	4458	9.3	5.29	15.95
Morning and evening session	33	4433	11.7	7.08	18.77
BMI-for-age status (BAZ)					
Thinness (<-2sd)	11	1594	7.3	3.95	13.19
Normal (\geq -2sd - \leq +1sd)	161	21166	10.9	7.97	14.67
Overweight ($>$ +1sd - \leq +2sd)	43	5442	10.6	7.29	15.12
Obese ($>$ +2sd)	39	5086	9.9	7.39	13.13
Height-for-age status (HAZ)					
Stunting (<-2sd)	27	3509	10.7	6.53	17.01
Normal (\geq -2sd)	227	29778	10.4	8.33	12.87

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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	
Sarawak	974	120254	37.5	31.47	43.99	922	122185	38.1	33.04	43.48
Locality of school										
Urban	487	62026	41.3	33.42	49.70	373	47790	31.8	27.44	36.59
Rural	487	58228	34.2	25.95	43.46	549	74395	43.7	36.68	50.89
Sex										
Boys	509	59279	36.6	29.94	43.77	484	60906	37.6	32.41	43.06
Girls	465	60975	38.5	31.75	45.68	438	61279	38.7	33.23	44.41
Ethnicity										
Malay	358	42697	44.8	38.31	51.57	301	37038	38.9	35.52	42.39
Chinese	169	20110	31.6	24.08	40.14	127	14920	23.4	19.69	27.61
Indian	3	364	62.8	15.58	93.94	1	125	21.5	2.14	77.45
Bumiputera Sabah	5	656	26.7	12.65	47.71	8	1036	42.1	26.08	59.96
Bumiputera Sarawak	426	54311	35.1	26.54	44.83	477	67946	44.0	36.57	51.65
Others	13	2116	52.8	31.84	72.84	8	1121	28.0	14.22	47.63
School level										
Primary school	198	32077	26.1	18.76	35.08	347	58293	47.4	39.25	55.76
Secondary school	776	88177	44.6	39.23	50.14	575	63892	32.3	28.89	35.97
Class										
Standard 4	63	9178	22.7	14.84	33.05	115	16868	41.7	29.45	55.02
Standard 5	76	11888	29.0	18.43	42.51	126	20787	50.7	41.76	59.67
Standard 6	59	11011	26.6	20.15	34.17	106	20639	49.8	37.76	61.87
Form 1	145	15376	35.1	29.18	41.43	144	14894	34.0	25.80	43.20
Form 2	118	17472	43.1	32.23	54.63	104	14872	36.7	29.47	44.52
Form 3	164	15491	39.1	31.87	46.86	131	12160	30.7	23.87	38.49
Form 4	190	20615	55.2	43.06	66.79	117	12337	33.0	25.92	41.05
Form 5	159	19222	53.0	45.08	60.78	79	9628	26.5	21.68	32.06
School session										
Morning session	728	88047	37.5	30.66	44.94	691	92130	39.3	33.64	45.21
Evening session	143	18536	38.8	30.83	47.40	117	14718	30.8	22.97	39.91
Morning and evening session	102	13556	35.7	28.34	43.70	114	15337	40.3	34.14	46.86
BMI-for-age status (BAZ)										
Thinness (<-2sd)	58	6750	31.0	22.39	41.22	66	9242	42.5	32.29	53.34
Normal (≥-2sd - ≤+1sd)	613	74991	38.4	31.90	45.25	572	74659	38.2	32.81	43.88
Overweight (>+1sd - ≤+2sd)	156	20053	39.1	32.15	46.50	145	19034	37.1	31.95	42.57
Obese (>+2sd)	145	18262	35.6	29.02	42.70	136	18940	36.9	30.03	44.32
Height-for-age status (HAZ)										
Stunting (<-2sd)	90	10621	32.5	23.48	42.93	104	13587	41.5	33.58	49.91
Normal (≥-2sd)	882	109432	38.1	32.15	44.38	816	108417	37.7	32.75	42.97

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	
Sarawak	83	10975	3.4	2.37	4.91	148	19801	6.2	4.68	8.12
Locality of school										
Urban	37	4825	3.2	1.68	6.05	54	6953	4.6	3.20	6.66
Rural	46	6150	3.6	2.39	5.41	94	12848	7.5	5.39	10.45
Sex										
Boys	58	7537	4.7	3.23	6.66	71	9196	5.7	4.21	7.61
Girls	25	3438	2.2	1.31	3.57	77	10606	6.7	4.76	9.34
Ethnicity										
Malay	23	2897	3.0	1.78	5.15	30	3624	3.8	2.72	5.30
Chinese	16	1892	3.0	1.74	5.03	42	5087	8.0	5.35	11.76
Indian										
Bumiputera Sabah						1	163	6.6	0.94	34.59
Bumiputera Sarawak	43	6088	3.9	2.66	5.80	74	10744	7.0	4.80	9.97
Others	1	98	2.4	0.36	14.85	1	183	4.6	0.60	27.52
School level										
Primary school	38	6214	5.1	3.32	7.63	61	10111	8.2	6.24	10.78
Secondary school	45	4761	2.4	1.49	3.88	87	9690	4.9	3.24	7.35
Class										
Standard 4	11	1801	4.4	2.32	8.37	26	3870	9.6	6.45	13.96
Standard 5	14	2213	5.4	2.48	11.38	16	2669	6.5	5.17	8.19
Standard 6	13	2201	5.3	3.43	8.13	19	3571	8.6	5.06	14.30
Form 1	13	1330	3.0	1.69	5.39	24	2725	6.2	3.88	9.80
Form 2	6	852	2.1	0.69	6.23	9	1284	3.2	1.23	7.91
Form 3	8	676	1.7	0.71	4.04	16	1379	3.5	1.92	6.24
Form 4	12	1208	3.2	1.45	7.05	26	2844	7.6	3.94	14.22
Form 5	6	696	1.9	0.79	4.60	12	1458	4.0	1.93	8.18
School session										
Morning session	54	7479	3.2	2.05	4.92	108	14514	6.2	4.80	7.95
Evening session	16	1775	3.7	1.77	7.63	29	3858	8.1	4.63	13.72
Morning and evening session	13	1721	4.5	2.97	6.85	11	1429	3.8	1.37	9.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	407	1.9	0.66	5.20	8	1320	6.1	2.95	12.07
Normal (≥-2sd - ≤+1sd)	48	6566	3.4	2.20	5.10	94	12620	6.5	4.68	8.84
Overweight (>+1sd - ≤+2sd)	18	2439	4.8	3.04	7.36	28	3434	6.7	4.55	9.74
Obese (>+2sd)	12	1475	2.9	1.22	6.60	18	2428	4.7	2.79	7.89
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	1615	4.9	2.61	9.13	20	2687	8.2	5.01	13.16
Normal (≥-2sd)	71	9360	3.3	2.16	4.89	128	17115	6.0	4.50	7.85

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
Sarawak	754	91613	28.6	23.95	33.71
Locality of school					
Urban	392	49464	33.0	25.54	41.33
Rural	362	42149	24.7	20.46	29.57
Sex					
Boys	394	45240	27.9	22.83	33.64
Girls	360	46373	29.3	24.11	35.01
Ethnicity					
Malay	190	22713	23.9	20.99	26.98
Chinese	269	31736	49.8	43.71	55.90
Indian	1	91	15.7	1.49	69.50
Bumiputera Sabah	7	856	34.8	19.41	54.18
Bumiputera Sarawak	280	35335	22.9	19.42	26.72
Others	7	882	22.0	13.04	34.70
School level					
Primary school	202	31041	25.3	16.07	37.37
Secondary school	552	60572	30.6	27.06	34.49
Class					
Standard 4	83	12029	29.7	15.06	50.21
Standard 5	57	8831	21.6	14.87	30.17
Standard 6	62	10181	24.6	14.31	38.85
Form 1	134	14716	33.6	24.44	44.08
Form 2	74	10685	26.3	21.64	31.65
Form 3	162	14448	36.5	28.46	45.32
Form 4	76	7831	21.0	14.70	29.02
Form 5	106	12892	35.6	30.60	40.83
School session					
Morning session	548	65593	28.0	22.30	34.43
Evening session	127	15875	33.2	27.01	40.08
Morning and evening session	79	10145	26.7	20.99	33.27
BMI-for-age status (BAZ)					
Thinness (<-2sd)	58	6724	30.9	23.29	39.71
Normal (≥-2sd - ≤+1sd)	448	53430	27.3	22.41	32.87
Overweight (>+1sd - ≤+2sd)	126	15940	31.1	26.18	36.43
Obese (>+2sd)	121	15429	30.0	23.58	37.42
Height-for-age status (HAZ)					
Stunting (<-2sd)	67	7533	23.0	16.61	30.97
Normal (≥-2sd)	686	83988	29.2	24.50	34.44

3.5 Physical activity among adolescents (Primary 4 To Secondary 5) In Sarawak

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3.5.1 Introduction

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

3.5.2 Objectives

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

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

3.5.3 Variable definitions

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

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

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

3.5.4 Findings

The PAQ-C mean score for the physical activity level for adolescent in Sarawak was 2.31 (95% CI: 2.21, 2.40) (**Table 3.5.1**). Overall, a total of 44.3 % (95% CI: 38.68, 50.13) adolescents were physically active and 55.7% (95% CI: 49.87, 61.32) of them were not active. In terms of school locality, the prevalence of students who are active in urban area were 42.5% (95% CI: 35.51, 49.80) and from rural areas were (46.0% (95% CI: 37.54, 54.65)). The prevalence of physically active was significantly higher among boys (51.3% (95% CI: 45.26, 57.31) compared to girls, 37.4% (95% CI: 31.37, 43.80). By school level, primary students [(57.7% (95% CI: 51.46, 63.72))] showed higher prevalence of physically active than secondary students [(36.5% (95% CI: 33.57, 39.48)]. In term of BMI-for-age status, there is no significant different of physically active among thinness [48.9% (95% CI: 39.77, 58.06)], normal [44.2% (95% CI: 38.23, 50.42)], overweight [42.0% (95% CI: 34.87, 49.55)] and obese [45.4% (95% CI: 36.98, 54.03)] (**Table 3.5.2**).

The most popular spare-time physical activity according to percentage of adolescents in Sarawak were walking for exercise [82.0% (95% CI: 79.23, 84.41)] (**Table 3.5.3**). The prevalence of students who reported do not attend/very rare participated in PE class were 20.1% (95% CI: 17.28, 23.23)] (**Table 3.5.4**). During school days, 32.5% (95% CI:29.80, 35.30) of adolescent watched television, using computer and playing video games more than 2 hours per day (**Table 3.5.6**). Meanwhile, 47.4% (95% CI: 42.25, 52.56) 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 Sarawak (44.3%) was almost the same with national prevalence (44.6%). Boys and primary students had 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 the students. 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), 55.7% of children and adolescents in Sarawak were physically inactive. The prevalence of physically inactive among Malaysian adolescents was slightly decreased as compared to the Malaysian School-Based Nutrition Survey (2012), but remains high. Therefore, more programmes and strategies to increase physical activity should be implemented among children and adolescents in Malaysia.

3.5.7 Recommendations

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

Parents should be encouraged to be good role models; be active, limit the amount of sedentary and screen time behaviours, and monitor physical activity sedentary behaviours as well as screen time of their children. Interviewing technique for physical activity assessment should be applied in future study. Adolescents should be encouraged to get physically active in their daily life. Formulating specific program and intensifying health campaign are essential to promote physical activity among children and adolescents. Developing surveillance systems for physical activity enables compliance based on the standard recommendations. Parents should instill 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
SARAWAK	2.31	2.21	2.40
Locality of school			
Urban	2.27	2.16	2.38
Rural	2.34	2.19	2.48
Sex			
Boys	2.42	2.33	2.52
Girls	2.19	2.09	2.28
Class			
Standard 4	2.50	2.32	2.68
Standard 5	2.50	2.36	2.65
Standard 6	2.56	2.46	2.66
Form 1	2.31	2.21	2.41
Form 2	2.19	2.11	2.27
Form 3	2.14	2.05	2.22
Form 4	2.07	1.94	2.20
Form 5	2.17	2.05	2.29
Ethnicity			
Malay	2.37	2.26	2.47
Chinese	2.07	1.91	2.24
Indian	2.51	1.96	3.05
Bumiputera Sabah	2.16	1.72	2.61
Bumiputera Sarawak	2.37	2.26	2.49
Others	2.31	2.10	2.52
School Category			
Primary	2.52	2.41	2.63
Secondary	2.18	2.13	2.23
BMI-for-age status (BAZ)			
Thinness (<-2sd)	2.35	2.20	2.51
Normal (≥-2sd - ≤+1sd)	2.30	2.20	2.40
Overweight (>+1sd - ≤+2sd)	2.25	2.15	2.36
Obese (>+2sd)	2.37	2.24	2.49
Height-for-age status (HAZ)			
Stunting (<-2sd)	2.33	2.21	2.45
Normal (≥-2sd)	2.30	2.21	2.40

Note:

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

(Kowalski et. al., 2004)

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

Characteristic	Physical activity level									
	Active					Not active				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
SARAWAK	1026	133205	44.3	38.68	50.13	1355	167287	55.7	49.87	61.32
Locality of School										
Urban	473	60538	42.5	35.51	49.80	646	81905	57.5	50.20	64.49
Rural	553	72667	46.0	37.54	54.65	709	85383	54.0	45.35	62.46
Sex										
Boys	623	76965	51.3	45.26	57.31	633	73063	48.7	42.69	54.74
Girls	403	56239	37.4	31.37	43.80	722	94224	62.6	56.20	68.63
Class										
Standard 4	135	19877	55.3	42.02	67.93	109	16041	44.7	32.07	57.98
Standard 5	136	21735	57.4	48.21	66.17	100	16108	42.6	33.83	51.79
Standard 6	122	22538	60.3	54.62	65.64	78	14862	39.7	34.36	45.38
Form 1	169	17874	43.5	37.41	49.88	215	23174	56.5	50.12	62.59
Form 2	100	14353	37.2	31.54	43.34	167	24181	62.8	56.66	68.46
Form 3	151	13613	35.2	29.38	41.55	271	25032	64.8	58.45	70.62
Form 4	108	11054	31.3	23.40	40.47	223	24250	68.7	59.53	76.60
Form 5	105	12162	34.0	25.96	43.02	192	23638	66.0	56.98	74.04
Ethnicity										
Malay	360	44313	48.6	41.11	56.07	397	46939	51.4	43.93	58.89
Chinese	156	18612	30.5	22.25	40.16	362	42471	69.5	59.84	77.75
Indian	4	488	84.3	30.50	98.51	1	91	15.7	1.49	69.50
Bumiputera Sabah	7	904	40.1	18.12	66.94	10	1351	59.9	33.06	81.88
Bumiputera Sarawak	488	67330	47.6	40.75	54.63	568	73986	52.4	45.37	59.25
Others	11	1557	38.9	24.92	54.88	17	2450	61.1	45.12	75.08
School Category										
Primary	393	64149	57.7	51.46	63.72	287	47011	42.3	36.28	48.54
Secondary	633	69055	36.5	33.57	39.48	1068	120276	63.5	60.52	66.43
BMI-for-age status (BAZ)										
Thinness (<-2sd)	81	10027	48.9	39.77	58.06	85	10488	51.1	41.94	60.23
Normal (≥-2sd - ≤+1sd)	634	81104	44.2	38.23	50.42	835	102246	55.8	49.58	61.77
Overweight (>+1sd - ≤+2sd)	153	19935	42.0	34.87	49.55	217	27492	58.0	50.45	65.13
Obese (>+2sd)	157	22049	45.4	36.98	54.03	213	26554	54.6	45.97	63.02
Height-for-age status (HAZ)										
Stunting (<-2sd)	111	13784	45.4	37.27	53.80	138	16572	54.6	46.20	62.73
Normal (≥-2sd)	913	119239	44.2	38.54	50.02	1215	150512	55.8	49.98	61.46

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	2063	82.0	79.23	84.41
Jogging/Running	1950	78.2	74.47	81.47
Tagging	1658	67.9	60.86	74.12
Badminton	1647	66.4	62.05	70.49
Cycling	1325	53.7	47.91	59.33

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
SARAWAK	513	64411	20.1	17.28	23.23	1451	186005	58.0	55.15	60.83
Locality of school										
Urban	232	29922	19.9	17.16	22.96	683	87549	58.2	56.39	60.05
Rural	281	34489	20.3	15.74	25.68	768	98456	57.8	52.65	62.84
Sex										
Boys	280	33273	20.5	16.94	24.66	718	87870	54.2	49.62	58.74
Girls	233	31138	19.6	16.08	23.77	733	98135	61.9	58.12	65.55
Class										
Standard 4	39	5548	13.7	10.77	17.27	150	22528	55.6	46.80	64.10
Standard 5	47	8065	19.6	13.47	27.69	154	24498	59.6	54.01	64.99
Standard 6	45	8219	19.9	16.96	23.21	132	24707	59.8	52.62	66.61
Form 1	69	7292	16.6	12.35	21.93	241	26081	59.3	51.71	66.55
Form 2	47	7092	17.5	10.44	27.80	169	24410	60.2	51.92	67.90
Form 3	113	10584	26.7	19.47	35.36	227	20633	52.0	44.97	58.94
Form 4	97	10879	29.2	21.77	37.96	191	20379	54.7	49.41	59.92
Form 5	56	6732	18.6	12.50	26.68	187	22769	62.8	56.38	68.77
Ethnicity										
Malay	132	15152	15.9	12.98	19.37	481	58962	61.9	57.12	66.51
Chinese	135	15943	25.1	19.49	31.59	295	35141	55.2	49.36	60.96
Indian	2	197	34.1	11.07	68.23	2	242	41.9	7.06	87.22
Bumiputera Sabah	6	801	32.5	13.12	60.63	9	1177	47.8	26.59	69.86
Bumiputera Sarawak	230	31286	20.2	16.88	24.03	650	88446	57.2	53.09	61.14
Others	8	1032	25.7	11.51	48.04	14	2036	50.8	24.27	76.92
School level										
Primary	131	21832	17.8	14.46	21.63	436	71733	58.4	54.89	61.76
Secondary	382	42579	21.5	17.77	25.85	1015	114272	57.8	53.67	61.83
BMI-for-age status (BAZ)										
Thinness (<-2sd)	31	4140	19.1	12.96	27.27	90	11011	50.8	42.63	59.00
Normal (≥-2sd - ≤+1sd)	314	38166	19.5	16.13	23.49	891	113366	58.1	54.21	61.83
Overweight (>+1sd - ≤+2sd)	87	11148	21.6	17.44	26.52	235	30982	60.1	54.03	65.94
Obese (>+2sd)	77	10520	20.4	15.58	26.23	234	30569	59.3	52.27	65.88
Height-for-age status (HAZ)										
Stunting (<-2sd)	54	6690	20.4	15.72	25.99	156	19051	58.0	49.46	66.15
Normal (≥-2sd)	457	57541	20.0	17.13	23.26	1293	166751	58.0	55.29	60.70

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

Characteristic	Count	Estimated population	Always Prevalence (%)	95% CI	
				Lower	Upper
SARAWAK	566	70186	21.9	19.50	24.49
Locality of school					
Urban	683	32874	21.9	18.28	25.93
Rural	768	37312	21.9	18.82	25.36
Sex					
Boys	349	40926	25.3	22.32	28.43
Girls	217	29260	18.5	15.37	22.01
Class					
Standard 4	85	12427	30.7	24.09	38.17
Standard 5	54	8527	20.8	15.79	26.78
Standard 6	47	8380	20.3	14.32	27.94
Form 1	102	10576	24.1	17.47	32.18
Form 2	65	9059	22.3	17.53	28.00
Form 3	94	8467	21.3	15.44	28.71
Form 4	61	5986	16.1	10.72	23.40
Form 5	58	6764	18.7	14.87	23.14
Ethnicity					
Malay	176	21094	22.2	19.35	25.24
Chinese	109	12539	19.7	14.69	25.92
Indian	1	139	24.0	4.64	67.32
Bumiputera Sabah	4	484	19.6	6.12	47.85
Bumiputera Sarawak	270	34992	22.6	19.59	25.95
Others	6	939	23.4	8.94	48.81
School level					
Primary	186	29334	23.9	20.51	27.59
Secondary	380	40852	20.7	17.66	24.02
BMI-for-age status (BAZ)					
Thinness (<-2sd)	53	6510	30.1	20.39	41.89
Normal (≥-2sd - ≤+1sd)	354	43699	22.4	19.71	25.31
Overweight (>+1sd - ≤+2sd)	77	9392	18.2	14.04	23.33
Obese (>+2sd)	81	10502	20.4	15.93	25.64
Height-for-age status (HAZ)					
Stunting (<-2sd)	57	7087	21.6	16.17	28.21
Normal (≥-2sd)	509	63099	22.0	19.36	24.80

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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
SARAWAK	1309	168518	52.6	47.44	57.75	1219	151706	47.4	42.25	52.56
Locality of school										
Urban	592	76019	50.7	42.57	58.72	585	74028	49.3	41.28	57.43
Rural	717	92500	54.4	47.92	60.65	634	77678	45.6	39.35	52.08
Sex										
Boys	685	82995	51.2	46.66	55.68	663	79163	48.8	44.32	53.34
Girls	624	85523	54.1	47.02	61.02	556	72543	45.9	38.98	52.98
Class										
Standard 4	186	27532	68.0	62.08	73.35	88	12973	32.0	26.65	37.92
Standard 5	161	26033	63.4	55.79	70.32	94	15057	36.6	29.68	44.21
Standard 6	121	22857	55.4	48.02	62.50	103	18420	44.6	37.50	51.98
Form 1	242	25589	58.6	49.62	67.08	168	18063	41.4	32.92	50.38
Form 2	132	18543	45.7	37.87	53.78	149	22018	54.3	46.22	62.13
Form 3	211	19282	48.6	42.62	54.60	223	20401	51.4	45.40	57.38
Form 4	148	15597	41.9	33.90	50.42	201	21596	58.1	49.58	66.10
Form 5	108	13086	36.1	25.09	48.76	193	23179	63.9	51.24	74.91
Ethnicity										
Malay	448	53648	56.4	49.71	62.80	341	41530	43.6	37.20	50.29
Chinese	198	23653	37.4	24.77	51.95	339	39651	62.6	48.05	75.23
Indian	4	488	84.3	30.50	98.51	1	91	15.7	1.49	69.50
Bumiputera Sabah	11	1434	58.3	36.33	77.35	8	1027	41.7	22.65	63.67
Bumiputera Sarawak	632	86951	56.2	51.12	61.17	518	67744	43.8	38.83	48.88
Others	16	2344	58.5	43.63	71.96	12	1663	41.5	28.04	56.37
School level										
Primary	468	76421	62.2	57.63	66.56	285	46450	37.8	33.44	42.37
Secondary	841	92097	46.7	41.36	52.04	934	105256	53.3	47.96	58.64
BMI-for-age status (BAZ)										
Thinness (<-2sd)	97	12053	55.4	45.97	64.44	78	9706	44.6	35.56	54.03
Normal (≥-2sd - ≤+1sd)	817	103594	53.1	47.46	58.69	741	91431	46.9	41.31	52.54
Overweight (>+1sd - ≤+2sd)	190	25652	49.8	40.32	59.28	209	25870	50.2	40.72	59.68
Obese (>+2sd)	200	26711	52.0	45.61	58.42	190	24611	48.0	41.58	54.39
Height-for-age status (HAZ)										
Stunting (<-2sd)	149	18261	55.6	50.79	60.36	118	14567	44.4	39.64	49.21
Normal (≥-2sd)	1160	150257	52.4	46.82	57.82	1097	136756	47.6	42.18	53.18

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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
SARAWAK	1692	215670	67.5	64.70	70.20	832	103810	32.5	29.80	35.30
Locality of school										
Urban	781	99954	66.7	62.21	70.88	395	49938	33.3	29.12	37.79
Rural	911	115715	68.2	64.71	71.56	437	53872	31.8	28.44	35.29
Sex										
Boys	869	104468	64.6	60.93	68.02	477	57357	35.4	31.98	39.07
Girls	823	111202	70.5	66.76	74.05	355	46453	29.5	25.95	33.24
Class										
Standard 4	213	31478	77.8	69.51	84.31	61	8994	22.2	15.69	30.49
Standard 5	179	28820	71.0	64.64	76.58	73	11789	29.0	23.42	35.36
Standard 6	134	25438	62.1	53.71	69.89	89	15501	37.9	30.11	46.29
Form 1	293	31519	71.7	67.02	75.99	119	12430	28.3	24.01	32.98
Form 2	208	30018	74.0	69.05	78.42	73	10542	26.0	21.58	30.95
Form 3	288	26113	65.9	59.59	71.76	145	13490	34.1	28.24	40.41
Form 4	208	22002	59.3	53.25	65.15	140	15079	40.7	34.85	46.75
Form 5	169	20281	55.9	45.48	65.87	132	15984	44.1	34.13	54.52
Ethnicity										
Malay	549	65776	69.4	66.08	72.54	237	28993	30.6	27.46	33.92
Chinese	322	38293	60.2	48.99	70.44	217	25309	39.8	29.56	51.01
Indian	3	371	64.0	16.40	94.15	2	209	36.0	5.85	83.60
Bumiputera Sabah	10	1318	53.6	31.43	74.39	9	1143	46.4	25.61	68.57
Bumiputera Sarawak	789	107190	69.5	66.46	72.39	359	47024	30.5	27.61	33.54
Others	19	2722	70.6	44.65	87.76	8	1132	29.4	12.24	55.35
School level										
Primary	526	85736	70.3	66.63	73.66	223	36285	29.7	26.34	33.37
Secondary	1166	129933	65.8	62.21	69.23	609	67525	34.2	30.77	37.79
BMI-for-age status (BAZ)										
Thinness (<-2sd)	113	13858	64.7	54.10	74.02	61	7563	35.3	25.98	45.90
Normal (≥-2sd - ≤+1sd)	1055	133144	68.3	64.73	71.73	501	61695	31.7	28.27	35.27
Overweight (>+1sd - ≤+2sd)	260	33714	65.6	60.09	70.78	138	17655	34.4	29.22	39.91
Obese (>+2sd)	259	34440	67.2	62.56	71.52	131	16814	32.8	28.48	37.44
Height-for-age status (HAZ)										
Stunting (<-2sd)	181	21965	67.6	58.50	75.55	85	10525	32.4	24.45	41.50
Normal (≥-2sd)	1510	193615	67.55	64.55	70.42	744	92990	32.45	29.58	35.45

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

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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 Sarawak was 41.4% (95% CI: 36.30, 46.59) (**Table 3.6.1**) and 27.0% (95% CI: 22.81, 31.56) (**Table 3.6.5**). There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, school classes and localities (**Table 3.6.1 and 3.6.5**). In average, the vitamin/mineral and food supplements were consumed everyday by 16.8 % (95% CI 14.00, 20.02) and 12.2 % (9.49, 15.43) **respectively (Table 3.6.1 and Table 3.6.8)**. The most commonly consumed vitamin / minerals and food supplements were Vitamin C, 38.9% (95% CI: 33.03, 45.11] (Table 3.6.2) and bee product 12.7% (95% CI: 9.83, 16.26) (**Table 3.6.6**). The main reason for taking vitamin / minerals and food supplements was due to parent's advised 42.3% (95% CI: 36.10, 48.80) (**Table 3.6.3**) and 26.5% (95% CI: 22.50, 31.00) (**Table 3.6.7**).

3.6.4 Discussions

The prevalence of taking vitamin/mineral among adolescence was 44.7% (95% CI: 42.49-46.91) and food supplements, 30.6% (95% CI: 28.90-32.43), and these prevalence were lower than national prevalence. The consumption of Vitamin C and Bee Product were significantly higher compared with the other types of vitamin / mineral and food supplement, and these results were consistent with the national finding. The survey shows that parent's instruction was significantly the main reason for taking vitamin / mineral and food supplements among the adolescents. This suggests the parents as strong influencer for food supplement and vitamin intake among children.

3.6.5 Conclusions

Overall findings from this survey show that every four of ten Sarawak adolescents took vitamin / mineral and three of ten of them took food supplements. Every four of ten parents influenced children's intake of vitamin/ mineral while three of ten parents influenced the children's intake of food supplements. Vitamin C and Bee product remain as the main types of vitamin and food supplement consumed by the Sarawak 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 characteristic

Characteristic	Taking vitamin / mineral supplement					Not taking vitamin / mineral supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	1019	132424	41.4	36.30	46.59	1508	187824	58.6	53.41	63.70
Locality of School										
Urban	441	56393	37.5	33.22	42.07	737	93811	62.5	57.93	66.78
Rural	578	76032	44.7	36.65	53.06	771	94013	55.3	46.94	63.35
Sex										
Boys	591	73318	45.3	39.87	50.84	754	88533	54.7	49.16	60.13
Girls	428	59107	37.3	31.94	43.02	754	99291	62.7	56.98	68.06
Class										
Standard 4	157	23231	57.2	53.06	61.20	118	17396	42.8	38.80	46.94
Standard 5	126	20617	50.2	41.55	58.78	129	20473	49.8	41.22	58.45
Standard 6	92	17557	42.5	32.70	52.93	132	23751	57.5	47.07	67.30
Remove class			0.0	0.00	0.00			0.0	0.00	0.00
Form 1	182	18852	43.1	34.67	51.86	228	24931	56.9	48.14	65.33
Form 2	102	14669	36.2	27.91	45.33	179	25892	63.8	54.67	72.09
Form 3	164	15348	38.8	30.88	47.38	269	24195	61.2	52.62	69.12
Form 4	97	10313	27.7	21.28	35.29	252	26858	72.3	64.71	78.72
Form 5	99	11838	32.7	25.36	41.07	201	24330	67.3	58.93	74.64
Ethnicity										
Malay	324	39860	41.9	34.68	49.41	465	55353	58.1	50.59	65.32
Chinese	193	23044	36.2	30.27	42.51	347	40677	63.8	57.49	69.73
Indian	2	225	38.8	12.76	73.33	3	354	61.2	26.67	87.24
Bumiputera Sabah	6	893	36.3	13.80	66.98	13	1568	63.7	33.02	86.20
Bumiputera Sarawak	484	67012	43.4	37.01	50.10	662	87256	56.6	49.90	62.99
Others	10	1391	34.7	15.76	60.16	18	2616	65.3	39.84	84.24
BMI-for age status (BAZ)										
Thinness (<-2sd)	79	10028	46.4	36.69	56.37	95	11590	53.6	43.63	63.31
Normal (≥-2sd - ≤+1sd)	638	81174	41.6	36.35	47.05	920	113958	58.4	52.95	63.65
Overweight (>+1sd - ≤+2sd)	155	21364	41.6	33.85	49.73	243	30028	58.4	50.27	66.15
Obese (>+2sd)	145	19692	38.2	31.51	45.43	246	31817	61.8	54.57	68.49
Height-for-age status (HAZ)										
Stunting (<-2sd)	113	13651	42.0	34.51	49.95	151	18822	58.0	50.05	65.49
Normal (≥-2sd)	905	118684	41.3	35.96	46.85	1354	168708	58.7	53.15	64.04

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

Characteristic	Multivitamin					Vitamin C				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	135	17961	5.6	4.04	7.79	941	124230	38.9	33.03	45.11
Locality of School										
Urban	62	8082	5.4	3.26	8.82	405	52373	35.0	27.45	43.37
Rural	73	9880	5.8	3.74	8.95	536	71858	42.3	34.26	50.86
Sex										
Boys	80	10025	6.2	4.89	7.85	529	66692	41.3	35.36	47.43
Girls	55	7936	5.0	2.88	8.65	412	57539	36.5	30.07	43.40
Class										
Standard 4	25	3524	8.7	3.56	19.66	156	23287	57.3	45.47	68.38
Standard 5	21	3418	8.3	4.96	13.63	127	20562	50.0	41.74	58.34
Standard 6	15	2687	6.5	3.83	10.77	86	17216	41.5	28.41	56.00
Remove class										
Form 1	27	2727	6.2	3.53	10.71	164	17149	39.1	29.24	49.92
Form 2	20	2801	7.0	4.39	10.98	93	13047	32.6	26.33	39.58
Form 3	13	1172	3.0	1.42	6.19	141	13173	33.6	25.08	43.38
Form 4	8	844	2.3	0.98	5.19	92	9974	26.9	19.92	35.27
Form 5	6	789	2.2	1.12	4.24	82	9821	27.2	17.39	39.99
Ethnicity										
Malay	36	4577	4.8	3.28	6.99	300	36986	38.8	30.62	47.76
Chinese	40	4948	7.8	3.92	14.85	150	18072	28.4	23.26	34.18
Indian						1	107	18.4	3.80	56.40
Bumiputera Sabah						6	864	35.1	16.57	59.58
Bumiputera Sarawak	57	8246	5.4	3.40	8.36	475	66935	43.5	37.13	50.20
Others	2	191	5.1	0.95	22.99	9	1268	33.7	14.89	59.57
BMI-for age status (BAZ)										
Thinness (<-2sd)	8	1057	4.9	2.54	9.22	72	9942	46.0	34.56	57.86
Normal (≥ - 2sd - ≤+ 1sd)	84	11157	5.7	4.18	7.83	606	78551	40.4	33.58	47.58
Overweight (> +1sd - ≤+ 2sd)	22	3182	6.2	2.94	12.62	132	17612	34.3	27.63	41.73
Obese (> + 2sd)	21	2565	5.0	3.22	7.69	129	17921	34.9	29.26	41.03
Height-for - age status (HAZ)										
Stunting (<-2sd)	13	1630	5.1	2.89	8.84	112	13980	43.7	35.72	52.07
Normal (≥-2sd)	122	16332	5.7	4.03	7.98	828	110162	38.4	32.44	44.70

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

Characteristic	Iron					Others				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	107	13369	4.2	2.91	6.00	149	19731	6.2	4.94	7.70
Locality of School										
Urban	38	5128	3.4	2.10	5.54	65	8434	5.6	4.18	7.55
Rural	69	8241	4.9	2.96	7.87	84	11298	6.7	4.87	9.04
Sex										
Boys	78	9249	5.7	3.95	8.22	90	11356	7.0	5.61	8.77
Girls	29	4120	2.6	1.61	4.21	59	8375	5.3	3.99	7.03
Class										
Standard 4	11	1542	3.8	1.68	8.35	12	1795	4.4	3.43	5.68
Standard 5	14	2222	5.4	3.10	9.27	19	3347	8.1	5.11	12.75
Standard 6	17	2644	6.4	2.23	16.95	17	3583	8.6	4.53	15.89
Remove class										
Form 1	17	1714	3.9	2.07	7.26	27	2828	6.4	4.21	9.74
Form 2	10	1337	3.3	1.45	7.53	17	2606	6.5	4.43	9.48
Form 3	14	1342	3.4	2.38	4.90	29	2567	6.6	4.74	8.98
Form 4	19	1923	5.2	2.71	9.72	10	1038	2.8	1.18	6.50
Form 5	5	645	1.8	0.75	4.23	18	1967	5.5	2.99	9.76
Ethnicity										
Malay	37	4533	4.8	3.43	6.57	43	4915	5.2	4.14	6.42
Chinese	5	592	0.9	0.41	2.11	29	3286	5.2	3.35	7.88
Indian						1	118	20.4	2.01	76.17
Bumiputera Sabah						1	167	6.8	0.88	37.36
Bumiputera Sarawak	63	8001	5.2	3.23	8.29	72	10807	7.0	5.04	9.72
Others	2	243	6.4	1.37	25.52	3	439	11.7	5.10	24.53
BMI-for age status (BAZ)										
Thinness (<-2sd)	11	1172	5.4	2.61	10.95	12	1336	6.2	3.73	10.08
Normal (≥ - 2sd - ≤+ 1sd)	61	7539	3.9	2.50	5.97	77	9488	4.9	4.01	5.93
Overweight (> +1sd - ≤+ 2sd)	13	1797	3.5	2.03	5.99	26	4004	7.8	4.64	12.85
Obese (> + 2sd)	22	2861	5.6	3.24	9.42	34	4902	9.6	6.06	14.74
Height-for - age status (HAZ)										
Stunting (<-2sd)	12	1436	4.5	2.33	8.48	15	1754	5.5	3.49	8.53
Normal (≥-2sd)	95	11933	4.2	2.87	5.99	134	17977	6.3	4.85	8.05

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

Characteristic	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	204	27368	20.7	16.85	25.12	421	55977	42.3	36.10	48.76
Locality of School										
Urban	78	10748	19.1	12.12	28.77	200	25261	44.9	36.10	53.99
Rural	126	16620	21.9	18.34	25.84	221	30716	40.4	31.78	49.66
Sex										
Boys	113	14800	20.2	15.14	26.46	230	28517	39.0	32.28	46.07
Girls	91	12568	21.3	16.54	26.90	191	27460	46.5	37.94	55.19
Class										
Standard 4	40	6299	27.1	18.14	38.44	70	9992	43.0	30.17	56.87
Standard 5	29	4991	24.2	16.90	33.40	56	8897	43.2	32.78	54.16
Standard 6	12	2308	13.1	9.53	17.87	45	8596	49.0	35.51	62.57
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	43	4369	23.3	15.09	34.18	80	8485	45.3	36.87	53.93
Form 2	19	2893	19.7	13.22	28.38	51	7218	49.2	38.05	60.45
Form 3	23	2219	14.5	10.02	20.41	54	5206	33.9	25.32	43.73
Form 4	27	2877	27.9	18.12	40.35	29	3154	30.6	19.68	44.22
Form 5	11	1411	11.9	6.16	21.82	36	4428	37.4	21.80	56.16
Ethnicity										
Malay	73	9143	22.9	17.22	29.86	131	16712	41.9	32.62	51.85
Chinese	23	2660	11.5	6.88	18.73	89	10722	46.5	37.42	55.88
Indian	1	118	52.5	5.10	95.78	1	107	47.5	4.22	94.90
Bumiputera Sabah	2	266	29.8	6.60	71.88	2	337	37.8	10.62	75.59
Bumiputera Sarawak	102	14729	22.0	17.00	28.01	194	27453	41.0	31.92	50.80
Others	3	452	32.5	5.32	80.54	4	646	46.5	10.22	86.87
BMI-for age status (BAZ)										
Thinness (<-2sd)	11	1505	15.0	7.77	27.03	30	4052	40.4	30.11	51.63
Normal (≥ - 2sd - ≤+ 1sd)	139	18101	22.3	17.42	28.08	254	33483	41.2	33.17	49.82
Overweight (> +1sd - ≤+ 2sd)	30	4454	20.8	13.42	30.91	65	8976	42.0	33.48	51.05
Obese (> + 2sd)	24	3307	16.9	10.99	25.05	72	9466	48.3	39.59	57.17
Height-for - age status (HAZ)										
Stunting (<-2sd)	31	3911	28.7	18.29	41.87	43	5333	39.1	28.54	50.73
Normal (≥-2sd)	172	23367	19.7	16.25	23.69	378	50644	42.7	36.12	49.56

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

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	259	32530	24.6	21.37	28.11	27	3405	2.6	1.85	3.56
Locality of School										
Urban	111	13886	24.7	21.59	28.04	12	1563	2.8	1.62	4.72
Rural	148	18644	24.5	19.56	30.26	15	1842	2.4	1.64	3.56
Sex										
Boys	164	19989	27.3	23.42	31.57	18	2079	2.8	1.68	4.76
Girls	95	12541	21.2	16.55	26.78	9	1326	2.2	1.12	4.46
Class										
Standard 4	29	4097	17.6	9.55	30.27	5	840	3.6	1.86	6.91
Standard 5	24	3988	19.3	15.11	24.43	8	1135	5.5	2.37	12.27
Standard 6	25	4874	27.8	17.73	40.66	-	-	-	-	-
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	41	4167	22.2	15.42	30.94	3	348	1.9	0.64	5.25
Form 2	26	3751	25.6	19.47	32.81	2	254	1.7	0.52	5.66
Form 3	51	4685	30.5	24.46	37.36	7	613	4.0	1.44	10.60
Form 4	30	3123	30.3	22.37	39.56	1	89	0.9	0.14	5.19
Form 5	33	3844	32.5	18.18	51.00	1	126	1.1	0.14	7.83
Ethnicity										
Malay	80	9280	23.3	18.43	28.96	7	842	2.1	1.01	4.35
Chinese	50	6041	26.2	19.76	33.89	4	489	2.1	0.95	4.67
Indian										
Bumiputera Sabah	1	123	13.8	1.91	56.65	-	-	-	-	-
Bumiputera Sarawak	127	16988	25.4	20.28	31.28	16	2074	3.1	2.01	4.75
Others	1	98	7.0	0.69	45.04	-	-	-	-	-
BMI-for age status (BAZ)										
Thinness (<-2sd)	23	2811	28.0	18.66	39.82	4	522	5.2	1.79	14.21
Normal ($\geq -2sd - \leq +1sd$)	166	20505	25.3	20.65	30.50	14	1646	2.0	1.22	3.36
Overweight (> +1sd - $\leq +2sd$)	38	4859	22.7	16.56	30.40	5	680	3.2	1.47	6.76
Obese (> + 2sd)	31	4265	21.8	15.38	29.88	4	557	2.8	1.09	7.23
Height-for - age status (HAZ)										
Stunting (<-2sd)	19	2162	15.8	8.17	28.47	4	476	3.5	0.97	11.79
Normal ($\geq -2sd$)	240	30368	25.6	22.16	29.39	23	2929	2.5	1.64	3.69

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Sarawak	70	8734	6.6	4.73	9.14
Locality of School					
Urban	25	3110	5.5	3.03	9.85
Rural	45	5624	7.4	4.95	10.92
Sex					
Boys	43	5207	7.1	4.81	10.39
Girls	27	3527	6.0	3.89	9.05
Class					
Standard 4	9	1366	5.9	2.90	11.57
Standard 5	6	1193	5.8	2.23	14.21
Standard 6	5	978	5.6	3.42	8.96
Remove class	-	-	-	-	-
Form 1	8	811	4.3	2.15	8.50
Form 2	4	552	3.8	1.09	12.22
Form 3	16	1432	9.3	5.28	15.96
Form 4	6	606	5.9	2.34	14.01
Form 5	16	1796	15.2	6.31	32.19
Ethnicity					
Malay	21	2480	6.2	3.50	10.83
Chinese	17	1954	8.5	4.90	14.27
Indian					
Bumiputera Sabah	-	-	-	-	-
Bumiputera Sarawak	30	4106	6.1	3.67	10.09
Others	2	194	14.0	2.39	51.91
BMI-for age status (BAZ)					
Thinness (<-2sd)	4	523	5.2	1.53	16.32
Normal (≥ - 2sd - ≤+ 1sd)	46	5191	6.4	4.48	9.05
Overweight (> +1sd - ≤+ 2sd)	12	1819	8.5	3.68	18.49
Obese (> + 2sd)	8	1201	6.1	3.03	12.03
Height-for - age status (HAZ)					
Stunting (<-2sd)	11	1236	9.1	4.56	17.20
Normal (≥-2sd)	59	7498	6.3	4.47	8.88

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

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	403	53567	16.8	14.00	20.02	207	27535	8.6	6.51	11.37
Locality of School										
Urban	182	23945	16.0	12.67	20.05	79	10449	7.0	4.39	10.96
Rural	221	29622	17.5	13.35	22.56	128	17086	10.1	7.24	13.88
Sex										
Boys	215	26818	16.6	13.82	19.89	122	15191	9.4	7.17	12.29
Girls	188	26749	17.0	13.26	21.45	85	12344	7.8	5.25	11.53
Class										
Standard 4	87	12746	31.5	24.67	39.18	29	4071	10.1	6.50	15.24
Standard 5	48	8079	19.8	14.14	27.06	37	5451	13.4	7.89	21.76
Standard 6	34	6107	14.7	11.04	19.41	26	5680	13.7	6.50	26.64
Remove class										
Form 1	403	53567	16.8	14.00	20.02	207	27535	8.6	6.51	11.37
Form 2	46	6565	16.5	10.93	24.05	19	2656	6.7	4.19	10.43
Form 3	49	4600	11.7	8.47	15.91	31	2802	7.1	4.29	11.58
Form 4	41	4300	11.6	6.96	18.71	19	2156	5.8	2.79	11.73
Form 5	37	4767	13.2	7.61	22.00	13	1484	4.1	1.95	8.48
Ethnicity										
Malay	117	14690	15.5	11.15	21.01	59	6886	7.2	4.91	10.56
Chinese	86	10600	16.7	12.60	21.79	32	3874	6.1	4.30	8.59
Indian										
Bumiputera Sabah	4	585	23.8	8.29	51.82					
Bumiputera Sarawak	192	27014	17.6	14.16	21.65	114	16433	10.7	7.70	14.70
Others	4	678	18.0	4.92	48.24	2	342	9.1	2.72	26.28
BMI-for age status (BAZ)										
Thinness (<-2sd)	28	3761	17.5	12.12	24.64	15	2125	9.9	5.48	17.23
Normal (≥ - 2sd - ≤+ 1sd)	256	33685	17.3	14.23	20.96	120	15249	7.8	5.93	10.32
Overweight (> +1sd - ≤+ 2sd)	60	8342	16.3	12.20	21.38	36	5061	9.9	6.21	15.34
Obese (> + 2sd)	58	7664	14.9	11.02	19.93	36	5100	9.9	6.64	14.63
Height-for - age status (HAZ)										
Stunting (<-2sd)	34	4445	14.0	9.67	19.75	28	3472	10.9	7.90	14.87
Normal (≥-2sd)	369	49122	17.1	14.38	20.29	177	23861	8.3	6.17	11.14

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

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	221	28247	8.9	7.59	10.31	433	57655	18.1	15.61	20.84
Locality of School										
Urban	100	12837	8.6	6.78	10.82	178	23012	15.4	12.84	18.36
Rural	121	15410	9.1	7.42	11.10	255	34643	20.4	17.08	24.28
Sex										
Boys	143	17854	11.1	9.09	13.42	255	32668	20.3	16.93	24.06
Girls	78	10393	6.6	5.19	8.35	178	24987	15.8	13.13	19.01
Class										
Standard 4	25	3729	9.2	6.12	13.64	55	8400	20.7	15.34	27.44
Standard 5	33	5286	13.0	9.38	17.66	52	8857	21.7	15.60	29.43
Standard 6	20	3682	8.9	6.34	12.31	50	9699	23.4	17.71	30.26
Remove class										
Form 1	221	28247	8.9	7.59	10.31	433	57655	18.1	15.61	20.84
Form 2	23	3308	8.3	5.78	11.77	53	7460	18.7	15.85	21.97
Form 3	37	3401	8.6	6.33	11.70	63	5816	14.8	11.29	19.10
Form 4	15	1562	4.2	2.57	6.84	48	5156	13.9	9.31	20.28
Form 5	18	2010	5.6	3.78	8.16	43	4990	13.8	8.75	21.22
Ethnicity										
Malay	76	9276	9.8	7.45	12.68	148	18426	19.4	15.84	23.50
Chinese	39	4691	7.4	5.44	9.96	60	7101	11.2	8.73	14.22
Indian	1	118	20.4	2.01	76.17	1	107	18.4	3.80	56.40
Bumiputera Sabah						1	142	5.8	0.64	36.87
Bumiputera Sarawak	103	13957	9.1	7.45	11.05	216	30966	20.2	16.89	23.91
Others	2	204	5.4	1.29	20.06	7	913	24.3	8.46	52.59
BMI-for age status (BAZ)										
Thinness (<-2sd)	16	1861	8.7	5.35	13.73	34	4599	21.4	14.99	29.63
Normal (≥ -2sd - ≤+ 1sd)	145	18083	9.3	7.72	11.18	274	35885	18.5	15.84	21.44
Overweight (> +1sd - ≤+ 2sd)	24	3462	6.8	4.51	10.00	66	9068	17.7	13.25	23.22
Obese (> + 2sd)	36	4841	9.4	6.02	14.48	58	8014	15.6	11.88	20.27
Height-for - age status (HAZ)										
Stunting (<-2sd)	25	3053	9.6	6.57	13.80	57	7034	22.1	17.41	27.63
Normal (≥-2sd)	196	25194	8.8	7.48	10.30	376	50621	17.7	14.94	20.75

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

Characteristic	Taking food supplement					Not taking food supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	657	86090	27.0	22.81	31.56	1863	233248	73.0	68.44	77.19
Locality of School										
Urban	290	37258	24.9	19.33	31.39	885	112540	75.1	68.61	80.67
Rural	367	48833	28.8	23.14	35.21	978	120707	71.2	64.79	76.86
Sex										
Boys	397	50152	31.1	26.41	36.19	944	111144	68.9	63.81	73.59
Girls	260	35939	22.7	18.08	28.18	919	122104	77.3	71.82	81.92
Class										
Standard 4	81	11624	28.7	19.62	39.88	193	28881	71.3	60.12	80.38
Standard 5	105	17056	41.8	31.94	52.40	148	23730	58.2	47.60	68.06
Standard 6	73	13269	32.0	24.27	40.90	152	28171	68.0	59.10	75.73
Remove class										
Form 1	94	9646	22.0	17.01	27.94	317	34219	78.0	72.06	82.99
Form 2	78	10841	27.1	20.00	35.55	199	29193	72.9	64.45	80.00
Form 3	93	8688	22.0	17.35	27.52	339	30772	78.0	72.48	82.65
Form 4	67	7169	19.3	14.69	24.90	282	30001	80.7	75.10	85.31
Form 5	66	7796	21.6	17.51	26.36	233	28281	78.4	73.64	82.49
Ethnicity										
Malay	206	25510	26.9	21.26	33.47	579	69227	73.1	66.53	78.74
Chinese	145	17356	27.2	21.23	34.21	395	46365	72.8	65.79	78.77
Indian	2	246	42.5	5.86	89.76	3	333	57.5	10.24	94.14
Bumiputera Sabah	6	868	35.3	17.16	58.90	13	1593	64.7	41.10	82.84
Bumiputera Sarawak	294	41513	27.0	21.61	33.14	849	112320	73.0	66.86	78.39
Others	4	598	14.9	4.17	41.39	24	3409	85.1	58.61	95.83
BMI-for age status (BAZ)										
Thinness (<-2sd)	53	6589	30.5	22.02	40.50	121	15028	69.5	59.50	77.98
Normal ($\geq -2sd - \leq +1sd$)	408	53337	27.4	22.84	32.56	1144	141107	72.6	67.44	77.16
Overweight (> +1sd - $\leq +2sd$)	87	11730	23.0	17.40	29.66	309	39359	77.0	70.34	82.60
Obese (> +2sd)	108	14345	27.8	21.79	34.75	284	37246	72.2	65.25	78.21
Height-for - age status (HAZ)										
Stunting (<-2sd)	84	10308	31.7	22.54	42.64	180	22164	68.3	57.36	77.46
Normal ($\geq -2sd$)	572	75670	26.4	22.27	31.02	1680	210812	73.6	68.98	77.73

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

Characteristic	Spirulina					Fish oil				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	130	17523	5.5	3.78	8.02	196	25539	8.1	6.63	9.76
Locality of School										
Urban	56	7459	5.0	3.22	7.76	86	11124	7.5	5.82	9.59
Rural	74	10064	6.0	3.36	10.39	110	14416	8.6	6.45	11.27
Sex										
Boys	79	9984	6.2	4.53	8.47	127	15965	9.9	7.61	12.89
Girls	51	7539	4.8	2.80	8.17	69	9575	6.1	4.41	8.45
Class										
Standard 4	19	2800	7.0	3.49	13.49	18	2813	7.0	4.17	11.58
Standard 5	20	3213	7.9	4.69	12.94	27	4189	10.3	6.44	16.00
Standard 6	13	2601	6.3	3.15	12.14	23	4392	10.6	6.78	16.19
Remove class										
Form 1	23	2345	5.4	3.00	9.59	25	2683	6.2	4.07	9.33
Form 2	23	3259	8.1	3.41	18.18	20	2685	6.7	3.96	11.14
Form 3	16	1431	3.7	1.80	7.41	30	2843	7.3	5.11	10.40
Form 4	8	856	2.3	1.04	5.07	26	2586	7.0	4.59	10.52
Form 5	8	1018	2.9	1.61	5.02	27	3348	9.4	4.39	19.00
Ethnicity										
Malay	36	4254	4.5	2.59	7.68	54	6692	7.1	4.84	10.20
Chinese	13	1517	2.4	1.52	3.78	51	6085	9.6	7.76	11.91
Indian						1	139	24.0	4.64	67.32
Bumiputera Sabah	1	155	6.3	0.82	35.29	1	142	5.8	0.64	36.87
Bumiputera Sarawak	79	11509	7.6	5.07	11.12	88	12272	8.1	5.89	10.94
Others	1	88	2.3	0.24	18.87	1	210	5.6	0.84	29.18
BMI-for age status (BAZ)										
Thinness (<-2sd)	10	1415	6.6	3.34	12.75	17	2136	10.0	6.28	15.59
Normal (≥ - 2sd - ≤+ 1sd)	83	10983	5.7	3.80	8.40	130	16996	8.8	6.72	11.43
Overweight (> +1sd - ≤+ 2sd)	21	2795	5.5	2.63	11.12	23	3025	5.9	3.65	9.56
Obese (> + 2sd)	16	2330	4.6	2.55	8.12	26	3383	6.7	4.23	10.32
Height-for - age status (HAZ)										
Stunting (<-2sd)	25	3100	9.8	4.54	20.03	23	3311	10.5	6.75	16.00
Normal (≥-2sd)	105	14423	5.1	3.48	7.30	173	22229	7.8	6.47	9.37

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

Characteristic	Bee Product					Chicken essence				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	301	40263	12.7	9.83	16.26	147	19089	6.0	4.73	7.64
Locality of School										
Urban	102	13718	9.2	6.27	13.39	70	9219	6.2	4.29	8.89
Rural	199	26546	15.8	11.95	20.51	77	9869	5.9	4.26	8.00
Sex										
Boys	165	20739	12.9	9.65	17.07	99	12402	7.7	5.91	10.04
Girls	136	19524	12.5	9.32	16.52	48	6686	4.3	2.92	6.21
Class										
Standard 4	48	7282	18.2	12.57	25.51	20	2879	7.2	4.48	11.33
Standard 5	49	8071	19.8	10.58	33.99	24	3847	9.4	5.90	14.77
Standard 6	36	6955	16.8	12.26	22.55	12	2046	4.9	2.37	10.01
Remove class										
Form 1	46	4786	11.1	7.24	16.53	24	2340	5.4	3.01	9.52
Form 2	25	3503	8.8	7.03	10.85	25	3529	8.8	5.89	12.99
Form 3	46	4097	10.6	6.47	16.77	17	1558	4.0	1.75	8.94
Form 4	33	3398	9.2	5.61	14.71	9	1036	2.8	1.21	6.36
Form 5	18	2171	6.1	3.55	10.28	16	1853	5.2	2.85	9.32
Ethnicity										
Malay	112	14083	14.9	11.40	19.17	37	4385	4.6	3.63	5.88
Chinese	38	4404	7.0	5.04	9.57	25	3258	5.2	3.31	7.95
Indian	1	118	20.4	2.01	76.17					
Bumiputera Sabah	2	324	13.1	2.94	43.09	2	248	10.1	1.37	47.42
Bumiputera Sarawak	145	20899	13.7	10.61	17.56	77	10395	6.8	4.78	9.66
Others	3	435	11.6	4.36	27.30	6	804	21.4	11.15	37.01
BMI-for age status (BAZ)										
Thinness (<-2sd)	24	2867	13.4	9.13	19.34	9	1026	4.8	2.73	8.34
Normal (≥ -2sd - ≤+ 1sd)	183	23814	12.3	9.64	15.61	99	12879	6.7	5.08	8.69
Overweight (> +1sd - ≤+ 2sd)	47	7009	13.8	9.03	20.46	16	2081	4.1	2.47	6.72
Obese (> +2sd)	46	6484	12.8	8.23	19.25	23	3103	6.1	4.09	9.01
Height-for - age status (HAZ)										
Stunting (<-2sd)	34	4042	12.8	9.00	17.96	17	2101	6.7	3.77	11.52
Normal (≥-2sd)	267	36221	12.7	9.58	16.67	129	16876	5.9	4.69	7.45

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Sarawak	297	39472	12.5	10.35	14.91
Locality of School					
Urban	124	15452	10.4	8.07	13.31
Rural	173	24020	14.3	11.39	17.71
Sex					
Boys	168	21331	13.3	10.81	16.22
Girls	129	18141	11.6	8.89	15.00
Class					
Standard 4	47	6710	16.7	11.92	22.98
Standard 5	39	6944	17.0	10.61	26.20
Standard 6	34	6599	15.9	10.92	22.65
Remove class					
Form 1	55	5539	12.8	9.05	17.78
Form 2	28	3867	9.7	6.09	14.99
Form 3	39	3689	9.5	6.84	13.06
Form 4	34	3708	10.0	6.54	15.09
Form 5	21	2416	6.8	3.42	13.04
Ethnicity					
Malay	102	11893	12.6	10.45	15.01
Chinese	56	6721	10.6	6.82	16.24
Indian	1	107	18.4	3.80	56.40
Bumiputera Sabah					
Bumiputera Sarawak	133	20130	13.2	9.84	17.53
Others	5	621	16.5	8.34	30.01
BMI-for age status (BAZ)					
Thinness (< -2sd)	23	3383	15.9	9.10	26.18
Normal (≥ - 2sd - ≤+ 1sd)	184	23504	12.2	10.19	14.44
Overweight (> +1sd - ≤+ 2sd)	41	5868	11.5	7.54	17.27
Obese (> + 2sd)	48	6602	13.0	10.33	16.20
Height-for - age status (HAZ)					
Stunting (< -2sd)	31	3715	11.8	8.61	15.93
Normal (≥ -2sd)	266	35757	12.5	10.35	15.12

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

Characteristic	Doctor's instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	136	17994	13.7	10.38	17.99	252	34751	26.5	22.48	31.04
Locality of School										
Urban	51	6936	12.4	6.56	22.14	121	15356	27.4	22.81	32.54
Rural	85	11058	14.8	11.62	18.58	131	19395	25.9	19.83	33.06
Sex										
Boys	81	10434	14.4	10.73	18.99	130	16841	23.2	19.97	26.76
Girls	55	7560	13.0	8.87	18.57	122	17910	30.7	24.12	38.21
Class										
Standard 4	36	5470	23.8	15.91	34.02	41	5792	25.2	17.67	34.59
Standard 5	22	3734	18.1	12.16	26.10	41	6693	32.5	24.06	42.18
Standard 6	6	1109	6.4	3.00	13.00	31	6241	35.8	25.23	47.99
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	27	2656	14.5	7.34	26.63	41	4260	23.3	17.72	29.91
Form 2	11	1640	11.2	6.43	18.72	29	4155	28.3	19.47	39.23
Form 3	14	1231	8.2	3.77	16.94	29	2986	19.9	11.73	31.76
Form 4	16	1701	16.6	11.04	24.31	19	2008	19.6	13.59	27.54
Form 5	4	454	3.9	1.34	10.76	21	2616	22.4	13.19	35.31
Ethnicity										
Malay	54	6742	17.0	11.36	24.76	69	9069	22.9	18.07	28.61
Chinese	12	1391	6.1	3.06	11.77	62	7360	32.2	25.30	40.07
Indian						1	107	47.5	4.22	94.90
Bumiputera Sabah	1	155	17.3	2.97	58.93	2	266	29.8	6.60	71.88
Bumiputera Sarawak	67	9439	14.3	11.22	18.05	115	17426	26.4	20.85	32.80
Others	2	267	19.2	3.14	63.56	3	523	37.6	10.44	75.72
BMI-for age status (BAZ)										
Thinness (<-2sd)	12	1762	18.1	10.25	30.00	16	2195	22.6	13.22	35.83
Normal (≥ - 2sd - ≤+ 1sd)	93	11880	14.8	10.82	19.86	160	21737	27.0	21.73	33.09
Overweight (> +1sd - ≤+ 2sd)	15	2285	10.8	4.64	23.04	37	5541	26.1	18.55	35.41
Obese (> + 2sd)	16	2067	10.7	4.66	22.54	39	5277	27.2	20.99	34.45
Height-for - age status (HAZ)										
Stunting (<-2sd)	21	2766	20.6	10.71	35.93	22	2789	20.8	13.86	29.92
Normal (≥-2sd)	115	15228	13.0	9.87	16.87	230	31962	27.2	22.76	32.20

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
Sarawak	186	23109	17.7	14.84	20.87	36	4998	3.8	2.68	5.40
Locality of School										
Urban	74	9595	17.1	12.84	22.48	12	1588	2.8	1.53	5.21
Rural	112	13513	18.0	14.46	22.28	24	3409	4.6	3.09	6.65
Sex										
Boys	131	15606	21.5	17.37	26.28	26	3541	4.9	3.10	7.60
Girls	55	7502	12.9	10.13	16.21	10	1456	2.5	1.15	5.36
Class										
Standard 4	21	3070	13.4	8.94	19.50	6	1037	4.5	1.93	10.19
Standard 5	24	3712	18.0	10.14	29.94	7	1198	5.8	3.09	10.67
Standard 6	21	4001	23.0	15.86	32.04	4	683	3.9	0.95	14.87
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	40	3869	21.1	16.21	27.05	5	520	2.8	1.16	6.79
Form 2	15	2035	13.9	8.25	22.38	3	422	2.9	0.80	9.85
Form 3	29	2535	16.9	8.85	29.90	6	487	3.2	0.46	19.47
Form 4	16	1617	15.8	9.87	24.40	1	98	1.0	0.14	6.42
Form 5	20	2268	19.4	13.37	27.26	4	554	4.7	1.24	16.44
Ethnicity										
Malay	68	7961	20.1	15.54	25.63	8	952	2.4	1.03	5.53
Chinese	29	3519	15.4	10.41	22.23	4	499	2.2	0.93	5.05
Indian										
Bumiputera Sabah	2	306	34.2	7.55	76.81	-	-	-	-	-
Bumiputera Sarawak	84	10984	16.6	12.80	21.36	24	3547	5.4	4.04	7.11
Others	3	339	24.4	8.41	53.05	-	-	-	-	-
BMI-for age status (BAZ)										
Thinness (<-2sd)	13	1566	16.1	8.45	28.53	2	275	2.8	0.60	12.27
Normal (≥ - 2sd - ≤+ 1sd)	116	14029	17.4	15.12	20.05	18	2347	2.9	1.69	5.00
Overweight (> +1sd - ≤+ 2sd)	31	3813	18.0	12.19	25.68	7	1048	4.9	2.85	8.44
Obese (> + 2sd)	26	3701	19.1	11.05	30.90	9	1328	6.8	4.40	10.50
Height-for - age status (HAZ)										
Stunting (<-2sd)	15	1753	13.1	6.69	23.93	6	718	5.3	2.36	11.65
Normal (≥-2sd)	171	21355	18.2	14.87	22.07	30	4280	3.6	2.43	5.43

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Sarawak	68	8578	6.6	5.14	8.31
Locality of School					
Urban	31	3831	6.8	4.94	9.39
Rural	37	4747	6.3	4.48	8.90
Sex					
Boys	36	3918	5.4	3.49	8.26
Girls	32	4660	8.0	5.22	12.06
Class					
Standard 4	11	1639	7.1	4.51	11.11
Standard 5	6	910	4.4	2.55	7.52
Standard 6	6	1140	6.5	2.89	14.15
Remove class	-	-	-	-	-
Form 1	8	867	4.7	1.95	11.06
Form 2	6	832	5.7	2.70	11.52
Form 3	16	1564	10.4	6.30	16.81
Form 4	6	565	5.5	2.37	12.34
Form 5	9	1061	9.1	4.73	16.70
Ethnicity					
Malay	25	2918	7.4	4.53	11.78
Chinese	9	1150	5.0	2.33	10.56
Indian	1	118	52.5	5.10	95.78
Bumiputera Sabah					
Bumiputera Sarawak	32	4285	6.5	4.86	8.63
Others	1	107	7.7	0.76	47.48
BMI-for age status (BAZ)					
Thinness (<-2sd)	4	370	3.8	1.41	9.87
Normal ($\geq -2sd - \leq +1sd$)	46	6015	7.5	5.17	10.70
Overweight ($> +1sd - \leq +2sd$)	9	1115	5.3	2.98	9.10
Obese ($> +2sd$)	9	1078	5.6	3.07	9.84
Height-for - age status (HAZ)					
Stunting (<-2sd)	14	1683	12.5	5.84	24.87
Normal ($\geq -2sd$)	54	6895	5.9	4.70	7.31

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

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	286	38578	12.2	9.49	15.43	163	21458	6.8	4.92	9.22
Locality of School										
Urban	137	18009	12.1	8.11	17.55	63	8424	5.6	3.03	10.27
Rural	149	20569	12.2	8.95	16.47	101	13117	7.8	5.70	10.56
Sex										
Boys	159	19876	12.3	9.55	15.81	105	13154	8.2	5.59	11.78
Girls	127	18701	11.9	8.70	16.17	59	8387	5.4	3.77	7.54
Class										
Standard 4	64	9388	23.4	17.31	30.81	17	2606	6.5	3.67	11.25
Standard 5	47	7889	19.2	15.27	23.85	29	4739	11.5	7.21	17.95
Standard 6	25	4794	11.6	8.22	16.03	17	3432	8.3	4.78	13.98
Remove class										
Form 1	44	4319	10.0	6.97	14.06	28	2798	6.5	3.88	10.56
Form 2	32	4457	11.1	6.45	18.44	15	2050	5.1	3.03	8.47
Form 3	34	3112	8.0	5.34	11.93	26	2428	6.3	3.67	10.50
Form 4	19	2013	5.4	3.23	9.01	23	2394	6.5	2.89	13.81
Form 5	21	2606	7.3	4.13	12.53	9	1094	3.1	1.48	6.21
Ethnicity										
Malay	87	10630	11.2	7.04	17.39	45	5334	5.6	2.95	10.47
Chinese	57	6805	10.7	7.94	14.36	29	3321	5.2	3.28	8.26
Indian						2	257	44.4	15.31	77.93
Bumiputera Sabah	2	324	13.2	2.69	45.49	1	155	6.3	0.82	35.29
Bumiputera Sarawak	138	20505	13.4	10.03	17.75	84	11922	7.8	5.83	10.39
Others	2	313	8.3	2.42	24.92	3	551	14.6	3.94	41.80
BMI-for age status (BAZ)										
Thinness (< -2sd)	17	2181	10.1	6.36	15.82	10	1164	5.4	2.95	9.72
Normal (≥ - 2sd - ≤+ 1sd)	183	24185	12.5	9.60	16.12	99	13060	6.7	4.95	9.15
Overweight (> +1sd - ≤+ 2sd)	39	5637	11.1	6.68	17.86	24	3040	6.0	3.34	10.48
Obese (> + 2sd)	46	6485	12.6	9.06	17.37	31	4277	8.3	5.42	12.62
Height-for - age status (HAZ)										
Stunting (< -2sd)	44	5872	18.6	11.67	28.21	16	2053	6.5	3.11	13.02
Normal (≥ -2sd)	242	32705	11.4	9.10	14.31	148	19487	6.8	4.99	9.25

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

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Sarawak	193	24575	7.7	6.58	9.09	358	48396	15.2	12.82	18.03
Locality of School										
Urban	81	10090	6.8	5.99	7.60	140	18264	12.2	9.55	15.52
Rural	113	14618	8.7	6.82	10.99	218	30132	17.9	14.87	21.40
Sex										
Boys	126	15407	9.6	8.01	11.39	192	24964	15.5	12.61	18.92
Girls	68	9301	5.9	4.68	7.51	166	23431	15.0	12.56	17.72
Class										
Standard 4	24	3627	9.0	6.83	11.87	51	7368	18.4	15.12	22.11
Standard 5	18	2916	7.1	4.58	10.84	55	8841	21.5	16.79	27.14
Standard 6	22	3989	9.6	5.99	15.12	42	8604	20.8	12.16	33.15
Remove class										
Form 1	33	3592	8.3	5.96	11.42	53	5572	12.9	8.90	18.23
Form 2	27	3602	9.0	5.77	13.70	40	5603	14.0	10.75	17.92
Form 3	37	3414	8.8	6.73	11.47	36	3373	8.7	5.63	13.24
Form 4	17	1692	4.6	2.44	8.38	39	4283	11.6	9.12	14.56
Form 5	16	1877	5.2	3.35	8.11	42	4752	13.3	8.34	20.48
Ethnicity										
Malay	64	7764	8.2	6.00	11.07	122	15369	16.2	12.32	21.02
Chinese	32	3701	5.8	4.19	8.08	60	7600	12.0	8.79	16.15
Indian						1	107	18.4	3.80	56.40
Bumiputera Sabah						3	389	15.8	4.05	45.46
Bumiputera Sarawak	98	13243	8.7	6.72	11.13	166	24130	15.8	12.27	20.12
Others	0	0	0.0	0.00	0.00	6	801	21.3	8.60	43.75
BMI-for age status (BAZ)										
Thinness (<-2sd)	18	2408	11.2	6.60	18.38	30	4199	19.5	14.04	26.53
Normal ($\geq -2sd - \leq +1sd$)	115	14483	7.5	6.04	9.25	230	30267	15.6	13.50	18.05
Overweight ($> +1sd - \leq +2sd$)	28	3703	7.3	4.82	10.87	55	7842	15.4	11.05	21.14
Obese ($> +2sd$)	32	4000	7.8	5.31	11.32	43	6087	11.9	8.89	15.66
Height-for - age status (HAZ)										
Stunting (<-2sd)	27	3385	10.7	6.44	17.24	31	3585	11.3	7.30	17.15
Normal ($\geq -2sd$)	167	21323	7.5	6.24	8.91	326	44700	15.6	12.93	18.81

3.7 Food and nutrition labeling Among Adolescents (Secondary 1 To Secondary 5) In Sarawak

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3.7.1 Introduction

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

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

3.7.2 Objective

3.7.2.1 General objective

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

3.7.2.2 Specific objective:

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

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

3.7.3 Variable definitions

There were three classifications used in this study.

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

Food label

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

Front of Pack (FOP) labels

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

Nutrition information panel/ Nutrition facts

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

Nutrition labelling

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

3.7.4 Findings

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

The results in **Table 3.7.1** showed 34.8% (95%CI: 29.86, 40.01) of adolescents reported as always reading food labels when buying or receiving food. Another 49.5% (95% CI: 45.74,53.24) of adolescents reported as sometimes, while only 15.8% (95% CI: 12.33,19.91) reported as never. Among those reported as always reading food labels, adolescent from rural area [40.0% (95% CI: 33.50,46.87)] showed slightly higher percentage compared to urban [29.4% (95%CI: 25.50, 33.63)].

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

Among those who do not read food labels, the findings showed that the main reasons for not reading food labels were the food labels were not interesting [38.5% (95% CI: 28.04, 50.19)], followed by do not understand food labels [19.9% (95% CI: 14.37, 26.84)] and time constraint [19.0% (95% CI: 14.51,24.37)]. The results also revealed that, 15.1% (95%CI: 10.67,20.91) do not know the importance of food label. 12.2% (95%CI: 10.36,14.33) already aware of the food label information, 9.4% (95%CI: 5.30,16.16) felt that size of the print too small (**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 [39.4% (95% CI: 35.42,43.61)], total energy content [36.7% (95% CI: 33.23,40.41)], carbohydrate content (including sugar) [35.2% (95% CI: 31.11,39.43)] and protein content [21.3% (95% CI: 18.34,24.49)]. It was followed by vitamin content [21.2% (95% CI: 17.57, 25.26)], fiber[10.5%(95%CI: 8.43,13.02)], sodium content [9.8% (95% CI: 4.71,9.41)]and the least were mineral content [9.7% (95% CI: 7.74,12.17)] (**Table 3.7.3a** and **Table 3.7.3b**)

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

Based on types of information (expiry date, dietary declaration (nutrition claim), nutrition facts, halal logo, food ingredients, storage instruction) that read on the food label, most of the adolescents read expiry date [77.6% (95% CI: 71.88, 82.51)], followed by halal logo [28.4% (95% CI: 21.60, 36.38)], food ingredients [25.0% (95% CI: 21.63,28.64)], nutrition fact [24.2% (95% CI: 19.97, 29.06)], dietary declaration (nutrition claim) [18.4% (95% CI: 15.32,22.04)] and storage instruction [16.6% (95% CI: 12.54, 21.74)] (**Table 3.7.4**).

3.7.4.5 Understanding of nutrition facts among adolescents in Sarawak

Overall, more than half of the adolescents [53.6% (95% CI: 47.88, 59.25)] and [49.4% (95%CI: 43.96, 54.76)] of the adolescents had given a correct response to the question assessing interpretation of the energy content and sugar content based on the nutrition facts given. While 37.6% (95% CI: 27.27,40.92)] correct responses for both energy and sugar (**Table 3.7.5**).

3.7.4.6 Understanding of front of pack labelling among adolescents in Sarawak

Overall, less than half of the adolescents [33.7% (95% CI: 28.92,38.89)] had given the correct response to question assessing interpretation of the energy content based on the front of pack labeling given and [41.5% (95% CI: 37.61,45.52)] had given correct response to question assessing interpretation of the percentage of energy content based on the front of pack labeling given. However, the results showed a correct response only [20.0% (95% CI: 16.43, 24.18)] to questions assessing interpretations of both the energy content and the percentage of energy content based on the front of pack labeling given (**Table 3.7.6**).

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

Overall, [56.6% (95%CI: 51.96, 61.13)] of the adolescents 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 [61.3% (95%CI: 56.32, 66.00)] reported a higher prevalence of interpreting correctly as compared to the boys [51.6% (95% CI: 45.37,57.81)]. While, 16.0% (95% CI: 13.52,18.74) 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 responses [6.9% (95%CI: 5.91,7.98)] to questions assessing interpretations of both the mostly and the least used ingredients based on the ingredient list given (**Table 3.7.7**).

3.7.5 Discussion/Conclusion

This study provides useful information about the prevalence of reading food and nutrition labelling among adolescents in Sarawak. 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. Thus, we need to be creative in education and promotion to ensure that adolescents know how to interpret the overall information that is stated on the food and nutrition labelling before choosing packaged food and drinks. In this survey, low prevalence of the adolescents know 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
SARAWAK	624	68561	34.8	29.86	40.01	865	97592	49.5	45.74	53.24
Locality of School										
Urban	241	28633	29.4	25.50	33.63	423	50853	52.2	48.59	55.81
Rural	383	39928	40.0	33.50	46.87	442	46739	46.8	41.03	52.70
Sex										
Boys	333	33910	34.5	29.57	39.69	445	46442	47.2	42.48	51.94
Girls	291	34651	35.1	29.49	41.10	420	51149	51.8	47.17	56.35
Class										
Form 1	162	16816	38.3	30.59	46.73	180	19824	45.2	37.05	53.60
Form 2	99	14396	35.6	29.32	42.43	135	19622	48.5	39.87	57.28
Form 3	144	13085	33.1	30.00	36.33	227	20809	52.6	48.17	57.04
Form 4	135	14350	38.5	29.28	48.69	151	16382	44.0	36.38	51.88
Form 5	84	9914	27.4	18.65	38.41	172	20955	58.0	50.55	65.09
Ethnicity										
Malay	200	20705	35.7	27.99	44.34	273	29436	50.8	42.53	59.08
Chinese	97	10998	23.4	16.09	32.63	199	23081	49.0	43.26	54.78
Indian	3	364	80.1	19.60	98.51	1	91	19.9	1.49	80.40
Bumiputera Sabah	5	607	39.2	16.75	67.43	5	534	34.6	22.35	49.20
Bumiputera Sarawak	313	34946	39.6	33.39	46.21	377	43383	49.2	44.09	54.31
Others	6	942	46.9	23.77	71.46	10	1067	53.1	28.54	76.23
BMI-for-age status (BAZ)										
Thinness (<-2sd)	53	5807	42.4	32.45	53.06	61	6384	46.6	40.21	53.18
Normal (\geq -2sd - \leq +1sd)	400	44223	34.7	29.57	40.24	563	63663	50.0	46.04	53.90
Overweight ($>$ +1sd - \leq +2sd)	83	9148	30.2	23.95	37.30	138	16038	53.0	46.84	59.00
Obese ($>$ +2sd)	85	9096	35.8	29.08	43.18	102	11417	45.0	39.67	50.38
Height-for-age status (HAZ)										
Stunting (<-2sd)	78	8348	39.2	30.63	48.39	93	10114	47.4	40.16	54.82
Normal (\geq -2sd)	544	60011	34.2	29.27	39.48	772	87478	49.8	46.42	53.26

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
SARAWAK	284	31064	15.8	12.33	19.91
Locality of School					
Urban	154	17909	18.4	13.73	24.19
Rural	130	13155	13.2	9.47	18.05
Sex					
Boys	176	18073	18.4	14.20	23.41
Girls	108	12991	13.1	9.11	18.62
Class					
Form 1	69	7225	16.5	10.89	24.13
Form 2	46	6414	15.9	9.92	24.41
Form 3	62	5649	14.3	10.59	19.00
Form 4	63	6512	17.5	11.74	25.24
Form 5	44	5264	14.6	10.82	19.33
Ethnicity					
Malay	73	7776	13.4	10.36	17.22
Chinese	120	13019	27.6	21.30	35.03
Indian	-	-	-	-	-
Bumiputera Sabah	3	405	26.217004	8.47	57.69
Bumiputera Sarawak	88	9864	11.2	8.24	15.00
Others	-	-	-	-	-
BMI-for-age status (BAZ)					
Thinness (<-2sd)	14	1497	10.9	6.43	17.99
Normal (\geq -2sd - \leq +1sd)	181	19516	15.3	11.21	20.59
Overweight ($>$ +1sd - \leq +2sd)	45	5096	16.8	12.55	22.20
Obese ($>$ +2sd)	43	4879	19.2	14.64	24.80
Height-for-age status (HAZ)					
Stunting (<-2sd)	27	2858	13.4	7.71	22.28
Normal (\geq -2sd)	255	28025	16.0	12.46	20.24

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
SARAWAK	26	2923	9.4	5.30	16.16	53	6176	19.9	14.37	26.84
Locality of School										
Urban	19	2206	12.3	6.76	21.39	32	3720	20.8	13.56	30.46
Rural	7	717	5.4	1.86	14.87	21	2456	18.7	11.13	29.62
Sex										
Boys	15	1511	8.4	3.60	18.22	34	3638	20.1	12.79	30.22
Girls	11	1412	10.9	4.72	23.08	19	2538	19.5	12.72	28.81
Class										
Form 1	9	1000	13.8	6.96	25.68	11	1117	15.5	7.01	30.75
Form 2	4	557	8.7	3.39	20.48	15	2186	34.1	24.99	44.51
Form 3	5	421	7.4	2.29	21.64	10	951	16.8	5.53	41.18
Form 4	5	483	7.4	1.92	24.76	12	1262	19.4	10.15	33.82
Form 5	3	461	8.8	2.09	30.16	5	661	12.6	6.37	23.26
Ethnicity										
Malay	5	555	7.1	2.95	16.28	17	1996	25.7	17.23	36.43
Chinese	8	781	6.0	1.80	18.19	16	1754	13.5	8.30	21.12
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	-	-	-	-	-
Bumiputera Sarawak	13	1586	16.1	9.29	26.40	20	2426	24.6	16.61	34.82
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	179	11.9	2.81	38.90	2	242	16.2	3.59	49.93
Normal (≥-2sd - ≤+1sd)	11	1207	6.2	2.86	12.88	37	4275	21.9	14.40	31.87
Overweight (>+1sd - ≤+2sd)	8	879	17.2	7.99	33.32	9	1050	20.6	11.00	35.26
Obese (>+2sd)	5	658	13.5	4.69	33.05	5	610	12.5	5.67	25.34
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	485	17.0	6.37	38.07	10	1051	36.8	20.48	56.77
Normal (≥-2sd)	22	2437	8.7	4.74	15.41	43	5125	18.3	13.23	24.72

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
SARAWAK	108	11966	38.5	28.04	50.19	43.000	4687	15.1	10.67	20.91
Locality of School										
Urban	67	7772	43.4	30.11	57.70	22	2559	14.3	7.91	24.45
Rural	41	4194	31.9	18.33	49.39	21	2128	16.2	12.53	20.64
Sex										
Boys	55	5714	31.6	21.83	43.35	27	2734	15.1	11.24	20.06
Girls	53	6252	48.1	34.41	62.13	16	1953	15.0	7.95	26.58
Class										
Form 1	29	3271	45.3	24.61	67.71	7	640	8.9	3.36	21.40
Form 2	12	1773	27.6	15.53	44.24	6	837	13.1	5.03	29.84
Form 3	27	2424	42.9	29.11	57.91	9	855	15.1	6.54	31.29
Form 4	19	1998	30.7	16.68	49.44	12	1256	19.3	12.67	28.26
Form 5	21	2501	47.5	26.89	69.01	9	1098	20.9	7.11	47.57
Ethnicity										
Malay	16	1699	21.9	11.60	37.35	11	1185	15.2	7.24	29.30
Chinese	74	8001	61.5	50.97	70.98	17	1888	14.5	8.19	24.38
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	2	283	69.8	12.90	97.30	1	137	33.7	3.15	88.82
Bumiputera Sarawak	16	1982	20.1	9.83	36.73	14	1477	15.0	8.54	24.94
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	572	38.2	17.54	64.31	3	327	21.9	7.28	49.91
Normal (≥-2sd - ≤+1sd)	67	7304	37.4	25.27	51.41	26	2733	14.0	9.48	20.21
Overweight (>+1sd - ≤+2sd)	17	1927	37.8	23.87	54.09	8	954	18.7	7.62	39.16
Obese (>+2sd)	19	2163	44.3	27.93	62.09	5	596	12.2	4.58	28.77
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	918	32.1	10.52	65.55	8	855	29.9	16.48	47.97
Normal (≥-2sd)	99	10959	39.1	28.90	50.36	35	3833	13.7	9.34	19.59

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
SARAWAK	56	5887	19.0	14.51	24.37	35	3793	12.2	10.36	14.33
Locality of School										
Urban	29	3307	18.5	12.62	26.21	19	2157	12.0	10.40	13.91
Rural	27	2580	19.6	13.58	27.47	16	1636	12.4	8.94	17.04
Sex										
Boys	41	4017	22.2	15.81	30.31	20	2020	11.2	7.79	15.80
Girls	15	1870	14.4	9.69	20.86	15	1773	13.6	9.31	19.56
Class										
Form 1	16	1565	21.7	10.43	39.62	5	490	6.8	2.69	16.11
Form 2	8	1066	16.6	11.24	23.89	6	793	12.4	4.96	27.60
Form 3	13	1183	20.9	13.53	30.97	10	947	16.8	8.49	30.39
Form 4	11	1080	16.6	8.64	29.49	9	949	14.6	8.70	23.37
Form 5	8	992	18.8	8.72	36.08	5	615	11.7	5.08	24.59
Ethnicity										
Malay	21	2218	28.5	20.10	38.76	11	1126	14.5	7.80	25.33
Chinese	8	806	6.2	2.67	13.72	15	1681	12.9	8.10	19.95
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	-	-	-	-	-	1	123	30.2	2.70	87.10
Bumiputera Sarawak	27	2863	29.0	19.65	40.62	8	864	8.8	3.96	18.26
Others	-	-	-	-	-	-	-	-	-	-
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	244	16.3	2.95	55.58	2	194	12.9	2.69	44.49
Normal (≥-2sd - ≤+1sd)	36	3852	19.7	14.04	27.02	21	2307	11.8	8.61	16.01
Overweight (>+1sd - ≤+2sd)	10	1024	20.1	11.36	33.01	7	723	14.2	8.15	23.55
Obese (>+2sd)	8	767	15.7	7.20	30.99	5	570	11.7	5.49	23.11
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	501	17.5	9.23	30.73	3	333	11.6	4.11	28.88
Normal (≥-2sd)	51	5386	19.2	14.66	24.78	31	3369	12.0	9.75	14.74

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

Characteristic	Yes, always/ Yes, sometimes									
	Total energy					Carbohydrate				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
SARAWAK	547	61057	36.7	33.23	40.41	523	58419	35.2	31.11	39.43
Locality of School										
Urban	258	30210	38.0	33.68	42.53	232	27728	34.9	29.07	41.19
Rural	289	30847	35.6	30.45	41.09	291	30691	35.4	29.93	41.30
Sex										
Boys	302	31179	38.8	34.23	43.58	265	27371	34.1	30.33	38.01
Girls	245	29878	34.8	30.36	39.56	258	31048	36.2	30.48	42.31
Class										
Form 1	114	12017	32.8	25.37	41.21	111	11892	32.5	28.05	37.20
Form 2	88	12795	37.6	29.80	46.12	77	11344	33.3	25.38	42.40
Form 3	139	12820	37.8	28.81	47.77	135	12199	36.0	27.10	45.97
Form 4	116	12416	40.4	33.35	47.88	110	11878	38.6	29.95	48.14
Form 5	90	11008	35.7	26.95	45.43	90	11106	36.0	28.68	43.98
Ethnicity										
Malay	168	17834	35.6	28.73	43.05	183	19602	39.1	33.57	44.91
Chinese	117	13425	39.4	33.60	45.50	101	11451	33.6	24.56	44.02
Indian	1	139	30.6	6.67	73.18	2	209	45.9	5.12	93.01
Bumiputera Sabah	2	224	19.6	3.37	63.17	3	393	34.4	12.35	66.13
Bumiputera Sarawak	254	28703	36.6	31.64	41.95	232	26551	33.9	31.13	36.78
Others	5	733	36.5	24.63	50.20	2	214	10.7	2.86	32.64
BMI-for-age status (BAZ)										
Thinness (<-2sd)	36	3944	32.4	24.73	41.05	45	4665	38.3	30.22	47.01
Normal (≥-2sd - ≤+1sd)	346	38760	35.9	31.72	40.37	341	38249	35.5	30.61	40.61
Overweight (>+1sd - ≤+2sd)	92	10112	40.2	33.26	47.45	75	8680	34.5	28.54	40.92
Obese (>+2sd)	71	8061	39.3	32.78	46.22	61	6735	32.8	25.53	41.07
Height-for-age status (HAZ)										
Stunting (<-2sd)	56	6307	34.2	28.66	40.13	57	6126	33.2	26.89	40.14
Normal (≥-2sd)	490	54638	37.0	33.19	41.08	466	52293	35.5	31.38	39.76

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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	
SARAWAK	579	65538	39.4	35.42	43.61	319	35309	21.3	18.34	24.49
Locality of School										
Urban	271	32337	40.7	34.52	47.16	158	18569	23.4	19.97	27.13
Rural	308	33201	38.3	33.31	43.56	161	16740	19.3	15.35	24.01
Sex										
Boys	264	27421	34.1	29.16	39.47	189	19557	24.3	19.85	29.47
Girls	315	38117	44.4	39.05	49.94	130	15753	18.4	15.38	21.77
Class										
Form 1	96	10697	29.2	22.49	36.94	65	6967	19.0	13.95	25.37
Form 2	86	12726	37.4	26.56	49.69	34	5027	14.8	11.61	18.63
Form 3	146	13319	39.3	29.52	50.02	73	6928	20.4	14.48	28.04
Form 4	124	13201	43.0	34.96	51.33	66	6775	22.0	15.72	30.01
Form 5	127	15595	50.5	39.56	61.43	81	9613	31.1	25.14	37.85
Ethnicity										
Malay	177	19061	38.0	31.44	45.07	96	10006	20.0	15.84	24.83
Chinese	130	14976	43.9	35.95	52.26	89	10297	30.2	25.37	35.55
Indian	2	230	50.6	18.57	82.10	-	-	-	-	-
Bumiputera Sabah	2	255	22.4	4.92	61.64	3	367	32.2	11.21	64.04
Bumiputera Sarawak	266	30822	39.3	36.01	42.79	129	14435	18.4	15.04	22.38
Others	2	194	9.7	1.55	42.10	2	204	10.2	2.50	33.34
BMI-for-age status (BAZ)										
Thinness (<-2sd)	35	3638	29.8	19.79	42.30	27	2704	22.2	14.39	32.59
Normal (≥-2sd - ≤+1sd)	365	41478	38.4	34.24	42.83	212	23672	21.9	18.54	25.77
Overweight (>+1sd - ≤+2sd)	95	11175	44.4	35.99	53.08	45	5116	20.3	15.34	26.40
Obese (>+2sd)	83	9159	44.6	38.73	50.72	34	3727	18.2	12.24	26.12
Height-for-age status (HAZ)										
Stunting (<-2sd)	62	6817	36.9	29.21	45.37	29	3055	16.5	10.34	25.43
Normal (≥-2sd)	516	58630	39.8	35.67	43.99	290	32254	21.9	18.89	25.17

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

Characteristic	Yes, always/ Yes, sometimes									
	Sodium					Vitamin				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
SARAWAK	148	16347	9.8	7.45	12.89	320	35152	21.2	17.57	25.26
Locality of School										
Urban	69	7943	10.0	6.65	14.75	140	16289	20.5	15.82	26.12
Rural	79	8404	9.7	6.61	14.02	180	18862	21.8	16.67	27.89
Sex										
Boys	79	8295	10.3	6.86	15.25	166	17041	21.2	15.97	27.60
Girls	69	8052	9.4	7.00	12.47	154	18110	21.1	17.79	24.86
Class										
Form 1	21	2354	6.4	3.05	13.03	77	8091	22.1	17.17	27.92
Form 2	20	2847	8.4	3.92	16.99	49	7026	20.7	13.63	30.04
Form 3	46	4403	13.0	7.11	22.56	88	7980	23.5	16.11	33.06
Form 4	31	3103	10.1	5.52	17.75	61	6622	21.5	16.71	27.32
Form 5	30	3640	11.8	7.62	17.82	45	5433	17.6	11.64	25.72
Ethnicity										
Malay	42	4350	8.7	5.32	13.83	85	9077	18.1	13.73	23.49
Chinese	39	4336	12.7	8.41	18.79	92	10427	30.6	26.19	35.39
Indian	-	-	-	-	-	1	107	23.5	5.56	61.55
Bumiputera Sabah	1	142	12.4	1.21	62.14	3	346	30.3	8.42	67.26
Bumiputera Sarawak	65	7382	9.4	6.99	12.59	135	14821	18.9	14.94	23.67
Others	1	138	6.9	1.11	32.68	4	374	18.6	6.24	44.09
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	1308	10.7	5.46	20.00	26	2701	22.2	13.74	33.70
Normal (≥-2sd - ≤+1sd)	93	10293	9.5	6.82	13.19	200	22048	20.4	16.58	24.92
Overweight (>+1sd - ≤+2sd)	23	2557	10.2	6.69	15.12	49	5440	21.6	16.17	28.24
Obese (>+2sd)	19	2190	10.7	6.36	17.38	42	4670	22.8	17.66	28.83
Height-for-age status (HAZ)										
Stunting (<-2sd)	16	1674	9.1	5.01	15.86	39	4045	21.9	14.72	31.32
Normal (≥-2sd)	132	14673	9.9	7.39	13.27	281	31107	21.1	17.68	24.95

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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
SARAWAK	143	16172	9.7	7.74	12.17	157	17458	10.5	8.43	13.02
Locality of School										
Urban	65	7556	9.5	6.75	13.24	70	8038	10.1	7.54	13.43
Rural	78	8615	9.9	7.31	13.38	87	9420	10.9	7.88	14.81
Sex										
Boys	78	8137	10.1	7.36	13.77	74	7463	9.3	6.78	12.59
Girls	65	8035	9.4	6.68	12.98	83	9995	11.6	9.15	14.71
Class										
Form 1	26	2824	7.7	4.55	12.76	32	3384	9.2	5.17	15.96
Form 2	26	3810	11.2	7.07	17.30	23	3452	10.1	5.88	16.97
Form 3	35	3329	9.8	5.87	16.00	39	3440	10.1	5.96	16.76
Form 4	32	3307	10.8	6.50	17.30	29	3106	10.1	6.94	14.49
Form 5	24	2902	9.4	5.60	15.36	34	4076	13.2	8.49	19.96
Ethnicity										
Malay	43	4782	9.5	7.50	12.05	53	5565	11.1	7.95	15.29
Chinese	42	4760	14.0	10.00	19.18	45	5207	15.3	10.82	21.15
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	2	283	24.8	4.61	69.21	2	238	20.9	4.42	60.02
Bumiputera Sarawak	56	6347	8.1	6.33	10.32	55	6113	7.8	5.60	10.78
Others	-	-	-	-	-	2	334	16.6	4.02	48.72
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	1192	9.8	4.35	20.52	15	1518	12.4	7.07	21.00
Normal (≥-2sd - ≤+1sd)	90	10105	9.4	7.24	12.04	94	10793	10.0	7.62	13.04
Overweight (>+1sd - ≤+2sd)	27	3120	12.4	8.76	17.24	29	3081	12.2	8.19	17.90
Obese (>+2sd)	15	1755	8.6	5.51	13.04	16	1804	8.8	5.53	13.72
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	1075	5.8	2.73	11.98	10	1049	5.7	2.90	10.83
Normal (≥-2sd)	133	15097	10.2	8.15	12.78	147	16409	11.1	8.98	13.70

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
SARAWAK	1150	129001	77.6	71.88	82.51	275	30651	18.4	15.32	22.04
Locality of School										
Urban	535	64030	80.6	74.09	85.72	136	16257	20.5	15.09	27.11
Rural	615	64971	75.0	66.24	82.05	139	14394	16.6	14.22	19.31
Sex										
Boys	552	57080	71.0	62.49	78.31	149	15478	19.3	15.42	23.79
Girls	598	71920	83.8	79.15	87.61	126	15172	17.7	13.77	22.42
Class										
Form 1	253	27596	75.3	66.64	82.34	53	5671	15.5	9.65	23.90
Form 2	167	24303	71.4	59.66	80.89	41	5935	17.4	12.58	23.68
Form 3	286	26222	77.4	67.48	84.92	72	6501	19.2	12.61	28.09
Form 4	241	26114	85.0	75.56	91.18	55	5789	18.8	14.28	24.44
Form 5	203	24766	80.2	69.86	87.66	54	6755	21.9	14.20	32.17
Ethnicity										
Malay	338	36086	72.0	66.76	76.65	85	8997	17.9	13.90	22.85
Chinese	257	29592	86.8	80.33	91.41	77	8782	25.8	19.13	33.75
Indian	3	337	74.1	14.27	98.00	1	91	19.9	1.49	80.40
Bumiputera Sabah	10	1141	100.0	100.00	100.00	2	266	23.3	5.08	63.22
Bumiputera Sarawak	531	60468	77.2	69.12	83.66	109	12426	15.9	12.79	19.52
Others	11	1376	68.5	51.87	81.46	1	89	4.4	0.42	34.11
BMI-for-age status (BAZ)										
Thinness (<-2sd)	88	9566	78.5	65.88	87.31	15	1469	12.1	6.75	20.60
Normal (≥-2sd - ≤+1sd)	745	83841	77.7	71.35	83.00	185	20939	19.4	15.03	24.69
Overweight (>+1sd - ≤+2sd)	174	19881	78.9	73.62	83.42	44	4872	19.3	14.12	25.91
Obese (>+2sd)	139	15336	74.8	65.25	82.37	30	3281	16.0	11.57	21.70
Height-for-age status (HAZ)										
Stunting (<-2sd)	124	13659	74.0	65.39	81.06	27	2875	15.6	10.59	22.32
Normal (≥-2sd)	1025	115250	78.1	72.40	82.97	247	27664	18.8	15.51	22.51

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
SARAWAK	359	40250	24.2	19.97	29.06	428	47214	28.4	21.60	36.38
Locality of School										
Urban	177	20905	26.3	19.41	34.59	184	22141	27.9	18.79	39.18
Rural	182	19345	22.3	18.02	27.31	244	25073	28.9	19.52	40.59
Sex										
Boys	181	18745	23.3	17.42	30.49	217	22225	27.7	20.95	35.55
Girls	178	21506	25.1	20.76	29.92	211	24989	29.1	21.04	38.79
Class										
Form 1	72	7921	21.6	16.70	27.51	85	9336	25.5	20.17	31.63
Form 2	48	6933	20.4	14.95	27.15	58	8553	25.1	17.56	34.62
Form 3	91	8346	24.6	16.70	34.74	106	9196	27.1	17.79	39.05
Form 4	75	8075	26.3	17.92	36.78	84	8785	28.6	18.76	40.97
Form 5	73	8975	29.1	22.41	36.78	95	11345	36.8	22.54	53.71
Ethnicity										
Malay	84	9107	18.2	12.91	24.94	249	27316	54.5	46.85	61.91
Chinese	100	11394	33.4	27.19	40.31	23	2569	7.5	4.45	12.50
Indian	2	230	50.6	18.57	82.10	1	139	30.6	6.67	73.18
Bumiputera Sabah	2	283	24.8	4.61	69.21	3	407	35.6	10.17	73.01
Bumiputera Sarawak	168	18911	24.1	19.44	29.57	149	16505	21.1	17.24	25.49
Others	3	326	16.2	5.24	40.48	3	278	13.9	2.87	46.65
BMI-for-age status (BAZ)										
Thinness (<-2sd)	26	2687	22.0	12.85	35.15	31	3303	27.1	17.74	39.03
Normal (≥-2sd - ≤+1sd)	231	26236	24.3	19.52	29.86	284	31115	28.8	21.19	37.93
Overweight (>+1sd - ≤+2sd)	54	6238	24.8	18.99	31.62	69	7754	30.8	22.59	40.41
Obese (>+2sd)	46	4910	23.9	18.32	30.63	44	5042	24.6	18.48	31.90
Height-for-age status (HAZ)										
Stunting (<-2sd)	36	3847	20.8	13.40	30.93	51	5331	28.9	19.94	39.82
Normal (≥-2sd)	322	36312	24.6	20.38	29.41	377	41883	28.4	21.63	36.30

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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
SARAWAK	361	41485	25.0	21.63	28.64	240	27645	16.6	12.54	21.74
Locality of School										
Urban	174	21447	27.0	23.10	31.25	133	16161	20.3	15.32	26.47
Rural	187	20038	23.1	18.37	28.67	107	11484	13.3	8.43	20.22
Sex										
Boys	175	18338	22.8	19.16	26.96	111	11946	14.9	10.13	21.29
Girls	186	23147	27.0	23.20	31.12	129	15699	18.3	14.50	22.83
Class										
Form 1	69	7821	21.3	14.35	30.54	50	5978	16.3	8.69	28.54
Form 2	57	8585	25.2	18.85	32.91	34	5041	14.8	9.39	22.61
Form 3	86	7726	22.8	15.16	32.79	58	5316	15.7	9.42	24.97
Form 4	62	6617	21.5	16.58	27.47	37	3810	12.4	8.21	18.30
Form 5	87	10736	34.8	27.18	43.25	61	7500	24.3	17.42	32.81
Ethnicity										
Malay	99	11012	22.0	15.88	29.56	54	6007	12.0	9.00	15.78
Chinese	95	10977	32.2	29.71	34.82	83	9515	27.9	21.02	36.05
Indian	2	257	56.6	23.32	84.81	1	139	30.6	6.67	73.18
Bumiputera Sabah	2	255	22.4	4.92	61.64	1	142	12.4	1.21	62.14
Bumiputera Sarawak	159	18612	23.8	20.74	27.07	98	11564	14.8	10.60	20.20
Others	4	371	18.5	3.34	59.75	3	278	13.9	2.87	46.65
BMI-for-age status (BAZ)										
Thinness (<-2sd)	22	2212	18.1	8.92	33.43	14	1492	12.2	6.16	22.88
Normal (≥-2sd - ≤+1sd)	228	26588	24.6	21.05	28.63	145	16901	15.7	11.33	21.25
Overweight (>+1sd - ≤+2sd)	57	6699	26.6	18.61	36.49	48	5680	22.6	15.87	31.02
Obese (>+2sd)	52	5807	28.3	21.62	36.12	31	3400	16.6	11.77	22.83
Height-for-age status (HAZ)										
Stunting (<-2sd)	30	3241	17.6	12.03	24.90	19	2027	11.0	6.77	17.31
Normal (≥-2sd)	331	38245	25.9	22.47	29.72	221	25618	17.4	13.20	22.51

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
SARAWAK	659	74430	37.6	31.97	43.61	943	106093	53.6	47.88	59.25
Locality of School										
Urban	344	41311	42.3	35.29	49.63	476	56986	58.3	50.99	65.35
Rural	315	33118	33.0	26.25	40.63	467	49106	49.0	42.38	55.65
Sex										
Boys	348	36338	36.7	30.04	43.95	511	53209	53.8	46.81	60.58
Girls	311	38092	38.5	32.62	44.75	432	52883	53.5	47.06	59.75
Class										
Form 1	153	16745	38.1	29.35	47.70	215	23353	53.1	42.94	63.08
Form 2	82	11904	29.3	24.50	34.72	138	19948	49.2	45.31	53.05
Form 3	147	13529	34.1	22.73	47.63	215	19796	49.9	38.53	61.25
Form 4	130	14117	37.7	27.06	49.70	191	20434	54.6	40.46	68.02
Form 5	147	18135	50.0	33.89	66.13	184	22563	62.2	43.36	77.98
Ethnicity										
Malay	216	23129	39.8	33.43	46.51	303	32209	55.4	48.58	62.04
Chinese	157	18267	38.5	29.44	48.49	214	24616	51.9	42.48	61.22
Indian	1	91	19.9	1.49	80.40	4	455	100.0	100.00	100.00
Bumiputera Sabah	5	662	42.8	22.74	65.53	6	763	49.4	33.96	64.87
Bumiputera Sarawak	275	31622	35.8	28.77	43.49	409	47144	53.4	46.18	60.42
Others	5	659	32.8	11.55	64.61	7	905	45.1	18.82	74.38
BMI-for-age status (BAZ)										
Thinness (<-2sd)	43	4494	32.5	22.84	43.92	65	6914	50.0	39.59	60.41
Normal (≥-2sd - ≤+1sd)	420	48078	37.6	31.79	43.83	605	68733	53.8	46.82	60.60
Overweight (>+1sd - ≤+2sd)	103	11786	38.8	30.56	47.65	136	15435	50.8	42.27	59.20
Obese (>+2sd)	91	9906	39.0	31.96	46.56	134	14756	58.1	50.86	65.03
Height-for-age status (HAZ)										
Stunting (<-2sd)	59	6539	30.3	23.90	37.67	94	10578	49.1	43.15	55.08
Normal (≥-2sd)	599	67801	38.5	32.70	44.71	846	95242	54.1	48.25	59.89

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

Characteristic	Interpretation of sugar correct				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
SARAWAK	870	97662	49.4	43.96	54.76
Locality of School					
Urban	438	52396	53.6	46.23	60.91
Rural	432	45265	45.2	39.20	51.27
Sex					
Boys	478	49751	50.3	44.25	56.28
Girls	392	47911	48.4	42.46	54.45
Class					
Form 1	207	22372	50.9	43.12	58.64
Form 2	117	16960	41.8	34.36	49.66
Form 3	204	18608	46.9	34.25	59.94
Form 4	159	17336	46.3	37.06	55.83
Form 5	183	22387	61.7	47.49	74.21
Ethnicity					
Malay	276	29504	50.8	44.49	57.00
Chinese	199	23076	48.7	37.26	60.21
Indian	1	91	19.9	1.49	80.40
Bumiputera Sabah	6	799	51.7	36.29	66.74
Bumiputera Sarawak	380	43184	48.9	42.37	55.44
Others	8	1007	50.1	32.54	67.72
BMI-for-age status (BAZ)					
Thinness (<-2sd)	58	6290	45.5	34.55	56.87
Normal (≥-2sd - ≤+1sd)	568	64114	50.2	44.57	55.76
Overweight (>+1sd - ≤+2sd)	132	15102	49.7	40.04	59.30
Obese (>+2sd)	110	11991	47.2	41.09	53.44
Height-for-age status (HAZ)					
Stunting (<-2sd)	85	9169	42.6	33.27	52.40
Normal (≥-2sd)	784	88403	50.2	44.49	55.98

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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
SARAWAK	356	39621	20.0	16.43	24.18	594	66736	33.7	28.92	38.89
Locality of School										
Urban	194	22669	23.2	19.50	27.39	315	37131	38.0	32.58	43.78
Rural	162	16951	16.9	12.16	23.03	279	29605	29.5	23.49	36.41
Sex										
Boys	212	22400	22.6	19.24	26.43	334	35037	35.4	30.80	40.29
Girls	144	17221	17.4	12.97	22.97	260	31700	32.0	26.05	38.70
Class										
Form 1	76	8438	19.2	12.61	28.12	119	13347	30.4	20.77	42.05
Form 2	45	6242	15.4	10.46	22.07	83	11771	29.0	21.66	37.68
Form 3	89	8177	20.6	12.32	32.41	152	13808	34.8	22.75	49.16
Form 4	62	6597	17.6	9.08	31.43	103	11078	29.6	19.68	41.89
Form 5	84	10165	28.0	21.18	36.09	137	16732	46.1	38.38	54.09
Ethnicity										
Malay	111	12069	20.8	14.35	29.07	171	18552	31.9	24.58	40.28
Chinese	91	10105	21.3	15.75	28.19	176	19854	41.9	33.35	50.91
Indian	1	139	30.6	6.67	73.18	1	139	30.6	6.67	73.18
Bumiputera Sabah	4	484	31.3	13.01	58.09	4	484	31.3	13.01	58.09
Bumiputera Sarawak	145	16448	18.6	14.63	23.40	236	27055	30.6	26.34	35.28
Others	4	375	18.7	3.39	60.05	6	653	32.5	9.63	68.50
BMI-for-age status (BAZ)										
Thinness (<-2sd)	28	3164	22.9	13.39	36.27	47	5147	37.2	24.71	51.71
Normal (\geq -2sd - \leq +1sd)	223	25027	19.6	16.04	23.68	367	41316	32.3	27.51	37.55
Overweight ($>$ +1sd - \leq +2sd)	54	5799	19.1	12.99	27.12	102	11713	38.5	31.83	45.67
Obese ($>$ +2sd)	50	5541	21.8	15.67	29.55	77	8472	33.4	24.88	43.08
Height-for-age status (HAZ)										
Stunting (<-2sd)	27	2931	13.6	9.37	19.34	53	5762	26.7	19.91	34.91
Normal (\geq -2sd)	328	36578	20.8	17.29	24.78	540	60862	34.6	29.77	39.75

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
SARAWAK	745	82145	41.5	37.61	45.52
Locality of School					
Urban	357	41737	42.7	36.31	49.42
Rural	388	40408	40.3	36.17	44.61
Sex					
Boys	429	44140	44.6	38.99	50.35
Girls	316	38006	38.4	34.03	43.00
Class					
Form 1	175	18709	42.6	36.29	49.09
Form 2	101	14100	34.8	28.86	41.17
Form 3	172	15645	39.4	33.09	46.13
Form 4	148	15732	42.0	30.61	54.37
Form 5	149	17960	49.5	38.31	60.79
Ethnicity					
Malay	252	26815	46.1	40.44	51.93
Chinese	143	16079	33.9	27.06	41.51
Indian	3	348	76.5	38.45	94.44
Bumiputera Sabah	7	841	54.4	33.07	74.20
Bumiputera Sarawak	334	37427	42.4	37.01	47.92
Others	6	636	31.6	10.69	64.18
BMI-for-age status (BAZ)					
Thinness (<-2sd)	50	5377	38.9	29.50	49.17
Normal (≥-2sd - ≤+1sd)	502	55289	43.3	38.50	48.14
Overweight (>+1sd - ≤+2sd)	105	11790	38.8	31.23	46.89
Obese (>+2sd)	86	9524	37.5	30.15	45.48
Height-for-age status (HAZ)					
Stunting (<-2sd)	78	8397	39.0	32.99	45.32
Normal (≥-2sd)	666	73636	41.8	37.70	46.12

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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
SARAWAK	101	11414	6.9	5.91	7.98	834	94044	56.6	51.96	61.13
Locality of School										
Urban	46	5603	7.0	5.48	9.02	391	47167	59.3	55.69	62.89
Rural	55	5811	6.7	5.67	7.91	443	46877	54.1	46.57	61.42
Sex										
Boys	56	5910	7.4	6.20	8.70	400	41473	51.6	45.37	57.81
Girls	45	5504	6.4	5.07	8.09	434	52571	61.3	56.32	66.00
Class										
Form 1	20	2053	5.6	3.42	9.04	176	19460	53.1	43.03	62.95
Form 2	19	2877	8.5	5.10	13.70	123	18035	53.0	46.45	59.47
Form 3	19	1713	5.1	3.11	8.11	196	17552	51.8	42.34	61.10
Form 4	22	2176	7.1	4.29	11.46	170	18172	59.1	51.67	66.20
Form 5	21	2595	8.4	5.55	12.54	169	20826	67.5	55.25	77.69
Ethnicity										
Malay	29	3337	6.7	3.93	11.05	254	27663	55.2	49.26	60.94
Chinese	17	1866	5.5	2.87	10.18	198	23022	67.6	58.56	75.42
Indian	-	-	-	-	-	2	230	50.6	18.57	82.10
Bumiputera Sabah	-	-	-	-	-	3	300	26.3	9.01	56.24
Bumiputera Sarawak	54	6104	7.8	6.00	10.06	372	42258	53.9	47.73	60.05
Others	1	107	5.3	0.45	40.94	5	571	28.4	13.28	50.76
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	686	5.6	2.15	13.93	58	6536	53.6	41.25	65.55
Normal ($\geq -2sd$ - $\leq +1sd$)	72	8062	7.5	6.15	9.05	541	61097	56.6	50.57	62.50
Overweight ($> +1sd$ - $\leq +2sd$)	11	1323	5.3	3.33	8.19	128	14775	58.7	51.78	65.23
Obese ($> +2sd$)	13	1343	6.5	3.93	10.71	104	11373	55.4	47.52	63.10
Height-for-age status (HAZ)										
Stunting (<-2sd)	9	847	4.6	2.18	9.40	96	10504	56.9	43.51	69.35
Normal ($\geq -2sd$)	92	10567	7.2	6.09	8.42	737	83428	56.6	52.22	60.82

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

Characteristic	Know only the lowest ingredient				
	Unweighted	Estimated	Prevalence	95% CI	
	Count	Population	(%)	Lower	Upper
SARAWAK	240	26511	16.0	13.52	18.74
Locality of School					
Urban	93	11314	14.2	10.78	18.56
Rural	147	15197	17.5	14.78	20.68
Sex					
Boys	141	14649	18.2	15.25	21.64
Girls	99	11862	13.8	11.28	16.84
Class					
Form 1	51	5195	14.2	9.69	20.28
Form 2	43	6217	18.3	12.86	25.31
Form 3	64	5992	17.7	13.46	22.87
Form 4	41	4200	13.7	8.37	21.53
Form 5	41	4907	15.9	10.27	23.78
Ethnicity					
Malay	71	7716	15.4	11.88	19.70
Chinese	38	4144	12.2	7.90	18.26
Indian	-	-	-	-	-
Bumiputera Sabah	2	243	21.3	4.69	59.66
Bumiputera Sarawak	126	14069	18.0	14.46	22.10
Others	3	340	16.9	5.06	43.67
BMI-for-age status (BAZ)					
Thinness (<-2sd)	13	1478	12.1	7.41	19.20
Normal (\geq -2sd - \leq +1sd)	160	17593	16.3	13.48	19.60
Overweight ($>$ +1sd - \leq +2sd)	32	3676	14.6	10.65	19.68
Obese ($>$ +2sd)	35	3763	18.3	13.25	24.83
Height-for-age status (HAZ)					
Stunting (<-2sd)	28	2757	14.9	8.93	23.91
Normal (\geq -2sd)	212	23754	16.1	13.50	19.10

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 Habituan Food Intake
22. Pn. Nazirah Bt Alias, Data Processing & Quality
23. Dr. Fazila Haryati Ahmad, Data Processing & Quality

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

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

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

Appendix 5: List of Research Team Members, NHMS 2017

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

Appendix 6: List of Data Collection Teams**SARAWAK****Liaison Officer**

Mr. Tan Beng Chin

Field Supervisors

1. Mr. Mohamad Aznuddin bin Abd Razak
2. Ms. Tilen Jok

Nutritionists

- | | |
|----------------------------------------------------|---------------------------------------|
| 1. Mr. Mackendy Manggis | 11. Ms. Atonio binti Dedo |
| 2. Mr. Ahmad Khairul Zaman bin Razak | 12. Ms. Mazuin anak Akai |
| 3. Mr. Jambai anak Endu | 13. Ms. Poh Wan Chien |
| 4. Ms. Aiwen Tsen Oi Wen | 14. Ms. Ariannie Charles |
| 5. Ms. Jumainah binti Isa | 15. Ms. Umi Zarifah binti Mohd Khairi |
| 6. Ms. Hairunnesa binti Tan Mohamad Suhiri | 16. Ms. Ellen Lee Lik Lin |
| 7. Mr. Muhamad Mursyid bin Ismail | |
| 8. Ms. Nurul Syahida binti Mohd Amin Albert | |
| 9. Ms. Oui Pek Geik | |
| 10. Ms. Nurul Shaidatul Nadia binti Mohd Saifullah | |

Research Assistants

- | | |
|------------------------------------|------------------------------------|
| 1. Maria Amella Anak Willing | 11. Noor Rafidah binti Abdul Karim |
| 2. Aelsa Anak Anthony | 12. Joshua Anak Gassai |
| 3. Remayah Ak Sadang | 13. Daphne Anak Dingon |
| 4. Donny Anak Nirau | 14. Muhmmad Nazirul bin Rosmadi |
| 5. Izzat Shyazani bin Mohd Iswandy | 15. Doris Anak Sabat |
| 6. Wenna Anak Anthony | 16. Clinttino Anak Philip Langut |
| 7. Joan Tjirna Anak Ben | 17. Terry Neilson Anak Jelanie |
| 8. Nicholas Mikai Anak Dugging | 18. Norliza binti Hamdan |
| 9. Dominick Riyu Ak Ambau | 19. Firtzgerald Jemutt Anak Joshua |
| 10.10.Winston Bunyau Anak Jayan | 20. Yohannes bin Dominic |

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 உள்ளவர்களுக்கின் உடல் நிலையைப் பேச மிகவும் உதவும்.

Panduan mengisi borang soal-selidik

ஆய்வறிக்கையை நிரப்ப வழிகாட்டிகள்

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

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

Tinjauan Persekitaran Keluarga

MODUL A : MAKLUMAT PERIBADI					
தொகுதி A : மாணவர் தகவல்					
Arahan : Isikan ID pelajar, tarikh lahir dan hitamkan jawapan pada kertas jawapan yang disediakan. கட்டளை: மாணவர் பெயர், பிறந்த திகதி, மற்றும் சரியான விடையை கொடுக்கப்பட்டுள்ள விடைத்தாளில் எழுதவும்.					
A1	ID Pelajar மாணவர் ஐடி	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Negeri மாநில	Strata நிலை	Kategori Sekolah பள்ளி பிரிவு	Kod Sekolah பள்ளி குறியீடு
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
A2	Tarikh lahir பிறந்த திகதி	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Hari நாள்	Bulan மாதம்	Tahun ஆண்டு	
A3	Jantina பால்	A. Lelaki -ன் B. Perempuan பெண்			
A4	Bangsa மனம்	A. Melayu மலாய் B. Cina சீனர் C. India மத்தியர் D. Bumiputra Sabah சபா பூர்வீகம் E. Bumiputra Sarawak சரவாக்பூர்வீகம் F. Lain-Lain மற்றது			
		Sekolah Rendah ஆரம்பப்பள்ளி		Sekolah Menengah மடைநிலைப்பள்ளி	
A5	Kelas ÀöÖ	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 ÀÁÄ	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 தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில் கருமையாக்குக .

- B1** Apakah sesi persekolahan anda?
 உங்கள்பள்ளி எச்சமயத்தில் நடைபெறும் ?
 A Sesi pagi sahaja / காஸலயில் மட்டும்
 B Sesi petang sahaja / மதியத்தில் மட்டும்
 C Sesi pagi sampai petang / காஸல முதல் மாஸல வஸர
- B2** Kebiasaannya, dalam seminggu berapa hari anda mengambil sarapan (dari pukul 6.00 pagi hingga 8.00 pagi)?
 ஒரு வாரத்தில் எத்தனை முறை காஸல சிற்றுண்டி உட்கொள்வீர்கள்? (காஸல மணி 6.00-
 லிருந்துகாஸல மணி 8.00 வஸர)?
 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 டல்லை /காஸல உணவு உட்கொள்வதில்லை
- B3** Kebiasaannya, dari mana anda dapat makanan itu?
 வழக்கமாக எங்கு காஸல உணவை உட்கொள்வீர்கள்?
 A Disediakan di rumah / வீடு
 B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாஸல
 C Beli di restoran atau warung / கஸல
 D Disediakan di asrama / பள்ளி விடுதி
 E Lain-lain / மற்றது
 F Tidak ambil sarapan / காஸல உணவு உட்கொள்வதில்லை
- B4** Sekiranya anda tidak mengambil sarapan, apakah sebabnya?
 ஏன் காஸல உணவை உட்கொள்வதில்லை?
 A Tiada makanan / உணவு டல்லை
 B Tiada selera / உண்ண விருப்பமில்லை
 C Tiada masa / நேரம்டல்லை
 D Berdiet/kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்
 E Tiada duit / பணம் பற்றாகுறை
 F Lain-lain / மற்றது
 G Tidak berkaitan/kerana saya mengambil sarapan setiap hari
 தொடர்பு டல்லை/ தினமும் காஸல சிற்றுண்டி உட்கொள்வேன்.

Tamil and Punjabi Group

- 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 அவ்வுணவை எங்கிருந்து பெருவீர்கள்?
- A Bekal dari rumah / வீடு
B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை
C Beli di restoran atau warung / கடை
D Disediakan di asrama / பள்ளி விடுதி
E Lain-lain / மற்றது
F Tidak berkaitan/tidak mengambil makan dan/atau minum pada waktu rehat
தொடர்பு இல்லை/ ஓய்வு நேரத்தில் உணவு உட்கொள்வதில்லை
- B7** Kebiasaannya, dalam seminggu berapa hari anda makan tengah hari (11.00 pagi hingga 3.00 petang)?
வழக்கமாக ஒரு வாரத்தில் 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 அவ்வுணவை எங்கிருந்து பெருவீர்கள்?
- A Disediakan di rumah / வீடு
B Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை
C Beli di restoran atau warung / கடை
D Disediakan di asrama / பள்ளி விடுதி
E Lain-lain / மற்றது
F Tidak berkaitan/tidak ambil makanan tengahari /
தொடர்பு இல்லை/ ஓய்வு நேரத்தில் உணவு உட்கொள்வதில்லை

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

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- B13** Kebiasaannya, dari mana anda dapat makanan itu?
எங்கிருந்து அவ்வணவை 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, துரித மீமற்றும் சில. யதில் பால்மற்றும் பிஸ்கிட் போன்ற உணவு அடங்காது. (உதாரணத்திற்கு 2 துண்டு பிஸ்கிட் மற்றும்/ அல்லது ஒரு குவளைப்பால்)
- A 1 hari / 1 நாள்
B 2 hari / 2 நாள்
C 3 hari / 3 நாள்
D 4 hari / 4 நாள்
E 5 hari / 5 நாள்
F 6 hari / 6 நாள்
G 7 hari / 7 நாள்
H Tidak ambil makanan berat selepas makan malam /
பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை
- B16** Di manakah anda mengambil makanan berat tersebut?
எங்கு யல்வணவை உட்கொள்வீர்கள்?
- A Rumah / வீடு
B Restoran atau warung / கடை
C Asrama / பள்ளி விடுதி
D Lain-lain / மற்றது
E Tidak berkaitan/tidak ambil makanan berat /
தொடர்பு யல்லை/பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை

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

Tinjauan Persekitaran Keluarga

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

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

Tinjauan Persekitaran Keluarga

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

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

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

MODUL C : AKTIVITI FIZIKAL

தொகுதி C : உடல் செயல்பாடு நடவடிக்கை

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

ஒவ்வொரு நேரத்தில் உடல் செயல்பாடு நடவடிக்கைகள்: கடந்த 7 நாட்களில் கீழ்க்கண்டவற்றை குறிப்பிடப்பட்டுள்ள 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 சிதிர்ப்பிங்	A	B	C	D	E
b	Mendayung / Berkenu படகு ஓட்டல்	A	B	C	D	E
c	Silat / Karate / Taekwondo சிலாட் / கராட்டே / தைக்கொண்டோ	A	B	C	D	E
d	Bermain kejar-kejar ஓடி பிடித்து விளையாடல்	A	B	C	D	E
e	Bersenam dengan berjalan நடத்தல்	A	B	C	D	E
f	Berbasikal மிதிவண்டி ஓட்டல்	A	B	C	D	E
g	Joging / Berlari மெதுவோட்டம்	A	B	C	D	E
h	Senamrobik ஏரோபிக்ஸ்	A	B	C	D	E
i	Berenang நீச்சல் அடித்தல்	A	B	C	D	E
j	Bola lisut / Besbol பேல்பாஷ்	A	B	C	D	E
k	Menari நடனம்	A	B	C	D	E
l	Ragbi ரக்பி	A	B	C	D	E
m	Badminton பூப்பந்து	A	B	C	D	E
n	Hoki ஹோகி	A	B	C	D	E
o	Bola tampar கைப்பந்து	A	B	C	D	E
p	Bola keranjang / Bola jarring நெட்பால்	A	B	C	D	E
q	Sepak takraw செபாக் டாக்ரா	A	B	C	D	E
r	Bola sepak / Futsal காற்பந்து	A	B	C	D	E
s	Pingpong பிங்பொங்	A	B	C	D	E

Tinjauan Persekitaran (Environment)

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

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

Tinjauan Persekitaran Keluarga

C8 Yang manakah antara pernyataan berikut menggambarkan diri anda dalam tempoh 7 hari yang lepas?
கீழ்வருவனவற்றில் எது உண்மை?

A Saya menggunakan semua atau kebanyakan masa lapang saya dengan melakukan aktiviti ringan
என் ஓய்வு நேரத்தில் சாதாரண உடற்பயிற்சியில் ஈடுபட்டேன்

B Saya kadang-kadang (1-2 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)
என் ஓய்வு நேரத்தில் சில சமயம் (1-2 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)

C Saya selalu (3-4 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)
என் ஓய்வு நேரத்தில் (3-4 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)

D Saya kerap (5-6 kali seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)
நான் ஓய்வு நேரத்தில் (5-6 முறை ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)

E Saya sangat kerap (7 kali atau lebih seminggu) melakukan aktiviti fizikal semasa waktu lapang saya (contoh: bersukan, berlari, berenang, berbasikal, aktiviti aerobik)
நான் எப்பொழுதும் (7 முறைக்கு மேல் ஒரு வாரத்தில்) உடல் செயல்பாட்டு நடவடிக்கையில் ஈடுபடுவேன். (உதாரணம்: ஓடுதல், நீச்சலடித்தல், மிடிவண்டி ஓட்டுதல், ஓரோபிக்ஸ்)

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

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

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

Tamil Language Version

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

MODUL D : PERSEPSI PENGURUSAN BERAT BADAN	
தொகுதி D : உடல் எடை கட்டுப்பாடு	
Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.	
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்பட்டுள்ள விடைத்தாளில்	
D1	<p>Pada masa sekarang, anda rasa anda : தற்சமயத்தில், என் உடல் எடை:</p> <p>A Kurang berat badan yang ketara மிகவும் குறைவாக உள்ளது</p> <p>B Kurang berat badan குறைவாக உள்ளது</p> <p>C Mempunyai berat badan yang sesuai சரியாக உள்ளது</p> <p>D Berlebihan berat badan சற்று அதிகமாக உள்ளது</p> <p>E Sangat berlebihan berat badan மிகவும் அதிகமாக உள்ளது</p>
D2	<p>Apakah yang anda sedang lakukan terhadap berat badan anda? உங்கள் உடல் எடையை சரிசெய்ய நீங்கள் ஏதாவது முயற்சியில் ஈடுபட்டுள்ளீர்களா?</p> <p>A Saya sedang berusaha untuk menurunkan berat badan saya உடல் எடையை குறைக்க முயற்சிக்கிறேன்</p> <p>B Saya sedang berusaha untuk menambahkan berat badan saya உடல் எடையை அதிகரிக்க முயற்சிக்கிறேன்</p> <p>C Saya tidak membuat apa-apa terhadap berat badan saya ஒரு முயற்சியிலும் ஈடுபடவில்லை</p> <p>D Saya sedang mengekalkan berat badan saya உடல் எடையை கட்டுப்படுத்த முயற்சிக்கிறேன்</p>
D3	<p>Sekiranya anda berhasrat untuk mengurangkan berat badan, apakah faktor utama yang mendorong anda berbuat demikian? எனனால் நீங்கள் உடல் எடையை குறைக்க முயற்சி செய்கிறீர்கள்?</p> <p>A Kesihatan உடல் நிலையைப் பேசு</p> <p>B Kecantikan அழகைப் பேசு</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 எண்ணை
C Madu atau hasil madu / தேன்
D Pati ayam / கோழி ஸ்தார்ச்
E Lain-lain / மற்றது
F Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை
- E7** Apakah sebab anda mengambil suplemen makanan tersebut?
எதனால் மாற்றுச்சத்துணவு உட்கொள்கிறீர்கள்?
- A Atas arahan doktor
மருத்துவரின் ஆலோசனை
B Atas arahan ibubapa
பெற்றோரின் ஆலோசனை
C Kesedaran sendiri
சுய முயற்சி
D Pengaruh kawan-kawan
நண்பர்களால்
E Lain-lain
மற்றது
F Tidak ambil suplemen
விடமின் உட்கொள்ளவில்லை
- E8** Berapa kerap anda mengambil suplemen makanan tersebut?
ஒரு வாரத்தில் எத்தனை முறை நீங்கள் மாற்றுச்சத்துணவு உட்கொள்வீர்கள்?
- A Setiap hari / ஒவ்வொரு நாளும்
B 5-6 kali seminggu / 5-6 முறை
C 3-4 kali seminggu / 3-4 முறை
D 1-2 kali seminggu / 1-2 முறை
E Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை

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

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

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 தகவல்கள்கொடுக்கப்பட்டுள்ளது. அதை படித்தப்பின் கொடுக்கப்பட்டுள்ளகூற்றுக்கள் சரி அல்லது பிழை என அடையாளம் காணுக.

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

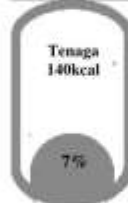
- F5** Jika saya minum 100ml minuman ini, ia membekalkan 56 kcal tenaga.
நான் 100ml குளிர்பானம் குடித்தால், எனக்கு 56 கலோரிச் சத்துகள் கிடைக்கும்.
- A Betul / சரி
B Salah / பிழை
C Tidak tahu / தெரியவில்லை
- F6** Jika saya minum satu kotak minuman ini, bermaksud saya telah mengambil 26.5 gram gula.
ஓர்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

Tinjauan Pemakanan Remaja

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

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


Satu Hidangan
Mengandungi 250 ml
ஒரு பரிமாறலில் 250 ml உள்ளது



Berdasarkan
2000kcal

- F7** Nilai tenaga untuk dua hidangan makanan ini adalah 140kcal. 2 பரிமாறலில் சத்தின் அளவு 140kcal.
- A Betul / சரி
B Salah / பிழை
C Tidak tahu / தெரியவில்லை
- F8** Jika saya minum satu hidangan makanan ini, ia membekalkan 7% tenaga daripada 2000 kalori tersebut. நான் டீய்வுண்டவை உட்கொண்டால், எனக்கு 2000 கலோரியிலிருந்து 7% சத்து கிடைக்கும்.
- A Betul / சரி
B Salah / பிழை
C Tidak tahu / தெரியவில்லை

Produk aiskrim A
பனிக்கூல் A



Senarai Ramuan /Bahan:
உள்ளடக்கம்:

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

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

A. Pepejal susu
பால்

B. Sirap glukosa
குளுகோஸ்

C. Gula
சர்க்கரை

D. Olein/Minyak isirung kelapa sawit
பனை எண்ணெய்

E. Serbuk koko
கொக்கோ

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

A. Sirap glukosa
குளுகோஸ்

B. Gula
சர்க்கரை

C. Olein/Minyak isirung kelapa sawit
பனை எண்ணெய்

D. Pepejal susu
பால்

E. Serbuk koko
கொக்கோ

Tinjauan Pendidikan Kesihatan




MODUL G : PENGUKURAN ANTROPOMETRI தொகுதி G : 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 Berat 1 எடை 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> kg 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 Tinggi 1 உயரம் 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm Tinggi 2 உயரம் 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm Enggan diukur அளக்கவில்லை <input type="checkbox"/>			

ADOLESCENT NUTRITION SURVEY 2017**马来西亚学生营养调查 2017****Survey form/调查问卷****INTRODUCTION / 简介**

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

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

Guide to filling survey forms/填写问卷指南

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

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

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

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

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

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

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

上个星期的每一天，你有多少次参与课外活动（体育，玩耍，跳舞或其他课外活动）

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

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

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

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

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

- E1** Are you taking any vitamin supplement/ minerals?
 你有在食用维生素/矿物质的补助品吗？
 A Yes/有
 B No/没有
 (If No, please answer 'I DON'T TAKE SUPPLEMENT' at question E2, E3, danE4
 (如果没有，请在E2, E3 和 E4 回答没有食用补助品))
- E2** 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？
 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
- E3** What is the reason for you to take vitamin supplement/ minerals?
 是什么原因使你在食用维生素/矿物质补助品？
 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/没有食用补助品
- E4** How often do you take vitamin supplement / minerals?
 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
- E5** Are you taking any **food supplement**?
 你有在食用食物补助品吗？
 A Yes/有
 B No/没有
 (If NO, please answer 'I DON'T TAKE SUPPLEMENT' at question E6, E7, danE8)
 (如果没有，请在E6, E7 和 E8 回答没有食用补助品)

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>(Straight to question F3 and answer till question F10/ 请直接跳去回答问题 F3，并继续回答至 F10)</p> <p>(Please answer question F2 and question F5 till F8/ 请回答问题 F2，并直接跳去 F5 继续回答至 F8)</p>																		
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; text-align: center;"> <tr> <th colspan="2">Reasons for not reading food labels/ 没有阅读食品标签的原因</th> </tr> <tr> <td style="width: 5%;">A</td> <td>Small printing font/字体太小</td> </tr> <tr> <td>B</td> <td>Do not understand food labels/不明白</td> </tr> <tr> <td>C</td> <td>Not interesting/不感兴趣</td> </tr> <tr> <td>D</td> <td>Do not know the importance/不懂其重要性</td> </tr> <tr> <td>E</td> <td>No time/没有时间</td> </tr> <tr> <td>F</td> <td>Already know the information/已经知道相关资料</td> </tr> </table>	Reasons for not reading food labels/ 没有阅读食品标签的原因		A	Small printing font/字体太小	B	Do not understand food labels/不明白	C	Not interesting/不感兴趣	D	Do not know the importance/不懂其重要性	E	No time/没有时间	F	Already know the information/已经知道相关资料				
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F3	<p>What kind of information do you read from the food label? You may choose more than one answer. 你会从食物营养标签上阅读哪些营养资料？你可以选择多个答案</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr> <th colspan="2">Nutrition fact information/营养资料</th> </tr> <tr> <td style="width: 5%;">A</td> <td>Energy content/日能</td> </tr> <tr> <td>B</td> <td>Carbohydrate/sugar content/碳水化合物/糖含量</td> </tr> <tr> <td>C</td> <td>Fat content/脂肪含量</td> </tr> <tr> <td>D</td> <td>Protein content/蛋白质含量</td> </tr> <tr> <td>E</td> <td>Salt/ sodium content/钠含量</td> </tr> <tr> <td>F</td> <td>Vitamin content/维生素含量</td> </tr> <tr> <td>G</td> <td>Mineral content/矿物质含量</td> </tr> <tr> <td>H</td> <td>Fiber/纤维</td> </tr> </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

English Version/English

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

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iku    **NHMS**

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



Appendix 8: Consent Form

Parents Consent Form

Borang Persetujuan Ibu Bapa/Penjaga NHMS 2017

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

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

2. Nama Penyelidik dan Institusi:

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

3. Nama Penaja:

Kementerian Kesihatan Malaysia

4. Pengenalan:

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

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

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

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

5. Apakah tujuan tinjauan ini dilakukan?

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

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

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

7. Apakah tanggungjawab anak saya sewaktu menyertai tinjauan ini?

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

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

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

9. Apakah manfaatnya anak saya menyertai tinjauan ini?

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

10. Adakah maklumat perubatan anak saya akan dirahsiakan?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(Tandatangan)

Nama Ibubapa/Penjaga* :

Nombor K/P :

Tarikh :

Students Consent Form

Borang Persetujuan Responden (Bawah 18 Tahun) NHMS 2017

RISALAH MAKLUMAT RESPONDEN (BAWAH 18 TAHUN)

1. Tajuk:

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

2. Nama Penyelidik Utama dan Institusi:

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

3. Nama Penaja:

Kementerian Kesihatan Malaysia

4. Pengenalan:

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

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

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

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

5. Apakah tujuan tinjauan ini dilakukan?

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

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

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

7. Apakah tanggungjawab saya sewaktu menyertai tinjauan ini?

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

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

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

9. Apakah manfaatnya saya menyertai tinjauan ini?

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

10. Adakah maklumat saya akan dirahsiakan?

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

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

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

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

BORANG PERSETUJUAN RESPONDEN BAWAH 18 TAHUN (Untuk Salinan Responden)

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

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

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

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

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

Borang Perseetujuan Responden (Bawah 18 Tahun) NHMS 2017

BORANG PERSETUJUAN RESPONDEN BAWAH 18 TAHUN (Untuk Salinan Penyelidik)

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

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

	Sila tandakan <input type="checkbox"/> di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas secara lisan dan bertulis dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	<input type="checkbox"/>
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan dan semua soalan saya telah dijawab dengan memuaskan.	<input type="checkbox"/>
3. Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	<input type="checkbox"/>
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk mengambil bahagian dalam tinjauan. Saya faham bahawa saya mesti mengikuti arahan yang berkaitan dengan penyertaan saya dalam tinjauan ini.	<input type="checkbox"/>
5. Saya faham bahawa penyelidik, peninjau yang berkecualan, 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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