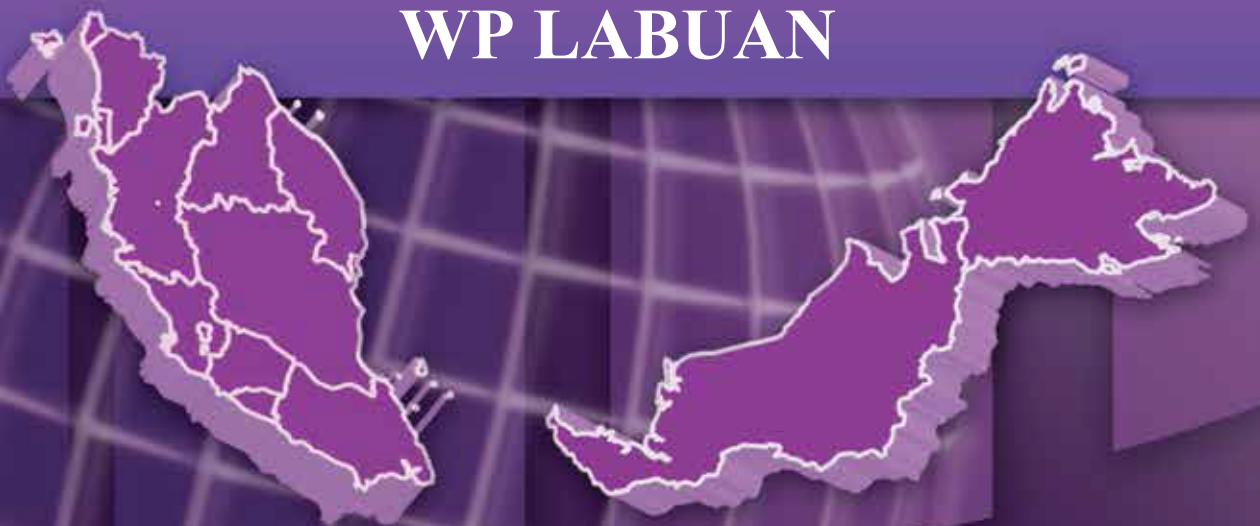


# NATIONAL HEALTH AND MORBIDITY SURVEY 2017

# ADOLESCENT NUTRITION SURVEY

WP LABUAN



# THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

## ADOLESCENT NUTRITION SURVEY 2017

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

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## Executive Summary

The Adolescent Nutrition Survey (ANS) is the second nation-wide study among adolescents in Malaysia 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. Total response rates for self administered questionnaire were 89.5% for ANS.

Based on the indicator height for age (HAZ), the prevalence of normal height ( $HAZ \geq -2SD$ ) was 90.3% and stunting was 9.7%. In terms of BMI for age (BAZ), the prevalence of thinness was 4.7%, overweight was 17.0% and obesity was 16.7%.

Among those school-going adolescents who had actual normal weight, 48.8% correctly perceived their weight to be normal. Among those who were actually thin, 78.4% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 38.6% and 12.1% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 60.5% preferring exercise as an option to lose weight; 54.5% 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 29.4%. More than half, one to six days per week (61.4%) and some of them did not having breakfast in a week (9.6%). Among those who had breakfast, 70.6% had it at home. Boys (28.0%) reported having breakfast daily (seven days per week), lower than girls areas (30.8%). The two main reasons of skipping breakfast were no appetite (40.5%) and no time (34.6%).

The prevalence of having lunch seven days per week among school-going adolescents was 46.4%; 51.1% had lunch up to six days per week and 2.5% did not have lunch in a week. No appetite (47.7%) and no time (17.5%) were the two main reasons for skipping lunch. As for dinner, 58.9% of school-going adolescents had dinner seven days per week, 38.5% 1-6 days per week and 2.7% did not have dinner in a week. Only 10.4% took heavy meals after dinner seven days per week.

There were 3.7% who had fast food daily and 9.3% 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 46.1% and 38.2%. A percentage of 23.1% reported that their dietary patterns were not affected by any media sources.

For dietary intake, the median energy intake of adolescents was 1848 kcal, which was 90.2% of the Recommended Nutrient Intake (RNI) for energy. Boys reported higher median energy intake with 2068 kcal compared to girls (1670 kcal). Half of the total daily energy intake consisted of carbohydrate (51.6%), protein (15.0%) and fat (33.4%). The total daily energy intake was derived from three main meals: breakfast (20.8%), lunch (26.0%) and dinner (25.7%). .

The prevalence of physical activity among school-going adolescents in WP Labuan was 54.8%. 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 WP Labuan was 54.5% and 35.5%. 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 19.4% and 12.1% of adolescents. The most commonly consumed vitamin/minerals and food supplements were Vitamin C 43.6% and Bee Product 14.6% . The main reason for taking vitamin / minerals and food supplements was due to parent's advised, which was 41.7% and 28.2% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 32.4% always reading food and nutrition labelling. Another 55.1% reported as sometimes and only 12.5% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 40.8% of adolescents both answered correctly on nutrition facts and 21.4% of adolescents answered correctly questions regarding the front of pack labelling and only 5.5% 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.

## References

1. Bibiloni, M. del M., Pons, A., & Tur, J. A. (2013). Prevalence of overweight and obesity in adolescents: A systematic review. *ISRN Obesity*, 2013, 392747. <https://doi.org/10.1155/2013/392747>
2. Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. *Journal of Health Economics*, 24(2), 365–389. <https://doi.org/10.1016/j.jhealeco.2004.09.008>
3. Institute for Public Health (IPH) 1996. The second National Health and Morbidity Survey (NHMS II) 1996, Health Related Behaviours. Ministry of Health, Malaysia.
4. Institute for Public Health (IPH) 2008. The third National Health and Morbidity Survey (NHMS III) 2006, Nutritional Status. Ministry of Health, Malaysia.
5. Institute for Public Health (IPH) 2011. The National Health and Morbidity Survey 2011 (NHMS 2011). Non-Communicable Diseases, Risk Factors & Other Health Problems; 2015.
6. Institute for Public Health (IPH) 2015. The National Health and Morbidity Survey 2015 (NHMS 2015). Vol. II. Non-Communicable Diseases, Risk Factors & Other Health Problems; 2015.
7. Onis, M. De, Blossner, M., Borghi, E., Frongillo, E. a, & Morris, R. (2004). Estimates of Global Prevalence of Childhood Underweight in 1990 and 2015. *Journal of the American Medical Association*, 291(21), 2600–6. <https://doi.org/10.1001/jama.291.21.2600>



8. Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: causes and consequences. *Journal of Family Medicine and Primary Care*, 4(2), 187–92. <https://doi.org/10.4103/2249-4863.154628>
9. Wojcicki, J. M., & Heyman, M. B. (2012). Adolescent nutritional awareness and use of food labels: results from the National Nutrition Health and Examination Survey. *BMC Pediatrics*, 12(1), 55. <https://doi.org/10.1186/1471-2431-12-55>
10. World Health Organization. (2006). *Adolescent Nutrition: A Review of the Situation in Selected South-East Asian Countries*. Regional Office for South-East Asia, New Delhi. New Delhi. <https://doi.org/10.3126/hprospect.v10i0.5656>
11. World Health Organization. (2014). *Recognizing adolescence*. Retrieved July, 23, 2017 from <http://apps.who.int/adolescent/second-decade/section2/page1/recognizing-adolescence.html>

## **1.1 Objectives**

### **1.1.1 General Objectives**

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

### **1.1.2 Specific Objectives**

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

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

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

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

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

1.1.2.6 To determine the prevalence of reading food and nutrition 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**.

NATIONAL HEALTH AND MORBIDITY SURVEY 2017

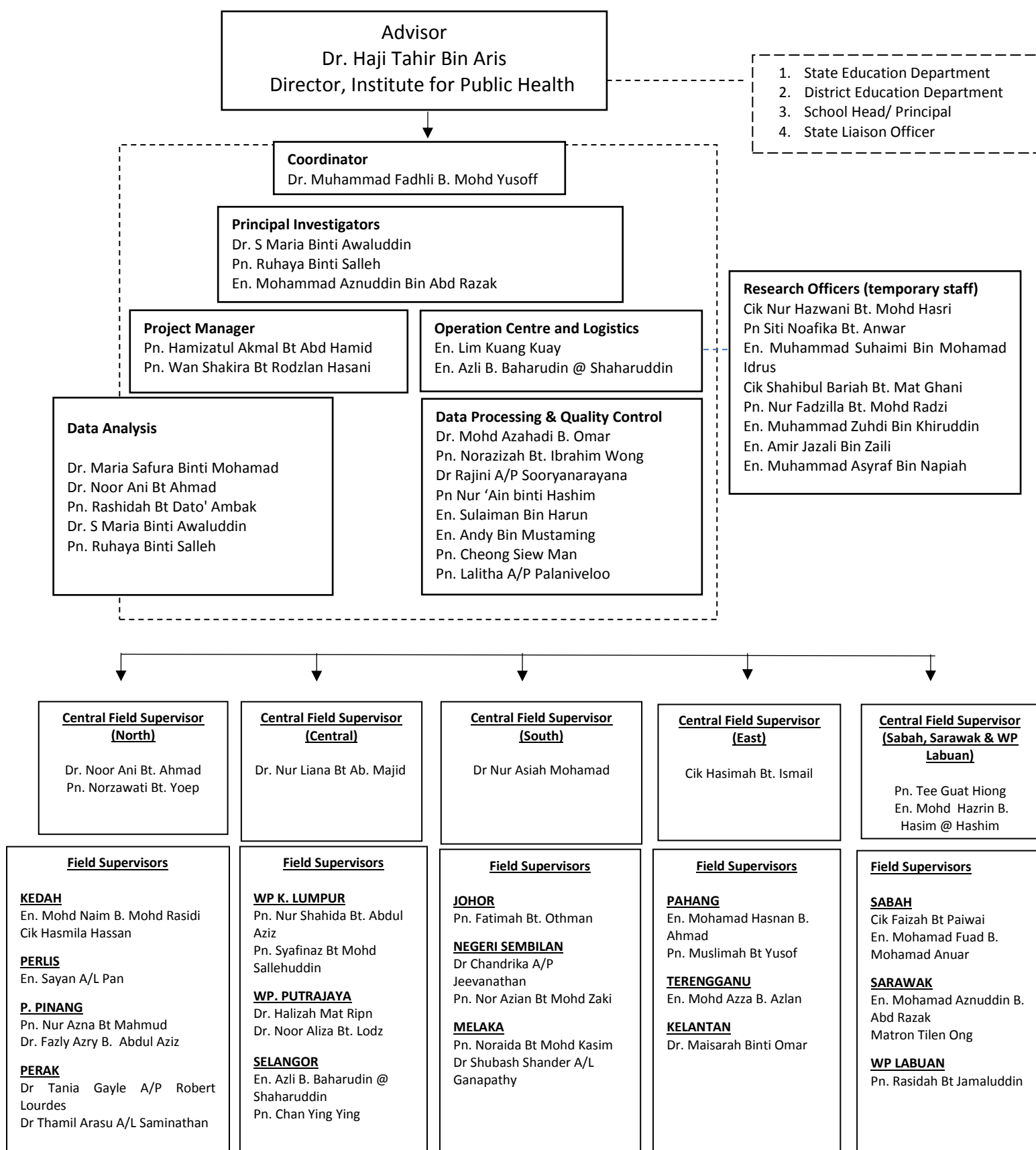


Figure 1: Organisation chart for data collection teams NHMS 2017

## 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),  $n(\text{complex}) = n * \text{deff}$
3. Adjusted the  $n(\text{complex})$  taking into account expected non-response rate of 25%,  $n(\text{adj}) = n(\text{complex}) * (1 + \text{non-response rate})$

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

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

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

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

## 2.4 Sampling Design

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

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

### **2.5 Ethical Approval**

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

### **2.6 Data Collection**

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

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

### **2.7 Data Management**

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

#### **2.7.1 Data Operation Centre**

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

Station 1: Respondent ID checking

Station 2: Scanning

Station 3: Verification

Station 4: Storage

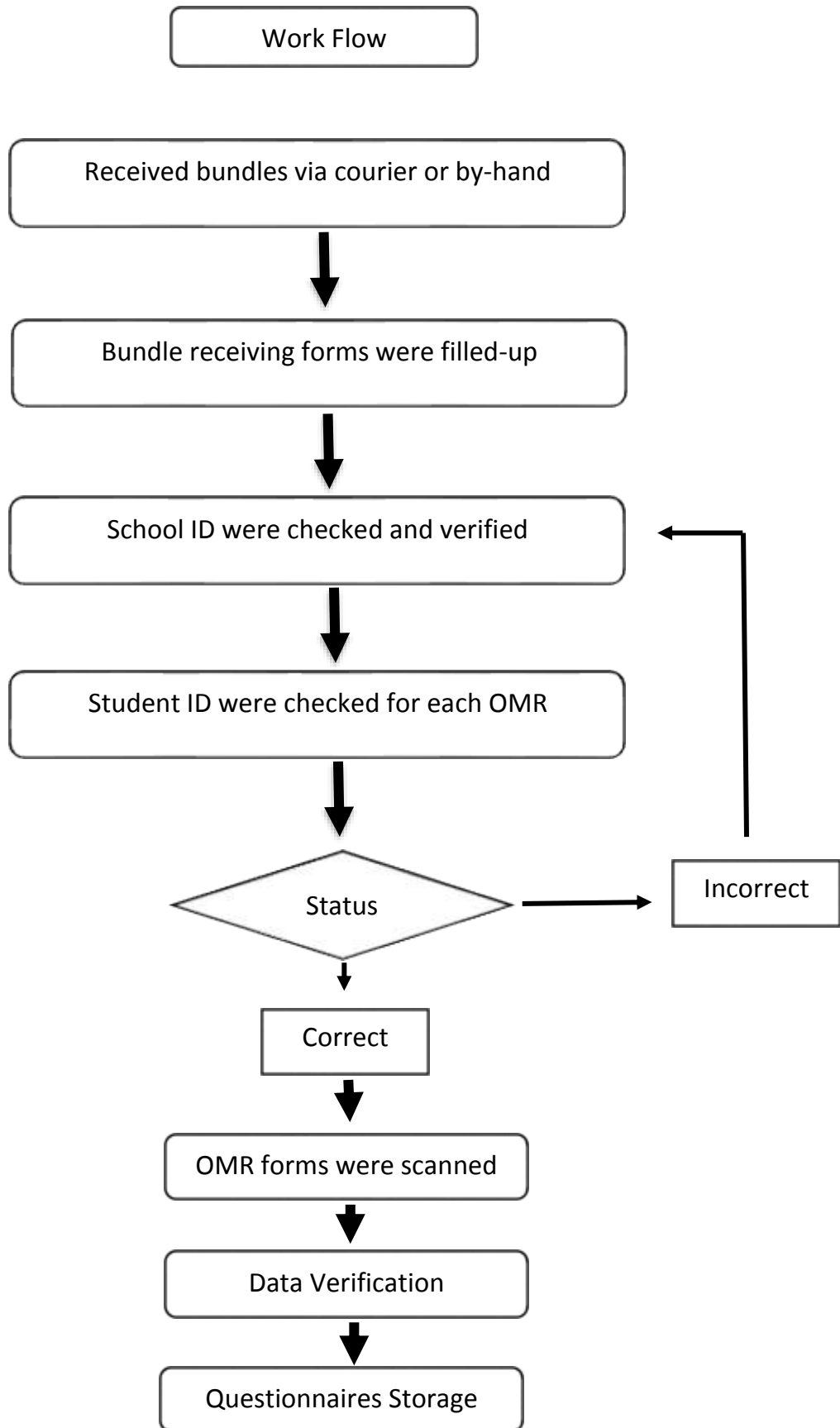


Figure 2: Work Flow of NHMS 2017



### 2.7.2 Data Analysis

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

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

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

Where;

W1 = the inverse of the probability of selecting the school

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

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

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

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

### 2.8 Survey Instruments

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

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

### 3.0 Findings

#### 3.1 General Findings

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

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

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

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

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

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

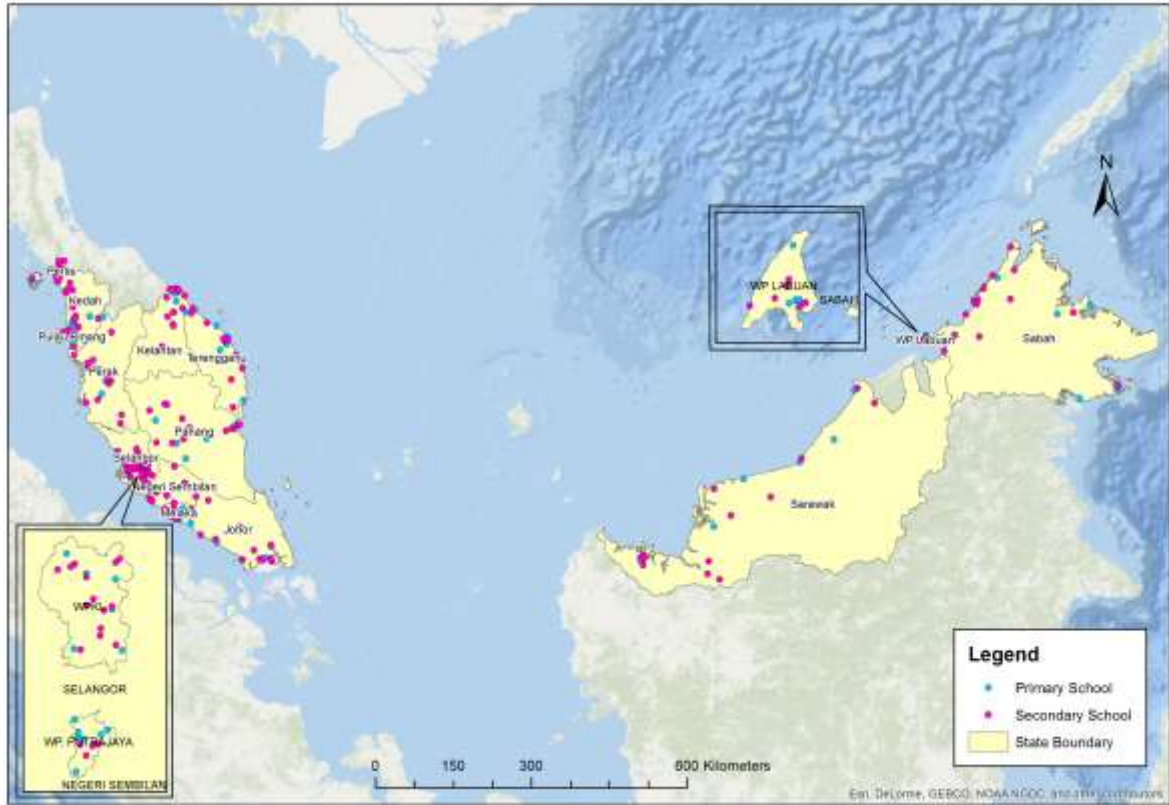


Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017

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

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

#### 3.2.1 Introduction

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

#### 3.2.2 Objectives

##### General objective:

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

##### Specific objective:

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

#### 3.2.3 Variable definition

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

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

#### 3.2.4 Findings

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

The finding of the survey showed that 90.3% (95% CI: 88.16, 92.12) 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 sexes, girls had much higher percentage of total stunting [11.5% (95% CI: 9.30-14.13)] compared to boys [7.9% (95% CI: 5.63-10.95)]. In term of class category, there was not much difference prevalence of stunting between primary level [9.4% (95% CI: 7.12-12.32)] and secondary level [9.9% (95% CI: 7.39-13.10)].

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

In terms of BMI-for-age status, the findings showed that 61.6% (95% CI: 57.76, 65.27) 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 sexes, more boys [5.9% (95% CI: 4.17, 8.23)] were thinner than girls [3.5% (95% CI: 2.68, 4.59)]. In term of class category, there was no difference prevalence of thinness between primary level [4.7% (95% CI: 3.07, 7.10)] with secondary level [4.7% (95% CI: 3.23, 6.82)].

On the other hand, the prevalence of overweight in WP Labuan (BMI-for-age:  $> +1SD$  to  $\leq +2SD$ ) was 17.0% (95% CI: 14.78, 19.40). The state prevalence was higher than national prevalence [15.6% (95% CI: 15.06, 16.19)]. In term of sexes, girls had higher prevalence of overweight [18.6% (95% CI: 16.40, 21.02)] than boys [15.4% (95% CI: 12.35, 18.96)]. According to class category, there was not much difference prevalence of overweight between primary level [17.0% (95% CI: 12.69, 22.42)] and secondary level [16.9% (95% CI: 15.18, 18.86)].

For the prevalence of obesity (BMI-for-age:  $> +2SD$ ), the state prevalence was 16.7% (95% CI: 13.96, 19.95), whereas the prevalence was higher than national prevalence [14.8 (95% CI: 14.00, 15.73)]. Comparing between sexes, boys had higher prevalence of obesity [19.1% (95% CI: 15.89, 22.81)] than girls [14.3% (95% CI: 11.26, 18.10)]. In term of class category, secondary level had much higher prevalence of obesity [21.6% (95% CI: 18.63, 24.96)] compared with primary level [13.2% (95% CI: 11.63, 14.88)].

### 3.2.5 Conclusion

The prevalence of stunted for adolescent aged 10 to 17 years in Labuan was 9.7%. On the other hand, the prevalence of overweight and obesity among this population were 17.0% and 16.7% respectively. In contrast, 4.7% of the population were found to be thinness. High demand of energy and nutrient are very important for physical growth and development at this age. However, the concept of healthy eating and living should be practised at younger age to ensure healthy physical and mental development. In consequences, it is hope reduce the prevalence of stunted, overweight and obesity.

### 3.2.6 Recommendation

Thinness, overweight and obesity is still a problem to be addressed for adolescent aged 10 to 17 years in WP Labuan. Various agencies have taken the initiative to set up plan of action to overcome such problems. Healthy eating and living concept should be carried at an earlier stage. It can be implemented by developing pro-health policies and regulation to create health promoting environment in work place, school, public area and even at home.

One of the suggested initiatives involving a 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
<b>WP Labuan</b>	240	929	9.7	7.88	11.84	2285	8675	90.3	88.16	92.12
<b>Locality of School</b>										
Urban	240	929	9.7	7.88	11.84	2285	8675	90.3	88.16	92.12
Rural										
<b>Sex</b>										
Boys	91	382	7.9	5.63	10.95	1113	4459	92.1	89.05	94.37
Girls	149	548	11.5	9.30	14.13	1172	4216	88.5	85.87	90.70
<b>Class</b>										
Standard 4	30	156	11.1	7.55	15.98	240	1249	88.9	84.02	92.45
Standard 5	31	146	10.4	6.76	15.81	264	1254	89.6	84.19	93.24
Standard 6	16	80	6.4	4.67	8.61	230	1180	93.6	91.39	95.33
Form 1	19	56	4.6	2.15	9.41	405	1164	95.4	90.59	97.85
Form 2	29	97	8.3	5.82	11.83	311	1065	91.7	88.17	94.18
Form 3	30	95	8.1	5.32	12.23	346	1074	91.9	87.77	94.68
Form 4	43	129	12.8	7.84	20.30	287	876	87.2	79.70	92.16
Form 5	42	171	17.3	11.03	26.22	202	814	82.7	73.78	88.97
<b>Class Category</b>										
Primary Level	77	382	9.4	7.12	12.32	734	3682	90.6	87.68	92.88
Secondary Level	163	547	9.9	7.39	13.10	1551	4993	90.1	86.90	92.61
<b>Ethnicity</b>										
Malay	123	482	10.8	8.82	13.25	1030	3961	89.2	86.75	91.18
Chinese	13	53	4.9	3.29	7.14	269	1027	95.1	92.86	96.71
Indian						13	51	100.0	100.00	100.00
Bumiputera Sabah	62	222	9.1	7.28	11.30	608	2217	90.9	88.70	92.72
Bumiputera Sarawak	5	20	6.9	2.46	17.70	76	277	93.1	82.30	97.54
Others	37	153	11.8	8.89	15.57	289	1142	88.2	84.43	91.11



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
<b>WP Labuan</b>	114	451	4.7	3.55	6.20	1573	5907	61.6	57.76	65.27
<b>Locality of School</b>										
Urban	114	451	4.7	3.55	6.20	1573	5907	61.6	57.76	65.27
Rural										
<b>Sex</b>										
Boys	70	284	5.9	4.17	8.23	731	2882	59.7	54.54	64.57
Girls	44	167	3.5	2.68	4.59	842	3024	63.5	60.08	66.88
<b>Class</b>										
Standard 4	12	62	4.4	2.35	8.16	164	851	60.6	54.37	66.51
Standard 5	16	77	5.5	3.63	8.29	163	770	55.2	46.06	63.93
Standard 6	10	51	4.1	1.86	8.71	133	677	53.9	47.76	60.01
Form 1	16	46	3.8	2.57	5.57	259	747	61.4	58.09	64.59
Form 2	11	41	3.5	1.52	7.96	208	710	61.2	57.11	65.04
Form 3	19	60	5.1	2.64	9.75	250	779	66.6	61.42	71.44
Form 4	14	45	4.5	2.13	9.13	223	678	67.4	60.89	73.30
Form 5	16	69	7.0	4.05	11.79	173	696	70.7	65.62	75.23
<b>Class Category</b>										
Primary Level	38	190	4.7	3.07	7.10	460	2297	56.7	50.14	62.98
Secondary Level	76	261	4.7	3.23	6.82	1113	3609	65.2	64.13	66.22
<b>Ethnicity</b>										
Malay	58	231	5.2	3.56	7.53	723	2766	62.3	58.32	66.19
Chinese	12	49	4.5	1.96	10.14	168	617	57.2	43.66	69.65
Indian						10	36	70.1	31.09	92.44
Bumiputera Sabah	25	93	3.8	2.26	6.39	408	1462	60.0	54.00	65.74
Bumiputera Sarawak	1	4	1.5	0.19	10.46	49	182	61.2	50.52	70.97
Others	18	74	5.7	3.31	9.79	215	844	65.4	58.82	71.50

**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
<b>WP Labuan</b>	434	1627	17.0	14.78	19.40	401	1606	16.7	13.96	19.95
<b>Locality of School</b>										
Urban	434	1627	17.0	14.78	19.40	401	1606	16.7	13.96	19.95
Rural										
<b>Sex</b>										
Boys	183	742	15.4	12.35	18.96	218	923	19.1	15.89	22.81
Girls	251	885	18.6	16.40	21.02	183	683	14.3	11.26	18.10
<b>Class</b>										
Standard 4	37	197	14.1	9.08	21.12	57	294	20.9	16.47	26.20
Standard 5	47	223	16.0	13.07	19.46	68	325	23.3	17.35	30.59
Standard 6	52	269	21.4	13.93	31.52	50	258	20.5	17.55	23.88
Form 1	79	220	18.1	15.42	21.08	69	203	16.7	14.82	18.84
Form 2	67	221	19.0	14.11	25.09	54	190	16.3	13.41	19.72
Form 3	56	175	15.0	10.77	20.53	51	155	13.2	9.16	18.75
Form 4	63	189	18.8	14.67	23.72	30	94	9.4	5.92	14.46
Form 5	33	133	13.5	10.60	17.05	22	87	8.9	5.43	14.12
<b>Class Category</b>										
Primary Level	136	690	17.0	12.69	22.42	175	877	21.6	18.63	24.96
Secondary Level	298	938	16.9	15.18	18.86	226	729	13.2	11.63	14.88
<b>Ethnicity</b>										
Malay	182	695	15.7	13.08	18.63	189	746	16.8	14.10	19.93
Chinese	47	188	17.5	11.61	25.39	55	225	20.9	14.20	29.56
Indian	2	11	20.7	3.09	68.02	1	5	9.2	0.84	54.72
Bumiputera Sabah	138	492	20.2	17.16	23.65	98	388	16.0	11.01	22.54
Bumiputera Sarawak	14	47	15.8	9.28	25.72	17	64	21.5	13.08	33.19
Others	51	194	15.1	10.90	20.43	41	178	13.8	8.83	20.83

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

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

#### 3.3.1 Introduction

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

#### 3.3.2 Objective

##### General objective:

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

##### Specific Objectives

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

#### 3.3.3 Variable definition

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

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

### 3.3.4 Findings

Results shows, 39.1% (95%CI:36.18,42.13) of the adolescents in WP Labuan perceive that they have normal weight. There was no significant difference in sex, however there were significant difference in school category which primary was higher in perceived thin 48.6% (95%CI: 41.50,55.75) as compared than secondary, while based on ethnicity Malay and others were higher in perceived thin 38.3% (95%CI : 30.57,46.61), 47.5% (95% CI: 35.87, 59.33) respectively (**Table 3.3.1**).

Among the actual normal 48.8% (95% CI: 43.95,53.60) was correctly perceived their weight to be normal, 38.6% (95% CI: 31.17,46.66) was underestimated their body weight, perceived to be thin, and 11.0% (95% CI: 7.70, 15.41), 1.6% (95% CI: 0.82, 3.28) were overestimated to be overweight, and obese respectively. However among the actual overweight 38.6% (95% CI: 25.66, 53.33) was correctly perceived their weight to be overweight, but 25.3% (95% CI: 16.16, 37.35), 31.9% (95% CI: 23.89, 41.14), were underestimated their body weight to be thin or normal respectively. There were significance different among adolescent that have normal body weight but perceived overweight based on sex and school category which more girls 14.9% (95% CI: 9.89,21.73) and secondary students 15.0% (95% CI: 11.66, 19.20) perceived overweight (**Table 3.3.2**).

Among all the adolescents who correctly perceived normal and have actual normal body weight, 31.9% (95% CI: 27.71, 36.43) reported that they have no plan to change their weight while adolescents who correctly perceived overweight and actual overweight 87.8% (95% CI: 81.91, 91.99) wanted to reduce their body weight. There were no significant different in school locality, sex and school category among adolescent who correctly perceived thin and overweight between four category of action taken. However there was significant different in sex among adolescents correctly perceived normal which more boys 16.2% (95%CI: 12.33, 20.91) than girls 6.0% (95% CI: 4.05,8.92) wanted to increase their body weight (**Table 3.3.3**).

However, adolescents whom misperception, perceived thin but actually in overweight and obese categories, most of them 65.5% (95%CI:56.39,73.57) wanted to lose weight while 12.9% (95%CI:7.34,21.56) wanted to increase their weight. There were no significant different in sex and school category based on their action taken. While for adolescents who have normal body weight but perceived thin or overweight there were no significant different based on school locality, sex and school category (**Table 3.3.4**).

Health was the main motivation to lose weight in 67.2% (95% CI: 63.25, 70.89) and most boys choose health purpose as their main factor that motivated them to lose weight, 67.8% (95% CI:61.61, 72.51) compared to girls. However beauty purpose become the main factor to lose body weight among girls, 10.2% (95%CI: 7.88, 12.98) (**Table 3.3.5**).

Among adolescents who want to increase body weight, health purpose was the highest main factor followed by increase self confidence, 59.8% (95%CI: 53.42,65.84), 23.8%(95% CI:

19.40,28.74) respectively. Among adolescent whom choose health purpose as their main factor girls 67.8% ( 95% CI: 58.21, 76.04 ) was higher than boys, 54.8% (95% CI: 46.66, 62.63) **(Table 3.3.6).**

Exercise was the highest option preferred by adolescent to lose body weight 60.5% (95% CI: 55.70,65.15) and it was higher among boys 64.9% (95% CI: 59.18, 70.24), secondary 61.8% ( 95% CI: 54.87, 68.22 ) and among Bumiputera Sabah 67.0% ( 95% CI: 58.46, 74.51 ) **(Table 3.3.7)**

Increase quantity of food was the highest option preferred by adolescents to increase their body weight, 52.0%(95% CI:44.89,58.94) and it higher among boys 56.4% ( 95% CI: 46.17, 66.09 ), secondary 59.5% ( 95% C: 52.85, 65.85 ) and Malay 60.0% ( 95% CI: 51.90, 67.68 ) **(Table 3.3.8).**

### 3.3.5 Discussion/Conclusion

Perception of being normal weight among adolescents in Labuan was lower than the national prevalence 39.1 % and 41.4% respectively.

Among the actual thin adolescent in Labuan,78.4% was correctly perceived thin, and was higher compared with the national prevalence,69.6%. Adolescents with actual normal body weight, 48.8% was correctly perceived their weight to be normal and it slightly lower than national prevalence 50.2%.

In Labuan, the trend of main factors to lose body weight among adolescent are similar with the national trend. Health purpose is the highest 67.2% main factor to lose body weight; followed by to increase self confidence 21.9% , beauty purpose 8.2 % and to have more friends 2.7% .

Health purpose is the highest 59.8% main factor to increase body weight . But it was higher compared with the national prevalence. Its followed by to increase self confidence 23.8%, beauty purpose 9.1 % and to have more friends 7.4% .

Adolescents choose to exercise as the preferred option to lose weight. However its was lower compared with the national prevalence , 60.5% and 62.5% respectively.Followed by reduce consumption of high fat foods 22.0%, increase intake of fruits and vegetables 6.9 % and reduce intake of high sugar foods 5.3%. This trend are similar with the national trend of prevalence.

54.5% adolescents in Labuan choose to increase quantity of food as the preferred option to increase body weight. It was higher compared with the national prevalence, 52.4%.

### 3.3.6 Recommendation

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

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

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

### References

1. Abbott, R. A., Lee, A. J., Stubbs, C. O., & Davies, P. S. W. (2010). Accuracy of weight status perception in contemporary Australian children and adolescents. *Journal of Paediatrics and Child Health*, 46, 343–348.
2. Brener, N. D., Eaton, D. K., Lowry, R., & McManus, T. (2004). The association between weight perception and BMI among high school students. *Obesity*, 12, 1866–1874.
3. Edwards, N. M., Pettingell, S., & Borowsky, I. W. (2010). Where perception meets reality: Self-perception of weight in overweight adolescents. *Pediatrics*, 125, 452–458.
4. Keel, P. K., Baxter, M. G., Heatherton, T. F., & Joiner, T. E. J. (2007). A 20-year longitudinal study of body weight, dieting and eating disorder symptoms. *Journal of Abnormal Psychology*, 116, 422–432. Linacre, S. (2007).
5. Maximova, K., McGrath, J. J., Barnett, T., O’Loughlin, J., Paradis, G., & Lambert, M. (2008). Do you see what I see? Weight status misperception and exposure to obesity among children and adolescents. *International Journal of Obesity*, 32, 1008–1015.
6. O’Dea, J. A., & Amy, N. K. (2011). Perceived and desired weight, weight related eating and exercising behaviours, and advice received from parents among thin, overweight, obese or normal weight Australian children and adolescents. *International Journal of Behavioral Nutrition and Physical Activity*,
7. Strauss, R. S. (1999). Self-reported weight status and dieting in a cross-sectional sample of young adolescents: National health and nutrition examination survey III. *Archives of Pediatric and Adolescent Medicine*, 153, 741–747.

8. Viner, R. M., Haines, M. M., Taylor, S. J. C., Head, J., Booy, R., & Stansfeld, S. (2006). Body mass, weight control behaviours, weight perception and emotional well being in a multiethnic sample of early adolescents. *International Journal of Obesity*, 30, 1514.
9. Wang, Y., Liang, H., & Chen, X. (2009). Measured body mass index, body weight perception, dissatisfaction and control practices in urban low-income African American adolescents. *BMC Public Health*, 9, 183–195
10. Xie, B., Liu, C., Chou, C. P., Xia, J., Spruijt-Metz, D., & Gong, J., et al. (2003). Weight perception and psychological factors in Chinese adolescents. *Journal of Adolescent Health*, 33, 202–210.

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

Characteristics	Perceived thin					Perceived Normal				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	850	3478	36.3	29.04	44.25	993	3747	39.1	36.18	42.13
<b>Locality of School</b>										
Urban	850	3478	36.3	29.04	44.25	993	3747	39.1	36.18	42.13
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	492	2060	42.7	34.86	50.97	467	1841	38.2	33.42	43.17
Girls	358	1418	29.8	22.32	38.54	526	1906	40.1	35.84	44.44
<b>School Category</b>										
Primary	395	1973	48.6	41.50	55.75	292	1469	36.2	32.33	40.23
Secondary	455	1505	27.3	22.11	33.11	701	2278	41.3	37.97	44.65
<b>Class</b>										
Standard 4	154	792	56.6	42.83	69.41	86	455	32.5	24.42	41.83
Standard 5	148	703	50.2	46.89	53.55	103	486	34.7	30.27	39.46
Standard 6	93	478	37.9	27.88	49.08	103	528	41.9	34.69	49.44
Form 1	121	357	29.3	23.12	36.46	185	537	44.2	38.28	50.34
Form 2	92	332	28.9	20.89	38.59	126	436	38.1	32.12	44.42
Form 3	85	261	22.3	16.91	28.80	168	526	45.0	40.49	49.67
Form 4	94	293	29.1	20.54	39.52	119	360	35.8	29.77	42.28
Form 5	63	263	26.7	20.28	34.35	103	418	42.5	35.32	49.95
<b>Ethnicity</b>										
Malay	410	1696	38.3	30.57	46.61	452	1740	39.3	35.78	42.85
Chinese	88	359	33.6	26.05	42.09	99	377	35.2	30.29	40.50
Indian	3	10	19.2	5.50	49.18	8	32	61.9	26.77	87.81
Bumiputera Sabah	186	727	29.8	22.73	38.08	289	1040	42.7	37.39	48.20
Bumiputera Sarawak	17	71	23.9	12.57	40.64	36	129	43.5	32.19	55.44
Others	146	615	47.5	35.87	59.33	109	430	33.2	26.14	41.11



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

Characteristics	Perceived Overweight					Perceived Obese				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	573	1982	20.7	15.88	26.48	102	373	3.9	2.84	5.32
<b>Locality of School</b>										
Urban	573	1982	20.7	15.88	26.48	102	373	3.9	2.84	5.32
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	205	774	16.0	12.53	20.32	35	147	3.0	2.23	4.15
Girls	368	1208	25.4	18.90	33.18	67	226	4.8	3.06	7.31
<b>School Category</b>										
Primary	98	490	12.1	8.84	16.26	25	128	3.2	1.72	5.72
Secondary	475	1492	27.0	22.78	31.74	77	245	4.4	3.19	6.15
<b>Class</b>										
Standard 4	21	110	7.9	5.18	11.74	8	42	3.0	1.01	8.74
Standard 5	37	178	12.7	7.26	21.26	7	33	2.4	0.94	5.81
Standard 6	40	202	16.0	11.78	21.46	10	53	4.2	1.65	10.17
Form 1	98	268	22.0	18.45	26.05	19	54	4.4	2.83	6.82
Form 2	105	339	29.6	22.38	37.96	12	39	3.4	1.75	6.48
Form 3	107	331	28.3	23.49	33.62	16	51	4.4	2.56	7.44
Form 4	100	303	30.1	24.51	36.44	17	50	4.9	3.29	7.37
Form 5	65	252	25.6	18.33	34.50	13	51	5.2	2.64	10.03
<b>Ethnicity</b>										
Malay	243	841	19.0	13.77	25.59	45	154	3.5	2.38	5.08
Chinese	75	266	24.9	17.88	33.54	17	67	6.3	3.20	11.95
Indian	1	5	9.2	0.84	54.72	1	5	9.8	0.90	56.35
Bumiputera Sabah	170	586	24.1	19.86	28.82	24	83	3.4	1.94	5.89
Bumiputera Sarawak	26	90	30.3	21.07	41.40	2	7	2.4	0.56	9.60
Others	58	194	14.9	8.68	24.51	13	57	4.4	3.14	6.09

**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
<b>WP Labuan</b>	91	78.4	70.12	84.86	17	16.4	10.80	24.19	4	3.6	1.12	11.08	2	1.6	0.36	6.40
<b>Locality of school</b>																
Urban	91	78.4	70.12	84.86	17	16.4	10.80	24.19	4	3.6	1.12	11.08	2	1.6	0.36	6.40
Rural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>																
Boys	54	75.9	66.35	83.44	12	18.4	12.46	26.41	3	4.5	1.30	14.33	1	1.2	0.14	9.02
Girls	37	82.6	61.84	93.29	5	13.0	3.81	36.13	1	2.2	0.25	16.60	1	2.2	0.24	17.55
<b>School Category</b>																
Primary	27	71.3	56.28	82.79	9	23.7	13.26	38.81	2	4.9	1.24	17.54	0	0.0	0.00	0.00
Secondary	64	83.5	73.47	90.29	8	11.1	6.28	18.86	2	2.7	0.35	17.86	2	2.7	0.70	9.81

**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
<b>WP Labuan</b>	567	38.6	31.17	46.66	784	48.8	43.95	53.60	192	11.0	7.70	15.41	25	1.6	0.82	3.28
<b>Locality of school</b>																
Urban	567	38.6	31.17	46.66	784	48.8	43.95	53.60	192	11.0	7.70	15.41	25	1.6	0.82	3.28
Rural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>																
Boys	316	45.2	35.94	54.82	350	46.6	38.33	55.01	53	6.9	5.31	8.89	9	1.3	0.60	2.96
Girls	251	32.4	24.76	41.03	434	50.8	45.50	56.16	139	14.9	9.89	21.73	16	1.9	0.85	4.35
<b>School Category</b>																
Primary	242	52.4	47.11	57.65	187	40.7	37.51	44.03	21	4.6	3.55	5.96	10	2.3	0.88	5.65
Secondary	325	29.8	24.35	35.91	597	53.9	49.64	58.09	171	15.0	11.66	19.20	15	1.3	0.47	3.32

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

Perceived	Actual overweight															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
<b>WP Labuan</b>	96	25.3	16.16	37.35	129	31.9	23.89	41.14	190	38.6	25.66	53.33	19	4.2	2.35	7.44
<b>Locality of school</b>																
Urban	96	25.3	16.16	37.35	129	31.9	23.89	41.14	190	38.6	25.66	53.33	19	4.2	2.35	7.44
Rural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>																
Boys	53	31.5	21.04	44.29	69	38.2	29.57	47.56	58	28.6	17.99	42.33	3	1.7	0.40	6.85
Girls	43	20.1	10.33	35.47	60	26.6	17.22	38.80	132	46.9	30.26	64.30	16	6.3	2.96	13.02
<b>School Category</b>																
Primary	59	43.1	30.69	56.42	53	39.5	26.84	53.76	21	15.2	8.35	26.16	3	2.2	0.97	4.81
Secondary	37	12.2	7.92	18.46	76	26.3	19.60	34.31	169	55.7	45.70	65.34	16	5.7	3.05	10.44

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

Perceived	Actual obese															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
<b>WP Labuan</b>	95	27.1	19.85	35.71	63	17.6	12.22	24.76	187	43.3	34.38	52.60	54	12.1	7.90	17.98
<b>Locality of school</b>																
Urban	95	27.1	19.85	35.71	63	17.6	12.22	24.76	187	43.3	34.38	52.60	54	12.1	7.90	17.98
Rural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>																
Boys	69	34.1	25.16	44.35	36	18.3	13.31	24.66	91	38.3	27.19	50.87	20	9.2	5.87	14.24
Girls	26	17.6	10.00	29.10	27	16.7	8.92	29.11	96	49.9	42.40	57.34	34	15.8	8.50	27.59
<b>School Category</b>																
Primary	66	37.9	32.08	44.20	43	24.7	17.92	33.05	54	30.9	24.63	37.98	11	6.4	3.63	11.13
Secondary	29	14.0	9.42	20.19	20	9.1	5.82	13.97	133	58.1	49.38	66.38	43	18.8	13.46	25.68

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

Characteristic	Perceived thin - actual thin									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	10	46	13.0	7.25	22.15	62	234	66.3	53.56	77.05
<b>Locality of school</b>										
Urban	10	46	13.0	7.25	22.15	62	234	66.3	53.56	77.05
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	8	36	16.5	7.72	31.72	38	148	68.7	52.82	81.15
Girls	2	10	7.5	1.59	29.02	24	86	62.6	43.18	78.60
<b>School category</b>										
Primary	7	35	26.1	15.01	41.49	13	65	47.9	35.32	60.67
Secondary	3	10	4.8	1.99	11.06	49	170	77.8	65.95	86.37

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

Characteristic	Perceived thin - actual thin									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	15	56	15.8	7.76	29.57	4	17	4.9	1.70	13.28
<b>Locality of school</b>										
Urban	15	56	15.8	7.76	29.57	4	17	4.9	1.70	13.28
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	6	24	11.2	4.54	25.15	2	8	3.6	0.69	16.77
Girls	9	32	23.0	10.29	43.79	2	10	6.9	1.53	26.23
<b>School category</b>										
Primary	4	21	15.2	4.10	42.89	3	15	10.8	4.04	25.87
Secondary	11	35	16.2	6.87	33.66	1	3	1.2	0.13	10.68

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

Characteristic	Perceived normal - actual normal									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	213	790	27.5	23.99	31.29	79	309	10.8	8.33	13.78
<b>Locality of school</b>										
Urban	213	790	27.5	23.99	31.29	79	309	10.8	8.33	13.78
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	85	324	24.2	18.22	31.39	54	216	16.2	12.33	20.91
Girls	128	466	30.4	25.85	35.27	25	93	6.0	4.05	8.92
<b>School category</b>										
Primary	60	296	31.6	28.63	34.82	21	109	11.6	7.95	16.67
Secondary	153	493	25.5	21.19	30.30	58	200	10.3	7.41	14.25

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

Characteristic	Perceived normal - actual normal									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	251	917	31.9	27.72	36.43	241	857	29.8	25.18	34.95
<b>Locality of school</b>										
Urban	251	917	31.9	27.72	36.43	241	857	29.8	25.18	34.95
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	94	357	26.7	21.55	32.57	117	441	32.9	25.62	41.18
Girls	157	560	36.5	30.98	42.32	124	417	27.1	22.80	31.97
<b>School category</b>										
Primary	59	294	31.4	27.31	35.85	47	237	25.3	20.09	31.36
Secondary	192	623	32.2	26.34	38.57	194	620	32.0	26.35	38.29

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

Characteristic	Perceived overweight - actual overweight									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	168	551	87.8	81.91	91.99	2	7	1.2	0.26	5.24
<b>Locality of school</b>										
Urban	168	551	87.8	81.91	91.99	2	7	1.2	0.26	5.24
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	52	190	89.4	77.96	95.25	-	-	-	-	-
Girls	116	361	87.0	80.22	91.72	2	7	1.8	0.38	8.19
<b>School category</b>										
Primary	17	85	81.3	62.93	91.73	1	5	4.4	0.72	22.53
Secondary	151	466	89.1	83.28	93.11	1	3	0.5	0.08	3.87

**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	
<b>WP Labuan</b>	12	41	6.5	3.44	11.85	8	28	4.5	1.78	11.00
<b>Locality of school</b>										
Urban	12	41	6.5	3.44	11.85	8	28	4.5	1.78	11.00
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	4	15	6.9	2.74	16.20	2	8	3.7	0.74	16.82
Girls	8	26	6.3	2.94	12.84	6	20	4.9	1.61	14.02
<b>School category</b>										
Primary	1	5	5.0	0.87	24.17	2	10	9.3	2.13	32.61
Secondary	11	35	6.8	3.41	12.95	6	19	3.6	1.10	10.90

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

Characteristic	Perceived thin -Actual overweight/obese									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	126	553	65.5	56.39	73.57	24	109	12.9	7.34	21.56
<b>Locality of school</b>										
Urban	126	553	65.5	56.39	73.57	24	109	12.9	7.34	21.56
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	77	344	63.0	52.90	72.10	17	79	14.4	7.24	26.67
Girls	49	209	70.0	53.02	82.84	7	30	10.0	4.54	20.58
<b>School category</b>										
Primary	81	408	64.9	52.98	75.21	17	85	13.5	7.00	24.56
Secondary	45	145	67.2	58.40	74.91	7	24	10.9	3.85	27.20

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

Characteristic	Perceived thin -Actual overweight/obese									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	29	123	14.6	9.69	21.36	12	60	7.1	3.65	13.29
<b>Locality of school</b>										
Urban	29	123	14.6	9.69	21.36	12	60	7.1	3.65	13.29
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	19	79	14.5	8.28	24.02	9	44	8.1	4.28	14.85
Girls	10	44	14.8	7.78	26.39	3	15	5.2	2.06	12.44
<b>School category</b>										
Primary	18	88	14.1	8.87	21.57	9	47	7.5	3.37	15.90
Secondary	11	35	16.1	6.73	33.79	3	13	5.8	2.22	14.43

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

Characteristic	Actual Normal - Perceived thin/overweight/obese									
	Lose weight					Increase weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	307	1181	39.3	32.69	46.36	256	1001	33.3	27.62	39.52
<b>Locality of school</b>										
Urban	307	1181	39.3	32.69	46.36	256	1001	33.3	27.62	39.52
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	130	548	36.0	27.32	45.74	149	590	38.8	31.11	47.08
Girls	177	634	42.7	35.06	50.70	107	411	27.7	20.54	36.17
<b>School category</b>										
Primary	108	540	40.0	27.46	53.94	86	427	31.6	23.20	41.42
Secondary	199	641	38.8	33.28	44.59	170	574	34.7	27.56	42.60

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

Characteristic	Actual Normal - Perceived thin/overweight/obese									
	No action					Maintain body weight				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	145	542	18.0	14.64	22.02	73	281	9.3	7.09	12.19
<b>Locality of school</b>										
Urban	145	542	18.0	14.64	22.02	73	281	9.3	7.09	12.19
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	63	252	16.6	12.65	21.43	33	131	8.6	6.50	11.30
Girls	82	290	19.5	14.52	25.77	40	150	10.1	6.10	16.22
<b>School category</b>										
Primary	49	247	18.2	13.52	24.15	28	138	10.2	6.30	16.06
Secondary	96	296	17.9	13.33	2355.27	45	143	8.6	6.54	11.34

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

Characteristics	Health purpose					Beauty purpose				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
	<b>WP Labuan</b>	770	2952	67.2	63.25	70.89	95	361	8.2	6.39
<b>Locality of school</b>										
Urban	770	2952	67.2	63.25	70.89	95	361	8.2	6.39	10.52
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	342	1406	67.8	62.61	72.51	29	126	6.1	3.63	9.99
Girls	428	1546	66.7	60.94	71.94	66	235	10.2	7.88	12.98
<b>School category</b>										
Primary	269	1346	70.6	66.61	74.30	36	181	9.5	6.59	13.49
Secondary	501	1605	64.6	59.31	69.49	59	180	7.3	5.35	9.76
<b>Class</b>										
Standard 4	74	387	65.4	54.64	74.73	15	78	13.2	8.97	19.02
Standard 5	114	542	77.0	73.12	80.43	9	42	6.0	2.91	12.04
Standard 6	81	417	68.3	58.92	76.41	12	60	9.9	5.31	17.69
Form 1	136	392	70.4	62.34	77.35	14	37	6.6	3.38	12.37
Form 2	125	422	72.8	63.22	80.57	8	24	4.1	1.47	11.13
Form 3	92	284	56.9	50.65	62.89	18	55	11.0	7.14	16.71
Form 4	91	279	57.1	48.72	65.18	12	36	7.4	5.39	10.18
Form 5	57	228	63.1	45.54	77.76	7	28	7.8	4.30	13.78
<b>Ethnicity</b>										
Malay	362	1395	66.6	61.88	70.93	44	174	8.3	5.86	11.67
Chinese	86	318	76.6	69.48	82.52	10	35	8.4	4.18	16.11
Indian	2	10	100.0	100.00	100.00	-	-	-	-	-
Bumiputera Sabah	199	744	66.8	59.14	73.70	26	94	8.5	5.49	12.79
Bumiputera Sarawak	29	106	59.5	42.75	74.26	6	22	12.4	4.44	30.18
Others	92	378	65.2	51.12	77.01	9	36	6.2	2.91	12.63

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

	To increase self-confidence					To have more friends				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	268	962	21.9	17.64	26.83	28	119	2.7	1.60	4.54
<b>Locality of school</b>										
Urban	268	962	21.9	17.64	26.83	28	119	2.7	1.60	4.54
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	121	464	22.4	17.27	28.43	18	79	3.8	2.20	6.55
Girls	147	498	21.5	16.48	27.48	10	40	1.7	0.66	4.37
<b>School category</b>										
Primary	57	286	15.0	11.78	18.94	19	93	4.9	3.71	6.44
Secondary	211	675	27.2	23.50	31.16	9	26	1.0	0.42	2.51
<b>Class</b>										
Standard 4	19	97	16.4	11.13	23.46	6	30	5.0	1.62	14.62
Standard 5	15	71	10.1	6.88	14.66	10	48	6.9	4.98	9.41
Standard 6	23	118	19.3	11.24	31.16	3	15	2.5	0.89	6.74
Form 1	41	115	20.7	15.95	26.32	5	13	2.4	0.86	6.42
Form 2	37	127	21.9	15.31	30.35	2	7	1.2	0.26	5.31
Form 3	50	158	31.6	26.39	37.21	1	3	0.5	0.06	4.35
Form 4	56	171	34.9	28.79	41.48	1	3	0.5	0.07	4.28
Form 5	27	105	29.1	16.56	45.88	-	-	-	-	-
<b>Ethnicity</b>										
Malay	131	475	22.6	17.26	29.12	12	52	2.5	1.28	4.76
Chinese	14	47	11.4	6.53	19.08	3	15	3.6	0.75	15.72
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	72	249	22.3	16.67	29.28	7	27	2.4	0.88	6.25
Bumiputera Sarawak	13	45	25.3	13.77	41.68	1	5	2.9	0.34	20.33
Others	38	146	25.1	17.44	34.77	5	20	3.5	1.27	9.36



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

Characteristics	Health purpose					Beauty purpose				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	242	952	59.8	53.42	65.84	35	144	9.1	5.74	14.01
<b>Locality of school</b>										
Urban	242	952	59.8	53.42	65.84	35	144	9.1	5.74	14.01
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	136	535	54.8	46.66	62.63	22	95	9.7	6.20	14.96
Girls	106	417	67.8	58.21	76.04	13	49	8.0	3.87	15.79
<b>School category</b>										
Primary	80	396	60.0	52.10	67.46	10	51	7.8	4.65	12.77
Secondary	162	556	59.6	50.23	68.36	25	93	10.0	5.20	18.22
<b>Class</b>										
Standard 4	29	150	51.6	36.23	66.64	6	31	10.7	9.11	12.47
Standard 5	33	156	69.0	51.56	82.29	2	10	4.3	0.48	29.93
Standard 6	18	90	63.0	37.50	82.86	2	11	7.4	2.11	22.85
Form 1	30	87	57.4	42.54	70.97	3	10	6.7	1.48	25.28
Form 2	24	89	48.1	33.66	62.89	7	26	14.1	5.14	33.30
Form 3	40	126	65.6	60.75	70.23	2	7	3.9	1.19	11.97
Form 4	34	106	65.1	48.93	78.37	5	16	9.5	2.49	30.29
Form 5	34	148	61.4	37.72	80.63	8	34	14.0	4.65	35.00
<b>Ethnicity</b>										
Malay	102	420	55.1	45.07	64.66	19	80	10.4	6.39	16.60
Chinese	26	110	59.1	40.76	75.23	3	12	6.5	1.03	31.71
Indian	3	9	55.0	12.82	91.06	1	5	29.3	3.24	83.69
Bumiputera Sabah	68	248	63.4	49.46	75.42	7	30	7.6	2.53	20.74
Bumiputera Sarawak	7	29	91.5	46.11	99.27	1	3	8.5	0.73	53.89
Others	36	135	66.6	53.64	77.52	4	15	7.4	3.02	16.86

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

Characteristics	To increase self-confidence					To have more friends				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	102	378	23.8	19.40	28.74	25	118	7.4	4.00	13.30
<b>Locality of school</b>										
Urban	102	378	23.8	19.40	28.74	25	118	7.4	4.00	13.30
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	68	261	26.7	22.04	31.87	18	86	8.8	4.49	16.63
Girls	34	118	19.1	12.50	28.13	7	31	5.1	2.30	11.03
<b>School category</b>										
Primary	23	116	17.6	11.52	25.92	19	96	14.6	9.60	21.58
Secondary	79	262	28.1	23.90	32.76	6	22	2.3	1.07	4.91
<b>Class</b>										
Standard 4	9	47	16.2	7.97	29.99	12	63	21.6	9.41	42.18
Standard 5	8	37	16.5	7.30	33.28	5	23	10.2	4.27	22.26
Standard 6	6	32	22.1	10.04	42.00	2	11	7.5	1.26	33.66
Form 1	15	45	30.0	14.19	52.66	3	9	6.0	2.06	16.01
Form 2	19	65	35.4	25.56	46.75	1	4	2.3	0.27	17.36
Form 3	18	55	28.6	23.42	34.46	1	4	1.8	0.30	10.38
Form 4	14	41	25.4	17.47	35.37	-	-	-	-	-
Form 5	13	55	22.8	11.17	40.81	1	5	1.9	0.24	14.04
<b>Ethnicity</b>										
Malay	54	201	26.3	19.37	34.59	14	63	8.2	4.03	16.06
Chinese	10	43	23.4	12.87	38.69	4	20	11.0	3.82	27.85
Indian	1	3	15.7	1.47	69.90	-	-	-	-	-
Bumiputera Sabah	24	88	22.5	14.14	33.89	5	25	6.5	2.17	17.68
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	13	43	21.4	12.84	33.45	2	9	4.6	0.54	29.97

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

Characteristics	Exercise					Reduce consumption of high fat foods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	710	2693	60.5	55.70	65.15	260	978	22.0	18.13	26.38
<b>Locality of school</b>										
Urban	710	2693	60.5	55.70	65.15	260	978	22.0	18.13	26.38
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	340	1373	64.9	59.18	70.24	94	396	18.7	14.56	23.80
Girls	370	1321	56.6	51.18	61.77	166	582	24.9	20.02	30.53
<b>School category</b>										
Primary	227	1145	58.9	52.61	64.95	87	430	22.1	17.14	28.06
Secondary	483	1549	61.8	54.87	68.22	173	548	21.9	16.47	28.43
<b>Class</b>										
Standard 4	75	392	61.9	53.02	70.02	26	133	21.0	13.57	31.04
Standard 5	87	415	58.5	54.20	62.70	33	156	22.0	17.35	27.50
Standard 6	65	338	56.3	45.64	66.36	28	141	23.4	14.53	35.54
Form 1	121	352	62.7	54.85	69.89	40	108	19.3	14.05	25.80
Form 2	114	389	65.5	55.53	74.25	36	122	20.6	13.31	30.42
Form 3	103	319	63.3	50.70	74.36	31	98	19.5	11.04	32.08
Form 4	95	287	57.9	47.05	68.10	42	129	26.0	17.62	36.49
Form 5	50	202	57.2	40.37	72.51	24	91	25.8	13.34	44.05
<b>Ethnicity</b>										
Malay	318	1225	57.7	52.38	62.76	138	527	24.8	20.07	30.24
Chinese	73	259	61.8	49.23	72.92	19	70	16.6	11.74	22.99
Indian	-	-	-	-	-	1	5	47.5	3.67	95.57
Bumiputera Sabah	204	751	67.0	58.46	74.51	57	204	18.2	12.33	26.06
Bumiputera Sarawak	33	118	66.0	49.56	79.26	9	34	18.8	7.18	40.82
Others	82	341	57.1	47.73	66.01	36	139	23.3	15.99	32.59

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

Characteristics	Reduce intake of high sugar foods					Increase intake of fruits & vegetables				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	57	235	5.3	3.37	8.16	81	308	6.9	5.50	8.65
<b>Locality of school</b>										
Urban	57	235	5.3	3.37	8.16	81	308	6.9	5.50	8.65
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	32	134	6.4	4.02	9.89	37	153	7.2	5.18	10.03
Girls	25	100	4.3	2.48	7.34	44	155	6.6	4.85	8.96
<b>School category</b>										
Primary	30	150	7.7	5.39	10.88	27	134	6.9	5.00	9.46
Secondary	27	85	3.4	1.53	7.37	54	173	6.9	5.02	9.46
<b>Class</b>										
Standard 4	10	52	8.2	3.36	18.88	8	41	6.4	4.83	8.49
Standard 5	14	66	9.3	7.22	11.98	8	38	5.3	2.59	10.55
Standard 6	6	31	5.2	3.45	7.72	11	56	9.3	7.47	11.53
Form 1	9	25	4.5	1.44	13.11	14	40	7.2	3.76	13.22
Form 2	4	14	2.4	1.06	5.32	13	40	6.8	3.53	12.58
Form 3	7	21	4.2	1.75	9.94	9	28	5.7	2.69	11.47
Form 4	5	16	3.2	1.07	9.22	10	31	6.3	4.14	9.43
Form 5	2	9	2.4	0.57	9.68	8	33	9.5	4.48	18.89
<b>Ethnicity</b>										
Malay	31	126	5.9	3.61	9.59	32	115	5.4	3.24	8.86
Chinese	3	15	3.5	0.73	14.91	13	52	12.4	6.75	21.83
Indian	-	-	-	-	-	1	5	52.5	4.43	96.33
Bumiputera Sabah	15	59	5.2	2.98	9.01	17	64	5.7	3.36	9.61
Bumiputera Sarawak	-	-	-	-	-	3	12	6.9	2.04	20.96
Others	8	36	6.0	2.64	12.88	15	59	9.9	6.79	14.15

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

Characteristics	Skip main meals					Consume dieting pills/use slimming cream				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	30	104	2.3	1.60	3.41	6	23	0.5	0.19	1.42
<b>Locality of school</b>										
Urban	30	104	2.3	1.60	3.41	6	23	0.5	0.19	1.42
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	6	22	1.0	0.53	2.01	2	6	0.3	0.07	1.27
Girls	24	82	3.5	2.29	5.38	4	17	0.7	0.18	2.86
<b>School category</b>										
Primary	6	30	1.6	0.69	3.55	2	10	0.5	0.06	3.98
Secondary	24	74	2.9	2.09	4.11	4	13	0.5	0.24	1.20
<b>Class</b>										
Standard 4	1	5	0.8	0.12	5.66	1	5	0.9	0.10	6.67
Standard 5	2	10	1.4	0.19	9.19	1	5	0.7	0.08	5.31
Standard 6	3	16	2.6	0.94	6.95	-	-	-	-	-
Form 1	6	15	2.7	1.01	7.23	1	3	0.5	0.08	3.43
Form 2	4	13	2.1	0.57	7.59	1	3	0.5	0.07	3.85
Form 3	5	15	3.0	1.29	6.94	1	3	0.7	0.08	5.05
Form 4	7	24	4.8	1.54	13.75	-	-	-	-	-
Form 5	2	7	1.9	0.46	7.82	1	4	1.1	0.12	9.49
<b>Ethnicity</b>										
Malay	17	61	2.9	2.01	4.11	2	7	0.3	0.07	1.55
Chinese	1	3	0.8	0.09	6.18	2	10	2.4	0.51	10.48
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	4	13	1.1	0.46	2.70	2	6	0.6	0.13	2.48
Bumiputera Sarawak	4	15	8.4	3.81	17.36	-	-	-	-	-
Others	4	12	2.1	0.54	7.47	-	-	-	-	-

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

Characteristics	Fasting					Professional advise				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	27	95	2.1	1.08	4.19	4	14	0.3	0.09	1.07
<b>Locality of school</b>										
Urban	27	95	2.1	1.08	4.19	4	14	0.3	0.09	1.07
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	5	20	0.9	0.39	2.20	3	11	0.5	0.11	2.20
Girls	22	75	3.2	1.67	6.18	1	3	0.1	0.02	1.30
<b>School category</b>										
Primary	8	39	2.0	0.56	7.04	1	5	0.2	0.03	1.98
Secondary	19	56	2.2	1.06	4.58	3	9	0.4	0.08	1.67
<b>Class</b>										
Standard 4	-	-	-	-	-	1	5	0.8	0.10	5.65
Standard 5	4	20	2.8	0.45	15.90	-	-	-	-	-
Standard 6	4	19	3.2	1.25	8.04	-	-	-	-	-
Form 1	7	18	3.1	1.55	6.29	-	-	-	-	-
Form 2	4	13	2.1	0.70	6.22	-	-	-	-	-
Form 3	4	12	2.4	0.81	6.71	2	6	1.2	0.29	5.23
Form 4	2	6	1.3	0.36	4.51	1	3	0.6	0.06	5.13
Form 5	2	7	2.1	0.28	13.43	-	-	-	-	-
<b>Ethnicity</b>										
Malay	16	56	2.6	1.23	5.53	2	8	0.4	0.07	1.76
Chinese	2	8	1.9	0.35	9.35	1	3	0.7	0.08	5.54
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	6	21	1.9	0.93	3.75	1	3	0.3	0.04	2.49
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	3	10	1.7	0.65	4.49	-	-	-	-	-

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

Characteristics	Increase quantity of food					Taking supplement				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	227	885	54.5	47.61	61.19	91	350	21.6	17.43	26.36
<b>Locality of school</b>										
Urban	227	885	54.5	47.61	61.19	91	350	21.6	17.43	26.36
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	144	570	56.4	46.17	66.09	50	193	19.1	15.59	23.10
Girls	83	315	51.4	43.15	59.48	41	158	25.7	17.59	35.87
<b>School category</b>										
Primary	65	326	47.6	37.72	57.65	29	145	21.2	14.34	30.25
Secondary	162	559	59.5	52.85	65.85	62	205	21.8	17.15	27.32
<b>Class</b>										
Standard 4	25	130	45.6	30.21	61.87	15	78	27.4	14.84	44.87
Standard 5	23	109	45.3	27.65	64.30	9	42	17.4	6.27	39.86
Standard 6	17	87	54.6	38.64	69.60	5	25	16.0	12.49	20.32
Form 1	28	85	54.2	29.17	77.24	14	40	25.6	13.35	43.36
Form 2	29	107	56.4	32.67	77.57	12	42	22.3	12.28	37.15
Form 3	40	128	67.1	58.98	74.28	12	36	19.1	12.13	28.68
Form 4	33	100	59.3	40.46	75.72	15	49	28.6	16.88	44.21
Form 5	32	138	59.6	50.79	67.86	9	37	16.1	8.34	28.88
<b>Ethnicity</b>										
Malay	112	454	60.0	51.90	67.68	35	135	17.8	12.23	25.28
Chinese	22	96	53.7	39.61	67.19	9	41	22.7	11.71	39.53
Indian	3	10	57.6	13.77	92.05	1	2	13.1	1.20	65.12
Bumiputera Sabah	56	202	49.1	36.63	61.67	31	115	28.0	18.26	40.45
Bumiputera Sarawak	7	28	75.3	42.06	92.74	-	-	-	-	-
Others	27	95	42.5	27.49	59.10	15	57	25.5	15.51	39.06

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

Characteristics	Take high calorie foods					Others				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	43	180	11.1	8.67	14.09	50	209	12.9	9.10	17.85
<b>Locality of school</b>										
Urban	43	180	11.1	8.67	14.09	50	209	12.9	9.10	17.85
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	34	141	14.0	9.82	19.47	24	107	10.6	5.93	18.19
Girls	9	39	6.4	2.91	13.40	26	102	16.6	11.24	23.80
<b>School category</b>										
Primary	18	90	13.2	9.14	18.65	25	123	18.0	12.93	24.50
Secondary	25	90	9.6	7.51	12.12	25	85	9.1	5.68	14.27
<b>Class</b>										
Standard 4	9	46	16.1	9.58	25.73	6	31	11.0	4.78	23.21
Standard 5	6	28	11.8	6.39	20.75	13	61	25.5	11.99	46.16
Standard 6	3	16	10.1	5.38	18.17	6	31	19.3	11.84	29.93
Form 1	5	16	9.9	4.37	21.08	6	16	10.3	3.23	28.37
Form 2	2	8	4.2	0.64	23.07	9	32	17.0	11.19	25.04
Form 3	5	16	8.4	4.39	15.53	3	10	5.4	2.54	11.21
Form 4	4	12	6.8	2.97	14.98	3	9	5.3	1.13	21.26
Form 5	9	39	16.6	8.76	29.35	4	18	7.6	2.38	21.84
<b>Ethnicity</b>										
Malay	19	78	10.3	7.16	14.47	21	90	11.9	7.69	17.86
Chinese	9	40	22.3	14.67	32.43	1	2	1.2	0.10	13.65
Indian	-	-	-	-	-	1	5	29.3	3.24	83.69
Bumiputera Sabah	11	45	11.0	5.87	19.58	11	49	11.9	5.90	22.54
Bumiputera Sarawak	1	4	11.7	2.15	44.21	1	5	13.1	1.22	64.57
Others	3	13	6.0	1.02	28.21	15	58	26.0	15.39	40.32



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

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#### 3.4.1 Introduction

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

#### 3.4.2 Objective

##### General objective:

To determine the meal patterns of adolescent in WP Labuan (Primary 4 to Secondary 5).

##### Specific objective:

- To determine the prevalence of individual main meals (breakfast, lunch, dinner) and consumption intermeal (during recess, afternoon tea and heavy meal after dinner).
- To identify the sources of food and/or drinks consumed 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 from home.
- To identify common types of food or drinks 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 types of snacks consumed and bought out of school area.
- To identify source of media that affect meal patterns 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 2,524 respondents that represented 9,599 adolescents aged 10 to 17 years old in WP Labuan responded to this module. About 29.4% (95% CI: 25.98, 33.07), 46.4% (95% CI: 42.53, 50.26) and 58.9% (95% CI: 53.55, 63.96) had consumed breakfast, lunch and dinner seven days per week respectively. Majority of adolescents in WP Labuan have their source of

food for main meal from home. No appetite become the main reason why adolescents in this state tend to skip the main meal especially during dinner. About 70.1%(95% CI: 64.78, 74.98) adolescents in WP Labuan reported that they took meal during recess everyday (5 days per week) and the main source of the meal was from school canteen. There was 10.4% (95% CI: 8.70, 12.39) adolescents in WP Labuan having daily heavy meal after dinner. About 3.7%(95% CI: 2.66, 5.01) adolescents in WP Labuan consumed fast food in daily basis. During the school day, 13.0% (95% CI: 8.64, 19.16) and 54.7%(95% CI: 49.98, 59.24) of adolescents practice in everyday to bring food and drink respectively. The most food brought to school was nasi lemak/fried rice/mixed rice and the most drink brought to school was plain water. Most of the adolescents also spend their pocket money for buying food or drink. About 4.5% (95% CI: 3.14, 6.49) of adolescents in WP Labuan had eating out as frequent as 7 times or more in a week. Almost all adolescents in WP Labuan consumed snack food at least one time in a week and the most prevalence snack food that they consume is bread/bun/sandwich. About three quarters of adolescents in WP Labuan bought out of school area at least one time in a week and the analysis also revealed that, flavoured/carbonated drink was the most type of food or drink that they had bought out of school area. In WP Labuan, social media and television was the two main medias source that influence the dietary pattern of the adolescent.

#### **3.4.5 Discussions/Conclusion**

The low prevalence of main meals intake was worried in WP Labuan. Skipping main meals especially breakfast must be avoided among adolescent because it often does have negative health effects. Poor appetite is quite prevalence among adolescent. Therefore, further study is needed to give clear picture to this situation. Type of food brought to school and type of food or drink bought out of school area among adolescent in WP Labuan also an important issue to highlight as the food that they brought and the drink that they bought was categorized in high calorie. More interactive advertisement and promotion on healthy food choice should be placed on television and social media as these to medias can influence adolescents' dietary pattern.

#### **3.4.6 Recommendation**

Advocacy on proper meal pattern practice among adolescent is crucial therefore, a holistic and comprehensive nutrition intervention should be implemented nation-wide, where every stakeholders must work together. Current adolescent is the future adult, thus healthier adolescent generation is warranted for a healthier nation. As the most of adolescents are school-aged individuals, therefore, more health promotion such as healthy eating habits in house, school and eating out must be addressed systematically. Positive 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.

## References

1. Leech RM, Worsley A, Timperio A, McNaughton SA. Understanding meal patterns: definitions, methodology and impact on nutrient intake and diet quality. *Nutrition research reviews*. 2015 Jun;28(1):1-21.
2. Delormier T, Frohlich KL, Potvin L. Food and eating as social practice—understanding eating patterns as social phenomena and implications for public health. *Sociology of health & illness*. 2009 Mar 1;31(2):215-28.
3. Fitzgerald A, Heary C, Nixon E, Kelly C. Factors influencing the food choices of Irish children and adolescents: a qualitative investigation. *Health promotion international*. 2010 Apr 10;25(3):289-98.
4. López-Guimerà G, Levine MP, Sánchez-Carracedo D, Fauquet J. Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. *Media Psychology*. 2010 Nov 30;13(4):387-416.
5. Croezen S, Visscher TL, Ter Bogt NC, Veling ML, Haveman-Nies A: Skipping breakfast, alcohol consumption and physical inactivity as risk factors for overweight and obesity in adolescents: results of the E-MOVO project. *Eur J Clin Nutr* 2009, 63:405-412.
6. Sjöberg A, L Hallberg L, D Höglund D and L Hulthén L. 2003. Meal pattern, food choice, nutrient intake and lifestyle factors in The Göteborg Adolescence Study. *European Journal of Clinical Nutrition* 57, 1569–1578. doi:10.1038/sj.ejcn.1601726
7. Maxwell MA, Cole DA. Weight change and appetite disturbance as symptoms of adolescent depression: Toward an integrative biopsychosocial model. *Clinical Psychology Review*. 2009 Apr 30;29(3):260-73.
8. Garis Panduan Perlaksanaan Pemakanan Sihat di Sekolah. Bahagian Pemakanan, Kementerian Kesihatan Malaysia.
9. Powell LM, Nguyen BT. Fast-food and full-service restaurant consumption among children and adolescents: effect on energy, beverage, and nutrient intake. *JAMA pediatrics*. 2013 Jan 1;167(1):14-20.
10. Dixon, H., Scully, M., Niven, P., Kelly, B., Chapman, K., Donovan, R., Martin, J., Baur, L. A., Crawford, D. and Wakefield, M. (2014), Effects of nutrient content claims, sports celebrity endorsements and premium offers on pre-adolescent children's food preferences: experimental research. *Pediatric Obesity*, 9: e47–e57. doi:10.1111/j.2047-6310.2013.00169.x
11. Lachat C, Nago E, Verstraeten R, Roberfroid D, Van Camp J, Kolsteren P. Eating out of home and its association with dietary intake: a systematic review of the evidence. *Obesity Reviews*. 2012 Apr 1;13(4):329-46.
12. Bezerra IN, Curioni C, Sichieri R. Association between eating out of home and body weight. *Nutrition reviews*. 2012 Feb 1;70(2):65-79.

13. Washi SA, Ageib MB. Poor diet quality and food habits are related to impaired nutritional status in 13-to 18-year-old adolescents in Jeddah. *Nutrition Research*. 2010 Aug 31;30(8):527-34.
14. Grinberg N, Naaman M, Shaw B, Lotan G. Extracting Diurnal Patterns of Real World Activity from Social Media. *InICWSM 2013* Jul 8.

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

Socio-demographic Characteristics	Breakfast frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	739	2822	29.4	25.98	33.07	1540	5891	61.4	58.16	64.48
<b>Locality of school</b>										
Urban	739	2822	29.4	25.98	33.07	1540	5891	61.4	58.16	64.48
Rural										
<b>Sex</b>										
Boys	342	1356	28.0	24.72	31.63	756	3074	63.6	58.85	68.05
Girls	397	1466	30.8	25.53	36.56	784	2817	59.1	55.35	62.80
<b>Ethnicity</b>										
Malay	317	1246	28.0	23.52	33.07	729	2812	63.3	59.25	67.15
Chinese	87	325	30.1	26.56	33.91	163	643	59.6	51.24	67.39
Indian	6	23	45.7	25.25	67.65	7	28	54.3	32.35	74.75
Bumiputera Sabah	201	726	29.8	24.55	35.75	403	1482	60.9	55.08	66.40
Bumiputera Sarawak	31	120	40.4	28.82	53.11	46	163	54.9	43.42	65.94
Others	97	381	29.4	24.50	34.93	192	763	58.9	54.17	63.54
<b>School level</b>										
Primary school	251	1252	30.8	29.00	32.74	506	2546	62.7	61.09	64.32
Secondary school	488	1570	28.3	22.88	34.54	1034	3345	60.4	55.05	65.48
<b>Class</b>										
Standard 4	83	433	30.8	25.50	36.67	177	920	65.5	58.81	71.64
Standard 5	99	469	33.6	23.67	45.30	178	846	60.6	49.33	70.92
Standard 6	69	350	27.8	23.20	32.86	151	780	61.9	55.48	67.94
Form 1	126	365	29.9	23.86	36.80	259	749	61.4	55.00	67.44
Form 2	96	329	28.3	22.52	34.94	200	683	58.8	50.42	66.66
Form 3	105	315	26.9	17.33	39.31	227	714	61.1	50.23	70.89
Form 4	82	246	24.5	15.72	36.07	208	633	63.0	52.47	72.38
Form 5	79	315	32.0	20.92	45.64	140	567	57.6	45.97	68.39
<b>School session</b>										
Morning session	379	1507	29.6	26.65	32.76	803	3140	61.7	58.61	64.70
Evening session	47	170	33.9	26.44	42.29	70	258	51.5	41.88	61.09
Morning and evening session	313	1145	28.6	22.28	35.93	665	2485	62.1	56.40	67.49
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	34	136	30.1	19.86	42.80	70	276	61.3	51.08	70.56
Normal (≥-2sd - ≤+1sd)	478	1793	30.4	26.14	34.97	950	3588	60.8	56.34	65.07
Overweight (>+1sd - ≤+2sd)	119	447	27.5	22.57	32.99	261	987	60.7	54.82	66.20
Obese (>+2sd)	108	447	27.8	22.72	33.55	258	1035	64.4	59.65	68.95
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	73	288	31.0	24.92	37.88	144	560	60.2	55.34	64.89
Normal (≥-2sd)	666	2534	29.2	25.91	32.78	1396	5331	61.5	58.18	64.70

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

	Did not take breakfast				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	245	886	9.2	7.23	11.72
<b>Locality of school</b>					
Urban	245	886	9.2	7.23	11.72
Rural					
<b>Sex</b>					
Boys	105	405	8.4	6.32	11.02
Girls	140	481	10.1	7.32	13.76
<b>Ethnicity</b>					
Malay	107	385	8.7	6.07	12.22
Chinese	32	111	10.3	5.51	18.51
Indian					
Bumiputera Sabah	65	225	9.3	6.92	12.31
Bumiputera Sarawak	4	14	4.7	1.41	14.49
Others	37	150	11.6	7.88	16.81
<b>School level</b>					
Primary school	53	262	6.4	4.37	9.41
Secondary school	192	624	11.3	9.16	13.78
<b>Class</b>					
Standard 4	10	52	3.7	2.04	6.59
Standard 5	17	80	5.7	2.80	11.36
Standard 6	26	130	10.3	7.67	13.75
Form 1	39	106	8.7	5.65	13.05
Form 2	44	150	12.9	9.74	16.89
Form 3	44	140	12.0	8.47	16.78
Form 4	40	126	12.5	8.20	18.69
Form 5	25	102	10.4	5.62	18.43
<b>School session</b>					
Morning session	121	442	8.7	6.23	11.99
Evening session	20	73	14.5	11.31	18.51
Morning and evening session	104	371	9.3	6.80	12.53
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	10	39	8.6	5.19	14.03
Normal ( $\geq$ -2sd - $\leq$ +1sd)	144	521	8.8	6.71	11.53
Overweight (>+1sd - $\leq$ +2sd)	54	193	11.9	7.80	17.67
Obese (>+2sd)	35	124	7.8	4.94	11.95
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	23	81	8.8	5.97	12.69
Normal ( $\geq$ -2sd)	222	805	9.3	7.25	11.81

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

	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	1550	6059	70.6	56.93	81.30	375	1463	17.0	13.68	21.02
<b>Locality of school</b>										
Urban	1550	6059	70.6	56.93	81.30	375	1463	17.0	13.68	21.02
Rural										
<b>Sex</b>										
Boys	733	3006	69.1	56.92	79.10	189	769	17.7	13.92	22.20
Girls	817	3053	72.1	55.80	84.07	186	694	16.4	12.50	21.15
<b>Ethnicity</b>										
Malay	740	2915	72.9	61.10	82.12	169	675	16.9	12.70	22.09
Chinese	162	613	65.4	54.32	75.06	63	255	27.2	19.07	37.10
Indian	10	40	78.5	43.69	94.49	2	8	15.2	2.53	55.46
Bumiputera Sabah	387	1476	67.3	43.12	84.80	76	290	13.2	9.27	18.54
Bumiputera Sarawak	51	203	71.6	40.76	90.27	9	26	9.3	3.81	21.00
Others	200	811	72.5	64.20	79.41	56	208	18.6	12.94	26.04
<b>School level</b>										
Primary school	559	2812	75.9	68.43	81.99	141	700	18.9	13.90	25.14
Secondary school	991	3247	66.6	44.16	83.35	234	763	15.6	11.62	20.70
<b>Class</b>										
Standard 4	193	1007	75.9	68.84	81.80	49	255	19.2	12.71	27.93
Standard 5	197	937	73.1	60.93	82.60	59	279	21.7	14.71	30.90
Standard 6	169	868	79.0	71.90	84.64	33	167	15.2	12.39	18.49
Form 1	267	785	71.0	49.47	85.98	56	164	14.8	9.78	21.74
Form 2	220	761	75.7	55.37	88.64	25	85	8.5	4.27	16.06
Form 3	207	656	64.3	41.57	82.03	68	210	20.6	14.57	28.21
Form 4	170	522	59.6	38.40	77.75	54	172	19.6	12.24	30.00
Form 5	127	523	60.0	31.27	83.13	31	132	15.2	7.27	28.94
<b>School session</b>										
Morning session	867	3413	74.5	69.54	78.89	233	917	20.0	16.33	24.28
Evening session	90	320	74.7	53.23	88.49	15	58	13.6	4.92	32.26
Morning and evening session	592	2321	65.0	36.95	85.53	127	488	13.7	8.87	20.47
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	73	292	71.7	58.02	82.32	17	70	17.1	8.48	31.44
Normal (≥-2sd - ≤+1sd)	969	3734	70.2	55.63	81.55	226	871	16.4	12.70	20.85
Overweight (>+1sd - ≤+2sd)	253	992	70.6	51.02	84.69	66	247	17.6	12.97	23.44
Obese (>+2sd)	254	1036	71.5	61.49	79.78	66	275	19.0	14.23	24.82
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	138	563	67.1	47.96	81.91	37	146	17.4	10.74	27.01
Normal (≥-2sd)	1412	5496	70.9	57.78	81.32	338	1317	17.0	13.78	20.77



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

Socio-demographic Characteristics	Source of food for breakfast									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	65	259	3.0	2.08	4.34	212	638	7.4	0.90	41.35
<b>Locality of school</b>										
Urban	65	259	3.0	2.08	4.34	212	638	7.4	0.90	41.35
Rural										
<b>Sex</b>										
Boys	39	170	3.9	2.43	6.20	93	304	7.0	0.96	36.81
Girls	26	89	2.1	1.22	3.60	119	334	7.9	0.85	46.09
<b>Ethnicity</b>										
Malay	25	95	2.4	1.44	3.84	81	252	6.3	0.76	37.14
Chinese	9	40	4.3	1.68	10.54	5	17	1.8	0.22	13.14
Indian										
Bumiputera Sabah	23	91	4.2	2.28	7.46	105	305	13.9	1.73	59.68
Bumiputera Sarawak	1	3	1.2	0.13	10.41	10	30	10.6	1.21	53.25
Others	7	29	2.6	1.24	5.38	11	34	3.0	0.41	19.34
<b>School level</b>										
Primary school	25	126	3.4	2.07	5.56	6	30	0.8	0.20	3.28
Secondary school	40	132	2.7	1.61	4.54	206	608	12.5	1.35	59.66
<b>Class</b>										
Standard 4	9	46	3.4	2.74	4.29	2	10	0.7	0.20	2.63
Standard 5	9	43	3.4	1.55	7.11	1	5	0.4	0.04	2.78
Standard 6	7	38	3.4	1.07	10.47	3	16	1.4	0.34	5.90
Form 1	7	19	1.7	0.73	4.01	44	116	10.5	1.30	51.09
Form 2	8	28	2.8	1.43	5.35	27	82	8.2	0.80	49.50
Form 3	7	23	2.3	0.82	6.24	43	119	11.7	1.22	58.60
Form 4	11	34	3.9	1.12	12.82	45	121	13.8	1.47	63.46
Form 5	7	28	3.2	1.42	6.96	47	169	19.4	2.05	73.37
<b>School session</b>										
Morning session	32	126	2.7	1.82	4.14	8	32	0.7	0.19	2.48
Evening session	5	21	5.0	2.39	10.04	1	5	1.1	0.07	15.65
Morning and evening session	28	111	3.1	1.64	5.88	203	601	16.8	2.06	66.12
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	7	24	6.0	1.82	18.04	4	12	3.0	0.30	24.60
Normal (≥-2sd - ≤+1sd)	41	164	3.1	2.22	4.27	144	434	8.2	1.04	42.87
Overweight (>+1sd - ≤+2sd)	3	15	1.1	0.35	3.20	46	134	9.5	1.03	51.55
Obese (>+2sd)	14	55	3.8	1.78	7.92	18	57	4.0	0.49	25.73
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	6	24	2.9	1.22	6.61	31	96	11.5	1.62	50.45
Normal (≥-2sd)	59	235	3.0	2.01	4.54	181	542	7.0	0.83	40.31

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

Socio-demographic Characteristics	Source of food for breakfast				
	Count	Estimated Population	Prevalence (%)	Others	
				95% CI Lower	95% CI Upper
<b>WP Labuan</b>	48	168	2.0	1.26	3.03
<b>Locality of school</b>					
Urban	48	168	2.0	1.26	3.03
Rural					
<b>Sex</b>					
Boys	27	102	2.3	1.34	4.03
Girls	21	66	1.6	0.82	2.98
<b>Ethnicity</b>					
Malay	17	63	1.6	0.71	3.49
Chinese	4	13	1.3	0.32	5.35
Indian	1	3	6.3	0.79	36.17
Bumiputera Sabah	10	31	1.4	0.73	2.76
Bumiputera Sarawak	6	21	7.2	2.91	16.89
Others	10	37	3.3	2.06	5.23
<b>School level</b>					
Primary school	8	39	1.0	0.43	2.52
Secondary school	40	129	2.6	1.78	3.92
<b>Class</b>					
Standard 4	2	10	0.7	0.20	2.63
Standard 5	4	18	1.4	0.60	3.35
Standard 6	2	11	1.0	0.27	3.43
Form 1	8	22	2.0	0.98	3.99
Form 2	14	49	4.9	2.77	8.57
Form 3	4	12	1.1	0.38	3.34
Form 4	9	26	3.0	1.13	7.56
Form 5	5	20	2.3	1.05	5.11
<b>School session</b>					
Morning session	27	94	2.0	1.29	3.24
Evening session	6	24	5.6	3.02	10.09
Morning and evening session	14	47	1.3	0.62	2.83
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	2	9	2.1	0.50	8.64
Normal ( $\geq -2sd$ - $\leq +1sd$ )	34	116	2.2	1.32	3.60
Overweight ( $> +1sd$ - $\leq +2sd$ )	5	17	1.2	0.51	2.85
Obese ( $> +2sd$ )	7	26	1.8	0.87	3.56
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	3	9	1.1	0.34	3.56
Normal ( $\geq -2sd$ )	45	159	2.0	1.33	3.13

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

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	125	504	8.0	6.34	10.04	689	2553	40.5	36.53	44.60
<b>Locality of school</b>										
Urban	125	504	8.0	6.34	10.04	689	2553	40.5	36.53	44.60
Rural										
<b>Sex</b>										
Boys	69	300	9.4	6.83	12.72	309	1230	38.4	34.99	41.84
Girls	56	204	6.6	4.72	9.10	380	1323	42.7	37.03	48.60
<b>Ethnicity</b>										
Malay	69	287	9.5	6.61	13.47	339	1273	42.1	37.87	46.44
Chinese	15	61	9.7	4.67	18.90	50	187	29.4	23.47	36.21
Indian	2	7	45.5	12.56	82.89	2	8	54.5	17.11	87.44
Bumiputera Sabah	28	103	6.4	4.11	9.87	193	677	42.3	33.72	51.28
Bumiputera Sarawak	1	3	1.5	0.20	10.80	18	61	34.7	18.90	54.79
Others	10	43	5.1	2.61	9.66	87	347	40.7	35.91	45.75
<b>School level</b>										
Primary school	49	245	9.8	7.11	13.41	193	966	38.6	33.37	44.19
Secondary school	76	259	6.8	5.20	8.86	496	1587	41.7	36.28	47.36
<b>Class</b>										
Standard 4	21	108	12.5	7.80	19.45	69	355	41.0	29.52	53.54
Standard 5	17	81	9.7	5.11	17.50	68	323	38.6	33.74	43.62
Standard 6	11	56	7.1	5.19	9.55	56	287	36.2	26.86	46.63
Form 1	13	37	4.6	2.25	9.12	131	370	45.7	35.87	55.97
Form 2	19	66	8.3	5.91	11.65	102	343	43.3	35.71	51.17
Form 3	14	44	5.4	3.08	9.19	111	347	42.2	36.44	48.15
Form 4	12	37	5.0	2.97	8.46	87	268	36.3	27.03	46.79
Form 5	18	74	11.5	6.67	19.25	65	260	40.3	32.90	48.20
<b>School session</b>										
Morning session	65	265	8.1	6.57	9.86	339	1306	39.7	35.28	44.23
Evening session	10	33	10.9	5.43	20.53	26	90	29.4	20.68	39.96
Morning and evening session	49	201	7.4	4.58	11.87	324	1157	42.8	35.50	50.50
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	8	32	10.5	5.55	18.92	21	83	27.5	18.45	38.91
Normal (≥-2sd - ≤+1sd)	80	317	8.3	6.73	10.21	438	1620	42.5	38.21	46.84
Overweight (>+1sd - ≤+2sd)	17	72	6.7	4.14	10.56	127	445	41.2	33.39	49.47
Obese (>+2sd)	19	79	7.2	4.51	11.36	102	399	36.5	29.30	44.41
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	13	58	9.9	5.82	16.33	64	238	40.6	33.01	48.61
Normal (≥-2sd)	112	446	7.8	6.14	9.88	625	2315	40.5	36.36	44.76

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

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	589	2182	34.6	30.94	38.49	101	395	6.3	4.86	8.03
<b>Locality of school</b>										
Urban	589	2182	34.6	30.94	38.49	101	395	6.3	4.86	8.03
Rural										
<b>Sex</b>										
Boys	274	1067	33.3	28.72	38.20	52	212	6.6	4.89	8.85
Girls	315	1115	36.0	30.19	42.24	49	183	5.9	4.33	8.01
<b>Ethnicity</b>										
Malay	275	1010	33.4	28.68	38.46	46	182	6.0	4.30	8.40
Chinese	69	256	40.4	33.72	47.36	12	47	7.4	3.89	13.65
Indian										
Bumiputera Sabah	155	568	35.4	30.34	40.91	26	99	6.2	3.42	10.91
Bumiputera Sarawak	19	68	38.5	24.49	54.78	6	24	13.4	5.32	29.85
Others	71	281	33.0	26.60	40.04	11	43	5.0	2.33	10.43
<b>School level</b>										
Primary school	160	800	32.0	26.27	38.40	37	190	7.6	5.09	11.22
Secondary school	429	1382	36.3	32.16	40.70	64	205	5.4	4.16	6.93
<b>Class</b>										
Standard 4	53	278	32.0	24.86	40.12	8	42	4.9	2.39	9.65
Standard 5	58	274	32.8	24.24	42.61	10	49	5.8	2.91	11.35
Standard 6	49	249	31.3	19.79	45.66	19	99	12.5	9.14	16.78
Form 1	111	318	39.4	28.83	50.97	13	40	5.0	2.96	8.32
Form 2	72	246	31.1	26.28	36.27	9	31	3.9	2.46	6.04
Form 3	95	302	36.8	31.31	42.56	15	45	5.4	2.56	11.18
Form 4	95	292	39.6	30.12	49.86	21	65	8.8	5.25	14.26
Form 5	56	224	34.7	27.81	42.34	6	24	3.8	1.68	8.19
<b>School session</b>										
Morning session	316	1184	36.0	32.38	39.75	59	228	6.9	5.06	9.39
Evening session	27	100	32.8	21.15	46.94	4	16	5.3	1.81	14.62
Morning and evening session	246	898	33.2	27.79	39.17	38	151	5.6	3.83	8.05
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	35	129	42.7	30.20	56.29	2	9	2.9	0.68	11.61
Normal (≥-2sd - ≤+1sd)	356	1302	34.1	29.71	38.83	44	170	4.4	3.12	6.30
Overweight (>+1sd - ≤+2sd)	100	378	35.0	30.85	39.37	23	90	8.4	5.26	13.05
Obese (>+2sd)	98	374	34.2	25.67	43.83	31	123	11.2	8.63	14.54
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	51	190	32.5	24.13	42.17	8	28	4.8	2.12	10.41
Normal (≥-2sd)	538	1992	34.8	30.99	38.89	93	367	6.4	4.85	8.43

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

Socio-demographic Characteristics	Reasons for skipping breakfast									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>WP Labuan</b>	55	231	3.7	2.23	5.99	116	438	7.0	5.29	9.07
<b>Locality of school</b>										
Urban	55	231	3.7	2.23	5.99	116	438	7.0	5.29	9.07
Rural										
<b>Sex</b>										
Boys	37	159	4.9	3.12	7.77	58	238	7.4	5.44	10.10
Girls	18	73	2.3	1.23	4.44	58	200	6.4	4.62	8.92
<b>Ethnicity</b>										
Malay	26	110	3.6	1.70	7.60	42	162	5.3	3.66	7.73
Chinese	7	31	4.9	2.88	8.26	13	52	8.2	4.15	15.66
Indian										
Bumiputera Sabah	10	42	2.6	1.16	5.85	31	113	7.1	5.53	9.03
Bumiputera Sarawak						6	21	11.9	3.40	33.99
Others	12	48	5.6	3.33	9.37	24	90	10.6	5.93	18.14
<b>School level</b>										
Primary school	30	150	6.0	3.42	10.33	29	147	5.9	3.75	9.13
Secondary school	25	81	2.1	1.45	3.14	87	291	7.6	5.54	10.47
<b>Class</b>										
Standard 4	9	47	5.4	3.73	7.73	7	37	4.2	2.05	8.55
Standard 5	14	66	7.9	3.61	16.58	9	44	5.2	2.11	12.41
Standard 6	7	37	4.6	2.19	9.54	13	67	8.4	5.42	12.75
Form 1	3	8	1.0	0.37	2.79	12	35	4.3	2.78	6.59
Form 2	7	24	3.1	1.12	8.06	24	82	10.4	5.64	18.37
Form 3	9	28	3.4	1.82	6.30	17	56	6.9	4.01	11.46
Form 4	5	16	2.2	0.93	5.24	21	60	8.1	3.69	16.76
Form 5	1	4	0.7	0.09	4.63	13	58	9.0	5.83	13.63
<b>School session</b>										
Morning session	27	116	3.5	1.88	6.47	52	193	5.9	4.16	8.20
Evening session	6	25	8.3	4.84	13.77	11	41	13.4	9.23	19.05
Morning and evening session	22	91	3.4	1.66	6.63	53	204	7.6	5.53	10.26
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	22	7.2	2.94	16.50	6	28	9.2	3.21	23.53
Normal (≥-2sd - ≤+1sd)	36	145	3.8	2.30	6.17	70	262	6.9	5.29	8.89
Overweight (>+1sd - ≤+2sd)	6	28	2.6	0.97	6.80	20	67	6.2	3.44	10.85
Obese (>+2sd)	8	37	3.4	1.20	9.16	20	82	7.5	4.22	12.85
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	7	28	4.7	2.56	8.45	11	44	7.5	3.72	14.72
Normal (≥-2sd)	48	204	3.6	2.09	6.01	105	394	6.9	5.21	9.06

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

Characteristics	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	1182	4445	46.4	42.53	50.26	1274	4900	51.1	47.41	54.81
<b>Locality of school</b>										
Urban	1182	4445	46.4	42.53	50.26	1274	4900	51.1	47.41	54.81
Rural										
<b>Sex</b>										
Boys	557	2197	45.4	38.52	52.51	610	2501	51.7	44.71	58.65
Girls	625	2248	47.3	44.56	50.14	664	2398	50.5	47.44	53.57
<b>Ethnicity</b>										
Malay	513	1953	44.0	39.74	48.33	613	2392	53.9	49.60	58.11
Chinese	155	581	53.9	42.29	65.18	121	476	44.2	33.58	55.35
Indian	8	32	62.7	30.16	86.73	5	19	37.3	13.27	69.84
Bumiputera Sabah	317	1158	47.6	42.40	52.81	336	1218	50.0	44.67	55.43
Bumiputera Sarawak	41	151	51.4	44.57	58.16	34	126	42.9	33.91	52.34
Others	148	571	44.2	36.28	52.44	165	669	51.8	42.84	60.71
<b>School level</b>										
Primary school	346	1739	42.9	38.44	47.48	444	2221	54.8	49.74	59.74
Secondary school	836	2706	48.9	43.95	53.91	830	2678	48.4	44.24	52.64
<b>Class</b>										
Standard 4	90	476	33.9	26.40	42.22	176	908	64.7	56.43	72.11
Standard 5	131	622	44.6	38.07	51.28	154	730	52.3	45.32	59.24
Standard 6	125	642	51.1	42.02	60.20	114	583	46.5	38.73	54.38
Form 1	207	593	48.6	40.09	57.29	204	589	48.3	41.26	55.45
Form 2	164	563	48.6	43.75	53.51	166	564	48.7	44.68	52.77
Form 3	169	512	43.9	32.17	56.44	198	628	53.9	42.61	64.81
Form 4	162	488	48.7	41.79	55.62	159	491	48.9	42.32	55.61
Form 5	134	549	55.8	52.06	59.40	103	406	41.2	36.05	46.60
<b>School session</b>										
Morning session	610	2355	46.3	42.06	50.68	656	2590	51.0	46.49	55.42
Evening session	64	235	46.8	40.18	53.56	69	250	49.9	45.48	54.27
Morning and evening session	507	1851	46.3	39.87	52.92	548	2057	51.5	45.56	57.38
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	60	236	52.8	44.13	61.23	53	211	47.2	38.77	55.87
Normal (≥-2sd - ≤+1sd)	760	2794	47.4	42.40	52.45	770	2952	50.1	45.24	54.92
Overweight (>+1sd - ≤+2sd)	203	780	48.0	41.99	54.12	216	792	48.7	43.38	54.08
Obese (>+2sd)	158	632	39.4	34.84	44.06	233	935	58.2	52.72	63.49
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	99	387	41.6	33.48	50.19	139	536	57.7	48.76	66.17
Normal (≥-2sd)	1083	4059	46.9	42.99	50.83	1135	4363	50.4	46.67	54.14

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

Characteristics	Lunch frequency per week				
	Count	Estimated Population	Prevalence (%)	Did not take lunch	
				Lower	Upper
<b>WP Labuan</b>	64	240	2.5	1.76	3.57
<b>Locality of school</b>					
Urban	64	240	2.5	1.76	3.57
Rural					
<b>Sex</b>					
Boys	36	138	2.9	1.56	5.18
Girls	28	102	2.2	1.46	3.16
<b>Ethnicity</b>					
Malay	26	95	2.1	1.28	3.52
Chinese	5	20	1.9	0.76	4.53
Indian					
Bumiputera Sabah	16	58	2.4	1.12	4.97
Bumiputera Sarawak	5	17	5.7	2.12	14.57
Others	12	51	4.0	2.55	6.10
<b>School level</b>					
Primary school	19	94	2.3	1.70	3.15
Secondary school	45	147	2.7	1.53	4.54
<b>Class</b>					
Standard 4	4	21	1.5	0.56	3.83
Standard 5	9	43	3.1	1.35	6.95
Standard 6	6	30	2.4	1.27	4.42
Form 1	13	37	3.0	0.67	12.66
Form 2	9	31	2.7	1.74	4.09
Form 3	8	25	2.2	0.91	5.00
Form 4	8	24	2.4	1.15	4.83
Form 5	7	30	3.0	1.14	7.75
<b>School session</b>					
Morning session	35	137	2.7	2.09	3.46
Evening session	4	17	3.3	1.14	9.23
Morning and evening session	25	87	2.2	0.87	5.36
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)					
Normal (≥-2sd - ≤+1sd)	40	148	2.5	1.50	4.18
Overweight (>+1sd - ≤+2sd)	14	53	3.3	1.80	5.84
Obese (>+2sd)	10	39	2.4	0.96	6.05
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	2	7	0.7	0.15	3.24
Normal (≥-2sd)	62	234	2.7	1.87	3.88

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

Characteristics	Source of food for lunch									
	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1484	5717	61.9	50.58	72.06	486	1938	21.0	16.72	26.00
<b>Locality of school</b>										
Urban	1484	5717	61.9	50.58	72.06	486	1938	21.0	16.72	26.00
Rural										
<b>Sex</b>										
Boys	675	2742	59.1	48.26	69.12	262	1083	23.3	18.87	28.51
Girls	809	2975	64.7	52.00	75.67	224	855	18.6	14.11	24.14
<b>Ethnicity</b>										
Malay	677	2636	61.4	52.01	70.00	260	1028	23.9	19.62	28.84
Chinese	174	649	61.9	48.49	73.67	58	241	22.9	13.07	37.11
Indian	10	37	72.7	45.17	89.61	1	5	9.8	0.90	56.35
Bumiputera Sabah	384	1444	61.4	39.58	79.39	87	344	14.6	9.38	22.12
Bumiputera Sarawak	42	168	60.6	38.20	79.30	14	50	17.9	10.94	28.02
Others	197	782	64.6	58.84	69.95	66	271	22.4	17.98	27.50
<b>School level</b>										
Primary school	479	2406	61.6	56.76	66.21	212	1054	27.0	23.76	30.48
Secondary school	1005	3310	62.1	42.70	78.31	274	884	16.6	11.73	22.95
<b>Class</b>										
Standard 4	148	777	57.9	48.19	66.95	73	377	28.0	21.72	35.34
Standard 5	169	804	59.9	52.65	66.66	89	419	31.2	23.64	39.94
Standard 6	162	825	67.6	63.09	71.84	50	258	21.2	18.79	23.80
Form 1	245	714	60.5	43.78	75.13	84	241	20.4	12.11	32.42
Form 2	209	718	64.9	50.01	77.39	54	193	17.5	11.63	25.42
Form 3	209	661	58.9	39.43	75.94	79	250	22.3	14.95	31.90
Form 4	201	627	64.9	41.41	82.85	38	121	12.5	8.09	18.75
Form 5	141	591	61.9	32.98	84.23	19	79	8.3	4.46	14.84
<b>School session</b>										
Morning session	848	3273	67.0	62.09	71.49	264	1082	22.1	17.24	27.93
Evening session	81	297	62.2	58.00	66.14	36	126	26.5	23.34	29.91
Morning and evening session	554	2145	55.5	33.75	75.36	186	731	18.9	12.49	27.58
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	70	276	63.9	54.44	72.45	28	115	26.5	19.10	35.55
Normal (≥-2sd - ≤+1sd)	912	3481	61.3	49.11	72.16	303	1192	21.0	16.10	26.88
Overweight (>+1sd - ≤+2sd)	265	1002	64.3	47.68	78.02	68	273	17.5	12.10	24.69
Obese (>+2sd)	235	950	61.3	53.97	68.18	86	353	22.8	18.35	27.96
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	139	551	60.0	44.86	73.42	50	210	22.8	15.11	33.01
Normal (≥-2sd)	1345	5166	62.1	51.08	72.02	436	1729	20.8	16.71	25.55



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

Characteristics	Source of food for lunch									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	169	657	7.1	5.26	9.58	230	704	7.6	0.99	40.56
<b>Locality of school</b>										
Urban	169	657	7.1	5.26	9.58	230	704	7.6	0.99	40.56
Rural										
<b>Sex</b>										
Boys	82	355	7.7	5.71	10.20	105	347	7.5	1.05	38.09
Girls	87	302	6.6	3.96	10.72	125	357	7.8	0.91	43.41
<b>Ethnicity</b>										
Malay	69	277	6.4	4.61	8.93	86	272	6.3	0.83	35.38
Chinese	27	101	9.6	6.99	13.09	6	23	2.2	0.48	9.58
Indian	2	9	17.5	5.70	42.80					
Bumiputera Sabah	47	180	7.7	5.02	11.55	116	340	14.5	1.80	60.96
Bumiputera Sarawak	4	14	5.2	1.75	14.35	11	33	11.8	1.30	57.50
Others	20	76	6.3	4.65	8.42	11	36	3.0	0.53	15.05
<b>School level</b>										
Primary school	59	301	7.7	5.75	10.27	12	61	1.6	0.64	3.82
Secondary school	110	356	6.7	4.06	10.80	218	642	12.1	1.25	59.66
<b>Class</b>										
Standard 4	25	129	9.6	6.49	13.89	7	35	2.6	1.30	5.27
Standard 5	15	72	5.4	3.79	7.59					
Standard 6	19	100	8.2	5.08	13.08	5	26	2.1	0.71	6.20
Form 1	30	90	7.6	3.66	15.20	45	117	9.9	0.99	54.92
Form 2	21	69	6.2	3.32	11.32	29	89	8.0	0.85	47.24
Form 3	16	50	4.4	2.47	7.85	49	136	12.1	1.24	60.09
Form 4	20	60	6.2	3.19	11.68	47	127	13.1	1.36	62.28
Form 5	23	88	9.2	3.98	19.87	48	174	18.2	1.92	71.60
<b>School session</b>										
Morning session	97	370	7.6	5.26	10.77	11	49	1.0	0.38	2.62
Evening session	9	35	7.3	5.45	9.66					
Morning and evening session	62	248	6.4	3.71	10.92	219	655	16.9	2.15	65.40
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	22	5.0	2.43	9.97	3	9	2.1	0.20	18.08
Normal (≥-2sd - ≤+1sd)	109	408	7.2	5.01	10.20	151	458	8.1	0.99	43.33
Overweight (>+1sd - ≤+2sd)	26	115	7.4	3.85	13.64	52	155	9.9	1.29	48.14
Obese (>+2sd)	29	113	7.3	4.96	10.56	24	83	5.3	0.92	25.61
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	12	46	5.0	2.22	10.94	27	82	8.9	0.94	50.22
Normal (≥-2sd)	157	611	7.4	5.45	9.84	203	622	7.5	0.99	39.43

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

Characteristics	Source of food for lunch				
	Count	Estimated Population	Other Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	59	219	2.4	1.79	3.14
<b>Locality of school</b>					
Urban	59	219	2.4	1.79	3.14
Rural					
<b>Sex</b>					
Boys	29	112	2.4	1.50	3.88
Girls	30	107	2.3	1.56	3.45
<b>Ethnicity</b>					
Malay	22	82	1.9	1.29	2.80
Chinese	9	35	3.4	2.09	5.34
Indian					
Bumiputera Sabah	12	44	1.9	0.81	4.25
Bumiputera Sarawak	4	12	4.5	1.81	10.57
Others	12	46	3.8	2.04	6.92
<b>School level</b>					
Primary school	17	84	2.1	1.46	3.12
Secondary school	42	135	2.5	1.73	3.72
<b>Class</b>					
Standard 4	5	26	1.9	0.75	4.83
Standard 5	10	48	3.5	1.83	6.76
Standard 6	2	10	0.8	0.26	2.60
Form 1	6	17	1.4	0.43	4.77
Form 2	11	37	3.4	1.88	5.93
Form 3	8	25	2.3	0.77	6.45
Form 4	11	32	3.3	1.79	6.15
Form 5	6	24	2.5	1.21	5.02
<b>School session</b>					
Morning session	31	115	2.3	1.52	3.60
Evening session	5	19	4.1	1.84	8.75
Morning and evening session	23	85	2.2	1.36	3.54
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	11	2.5	0.76	7.79
Normal ( $\geq$ -2sd - $\leq$ +1sd)	39	143	2.5	1.88	3.36
Overweight (>+1sd - $\leq$ +2sd)	4	15	0.9	0.37	2.36
Obese (>+2sd)	13	51	3.3	1.70	6.20
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	9	29	3.2	1.53	6.62
Normal ( $\geq$ -2sd)	50	190	2.3	1.70	3.06

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

Characteristics	Reasons for skipping lunch									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	146	607	13.2	10.38	16.72	592	2189	47.7	43.05	52.38
<b>Locality of school</b>										
Urban	146	607	13.2	10.38	16.72	592	2189	47.7	43.05	52.38
Rural										
<b>Sex</b>										
Boys	93	402	17.1	13.92	20.87	256	1006	42.9	37.19	48.73
Girls	53	206	9.2	6.78	12.28	336	1183	52.7	47.34	58.10
<b>Ethnicity</b>										
Malay	87	351	15.8	12.53	19.67	284	1078	48.5	43.42	53.54
Chinese	13	54	12.9	8.38	19.29	39	143	34.1	25.09	44.51
Indian						3	10	73.8	10.58	98.53
Bumiputera Sabah	28	123	10.6	6.37	17.18	177	609	52.8	43.96	61.41
Bumiputera Sarawak	1	5	4.1	0.43	29.23	15	55	41.9	26.41	59.25
Others	17	75	11.5	9.00	14.60	74	295	45.4	39.91	50.94
<b>School level</b>										
Primary school	67	336	16.9	12.92	21.70	167	826	41.4	36.74	46.26
Secondary school	79	271	10.4	7.64	14.10	425	1362	52.5	47.29	57.69
<b>Class</b>										
Standard 4	29	149	18.9	13.50	25.93	61	314	39.8	29.80	50.72
Standard 5	22	104	15.6	10.56	22.54	64	302	45.2	39.18	51.41
Standard 6	16	83	15.3	9.37	24.08	42	211	39.1	28.63	50.63
Form 1	14	42	7.5	4.05	13.49	111	316	56.2	46.94	65.04
Form 2	17	64	11.5	7.36	17.64	83	283	51.0	42.78	59.23
Form 3	17	56	9.5	5.49	15.90	101	321	54.3	46.19	62.10
Form 4	21	66	14.1	9.02	21.39	70	214	45.5	39.37	51.68
Form 5	10	42	10.2	4.68	20.67	60	228	55.1	36.59	72.25
<b>School session</b>										
Morning session	80	341	13.9	10.06	18.96	308	1182	48.4	43.77	52.97
Evening session	9	36	14.2	4.77	35.52	30	108	42.7	27.31	59.59
Morning and evening session	57	231	12.2	8.26	17.64	254	899	47.5	39.28	55.86
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	9	40	20.0	11.53	32.33	26	94	46.9	30.46	63.97
Normal (≥-2sd - ≤+1sd)	99	405	14.8	11.35	19.11	367	1367	50.0	45.08	54.99
Overweight (>+1sd - ≤+2sd)	21	86	11.4	7.39	17.25	104	373	49.7	43.22	56.14
Obese (>+2sd)	16	71	8.0	4.24	14.41	94	350	39.1	28.81	50.41
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	7	30	6.2	3.79	9.91	73	277	56.8	46.96	66.08
Normal (≥-2sd)	139	577	14.1	11.09	17.70	519	1912	46.6	42.03	51.26

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

Characteristics	Reasons for skipping lunch									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	204	802	17.5	14.49	20.91	127	476	10.4	7.97	13.39
<b>Locality of school</b>										
Urban	204	802	17.5	14.49	20.91	127	476	10.4	7.97	13.39
Rural										
<b>Sex</b>										
Boys	100	415	17.7	14.63	21.19	54	224	9.5	6.61	13.58
Girls	104	387	17.3	13.21	22.22	73	252	11.2	8.56	14.63
<b>Ethnicity</b>										
Malay	99	388	17.5	15.43	19.69	54	202	9.1	6.06	13.37
Chinese	29	124	29.6	18.04	44.62	14	53	12.7	5.82	25.56
Indian	1	4	26.2	1.47	89.42					
Bumiputera Sabah	42	161	13.9	9.79	19.47	32	113	9.8	7.18	13.31
Bumiputera Sarawak	10	36	27.8	15.65	44.52	7	27	20.6	11.76	33.44
Others	23	89	13.7	9.00	20.23	20	81	12.5	7.01	21.18
<b>School level</b>										
Primary school	76	380	19.1	14.21	25.08	41	208	10.4	6.65	15.92
Secondary school	128	421	16.2	12.87	20.28	86	268	10.3	7.54	14.05
<b>Class</b>										
Standard 4	33	172	21.8	16.65	28.00	10	52	6.5	3.93	10.71
Standard 5	28	133	19.9	11.27	32.82	15	71	10.7	6.53	16.94
Standard 6	15	75	14.0	8.96	21.10	16	85	15.7	7.91	28.83
Form 1	31	88	15.6	8.95	25.90	21	60	10.7	6.61	16.95
Form 2	29	102	18.3	11.89	27.23	17	55	9.9	5.31	17.82
Form 3	27	83	13.9	9.13	20.71	21	65	11.0	7.44	16.01
Form 4	22	70	14.9	9.73	22.06	20	60	12.9	7.47	21.22
Form 5	19	79	19.1	11.28	30.44	7	27	6.6	3.22	13.02
<b>School session</b>										
Morning session	103	418	17.1	14.48	20.04	69	263	10.8	7.74	14.74
Evening session	21	71	28.3	23.26	33.96	2	8	3.1	0.67	13.54
Morning and evening session	80	313	16.5	11.30	23.50	56	205	10.8	8.08	14.41
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	9	39	19.5	10.71	32.96	2	8	4.0	0.99	14.85
Normal (≥-2sd - ≤+1sd)	119	454	16.6	13.28	20.62	50	182	6.7	4.93	8.95
Overweight (>+1sd - ≤+2sd)	30	113	15.0	9.59	22.67	32	111	14.8	9.86	21.71
Obese (>+2sd)	46	195	21.8	14.08	32.23	43	174	19.5	14.25	26.10
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	18	73	14.9	9.91	21.85	9	29	5.9	2.59	12.71
Normal (≥-2sd)	186	729	17.8	14.60	21.45	118	447	10.9	8.32	14.18

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

Characteristics	Reasons for skipping lunch									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	56	231	5.0	3.73	6.75	77	285	6.2	4.79	8.03
<b>Locality of school</b>										
Urban	56	231	5.0	3.73	6.75	77	285	6.2	4.79	8.03
Rural										
<b>Sex</b>										
Boys	33	138	5.9	4.01	8.58	40	162	6.9	4.98	9.53
Girls	23	92	4.1	2.84	5.93	37	123	5.5	3.62	8.21
<b>Ethnicity</b>										
Malay	27	113	5.1	3.20	7.97	26	92	4.2	3.03	5.68
Chinese	4	21	5.0	1.93	12.38	7	24	5.6	1.61	17.90
Indian										
Bumiputera Sabah	14	55	4.8	2.52	8.92	26	93	8.1	5.95	10.81
Bumiputera Sarawak						2	7	5.6	0.75	31.75
Others	11	42	6.4	3.74	10.73	16	69	10.6	6.92	15.90
<b>School level</b>										
Primary school	25	125	6.3	4.70	8.36	24	119	6.0	3.52	9.97
Secondary school	31	105	4.1	2.45	6.64	53	166	6.4	5.00	8.14
<b>Class</b>										
Standard 4	9	47	5.9	2.95	11.49	11	55	7.0	4.26	11.33
Standard 5	10	48	7.1	3.31	14.66	2	9	1.4	0.38	5.12
Standard 6	6	31	5.8	4.02	8.30	11	55	10.1	6.13	16.24
Form 1	8	26	4.6	1.74	11.71	10	30	5.3	2.87	9.62
Form 2	3	11	1.9	0.46	7.79	13	40	7.2	2.99	16.38
Form 3	7	23	3.8	2.10	6.85	14	44	7.5	4.48	12.22
Form 4	8	26	5.5	2.15	13.15	12	34	7.3	3.41	14.83
Form 5	5	20	4.9	1.53	14.34	4	18	4.2	1.30	12.89
<b>School session</b>										
Morning session	28	111	4.5	3.49	5.86	34	131	5.3	3.83	7.43
Evening session	3	13	5.2	2.83	9.22	4	16	6.5	3.12	12.95
Morning and evening session	25	107	5.6	3.17	9.85	39	138	7.3	4.94	10.65
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	3	1.4	0.14	12.75	4	16	8.2	3.45	18.23
Normal (≥-2sd - ≤+1sd)	38	151	5.5	3.70	8.18	46	173	6.3	5.10	7.83
Overweight (>+1sd - ≤+2sd)	6	28	3.7	1.33	9.67	13	41	5.4	2.18	12.85
Obese (>+2sd)	11	49	5.5	2.78	10.59	14	55	6.1	3.33	11.08
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	8	31	6.4	3.43	11.73	12	48	9.8	6.71	14.21
Normal (≥-2sd)	48	199	4.9	3.29	7.12	65	237	5.8	4.19	7.92

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

Characteristics	Dinner frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1486	5625	58.9	53.55	63.96	958	3679	38.5	33.50	43.72
<b>Locality of school</b>										
Urban	1486	5625	58.9	53.55	63.96	958	3679	38.5	33.50	43.72
Rural										
<b>Sex</b>										
Boys	732	2903	60.4	53.36	67.10	433	1784	37.1	30.76	44.01
Girls	754	2722	57.2	51.89	62.44	525	1895	39.8	34.51	45.43
<b>Ethnicity</b>										
Malay	636	2457	55.7	51.85	59.56	478	1845	41.9	38.13	45.68
Chinese	207	786	72.8	66.12	78.62	70	272	25.2	19.77	31.55
Indian	7	28	55.3	20.08	85.92	6	23	44.7	14.08	79.92
Bumiputera Sabah	398	1443	59.2	53.10	65.11	254	927	38.1	32.37	44.08
Bumiputera Sarawak	52	192	64.6	50.09	76.81	23	87	29.4	20.68	39.87
Others	186	719	55.9	44.83	66.34	127	524	40.7	31.71	50.46
<b>School level</b>										
Primary school	448	2259	55.9	46.26	65.19	339	1684	41.7	32.46	51.57
Secondary school	1038	3366	61.0	55.73	65.98	619	1994	36.1	31.67	40.84
<b>Class</b>										
Standard 4	129	680	48.9	36.50	61.45	132	679	48.9	36.82	61.03
Standard 5	159	756	54.2	47.05	61.18	127	601	43.0	35.17	51.28
Standard 6	160	823	65.7	48.22	79.71	80	405	32.3	19.08	49.08
Form 1	272	783	64.5	56.93	71.45	137	395	32.5	26.05	39.76
Form 2	199	687	59.4	52.85	65.62	131	439	37.9	32.62	43.51
Form 3	229	700	60.2	49.52	69.95	137	436	37.5	29.04	46.85
Form 4	176	535	53.4	42.90	63.53	136	416	41.5	32.69	50.85
Form 5	162	662	67.2	60.81	72.97	78	309	31.4	25.49	37.94
<b>School session</b>										
Morning session	766	2953	58.3	51.85	64.54	494	1969	38.9	32.77	45.39
Evening session	88	314	62.6	49.37	74.22	45	171	34.0	24.61	44.90
Morning and evening session	631	2353	59.0	52.33	65.40	418	1536	38.5	32.51	44.91
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	70	278	63.0	47.74	76.03	39	157	35.6	22.33	51.42
Normal (≥-2sd - ≤+1sd)	964	3590	61.1	54.81	66.95	566	2156	36.7	31.18	42.52
Overweight (>+1sd - ≤+2sd)	246	933	57.4	50.55	63.90	172	635	39.0	31.82	46.67
Obese (>+2sd)	206	824	51.6	43.70	59.42	178	718	45.0	37.80	52.37
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	136	529	57.3	49.37	64.87	93	363	39.3	31.23	47.98
Normal (≥-2sd)	1350	5096	59.0	53.54	64.28	865	3316	38.4	33.25	43.82

**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				95% CI
	Count	Estimated Population	Prevalence (%)	Lower	
<b>WP Labuan</b>	70	255	2.7	2.13	3.33
<b>Locality of school</b>					
Urban	70	255	2.7	2.13	3.33
Rural					
<b>Sex</b>					
Boys	30	116	2.4	1.77	3.31
Girls	40	138	2.9	2.19	3.86
<b>Ethnicity</b>					
Malay	31	106	2.4	1.65	3.49
Chinese	5	21	2.0	0.75	5.12
Indian					
Bumiputera Sabah	17	66	2.7	1.50	4.83
Bumiputera Sarawak	6	18	6.1	1.38	22.85
Others	11	44	3.4	1.78	6.38
<b>School level</b>					
Primary school	19	95	2.4	1.83	3.03
Secondary school	51	160	2.9	2.12	3.92
<b>Class</b>					
Standard 4	6	31	2.2	1.25	3.98
Standard 5	8	39	2.8	1.27	5.88
Standard 6	5	26	2.0	1.03	4.04
Form 1	13	36	2.9	1.64	5.21
Form 2	9	31	2.7	1.49	4.84
Form 3	8	27	2.3	0.91	5.69
Form 4	17	52	5.2	3.57	7.40
Form 5	4	14	1.4	0.31	6.41
<b>School session</b>					
Morning session	37	140	2.8	1.95	3.91
Evening session	4	17	3.3	0.88	11.86
Morning and evening session	29	98	2.5	1.39	4.31
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	2	6	1.5	0.37	5.49
Normal (≥-2sd - ≤+1sd)	37	134	2.3	1.59	3.26
Overweight (>+1sd - ≤+2sd)	16	59	3.7	1.97	6.67
Obese (>+2sd)	15	55	3.4	1.86	6.24
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	9	32	3.4	1.83	6.27
Normal (≥-2sd)	61	223	2.6	2.06	3.24

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

Socio-demographic Characteristics	Source of food for dinner									
	Prepared at home					Restaurant/ kiosk				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1913	7389	80.4	63.71	90.52	168	675	7.3	5.81	9.25
<b>Locality of school</b>										
Urban	1913	7389	80.4	63.71	90.52	168	675	7.3	5.81	9.25
Rural										
<b>Sex</b>										
Boys	879	3582	77.4	63.22	87.18	96	401	8.7	6.99	10.69
Girls	1034	3807	83.4	62.76	93.76	72	274	6.0	4.44	8.09
<b>Ethnicity</b>										
Malay	894	3477	81.9	68.33	90.52	82	335	7.9	6.09	10.21
Chinese	236	900	85.2	80.93	88.71	18	71	6.8	4.94	9.19
Indian	12	46	90.2	43.65	99.10					
Bumiputera Sabah	470	1776	75.8	43.95	92.58	39	152	6.5	4.17	10.02
Bumiputera Sarawak	55	216	78.0	45.44	93.79	1	2	0.8	0.09	6.94
Others	246	975	79.6	69.95	86.81	28	114	9.3	6.17	13.74
<b>School level</b>										
Primary school	648	3248	84.1	79.46	87.78	66	333	8.6	6.74	10.99
Secondary school	1265	4141	77.7	48.54	92.79	102	342	6.4	4.47	9.13
<b>Class</b>										
Standard 4	190	997	75.4	67.08	82.16	33	169	12.8	9.29	17.42
Standard 5	244	1160	87.0	80.65	91.44	19	88	6.6	3.30	12.85
Standard 6	214	1091	90.3	80.12	95.58	14	76	6.3	2.74	13.67
Form 1	324	944	80.1	54.87	93.04	27	79	6.7	4.04	11.04
Form 2	259	884	79.1	58.90	90.89	20	73	6.5	3.36	12.27
Form 3	278	875	77.3	46.53	92.99	23	77	6.8	3.32	13.36
Form 4	227	703	75.2	43.19	92.38	22	72	7.7	4.45	12.92
Form 5	177	735	76.1	34.21	95.11	10	41	4.2	2.43	7.32
<b>School session</b>										
Morning session	1075	4171	85.8	82.61	88.45	104	422	8.7	6.81	10.98
Evening session	116	416	85.8	78.54	90.84	8	29	6.1	4.68	7.83
Morning and evening session	721	2800	72.9	39.09	91.88	55	220	5.7	3.55	9.10
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	94	377	88.6	78.98	94.12	4	17	4.1	1.83	8.92
Normal (≥-2sd - ≤+1sd)	1187	4517	79.6	61.43	90.58	101	404	7.1	5.27	9.56
Overweight (>+1sd - ≤+2sd)	321	1235	79.2	57.31	91.52	31	126	8.1	5.52	11.72
Obese (>+2sd)	308	1247	81.8	71.52	88.96	32	128	8.4	5.48	12.60
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	178	707	80.8	58.29	92.69	16	69	7.9	4.18	14.52
Normal (≥-2sd)	1735	6682	80.3	64.20	90.29	152	606	7.3	5.88	9.00



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

Socio-demographic Characteristics	Source of food for dinner									
	Hostel					Others				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	232	732	8.0	1.28	36.58	106	398	4.3	3.28	5.68
<b>Locality of school</b>										
Urban	232	732	8.0	1.28	36.58	106	398	4.3	3.28	5.68
Rural										
<b>Sex</b>										
Boys	110	382	8.2	1.63	32.83	68	265	5.7	4.27	7.63
Girls	122	350	7.7	0.96	41.49	38	133	2.9	1.89	4.43
<b>Ethnicity</b>										
Malay	85	274	6.5	1.02	31.60	40	157	3.7	2.52	5.39
Chinese	10	43	4.0	1.81	8.71	12	42	4.0	2.93	5.37
Indian	1	5	9.8	0.90	56.35					
Bumiputera Sabah	112	329	14.1	1.81	59.18	25	86	3.7	2.35	5.69
Bumiputera Sarawak	10	29	10.6	1.16	54.54	8	29	10.6	4.47	23.02
Others	14	52	4.2	1.25	13.33	21	84	6.8	3.72	12.28
<b>School level</b>										
Primary school	22	111	2.9	1.83	4.47	35	172	4.5	3.02	6.52
Secondary school	210	621	11.6	1.32	56.58	71	226	4.2	2.88	6.19
<b>Class</b>										
Standard 4	16	80	6.1	4.09	8.96	15	76	5.7	2.99	10.65
Standard 5	2	10	0.7	0.19	2.61	16	76	5.7	4.10	7.84
Standard 6	4	21	1.7	0.67	4.35	4	21	1.7	0.36	7.61
Form 1	44	115	9.8	1.12	50.96	14	39	3.3	1.79	6.11
Form 2	33	103	9.2	1.26	44.62	16	58	5.2	3.09	8.55
Form 3	44	122	10.8	1.13	56.06	20	59	5.2	2.52	10.41
Form 4	45	121	13.0	1.37	61.63	13	39	4.1	2.00	8.34
Form 5	44	159	16.5	1.78	68.19	8	31	3.2	1.42	7.12
<b>School session</b>										
Morning session	15	65	1.3	0.70	2.55	52	205	4.2	3.04	5.79
Evening session	3	15	3.1	0.40	20.21	6	25	5.1	2.74	9.19
Morning and evening session	214	651	17.0	2.47	62.24	48	169	4.4	3.08	6.23
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	21	4.9	1.04	20.44	3	10	2.4	0.80	6.84
Normal (≥-2sd - ≤+1sd)	157	494	8.7	1.41	38.95	68	256	4.5	3.25	6.23
Overweight (>+1sd - ≤+2sd)	47	138	8.8	1.03	47.23	17	61	3.9	2.37	6.36
Obese (>+2sd)	22	79	5.2	1.19	19.74	18	71	4.6	2.81	7.57
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	24	74	8.4	1.06	44.12	7	25	2.8	1.11	7.05
Normal (≥-2sd)	208	658	7.9	1.30	35.81	99	373	4.5	3.39	5.90

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

Socio-demographic Characteristics	Reasons for skipping dinner									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	101	426	11.9	8.83	15.96	484	1834	51.4	46.32	56.47
<b>Locality of school</b>										
Urban	101	426	11.9	8.83	15.96	484	1834	51.4	46.32	56.47
Rural										
<b>Sex</b>										
Boys	65	282	16.5	12.52	21.36	192	783	45.8	40.09	51.54
Girls	36	144	7.8	5.29	11.28	292	1051	56.6	51.64	61.46
<b>Ethnicity</b>										
Malay	53	220	12.5	8.75	17.55	246	938	53.3	47.42	59.01
Chinese	10	46	18.8	9.44	33.86	19	76	31.0	24.01	38.89
Indian	2	7	30.8	7.78	70.14	2	8	33.5	5.64	80.94
Bumiputera Sabah	21	86	9.5	5.38	16.29	129	461	50.9	41.93	59.83
Bumiputera Sarawak	3	12	11.9	3.01	36.85	18	64	64.8	44.19	81.06
Others	12	55	10.3	7.42	14.14	70	288	53.8	39.29	67.67
<b>School level</b>										
Primary school	49	244	15.5	13.09	18.31	169	837	53.2	45.00	61.24
Secondary school	52	182	9.1	5.12	15.71	315	997	50.0	43.94	56.05
<b>Class</b>										
Standard 4	25	128	20.0	16.47	24.14	63	326	51.0	43.05	58.96
Standard 5	17	81	14.5	10.43	19.81	72	339	60.7	46.17	73.51
Standard 6	7	35	9.4	4.63	18.11	34	172	45.8	38.45	53.33
Form 1	11	35	8.7	2.80	23.88	71	202	49.9	41.08	58.66
Form 2	11	42	9.8	3.81	22.91	64	209	48.7	40.74	56.83
Form 3	11	36	8.8	5.57	13.74	68	216	52.9	43.23	62.45
Form 4	10	32	7.0	3.77	12.53	77	236	51.9	39.74	63.93
Form 5	9	37	12.4	6.09	23.61	35	134	44.9	31.35	59.33
<b>School session</b>										
Morning session	55	239	12.3	8.89	16.89	257	1013	52.3	45.83	58.67
Evening session	9	37	22.2	15.86	30.15	16	55	33.0	19.09	50.62
Morning and evening session	37	150	10.3	6.34	16.19	210	764	52.3	45.53	58.91
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	8	32	19.9	12.56	30.02	22	86	54.4	38.93	69.12
Normal (≥-2sd - ≤+1sd)	65	270	13.2	9.71	17.64	300	1121	54.6	49.46	59.69
Overweight (>+1sd - ≤+2sd)	14	59	9.4	5.66	15.13	83	315	50.4	39.10	61.64
Obese (>+2sd)	14	65	9.1	3.82	20.05	79	311	43.2	35.45	51.31
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	11	46	12.3	7.35	19.80	55	218	58.6	48.28	68.15
Normal (≥-2sd)	90	380	11.9	8.61	16.23	429	1616	50.6	44.75	56.39

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

Socio-demographic Characteristics	Reasons for skipping dinner									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	109	412	11.5	9.09	14.55	178	640	17.9	13.71	23.14
<b>Locality of school</b>										
Urban	109	412	11.5	9.09	14.55	178	640	17.9	13.71	23.14
Rural										
<b>Sex</b>										
Boys	47	188	11.0	7.90	15.07	83	329	19.2	15.41	23.75
Girls	62	224	12.1	8.88	16.16	95	311	16.8	11.50	23.77
<b>Ethnicity</b>										
Malay	40	157	8.9	6.57	12.01	94	332	18.9	14.07	24.80
Chinese	11	40	16.3	8.86	28.20	15	54	22.2	11.96	37.57
Indian	2	8	35.7	9.20	75.26					
Bumiputera Sabah	32	108	11.9	6.52	20.75	53	191	21.1	14.45	29.69
Bumiputera Sarawak	2	8	8.1	1.51	33.61	3	12	12.6	3.57	35.74
Others	22	91	16.9	11.68	23.91	13	51	9.5	3.82	21.57
<b>School level</b>										
Primary school	40	199	12.6	9.55	16.53	35	175	11.1	8.26	14.88
Secondary school	69	213	10.7	7.39	15.19	143	465	23.3	19.48	27.64
<b>Class</b>										
Standard 4	10	52	8.2	5.04	13.06	14	70	11.0	8.00	15.02
Standard 5	17	81	14.5	6.70	28.57	10	48	8.6	4.88	14.82
Standard 6	13	65	17.4	12.01	24.53	11	57	15.1	7.57	27.86
Form 1	18	49	12.2	5.63	24.35	34	98	24.2	18.99	30.24
Form 2	13	41	9.5	4.73	18.25	31	107	25.0	15.76	37.34
Form 3	17	54	13.1	8.05	20.68	25	80	19.6	15.46	24.49
Form 4	14	44	9.6	5.45	16.35	36	110	24.1	16.22	34.29
Form 5	7	26	8.6	4.42	16.08	17	70	23.5	12.23	40.47
<b>School session</b>										
Morning session	52	208	10.8	7.99	14.34	92	341	17.6	12.48	24.29
Evening session	8	31	18.5	8.32	36.12	6	24	14.3	6.35	29.14
Morning and evening session	49	172	11.8	7.63	17.80	80	275	18.8	13.74	25.26
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	20	12.7	4.55	30.81	1	3	2.1	0.20	18.29
Normal (≥-2sd - ≤+1sd)	65	248	12.1	9.27	15.64	75	265	12.9	9.69	16.97
Overweight (>+1sd - ≤+2sd)	17	59	9.5	6.28	14.05	45	149	23.8	14.37	36.81
Obese (>+2sd)	20	74	10.2	7.30	14.14	57	223	31.0	22.37	41.12
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	11	42	11.2	5.64	21.09	15	52	14.0	7.50	24.62
Normal (≥-2sd)	98	370	11.6	9.28	14.35	163	588	18.4	14.19	23.54

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

Socio-demographic Characteristics	Reasons for skipping dinner									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	19	82	2.3	1.30	4.08	47	173	4.8	3.30	7.06
<b>Locality of school</b>										
Urban	19	82	2.3	1.30	4.08	47	173	4.8	3.30	7.06
Rural										
<b>Sex</b>										
Boys	15	65	3.8	2.07	6.79	16	65	3.8	2.11	6.67
Girls	4	18	1.0	0.25	3.61	31	108	5.8	3.90	8.65
<b>Ethnicity</b>										
Malay	7	27	1.5	0.65	3.62	24	87	4.9	2.61	9.07
Chinese	2	9	3.7	1.30	9.97	5	20	8.0	2.18	25.43
Indian										
Bumiputera Sabah	7	32	3.6	1.15	10.59	7	27	3.0	1.46	6.07
Bumiputera Sarawak						1	3	2.7	0.40	16.05
Others	3	14	2.6	0.85	7.71	10	37	6.9	3.98	11.73
<b>School level</b>										
Primary school	11	56	3.6	2.02	6.29	12	61	3.9	2.37	6.33
Secondary school	8	26	1.3	0.54	3.12	35	112	5.6	3.35	9.23
<b>Class</b>										
Standard 4	4	21	3.3	1.35	7.63	8	41	6.5	3.00	13.33
Standard 5	1	5	0.8	0.11	6.01	1	5	0.9	0.12	6.26
Standard 6	6	31	8.3	3.74	17.42	3	15	4.0	0.77	18.50
Form 1	3	9	2.3	0.89	5.86	4	11	2.8	1.39	5.54
Form 2	3	11	2.5	0.94	6.62	6	19	4.4	2.95	6.45
Form 3						7	22	5.5	2.35	12.38
Form 4	2	6	1.3	0.34	4.66	10	28	6.1	2.30	15.23
Form 5						8	31	10.5	4.63	22.19
<b>School session</b>										
Morning session	10	44	2.3	1.21	4.23	25	91	4.7	2.66	8.23
Evening session	4	17	10.1	4.33	21.94	1	3	1.9	0.75	4.91
Morning and evening session	5	22	1.5	0.49	4.35	21	78	5.4	3.42	8.33
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	3	2.2	0.21	18.43	3	14	8.7	2.37	27.31
Normal (≥-2sd - ≤+1sd)	12	52	2.5	1.46	4.40	27	95	4.6	2.89	7.39
Overweight (>+1sd - ≤+2sd)	3	12	1.9	0.57	5.90	9	32	5.1	2.16	11.55
Obese (>+2sd)	3	15	2.1	0.46	9.07	8	32	4.4	2.33	8.27
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	1	5	1.3	0.15	9.72	3	10	2.7	0.31	19.86
Normal (≥-2sd)	18	78	2.4	1.32	4.45	44	163	5.1	3.55	7.27

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

Characteristics	Frequency of eating and/or drinking during recess time per week									
	5 days					1-4 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	1777	6722	70.1	64.78	74.98	699	2678	27.9	23.50	32.85
<b>Locality of school</b>										
Urban	1777	6722	70.1	64.78	74.98	699	2678	27.9	23.50	32.85
Rural										
<b>Sex</b>										
Boys	829	3297	68.2	60.85	74.74	343	1408	29.1	23.17	35.87
Girls	948	3425	72.1	66.69	76.93	356	1270	26.7	22.07	31.99
<b>Ethnicity</b>										
Malay	767	2940	66.2	60.45	71.59	364	1418	32.0	26.96	37.41
Chinese	216	814	75.4	69.77	80.20	61	243	22.5	17.91	27.96
Indian	11	44	86.5	38.80	98.48	2	7	13.5	1.52	61.20
Bumiputera Sabah	496	1801	74.1	66.78	80.30	164	593	24.4	18.67	31.25
Bumiputera Sarawak	63	235	80.6	70.17	87.95	14	43	14.8	7.08	28.31
Others	224	889	68.6	63.85	73.03	94	373	28.8	24.71	33.27
<b>School level</b>										
Primary school	568	2848	70.3	63.35	76.34	222	1110	27.4	21.97	33.57
Secondary school	1209	3874	70.0	62.10	76.93	477	1568	28.3	21.99	35.67
<b>Class</b>										
Standard 4	166	870	61.9	47.62	74.45	95	489	34.8	23.82	47.67
Standard 5	212	1007	72.0	63.24	79.28	78	369	26.4	19.56	34.56
Standard 6	190	970	77.7	71.89	82.56	49	252	20.2	16.31	24.72
Form 1	301	865	71.2	61.97	78.94	118	339	27.9	20.58	36.73
Form 2	241	816	70.5	61.01	78.44	93	323	27.9	20.69	36.51
Form 3	265	812	69.4	58.22	78.76	103	330	28.3	20.01	38.32
Form 4	224	676	67.3	58.60	74.90	101	312	31.0	24.05	38.89
Form 5	178	705	71.6	58.76	81.74	62	263	26.7	16.54	40.06
<b>School session</b>										
Morning session	924	3594	70.8	64.80	76.07	349	1369	27.0	22.15	32.37
Evening session	84	305	60.8	54.70	66.55	49	181	36.1	31.05	41.42
Morning and evening session	768	2819	70.5	62.71	77.28	300	1125	28.1	21.77	35.54
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	74	291	64.8	53.53	74.58	36	146	32.6	24.53	41.92
Normal (≥-2sd - ≤+1sd)	1146	4270	72.5	66.27	77.90	395	1500	25.5	20.46	31.20
Overweight (>+1sd - ≤+2sd)	295	1103	67.9	60.68	74.31	136	513	31.6	25.34	38.58
Obese (>+2sd)	260	1050	65.4	60.03	70.39	131	513	32.0	27.21	37.10
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	164	631	67.8	60.29	74.55	69	270	29.1	22.48	36.69
Normal (≥-2sd)	1613	6092	70.4	65.12	75.14	630	2408	27.8	23.40	32.71

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

Characteristics	Frequency of eating and/or drinking during recess time per week				
	Never (0 day)				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>WP Labuan</b>	44	186	1.9	1.27	2.94
<b>Locality of school</b>					
Urban	44	186	1.9	1.27	2.94
Rural					
<b>Sex</b>					
Boys	31	130	2.7	1.87	3.87
Girls	13	55	1.2	0.53	2.57
<b>Ethnicity</b>					
Malay	20	80	1.8	1.04	3.11
Chinese	5	23	2.1	0.92	4.76
Indian					
Bumiputera Sabah	8	36	1.5	0.63	3.42
Bumiputera Sarawak	3	14	4.7	1.44	14.05
Others	8	33	2.6	1.30	5.04
<b>School level</b>					
Primary school	19	96	2.4	1.30	4.25
Secondary school	25	90	1.6	0.93	2.82
<b>Class</b>					
Standard 4	9	46	3.3	1.57	6.66
Standard 5	5	23	1.7	0.79	3.46
Standard 6	5	27	2.1	1.11	4.07
Form 1	3	10	0.9	0.18	4.06
Form 2	5	19	1.6	0.60	4.26
Form 3	8	27	2.3	0.87	5.87
Form 4	5	18	1.7	0.45	6.53
Form 5	4	17	1.7	0.62	4.48
<b>School session</b>					
Morning session	27	116	2.3	1.33	3.89
Evening session	4	16	3.1	1.46	6.63
Morning and evening session	13	54	1.3	0.59	3.03
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	12	2.6	0.55	11.37
Normal ( $\geq$ -2sd - $\leq$ +1sd)	29	123	2.1	1.19	3.61
Overweight (>+1sd - $\leq$ +2sd)	2	9	0.5	0.13	2.28
Obese (>+2sd)	10	43	2.7	1.46	4.77
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	7	29	3.1	1.15	8.05
Normal ( $\geq$ -2sd)	37	157	1.8	1.25	2.62

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

Characteristics	Source of food during recess time									
	Bring from home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	546	2200	23.7	16.51	32.67	1590	6064	65.2	53.89	74.99
<b>Locality of school</b>										
Urban	546	2200	23.7	16.51	32.67	1590	6064	65.2	53.89	74.99
Rural										
<b>Sex</b>										
Boys	224	968	20.8	14.88	28.22	786	3159	67.7	56.28	77.41
Girls	322	1232	26.5	17.97	37.36	804	2905	62.6	51.34	72.66
<b>Ethnicity</b>										
Malay	219	900	20.9	15.59	27.43	780	2999	69.6	59.97	77.83
Chinese	102	382	36.8	26.80	47.99	154	591	56.8	48.30	64.98
Indian	8	34	65.8	32.62	88.43	4	14	27.2	7.81	62.20
Bumiputera Sabah	129	515	21.6	11.31	37.24	393	1456	61.0	42.82	76.56
Bumiputera Sarawak	19	81	29.0	12.69	53.53	41	141	50.8	29.25	72.01
Others	69	288	23.2	16.72	31.36	218	863	69.6	60.90	77.10
<b>School level</b>										
Primary school	242	1228	31.4	21.29	43.71	495	2470	63.2	51.44	73.62
Secondary school	304	973	18.0	10.78	28.57	1095	3595	66.6	48.82	80.65
<b>Class</b>										
Standard 4	99	520	38.4	29.60	48.10	144	747	55.2	45.33	64.64
Standard 5	88	427	31.8	15.65	53.91	178	837	62.2	43.29	78.05
Standard 6	55	280	23.2	17.44	30.13	173	886	73.4	64.91	80.40
Form 1	74	206	17.2	9.14	30.03	286	839	70.1	50.12	84.58
Form 2	63	209	18.5	11.46	28.60	227	784	69.6	56.08	80.43
Form 3	66	208	18.5	11.52	28.30	225	709	63.1	43.47	79.19
Form 4	49	143	14.6	6.99	27.92	219	684	69.7	49.94	84.15
Form 5	52	207	21.4	11.52	36.27	138	577	59.6	39.53	76.94
<b>School session</b>										
Morning session	325	1308	26.6	19.15	35.71	866	3345	68.1	59.21	75.80
Evening session	15	59	12.5	6.33	23.17	103	369	77.6	64.46	86.83
Morning and evening session	206	833	21.3	12.66	33.63	620	2346	60.0	41.57	76.05
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	19	78	18.0	11.28	27.48	77	305	70.5	60.63	78.78
Normal (≥-2sd - ≤+1sd)	338	1336	23.3	16.58	31.80	988	3734	65.2	53.16	75.58
Overweight (>+1sd - ≤+2sd)	89	357	22.4	13.84	34.17	279	1057	66.3	52.04	78.14
Obese (>+2sd)	100	429	27.9	18.04	40.48	243	955	62.1	50.56	72.45
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	37	158	17.7	11.63	26.01	150	585	65.7	52.96	76.57
Normal (≥-2sd)	509	2043	24.3	16.78	33.77	1440	5479	65.1	53.64	75.09

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

Characteristics	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	58	231	2.5	1.56	3.92	186	560	6.0	0.75	35.34
<b>Locality of school</b>										
Urban	58	231	2.5	1.56	3.92	186	560	6.0	0.75	35.34
Rural										
<b>Sex</b>										
Boys	27	116	2.5	1.60	3.86	92	294	6.3	0.82	35.39
Girls	31	114	2.5	1.23	4.87	94	266	5.7	0.66	35.78
<b>Ethnicity</b>										
Malay	26	108	2.5	1.43	4.36	66	209	4.8	0.65	28.45
Chinese	5	21	2.0	0.78	5.19	5	19	1.9	0.47	7.01
Indian	1	4	7.0	0.75	42.86					
Bumiputera Sabah	18	67	2.8	1.21	6.28	98	283	11.8	1.39	56.12
Bumiputera Sarawak	4	16	5.6	2.64	11.66	10	30	10.8	1.24	53.84
Others	4	16	1.3	0.55	2.86	7	20	1.6	0.16	14.40
<b>School level</b>										
Primary school	23	115	2.9	1.90	4.51	6	29	0.7	0.26	2.10
Secondary school	35	116	2.2	0.98	4.68	180	531	9.8	1.08	52.12
<b>Class</b>										
Standard 4	10	51	3.7	1.58	8.61	2	10	0.8	0.22	2.58
Standard 5	9	43	3.2	1.46	6.81	3	14	1.0	0.26	4.10
Standard 6	4	21	1.7	0.32	8.90	1	5	0.4	0.05	3.13
Form 1	7	20	1.7	0.63	4.49	40	106	8.9	0.89	51.16
Form 2	3	10	0.9	0.35	2.44	22	70	6.2	0.70	38.49
Form 3	13	43	3.9	1.10	12.66	49	136	12.1	1.33	58.61
Form 4	7	22	2.2	0.74	6.39	33	89	9.1	1.00	49.41
Form 5	5	20	2.1	0.68	6.19	36	130	13.4	1.53	60.76
<b>School session</b>										
Morning session	30	121	2.5	1.54	3.94	5	17	0.3	0.05	2.34
Evening session	5	20	4.3	1.41	12.32					
Morning and evening session	23	89	2.3	1.15	4.44	181	543	13.9	1.93	56.97
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	25	5.9	3.20	10.56	4	16	3.7	0.95	13.22
Normal (≥-2sd - ≤+1sd)	35	134	2.3	1.31	4.16	125	371	6.5	0.73	39.46
Overweight (>+1sd - ≤+2sd)	4	18	1.1	0.30	4.27	40	118	7.4	0.98	39.02
Obese (>+2sd)	13	53	3.4	2.00	5.79	17	56	3.6	0.53	21.09
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	9	36	4.0	1.46	10.54	21	65	7.3	0.79	43.74
Normal (≥-2sd)	49	195	2.3	1.47	3.62	165	495	5.9	0.74	34.39



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

Characteristics	Source of food during school break time				
	Count	Estimated Population	Other Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	72	248	2.7	1.76	4.02
<b>Locality of school</b>					
Urban	72	248	2.7	1.76	4.02
Rural					
<b>Sex</b>					
Boys	32	125	2.7	1.71	4.17
Girls	40	123	2.6	1.45	4.76
<b>Ethnicity</b>					
Malay	27	91	2.1	1.26	3.51
Chinese	7	26	2.5	1.27	4.97
Indian					
Bumiputera Sabah	20	67	2.8	1.41	5.48
Bumiputera Sarawak	3	10	3.7	1.28	10.39
Others	15	53	4.3	2.04	8.82
<b>School level</b>					
Primary school	13	65	1.7	0.67	4.07
Secondary school	59	183	3.4	2.29	4.98
<b>Class</b>					
Standard 4	5	26	1.9	0.92	3.83
Standard 5	5	24	1.8	0.65	4.64
Standard 6	3	16	1.3	0.31	5.40
Form 1	10	25	2.1	1.13	3.93
Form 2	16	53	4.7	2.61	8.30
Form 3	9	27	2.4	1.04	5.47
Form 4	15	44	4.5	2.52	7.75
Form 5	9	34	3.5	1.38	8.50
<b>School session</b>					
Morning session	35	123	2.5	1.29	4.78
Evening session	7	27	5.7	4.49	7.09
Morning and evening session	29	96	2.4	1.83	3.27
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	8	1.9	0.20	16.40
Normal (≥-2sd - ≤+1sd)	43	151	2.6	1.61	4.27
Overweight (>+1sd - ≤+2sd)	14	44	2.7	1.45	5.11
Obese (>+2sd)	12	45	2.9	1.29	6.53
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	13	47	5.3	2.99	9.06
Normal (≥-2sd)	59	201	2.4	1.51	3.75

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

Characteristics	Afternoon tea frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	679	2621	27.3	24.81	30.02	1503	5723	59.7	56.71	62.63
<b>Locality of school</b>										
Urban	679	2621	27.3	24.81	30.02	1503	5723	59.7	56.71	62.63
Rural										
<b>Sex</b>										
Boys	342	1355	28.0	26.42	29.72	708	2870	59.4	55.33	63.34
Girls	337	1266	26.6	22.11	31.68	795	2854	60.0	55.96	63.93
<b>Ethnicity</b>										
Malay	304	1201	27.1	23.90	30.52	727	2791	63.0	58.64	67.09
Chinese	60	226	21.1	18.26	24.22	167	649	60.5	52.51	68.03
Indian	7	31	59.7	20.25	89.59	5	17	34.1	10.48	69.51
Bumiputera Sabah	176	645	26.5	21.77	31.73	378	1380	56.6	52.13	60.98
Bumiputera Sarawak	27	96	32.3	26.49	38.66	43	163	54.9	46.40	63.03
Others	105	423	32.6	28.46	37.10	183	723	55.8	48.71	62.67
<b>School level</b>										
Primary school	241	1201	29.6	25.55	33.95	487	2446	60.2	55.48	64.83
Secondary school	438	1420	25.7	23.10	28.46	1016	3278	59.3	55.48	63.01
<b>Class</b>										
Standard 4	74	384	27.4	20.94	34.90	178	926	65.9	55.80	74.74
Standard 5	89	418	29.9	22.35	38.84	171	812	58.2	50.55	65.46
Standard 6	78	399	31.6	27.16	36.48	138	708	56.2	51.87	60.48
Form 1	121	351	28.9	25.39	32.62	235	677	55.6	50.39	60.72
Form 2	90	318	27.5	22.38	33.19	206	694	60.0	54.32	65.35
Form 3	89	275	23.7	21.88	25.59	248	772	66.4	61.22	71.22
Form 4	92	282	28.1	22.75	34.07	177	539	53.6	46.17	60.96
Form 5	46	193	19.6	14.62	25.85	150	595	60.5	50.62	69.53
<b>School session</b>										
Morning session	370	1446	28.5	24.34	32.99	754	2960	58.3	53.96	62.47
Evening session	38	139	27.8	25.32	30.44	83	305	60.8	54.65	66.60
Morning and evening session	270	1031	25.8	21.19	30.96	665	2456	61.4	56.61	66.01
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	31	121	26.7	20.09	34.62	72	288	63.8	57.99	69.22
Normal (≥-2sd - ≤+1sd)	440	1662	28.2	25.11	31.50	945	3559	60.4	56.30	64.32
Overweight (>+1sd - ≤+2sd)	125	504	31.0	24.85	37.79	236	874	53.7	48.27	59.05
Obese (>+2sd)	83	335	20.9	16.46	26.17	248	993	62.0	55.87	67.76
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	68	271	29.1	24.40	34.32	150	571	61.4	54.70	67.76
Normal (≥-2sd)	611	2350	27.1	24.32	30.17	1353	5152	59.5	56.27	62.68

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

Characteristics	Afternoon tea frequency per week				
	Count	Did not take afternoon tea			
		Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>WP Labuan</b>	338	1243	13.0	10.39	16.06
<b>Locality of school</b>					
Urban	338	1243	13.0	10.39	16.06
Rural					
<b>Sex</b>					
Boys	152	607	12.6	9.50	16.44
Girls	186	636	13.4	10.41	16.99
<b>Ethnicity</b>					
Malay	119	441	10.0	7.06	13.87
Chinese	53	197	18.4	11.96	27.18
Indian	1	3	6.3	0.79	36.17
Bumiputera Sabah	116	413	16.9	14.15	20.15
Bumiputera Sarawak	11	38	12.9	7.72	20.71
Others	38	150	11.6	8.07	16.29
<b>School level</b>					
Primary school	82	413	10.2	6.86	14.83
Secondary school	256	830	15.0	12.16	18.39
<b>Class</b>					
Standard 4	18	95	6.7	3.25	13.42
Standard 5	34	166	11.9	5.81	22.69
Standard 6	30	153	12.1	8.83	16.46
Form 1	67	189	15.5	10.44	22.44
Form 2	43	146	12.6	9.20	16.98
Form 3	37	115	9.9	6.82	14.18
Form 4	61	184	18.3	12.96	25.18
Form 5	48	196	19.9	14.85	26.14
<b>School session</b>					
Morning session	176	673	13.3	9.90	17.52
Evening session	16	57	11.4	7.38	17.24
Morning and evening session	146	512	12.8	10.04	16.22
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	11	43	9.5	4.65	18.36
Normal (≥-2sd - ≤+1sd)	184	673	11.4	8.85	14.62
Overweight (>+1sd - ≤+2sd)	73	250	15.3	10.54	21.81
Obese (>+2sd)	69	274	17.1	12.58	22.82
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	22	88	9.4	6.90	12.81
Normal (≥-2sd)	316	1155	13.3	10.55	16.72

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

Characteristics	Source of food for afternoon tea									
	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1453	5614	68.2	56.40	78.07	294	1205	14.6	10.80	19.54
<b>Locality of school</b>										
Urban	1453	5614	68.2	56.40	78.07	294	1205	14.6	10.80	19.54
Rural										
<b>Sex</b>										
Boys	658	2670	64.6	53.55	74.33	170	711	17.2	13.00	22.43
Girls	795	2943	71.8	58.54	82.16	124	494	12.0	8.23	17.30
<b>Ethnicity</b>										
Malay	691	2688	68.3	58.61	76.70	152	617	15.7	11.99	20.24
Chinese	151	585	67.7	60.92	73.81	35	146	16.9	8.14	31.89
Indian	10	38	79.8	35.42	96.60	1	5	10.4	0.96	58.24
Bumiputera Sabah	360	1346	67.4	43.96	84.47	51	213	10.7	5.82	18.77
Bumiputera Sarawak	44	173	67.6	38.09	87.60	5	16	6.3	2.12	17.40
Others	197	784	69.3	61.64	75.97	50	208	18.4	12.45	26.23
<b>School level</b>										
Primary school	498	2498	69.8	64.99	74.13	146	724	20.2	15.39	26.09
Secondary school	955	3115	67.0	46.15	82.83	148	481	10.3	7.03	14.96
<b>Class</b>										
Standard 4	161	843	65.9	55.99	74.51	56	287	22.4	15.04	32.03
Standard 5	178	843	69.4	57.85	78.88	57	267	21.9	13.50	33.64
Standard 6	159	812	74.8	68.19	80.42	33	170	15.7	11.18	21.56
Form 1	246	716	69.8	53.67	82.21	47	139	13.6	8.10	21.94
Form 2	201	682	68.7	53.24	80.85	33	119	12.0	7.38	18.85
Form 3	214	681	65.8	43.05	83.01	38	120	11.6	7.00	18.47
Form 4	173	540	67.0	42.86	84.57	25	80	9.9	6.34	15.27
Form 5	121	497	63.0	31.15	86.53	5	23	2.9	0.88	9.00
<b>School session</b>										
Morning session	817	3152	72.3	68.58	75.82	163	694	15.9	11.44	21.74
Evening session	74	267	62.5	55.46	68.97	27	96	22.6	18.39	27.38
Morning and evening session	561	2193	63.8	38.95	82.91	103	410	11.9	7.89	17.64
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	74	291	72.4	65.76	78.18	13	57	14.1	7.92	23.92
Normal (≥-2sd - ≤+1sd)	925	3527	68.6	55.44	79.28	180	727	14.1	10.24	19.18
Overweight (>+1sd - ≤+2sd)	241	942	69.0	53.35	81.18	47	192	14.1	9.45	20.41
Obese (>+2sd)	212	850	64.9	56.18	72.76	53	224	17.1	11.73	24.34
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	132	524	63.0	45.59	77.62	35	145	17.5	10.63	27.42
Normal (≥-2sd)	1321	5090	68.8	57.50	78.23	259	1059	14.3	10.71	18.89

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

Characteristics	Source of food for afternoon tea									
	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	147	568	6.9	5.04	9.39	188	573	7.0	0.87	38.93
<b>Locality of school</b>										
Urban	147	568	6.9	5.04	9.39	188	573	7.0	0.87	38.93
Rural										
<b>Sex</b>										
Boys	70	301	7.3	5.45	9.67	87	284	6.9	0.89	37.83
Girls	77	267	6.5	4.05	10.34	101	289	7.0	0.84	40.32
<b>Ethnicity</b>										
Malay	68	271	6.9	4.41	10.57	75	236	6.0	0.76	34.69
Chinese	27	94	10.8	6.70	17.06	4	14	1.6	0.32	7.62
Indian										
Bumiputera Sabah	33	132	6.6	4.06	10.55	88	258	12.9	1.55	58.27
Bumiputera Sarawak	2	6	2.4	0.53	10.28	11	33	12.8	1.39	60.37
Others	17	66	5.8	4.02	8.37	10	32	2.8	0.39	17.49
<b>School level</b>										
Primary school	47	240	6.7	4.24	10.47	4	20	0.6	0.29	1.08
Secondary school	100	328	7.1	4.59	10.69	184	553	11.9	1.36	56.95
<b>Class</b>										
Standard 4	19	99	7.7	3.94	14.59	1	5	0.4	0.05	2.84
Standard 5	13	63	5.2	2.59	10.00	2	10	0.8	0.25	2.61
Standard 6	15	79	7.3	4.47	11.57	1	5	0.5	0.06	3.79
Form 1	19	54	5.3	2.91	9.31	33	89	8.6	1.09	44.93
Form 2	20	67	6.8	4.36	10.32	26	83	8.4	1.14	42.24
Form 3	23	71	6.9	4.06	11.33	46	128	12.3	1.34	59.41
Form 4	19	56	7.0	3.22	14.47	37	100	12.4	1.28	60.64
Form 5	19	80	10.1	4.83	19.90	42	153	19.4	2.09	73.12
<b>School session</b>										
Morning session	85	326	7.5	4.78	11.56	10	38	0.9	0.35	2.20
Evening session	7	28	6.6	2.24	18.00	1	3	0.6	0.32	1.23
Morning and evening session	55	213	6.2	4.06	9.38	177	532	15.5	1.89	63.46
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	9	36	8.9	4.79	15.85	2	7	1.7	0.16	15.02
Normal (≥-2sd - ≤+1sd)	86	325	6.3	4.14	9.54	130	397	7.7	0.99	41.15
Overweight (>+1sd - ≤+2sd)	23	90	6.6	4.62	9.32	38	110	8.0	0.90	45.78
Obese (>+2sd)	29	117	9.0	6.46	12.30	18	59	4.5	0.60	26.97
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	15	55	6.6	2.99	13.81	27	82	9.8	1.15	50.60
Normal (≥-2sd)	132	513	6.9	5.19	9.23	161	491	6.6	0.84	37.38

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

Characteristics	Source of food for afternoon tea				
	Count	Estimated Population	Prevalence (%)	Other	
				Lower	Upper
<b>WP Labuan</b>	72	270	3.3	2.36	4.55
<b>Locality of school</b>					
Urban	72	270	3.3	2.36	4.55
Rural					
<b>Sex</b>					
Boys	43	165	4.0	2.53	6.26
Girls	29	105	2.6	1.87	3.50
<b>Ethnicity</b>					
Malay	31	121	3.1	2.02	4.68
Chinese	7	25	2.9	1.28	6.58
Indian	1	5	9.8	0.90	56.62
Bumiputera Sabah	15	48	2.4	1.21	4.82
Bumiputera Sarawak	7	28	10.9	4.38	24.68
Others	11	42	3.7	2.36	5.86
<b>School level</b>					
Primary school	20	99	2.8	1.62	4.67
Secondary school	52	171	3.7	2.46	5.49
<b>Class</b>					
Standard 4	9	46	3.6	1.61	7.99
Standard 5	7	33	2.7	1.50	4.89
Standard 6	4	19	1.8	0.50	6.14
Form 1	10	27	2.7	1.31	5.38
Form 2	11	42	4.2	1.64	10.24
Form 3	12	36	3.5	1.90	6.26
Form 4	10	30	3.7	1.63	8.33
Form 5	9	36	4.6	1.80	11.24
<b>School session</b>					
Morning session	38	146	3.4	2.11	5.31
Evening session	8	33	7.7	5.63	10.50
Morning and evening session	26	91	2.6	1.80	3.87
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	12	2.9	1.07	7.85
Normal (≥-2sd - ≤+1sd)	45	168	3.3	2.30	4.59
Overweight (>+1sd - ≤+2sd)	9	32	2.4	1.02	5.35
Obese (>+2sd)	15	59	4.5	2.71	7.30
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	7	26	3.1	1.56	6.04
Normal (≥-2sd)	65	244	3.3	2.31	4.70

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

Characteristics	Heavy meal after dinner frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	251	995	10.4	8.70	12.39	1767	6727	70.3	65.01	75.13
<b>Locality of school</b>										
Urban	251	995	10.4	8.70	12.39	1767	6727	70.3	65.01	75.13
Rural										
<b>Sex</b>										
Boys	138	560	11.6	9.14	14.69	860	3453	71.8	64.58	77.99
Girls	113	435	9.1	6.82	12.17	907	3274	68.8	63.70	73.58
<b>Ethnicity</b>										
Malay	127	504	11.4	9.43	13.69	840	3227	72.9	67.68	77.47
Chinese	28	117	10.9	5.81	19.59	165	646	60.3	50.85	68.97
Indian	1	5	9.8	0.90	56.35	10	36	69.6	30.73	92.18
Bumiputera Sabah	57	217	8.9	5.88	13.33	475	1717	70.6	63.43	76.81
Bumiputera Sarawak	8	30	10.2	5.40	18.43	52	194	65.9	55.66	74.89
Others	30	121	9.4	6.27	13.86	225	907	70.5	61.62	78.10
<b>School level</b>										
Primary school	94	473	11.7	9.62	14.17	574	2867	70.9	61.32	78.92
Secondary school	157	521	9.4	7.24	12.22	1193	3860	69.9	63.68	75.45
<b>Class</b>										
Standard 4	36	188	13.5	9.74	18.40	198	1026	73.6	68.19	78.36
Standard 5	39	186	13.3	9.71	17.97	211	997	71.5	56.93	82.61
Standard 6	19	100	7.9	5.24	11.83	165	844	67.3	50.41	80.60
Form 1	36	104	8.6	5.06	14.21	289	824	67.8	57.38	76.69
Form 2	30	105	9.1	5.51	14.52	242	829	71.4	62.55	78.83
Form 3	39	126	10.8	6.14	18.39	260	808	69.3	61.20	76.34
Form 4	31	98	9.8	5.93	15.79	230	704	70.2	63.43	76.21
Form 5	21	87	8.9	6.01	13.10	172	695	71.1	61.10	79.44
<b>School session</b>										
Morning session	135	549	10.8	9.07	12.92	883	3460	68.4	61.55	74.48
Evening session	14	56	11.1	7.50	16.18	101	363	72.4	59.69	82.27
Morning and evening session	102	390	9.8	7.03	13.40	782	2902	72.6	68.19	76.58
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	57	12.7	8.58	18.30	89	354	78.4	69.48	85.27
Normal ( $\geq$ -2sd - $\leq$ +1sd)	176	684	11.6	9.60	14.04	1084	4089	69.5	64.56	74.11
Overweight (>+1sd - $\leq$ +2sd)	34	137	8.4	5.66	12.26	299	1112	68.3	60.80	75.01
Obese (>+2sd)	27	117	7.3	5.24	10.16	292	1160	72.6	65.17	79.03
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	26	111	12.0	7.99	17.59	177	688	74.3	67.34	80.14
Normal ( $\geq$ -2sd)	225	884	10.2	8.35	12.47	1590	6040	69.9	64.36	74.91

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

Characteristics	Heavy meal after dinner frequency per week				
	Did not take heavy meal after dinner				
	Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper	
<b>WP Labuan</b>	498	1845	19.3	14.49	25.20
<b>Locality of school</b>					
Urban	498	1845	19.3	14.49	25.20
Rural					
<b>Sex</b>					
Boys	199	799	16.6	11.96	22.58
Girls	299	1046	22.0	16.17	29.20
<b>Ethnicity</b>					
Malay	183	698	15.8	11.66	20.95
Chinese	87	309	28.8	17.91	42.88
Indian	2	11	20.7	3.09	68.02
Bumiputera Sabah	137	499	20.5	14.75	27.79
Bumiputera Sarawak	20	70	23.9	16.14	33.81
Others	69	258	20.1	13.23	29.28
<b>School level</b>					
Primary school	139	704	17.4	10.01	28.52
Secondary school	359	1141	20.7	15.17	27.50
<b>Class</b>					
Standard 4	34	180	12.9	7.09	22.37
Standard 5	44	212	15.2	5.80	34.36
Standard 6	61	311	24.8	13.06	42.00
Form 1	98	287	23.6	13.54	37.92
Form 2	68	227	19.6	13.60	27.32
Form 3	76	232	19.9	12.64	29.88
Form 4	68	200	20.0	12.49	30.40
Form 5	49	195	19.9	14.59	26.61
<b>School session</b>					
Morning session	278	1052	20.8	14.36	29.11
Evening session	22	83	16.5	9.86	26.31
Morning and evening session	197	706	17.7	14.14	21.83
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	11	40	8.9	4.12	18.30
Normal ( $\geq -2sd - \leq +1sd$ )	306	1106	18.8	14.14	24.60
Overweight ( $> +1sd - \leq +2sd$ )	101	379	23.3	16.33	32.05
Obese ( $> +2sd$ )	80	320	20.0	14.45	27.07
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	36	127	13.8	9.27	19.95
Normal ( $\geq -2sd$ )	462	1718	19.9	14.79	26.18



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

Characteristics	Source of food for eating for heavy meal after dinner									
	Home					Restaurant/kiosk				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>WP Labuan</b>	1050	4057	54.0	44.72	62.94	606	2361	31.4	27.53	35.53
<b>Locality of school</b>										
Urban	1050	4057	54.0	44.72	62.94	606	2361	31.4	27.53	35.53
Rural										
<b>Sex</b>										
Boys	491	1996	51.2	42.90	59.52	327	1324	34.0	29.89	38.32
Girls	559	2061	56.9	46.16	66.98	279	1037	28.6	23.73	34.05
<b>Ethnicity</b>										
Malay	518	2006	54.8	46.72	62.66	304	1207	33.0	28.87	37.37
Chinese	123	499	67.3	52.61	79.24	49	183	24.7	15.06	37.71
Indian	6	24	59.3	22.00	88.29	2	6	15.7	3.64	48.01
Bumiputera Sabah	255	939	49.7	34.20	65.20	149	567	30.0	23.15	37.84
Bumiputera Sarawak	29	115	53.6	35.71	70.68	15	51	24.1	14.65	36.98
Others	119	475	48.8	42.09	55.48	87	346	35.5	29.96	41.52
<b>School level</b>										
Primary school	362	1807	56.9	49.12	64.30	208	1039	32.7	28.24	37.50
Secondary school	688	2250	51.8	37.35	66.01	398	1322	30.4	24.84	36.68
<b>Class</b>										
Standard 4	124	644	55.7	44.40	66.38	72	374	32.3	25.68	39.72
Standard 5	146	691	60.4	54.37	66.07	77	363	31.8	28.16	35.58
Standard 6	92	472	53.9	44.09	63.39	59	302	34.5	26.78	43.04
Form 1	175	499	54.6	40.67	67.81	90	265	29.0	23.12	35.72
Form 2	136	472	51.0	40.68	61.16	86	302	32.7	26.87	39.02
Form 3	156	498	54.0	37.99	69.19	84	264	28.6	22.67	35.42
Form 4	131	408	51.1	33.94	67.95	82	258	32.3	21.75	44.99
Form 5	90	375	47.9	26.92	69.64	56	233	29.7	20.71	40.67
<b>School session</b>										
Morning session	578	2243	57.6	53.35	61.80	325	1288	33.1	29.33	37.10
Evening session	66	244	58.9	52.29	65.21	37	131	31.6	26.50	37.13
Morning and evening session	406	1571	48.9	31.41	66.69	244	942	29.3	22.59	37.12
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	56	224	56.0	47.36	64.35	32	128	31.9	24.45	40.50
Normal ( $\geq$ -2sd - $\leq$ +1sd)	646	2471	53.1	43.39	62.65	382	1474	31.7	27.71	35.99
Overweight ( $>$ +1sd - $\leq$ +2sd)	176	680	56.5	42.07	69.86	94	353	29.3	21.61	38.43
Obese ( $>$ +2sd)	170	675	53.9	47.21	60.38	98	406	32.4	28.74	36.24
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	102	400	51.0	38.03	63.85	61	248	31.7	21.31	44.31
Normal ( $\geq$ -2sd)	948	3658	54.3	45.07	63.25	545	2112	31.4	27.58	35.40

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

Characteristics	Source of food for eating heavy meal after dinner									
	Hostel					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	115	364	4.8	0.83	23.49	202	738	9.8	6.62	14.30
<b>Locality of school</b>										
Urban	115	364	4.8	0.83	23.49	202	738	9.8	6.62	14.30
Rural										
<b>Sex</b>										
Boys	53	184	4.7	0.99	19.69	102	392	10.1	6.98	14.29
Girls	62	180	5.0	0.69	28.24	100	346	9.5	5.75	15.44
<b>Ethnicity</b>										
Malay	50	158	4.3	0.64	23.82	77	289	7.9	5.63	10.96
Chinese	4	15	2.1	0.29	13.55	12	44	5.9	4.26	8.22
Indian	1	3	8.5	1.25	40.66	2	7	16.4	2.16	63.63
Bumiputera Sabah	50	150	7.9	1.27	36.63	69	235	12.4	5.99	23.98
Bumiputera Sarawak	4	11	5.1	0.67	29.98	10	37	17.1	9.42	29.17
Others	6	26	2.7	1.32	5.42	32	127	13.0	8.14	20.16
<b>School level</b>										
Primary school	10	50	1.6	0.66	3.76	56	281	8.8	6.51	11.91
Secondary school	105	313	7.2	0.95	38.72	146	457	10.5	5.73	18.52
<b>Class</b>										
Standard 4	4	20	1.7	0.63	4.56	23	119	10.3	6.29	16.49
Standard 5	1	5	0.4	0.05	3.13	18	86	7.5	4.32	12.64
Standard 6	5	26	3.0	1.17	7.41	15	76	8.7	7.44	10.10
Form 1	22	58	6.4	1.05	30.32	33	92	10.0	4.05	22.74
Form 2	15	46	5.0	0.62	30.47	32	105	11.4	7.68	16.59
Form 3	20	55	6.0	0.74	34.86	35	106	11.4	5.19	23.39
Form 4	22	60	7.5	0.93	41.18	25	73	9.1	4.38	18.10
Form 5	26	94	12.0	1.46	55.84	21	81	10.4	4.64	21.51
<b>School session</b>										
Morning session	10	40	1.0	0.47	2.27	80	320	8.2	6.84	9.87
Evening session	2	7	1.7	0.45	6.36	9	32	7.8	5.09	11.77
Morning and evening session	103	316	9.8	1.56	42.92	112	383	11.9	6.07	22.04
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	18	4.4	1.13	15.58	8	31	7.6	2.63	20.24
Normal (≥-2sd - ≤+1sd)	76	237	5.1	0.86	25.02	129	467	10.0	6.64	14.92
Overweight (>+1sd - ≤+2sd)	24	71	5.9	0.66	36.89	29	100	8.3	4.38	15.30
Obese (>+2sd)	9	33	2.6	0.62	10.35	36	139	11.1	7.37	16.48
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	17	54	6.9	1.11	32.85	20	81	10.4	6.09	17.15
Normal (≥-2sd)	98	310	4.6	0.80	22.33	182	656	9.7	6.59	14.18

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristics	Frequency of fast food consumption per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
Lower				Upper	Lower				Upper	
<b>WP Labuan</b>	86	350	3.7	2.66	5.01	2188	8336	87.0	84.59	89.14
<b>Locality of school</b>										
Urban	86	350	3.7	2.66	5.01	2188	8336	87.0	84.59	89.14
Rural										
<b>Sex</b>										
Boys	51	211	4.4	3.30	5.80	1022	4127	85.5	82.48	88.12
Girls	35	139	2.9	1.89	4.49	1166	4209	88.6	85.41	91.11
<b>Ethnicity</b>										
Malay	44	184	4.2	3.02	5.69	1019	3925	88.6	86.22	90.69
Chinese	9	37	3.5	1.80	6.56	229	879	81.6	75.70	86.37
Indian						12	46	89.9	58.10	98.26
Bumiputera Sabah	17	62	2.6	1.30	5.01	575	2107	86.7	82.03	90.30
Bumiputera Sarawak	2	7	2.2	0.47	10.04	69	251	84.3	75.26	90.47
Others	14	60	4.6	2.14	9.65	284	1129	87.1	83.46	90.10
<b>School level</b>										
Primary school	37	188	4.6	3.28	6.52	713	3566	88.1	85.89	89.98
Secondary school	49	162	2.9	1.83	4.68	1475	4770	86.3	82.35	89.42
<b>Class</b>										
Standard 4	17	88	6.3	4.22	9.39	233	1211	86.9	83.89	89.35
Standard 5	14	68	4.8	2.64	8.68	268	1270	90.7	87.11	93.39
Standard 6	6	32	2.6	0.91	6.99	212	1085	86.5	82.11	89.96
Form 1	12	35	2.9	1.59	5.13	364	1046	85.8	79.88	90.20
Form 2	10	38	3.3	1.44	7.30	299	1014	87.7	83.86	90.66
Form 3	10	34	2.9	1.25	6.53	319	994	85.2	81.61	88.24
Form 4	14	44	4.4	2.03	9.21	280	856	85.4	79.07	90.07
Form 5	3	12	1.2	0.37	3.70	213	859	87.3	81.76	91.29
<b>School session</b>										
Morning session	45	183	3.6	2.55	5.06	1156	4497	88.7	86.80	90.31
Evening session	7	28	5.6	2.90	10.39	118	429	85.5	78.43	90.50
Morning and evening session	34	140	3.5	2.11	5.71	912	3403	85.1	80.84	88.59
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	17	3.7	1.30	10.05	99	392	86.9	75.42	93.53
Normal (≥-2sd - ≤+1sd)	63	248	4.2	2.91	6.06	1367	5132	87.1	84.62	89.27
Overweight (>+1sd - ≤+2sd)	11	47	2.9	1.35	6.12	365	1375	84.8	78.09	89.69
Obese (>+2sd)	8	38	2.4	0.78	7.08	355	1426	89.1	84.85	92.25
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	13	54	5.8	3.85	8.66	203	787	84.7	78.05	89.63
Normal (≥-2sd)	73	296	3.4	2.35	4.96	1985	7548	87.3	84.89	89.34

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

Characteristics	Frequency of fast food consumption per week				
	Count	Estimated Population	Prevalence (%)	Did not ate fast food	
				Lower	Upper
<b>WP Labuan</b>	245	892	9.3	6.78	12.66
<b>Locality of school</b>					
Urban	245	892	9.3	6.78	12.66
Rural					
<b>Sex</b>					
Boys	127	487	10.1	7.24	13.91
Girls	118	405	8.5	5.69	12.57
<b>Ethnicity</b>					
Malay	87	319	7.2	5.00	10.26
Chinese	43	161	14.9	9.85	21.94
Indian	1	5	10.1	1.74	41.90
Bumiputera Sabah	76	261	10.7	6.83	16.47
Bumiputera Sarawak	10	40	13.5	7.10	24.01
Others	28	107	8.2	4.98	13.34
<b>School level</b>					
Primary school	58	295	7.3	4.93	10.61
Secondary school	187	598	10.8	7.23	15.85
<b>Class</b>					
Standard 4	18	95	6.8	4.24	10.77
Standard 5	13	62	4.5	2.57	7.61
Standard 6	27	137	10.9	7.36	15.94
Form 1	48	138	11.3	6.99	17.83
Form 2	30	105	9.1	5.72	14.07
Form 3	46	138	11.9	8.16	16.98
Form 4	35	102	10.2	5.15	19.23
Form 5	28	114	11.6	7.10	18.26
<b>School session</b>					
Morning session	98	392	7.7	6.02	9.88
Evening session	12	45	9.0	6.31	12.59
Morning and evening session	135	455	11.4	7.28	17.38
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	11	42	9.4	4.03	20.25
Normal ( $\geq$ -2sd - $\leq$ +1sd)	139	511	8.7	6.33	11.75
Overweight (>+1sd - $\leq$ +2sd)	57	200	12.3	7.49	19.62
Obese (>+2sd)	37	136	8.5	5.66	12.63
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	24	88	9.5	4.83	17.75
Normal ( $\geq$ -2sd)	221	804	9.3	6.72	12.72

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

Characteristics	Bring food to school practices									
	Everyday					Occasionally				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	305	1248	13.0	8.64	19.16	1306	5064	52.8	47.13	58.42
<b>Locality of school</b>										
Urban	305	1248	13.0	8.64	19.16	1306	5064	52.8	47.13	58.42
Rural										
<b>Sex</b>										
Boys	120	533	11.0	7.13	16.73	563	2328	48.3	42.92	53.64
Girls	185	715	15.0	9.95	22.01	743	2735	57.4	51.03	63.57
<b>Ethnicity</b>										
Malay	112	473	10.7	6.75	16.42	604	2374	53.5	47.75	59.24
Chinese	60	222	20.5	13.00	30.84	150	579	53.7	44.37	62.72
Indian	5	22	42.2	17.34	71.84	7	26	51.0	30.37	71.30
Bumiputera Sabah	64	252	10.3	5.13	19.70	349	1314	53.9	43.30	64.13
Bumiputera Sarawak	17	75	25.3	10.84	48.57	30	111	37.3	23.09	54.05
Others	47	205	16.0	11.15	22.30	166	659	51.2	45.64	56.74
<b>School level</b>										
Primary school	144	736	18.2	10.93	28.63	467	2331	57.5	50.85	63.88
Secondary school	161	512	9.3	5.77	14.50	839	2733	49.4	41.99	56.80
<b>Class</b>										
Standard 4	62	327	23.4	18.54	29.16	147	767	55.0	51.01	58.93
Standard 5	53	258	18.4	7.72	37.87	176	834	59.5	52.10	66.57
Standard 6	29	151	12.0	6.90	20.13	144	730	58.0	45.43	69.58
Form 1	42	117	9.7	5.35	16.79	187	533	43.8	34.00	54.19
Form 2	27	90	7.7	4.78	12.24	165	558	48.0	41.16	54.93
Form 3	36	114	9.7	4.99	18.13	181	568	48.6	38.62	58.73
Form 4	28	80	8.0	3.43	17.42	165	497	49.6	38.10	61.11
Form 5	28	111	11.3	5.20	22.79	141	577	58.5	44.15	71.62
<b>School session</b>										
Morning session	176	715	14.1	9.05	21.23	706	2790	54.9	48.89	60.79
Evening session	9	42	8.4	2.03	29.12	67	246	49.6	45.91	53.33
Morning and evening session	120	491	12.3	7.45	19.55	531	2020	50.5	41.32	59.56
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	55	12.2	7.08	20.19	65	264	58.4	49.78	66.58
Normal (≥-2sd - ≤+1sd)	193	770	13.1	8.56	19.41	782	3000	50.9	44.83	56.87
Overweight (>+1sd - ≤+2sd)	40	164	10.1	6.49	15.44	236	902	55.5	47.07	63.71
Obese (>+2sd)	57	253	15.8	9.51	25.14	222	895	55.9	50.13	61.49
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	19	77	8.3	5.78	11.74	129	517	55.8	46.78	64.44
Normal (≥-2sd)	286	1171	13.5	8.87	20.08	1177	4547	52.5	47.00	57.93

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

Characteristics	Bring food to school practices				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	910	3276	34.2	25.70	43.79
<b>Locality of school</b>					
Urban	910	3276	34.2	25.70	43.79
Rural					
<b>Sex</b>					
Boys	517	1963	40.7	32.35	49.61
Girls	393	1313	27.6	18.88	38.36
<b>Ethnicity</b>					
Malay	435	1588	35.8	27.08	45.58
Chinese	72	279	25.8	19.21	33.73
Indian	1	3	6.7	0.84	38.22
Bumiputera Sabah	257	873	35.8	23.93	49.69
Bumiputera Sarawak	34	111	37.4	22.64	54.98
Others	111	423	32.8	26.07	40.41
<b>School level</b>					
Primary school	198	987	24.3	16.25	34.81
Secondary school	712	2289	41.4	30.78	52.82
<b>Class</b>					
Standard 4	59	301	21.6	15.48	29.21
Standard 5	66	309	22.0	13.04	34.78
Standard 6	73	378	30.0	19.78	42.68
Form 1	194	566	46.5	32.28	61.32
Form 2	148	514	44.3	35.08	53.89
Form 3	159	487	41.7	29.93	54.40
Form 4	136	425	42.4	28.08	58.21
Form 5	75	297	30.2	15.68	50.08
<b>School session</b>					
Morning session	419	1576	31.0	23.42	39.79
Evening session	60	208	41.9	30.06	54.84
Morning and evening session	431	1492	37.3	25.13	51.27
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	35	133	29.4	20.73	39.84
Normal (≥-2sd - ≤+1sd)	596	2128	36.1	27.48	45.68
Overweight (>+1sd - ≤+2sd)	157	558	34.3	24.51	45.71
Obese (>+2sd)	121	453	28.3	18.68	40.40
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	91	333	35.9	26.08	47.11
Normal (≥-2sd)	819	2944	34.0	25.48	43.67

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

Characteristics	Type of food									
	Nasi lemak/fried rice/mixed rice					Noodle/Vermicelli/ Kueh Teow				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	768	2925	47.9	38.97	57.05	284	1113	18.2	14.62	22.53
<b>Locality of school</b>										
Urban	768	2925	47.9	38.97	57.05	284	1113	18.2	14.62	22.53
Rural										
<b>Sex</b>										
Boys	327	1330	48.4	38.66	58.19	117	479	17.4	11.86	24.82
Girls	441	1596	47.6	38.09	57.30	167	634	18.9	15.38	23.08
<b>Ethnicity</b>										
Malay	373	1433	51.9	41.81	61.89	99	407	14.8	12.28	17.62
Chinese	61	225	28.9	20.61	38.91	70	255	32.8	22.21	45.57
Indian	6	26	54.1	28.24	77.95	1	5	10.5	0.96	58.40
Bumiputera Sabah	209	782	51.4	39.72	63.01	77	290	19.1	13.16	26.88
Bumiputera Sarawak	20	73	40.4	19.27	65.79	7	31	17.0	9.46	28.53
Others	99	386	47.4	35.69	59.47	30	124	15.3	10.93	20.96
<b>School level</b>										
Primary school	225	1122	38.0	32.78	43.52	104	523	17.7	13.28	23.20
Secondary school	543	1803	57.3	45.34	68.41	180	590	18.7	13.45	25.53
<b>Class</b>										
Standard 4	75	392	36.7	29.69	44.39	39	206	19.3	14.76	24.72
Standard 5	87	411	39.2	30.07	49.12	39	187	17.8	12.95	23.92
Standard 6	63	318	38.1	30.27	46.70	26	130	15.6	8.92	25.91
Form 1	105	305	48.7	39.06	58.47	52	150	23.9	17.01	32.37
Form 2	104	356	58.5	44.09	71.59	30	99	16.3	10.32	24.80
Form 3	120	380	57.3	43.06	70.42	36	114	17.3	12.66	23.12
Form 4	106	318	55.8	38.41	71.90	30	93	16.3	9.26	26.97
Form 5	108	444	65.2	44.25	81.61	32	134	19.8	11.66	31.50
<b>School session</b>										
Morning session	444	1697	50.2	41.67	58.65	159	614	18.2	14.05	23.15
Evening session	37	135	50.7	36.67	64.65	13	49	18.5	13.44	24.91
Morning and evening session	286	1090	44.6	32.43	57.48	111	445	18.2	13.35	24.31
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	38	149	47.2	33.68	61.07	14	61	19.3	9.89	34.26
Normal (≥-2sd - ≤+1sd)	467	1766	48.7	38.64	58.87	156	583	16.1	11.74	21.65
Overweight (>+1sd - ≤+2sd)	134	503	49.2	38.82	59.66	55	222	21.7	17.27	26.90
Obese (>+2sd)	128	504	44.7	36.16	53.56	59	247	21.9	16.10	29.00
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	79	308	54.4	41.71	66.57	18	73	12.9	8.70	18.67
Normal (≥-2sd)	689	2617	47.3	38.28	56.47	266	1040	18.8	15.11	23.12

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

Characteristics	Type of food									
	Bread/bun/sandwich					Nugget/sausage/burger				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	367	1443	23.7	18.37	29.92	177	724	11.9	9.30	15.01
<b>Locality of school</b>										
Urban	367	1443	23.7	18.37	29.92	177	724	11.9	9.30	15.01
Rural										
<b>Sex</b>										
Boys	135	587	21.4	15.82	28.16	79	349	12.7	9.34	16.99
Girls	232	856	25.6	19.50	32.72	98	375	11.2	8.56	14.49
<b>Ethnicity</b>										
Malay	132	528	19.2	15.84	22.97	94	398	14.4	11.02	18.69
Chinese	85	304	39.1	25.37	54.84	19	71	9.2	6.16	13.38
Indian	6	26	54.4	15.45	88.65	1	4	7.7	0.84	45.37
Bumiputera Sabah	89	356	23.4	16.22	32.51	36	138	9.1	6.36	12.85
Bumiputera Sarawak	14	54	29.6	16.99	46.40	6	26	14.5	5.61	32.72
Others	41	175	21.5	13.91	31.71	21	86	10.5	8.49	12.98
<b>School level</b>										
Primary school	149	757	25.6	19.03	33.60	90	452	15.3	13.21	17.64
Secondary school	218	687	21.8	14.32	31.74	87	272	8.6	5.73	12.83
<b>Class</b>										
Standard 4	49	260	24.4	16.93	33.76	28	146	13.6	8.95	20.24
Standard 5	55	265	25.3	15.09	39.11	33	157	15.0	11.71	18.92
Standard 6	45	232	27.7	22.75	33.36	29	149	17.8	13.20	23.67
Form 1	60	162	25.9	17.69	36.20	24	66	10.5	6.69	16.17
Form 2	41	136	22.3	14.58	32.48	16	52	8.6	4.06	17.16
Form 3	45	139	21.0	11.04	36.15	14	42	6.3	3.19	11.96
Form 4	35	102	17.8	10.53	28.62	19	55	9.6	5.16	17.23
Form 5	37	148	21.7	12.01	36.13	14	58	8.5	4.32	15.94
<b>School session</b>										
Morning session	209	824	24.3	19.05	30.56	106	424	12.5	9.93	15.71
Evening session	16	61	22.9	17.69	29.01	8	33	12.4	6.63	22.15
Morning and evening session	141	554	22.7	16.03	31.07	63	266	10.9	6.73	17.16
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	15	64	20.2	11.20	33.81	12	50	15.7	7.24	30.89
Normal (≥-2sd - ≤+1sd)	230	887	24.5	19.06	30.83	100	398	11.0	8.32	14.32
Overweight (>+1sd - ≤+2sd)	53	201	19.7	12.57	29.40	30	125	12.2	8.38	17.55
Obese (>+2sd)	68	286	25.3	17.97	34.48	35	151	13.4	10.34	17.17
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	27	113	20.0	14.63	26.77	19	77	13.5	10.03	18.01
Normal (≥-2sd)	340	1330	24.0	18.28	30.91	158	647	11.7	9.00	15.04



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

Characteristics	Type of food									
	Biscuit					Fruits				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	206	749	12.3	7.01	20.62	51	223	3.7	2.24	5.92
<b>Locality of school</b>										
Urban	206	749	12.3	7.01	20.62	51	223	3.7	2.24	5.92
Rural										
<b>Sex</b>										
Boys	62	246	8.9	4.71	16.33	19	85	3.1	1.91	5.01
Girls	144	503	15.0	8.77	24.51	32	138	4.1	2.25	7.37
<b>Ethnicity</b>										
Malay	78	303	11.0	6.03	19.13	21	91	3.3	1.98	5.51
Chinese	26	99	12.7	9.15	17.33	6	27	3.5	1.31	9.15
Indian	3	10	20.4	3.43	64.88					
Bumiputera Sabah	64	207	13.6	5.43	30.17	16	66	4.3	1.96	9.36
Bumiputera Sarawak	10	38	20.8	10.53	36.93	2	9	4.7	0.97	20.26
Others	25	93	11.4	7.44	17.23	6	29	3.6	1.40	8.97
<b>School level</b>										
Primary school	59	298	10.1	7.84	12.90	33	166	5.6	3.62	8.67
Secondary school	147	451	14.3	5.63	31.93	18	57	1.8	1.01	3.17
<b>Class</b>										
Standard 4	21	112	10.5	8.16	13.29	15	79	7.4	4.89	11.09
Standard 5	25	119	11.3	6.61	18.65	9	42	4.0	1.14	12.83
Standard 6	13	68	8.1	4.49	14.20	9	46	5.5	2.72	10.69
Form 1	29	71	11.4	4.20	27.30	8	22	3.6	1.78	7.01
Form 2	17	53	8.7	1.96	31.21	4	12	2.0	0.69	5.93
Form 3	33	98	14.8	5.90	32.40	1	4	0.6	0.08	4.10
Form 4	35	100	17.6	6.45	39.87	1	3	0.5	0.05	4.56
Form 5	33	129	18.9	8.53	36.87	4	15	2.2	0.63	7.46
<b>School session</b>										
Morning session	82	328	9.7	7.21	12.91	31	139	4.1	2.61	6.43
Evening session	5	18	6.9	2.32	18.91	4	19	7.1	1.11	34.40
Morning and evening session	119	403	16.5	6.21	37.02	16	65	2.6	1.17	5.87
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	11	43	13.5	6.43	26.28	1	3	1.0	0.11	9.17
Normal (≥-2sd - ≤+1sd)	128	480	13.2	7.29	22.81	32	137	3.8	1.86	7.52
Overweight (>+1sd - ≤+2sd)	37	124	12.1	5.60	24.29	12	56	5.5	2.78	10.54
Obese (>+2sd)	30	103	9.1	4.99	16.06	5	24	2.1	0.50	8.31
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	21	83	14.6	6.77	28.77	3	14	2.4	0.71	7.74
Normal (≥-2sd)	185	666	12.0	6.94	20.07	48	209	3.8	2.24	6.32

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

Characteristics	Type of food				
	Count	Estimated Population	Others Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	175	695	11.4	10.09	12.83
<b>Locality of school</b>					
Urban	175	695	11.4	10.09	12.83
Rural					
<b>Sex</b>					
Boys	85	366	13.3	10.19	17.19
Girls	90	329	9.8	8.74	11.02
<b>Ethnicity</b>					
Malay	78	310	11.2	8.98	13.97
Chinese	24	92	11.8	8.11	16.87
Indian	1	3	6.7	0.72	41.89
Bumiputera Sabah	32	129	8.5	5.78	12.29
Bumiputera Sarawak	6	25	13.6	6.44	26.39
Others	34	136	16.7	12.48	22.05
<b>School level</b>					
Primary school	75	373	12.6	10.71	14.86
Secondary school	100	322	10.2	9.08	11.48
<b>Class</b>					
Standard 4	24	122	11.4	8.90	14.60
Standard 5	27	130	12.4	6.31	23.05
Standard 6	24	120	14.4	10.46	19.57
Form 1	22	61	9.7	6.99	13.28
Form 2	23	78	12.8	7.51	21.02
Form 3	22	69	10.5	6.15	17.23
Form 4	19	58	10.1	7.62	13.34
Form 5	14	56	8.2	4.84	13.61
<b>School session</b>					
Morning session	88	362	10.7	8.44	13.50
Evening session	10	38	14.3	6.85	27.57
Morning and evening session	76	292	11.9	10.45	13.59
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	7	29	9.1	4.15	18.92
Normal (≥-2sd - ≤+1sd)	108	427	11.8	10.07	13.70
Overweight (>+1sd - ≤+2sd)	27	98	9.6	6.89	13.28
Obese (>+2sd)	33	141	12.5	8.56	17.89
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	20	75	13.3	9.02	19.09
Normal (≥-2sd)	155	620	11.2	9.56	13.07

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

Characteristics	Bring drinks to school practices									
	Everyday					Occasionally				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1363	5236	54.7	49.98	59.24	788	2977	31.1	28.65	33.60
<b>Locality of school</b>										
Urban	1363	5236	54.7	49.98	59.24	788	2977	31.1	28.65	33.60
Rural										
<b>Sex</b>										
Boys	568	2343	48.6	42.35	54.85	392	1563	32.4	29.16	35.83
Girls	795	2894	60.8	57.00	64.49	396	1414	29.7	26.35	33.31
<b>Ethnicity</b>										
Malay	601	2351	53.2	48.28	57.98	378	1435	32.5	29.56	35.50
Chinese	178	657	60.8	43.84	75.58	63	258	23.9	13.28	39.15
Indian	9	36	70.2	32.87	91.89	4	15	29.8	8.11	67.13
Bumiputera Sabah	362	1343	55.1	47.94	62.04	212	757	31.1	26.67	35.81
Bumiputera Sarawak	52	199	66.9	52.54	78.70	21	76	25.5	16.21	37.68
Others	161	650	50.3	42.66	57.98	110	435	33.7	28.64	39.10
<b>School level</b>										
Primary school	468	2353	58.2	51.00	65.03	245	1225	30.3	27.04	33.77
Secondary school	895	2883	52.1	46.77	57.33	543	1751	31.6	28.29	35.17
<b>Class</b>										
Standard 4	151	792	56.8	49.58	63.73	75	390	27.9	24.16	32.08
Standard 5	170	809	58.2	47.30	68.36	94	446	32.1	26.53	38.16
Standard 6	147	752	59.7	51.35	67.54	76	390	30.9	27.79	34.28
Form 1	228	653	53.7	42.66	64.43	141	400	32.9	25.08	41.82
Form 2	185	618	53.2	42.97	63.11	105	365	31.4	24.20	39.60
Form 3	181	570	48.8	41.51	56.10	119	364	31.1	24.70	38.37
Form 4	162	489	48.6	41.75	55.51	107	330	32.8	28.05	37.91
Form 5	139	553	56.2	47.20	64.78	71	293	29.8	22.82	37.76
<b>School session</b>										
Morning session	700	2752	54.3	48.25	60.15	416	1611	31.8	28.43	35.30
Evening session	72	273	54.4	43.40	64.90	38	128	25.5	12.82	44.24
Morning and evening session	590	2207	55.2	49.00	61.18	333	1235	30.9	26.42	35.72
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	52	202	44.7	40.00	49.51	42	177	39.2	31.98	46.86
Normal (≥-2sd - ≤+1sd)	830	3151	53.4	48.37	58.43	498	1844	31.3	28.26	34.47
Overweight (>+1sd - ≤+2sd)	247	926	57.2	49.70	64.37	129	494	30.5	25.04	36.61
Obese (>+2sd)	233	955	59.6	54.26	64.76	118	456	28.5	25.22	31.98
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	117	447	48.1	43.62	52.65	92	360	38.7	32.46	45.38
Normal (≥-2sd)	1246	4789	55.4	50.26	60.34	696	2617	30.2	27.85	32.76

**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 (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	369	1368	14.3	11.47	17.64
<b>Locality of school</b>					
Urban	369	1368	14.3	11.47	17.64
Rural					
<b>Sex</b>					
Boys	240	917	19.0	15.07	23.72
Girls	129	451	9.5	6.81	13.05
<b>Ethnicity</b>					
Malay	170	636	14.4	10.99	18.61
Chinese	41	165	15.3	9.99	22.62
Indian					
Bumiputera Sabah	96	338	13.9	10.76	17.66
Bumiputera Sarawak	8	23	7.6	2.21	23.10
Others	54	207	16.0	11.54	21.78
<b>School level</b>					
Primary school	94	466	11.5	7.51	17.27
Secondary school	275	902	16.3	13.40	19.67
<b>Class</b>					
Standard 4	42	213	15.3	11.59	19.83
Standard 5	29	135	9.7	4.87	18.50
Standard 6	23	118	9.4	5.01	16.79
Form 1	54	163	13.4	9.57	18.37
Form 2	50	179	15.4	11.69	20.13
Form 3	76	235	20.1	17.13	23.43
Form 4	61	187	18.6	13.87	24.50
Form 5	34	138	14.1	8.46	22.45
<b>School session</b>					
Morning session	183	709	14.0	10.68	18.08
Evening session	27	101	20.2	14.95	26.69
Morning and evening session	159	558	14.0	10.47	18.37
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	20	73	16.1	10.50	23.94
Normal ( $\geq -2sd$ - $\leq +1sd$ )	243	901	15.3	12.37	18.74
Overweight ( $> +1sd$ - $\leq +2sd$ )	56	199	12.3	8.52	17.40
Obese ( $> +2sd$ )	49	190	11.9	8.49	16.43
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	31	122	13.2	9.43	18.06
Normal ( $\geq -2sd$ )	338	1246	14.4	11.47	17.93

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

Characteristics	Type of drinks									
	Plain water					Flavoured water/ packed drink/ syrup drink/ tea/ coffee/ Milo				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	1955	7417	90.4	86.45	93.28	242	906	11.0	8.18	14.73
<b>Locality of school</b>										
Urban	1955	7417	90.4	86.45	93.28	242	906	11.0	8.18	14.73
Rural										
<b>Sex</b>										
Boys	840	3404	87.3	82.36	90.97	110	434	11.1	8.12	15.10
Girls	1115	4013	93.2	89.13	95.85	132	471	10.9	7.65	15.43
<b>Ethnicity</b>										
Malay	891	3428	90.5	86.82	93.28	111	420	11.1	8.44	14.46
Chinese	224	842	92.0	81.28	96.83	29	111	12.1	7.70	18.47
Indian	12	48	93.3	61.78	99.16					
Bumiputera Sabah	524	1911	91.3	86.14	94.70	58	199	9.5	5.76	15.37
Bumiputera Sarawak	67	249	90.7	82.93	95.15	11	43	15.5	8.57	26.50
Others	237	939	86.6	79.66	91.37	33	133	12.2	5.66	24.44
<b>School level</b>										
Primary school	619	3108	87.0	79.36	92.05	81	405	11.3	6.55	18.87
Secondary school	1336	4310	93.0	91.13	94.58	161	501	10.8	7.87	14.69
<b>Class</b>										
Standard 4	186	978	82.8	69.92	90.88	29	151	12.8	7.58	20.70
Standard 5	237	1127	89.8	83.13	94.01	26	122	9.7	5.15	17.55
Standard 6	196	1002	88.2	76.80	94.38	26	132	11.6	6.16	20.83
Form 1	338	967	91.8	86.89	94.92	44	117	11.1	6.53	18.24
Form 2	271	916	93.2	89.97	95.50	24	77	7.8	4.54	13.11
Form 3	278	866	92.8	85.88	96.43	40	116	12.4	5.94	24.15
Form 4	248	755	92.6	86.96	95.86	26	76	9.3	5.12	16.40
Form 5	201	806	95.2	90.70	97.60	27	115	13.6	9.46	19.28
<b>School session</b>										
Morning session	998	3867	88.7	81.93	93.13	127	502	11.5	7.79	16.68
Evening session	99	356	89.1	81.92	93.60	8	32	8.0	4.03	15.13
Morning and evening session	856	3187	92.7	89.54	94.97	107	372	10.8	7.50	15.39
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	86	342	90.4	77.31	96.29	9	40	10.6	3.94	25.52
Normal ( $\geq$ -2sd - $\leq$ +1sd)	1189	4445	89.1	85.34	92.02	166	610	12.2	9.06	16.32
Overweight ( $>$ +1sd - $\leq$ +2sd)	352	1322	93.1	88.17	96.07	38	139	9.8	7.19	13.22
Obese ( $>$ +2sd)	326	1300	92.1	85.72	95.82	29	116	8.2	4.70	14.08
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	188	720	89.2	75.97	95.54	30	113	14.0	7.93	23.40
Normal ( $\geq$ -2sd)	1767	6698	90.5	87.23	93.05	212	793	10.7	8.17	13.95

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

Characteristics	Type of drinks									
	Carbonated drink					Milk/ cultured drink				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	35	141	1.7	0.98	2.98	81	328	4.0	2.73	5.83
<b>Locality of school</b>										
Urban	35	141	1.7	0.98	2.98	81	328	4.0	2.73	5.83
Rural										
<b>Sex</b>										
Boys	22	90	2.3	1.20	4.40	36	154	3.9	2.62	5.90
Girls	13	51	1.2	0.53	2.56	45	175	4.1	2.45	6.63
<b>Ethnicity</b>										
Malay	17	66	1.7	0.86	3.47	32	132	3.5	1.97	6.09
Chinese	1	5	0.5	0.11	2.42	9	40	4.3	1.96	9.35
Indian	1	3	6.7	0.84	38.22					
Bumiputera Sabah	12	52	2.5	1.03	5.78	27	103	4.9	2.90	8.20
Bumiputera Sarawak	1	5	1.8	0.25	12.04					
Others	3	10	0.9	0.31	2.82	13	54	5.0	2.83	8.64
<b>School level</b>										
Primary school	15	76	2.1	0.91	4.93	43	212	5.9	4.34	8.08
Secondary school	20	65	1.4	0.74	2.60	38	116	2.5	1.44	4.32
<b>Class</b>										
Standard 4	4	21	1.8	0.38	7.85	11	57	4.8	2.03	10.86
Standard 5	5	24	1.9	1.35	2.68	18	86	6.8	4.28	10.69
Standard 6	6	31	2.7	0.96	7.63	14	70	6.2	3.25	11.41
Form 1	7	20	1.9	0.92	3.93	10	26	2.5	1.28	4.77
Form 2	4	15	1.5	0.39	5.72	4	12	1.2	0.26	5.11
Form 3	5	17	1.8	0.76	4.30	7	21	2.3	0.83	6.15
Form 4	3	8	1.0	0.21	4.60	8	24	3.0	1.68	5.27
Form 5	1	4	0.5	0.07	4.01	9	33	3.9	1.92	7.64
<b>School session</b>										
Morning session	23	100	2.3	1.11	4.64	45	189	4.3	2.79	6.67
Evening session	1	3	0.9	0.47	1.58	2	8	2.1	0.23	16.62
Morning and evening session	11	38	1.1	0.54	2.21	34	131	3.8	2.23	6.45
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	2	7	1.9	0.34	9.57	8	35	9.2	4.41	18.08
Normal (≥-2sd - ≤+1sd)	21	86	1.7	0.92	3.22	53	211	4.2	2.74	6.47
Overweight (>+1sd - ≤+2sd)	7	27	1.9	0.65	5.28	8	28	2.0	0.95	4.19
Obese (>+2sd)	5	21	1.5	0.69	3.22	12	54	3.9	1.89	7.72
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	4	19	2.3	0.57	9.04	10	41	5.1	2.29	10.92
Normal (≥-2sd)	31	122	1.6	0.98	2.76	71	287	3.9	2.59	5.79

**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
<b>WP Labuan</b>	33	149	1.8	1.04	3.15
<b>Locality of school</b>					
Urban	33	149	1.8	1.04	3.15
Rural					
<b>Sex</b>					
Boys	22	101	2.6	1.35	4.93
Girls	11	48	1.1	0.58	2.10
<b>Ethnicity</b>					
Malay	15	69	1.8	0.75	4.34
Chinese	4	20	2.2	0.67	7.03
Indian					
Bumiputera Sabah	8	31	1.5	0.82	2.62
Bumiputera Sarawak	1	4	1.6	0.20	11.26
Others	5	25	2.3	0.88	5.73
<b>School level</b>					
Primary school	23	114	3.2	1.94	5.24
Secondary school	10	34	0.7	0.49	1.14
<b>Class</b>					
Standard 4	9	45	3.8	1.66	8.64
Standard 5	10	48	3.8	1.97	7.23
Standard 6	4	21	1.9	0.45	7.32
Form 1	5	16	1.5	0.55	4.03
Form 2					
Form 3	1	3	0.3	0.04	2.44
Form 4	2	7	0.9	0.23	3.18
Form 5	2	9	1.0	0.31	3.43
<b>School session</b>					
Morning session	16	69	1.6	0.72	3.45
Evening session	3	13	3.3	0.54	17.68
Morning and evening session	14	66	1.9	0.91	4.07
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)					
Normal ( $\geq -2sd - \leq +1sd$ )	23	102	2.0	1.01	4.08
Overweight ( $> +1sd - \leq +2sd$ )	4	17	1.2	0.43	3.37
Obese ( $> +2sd$ )	6	30	2.1	0.95	4.61
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	1	5	0.7	0.08	5.43
Normal ( $\geq -2sd$ )	32	143	1.9	1.12	3.34

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 stationery				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1687	6357	68.3	65.05	71.35	83	329	3.5	2.63	4.74
<b>Locality of school</b>										
Urban	1687	6357	68.3	65.05	71.35	83	329	3.5	2.63	4.74
Rural										
<b>Sex</b>										
Boys	796	3172	67.8	64.64	70.79	42	173	3.7	2.60	5.23
Girls	891	3184	68.8	63.22	73.85	41	156	3.4	2.18	5.19
<b>Ethnicity</b>										
Malay	788	3023	70.0	67.40	72.52	40	158	3.7	2.71	4.91
Chinese	166	651	63.3	51.15	73.97	10	37	3.6	1.50	8.23
Indian	7	25	61.6	36.03	82.02	1	5	12.3	1.14	62.83
Bumiputera Sabah	467	1670	69.8	65.48	73.87	17	68	2.8	1.70	4.73
Bumiputera Sarawak	49	178	63.1	45.20	78.04	4	11	4.0	1.46	10.38
Others	210	810	64.8	56.51	72.26	11	51	4.0	2.45	6.62
<b>School level</b>										
Primary school	509	2549	66.1	61.63	70.35	36	181	4.7	3.20	6.82
Secondary school	1178	3808	69.8	65.72	73.60	47	149	2.7	2.01	3.67
<b>Class</b>										
Standard 4	145	756	58.9	52.19	65.27	17	88	6.8	3.94	11.62
Standard 5	191	904	67.2	61.49	72.44	7	33	2.5	1.58	3.79
Standard 6	173	888	72.5	67.70	76.91	12	60	4.9	2.20	10.48
Form 1	317	918	76.3	69.54	82.00	12	36	3.0	1.86	4.89
Form 2	240	816	71.7	65.73	77.01	6	19	1.6	0.91	2.99
Form 3	243	755	65.6	58.94	71.73	12	38	3.3	1.71	6.18
Form 4	215	659	66.7	60.67	72.28	13	41	4.1	2.17	7.61
Form 5	163	660	67.6	59.26	74.95	4	15	1.6	0.40	5.96
<b>School session</b>										
Morning session	854	3312	67.6	63.04	71.90	44	176	3.6	2.56	5.04
Evening session	97	343	72.6	68.88	75.97	4	15	3.3	1.08	9.50
Morning and evening session	736	2701	68.7	63.94	73.12	35	138	3.5	2.26	5.39
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	82	331	75.6	63.74	84.59	2	7	1.6	0.38	6.50
Normal ( $\geq$ -2sd - $\leq$ +1sd)	1071	3983	69.6	66.60	72.41	47	182	3.2	2.24	4.52
Overweight ( $>$ +1sd - $\leq$ +2sd)	279	1040	65.7	59.86	71.11	14	61	3.8	2.18	6.67
Obese ( $>$ +2sd)	254	1000	64.4	58.38	70.05	19	74	4.8	2.74	8.17
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	166	648	71.5	64.45	77.60	7	27	3.0	0.93	8.97
Normal ( $\geq$ -2sd)	1521	5709	67.9	64.17	71.49	76	303	3.6	2.69	4.80



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

Characteristics	Spending of pocket money									
	Saving					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	552	2108	22.6	19.99	25.55	135	515	5.5	4.30	7.08
<b>Locality of school</b>										
Urban	552	2108	22.6	19.99	25.55	135	515	5.5	4.30	7.08
Rural										
<b>Sex</b>										
Boys	259	1051	22.5	20.16	24.96	70	283	6.0	4.47	8.12
Girls	293	1057	22.8	18.49	27.84	65	232	5.0	3.61	6.92
<b>Ethnicity</b>										
Malay	239	919	21.3	18.89	23.88	57	218	5.0	3.85	6.59
Chinese	77	271	26.4	17.61	37.61	17	69	6.7	4.11	10.80
Indian	3	11	26.1	11.28	49.64					
Bumiputera Sabah	141	535	22.4	18.43	26.86	33	118	4.9	2.96	8.17
Bumiputera Sarawak	19	72	25.4	11.63	46.83	6	21	7.5	3.24	16.42
Others	73	301	24.1	18.15	31.24	22	88	7.1	4.34	11.33
<b>School level</b>										
Primary school	185	926	24.0	20.66	27.73	40	199	5.2	3.76	7.06
Secondary school	367	1183	21.7	18.10	25.74	95	316	5.8	4.06	8.19
<b>Class</b>										
Standard 4	74	384	29.9	25.47	34.80	11	56	4.3	2.13	8.66
Standard 5	71	338	25.1	19.96	31.02	15	71	5.3	3.25	8.41
Standard 6	40	204	16.6	14.29	19.31	14	73	5.9	5.20	6.74
Form 1	75	208	17.3	12.57	23.29	14	40	3.4	1.62	6.82
Form 2	73	257	22.6	17.71	28.30	14	46	4.1	2.45	6.70
Form 3	90	280	24.3	20.32	28.84	25	78	6.8	4.81	9.48
Form 4	77	229	23.2	17.54	30.11	19	59	5.9	2.61	12.93
Form 5	52	209	21.4	16.70	26.92	23	92	9.5	5.19	16.66
<b>School session</b>										
Morning session	291	1122	22.9	18.91	27.46	72	288	5.9	4.71	7.30
Evening session	28	107	22.6	20.20	25.28	2	7	1.5	0.85	2.73
Morning and evening session	231	872	22.2	18.43	26.46	61	220	5.6	3.64	8.51
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	23	86	19.6	10.94	32.56	4	14	3.2	1.02	9.46
Normal (≥-2sd - ≤+1sd)	328	1232	21.5	18.94	24.37	85	326	5.7	4.24	7.62
Overweight (>+1sd - ≤+2sd)	103	383	24.2	19.40	29.75	27	99	6.3	4.03	9.58
Obese (>+2sd)	97	402	25.9	20.58	32.07	19	76	4.9	3.52	6.75
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	47	175	19.3	14.45	25.38	14	57	6.2	4.02	9.55
Normal (≥-2sd)	505	1933	23.0	20.19	26.09	121	458	5.5	4.14	7.15

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

Characteristics	Frequency of eating out in a week									
	7 times or more					4 to 6 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	102	432	4.5	3.14	6.49	305	1246	13.0	10.29	16.42
<b>Locality of school</b>										
Urban	102	432	4.5	3.14	6.49	305	1246	13.0	10.29	16.42
Rural										
<b>Sex</b>										
Boys	53	224	4.7	3.08	7.01	160	676	14.1	10.52	18.57
Girls	49	208	4.4	2.86	6.66	145	570	12.0	8.86	16.09
<b>Ethnicity</b>										
Malay	45	192	4.3	2.85	6.58	134	555	12.6	9.79	15.98
Chinese	9	42	4.0	1.62	9.34	40	156	14.5	11.70	17.91
Indian						2	8	15.9	3.19	52.19
Bumiputera Sabah	25	96	4.0	1.92	7.97	67	282	11.6	6.88	19.03
Bumiputera Sarawak						12	46	15.4	8.28	26.74
Others	23	102	7.9	4.77	12.83	50	199	15.5	12.68	18.75
<b>School level</b>										
Primary school	57	285	7.1	5.98	8.35	139	699	17.3	15.07	19.82
Secondary school	45	147	2.7	1.53	4.60	166	547	9.9	7.05	13.80
<b>Class</b>										
Standard 4	24	124	8.9	5.19	14.87	57	297	21.3	16.28	27.27
Standard 5	22	103	7.4	5.03	10.84	40	192	13.8	9.21	20.26
Standard 6	11	58	4.7	2.92	7.34	42	211	16.8	10.61	25.53
Form 1	9	27	2.3	1.17	4.29	37	107	8.8	5.94	12.74
Form 2	10	35	3.0	1.66	5.34	28	99	8.5	5.42	13.22
Form 3	12	37	3.2	1.84	5.48	46	141	12.3	7.93	18.50
Form 4	10	32	3.2	0.86	11.18	29	90	9.0	4.80	16.10
Form 5	4	16	1.6	0.43	5.71	26	110	11.2	5.37	22.04
<b>School session</b>										
Morning session	54	233	4.6	3.13	6.76	176	723	14.3	11.69	17.42
Evening session	6	26	5.1	1.40	17.02	22	85	17.0	12.01	23.62
Morning and evening session	42	173	4.3	2.78	6.73	106	433	10.8	6.98	16.48
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	4	15	3.2	0.79	12.32	19	80	17.7	11.44	26.40
Normal (≥-2sd - ≤+1sd)	60	254	4.3	2.83	6.53	190	776	13.2	9.85	17.52
Overweight (>+1sd - ≤+2sd)	23	102	6.3	3.93	9.88	43	167	10.3	7.11	14.71
Obese (>+2sd)	15	62	3.9	2.28	6.65	52	218	13.7	10.79	17.13
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	14	58	6.3	3.00	12.80	30	127	13.8	8.51	21.68
Normal (≥-2sd)	88	374	4.3	2.95	6.32	275	1119	13.0	10.34	16.14

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

Characteristics	Frequency of eating out in a week									
	1 to 3 times					Never				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1866	7052	73.8	70.36	77.06	238	819	8.6	4.98	14.37
<b>Locality of school</b>										
Urban	1866	7052	73.8	70.36	77.06	238	819	8.6	4.98	14.37
Rural										
<b>Sex</b>										
Boys	864	3468	72.2	67.78	76.18	119	437	9.1	5.25	15.27
Girls	1002	3584	75.5	71.07	79.53	119	382	8.1	4.54	13.90
<b>Ethnicity</b>										
Malay	871	3322	75.1	71.66	78.33	98	351	7.9	4.74	13.01
Chinese	208	792	74.0	71.82	76.10	22	80	7.5	4.19	13.04
Indian	11	43	84.1	47.81	96.81					
Bumiputera Sabah	495	1798	74.2	67.25	80.18	79	246	10.2	4.46	21.51
Bumiputera Sarawak	63	235	79.0	69.06	86.32	6	17	5.7	0.96	27.21
Others	218	861	66.9	61.99	71.53	33	125	9.7	6.74	13.73
<b>School level</b>										
Primary school	571	2862	70.9	67.60	74.07	38	188	4.7	3.30	6.57
Secondary school	1295	4190	76.0	71.09	80.27	200	631	11.4	6.04	20.60
<b>Class</b>										
Standard 4	175	913	65.5	57.61	72.57	12	61	4.4	2.57	7.30
Standard 5	216	1023	73.8	68.92	78.21	14	68	4.9	2.51	9.36
Standard 6	180	926	73.8	66.43	80.07	12	60	4.7	2.54	8.69
Form 1	332	955	78.4	73.36	82.78	45	128	10.5	5.44	19.43
Form 2	265	905	78.1	72.18	83.06	36	120	10.4	5.32	19.18
Form 3	262	824	71.5	62.47	79.08	51	150	13.0	6.20	25.38
Form 4	256	783	77.8	72.35	82.51	35	100	10.0	3.82	23.71
Form 5	180	723	73.8	62.93	82.30	33	132	13.4	6.96	24.34
<b>School session</b>										
Morning session	990	3811	75.4	70.80	79.57	74	284	5.6	4.35	7.23
Evening session	94	339	67.7	58.11	75.98	15	51	10.1	6.52	15.45
Morning and evening session	781	2899	72.7	67.10	77.61	149	484	12.1	5.48	24.77
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	81	321	71.1	63.28	77.84	10	36	7.9	3.81	15.81
Normal (≥-2sd - ≤+1sd)	1171	4345	74.0	70.09	77.56	143	497	8.5	4.86	14.33
Overweight (>+1sd - ≤+2sd)	317	1191	73.5	67.19	79.06	49	160	9.9	4.85	19.03
Obese (>+2sd)	296	1190	74.7	69.84	79.00	35	123	7.7	4.86	12.10
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	165	635	69.0	61.97	75.20	29	100	10.9	5.16	21.55
Normal (≥-2sd)	1701	6417	74.4	70.67	77.75	209	719	8.3	4.84	13.95

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

	7 times or more					4 to 6 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	233	870	9.1	7.40	11.15	649	2450	25.6	23.68	27.69
<b>Locality of school</b>										
Urban	233	870	9.1	7.40	11.15	649	2450	25.6	23.68	27.69
Rural										
<b>Sex</b>										
Boys	104	415	8.7	6.89	10.82	319	1299	27.1	24.65	29.62
Girls	129	454	9.6	6.82	13.23	330	1151	24.2	20.78	27.96
<b>Ethnicity</b>										
Malay	93	359	8.1	6.01	10.88	301	1174	26.5	24.02	29.21
Chinese	24	92	8.5	6.36	11.30	60	228	21.1	17.97	24.69
Indian	1	5	10.1	1.74	41.90	5	20	39.2	11.98	75.33
Bumiputera Sabah	73	252	10.4	6.61	16.03	190	679	28.1	24.06	32.47
Bumiputera Sarawak	6	20	6.7	3.64	11.92	18	66	22.2	16.09	29.90
Others	36	142	11.0	7.04	16.85	75	283	22.0	17.25	27.53
<b>School level</b>										
Primary school	72	360	8.9	7.91	9.99	193	966	23.9	21.94	25.98
Secondary school	161	510	9.3	6.55	12.91	456	1483	26.9	24.24	29.74
<b>Class</b>										
Standard 4	21	112	8.0	5.79	11.03	60	310	22.1	17.75	27.28
Standard 5	36	168	12.0	8.78	16.27	74	351	25.1	21.23	29.34
Standard 6	15	79	6.3	4.01	9.90	59	305	24.6	16.47	34.95
Form 1	38	105	8.6	5.86	12.51	94	272	22.3	19.40	25.52
Form 2	23	78	6.8	4.32	10.57	105	355	31.0	22.67	40.77
Form 3	34	105	9.0	6.39	12.52	95	291	25.0	20.85	29.59
Form 4	38	109	10.9	5.53	20.38	89	272	27.1	24.48	29.98
Form 5	28	113	11.5	6.83	18.75	73	294	29.9	22.84	37.96
<b>School session</b>										
Morning session	115	444	8.8	7.29	10.52	330	1263	25.0	21.82	28.43
Evening session	9	38	7.6	4.50	12.68	37	138	27.9	23.22	33.09
Morning and evening session	109	389	9.7	6.66	13.97	282	1049	26.2	21.72	31.28
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	14	55	12.2	7.54	19.09	32	127	28.1	19.71	38.38
Normal (≥-2sd - ≤+1sd)	156	566	9.6	7.55	12.23	423	1576	26.9	24.02	29.89
Overweight (>+1sd - ≤+2sd)	41	154	9.5	6.42	13.81	109	403	24.7	21.04	28.84
Obese (>+2sd)	22	95	5.9	3.78	9.16	84	339	21.2	18.59	24.10
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	27	102	11.1	7.06	16.93	75	276	30.0	23.58	37.37
Normal (≥-2sd)	206	768	8.9	7.29	10.80	574	2173	25.2	23.17	27.27

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

Characteristics	Frequency of consuming snack foods per week									
	1-3 times					Never				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	1579	6025	63.0	59.45	66.50	53	212	2.2	1.76	2.80
<b>Locality of school</b>										
Urban	1579	6025	63.0	59.45	66.50	53	212	2.2	1.76	2.80
Rural										
<b>Sex</b>										
Boys	742	2959	61.6	58.14	65.04	30	126	2.6	2.02	3.43
Girls	837	3067	64.5	58.48	70.00	23	86	1.8	1.18	2.76
<b>Ethnicity</b>										
Malay	736	2815	63.6	59.90	67.23	19	75	1.7	1.08	2.68
Chinese	191	732	67.8	64.36	71.13	7	27	2.5	1.50	4.17
Indian	6	23	43.9	17.29	74.56	1	3	6.7	0.84	38.22
Bumiputera Sabah	389	1434	59.3	52.69	65.60	13	53	2.2	1.08	4.48
Bumiputera Sarawak	54	197	66.3	57.23	74.29	3	14	4.8	1.04	19.48
Others	203	825	64.0	55.83	71.44	10	39	3.0	1.64	5.47
<b>School level</b>										
Primary school	520	2606	64.5	63.20	65.72	22	111	2.7	2.14	3.49
Secondary school	1059	3419	62.0	55.92	67.72	31	102	1.8	1.33	2.55
<b>Class</b>										
Standard 4	179	931	66.5	61.34	71.38	9	46	3.3	1.72	6.16
Standard 5	177	842	60.1	54.91	65.10	8	39	2.8	1.40	5.48
Standard 6	164	833	67.0	59.20	74.02	5	26	2.1	0.70	5.93
Form 1	279	803	66.0	61.38	70.26	12	38	3.1	1.76	5.41
Form 2	202	691	60.3	49.79	70.00	6	21	1.9	0.76	4.48
Form 3	240	751	64.4	58.94	69.51	6	19	1.6	0.66	4.03
Form 4	198	609	60.7	51.77	69.05	4	12	1.2	0.52	2.78
Form 5	140	566	57.5	46.23	67.99	3	11	1.2	0.29	4.60
<b>School session</b>										
Morning session	826	3246	64.2	60.72	67.52	24	104	2.0	1.34	3.11
Evening session	85	305	61.9	54.52	68.78	4	13	2.6	1.38	4.72
Morning and evening session	666	2467	61.7	53.73	69.02	25	96	2.4	1.80	3.21
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	67	265	58.7	49.05	67.69	1	5	1.0	0.13	7.93
Normal (≥-2sd - ≤+1sd)	952	3598	61.3	56.69	65.72	33	129	2.2	1.62	2.99
Overweight (>+1sd - ≤+2sd)	275	1030	63.3	59.03	67.36	9	40	2.5	1.05	5.74
Obese (>+2sd)	283	1124	70.5	65.84	74.72	10	38	2.4	1.23	4.56
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	131	521	56.6	45.73	66.91	5	21	2.3	0.91	5.60
Normal (≥-2sd)	1448	5504	63.7	60.42	66.92	48	191	2.2	1.71	2.87

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									
	Bread/ bun/ sandwich					French fries				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	909	3441	35.9	33.15	38.83	339	1373	14.3	11.12	18.29
<b>Locality of school</b>										
Urban	909	3441	35.9	33.15	38.83	339	1373	14.3	11.12	18.29
Rural										
<b>Sex</b>										
Boys	445	1770	36.8	33.94	39.68	158	683	14.2	10.61	18.69
Girls	464	1671	35.1	30.83	39.65	181	690	14.5	10.97	18.94
<b>Ethnicity</b>										
Malay	406	1559	35.2	31.85	38.63	153	623	14.0	10.59	18.41
Chinese	109	418	38.8	32.62	45.40	47	192	17.8	12.60	24.64
Indian	6	25	48.9	18.82	79.82	1	3	6.3	0.79	36.17
Bumiputera Sabah	257	926	38.3	33.98	42.72	76	293	12.1	8.33	17.29
Bumiputera Sarawak	27	99	33.5	21.93	47.36	9	31	10.4	4.22	23.62
Others	104	414	32.0	24.47	40.49	53	231	17.8	11.16	27.17
<b>School level</b>										
Primary school	279	1403	34.7	30.29	39.38	155	774	19.1	16.11	22.58
Secondary school	630	2038	36.9	33.47	40.37	184	599	10.8	7.64	15.14
<b>Class</b>										
Standard 4	90	468	33.4	29.56	37.53	61	315	22.5	16.99	29.20
Standard 5	107	512	36.7	28.92	45.26	56	264	18.9	13.39	26.09
Standard 6	82	423	33.9	27.24	41.22	38	194	15.6	11.63	20.52
Form 1	142	398	32.7	28.21	37.49	42	120	9.9	5.83	16.23
Form 2	112	383	33.1	28.29	38.31	47	159	13.7	9.53	19.27
Form 3	146	454	38.9	34.21	43.89	32	98	8.4	5.87	11.99
Form 4	129	388	38.8	33.14	44.72	26	78	7.8	4.95	12.04
Form 5	101	414	42.0	33.38	51.14	37	144	14.6	9.00	22.81
<b>School session</b>										
Morning session	483	1862	36.8	32.58	41.20	196	800	15.8	13.06	18.99
Evening session	47	168	33.5	26.98	40.77	25	93	18.6	16.19	21.17
Morning and evening session	379	1411	35.3	32.65	37.94	117	477	11.9	7.56	18.31
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	44	176	39.5	32.52	46.92	14	61	13.7	7.06	24.98
Normal (≥-2sd - ≤+1sd)	565	2107	35.8	32.88	38.84	204	820	13.9	10.17	18.81
Overweight (>+1sd - ≤+2sd)	152	574	35.3	29.80	41.15	58	231	14.2	9.49	20.70
Obese (>+2sd)	147	581	36.3	29.79	43.28	63	260	16.3	11.74	22.10
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	101	389	41.9	34.70	49.44	32	134	14.4	9.14	21.87
Normal (≥-2sd)	808	3052	35.3	32.08	38.66	307	1239	14.3	11.17	18.22

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

Characteristics	Type of snack foods									
	Biscuit					Fruits				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	595	2125	22.2	16.62	28.97	417	1629	17.0	13.91	20.63
<b>Locality of school</b>										
Urban	595	2125	22.2	16.62	28.97	417	1629	17.0	13.91	20.63
Rural										
<b>Sex</b>										
Boys	261	996	20.7	15.90	26.47	172	705	14.6	12.10	17.62
Girls	334	1128	23.7	16.84	32.28	245	924	19.4	15.39	24.16
<b>Ethnicity</b>										
Malay	248	921	20.8	15.70	26.98	161	646	14.6	11.81	17.85
Chinese	64	219	20.4	11.52	33.41	82	314	29.2	26.35	32.20
Indian	2	5	9.8	0.90	56.56	4	16	30.4	15.00	52.05
Bumiputera Sabah	186	639	26.4	17.23	38.18	94	350	14.5	11.66	17.79
Bumiputera Sarawak	27	96	32.3	20.18	47.32	13	43	14.6	7.10	27.65
Others	68	244	18.8	12.78	26.92	63	260	20.1	15.76	25.18
<b>School level</b>										
Primary school	127	641	15.9	13.71	18.26	163	812	20.1	16.11	24.76
Secondary school	468	1483	26.8	18.74	36.81	254	816	14.8	11.24	19.14
<b>Class</b>										
Standard 4	33	175	12.5	9.18	16.75	44	230	16.4	11.29	23.31
Standard 5	41	193	13.9	10.01	18.87	62	291	20.9	14.10	29.76
Standard 6	53	273	21.8	17.24	27.28	57	291	23.3	16.26	32.22
Form 1	99	280	22.9	14.96	33.51	56	154	12.6	8.84	17.71
Form 2	79	265	22.9	18.29	28.24	54	180	15.5	10.49	22.42
Form 3	105	319	27.3	19.93	36.23	52	158	13.5	10.30	17.58
Form 4	105	307	30.7	19.60	44.51	44	133	13.3	10.08	17.34
Form 5	80	313	31.8	18.88	48.21	48	191	19.4	12.36	29.22
<b>School session</b>										
Morning session	252	931	18.4	15.20	22.08	240	949	18.8	15.71	22.24
Evening session	27	99	19.8	14.29	26.81	19	76	15.1	9.48	23.16
Morning and evening session	316	1094	27.3	17.74	39.60	158	604	15.1	11.21	19.99
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	28	107	23.9	16.02	34.07	19	78	17.4	10.68	27.13
Normal (≥-2sd - ≤+1sd)	380	1347	22.9	16.71	30.50	261	992	16.9	13.93	20.23
Overweight (>+1sd - ≤+2sd)	111	376	23.1	14.87	34.00	72	285	17.5	10.54	27.70
Obese (>+2sd)	75	291	18.2	14.76	22.12	64	268	16.8	12.64	21.90
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	71	261	28.0	18.63	39.88	31	121	13.0	8.47	19.55
Normal (≥-2sd)	524	1864	21.6	16.29	27.97	386	1507	17.4	14.39	20.98

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

Characteristics	Type of snack foods									
	Nuts					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	61	246	2.6	1.94	3.40	549	2040	21.3	18.89	23.94
<b>Locality of school</b>										
Urban	61	246	2.6	1.94	3.40	549	2040	21.3	18.89	23.94
Rural										
<b>Sex</b>										
Boys	34	143	3.0	1.96	4.46	249	981	20.4	17.35	23.80
Girls	27	103	2.2	1.43	3.28	300	1059	22.2	19.52	25.21
<b>Ethnicity</b>										
Malay	28	112	2.5	1.71	3.73	281	1048	23.7	19.75	28.05
Chinese	3	14	1.3	0.53	3.30	35	134	12.4	10.41	14.79
Indian	3	12	23.9	12.53	40.83	3	14	28.1	7.39	65.75
Bumiputera Sabah	18	67	2.8	1.67	4.50	137	491	20.3	17.48	23.39
Bumiputera Sarawak	2	9	2.9	0.74	10.76	20	67	22.7	14.29	34.00
Others	7	32	2.5	1.19	5.04	73	285	22.0	18.18	26.35
<b>School level</b>										
Primary school	21	106	2.6	1.63	4.16	150	747	18.5	17.05	19.96
Secondary school	40	140	2.5	1.80	3.56	399	1293	23.4	20.21	26.89
<b>Class</b>										
Standard 4	7	36	2.5	1.14	5.57	44	231	16.5	10.26	25.56
Standard 5	8	38	2.7	1.57	4.74	60	283	20.3	14.00	28.45
Standard 6	6	32	2.5	0.91	6.89	46	232	18.6	13.86	24.46
Form 1	5	16	1.3	0.63	2.66	95	278	22.8	19.76	26.21
Form 2	10	35	3.0	1.64	5.56	81	267	23.0	17.61	29.50
Form 3	6	18	1.6	0.81	3.00	90	283	24.3	21.15	27.76
Form 4	10	31	3.1	1.94	4.98	79	245	24.4	19.27	30.43
Form 5	9	40	4.0	2.64	6.16	54	220	22.4	16.33	29.87
<b>School session</b>										
Morning session	38	152	3.0	2.00	4.52	294	1131	22.3	20.11	24.74
Evening session	3	11	2.1	1.08	4.14	31	114	22.7	18.10	28.01
Morning and evening session	20	83	2.1	1.44	2.96	224	795	19.9	15.22	25.50
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	19	4.3	1.79	9.85	32	121	27.2	18.55	37.96
Normal ( $\geq -2sd$ - $\leq +1sd$ )	39	159	2.7	1.86	3.89	349	1287	21.9	19.68	24.23
Overweight ( $> +1sd$ - $\leq +2sd$ )	5	20	1.2	0.39	3.86	84	311	19.1	14.40	24.86
Obese ( $> +2sd$ )	11	45	2.8	1.58	5.04	84	321	20.0	15.74	25.12
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	11	46	5.0	2.48	9.67	50	198	21.3	12.99	32.79
Normal ( $\geq -2sd$ )	50	200	2.3	1.69	3.16	499	1842	21.3	18.99	23.83



**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	Ice cream Percentage (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	426	1573	16.4	14.00	19.20
<b>Locality of school</b>					
Urban	426	1573	16.4	14.00	19.20
Rural					
<b>Sex</b>					
Boys	182	708	14.7	11.57	18.51
Girls	244	866	18.2	15.34	21.44
<b>Ethnicity</b>					
Malay	191	709	16.0	12.71	19.92
Chinese	49	180	16.7	13.63	20.39
Indian					
Bumiputera Sabah	123	436	18.0	15.10	21.37
Bumiputera Sarawak	7	28	9.5	5.10	16.90
Others	56	220	17.0	11.10	25.09
<b>School level</b>					
Primary school	119	592	14.6	11.70	18.15
Secondary school	307	982	17.8	14.54	21.49
<b>Class</b>					
Standard 4	35	185	13.2	7.37	22.59
Standard 5	45	212	15.2	9.97	22.55
Standard 6	39	194	15.6	10.76	21.98
Form 1	107	310	25.4	19.37	32.55
Form 2	49	170	14.7	9.65	21.73
Form 3	66	208	17.8	14.30	21.94
Form 4	48	149	14.8	11.41	19.05
Form 5	37	146	14.8	11.75	18.50
<b>School session</b>					
Morning session	221	829	16.4	13.23	20.08
Evening session	22	75	14.9	11.38	19.19
Morning and evening session	181	663	16.6	14.33	19.05
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	15	59	13.3	8.40	20.29
Normal ( $\geq$ -2sd - $\leq$ +1sd)	272	1004	17.0	14.20	20.34
Overweight (>+1sd - $\leq$ +2sd)	79	287	17.7	14.26	21.67
Obese (>+2sd)	60	223	13.9	10.33	18.58
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	30	116	12.5	7.84	19.34
Normal ( $\geq$ -2sd)	396	1457	16.9	14.31	19.76

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

Characteristics	frequency of bought snack food and/or drink out of school area in a week									
	5 times or more					1 to 4 times				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	233	927	9.7	7.00	13.26	1567	5872	61.4	56.28	66.27
<b>Locality of school</b>										
Urban	233	927	9.7	7.00	13.26	1567	5872	61.4	56.28	66.27
Rural										
<b>Sex</b>										
Boys	120	499	10.4	7.57	14.03	722	2880	59.8	55.00	64.42
Girls	113	427	9.0	6.33	12.65	845	2992	63.0	55.84	69.65
<b>Ethnicity</b>										
Malay	89	359	8.1	6.17	10.68	720	2711	61.5	55.30	67.38
Chinese	25	101	9.4	4.69	17.80	175	668	61.9	54.33	68.87
Indian	1	3	6.7	0.84	38.22	6	23	44.5	14.82	78.67
Bumiputera Sabah	69	259	10.6	6.59	16.69	418	1512	62.0	55.15	68.44
Bumiputera Sarawak	5	17	5.7	1.27	22.28	58	212	71.4	62.46	78.97
Others	44	187	14.5	8.18	24.42	190	745	57.8	51.45	63.84
<b>School level</b>										
Primary school	103	511	12.7	9.23	17.20	474	2377	59.1	54.77	63.22
Secondary school	130	416	7.5	4.64	11.92	1093	3495	63.1	54.92	70.57
<b>Class</b>										
Standard 4	35	180	13.0	7.77	20.82	163	844	60.8	54.32	66.92
Standard 5	39	183	13.3	7.81	21.67	173	826	59.8	49.09	69.62
Standard 6	29	147	11.8	7.05	18.94	138	707	56.3	50.83	61.71
Form 1	34	97	8.0	4.97	12.58	267	754	61.9	52.36	70.55
Form 2	23	76	6.6	3.61	11.66	226	762	65.6	59.53	71.20
Form 3	34	107	9.2	5.59	14.74	244	751	64.2	54.28	73.11
Form 4	22	68	6.7	3.08	14.06	204	617	61.4	52.76	69.37
Form 5	17	67	6.8	3.54	12.80	152	610	62.0	48.12	74.15
<b>School session</b>										
Morning session	124	496	9.8	7.11	13.30	838	3205	63.2	58.17	67.99
Evening session	12	51	10.1	2.99	29.17	87	311	62.0	52.02	71.00
Morning and evening session	97	380	9.5	6.07	14.70	640	2348	58.9	52.86	64.73
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	16	63	14.2	8.50	22.82	67	264	59.2	49.20	68.40
Normal (≥-2sd - ≤+1sd)	151	588	10.0	7.11	13.81	988	3652	61.9	56.91	66.71
Overweight (>+1sd - ≤+2sd)	27	107	6.6	4.16	10.34	264	984	60.7	53.36	67.52
Obese (>+2sd)	39	168	10.6	6.33	17.10	247	967	60.8	53.33	67.73
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	30	120	12.9	7.40	21.60	139	534	57.8	49.76	65.43
Normal (≥-2sd)	203	807	9.3	6.87	12.58	1428	5338	61.8	56.77	66.56

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

Characteristics	snack food and/ or drinks usually bought out of school area in a week				
	Count	Estimated Population	Never Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	717	2766	28.9	23.14	35.47
<b>Locality of school</b>					
Urban	717	2766	28.9	23.14	35.47
Rural					
<b>Sex</b>					
Boys	357	1437	29.8	23.77	36.70
Girls	360	1329	28.0	21.29	35.84
<b>Ethnicity</b>					
Malay	337	1337	30.3	23.90	37.66
Chinese	82	311	28.8	24.23	33.79
Indian	6	25	48.8	13.35	85.47
Bumiputera Sabah	183	667	27.4	19.71	36.62
Bumiputera Sarawak	18	68	22.8	14.49	34.09
Others	91	358	27.7	18.45	39.41
<b>School level</b>					
Primary school	226	1137	28.2	24.19	32.69
Secondary school	491	1629	29.4	20.32	40.49
<b>Class</b>					
Standard 4	69	365	26.3	17.21	37.87
Standard 5	79	372	26.9	18.05	38.17
Standard 6	78	400	31.9	24.60	40.21
Form 1	123	368	30.1	19.79	43.03
Form 2	91	323	27.8	21.16	35.67
Form 3	98	311	26.6	16.74	39.43
Form 4	104	321	31.9	23.09	42.19
Form 5	75	307	31.2	16.78	50.42
<b>School session</b>					
Morning session	337	1369	27.0	21.70	33.06
Evening session	38	140	27.9	23.80	32.42
Morning and evening session	342	1256	31.5	23.36	41.02
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	30	119	26.6	16.84	39.42
Normal (≥-2sd - ≤+1sd)	432	1657	28.1	22.17	34.90
Overweight (>+1sd - ≤+2sd)	142	531	32.7	25.29	41.15
Obese (>+2sd)	112	456	28.7	22.90	35.24
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	70	271	29.3	19.70	41.16
Normal (≥-2sd)	647	2495	28.9	23.40	35.06

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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	
<b>WP Labuan</b>	338	1320	13.8	11.22	16.85	381	1482	15.5	11.74	20.17
<b>Locality of school</b>										
Urban	338	1320	13.8	11.22	16.85	381	1482	15.5	11.74	20.17
Rural										
<b>Sex</b>										
Boys	147	605	12.6	9.71	16.12	180	746	15.5	12.16	19.57
Girls	191	715	15.0	12.01	18.67	201	735	15.5	10.57	22.08
<b>Ethnicity</b>										
Malay	171	681	15.4	12.33	19.15	160	624	14.1	11.62	17.12
Chinese	20	79	7.3	5.02	10.48	62	268	24.8	11.20	46.36
Indian						2	6	12.5	2.48	44.49
Bumiputera Sabah	80	291	12.0	9.14	15.54	105	383	15.7	10.66	22.64
Bumiputera Sarawak	10	41	13.7	6.79	25.78	11	34	11.4	4.91	24.16
Others	57	228	17.6	12.40	24.44	41	166	12.9	8.92	18.19
<b>School level</b>										
Primary school	127	627	15.5	11.29	20.95	141	712	17.6	11.73	25.59
Secondary school	211	692	12.5	9.79	15.92	240	769	13.9	9.79	19.45
<b>Class</b>										
Standard 4	41	211	15.2	9.20	24.05	52	273	19.7	14.78	25.72
Standard 5	56	265	19.0	13.12	26.66	47	223	16.0	10.17	24.29
Standard 6	30	152	12.0	9.83	14.64	42	215	17.1	7.21	35.41
Form 1	45	129	10.6	8.23	13.56	56	163	13.4	8.82	19.95
Form 2	38	133	11.5	7.61	16.89	60	199	17.2	10.93	25.90
Form 3	52	170	14.6	9.53	21.82	41	127	10.9	7.54	15.54
Form 4	48	149	14.8	12.13	17.96	42	124	12.3	6.94	20.87
Form 5	28	112	11.4	7.56	16.85	41	157	16.0	9.74	25.10
<b>School session</b>										
Morning session	175	705	13.9	10.88	17.68	206	787	15.5	11.29	21.04
Evening session	17	64	12.8	8.25	19.25	16	67	13.5	8.09	21.65
Morning and evening session	145	548	13.7	10.43	17.79	159	628	15.7	11.11	21.70
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	24	92	20.5	12.57	31.56	16	65	14.5	8.12	24.41
Normal (≥-2sd - ≤+1sd)	222	852	14.5	11.41	18.27	247	935	15.9	12.01	20.78
Overweight (>+1sd - ≤+2sd)	47	184	11.3	8.28	15.33	55	219	13.5	8.90	19.87
Obese (>+2sd)	44	186	11.6	8.56	15.58	63	262	16.4	12.01	21.99
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	46	176	19.0	13.51	25.94	36	139	15.0	8.77	24.36
Normal (≥-2sd)	292	1143	13.2	10.77	16.18	345	1343	15.5	11.86	20.12

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

Characteristics	Type of snack food/ drinks									
	Flavoured drink/carbonated drink					Pickles				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	694	2444	25.6	18.79	33.75	137	542	5.7	3.87	8.24
<b>Locality of school</b>										
Urban	694	2444	25.6	18.79	33.75	137	542	5.7	3.87	8.24
Rural										
<b>Sex</b>										
Boys	313	1193	24.8	19.34	31.18	47	195	4.1	2.87	5.71
Girls	381	1251	26.3	16.74	38.85	90	347	7.3	4.46	11.72
<b>Ethnicity</b>										
Malay	285	1023	23.2	16.80	31.05	67	272	6.2	3.87	9.65
Chinese	78	280	26.0	18.22	35.58	7	31	2.8	1.41	5.60
Indian	2	7	13.0	1.48	59.93	1	4	7.0	0.75	42.86
Bumiputera Sabah	226	767	31.5	23.23	41.18	35	131	5.4	3.21	8.84
Bumiputera Sarawak	28	102	34.2	22.89	47.58	8	25	8.3	3.67	17.75
Others	75	267	20.6	13.16	30.88	19	81	6.3	3.25	11.87
<b>School level</b>										
Primary school	136	684	16.9	10.46	26.17	54	269	6.6	3.67	11.74
Secondary school	558	1760	31.9	23.62	41.48	83	274	5.0	3.14	7.74
<b>Class</b>										
Standard 4	38	197	14.2	8.60	22.44	25	130	9.3	4.53	18.27
Standard 5	53	257	18.4	9.73	32.04	18	84	6.0	2.90	12.01
Standard 6	45	230	18.3	11.95	26.94	11	55	4.4	2.07	9.10
Form 1	134	378	31.2	19.85	45.28	15	45	3.7	1.55	8.79
Form 2	105	348	30.0	21.42	40.34	24	84	7.3	4.44	11.72
Form 3	120	364	31.4	23.07	41.06	19	61	5.3	2.96	9.22
Form 4	116	340	33.8	22.82	46.96	17	51	5.1	2.96	8.70
Form 5	83	331	33.6	23.27	45.70	8	31	3.2	1.74	5.76
<b>School session</b>										
Morning session	355	1264	25.0	16.38	36.16	81	331	6.5	4.33	9.78
Evening session	41	145	29.1	21.55	38.02	10	36	7.3	5.31	9.94
Morning and evening session	297	1031	25.8	20.00	32.51	46	175	4.4	2.80	6.76
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	19	77	17.1	10.37	26.79	9	37	8.3	3.82	16.96
Normal (≥-2sd - ≤+1sd)	445	1551	26.4	19.29	34.98	85	334	5.7	3.79	8.47
Overweight (>+1sd - ≤+2sd)	118	408	25.1	17.89	34.00	24	95	5.8	3.66	9.15
Obese (>+2sd)	112	409	25.5	17.78	35.25	18	71	4.4	2.74	7.07
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	68	253	27.3	17.84	39.29	16	64	6.9	4.07	11.56
Normal (≥-2sd)	626	2191	25.4	18.61	33.57	121	478	5.5	3.72	8.15

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

Characteristics	Type of food/ drink									
	Snack food					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI		Count	Estimated Population	Percentage (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	255	951	9.9	7.71	12.74	213	819	8.6	7.44	9.82
<b>Locality of school</b>										
Urban	255	951	9.9	7.71	12.74	213	819	8.6	7.44	9.82
Rural										
<b>Sex</b>										
Boys	119	478	9.9	6.79	14.34	105	428	8.9	6.85	11.47
Girls	136	473	9.9	6.99	13.97	108	391	8.2	6.62	10.16
<b>Ethnicity</b>										
Malay	97	374	8.5	6.29	11.35	116	445	10.1	8.23	12.28
Chinese	41	153	14.2	9.93	19.89	21	78	7.3	5.14	10.17
Indian	1	5	9.8	0.90	56.35	1	3	5.2	0.46	39.35
Bumiputera Sabah	81	292	12.0	8.64	16.49	52	196	8.1	6.39	10.17
Bumiputera Sarawak	10	37	12.4	5.38	25.96	5	20	6.9	3.48	13.11
Others	25	89	6.9	4.27	11.04	18	76	5.9	3.29	10.28
<b>School level</b>										
Primary school	74	376	9.3	8.03	10.74	68	341	8.4	7.32	9.68
Secondary school	181	575	10.4	6.91	15.42	145	478	8.7	6.97	10.71
<b>Class</b>										
Standard 4	22	115	8.3	4.76	13.99	22	114	8.2	5.44	12.15
Standard 5	23	109	7.8	5.81	10.37	28	133	9.5	7.15	12.62
Standard 6	29	152	12.1	7.72	18.46	18	94	7.4	5.80	9.52
Form 1	32	87	7.2	2.94	16.51	27	75	6.2	4.49	8.56
Form 2	29	92	8.0	4.16	14.73	23	77	6.6	4.72	9.28
Form 3	43	131	11.3	7.49	16.66	35	106	9.2	5.19	15.71
Form 4	40	121	12.1	8.48	16.86	28	85	8.5	5.65	12.46
Form 5	37	144	14.6	9.05	22.68	32	134	13.6	7.66	23.06
<b>School session</b>										
Morning session	131	500	9.9	7.17	13.49	118	477	9.4	7.85	11.27
Evening session	8	28	5.6	4.27	7.22	9	36	7.2	3.35	14.72
Morning and evening session	116	423	10.6	8.17	13.60	86	306	7.7	5.77	10.10
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	8	32	7.1	4.19	11.84	14	52	11.5	4.99	24.29
Normal (≥-2sd - ≤+1sd)	164	585	10.0	7.38	13.31	133	513	8.7	7.21	10.55
Overweight (>+1sd - ≤+2sd)	44	166	10.2	6.49	15.72	34	127	7.8	5.44	11.03
Obese (>+2sd)	39	168	10.5	7.61	14.26	32	127	7.9	6.11	10.24
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	22	89	9.6	6.38	14.23	25	101	10.9	6.44	17.74
Normal (≥-2sd)	233	862	10.0	7.53	13.12	188	718	8.3	7.16	9.62

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	
<b>WP Labuan</b>	354	1302	13.6	9.54	19.05
<b>Locality of school</b>					
Urban	354	1302	13.6	9.54	19.05
Rural					
<b>Sex</b>					
Boys	143	538	11.2	6.93	17.56
Girls	211	763	16.1	11.59	21.82
<b>Ethnicity</b>					
Malay	177	635	14.4	8.85	22.51
Chinese	33	124	11.4	7.30	17.49
Indian	1	3	6.3	0.79	36.17
Bumiputera Sabah	78	280	11.5	8.24	15.87
Bumiputera Sarawak	7	29	9.9	4.56	20.23
Others	58	231	17.9	11.96	25.83
<b>School level</b>					
Primary school	116	571	14.1	10.14	19.32
Secondary school	238	731	13.2	7.39	22.57
<b>Class</b>					
Standard 4	27	141	10.1	5.46	18.01
Standard 5	45	211	15.1	9.79	22.61
Standard 6	44	219	17.4	13.64	21.97
Form 1	82	225	18.5	7.27	39.78
Form 2	40	132	11.4	5.10	23.60
Form 3	51	154	13.3	7.30	22.87
Form 4	38	113	11.2	6.79	17.97
Form 5	27	107	10.9	7.22	16.11
<b>School session</b>					
Morning session	199	747	14.8	10.20	20.88
Evening session	17	61	12.3	8.45	17.47
Morning and evening session	137	491	12.3	8.24	17.91
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	14	54	12.0	7.29	19.17
Normal (≥-2sd - ≤+1sd)	222	815	13.9	9.85	19.18
Overweight (>+1sd - ≤+2sd)	68	236	14.5	8.73	23.15
Obese (>+2sd)	50	197	12.3	8.16	18.17
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	31	117	12.6	6.62	22.70
Normal (≥-2sd)	323	1185	13.7	9.77	18.93

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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	
<b>WP Labuan</b>	1192	4416	46.1	41.38	50.98	949	3653	38.2	34.87	41.59
<b>Locality of school</b>										
Urban	1192	4416	46.1	41.38	50.98	949	3653	38.2	34.87	41.59
Rural										
<b>Sex</b>										
Boys	504	1984	41.1	36.16	46.31	465	1873	38.8	34.82	43.02
Girls	688	2432	51.2	45.40	57.02	484	1780	37.5	33.98	41.14
<b>Ethnicity</b>										
Malay	575	2151	48.7	42.38	54.97	453	1757	39.7	37.38	42.15
Chinese	138	512	47.5	34.93	60.31	89	348	32.2	27.38	37.49
Indian	2	7	13.8	3.29	42.81	8	31	59.9	36.63	79.36
Bumiputera Sabah	289	1024	42.1	36.69	47.77	237	867	35.7	29.43	42.43
Bumiputera Sarawak	35	128	43.0	33.94	52.60	31	117	39.2	31.48	47.58
Others	153	594	46.0	37.49	54.80	131	534	41.4	33.17	50.09
<b>School level</b>										
Primary school	327	1632	40.4	33.06	48.10	334	1674	41.4	37.66	45.22
Secondary school	865	2784	50.4	46.81	53.95	615	1980	35.8	31.70	40.16
<b>Class</b>										
Standard 4	103	540	38.6	29.49	48.52	109	568	40.6	34.41	47.02
Standard 5	134	635	45.5	36.07	55.26	139	659	47.2	43.47	51.04
Standard 6	90	457	36.6	30.60	43.07	86	447	35.8	28.18	44.17
Form 1	195	544	44.9	37.16	52.87	163	477	39.3	33.21	45.79
Form 2	166	555	48.0	40.08	55.95	115	389	33.6	27.53	40.31
Form 3	184	574	49.2	43.85	54.58	139	430	36.9	31.12	43.11
Form 4	185	567	56.4	49.13	63.42	117	358	35.6	27.86	44.24
Form 5	135	544	55.2	48.20	62.08	81	325	33.0	25.74	41.17
<b>School session</b>										
Morning session	639	2405	47.4	40.15	54.70	499	1981	39.0	34.71	43.49
Evening session	53	191	38.3	31.13	46.10	42	158	31.8	25.43	38.88
Morning and evening session	499	1817	45.6	41.54	49.68	407	1511	37.9	32.74	43.35
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	49	186	41.7	29.99	54.40	43	167	37.4	27.50	48.54
Normal ( $\geq$ -2sd - $\leq$ +1sd)	742	2719	46.1	40.88	51.33	602	2297	38.9	34.98	42.96
Overweight ( $>$ +1sd - $\leq$ +2sd)	204	727	44.7	38.02	51.68	156	600	37.0	31.51	42.79
Obese ( $>$ +2sd)	195	776	49.0	41.58	56.54	147	586	37.0	32.92	41.34
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	124	468	50.3	41.20	59.47	92	354	38.1	32.15	44.36
Normal ( $\geq$ -2sd)	1068	3948	45.7	41.08	50.38	857	3299	38.2	34.74	41.75



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

Characteristics	Sources of media									
	Radio					Printed media				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP Labuan</b>	70	301	3.1	1.94	5.05	135	518	5.4	3.81	7.65
<b>Locality of school</b>										
Urban	70	301	3.1	1.94	5.05	135	518	5.4	3.81	7.65
Rural										
<b>Sex</b>										
Boys	41	178	3.7	2.26	5.98	65	264	5.5	3.48	8.48
Girls	29	123	2.6	1.38	4.79	70	255	5.4	3.68	7.75
<b>Ethnicity</b>										
Malay	33	145	3.3	1.66	6.37	67	262	5.9	3.60	9.64
Chinese	6	24	2.3	0.99	5.05	12	44	4.1	2.77	6.01
Indian	1	5	9.8	0.90	56.35					
Bumiputera Sabah	17	66	2.7	1.58	4.67	40	143	5.9	3.85	8.96
Bumiputera Sarawak						2	10	3.4	0.76	14.16
Others	13	60	4.7	2.19	9.60	14	58	4.5	2.35	8.45
<b>School level</b>										
Primary school	44	221	5.5	3.83	7.78	50	254	6.3	4.80	8.16
Secondary school	26	79	1.4	0.96	2.13	85	265	4.8	2.58	8.73
<b>Class</b>										
Standard 4	24	124	8.9	6.39	12.16	18	94	6.7	4.35	10.25
Standard 5	12	57	4.1	2.36	6.92	17	80	5.7	3.82	8.57
Standard 6	8	41	3.3	1.50	6.93	15	79	6.4	3.32	11.83
Form 1	10	32	2.6	1.28	5.34	21	57	4.7	3.32	6.53
Form 2	2	6	0.5	0.13	2.05	14	47	4.0	1.33	11.51
Form 3	9	25	2.1	0.81	5.58	17	51	4.4	2.30	8.13
Form 4	4	13	1.3	0.43	3.78	14	40	4.0	1.57	9.65
Form 5	1	3	0.3	0.04	2.75	19	71	7.2	3.07	15.86
<b>School session</b>										
Morning session	44	189	3.7	2.39	5.75	73	299	5.9	4.08	8.45
Evening session	4	17	3.3	1.14	9.29	3	9	1.9	0.95	3.68
Morning and evening session	22	95	2.4	1.24	4.56	59	210	5.3	2.66	10.12
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	28	6.3	2.17	16.76	7	28	6.2	2.51	14.43
Normal (≥-2sd - ≤+1sd)	45	185	3.1	1.94	5.02	82	309	5.2	3.51	7.72
Overweight (>+1sd - ≤+2sd)	5	26	1.6	0.60	4.33	24	94	5.8	3.21	10.33
Obese (>+2sd)	13	56	3.5	1.70	7.20	22	88	5.5	2.96	10.12
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	8	36	3.8	1.39	10.12	20	77	8.3	4.42	14.99
Normal (≥-2sd)	62	265	3.1	1.92	4.87	115	441	5.1	3.63	7.14

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

Characteristics	Sources of media				
	Count	Estimated Population	Prevalence (%)	Not affected	
				Lower	Upper
<b>WP Labuan</b>	595	2206	23.1	19.96	26.46
<b>Locality of school</b>					
Urban	595	2206	23.1	19.96	26.46
Rural					
<b>Sex</b>					
Boys	290	1149	23.8	19.88	28.27
Girls	305	1057	22.3	19.09	25.79
<b>Ethnicity</b>					
Malay	227	865	19.6	17.47	21.83
Chinese	83	310	28.8	22.02	36.58
Indian	3	12	23.6	12.26	40.69
Bumiputera Sabah	195	707	29.1	23.08	35.93
Bumiputera Sarawak	27	92	31.0	21.92	41.73
Others	60	220	17.0	12.81	22.33
<b>School level</b>					
Primary school	152	759	18.8	16.39	21.38
Secondary school	443	1447	26.2	22.67	30.05
<b>Class</b>					
Standard 4	39	202	14.4	10.62	19.29
Standard 5	48	229	16.4	12.78	20.78
Standard 6	65	328	26.3	20.44	33.05
Form 1	105	305	25.1	19.37	31.95
Form 2	96	334	28.8	22.43	36.25
Form 3	96	298	25.6	22.57	28.91
Form 4	79	233	23.1	14.88	34.15
Form 5	67	277	28.2	20.63	37.16
<b>School session</b>					
Morning session	279	1074	21.1	18.31	24.29
Evening session	45	160	32.1	22.06	44.17
Morning and evening session	270	968	24.3	19.57	29.68
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	25	100	22.4	14.97	32.05
Normal (≥-2sd - ≤+1sd)	375	1364	23.1	19.08	27.68
Overweight (>+1sd - ≤+2sd)	110	411	25.3	20.75	30.50
Obese (>+2sd)	85	331	20.9	16.61	26.03
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	43	165	17.8	13.89	22.53
Normal (≥-2sd)	552	2040	23.6	20.39	27.17

### 3.5 Physical activity among adolescents (Primary 4 To Secondary 5) In WP Labuan

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#### 3.5.1 Introduction

Physical activity is defined as any bodily movement produced by the 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 levels.
- To evaluate the top five most 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 WP Labuan was 2.46 (95% CI: 2.33, 2.59) (**Table 3.5.1**). Overall, a total of 54.8 % (95% CI: 46.13, 63.20) adolescents were physically active and 45.2% (95% CI: 36.80, 53.87) of them were not active. The prevalence of physically active was significantly higher among boys [(61.7% (95% CI: 52.51, 70.18)] compared to girls, 47.7% (95% CI: 38.76, 56.82). By school level, primary students [(64.9% (95% CI: 58.13, 71.06))] showed higher prevalence of physically active than secondary students [(47.9% (95% CI: 37.32, 58.77))]. In term of BMI-for-age status, there is no significant different of physically active among thinness [45.5% (95% CI: 29.39, 62.67)], normal [54.5% (95% CI: 45.58, 63.05)], overweight [49.86% (95% CI: 49.86, 68.61)] and obese [53.9% (95% CI: 43.40, 63.98)] (**Table 3.5.2**).

The most popular spare-time physical activity according to percentage of adolescents in WP Labuan were jogging/ running [84.2% (95% CI: 80.35, 87.40)] (**Table 3.5.3**). The prevalence of students who reported they did not attend/very rarely participated in PE class were 17.1% (95% CI: 13.35, 21.63)] (**Table 3.5.4**). During school days, 33.1% (95% CI: 27.50, 39.12) of adolescent watched television, used computer and played video games more than 2 hours per day (**Table 3.5.6**). Meanwhile, 45.6% (95% CI: 40.01, 51.30) of the adolescents engaged on these activities more than 2 hours during weekend and (**Table 3.5.5**).

### 3.5.5 Discussion

The prevalence of physically active among adolescents in WP Labuan (54.8%) was higher than the national prevalence (44.6%) and second highest than other state. There was no significant difference in terms of gender, school locality, school level and BMI-for-age status of the respondents. The prevalence of adolescents that engaged on screen activities more than 2 hours during was higher during weekends than school days.

### 3.5.6 Conclusion

Based on National Health and Morbidity Survey (2017), 45.2% of children and adolescents in WP Labuan 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 good role models; be active, limit the amount of sedentary and screen time behaviours, and monitor physical activity sedentary behaviours as well as screen time of their children. Interviewing technique for physical activity assessment should be applied in future study. Adolescents should be encouraged to get physically active in their daily life. Formulating specific program and intensifying health campaign are essential to promote physical activity among children and adolescents. Developing surveillance systems for physical activity enables compliance based on the standard recommendations. Parents should instill active lifestyle, limit the amount of sedentary and screen time behaviors as for their children. Improving technique for physical activity assessment is necessary.

### References

1. Kowalski KC, Crocker PR, Donen RM. The physical activity questionnaire for older children (PAQ-C) and adolescents (PAQ-A) manual. College of Kinesiology, University of Saskatchewan. 2004;87.
2. Dan S, Nasir MM, Zalilah M. Sex and ethnic differentials in physical activity levels of adolescents in Kuantan. *Malays J Nutr.* 2007;13(2):109-20.
3. NCCFN (2013) Malaysian Dietary Guidelines for Children and Adolescents.
4. Malaysian School-Based Nutrition Survey (2012)
5. Wong JE, Parikh P, Poh BK, Deurenberg P; SEANUTS Malaysia Study Group. Physical Activity of Malaysian Primary School Children: Comparison by Sociodemographic Variables and Activity Domains. *Asia Pac J Public Health.* 2016 Jul;28(5 Suppl):35S-46S.
6. World Health Organization (2010). Global Strategy on Diet, Physical Activity and Health

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

Characteristic	Mean total scores in PAQ-C		
	Mean	95% CI	
		Lower	Upper
<b>WP LABUAN</b>	2.46	2.33	2.59
<b>Locality of school</b>			
Urban	2.46	2.33	2.59
Rural	-	-	-
<b>Sex</b>			
Boys	2.57	2.43	2.70
Girls	2.36	2.22	2.49
<b>Class</b>			
Standard 4	2.64	2.56	2.73
Standard 5	2.65	2.57	2.73
Standard 6	2.52	2.38	2.66
Form 1	2.42	2.29	2.56
Form 2	2.32	2.15	2.48
Form 3	2.36	2.20	2.53
Form 4	2.39	2.13	2.65
Form 5	2.32	2.07	2.56
<b>Ethnicity</b>			
Malay	2.44	2.31	2.57
Chinese	2.31	2.12	2.49
Indian	2.49	2.12	2.85
Bumiputera Sabah	2.56	2.38	2.73
Bumiputera Sarawak	2.57	2.38	2.76
Others	2.45	2.26	2.64
<b>School Category</b>			
Primary	2.61	2.53	2.69
Secondary	2.36	2.19	2.54
<b>BMI-for-age status (BAZ)</b>			
Thinness (<-2sd)	2.25	2.04	2.46
Normal ( $\geq$ -2sd - $\leq$ +1sd)	2.47	2.33	2.60
Overweight (>+1sd - $\leq$ +2sd)	2.53	2.39	2.66
Obese (>+2sd)	2.43	2.27	2.59
<b>Height-for-age status (HAZ)</b>			
Stunting (<-2sd)	2.43	2.28	2.59
Normal ( $\geq$ -2sd)	2.47	2.33	2.60

**Note:**

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

(Kowalski et. al., 2004)

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

Characteristic	Physical activity level									
	Active					Not active				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
			Lower	Upper				Lower	Upper	
<b>WP LABUAN</b>	1259	4877	54.8	46.13	63.20	1099	4022	45.2	36.80	53.87
<b>Locality of School</b>										
Urban	1259	4877	54.8	46.13	63.20	1099	4022	45.2	36.80	53.87
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	688	2779	61.7	52.51	70.18	438	1722	38.3	29.82	47.49
Girls	571	2099	47.7	38.76	56.82	661	2299	52.3	43.18	61.24
<b>Class</b>										
Standard 4	152	791	67.3	59.57	74.18	74	384	32.7	25.82	40.43
Standard 5	185	879	69.5	61.82	76.27	81	385	30.5	23.73	38.18
Standard 6	129	670	57.4	46.56	67.54	99	498	42.6	32.46	53.44
Form 1	210	611	53.0	43.53	62.26	192	542	47.0	37.74	56.47
Form 2	139	480	43.5	33.21	54.44	184	622	56.5	45.56	66.79
Form 3	185	566	50.6	40.73	60.50	175	552	49.4	39.50	59.27
Form 4	158	475	48.6	34.27	63.21	162	501	51.4	36.79	65.73
Form 5	101	406	43.0	28.96	58.34	132	537	57.0	41.66	71.04
<b>Ethnicity</b>										
Malay	551	2173	53.1	43.61	62.43	521	1917	46.9	37.57	56.39
Chinese	112	445	45.5	35.38	56.01	146	533	54.5	43.99	64.62
Indian	7	30	58.8	36.44	78.03	6	21	41.2	21.97	63.56
Bumiputera Sabah	381	1397	60.8	49.39	71.21	254	899	39.2	28.79	50.61
Bumiputera Sarawak	45	163	57.4	44.70	69.13	33	121	42.6	30.87	55.30
Others	163	668	55.8	44.17	66.78	139	530	44.2	33.22	55.83
<b>School Category</b>										
Primary	466	2340	64.9	58.13	71.06	254	1267	35.1	28.94	41.87
Secondary	793	2538	47.9	37.32	58.77	845	2755	52.1	41.23	62.68
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	46	193	45.5	29.39	62.67	61	231	54.5	37.33	70.61
Normal (≥-2sd - ≤+1sd)	794	2997	54.5	45.58	63.05	684	2507	45.5	36.95	54.42
Overweight (>+1sd - ≤+2sd)	231	894	59.6	49.86	68.61	171	606	40.4	31.39	50.14
Obese (>+2sd)	186	785	53.9	43.40	63.98	182	672	46.1	36.02	56.60
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	122	475	54.0	42.80	64.74	106	406	46.0	35.26	57.20
Normal (≥-2sd)	1137	4402	54.9	46.33	63.19	993	3616	45.1	36.81	53.67

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	2110	83.4	79.65	86.58
Jogging/Running	2110	84.2	80.35	87.40
Tagging	1669	68.0	57.36	77.01
Badminton	1656	67.5	59.66	74.49
Cycling	1275	53.7	43.59	63.55

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

Characteristic	I do not attend the PE class / Very Rare					Occasionally/ Quite Often				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	415	1636	17.1	13.35	21.63	1420	5286	55.2	50.78	59.58
<b>Locality of school</b>										
Urban	415	1636	17.1	13.35	21.63	1420	5286	55.2	50.78	59.58
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	217	906	18.8	14.86	23.41	610	2411	49.9	44.56	55.27
Girls	198	730	15.4	11.38	20.49	810	2875	60.6	56.03	65.04
<b>Class</b>										
Standard 4	58	298	21.6	17.61	26.11	123	645	46.6	39.23	54.16
Standard 5	37	176	12.6	10.03	15.64	157	746	53.3	47.58	58.88
Standard 6	46	233	18.5	6.33	43.39	126	640	51.0	38.76	63.17
Form 1	67	207	17.0	9.36	28.89	243	681	55.9	48.39	63.21
Form 2	54	197	17.0	10.46	26.46	223	754	65.1	59.67	70.17
Form 3	56	179	15.3	10.56	21.73	212	662	56.6	52.16	60.93
Form 4	47	148	14.7	8.53	24.23	192	584	58.1	50.78	65.11
Form 5	50	198	20.1	13.01	29.82	144	574	58.3	48.24	67.76
<b>Ethnicity</b>										
Malay	189	768	17.4	13.20	22.57	648	2433	55.1	48.72	61.28
Chinese	58	229	21.3	15.27	28.87	166	612	57.0	48.97	64.63
Indian	1	4	7.0	0.75	42.86	7	26	51.2	29.11	72.75
Bumiputera Sabah	101	378	15.5	10.79	21.75	366	1323	54.3	50.36	58.12
Bumiputera Sarawak	13	47	15.9	7.12	31.71	45	162	54.7	43.50	65.39
Others	53	211	16.3	9.15	27.28	188	730	56.3	46.01	66.12
<b>School level</b>										
Primary	141	707	17.5	50.29	32.20	406	2031	11.7	43.09	28.35
Secondary	274	929	16.8	58.81	24.39	1014	3255	12.2	55.21	19.73
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	27	112	24.9	16.43	35.91	65	246	54.6	42.37	66.36
Normal (≥-2sd - ≤+1sd)	251	974	16.5	12.82	21.03	868	3217	54.6	50.71	58.42
Overweight (>+1sd - ≤+2sd)	55	207	12.7	8.53	18.58	265	970	59.6	52.31	66.51
Obese (>+2sd)	81	338	21.3	16.27	27.38	221	849	53.5	44.93	61.85
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	45	175	18.9	12.36	27.74	121	459	49.4	43.49	55.29
Normal (≥-2sd)	370	1461	16.9	13.04	21.63	1299	4827	55.8	51.41	60.20



**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
<b>WP LABUAN</b>	683	2650	27.7	23.76	31.98
<b>Locality of school</b>					
Urban	683	2650	27.7	23.76	31.98
Rural	-	-	-	-	-
<b>Sex</b>					
Boys	375	1513	31.3	27.32	35.62
Girls	308	1137	24.0	19.24	29.47
<b>Class</b>					
Standard 4	85	440	31.8	22.82	42.42
Standard 5	101	478	34.2	29.48	39.17
Standard 6	73	382	30.4	24.00	37.73
Form 1	113	329	27.1	18.53	37.72
Form 2	62	207	17.9	12.63	24.72
Form 3	108	328	28.1	20.47	37.18
Form 4	91	273	27.2	20.28	35.34
Form 5	50	212	21.5	13.78	32.06
<b>Ethnicity</b>					
Malay	310	1216	27.5	23.53	31.91
Chinese	57	234	21.7	15.81	29.12
Indian	5	21	41.8	18.20	69.92
Bumiputera Sabah	203	737	30.2	25.46	35.49
Bumiputera Sarawak	23	88	29.5	20.13	40.90
Others	85	355	27.4	18.62	38.38
<b>School level</b>					
Primary	259	1300	25.3	17.49	36.31
Secondary	424	1350	22.6	16.32	29.75
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	22	92	20.4	11.40	33.92
Normal (≥-2sd - ≤+1sd)	451	1703	28.9	24.73	33.43
Overweight (>+1sd - ≤+2sd)	114	450	27.7	23.09	32.74
Obese (>+2sd)	95	400	25.2	19.11	32.46
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	74	295	31.7	23.06	41.92
Normal (≥-2sd)	609	2355	27.2	23.63	31.19

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

Characteristic	Less than 2 hour					More than 2 hours				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	1341	5184	54.4	48.70	59.99	1165	4345	45.6	40.01	51.30
<b>Locality of school</b>										
Urban	1341	5184	54.4	48.70	59.99	1165	4345	45.6	40.01	51.30
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	640	2578	53.8	49.28	58.28	551	2212	46.2	41.72	50.72
Girls	701	2607	55.0	46.24	63.47	614	2133	45.0	36.53	53.76
<b>Class</b>										
Standard 4	171	892	64.4	61.26	67.50	95	492	35.6	32.50	38.74
Standard 5	178	843	60.6	57.32	63.83	115	548	39.4	36.17	42.68
Standard 6	139	710	57.1	52.55	61.49	104	534	42.9	38.51	47.45
Form 1	248	711	58.4	46.89	69.09	175	506	41.6	30.91	53.11
Form 2	171	590	51.6	40.55	62.56	163	552	48.4	37.44	59.45
Form 3	186	588	50.5	41.60	59.37	188	576	49.5	40.63	58.40
Form 4	150	458	45.7	37.71	53.88	179	545	54.3	46.12	62.29
Form 5	98	393	39.9	26.56	54.91	146	592	60.1	45.09	73.44
<b>Ethnicity</b>										
Malay	642	2505	56.9	51.65	61.96	502	1899	43.1	38.04	48.35
Chinese	115	457	42.8	32.39	53.98	163	610	57.2	46.02	67.61
Indian	8	36	70.1	32.78	91.87	5	15	29.9	8.13	67.22
Bumiputera Sabah	347	1273	52.5	44.34	60.47	320	1153	47.5	39.53	55.66
Bumiputera Sarawak	47	170	57.4	43.01	70.55	34	127	42.6	29.45	56.99
Others	182	743	57.9	51.31	64.18	141	541	42.1	35.82	48.69
<b>School level</b>										
Primary	488	2445	60.8	58.08	63.53	314	1574	39.2	36.47	41.92
Secondary	853	2739	49.7	42.01	57.42	851	2771	50.3	42.58	57.99
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	56	226	50.6	38.89	62.26	57	221	49.4	37.74	61.11
Normal (≥-2sd - ≤+1sd)	856	3247	55.4	49.32	61.32	705	2614	44.6	38.68	50.68
Overweight (>+1sd - ≤+2sd)	231	891	54.9	46.45	63.11	202	732	45.1	36.89	53.55
Obese (>+2sd)	195	807	50.9	45.57	56.24	201	778	49.1	43.76	54.43
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	117	460	49.7	41.51	58.00	122	465	50.3	42.00	58.49
Normal (≥-2sd)	1224	4724	54.9	49.08	60.60	1043	3880	45.1	39.40	50.92

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

Characteristic	Less than 2 hour					More than 2 hours				
	Unweighted count	Estimated population	Prevalence (%)	95% CI		Unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	1676	6365	66.9	60.88	72.50	825	3143	33.1	27.50	39.12
<b>Locality of school</b>										
Urban	1676	6365	66.9	60.88	72.50	825	3143	33.1	27.50	39.12
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	765	3050	63.7	58.05	69.06	425	1735	36.3	30.94	41.95
Girls	911	3315	70.2	61.69	77.51	400	1407	29.8	22.49	38.31
<b>Class</b>										
Standard 4	175	910	65.8	58.00	72.79	91	474	34.2	27.21	42.00
Standard 5	205	974	70.5	60.48	78.83	86	408	29.5	21.17	39.52
Standard 6	171	875	70.6	65.74	74.99	71	365	29.4	25.01	34.26
Form 1	310	888	73.7	64.27	81.40	109	317	26.3	18.60	35.73
Form 2	212	728	63.6	52.53	73.41	123	417	36.4	26.59	47.47
Form 3	246	766	65.8	55.05	75.21	128	397	34.2	24.79	44.95
Form 4	206	623	61.9	49.12	73.30	124	383	38.1	26.70	50.88
Form 5	151	601	61.1	41.82	77.39	93	383	38.9	22.61	58.18
<b>Ethnicity</b>										
Malay	763	2948	67.1	61.07	72.56	379	1447	32.9	27.44	38.93
Chinese	153	593	55.8	50.38	61.01	124	470	44.2	38.99	49.62
Indian	10	41	79.5	40.27	95.70	3	11	20.5	4.30	59.73
Bumiputera Sabah	456	1633	67.4	57.38	76.09	210	789	32.6	23.91	42.62
Bumiputera Sarawak	62	227	76.2	62.02	86.32	19	71	23.8	13.68	37.98
Others	232	924	72.2	64.86	78.56	90	355	27.8	21.44	35.14
<b>School level</b>										
Primary	551	2758	68.9	64.34	73.09	248	1246	31.1	26.91	35.66
Secondary	1125	3607	65.5	55.63	74.25	577	1897	34.5	25.75	44.37
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	64	252	56.5	46.70	65.88	49	194	43.5	34.12	53.30
Normal (≥-2sd - ≤+1sd)	1067	3993	68.2	61.77	74.04	492	1860	31.8	25.96	38.23
Overweight (>+1sd - ≤+2sd)	289	1082	66.9	59.09	73.80	143	536	33.1	26.20	40.91
Obese (>+2sd)	253	1025	65.0	58.43	71.02	141	552	35.0	28.98	41.57
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	156	598	64.8	55.81	72.89	82	324	35.2	27.11	44.19
Normal (≥-2sd)	1520	5767	67.2	61.03	72.78	743	2818	32.8	27.22	38.97

### **3.6. Supplements intake among adolescents (Primary 4 to Secondary 5) in WP Labuan**

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#### **3.6.1 Introduction**

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

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

#### **3.6.2 Objectives**

##### **General objective**

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

##### **Specific objective**

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

### 3.6.3 Findings

The prevalence of vitamin/minerals and food supplements intake among adolescence in Wilayah Persekutuan Labuan was 54.5% (95% CI: 47.15, 61.69) (**Table 3.6.1**) and 35.5% (95% CI: 29.58, 41.89) (**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 19.4% (95% CI 16.08, 23.17) and 12.1% (95% CI 9.38, 15.40) of adolescents (**Table 3.6.4, Table 3.6.8**). The most commonly consumed vitamin/minerals and food supplements were Vitamin C 43.6% (95% CI: 37.54, 49.950) (**Table 3.6.2**) and Bee Product 14.6% (95% CI: 10.54, 19.88) (**Table 3.6.6**). The main reason for taking vitamin / minerals and food supplements was due to parent's advised 41.7% (95% CI: 37.00, 46.50) (**Table 3.6.3**) and 28.2% (95% CI: 25.10, 31.60) (**Table 3.6.7**).

### 3.6.4 Discussions

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

### 3.6.5 Conclusions

Overall findings from this survey showed that almost four of five out of ten WP Labuan adolescents consumed vitamin / mineral. Every four of five out of ten parents influenced their children's intake of vitamin/ mineral and food supplements. Vitamin C and Bee product remained the main type of vitamin and food supplement consumed by WP Labuan 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.

**References**

1. DV Porter. Special report: Dietary Supplements : recent chronology and legislations. *Nutr Rev.* 1995;53: 31–36.
2. Sien YP, Sahril N, Mutalip MHA, Zaki NAM, Ghaffar SA. Determinants of Dietary Supplements Use among Adolescents in Malaysia. *Asia Pacific J Public Heal.* SAGE PublicationsSage CA: Los Angeles, CA; 2014;26: 36S–43S. doi:10.1177/1010539514543681
3. Picciano MF, Dwyer JT, Radimer KL, Wilson DH, Fisher KD, Thomas PR, et al. Dietary Supplement Use Among Infants, Children, and Adolescents in the United States, 1999-2002. *Arch Pediatr Adolesc Med.* US Government Printing Office, Washington, DC; 2007;161: 978. doi:10.1001/archpedi.161.10.978
4. Yoon JY, Park HA, Kang JH, Kim KW, Hur YI, Park JJ, et al. Prevalence of Dietary Supplement Use in Korean Children and Adolescents: Insights from Korea National Health and Nutrition Examination Survey 2007-2009. *J Korean Med Sci.* 2012;27: 512. doi:10.3346/jkms.2012.27.5.512
5. Sichert-Hellert W, Kersting M. Vitamin and mineral supplements use in German children and adolescents between 1986 and 2003: results of the DONALD Study. *Ann Nutr Metab.* Karger Publishers; 2004;48: 414–9. doi:10.1159/000083574

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

Characteristic	Taking vitamin / mineral supplement					Not taking vitamin / mineral supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	1315	5215	54.5	47.15	61.69	1200	4351	45.5	38.31	52.85
<b>Locality of School</b>										
Urban	1315	5215	54.5	47.15	61.69	1200	4351	45.5	38.31	52.85
Rural										
<b>Sex</b>										
Boys	647	2657	55.2	48.78	61.52	549	2154	44.8	38.48	51.22
Girls	668	2558	53.8	43.79	63.48	651	2198	46.2	36.52	56.21
<b>Class</b>										
Standard 4	182	953	68.3	59.23	76.23	86	441	31.7	23.77	40.77
Standard 5	205	973	69.7	65.35	73.71	89	423	30.3	26.29	34.65
Standard 6	155	791	62.8	56.93	68.32	91	469	37.2	31.68	43.07
Remove class	0	0	0.0	0.00	0.00	0	0	0.0	0.00	0.00
Form 1	226	648	53.1	47.88	58.30	198	571	46.9	41.70	52.12
Form 2	143	497	43.6	31.90	56.00	191	644	56.4	44.00	68.10
Form 3	182	566	48.5	40.28	56.72	194	602	51.5	43.28	59.72
Form 4	123	383	38.2	29.52	47.79	206	619	61.8	52.21	70.48
Form 5	99	404	41.0	33.44	49.02	145	581	59.0	50.98	66.56
<b>Ethnicity</b>										
Malay	607	2455	55.4	46.02	64.34	544	1980	44.6	35.66	53.98
Chinese	142	550	51.4	45.20	57.63	137	519	48.6	42.37	54.80
Indian	4	16	30.2	8.59	66.64	9	36	69.8	33.36	91.41
Bumiputera Sabah	331	1265	52.1	42.71	61.41	336	1162	47.9	38.59	57.29
Bumiputera Sarawak	35	134	45.1	28.77	62.55	46	163	54.9	37.45	71.23
Others	196	795	61.8	55.11	68.04	128	492	38.2	31.96	44.89
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	70	276	61.1	51.25	70.14	44	175	38.9	29.86	48.75
Normal (≥-2sd - ≤+1sd)	836	3242	55.2	47.40	62.75	728	2631	44.8	37.25	52.60
Overweight (>+1sd - ≤+2sd)	213	846	52.0	43.90	59.94	221	782	48.0	40.06	56.10
Obese (>+2sd)	195	846	52.9	41.29	64.15	205	755	47.1	35.85	58.71
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	125	513	55.1	42.32	67.33	115	417	44.9	32.67	57.68
Normal (≥-2sd)	1190	4703	54.4	47.30	61.41	1085	3934	45.6	38.59	52.70

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

Characteristic	Multivitamin					Vitamin C				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	177	722	7.6	5.96	9.54	1056	4173	43.6	37.54	49.95
<b>Locality of School</b>										
Urban	177	722	7.6	5.96	9.54	1056	4173	43.6	37.54	49.95
Rural										
<b>Sex</b>										
Boys	116	495	10.3	7.86	13.41	489	1995	41.5	36.64	46.55
Girls	61	227	4.8	3.74	6.06	567	2178	45.8	37.05	54.80
<b>Class</b>										
Standard 4	36	184	13.2	11.08	15.69	149	783	56.1	51.63	60.53
Standard 5	28	132	9.5	6.05	14.54	160	759	54.4	44.92	63.55
Standard 6	18	94	7.5	4.35	12.48	117	596	47.5	38.70	56.50
Remove class			0.0	0.00	0.00			0.0	0.00	0.00
Form 1	36	107	8.8	6.28	12.12	185	531	43.6	37.28	50.07
Form 2	12	47	4.1	1.92	8.50	122	420	36.7	29.44	44.72
Form 3	14	41	3.5	1.72	7.03	153	485	41.5	32.29	51.41
Form 4	17	53	5.3	2.58	10.49	103	321	32.0	23.41	42.01
Form 5	16	65	6.6	3.58	11.75	67	278	28.2	19.66	38.69
<b>Ethnicity</b>										
Malay	74	310	7.0	5.08	9.52	498	1994	45.0	38.46	51.62
Chinese	17	74	6.9	4.14	11.42	119	461	43.3	35.53	51.41
Indian	1	5	10.5	1.79	43.06	5	18	35.7	18.05	58.43
Bumiputera Sabah	49	185	7.6	5.34	10.76	260	997	41.2	32.10	50.87
Bumiputera Sarawak	6	23	7.8	4.02	14.61	29	119	40.4	24.72	58.30
Others	30	126	9.7	6.19	14.97	145	584	45.1	40.33	50.00
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	12	49	10.8	7.04	16.17	58	234	51.8	40.28	63.17
Normal (≥ - 2sd - ≤+ 1sd )	110	436	7.4	5.54	9.89	669	2574	43.8	38.10	49.71
Overweight (> +1sd - ≤+ 2sd)	24	101	6.2	4.02	9.48	176	702	43.2	35.11	51.58
Obese (> + 2sd)	31	136	8.5	5.31	13.44	152	658	41.2	31.83	51.30
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	20	81	8.7	6.01	12.37	91	367	39.5	27.87	52.50
Normal (≥-2sd )	157	642	7.4	5.84	9.42	965	3805	44.1	38.15	50.20



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

Characteristic	Iron					Others				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	125	546	5.7	3.94	8.20	160	628	6.6	5.35	8.03
<b>Locality of School</b>										
Urban	125	546	5.7	3.94	8.20	160	628	6.6	5.35	8.03
Rural										
<b>Sex</b>										
Boys	76	344	7.1	4.60	10.95	96	386	8.0	6.16	10.43
Girls	49	202	4.2	2.94	6.11	64	242	5.1	3.67	6.99
<b>Class</b>										
Standard 4	31	159	11.4	6.41	19.40	20	104	7.5	4.01	13.45
Standard 5	28	134	9.6	6.53	13.82	21	100	7.1	4.23	11.80
Standard 6	18	96	7.6	5.07	11.32	17	86	6.8	4.33	10.66
Remove class			0.0	0.00	0.00			0.0	0.00	0.00
Form 1	12	36	2.9	1.21	6.92	22	65	5.3	2.59	10.68
Form 2	11	42	3.7	2.02	6.52	25	90	7.9	5.00	12.35
Form 3	11	34	2.9	2.06	4.02	24	71	6.1	3.68	9.91
Form 4	9	27	2.7	1.59	4.67	15	46	4.6	2.71	7.82
Form 5	5	19	1.9	0.82	4.50	16	65	6.6	4.06	10.59
<b>Ethnicity</b>										
Malay	55	237	5.3	3.69	7.67	71	292	6.6	4.82	8.96
Chinese	11	53	5.0	1.97	12.09	17	59	5.6	2.60	11.58
Indian										
Bumiputera Sabah	30	128	5.3	2.65	10.27	40	151	6.2	4.28	8.99
Bumiputera Sarawak	4	15	5.0	1.76	13.59	2	7	2.4	0.53	9.96
Others	25	113	8.7	4.99	14.77	30	118	9.1	6.06	13.53
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	7	32	7.0	3.22	14.64	4	14	3.1	1.18	7.92
Normal ( $\geq -2sd - \leq +1sd$ )	79	334	5.7	3.85	8.34	96	372	6.3	5.44	7.36
Overweight ( $> +1sd - \leq +2sd$ )	18	81	4.9	2.53	9.46	28	111	6.8	4.45	10.35
Obese ( $> +2sd$ )	20	94	5.9	3.28	10.27	32	130	8.2	5.26	12.49
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	13	62	6.6	3.27	13.03	14	53	5.7	3.61	8.99
Normal ( $\geq -2sd$ )	112	484	5.6	3.92	7.95	146	575	6.7	5.34	8.27

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

Characteristic	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	286	1185	22.8	18.49	27.70	556	2170	41.7	37.03	46.53
<b>Locality of School</b>										
Urban	286	1185	22.8	18.49	27.70	556	2170	41.7	37.03	46.53
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	156	662	24.9	18.83	32.14	238	993	37.4	30.84	44.37
Girls	130	523	20.5	17.16	24.40	318	1177	46.2	40.40	52.17
<b>Class</b>										
Standard 4	70	363	38.3	28.34	49.45	69	362	38.2	28.25	49.24
Standard 5	40	190	19.5	11.10	31.99	91	432	44.4	35.28	53.96
Standard 6	33	169	21.4	13.85	31.52	60	307	38.8	32.61	45.44
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	41	119	18.4	11.79	27.47	101	284	44.0	33.09	55.51
Form 2	26	95	19.0	13.96	25.38	70	232	46.6	38.25	55.13
Form 3	40	125	22.2	17.33	27.94	75	231	41.1	33.67	48.88
Form 4	23	71	18.5	12.30	26.88	45	139	36.2	27.79	45.49
Form 5	13	54	13.3	6.05	26.66	45	183	45.4	37.56	53.52
<b>Ethnicity</b>										
Malay	147	620	25.3	20.16	31.33	230	915	37.4	32.46	42.63
Chinese	25	103	18.7	11.20	29.52	77	293	53.4	46.85	59.74
Indian	-	-	-	-	-	2	8	49.2	26.05	72.65
Bumiputera Sabah	53	201	16.0	11.25	22.14	161	623	49.4	42.15	56.60
Bumiputera Sarawak	5	19	13.9	5.71	30.08	19	73	54.3	41.19	66.78
Others	56	242	30.4	24.65	36.86	67	258	32.4	25.80	39.84
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	20	80	29.0	18.38	42.52	26	108	39.1	25.63	54.54
Normal (≥ - 2sd - ≤+ 1sd )	173	717	22.1	16.88	28.47	365	1388	42.8	37.87	47.95
Overweight (> +1sd - ≤+ 2sd)	36	141	16.7	12.93	21.28	105	414	49.1	42.58	55.66
Obese (> + 2sd)	56	242	28.8	23.24	35.11	60	260	31.0	22.29	41.24
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	32	134	26.4	14.54	42.99	49	196	38.6	27.24	51.29
Normal (≥-2sd )	254	1051	22.4	18.56	26.73	507	1975	42.0	37.81	46.39

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

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	318	1244	23.9	20.96	27.12	27	113	2.2	1.21	3.87
<b>Locality of School</b>										
Urban	318	1244	23.9	20.96	27.12	27	113	2.2	1.21	3.87
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	167	655	24.6	20.64	29.12	17	68	2.6	1.24	5.16
Girls	151	590	23.1	18.98	27.92	10	45	1.8	0.52	5.90
<b>Class</b>										
Standard 4	29	154	16.2	11.82	21.87	6	32	3.4	1.21	9.16
Standard 5	44	208	21.4	14.89	29.67	4	19	1.9	0.53	6.68
Standard 6	45	229	28.9	25.60	32.48	3	16	2.0	0.46	8.52
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	52	152	23.6	18.88	29.12	4	13	2.0	0.89	4.39
Form 2	34	122	24.4	18.76	31.15	4	15	3.1	1.09	8.29
Form 3	48	151	26.7	20.25	34.41	2	6	1.0	0.27	3.84
Form 4	42	133	34.6	22.97	48.41	4	13	3.3	1.14	9.01
Form 5	24	97	23.9	14.63	36.62	-	-	-	-	-
<b>Ethnicity</b>										
Malay	151	603	24.7	20.57	29.27	14	61	2.5	1.17	5.29
Chinese	24	90	16.3	11.29	23.05	4	19	3.4	1.07	10.12
Indian	1	3	17.3	1.10	79.68	-	-	-	-	-
Bumiputera Sabah	85	321	25.4	21.31	30.08	6	21	1.7	0.79	3.61
Bumiputera Sarawak	7	25	18.6	9.96	32.06	3	12	1.5	0.40	5.51
Others	50	202	25.4	20.96	30.42	-	-	-	-	-
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	17	63	22.8	14.09	34.66	1	3	1.2	0.13	11.07
Normal (≥ - 2sd - ≤+ 1sd )	205	775	23.9	20.93	27.18	17	69	2.1	1.06	4.20
Overweight (> +1sd - ≤+ 2sd)	46	189	22.4	17.03	28.98	5	22	2.6	0.88	7.44
Obese (> + 2sd)	50	217	25.9	19.75	33.08	4	19	2.3	0.77	6.58
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	31	127	25.0	17.55	34.24	1	5	1.0	0.13	8.07
Normal (≥-2sd )	287	1118	23.8	20.81	27.05	26	108	2.3	1.29	4.05

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	92	352	6.8	4.94	9.21
<b>Locality of School</b>					
Urban	92	352	6.8	4.94	9.21
Rural	-	-	-	-	-
<b>Sex</b>					
Boys	50	199	7.5	5.49	10.10
Girls	42	154	6.0	3.91	9.18
<b>Class</b>					
Standard 4	6	31	3.3	1.26	8.42
Standard 5	14	67	6.9	4.39	10.56
Standard 6	8	40	5.1	2.35	10.53
Remove class	-	-	-	-	-
Form 1	24	70	10.8	7.20	15.91
Form 2	9	34	6.9	3.88	11.96
Form 3	13	42	7.4	3.40	15.26
Form 4	7	22	5.8	2.62	12.18
Form 5	11	47	11.5	6.79	18.89
<b>Ethnicity</b>					
Malay	45	166	6.8	4.20	10.83
Chinese	8	28	5.1	1.70	14.53
Indian	1	5	33.6	12.00	65.19
Bumiputera Sabah	21	79	6.3	3.74	10.31
Bumiputera Sarawak	3	15	10.8	3.13	31.31
Others	14	59	7.4	4.52	11.79
<b>BMI-for age status (BAZ)</b>					
Thinness (<-2sd )	5	19	6.7	2.65	16.11
Normal ( $\geq -2sd - \leq +1sd$ )	56	212	6.6	4.77	8.94
Overweight ( $> +1sd - \leq +2sd$ )	12	43	5.1	2.14	11.50
Obese ( $> +2sd$ )	19	79	9.3	4.95	16.94
<b>Height-for - age status (HAZ)</b>					
Stunting (<-2sd )	6	23	4.5	2.22	8.79
Normal ( $\geq -2sd$ )	86	330	7.0	5.09	9.59

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

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	461	1851	19.4	16.08	23.17	213	893	9.3	7.19	12.07
<b>Locality of School</b>										
Urban	461	1851	19.4	16.08	23.17	213	893	9.3	7.19	12.07
Rural										
<b>Sex</b>										
Boys	196	813	16.9	14.01	20.33	129	544	11.3	8.65	14.73
Girls	265	1038	21.9	17.17	27.38	84	348	7.3	5.18	10.28
<b>Class</b>										
Standard 4	73	382	27.4	21.10	34.69	44	231	16.6	10.25	25.75
Standard 5	79	375	26.9	21.34	33.19	42	198	14.2	11.91	16.83
Standard 6	54	274	21.9	17.99	26.39	18	95	7.6	4.37	12.87
Remove class										
Form 1	76	218	17.9	13.75	22.92	30	94	7.7	5.16	11.28
Form 2	45	159	13.9	7.87	23.34	22	81	7.1	4.80	10.35
Form 3	58	178	15.3	13.21	17.62	20	63	5.4	3.74	7.68
Form 4	42	130	13.0	8.73	18.83	22	69	6.9	4.15	11.14
Form 5	34	137	13.9	9.92	19.05	15	62	6.3	3.23	12.06
<b>Ethnicity</b>										
Malay	213	873	19.7	15.52	24.78	110	476	10.8	7.26	15.68
Chinese	48	184	17.3	14.77	20.10	21	86	8.1	4.55	14.02
Indian	2	7	14.5	4.21	39.55					
Bumiputera Sabah	115	440	18.2	14.13	23.02	54	218	9.0	6.38	12.58
Bumiputera Sarawak	16	64	21.6	11.20	37.67	3	13	4.3	1.56	11.48
Others	67	283	21.8	17.53	26.89	25	99	7.7	4.87	11.84
<b>BMI-for age status (BAZ)</b>										
Thinness (< -2sd)	22	87	19.3	11.88	29.90	12	46	10.1	5.52	17.91
Normal ( $\geq -2sd - \leq +1sd$ )	286	1105	18.8	15.74	22.39	137	566	9.6	7.05	13.06
Overweight ( $> +1sd - \leq +2sd$ )	81	336	20.7	15.00	27.92	24	102	6.3	3.89	10.07
Obese ( $> +2sd$ )	71	318	19.9	13.02	29.12	40	179	11.2	8.16	15.13
<b>Height-for - age status (HAZ)</b>										
Stunting (< -2sd)	57	232	25.0	19.30	31.64	18	80	8.6	5.68	12.84
Normal ( $\geq -2sd$ )	404	1619	18.8	15.50	22.57	195	812	9.4	7.32	12.06

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

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	293	1191	12.5	10.02	15.43	459	1768	18.5	16.17	21.11
<b>Locality of School</b>										
Urban	293	1191	12.5	10.02	15.43	459	1768	18.5	16.17	21.11
Rural										
<b>Sex</b>										
Boys	172	736	15.3	11.91	19.52	234	940	19.6	16.75	22.80
Girls	121	456	9.6	7.71	11.88	225	827	17.4	14.38	20.92
<b>Class</b>										
Standard 4	46	241	17.3	12.07	24.20	57	292	20.9	13.78	30.45
Standard 5	48	230	16.5	14.62	18.46	50	236	16.9	13.86	20.50
Standard 6	41	211	16.9	11.93	23.46	50	256	20.5	15.86	26.13
Remove class										
Form 1	47	129	10.6	6.50	16.69	90	261	21.4	15.47	28.78
Form 2	29	103	9.0	6.40	12.48	62	214	18.8	13.71	25.15
Form 3	41	132	11.3	7.16	17.38	69	216	18.5	14.11	23.93
Form 4	19	58	5.8	4.13	8.17	49	154	15.4	10.53	21.99
Form 5	22	88	8.9	6.39	12.30	32	139	14.1	9.53	20.30
<b>Ethnicity</b>										
Malay	133	544	12.3	9.59	15.63	204	784	17.7	15.30	20.45
Chinese	34	139	13.1	9.64	17.46	55	215	20.2	16.24	24.80
Indian	1	5	10.5	1.79	43.06	3	11	21.2	5.14	57.35
Bumiputera Sabah	77	297	12.3	8.58	17.24	107	409	16.9	13.04	21.54
Bumiputera Sarawak	4	14	4.6	1.66	12.26	17	68	23.2	13.45	37.02
Others	44	192	14.8	10.77	20.12	73	281	21.7	18.67	25.08
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	15	60	13.2	6.97	23.68	29	122	27.1	19.54	36.27
Normal (≥ - 2sd - ≤+ 1sd )	182	725	12.4	9.99	15.19	297	1114	19.0	16.63	21.61
Overweight (> +1sd - ≤+ 2sd)	51	210	12.9	8.49	19.25	71	270	16.7	13.04	21.03
Obese (> + 2sd)	44	192	12.0	8.15	17.26	62	261	16.3	10.21	25.08
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	26	108	11.6	6.91	18.85	30	119	12.8	8.68	18.36
Normal (≥-2sd )	267	1083	12.6	10.25	15.33	429	1649	19.1	16.71	21.81

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

Characteristic	Taking food supplement					Not taking food supplement				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	839	3381	35.5	29.58	41.89	1665	6145	64.5	58.11	70.42
<b>Locality of School</b>										
Urban	839	3381	35.5	29.58	41.89	1665	6145	64.5	58.11	70.42
Rural										
<b>Sex</b>										
Boys	432	1787	37.4	31.62	43.53	757	2993	62.6	56.47	68.38
Girls	407	1594	33.6	26.28	41.78	908	3151	66.4	58.22	73.72
<b>Class</b>										
Standard 4	122	635	45.7	39.03	52.57	145	754	54.3	47.43	60.97
Standard 5	145	686	49.7	42.38	56.96	146	695	50.3	43.04	57.62
Standard 6	105	535	42.5	38.73	46.29	141	725	57.5	53.71	61.27
Remove class										
Form 1	117	331	27.3	19.50	36.73	305	883	72.7	63.27	80.50
Form 2	90	316	27.8	20.76	36.10	243	822	72.2	63.90	79.24
Form 3	115	359	30.9	23.76	39.09	259	803	69.1	60.91	76.24
Form 4	81	253	25.3	18.72	33.25	247	747	74.7	66.75	81.28
Form 5	64	265	27.1	22.68	31.92	179	716	72.9	68.08	77.32
<b>Ethnicity</b>										
Malay	381	1572	35.6	28.89	42.90	765	2845	64.4	57.10	71.11
Chinese	92	361	33.8	26.95	41.41	186	706	66.2	58.59	73.05
Indian	5	22	43.4	18.54	72.04	8	29	56.6	27.96	81.46
Bumiputera Sabah	208	809	33.7	26.95	41.22	453	1591	66.3	58.78	73.05
Bumiputera Sarawak	23	80	26.9	15.30	42.85	58	217	73.1	57.15	84.70
Others	130	537	41.5	35.11	48.25	195	756	58.5	51.75	64.89
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	42	179	39.8	26.87	54.25	72	272	60.2	45.75	73.13
Normal (≥ - 2sd - ≤+ 1sd )	547	2158	36.9	31.00	43.15	1011	3695	63.1	56.85	69.00
Overweight (> +1sd - ≤+ 2sd)	126	508	31.3	24.98	38.40	307	1116	68.7	61.60	75.02
Obese (> + 2sd)	123	530	33.5	26.31	41.45	273	1054	66.5	58.55	73.69
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	89	365	39.2	29.81	49.55	151	565	60.8	50.45	70.19
Normal (≥-2sd )	750	3016	35.1	29.44	41.19	1514	5580	64.9	58.81	70.56

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

Characteristic	Spirulina					Fish oil				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	218	887	9.3	7.27	11.92	202	813	8.6	7.29	10.02
<b>Locality of School</b>										
Urban	218	887	9.3	7.27	11.92	202	813	8.6	7.29	10.02
Rural										
<b>Sex</b>										
Boys	126	534	11.2	8.62	14.33	114	493	10.3	7.96	13.25
Girls	92	353	7.5	5.34	10.40	88	320	6.8	5.26	8.69
<b>Class</b>										
Standard 4	48	244	17.6	12.41	24.33	26	134	9.7	6.96	13.27
Standard 5	33	156	11.2	9.24	13.44	30	144	10.3	7.93	13.24
Standard 6	17	86	6.9	4.43	10.63	26	134	10.8	8.30	14.03
Remove class										
Form 1	37	111	9.1	5.09	15.87	40	118	9.7	7.08	13.21
Form 2	25	91	8.0	4.26	14.58	20	74	6.5	4.34	9.59
Form 3	22	71	6.0	3.37	10.61	30	94	8.0	4.79	13.17
Form 4	22	69	7.0	4.43	10.85	13	41	4.2	2.70	6.39
Form 5	14	61	6.2	3.05	12.00	17	75	7.6	3.84	14.52
<b>Ethnicity</b>										
Malay	88	374	8.5	6.05	11.80	88	370	8.4	6.72	10.42
Chinese	21	89	8.3	5.00	13.53	29	109	10.2	6.90	14.91
Indian	2	9	19.2	5.98	47.07	1	4	7.8	0.89	44.47
Bumiputera Sabah	64	248	10.3	7.37	14.32	52	204	8.5	6.13	11.64
Bumiputera Sarawak	7	22	7.4	2.42	20.45	8	30	10.2	4.04	23.44
Others	36	146	11.3	7.90	15.83	24	97	7.5	4.75	11.70
<b>BMI-for age status (BAZ)</b>										
Thinness (< -2sd)	9	40	8.8	4.80	15.64	7	30	6.8	3.65	12.20
Normal ( $\geq -2sd - \leq +1sd$ )	132	536	9.2	6.81	12.24	137	543	9.3	7.75	11.11
Overweight ( $> +1sd - \leq +2sd$ )	42	170	10.6	7.93	14.04	26	96	6.0	4.30	8.20
Obese ( $> +2sd$ )	34	136	8.6	5.56	12.99	31	138	8.7	5.64	13.21
<b>Height-for - age status (HAZ)</b>										
Stunting (< -2sd)	18	77	8.4	4.55	15.01	14	54	5.9	3.18	10.81
Normal ( $\geq -2sd$ )	200	810	9.4	7.42	11.92	188	759	8.8	7.52	10.35



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

Characteristic	Bee Product					Chicken essence				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	330	1388	14.6	10.54	19.88	137	548	5.8	4.16	7.93
<b>Locality of School</b>										
Urban	330	1388	14.6	10.54	19.88	137	548	5.8	4.16	7.93
Rural										
<b>Sex</b>										
Boys	157	663	13.8	10.59	17.90	82	345	7.2	5.11	10.12
Girls	173	725	15.4	9.92	23.03	55	203	4.3	2.92	6.28
<b>Class</b>										
Standard 4	66	346	24.9	20.74	29.65	22	113	8.2	6.19	10.68
Standard 5	68	322	23.0	15.99	32.01	16	77	5.5	3.14	9.42
Standard 6	47	240	19.3	14.10	25.93	18	94	7.6	4.08	13.68
Remove class										
Form 1	37	108	8.9	5.99	13.08	16	46	3.8	2.07	6.91
Form 2	30	97	8.5	5.55	12.79	23	83	7.3	4.22	12.25
Form 3	39	124	10.6	7.11	15.60	19	58	5.0	2.34	10.28
Form 4	23	71	7.2	4.46	11.37	15	47	4.8	2.37	9.61
Form 5	20	81	8.3	5.68	11.87	8	30	3.0	1.46	6.19
<b>Ethnicity</b>										
Malay	180	766	17.4	12.22	24.11	62	240	5.4	3.88	7.58
Chinese	22	94	8.8	5.48	13.87	27	117	11.0	6.02	19.25
Indian	1	5	10.9	1.03	58.65	1	3	7.5	1.01	39.19
Bumiputera Sabah	76	302	12.6	8.84	17.62	25	98	4.1	2.48	6.67
Bumiputera Sarawak	6	27	9.2	3.91	19.98	1	3	1.1	0.14	8.53
Others	45	194	15.0	9.93	22.04	21	86	6.7	4.54	9.67
<b>BMI-for age status (BAZ)</b>										
Thinness (< -2sd)	20	84	18.7	9.97	32.36	12	49	10.9	5.75	19.70
Normal (≥ -2sd - ≤+ 1sd)	182	736	12.6	9.13	17.11	88	335	5.7	4.21	7.78
Overweight (> +1sd - ≤+ 2sd)	70	306	19.0	12.44	27.97	11	45	2.8	1.36	5.73
Obese (> + 2sd)	58	262	16.5	11.61	22.88	26	118	7.4	3.58	14.83
<b>Height-for - age status (HAZ)</b>										
Stunting (< -2sd)	31	135	14.7	8.85	23.40	13	52	5.7	3.39	9.31
Normal (≥ -2sd)	299	1253	14.6	10.61	19.73	124	496	5.8	4.08	8.12

**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
<b>WP Labuan</b>	317	1267	13.3	10.88	16.22
<b>Locality of School</b>					
Urban	317	1267	13.3	10.88	16.22
Rural					
<b>Sex</b>					
Boys	179	715	14.9	12.43	17.87
Girls	138	551	11.7	8.42	15.98
<b>Class</b>					
Standard 4	46	239	17.2	11.22	25.55
Standard 5	56	265	19.0	13.30	26.33
Standard 6	36	184	14.8	11.98	18.22
Remove class					
Form 1	48	137	11.3	6.27	19.58
Form 2	35	124	10.9	5.88	19.20
Form 3	46	142	12.2	8.25	17.55
Form 4	31	97	9.9	6.35	15.11
Form 5	19	79	8.0	5.55	11.49
<b>Ethnicity</b>					
Malay	138	535	12.1	10.14	14.47
Chinese	34	138	12.9	7.63	21.09
Indian	2	8	17.2	3.71	52.92
Bumiputera Sabah	64	257	10.7	7.27	15.53
Bumiputera Sarawak	13	54	18.4	8.12	36.66
Others	66	275	21.2	16.18	27.35
<b>BMI-for age status (BAZ)</b>					
Thinness (< -2sd)	13	54	12.0	5.99	22.62
Normal ( $\geq -2sd - \leq +1sd$ )	217	860	14.7	12.07	17.82
Overweight ( $> +1sd - \leq +2sd$ )	35	140	8.7	5.45	13.63
Obese ( $> +2sd$ )	52	212	13.4	9.63	18.24
<b>Height-for - age status (HAZ)</b>					
Stunting (< -2sd)	33	132	14.4	10.45	19.61
Normal ( $\geq -2sd$ )	284	1134	13.2	10.61	16.33

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

Characteristic	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	184	812	15.6	11.27	21.27	367	1465	28.2	25.08	31.56
<b>Locality of School</b>										
Urban	184	812	15.6	11.27	21.27	367	1465	28.2	25.08	31.56
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	104	444	16.8	12.33	22.53	173	724	27.4	22.12	33.40
Girls	80	367	14.4	8.57	23.16	194	741	29.0	26.05	32.24
<b>Class</b>										
Standard 4	59	307	32.4	24.82	41.11	52	275	29.0	20.28	39.72
Standard 5	35	166	17.0	11.11	25.27	72	339	34.9	29.66	40.51
Standard 6	24	119	15.3	8.75	25.36	39	200	25.6	21.07	30.80
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	17	52	8.0	4.53	13.64	64	177	27.3	19.84	36.28
Form 2	11	43	8.7	3.80	18.66	37	123	24.9	18.83	32.18
Form 3	21	64	11.4	8.48	15.05	42	127	22.4	15.54	31.10
Form 4	12	38	10.1	6.46	15.43	29	89	23.3	14.02	36.18
Form 5	5	22	5.4	1.06	23.42	32	135	33.4	24.37	43.86
<b>Ethnicity</b>										
Malay	93	417	17.0	11.76	24.06	163	660	27.0	23.35	30.90
Chinese	15	71	13.0	5.26	28.53	48	188	34.6	29.88	39.64
Indian	-	-	-	-	-	1	5	34.8	12.32	66.94
Bumiputera Sabah	32	127	10.1	7.31	13.90	99	401	31.9	26.27	38.09
Bumiputera Sarawak	2	6	4.6	0.98	18.86	13	48	36.1	22.03	52.98
Others	42	191	24.0	15.82	34.56	43	162	20.4	13.51	29.63
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	17	69	24.9	16.76	35.23	14	64	23.3	13.67	36.77
Normal ( $\geq -2sd$ - $\leq +1sd$ )	115	513	15.8	10.65	22.93	239	923	28.5	24.38	33.01
Overweight ( $> +1sd$ - $\leq +2sd$ )	20	88	10.5	6.30	16.91	65	262	31.1	25.90	36.74
Obese ( $> +2sd$ )	32	142	17.1	11.69	24.19	49	216	26.0	19.93	33.07
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	23	100	19.6	11.46	31.39	30	115	22.4	17.50	28.31
Normal ( $\geq -2sd$ )	161	711	15.2	10.97	20.68	337	1350	28.8	25.52	32.40

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

Characteristic	Self awareness					Influences by friends				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	232	955	18.4	15.67	21.47	37	158	3.0	1.72	5.31
<b>Locality of School</b>										
Urban	232	955	3700.0	3700.00	3700.00	37	158	3.0	1.72	5.31
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	125	522	19.8	15.52	24.81	27	109	4.1	2.23	7.50
Girls	107	434	17.0	13.02	21.87	10	49	1.9	0.94	3.90
<b>Class</b>										
Standard 4	30	157	16.6	12.76	21.19	10	51	5.3	1.64	16.05
Standard 5	40	191	19.6	16.00	23.83	7	33	3.4	1.23	8.99
Standard 6	40	207	26.5	17.01	38.87	4	21	2.6	0.90	7.52
Remove class	-	-	-	-	-	-	-	-	-	-
Form 1	28	83	12.8	9.35	17.20	3	10	1.6	0.57	4.25
Form 2	22	76	15.3	10.57	21.63	3	12	2.4	0.70	7.71
Form 3	37	118	20.9	13.33	31.27	6	19	3.4	1.64	6.74
Form 4	22	69	18.1	9.19	32.59	4	13	3.4	0.67	15.05
Form 5	13	55	13.6	7.13	24.46	-	-	-	-	-
<b>Ethnicity</b>										
Malay	109	465	19.0	15.71	22.83	17	77	3.1	1.34	7.15
Chinese	19	78	14.4	10.15	19.96	4	19	3.5	1.46	7.94
Indian	1	3	17.3	1.10	79.68	-	-	-	-	-
Bumiputera Sabah	58	226	18.0	14.22	22.55	8	31	2.5	1.20	4.92
Bumiputera Sarawak	7	27	20.4	7.26	45.73			0.0	0.00	0.00
Others	38	155	19.5	14.44	25.90	8	32	4.0	1.91	8.05
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd )	11	45	16.5	7.74	31.65	3	13	4.7	1.64	12.67
Normal (≥ - 2sd - ≤+ 1sd )	145	573	17.7	14.99	20.73	24	102	3.1	1.71	5.71
Overweight (> +1sd - ≤+ 2sd)	38	167	19.9	15.04	25.74	3	12	1.4	0.27	7.41
Obese (> + 2sd)	38	170	20.5	14.69	27.80	7	31	3.7	1.86	7.31
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd )	30	131	25.5	17.49	35.67	2	10	2.0	0.51	7.85
Normal (≥-2sd )	202	824	17.6	14.92	20.68	35	147	3.1	1.75	5.61

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

Characteristic	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP Labuan</b>	80	315	6.1	4.61	7.93
<b>Locality of School</b>					
Urban	80	315	6.1	4.61	7.93
Rural	-	-	-	-	-
<b>Sex</b>					
Boys	46	190	7.2	4.66	10.89
Girls	34	125	4.9	3.56	6.71
<b>Class</b>					
Standard 4	6	30	3.2	0.86	10.99
Standard 5	11	52	5.4	3.85	7.48
Standard 6	10	50	6.4	4.03	9.95
Remove class	-	-	-	-	-
Form 1	13	38	5.8	3.21	10.40
Form 2	17	65	13.2	7.62	21.97
Form 3	9	28	5.0	3.01	8.20
Form 4	5	16	4.3	1.94	9.31
Form 5	9	34	8.5	3.85	17.86
<b>Ethnicity</b>					
Malay	42	163	6.7	4.35	10.08
Chinese	5	18	3.2	1.92	5.44
Indian	1	5	33.6	12.00	65.19
Bumiputera Sabah	15	57	4.5	2.69	7.55
Bumiputera Sarawak	2	8	5.6	1.63	17.72
Others	15	64	8.1	4.08	15.33
<b>BMI-for age status (BAZ)</b>					
Thinness (<-2sd )	6	22	8.1	3.30	18.72
Normal (≥ - 2sd - ≤+ 1sd )	51	198	6.1	4.46	8.36
Overweight (> +1sd - ≤+ 2sd)	9	37	4.4	2.23	8.46
Obese (> + 2sd)	14	57	6.8	3.65	12.44
<b>Height-for - age status (HAZ)</b>					
Stunting (<-2sd )	7	28	5.5	2.33	12.37
Normal (≥-2sd )	73	286	6.1	4.56	8.17

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

Characteristic	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	281	1148	12.1	9.38	15.40	197	836	8.8	6.21	12.30
<b>Locality of School</b>										
Urban	281	1148	12.1	9.38	15.40	197	836	8.8	6.21	12.30
Rural										
<b>Sex</b>										
Boys	136	558	11.7	9.29	14.56	127	537	11.2	8.29	15.02
Girls	145	589	12.5	8.96	17.09	70	299	6.3	3.93	10.02
<b>Class</b>										
Standard 4	52	272	19.4	16.94	22.21	45	235	16.8	10.81	25.10
Standard 5	47	222	16.0	12.99	19.52	37	175	12.6	8.44	18.29
Standard 6	36	180	14.6	10.44	19.99	22	117	9.5	5.39	16.04
Remove class										
Form 1	49	144	11.9	7.82	17.60	21	65	5.4	3.76	7.70
Form 2	24	84	7.5	4.82	11.36	22	79	7.0	5.23	9.27
Form 3	31	92	7.9	4.14	14.48	24	76	6.5	4.12	10.05
Form 4	21	65	6.6	3.39	12.37	17	53	5.3	3.18	8.77
Form 5	21	88	9.0	5.68	13.87	9	37	3.7	1.40	9.63
<b>Ethnicity</b>										
Malay	115	472	10.7	8.26	13.71	98	434	9.8	6.46	14.71
Chinese	35	141	13.3	10.44	16.71	19	75	7.1	4.34	11.41
Indian			0.0	0.00	0.00	1	4	7.0	0.75	42.86
Bumiputera Sabah	77	311	12.9	8.42	19.34	45	175	7.3	5.08	10.30
Bumiputera Sarawak	6	19	6.3	1.86	19.38	4	19	6.6	1.39	26.26
Others	48	206	16.0	12.49	20.23	30	129	10.0	6.85	14.32
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	17	64	14.3	9.78	20.55	4	20	4.4	1.73	10.79
Normal (≥ -2sd - ≤+ 1sd)	157	631	10.8	8.13	14.18	134	548	9.4	6.93	12.55
Overweight (> +1sd - ≤+ 2sd)	53	221	13.6	9.95	18.36	28	127	7.9	4.55	13.22
Obese (> + 2sd)	54	232	14.7	11.11	19.10	30	136	8.6	4.02	17.35
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	32	132	14.4	8.98	22.17	24	106	11.5	6.38	19.99
Normal (≥-2sd)	249	1016	11.8	9.07	15.26	173	730	8.5	6.10	11.71

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

Characteristic	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP Labuan</b>	239	958	10.1	8.69	11.65	408	1656	17.4	13.59	22.04
<b>Locality of School</b>										
Urban	239	958	10.1	8.69	11.65	408	1656	17.4	13.59	22.04
Rural										
<b>Sex</b>										
Boys	142	595	12.4	10.21	15.08	208	871	18.2	14.12	23.14
Girls	97	363	7.7	5.96	9.83	200	786	16.6	12.25	22.14
<b>Class</b>										
Standard 4	33	170	12.1	9.85	14.88	64	330	23.6	17.52	30.92
Standard 5	38	182	13.1	9.65	17.52	72	341	24.5	18.65	31.46
Standard 6	26	134	10.9	7.45	15.61	55	281	22.8	20.14	25.63
Remove class										
Form 1	35	98	8.1	6.25	10.41	55	159	13.2	8.90	19.03
Form 2	29	106	9.3	7.16	12.09	44	152	13.4	10.71	16.64
Form 3	32	103	8.8	5.63	13.53	55	174	14.9	10.57	20.63
Form 4	24	75	7.5	4.77	11.61	42	130	13.1	8.32	20.04
Form 5	22	90	9.2	6.55	12.85	21	89	9.1	5.92	13.70
<b>Ethnicity</b>										
Malay	113	452	10.2	8.66	12.08	192	783	17.7	13.48	22.98
Chinese	20	83	7.8	5.21	11.61	49	204	19.3	11.11	31.36
Indian	2	11	20.7	3.09	68.02	5	19	37.2	10.18	75.58
Bumiputera Sabah	62	239	9.9	7.00	13.89	82	328	13.6	9.32	19.52
Bumiputera Sarawak	7	24	8.2	4.92	13.40	20	81	27.5	15.08	44.73
Others	35	150	11.6	8.40	15.83	60	241	18.7	14.19	24.33
<b>BMI-for age status (BAZ)</b>										
Thinness (<-2sd)	16	69	15.6	10.05	23.28	22	98	21.9	14.08	32.45
Normal ( $\geq -2sd - \leq +1sd$ )	150	584	10.0	8.57	11.61	266	1056	18.1	14.16	22.74
Overweight ( $> +1sd - \leq +2sd$ )	37	149	9.2	5.15	15.81	56	226	13.9	8.53	21.96
Obese ( $> +2sd$ )	36	156	9.8	7.30	13.13	63	272	17.2	11.61	24.63
<b>Height-for - age status (HAZ)</b>										
Stunting (<-2sd)	18	75	8.1	4.84	13.33	32	131	14.2	10.04	19.78
Normal ( $\geq -2sd$ )	221	883	10.3	8.96	11.77	376	1525	17.8	13.83	22.51

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

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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 WP Labuan

The results in **Table 3.7.1** showed 32.4% (95% CI: 27.88,37.29) of adolescents in WP Labuan reported as always reading food labels and only 12.5% (95% CI: 10.58,14.66) reported as never reading food labels when buying or receiving food.

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

Among those never read food labels, the findings showed that the main reasons for not reading food labels were that the food labels were not interesting [36.7% (95%CI: 23.54,52.29)], time constraint [19.0% (95%CI: 11.74,29.21)] and do not understand food labels [14.1% (95%CI: 9.62,20.21)]. The results also revealed that 18.1% (95%CI: 9.55,31.57) of adolescents did not know the importance of food labels; 16.3% (95%CI: 13.22, 20.01) of adolescents think that the size of the printing on food labels were too small and 8.1% (95%CI: 4.93,13.02) claim that they were already aware of the food label information. Food labels being not interesting was reported as the main reason for not reading food labels by adolescents from both boys and girls and adolescents from all Forms (**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 total energy content [42.6% (95%CI: 37.10,48.31)], fat content [41.0% (95%CI: 34.80,47.45)] and carbohydrate content (including sugar) [34.9% (95%CI:30.59,39.40)].

Energy content [46.1% (95%CI: 40.64,51.63)] was the nutrition fact information most read among boys, while fat content [48.4% (95%CI: 41.45,55.48)] was the highest among girls. Sodium content and fiber content [was the lowest nutrient read among adolescents [8.8% (95%CI: 5.66,13.44) and 8.9% (95%CI: 6.51,12.02)] (**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, nutritional claim, nutrition facts, halal logo, food ingredients, storage instruction) read on the food label, most of the adolescents read expiry date [77.0% (95%CI: 69.65,83.06)], followed by halal logo [43.4% (95%CI: 33.82,53.43)], food ingredients [29.5% (95%CI: 21.24,39.30)], nutrition fact [25.5% (95%CI: 20.28,31.58)], nutritional claim [18.4% (95%CI: 14.73,22.81)] and storage instruction [17.5% (95%CI: 12.30,24.24)] (**Table 3.7.4**).

#### **3.7.4.5 Understanding of nutrition facts among adolescents in WP Labuan**

Overall, 57.9% (95%CI: 50.72,64.75)] and [52.2% (95%CI: 43.77,60.45)] 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 40.8% (95%CI: 31.66,50.53)] correct responses for both energy and sugar (**Table 3.7.5**).

#### **3.7.4.6 Understanding of front of pack labelling among adolescents in WP Labuan**

Overall, less than half of the adolescents [32.8% (95%CI: 24.08,42.82)] had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and [45.4% (95%CI:39.21,,51.63)] had given correct response to question assessing interpretation of the percentage of energy content based on the front of pack labelling given. However, the results showed a low level of correct responses [21.4% (95%CI: 14.55,30.43)] to questions assessing interpretations of both the energy content and the percentage of energy content based on the front of pack labelling given (**Table 3.7.6**).

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

Overall, slightly more than half of the adolescents [54.3% (95%CI: 46.66, 61.76)] 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 [60.0% (95%CI: 52.60,66.51)] reported a higher prevalence of interpreting correctly as compared to the boys [48.4% (95%CI: 39.47,57.44)]. While, 12.8% (95%CI: 9.70,16.58) 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. The results showed a low level of correct response [5.5% (95%CI: 4.47,6.84)] 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 WP Labuan. Adolescents reported a lower prevalence of not reading food label. Continuous education regarding understanding the food and nutrition labelling, not limited to the expiry date, but also the nutritional content and the benefits of front of pack labelling and nutrition information panel is necessary. Boys had a higher prevalence of not reading food and nutrition labelling. Thus, we need to be creative in education and promotion to ensure that adolescents know how to interpret the overall information that is stated at the food and nutrition labelling before choosing packaged food and drinks. In this survey, majority of the adolescents still lack of knowledge to determine the highest and lowest ingredients content based on the label.

## References

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

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

Characteristic	Yes, always					Yes, sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	551	1788	32.4	27.88	37.29	945	3040	55.1	50.68	59.48
<b>Locality of School</b>										
Urban	551	1788	32.4	27.88	37.29	945	3040	55.1	50.68	59.48
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	268	939	34.2	29.97	38.75	415	1435	52.3	47.79	56.73
Girls	283	848	30.6	24.40	37.60	530	1606	57.9	53.21	62.50
<b>Class</b>										
Form 1	166	477	39.1	35.61	42.77	215	617	50.6	46.61	54.56
Form 2	105	370	32.4	24.57	41.36	175	585	51.3	43.66	58.82
Form 3	116	367	31.4	23.16	41.07	213	659	56.4	48.63	63.82
Form 4	98	301	30.1	22.80	38.46	194	589	58.8	47.92	68.92
Form 5	66	272	27.6	23.88	31.77	148	590	59.9	53.12	66.36
<b>Ethnicity</b>										
Malay	260	838	33.3	28.82	38.14	415	1362	54.2	48.98	59.27
Chinese	49	161	28.7	17.37	43.47	95	293	52.2	38.97	65.05
Indian	3	10	39.1	16.81	67.12	5	15	60.9	32.88	83.19
Bumiputera Sabah	163	532	32.1	26.30	38.45	287	917	55.2	51.97	58.48
Bumiputera Sarawak	18	62	32.5	16.95	53.26	39	120	62.7	44.31	77.97
Others	58	185	32.7	24.12	42.61	104	334	59.1	45.19	71.65
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	24	81	31.1	21.70	42.41	39	132	50.5	38.76	62.25
Normal ( $\geq-2sd$ - $\leq+1sd$ )	360	1171	32.6	27.66	38.05	614	1987	55.4	50.64	60.10
Overweight ( $>+1sd$ - $\leq+2sd$ )	96	302	32.2	26.53	38.36	161	503	53.7	45.59	61.55
Obese ( $>+2sd$ )	70	231	31.7	22.13	43.19	131	418	57.4	49.52	64.87
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	45	151	27.5	21.03	35.07	96	322	58.9	49.64	67.49
Normal ( $\geq-2sd$ )	506	1637	32.9	28.24	38.02	849	2718	54.7	49.66	59.66

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

Characteristic	Never				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP LABUAN</b>	211	688	12.5	10.58	14.66
<b>Locality of School</b>					
Urban	211	688	12.5	10.58	14.66
Rural	-	-	-	-	-
<b>Sex</b>					
Boys	105	370	13.5	10.98	16.49
Girls	106	318	11.5	7.96	16.26
<b>Class</b>					
Form 1	43	125	10.3	7.46	14.00
Form 2	54	186	16.3	11.69	22.35
Form 3	47	143	12.2	8.38	17.42
Form 4	37	111	11.1	7.68	15.85
Form 5	30	122	12.4	7.72	19.41
<b>Ethnicity</b>					
Malay	93	315	12.5	10.37	15.02
Chinese	34	108	19.2	14.81	24.44
Indian	0	0	0.0	0.00	0.00
Bumiputera Sabah	66	210	12.677927	9.32	17.03
Bumiputera Sarawak	3	9	5	2	12
Others	15	46	8.2293565	3.50	18.13
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	13	48	18.3	9.56	32.32
Normal ( $\geq-2sd$ - $\leq+1sd$ )	132	428	11.9	10.13	14.02
Overweight ( $>+1sd$ - $\leq+2sd$ )	41	133	14.2	9.23	21.15
Obese ( $>+2sd$ )	25	79	10.9	6.78	17.05
<b>Height-for-age status (HAZ)</b>					
Stunting ( <-2sd )	22	75	13.6	8.12	22.03
Normal ( $\geq-2sd$ )	189	614	12.3	10.04	15.10

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

Characteristic	Size of the print too small					Do not understand				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	35	112	16.3	13.22	20.01	31	97	14.1	9.62	20.21
<b>Locality of School</b>										
Urban	35	112	16.3	13.22	20.01	31	97	14.1	9.62	20.21
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	17	59	15.8	11.35	21.58	10	35	9.6	3.77	22.28
Girls	18	54	17.0	11.53	24.25	21	62	19.4	12.57	28.65
<b>Class</b>										
Form 1	10	28	22.4	10.39	41.68	10	27	21.8	11.30	37.91
Form 2	8	28	15.1	8.23	26.15	11	37	19.7	9.89	35.32
Form 3	9	27	19.3	6.71	44.14	5	16	11.0	4.64	23.79
Form 4	4	12	10.4	4.27	23.33	2	5	4.8	0.47	35.47
Form 5	4	17	14.0	5.91	29.72	3	12	9.8	2.77	29.38
<b>Ethnicity</b>										
Malay	13	44	14.0	9.55	19.99	13	41	12.9	6.98	22.60
Chinese	5	15	13.8	6.21	28.02	6	18	16.9	7.78	32.86
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	14	44	20.8	9.53	39.60	10	33	15.7	8.88	26.22
Bumiputera Sarawak	1	3	33.3	2.20	91.70	1	3	33.3	2.20	91.7
Others	2	7	14.5	5.88	31.61	1	2	4.8	0.36	40.96
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	4	8.4	0.77	52.07	2	7	14.3	4.48	37.42
Normal (≥-2sd - ≤+1sd)	24	78	18.3	12.12	26.74	18	57	13.3	7.96	21.24
Overweight (>+1sd - ≤+2sd)	6	18	13.8	7.39	24.28	5	15	11.1	3.30	31.42
Obese (>+2sd)	4	12	14.7	3.56	44.49	6	19	23.5	7.55	53.75
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	5	19	24.8	9.54	50.72	2	6	8.5	1.84	31.55
Normal (≥-2sd)	30	94	15.3	11.24	20.51	29	91	14.8	9.88	21.54

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

Characteristic	Not interesting					Do not know the importance of food label				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	78	253	36.7	23.54	52.29	37	124	18.1	9.55	31.57
<b>Locality of School</b>										
Urban	78	253	36.7	23.54	52.29	37	124	18.1	9.55	31.57
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	39	137	37.1	22.98	53.82	17	60	16.2	7.99	30.21
Girls	39	116	36.3	22.67	52.64	20	64	20.2	9.51	37.95
<b>Class</b>										
Form 1	11	33	26.7	8.58	58.47	6	18	14.6	5.12	34.98
Form 2	16	54	28.9	16.09	46.36	9	33	17.4	9.57	29.66
Form 3	15	45	31.3	15.66	52.68	12	39	27.1	10.15	55.13
Form 4	23	70	62.4	48.41	74.61	6	18	15.7	5.73	36.41
Form 5	13	51	42.0	24.77	61.40	4	17	14.3	3.54	42.96
<b>Ethnicity</b>										
Malay	24	82	26.0	15.37	40.56	18	63	20.0	10.19	35.65
Chinese	20	66	60.9	53.03	68.31	6	18	16.8	9.19	28.78
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	28	86	41.0	19.92	66.08	10	32.143	15.28182	6.348	32.43
Bumiputera Sarawak	-	-	-	-	-	-	-	-	-	-
Others	6	19	41.0	25.75	58.26	3	11	24.0	7.09	56.53
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	5	19	39.0	12.21	74.55	3	10	20.4	4.80	56.58
Normal (≥-2sd - ≤+1sd)	53	172	40.2	28.79	52.70	18	60	14.1	5.79	30.44
Overweight (>+1sd - ≤+2sd)	12	37	27.7	10.02	56.93	12	40	30.2	18.68	44.93
Obese (>+2sd)	8	25	32.1	11.15	64.04	4	14	17.9	5.70	43.94
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	9	27	36.5	17.89	60.26	3	10	13.0	5.56	27.33
Normal (≥-2sd)	69	226	36.8	23.54	52.35	34	115	18.7	9.37	33.87



Table 3.7.2: Reasons for not reading food label among adolescents

Characteristic	Time constraint					Already aware of the food label information				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	39	131	19.0	11.74	29.21	18	56	8.1	4.93	13.02
<b>Locality of School</b>										
Urban	39	131	19.0	11.74	29.21	18	56	8.1	4.93	13.02
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	27	93	25.2	19.07	32.47	9	31	8.4	4.26	15.94
Girls	12	37	11.8	5.56	23.19	9	25	7.7	3.54	16.05
<b>Class</b>										
Form 1	8	24	19.4	8.11	39.60	6	16	13.1	3.77	36.64
Form 2	9	32	17.4	8.46	32.31	5	17	8.9	3.29	21.80
Form 3	7	21	14.6	4.04	41.06	3	8	5.9	1.26	23.50
Form 4	9	28	25.3	7.32	59.21	2	7	5.8	1.18	24.29
Form 5	6	25	20.4	7.55	44.43	2	8	6.5	1.78	20.76
<b>Ethnicity</b>										
Malay	24	84	26.6	17.94	37.54	11	35	11.0	5.50	20.78
Chinese	2	5	4.6	0.73	24.11	-	-	-	-	-
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	9	30	14.3	5.40	32.72	5	16	7.4	2.62	19.36
Bumiputera Sarawak	1	3	31.5	2.03	91.04	1	3	35.2	2.40	92.33
Others	3	9	19.5	5.22	51.57	1	2	4.8	0.36	40.96
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	3	9	18.5	3.92	55.85	1	5	9.7	1.52	42.97
Normal (≥-2sd - ≤+1sd)	20	66	15.4	8.59	26.14	14	42	9.7	5.03	17.90
Overweight (>+1sd - ≤+2sd)	9	33	24.7	10.78	47.22	2	7	5.1	0.59	32.88
Obese (>+2sd)	7	23	28.8	14.06	49.98	1	3	3.4	0.38	24.33
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	3	12	16.4	2.95	55.99	1	3	3.8	0.37	30.26
Normal (≥-2sd)	36	118	19.3	12.31	28.93	17	53	8.6	5.13	14.12

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Yes, always/ Yes, sometimes									
	Total energy					Carbohydrate				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	627	2057	42.6	37.10	48.31	521	1683	34.9	30.59	39.40
<b>Locality of School</b>										
Urban	627	2057	42.6	37.10	48.31	521	1683	34.9	30.59	39.40
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	310	1094	46.1	40.64	51.63	209	737	31.0	26.67	35.77
Girls	317	963	39.3	33.09	45.78	312	947	38.6	33.06	44.40
<b>Class</b>										
Form 1	153	439	40.2	34.48	46.13	122	337	30.8	23.46	39.33
Form 2	100	349	36.5	27.39	46.72	77	261	27.3	21.83	33.61
Form 3	143	446	43.4	34.44	52.84	106	327	31.8	26.15	38.12
Form 4	106	319	35.8	28.35	43.96	103	309	34.7	27.63	42.46
Form 5	125	505	58.6	52.43	64.43	113	450	52.2	45.54	58.68
<b>Ethnicity</b>										
Malay	292	978	44.4	36.15	53.07	232	759	34.5	28.00	41.67
Chinese	58	181	39.9	24.87	57.14	52	169	37.2	26.42	49.39
Indian	1	3	12.8	1.89	52.86	2	6	23.2	4.55	65.60
Bumiputera Sabah	190	618	42.7	36.35	49.28	156	504	34.8	32.17	37.45
Bumiputera Sarawak	26	85	46.8	30.17	64.14	25	80	43.8	31.12	57.44
Others	60	191	36.9	26.58	48.66	54	166	32.0	25.02	40.00
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	35	123	57.7	47.08	67.73	24	79	37.0	26.65	48.66
Normal (≥-2sd - ≤+1sd)	407	1349	42.7	36.19	49.50	343	1107	35.1	30.94	39.44
Overweight (>+1sd - ≤+2sd)	120	372	46.2	38.18	54.36	88	278	34.5	25.23	45.11
Obese (>+2sd)	65	214	32.9	25.49	41.36	66	220	33.8	23.95	45.30
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	60	207	43.7	33.85	54.08	48	168	35.5	25.69	46.74
Normal (≥-2sd)	567	1851	42.5	36.98	48.20	473	1516	34.8	29.85	40.10

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Yes, always/ Yes, sometimes									
	Fat					Protein				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	622	1978	41.0	34.80	47.45	368	1195	24.8	19.24	31.24
<b>Locality of School</b>										
Urban	622	1978	41.0	34.80	47.45	368	1195	24.8	19.24	31.24
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	229	790	33.3	27.83	39.18	199	691	29.1	20.34	39.76
Girls	393	1189	48.4	41.45	55.48	169	504	20.6	16.91	24.74
<b>Class</b>										
Form 1	142	400	36.6	28.13	45.89	102	296	27.1	18.84	37.24
Form 2	102	334	34.9	25.93	45.19	54	179	18.7	13.37	25.61
Form 3	136	426	41.5	30.46	53.47	71	223	21.7	16.53	27.97
Form 4	139	415	46.6	34.88	58.73	76	227	25.5	18.12	34.61
Form 5	103	404	46.8	40.97	52.74	65	270	31.4	20.93	44.08
<b>Ethnicity</b>										
Malay	275	889	40.4	36.50	44.42	150	496	22.6	17.10	29.14
Chinese	54	174	38.3	33.14	43.72	37	119	26.1	17.23	37.57
Indian	3	9	34.7	5.38	83.28	2	7	27.5	3.19	81.42
Bumiputera Sabah	191	596	41.1	30.52	52.68	126	405	28.0	20.37	37.13
Bumiputera Sarawak	31	94	51.6	36.35	66.60	16	51	27.7	18.63	39.17
Others	68	217	41.8	33.21	50.98	37	118	22.7	14.01	34.55
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	21	66	31.2	17.72	48.75	18	62	29.1	22.79	36.25
Normal ( $\geq -2sd - \leq +1sd$ )	388	1242	39.3	33.19	45.81	249	814	25.8	19.39	33.42
Overweight ( $> +1sd - \leq +2sd$ )	122	374	46.4	34.27	59.07	61	190	23.6	16.70	32.14
Obese ( $> +2sd$ )	91	296	45.6	39.24	52.18	39	127	19.5	13.86	26.68
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	64	220	46.5	38.29	54.89	37	128	27.0	17.20	39.65
Normal ( $\geq -2sd$ )	558	1758	40.4	34.09	46.99	331	1068	24.5	18.59	31.60

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Yes, always/ Yes, sometimes									
	Sodium					Vitamin				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	130	425	8.8	5.66	13.44	341	1087	22.5	18.04	27.72
<b>Locality of School</b>										
Urban	130	425	8.8	5.66	13.44	341	1087	22.5	18.04	27.72
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	61	220	9.3	6.15	13.72	138	485	20.4	14.47	28.06
Girls	69	205	8.4	4.81	14.13	203	602	24.5	20.40	29.16
<b>Class</b>										
Form 1	35	93	8.5	4.95	14.25	110	302	27.6	20.04	36.72
Form 2	15	54	5.6	2.27	13.26	50	166	17.4	11.97	24.66
Form 3	22	69	6.7	4.15	10.58	69	216	21.1	18.35	24.11
Form 4	24	71	8.0	4.85	12.86	50	149	16.7	11.80	23.16
Form 5	34	139	16.1	12.05	21.10	62	253	29.4	20.02	40.84
<b>Ethnicity</b>										
Malay	58	191	8.7	5.01	14.62	143	464	21.1	15.92	27.46
Chinese	10	36	7.8	3.30	17.44	45	141	31.0	26.18	36.33
Indian	-	-	-	-	-	3	8	32.3	10.59	65.80
Bumiputera Sabah	44	142	9.8	6.69	14.13	97	310	21.4	16.29	27.54
Bumiputera Sarawak	7	22	12.2	5.73	24.08	11	35	19.1	6.06	46.51
Others	11	34	6.6	4.40	9.91	42	129	24.8	19.23	31.47
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	6	20	9.4	5.28	16.32	16	53	24.7	13.75	40.20
Normal (≥-2sd - ≤+1sd)	88	285	9.0	5.64	14.15	240	769	24.4	20.17	29.12
Overweight (>+1sd - ≤+2sd)	24	77	9.5	4.91	17.67	58	180	22.4	17.43	28.24
Obese (>+2sd)	12	43	6.6	3.25	13.01	27	85	13.1	7.13	22.81
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	12	44	9.3	4.21	19.19	33	108	22.9	15.40	32.67
Normal (≥-2sd)	118	381	8.7	5.55	13.54	308	979	22.5	17.70	28.08

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Yes, always/ Yes, sometimes									
	Mineral					Fiber				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	144	467	9.7	6.76	13.64	131	429	8.9	6.51	12.02
<b>Locality of School</b>										
Urban	144	467	9.7	6.76	13.64	131	429	8.9	6.51	12.02
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	69	246	10.4	6.49	16.15	50	184	7.7	5.18	11.44
Girls	75	221	9.0	6.51	12.30	81	245	10.0	7.53	13.12
<b>Class</b>										
Form 1	45	118	10.8	7.04	16.17	39	107	9.8	6.50	14.58
Form 2	20	73	7.7	3.34	16.72	18	61	6.4	2.84	13.95
Form 3	26	83	8.0	5.48	11.67	22	69	6.7	3.90	11.30
Form 4	22	65	7.3	4.03	12.80	17	49	5.5	2.32	12.42
Form 5	31	128	14.8	9.78	21.89	35	142	16.5	11.33	23.47
<b>Ethnicity</b>										
Malay	67	221	10.0	6.27	15.67	65	216	9.8	6.19	15.22
Chinese	10	34	7.5	4.14	13.29	10	31	6.9	4.32	10.74
Indian	-	-	-	-	-	-	-	-	-	-
Bumiputera Sabah	45	145	10.0	6.95	14.12	43	141	9.7	7.31	12.83
Bumiputera Sarawak	9	28	15.3	7.88	27.61	3	9	4.8	0.54	32.23
Others	13	40	7.6	4.59	12.48	10	32	6.2	3.47	10.91
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	7	24	11.2	5.02	23.30	6	23	10.9	4.53	23.98
Normal ( $\geq$ -2sd - $\leq$ +1sd)	100	328	10.4	6.99	15.16	87	285	9.0	6.15	13.06
Overweight (>+1sd - $\leq$ +2sd)	22	66	8.2	4.18	15.53	21	65	8.0	4.17	14.94
Obese (>+2sd)	15	49	7.5	3.93	13.85	17	56	8.6	6.23	11.86
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	15	53	11.1	5.49	21.24	14	53	11.3	4.20	26.82
Normal ( $\geq$ -2sd)	129	414	9.5	6.75	13.24	117	376	8.6	6.15	11.98

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Expiry date					Nutritional claim				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	1161	3719	77.0	69.65	83.06	272	890	18.4	14.73	22.81
<b>Locality of School</b>										
Urban	1161	3719	77.0	69.65	83.06	272	890	18.4	14.73	22.81
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	481	1679	70.7	62.88	77.50	127	454	19.1	15.55	23.33
Girls	680	2040	83.1	75.06	88.98	145	435	17.7	12.89	23.90
<b>Class</b>										
Form 1	294	831	75.9	67.17	82.97	65	185	16.9	11.69	23.93
Form 2	207	692	72.4	60.19	82.02	43	150	15.7	8.05	28.52
Form 3	246	765	74.6	64.42	82.58	57	178	17.3	11.60	25.06
Form 4	229	693	77.9	69.79	84.26	54	162	18.2	14.39	22.68
Form 5	185	738	85.6	76.41	91.62	53	214	24.9	16.66	35.36
<b>Ethnicity</b>										
Malay	501	1623	73.8	65.44	80.70	126	423	19.2	13.72	26.31
Chinese	123	384	84.5	72.33	91.91	26	79	17.5	8.60	32.28
Indian	7	22	86.2	44.52	98.00	1	2	8.9	0.70	57.39
Bumiputera Sabah	364	1164	80.3	73.63	85.68	79	261	18.0	15.63	20.61
Bumiputera Sarawak	44	139	76.5	60.73	87.23	9	30	16.6	7.93	31.38
Others	122	388	74.8	68.18	80.44	31	94	18.1	10.91	28.58
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	43	147	68.9	50.86	82.52	17	58	27.2	16.28	41.71
Normal (≥-2sd - ≤+1sd)	765	2458	77.9	69.39	84.49	181	596	18.9	15.60	22.62
Overweight (>+1sd - ≤+2sd)	199	615	76.4	64.51	85.17	48	149	18.5	12.70	26.26
Obese (>+2sd)	153	497	76.5	66.90	83.94	26	87	13.4	8.22	21.05
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	108	358	75.7	55.26	88.73	36	125	26.4	15.42	41.42
Normal (≥-2sd)	1053	3361	77.2	69.73	83.23	236	765	17.6	14.23	21.47

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Nutrition fact					Halal logo				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	385	1232	25.5	20.28	31.58	653	2094	43.4	33.82	53.43
<b>Locality of School</b>										
Urban	385	1232	25.5	20.28	31.58	653	2094	43.4	33.82	53.43
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	165	571	24.1	17.11	32.72	271	944	39.8	29.21	51.41
Girls	220	661	26.9	21.01	33.81	382	1149	46.8	37.89	55.99
<b>Class</b>										
Form 1	97	273	24.9	19.73	31.01	173	486	44.4	30.44	59.37
Form 2	47	158	16.5	10.95	24.16	112	385	40.3	28.77	53.01
Form 3	84	254	24.7	17.51	33.64	127	393	38.3	25.52	52.87
Form 4	82	245	27.5	20.30	36.19	138	416	46.8	37.31	56.43
Form 5	75	303	35.1	27.36	43.72	103	414	48.0	31.06	65.38
<b>Ethnicity</b>										
Malay	161	518	23.5	18.25	29.80	367	1188	54.0	44.63	63.12
Chinese	46	150	33.1	27.83	38.92	20	62	13.6	6.02	28.01
Indian	2	6	22.6	6.96	53.34	1	4	14.3	1.35	67.02
Bumiputera Sabah	123	392	27.0	19.23	36.58	181	569	39.3	28.64	51.10
Bumiputera Sarawak	20	63	34.6	19.27	54.01	19	62	33.8	15.83	58.02
Others	33	103	20.0	13.19	29.02	65	209	40.4	31.95	49.43
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	17	58	27.4	15.78	43.29	29	97	45.5	27.20	65.14
Normal (≥-2sd - ≤+1sd)	260	830	26.3	20.28	33.34	451	1457	46.2	36.52	56.09
Overweight (>+1sd - ≤+2sd)	66	209	26.0	19.20	34.16	97	291	36.2	23.98	50.47
Obese (>+2sd)	42	134	20.7	15.96	26.32	76	248	38.2	28.34	49.16
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	33	111	23.4	16.04	32.82	75	250	52.8	35.68	69.26
Normal (≥-2sd)	352	1122	25.8	20.34	32.02	578	1844	42.3	33.23	52.02

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Food ingredients					Storage instruction				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	451	1423	29.5	21.24	39.30	268	844	17.5	12.30	24.24
<b>Locality of School</b>										
Urban	451	1423	29.5	21.24	39.30	268	844	17.5	12.30	24.24
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	160	551	23.2	15.35	33.52	101	350	14.8	8.52	24.36
Girls	291	872	35.5	26.86	45.25	167	493	20.1	16.05	24.88
<b>Class</b>										
Form 1	122	339	31.0	22.72	40.70	75	205	18.7	11.24	29.54
Form 2	53	172	18.0	10.37	29.45	43	140	14.6	8.01	25.25
Form 3	97	298	29.0	18.12	43.03	52	160	15.5	8.59	26.50
Form 4	88	261	29.3	20.84	39.56	47	142	15.9	10.46	23.42
Form 5	91	353	40.9	31.27	51.30	51	198	23.0	13.19	36.93
<b>Ethnicity</b>										
Malay	186	605	27.5	19.32	37.57	115	372	16.9	10.56	25.98
Chinese	37	115	25.4	20.19	31.48	28	93	20.4	11.64	33.36
Indian	3	8	32.3	10.59	65.80	2	5	21.7	6.71	51.56
Bumiputera Sabah	153	476	32.8	22.25	45.53	84	256	17.7	11.83	25.62
Bumiputera Sarawak	21	64	34.9	17.81	56.93	13	42	23.0	15.83	32.13
Others	51	155	29.9	23.19	37.50	26	75	14.6	8.01	25.00
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	21	69	32.2	18.09	50.56	7	23	10.9	5.80	19.41
Normal (≥-2sd - ≤+1sd)	306	971	30.8	22.44	40.57	176	563	17.8	11.76	26.11
Overweight (>+1sd - ≤+2sd)	80	241	29.9	17.19	46.79	54	161	20.1	15.24	25.93
Obese (>+2sd)	44	142	21.8	14.58	31.41	31	96	14.8	10.97	19.74
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	50	166	35.0	26.02	45.24	32	100	21.1	11.17	36.31
Normal (≥-2sd)	401	1257	28.9	20.55	38.90	236	744	17.1	12.06	23.63



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

Characteristic	Both Correct					Interpretation calorie correct				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	694	2258	40.8	31.66	50.53	988	3207	57.9	50.72	64.75
<b>Locality of School</b>										
Urban	694	2258	40.8	31.66	50.53	988	3207	57.9	50.72	64.75
Rural	-	-	-	-	-	-	-	-	-	-
<b>Sex</b>										
Boys	321	1123	40.7	30.50	51.69	452	1579	57.2	47.27	66.52
Girls	373	1135	40.8	32.53	49.72	536	1629	58.6	52.71	64.29
<b>Class</b>										
Form 1	158	456	37.4	23.02	54.44	233	673	55.2	42.31	67.43
Form 2	105	360	31.0	20.64	43.63	172	584	50.3	43.33	57.23
Form 3	137	418	35.8	25.16	47.96	209	642	54.9	45.26	64.27
Form 4	144	433	43.1	34.00	52.70	189	572	56.9	48.09	65.24
Form 5	150	590	60.0	42.62	75.13	185	736	74.7	56.84	86.93
<b>Ethnicity</b>										
Malay	298	984	39.1	29.50	49.53	433	1435	56.9	49.00	64.50
Chinese	73	234	40.9	34.14	48.07	111	353	61.7	53.42	69.31
Indian	5	15	61.3	20.18	90.86	6	19	75.1	42.03	92.60
Bumiputera Sabah	245	791	47.5	36.82	58.35	313	1001	60.1	50.83	68.65
Bumiputera Sarawak	21	69	36.0	18.02	58.95	31	99	51.9	36.40	67.01
Others	52	164	29.1	22.89	36.16	94	301	53.3	45.13	61.23
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	35	119	45.7	30.01	62.34	49	167	64.0	49.34	76.42
Normal (≥-2sd - ≤+1sd)	457	1493	41.4	31.99	51.39	647	2104	58.3	50.02	66.13
Overweight (>+1sd - ≤+2sd)	113	354	37.8	26.60	50.39	163	516	55.0	47.34	62.40
Obese (>+2sd)	88	289	39.6	28.68	51.64	128	418	57.3	48.45	65.69
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	73	251	45.8	32.46	59.85	105	358	65.4	53.57	75.60
Normal (≥-2sd)	621	2007	40.2	31.26	49.84	883	2849	57.1	49.79	64.06

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

Characteristic	Interpretation of sugar correct				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP LABUAN</b>	884	2890	52.2	43.77	60.45
<b>Locality of School</b>					
Urban	884	2890	52.2	43.77	60.45
Rural	-	-	-	-	-
<b>Sex</b>					
Boys	429	1505	54.5	46.31	62.43
Girls	455	1386	49.9	40.61	59.14
<b>Class</b>					
Form 1	208	608	49.9	35.93	63.83
Form 2	148	516	44.4	32.54	56.94
Form 3	183	567	48.5	38.06	59.08
Form 4	177	533	53.1	45.16	60.79
Form 5	168	666	67.7	54.24	78.69
<b>Ethnicity</b>					
Malay	385	1279	50.7	41.10	60.30
Chinese	85	271	47.3	39.01	55.76
Indian	5	15	61.3	20.18	90.86
Bumiputera Sabah	304	986	59.2	51.71	66.31
Bumiputera Sarawak	29	96	50.0	25.70	74.26
Others	76	244	43.2	33.42	53.44
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	41	141	53.9	37.15	69.81
Normal (≥-2sd - ≤+1sd)	567	1862	51.6	42.74	60.33
Overweight (>+1sd - ≤+2sd)	157	497	53.0	41.59	64.10
Obese (>+2sd)	118	388	53.2	42.20	63.97
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	87	302	55.2	43.36	66.50
Normal (≥-2sd)	797	2588	51.8	43.16	60.42

## NATIONAL HEALTH AND MORBIDITY SURVEY 2017

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

Characteristic	Both correct					Know only the energy content				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	371	1188	21.4	14.55	30.43	564	1815	32.8	24.08	42.82
<b>Locality of School</b>										
Urban	371	1188	21.4	14.55	30.43	564	1815	32.8	24.08	42.82
Rural										
<b>Sex</b>										
Boys	172	599	21.7	14.86	30.51	255	892	32.3	24.25	41.58
Girls	199	589	21.2	13.98	30.81	309	923	33.2	23.74	44.29
<b>Class</b>										
Form 1	92	267	21.9	15.01	30.83	141	411	33.7	24.72	44.08
Form 2	61	208	17.9	12.28	25.35	110	374	32.2	22.78	43.24
Form 3	81	244	20.8	11.49	34.81	114	347	29.7	20.34	41.21
Form 4	67	194	19.3	9.64	34.99	91	264	26.3	13.86	44.07
Form 5	70	275	27.9	17.70	41.00	108	419	42.6	28.57	57.86
<b>Ethnicity</b>										
Malay	143	466	18.5	12.32	26.80	235	775	30.7	22.61	40.26
Chinese	54	176	30.7	23.89	38.55	69	220	38.5	27.86	50.30
Indian	3	9	37.3	24.02	52.90	4	13	51.6	16.45	85.28
Bumiputera Sabah	123	390	23.4	13.67	37.15	183	581	34.9	21.83	50.65
Bumiputera Sarawak	11	35	18.1	8.83	33.51	19	60	31.6	16.09	52.60
Others	37	112	19.8	12.48	29.83	54	166	29.4	21.89	38.30
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	17	60	23.2	11.59	40.92	26	91	34.9	21.08	51.73
Normal (≥-2sd - ≤+1sd)	259	826	22.9	15.81	31.96	382	1227	34.0	24.67	44.74
Overweight (>+1sd - ≤+2sd)	51	151	16.1	8.38	28.70	90	277	29.6	19.39	42.30
Obese (>+2sd)	44	150	20.6	13.82	29.47	66	220	30.2	22.67	38.96
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	27	89	16.2	10.72	23.87	52	178	32.5	22.95	43.74
Normal (≥-2sd)	344	1099	22.0	14.89	31.28	512	1637	32.8	23.48	43.70

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

Characteristic	Know only the percentage of contribution by serving of foods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP LABUAN</b>	774	2512	45.4	39.21	51.63
<b>Locality of School</b>					
Urban	774	2512	45.4	39.21	51.63
Rural					
<b>Sex</b>					
Boys	376	1314	47.6	40.43	54.87
Girls	398	1198	43.1	37.56	48.86
<b>Class</b>					
Form 1	197	573	47.0	40.34	53.71
Form 2	132	455	39.2	34.34	44.28
Form 3	162	499	42.7	33.05	52.95
Form 4	156	470	46.8	38.07	55.71
Form 5	127	515	52.3	40.25	64.04
<b>Ethnicity</b>					
Malay	337	1117	44.3	36.83	52.04
Chinese	81	256	44.8	36.67	53.18
Indian	5	16	61.7	43.85	76.92
Bumiputera Sabah	248	796	47.8	40.50	55.18
Bumiputera Sarawak	30	97	50.9	33.15	68.43
Others	73	231	40.8	33.39	48.67
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	39	137	52.6	31.83	72.57
Normal (≥-2sd - ≤+1sd)	514	1667	46.2	39.07	53.45
Overweight (>+1sd - ≤+2sd)	121	377	40.2	33.25	47.66
Obese (>+2sd)	100	331	45.4	36.48	54.61
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	68	234	42.7	32.03	54.15
Normal (≥-2sd)	706	2278	45.6	39.67	51.73

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

Characteristic	Both Correct					Know only the highest ingredient				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
<b>WP LABUAN</b>	81	267	5.5	4.47	6.84	819	2622	54.3	46.66	61.76
<b>Locality of School</b>										
Urban	81	267	5.5	4.47	6.84	819	2622	54.3	46.66	61.76
Rural										
<b>Sex</b>										
Boys	37	130	5.5	3.32	8.87	332	1149	48.4	39.47	57.44
Girls	44	138	5.6	4.04	7.73	487	1473	60.0	52.62	66.99
<b>Class</b>										
Form 1	16	49	4.5	2.64	7.56	188	535	48.9	40.00	57.88
Form 2	22	76	7.9	4.69	13.13	142	474	49.7	39.02	60.32
Form 3	16	50	4.8	3.19	7.25	185	568	55.3	42.50	67.44
Form 4	18	56	6.2	4.63	8.35	164	494	55.5	47.87	62.82
Form 5	9	37	4.3	2.01	9.00	140	551	63.9	47.51	77.64
<b>Ethnicity</b>										
Malay	33	110	5.0	3.52	7.03	362	1177	53.5	46.07	60.83
Chinese	10	35	7.7	3.66	15.59	85	264	58.1	48.98	66.69
Indian	1	3	10.6	0.62	69.40	3	9	34.2	7.68	76.47
Bumiputera Sabah	24	76	5	4	8	254	802	55.3	44.23	65.94
Bumiputera Sarawak	2	7	4	1	19	29	94	51.6	35.63	67.28
Others	11	37	7	4	11	86	277	53.3	44.46	62.00
<b>BMI-for-age status (BAZ)</b>										
Thinness (<-2sd)	1	3	1.6	0.16	13.51	39	135	63.4	52.91	72.72
Normal (≥-2sd - ≤+1sd)	52	172	5.4	3.69	7.94	537	1724	54.6	45.17	63.73
Overweight (>+1sd - ≤+2sd)	13	41	5.1	3.01	8.42	139	425	52.8	40.98	64.24
Obese (>+2sd)	15	51	7.9	4.56	13.43	103	335	51.6	42.78	60.27
<b>Height-for-age status (HAZ)</b>										
Stunting (<-2sd)	10	32	6.7	3.80	11.53	89	297	62.8	51.84	72.64
Normal (≥-2sd)	71	236	5.4	4.31	6.78	730	2325	53.4	45.50	61.10

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

Characteristic	Know only the lowest ingredient				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
<b>WP LABUAN</b>	186	616	12.8	9.70	16.58
<b>Locality of School</b>					
Urban	186	616	12.8	9.70	16.58
Rural					
<b>Sex</b>					
Boys	94	331	13.9	10.36	18.48
Girls	92	285	11.6	8.13	16.32
<b>Class</b>					
Form 1	42	126	11.6	8.58	15.40
Form 2	38	131	13.7	9.69	19.08
Form 3	42	133	13.0	9.03	18.34
Form 4	42	132	14.8	9.88	21.50
Form 5	22	93	10.8	4.79	22.63
<b>Ethnicity</b>					
Malay	84	284	12.9	8.99	18.24
Chinese	21	69	15.2	11.12	20.55
Indian	2	6	24.4	5.56	63.87
Bumiputera Sabah	54	173	12	9	15
Bumiputera Sarawak	6	20	10.9	2.29	39.07
Others	19	64	12	7	20
<b>BMI-for-age status (BAZ)</b>					
Thinness (<-2sd)	3	10	4.7	0.90	21.30
Normal (≥-2sd - ≤+1sd)	118	391	12.4	8.64	17.47
Overweight (>+1sd - ≤+2sd)	29	94	11.7	7.74	17.37
Obese (>+2sd)	36	120	18.5	13.15	25.29
<b>Height-for-age status (HAZ)</b>					
Stunting (<-2sd)	22	73	15.4	10.40	22.12
Normal (≥-2sd)	164	543	12.5	9.35	16.44

## APPENDICES

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

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

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

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



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

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

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

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

		<p>Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.</p> <p>To ensure adequate logistic support for the data collection and liaise with the District Education Office, District Health Office and other relevant departments to ensure that:</p> <ul style="list-style-type: none"> <li>• Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers.</li> <li>• Manage transport: Vehicles</li> <li>• Manage survey instruments and relevant form</li> <li>• Manage lodging for data collectors</li> </ul> <p><b><u>During Data Collection</u></b></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<br>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**

### **WP LABUAN**

#### **Liaison Officer**

Mr. Benjamin bin Akmad

#### **Field Supervisors**

Ms. Rasidah binti Jamaluddin

#### **Nutritionist**

1. Mr. Benjamin bin Akmad
2. Ms. Syazwani Nabila binti Sanusi
3. Ms. Shahrizan Azizi

#### **Drivers**

1. Mr. Azli Bin Matali
2. Mr. Aizam Bin Ahmad

#### **Research Assistants**

1. Jeldy bin Galoh
2. Javiksen James
3. Mohd Shafiq bin Firman @ Bajjo
4. Dethoresia Jubili
5. Anita Dalus
6. Adrian Roy Protasius
7. Mawarsari binti Said
8. Patsy Phillip
9. Zaifah binti Sahran
10. Awangku Shahrizan bin Awangku Salleh

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"/>	<input type="text"/>	<input type="text"/>	Negeri மாநில	Strata நிலை	Kategori Sekolah பள்ளி பிரிவு	Kod Sekolah பள்ளி குறியீடு	Kelas வகுப்	Pelajar மாணவர்		
A2	Tarikh lahir பிறந்த திகதி	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Hari நாள்	Bulan மாதம்	Tahun ஆண்டு					
A3	Jantina பால்	A. Lelaki -ன் B. Perempuan பெண்													
A4	Bangsa மனம்	A. Melayu மலாய் B. Cina சீனர் C. India மத்தியர் D. Bumiputra Sabah சபா பூர்வீகம் E. Bumiputra Sarawak சரவாக்பூர்வீகம் F. Lain-Lain மற்றது													
		Sekolah Rendah ஆரம்பப்பள்ளி					Sekolah Menengah மடைநிலைப்பள்ளி								
A5	Kelas Àìòò	A. Tahun 4 ஆண்டு 4 B. Tahun 5 ஆண்டு 5 C. Tahun 6 ஆண்டு 6					D. Kelas Peralihan குறைநீக்கல்வகுப்பு E. Tingkatan 1 படிவம் 1 F. Tingkatan 2 படிவம் 2					G. Tingkatan 3 படிவம் 3 H. Tingkatan 4 படிவம் 4 I. Tingkatan 5 படிவம் 5			
A6	Umur ÀÁÀ	A. 10 tahun 10 வயது B. 11 tahun 11 வயது C. 12 tahun 12 வயது					D. 13 tahun 13 வயது E. 14 tahun 14 வயது F. 15 tahun 15 வயது					G. 16 tahun 16 வயது H. 17 tahun 17 வயது I. 18 tahun 18 வயது			

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

*Tamil and English*

- B5** Kebiasaannya, dalam seminggu berapa hari anda makan dan/atau minum pada waktu rehat sekolah?  
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை பள்ளி ஓய்வு நேரத்தில் உணவு உட்கொள்வீர்கள்?
- A 0 hari / 0 நாள்  
B 1 hari / 1 நாள்  
C 2 hari / 2 நாள்  
D 3 hari / 3 நாள்  
E 4 hari / 4 நாள்  
F 5 hari / 5 நாள்
- B6** Kebiasaannya, dari mana anda dapat makanan itu?  
வழக்கமாக 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 விரும்பமில்லை  
C Tiada masa / நேரம் இல்லை  
D Berdiet/kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்  
E Tiada duit / பணம் பற்றாக்குறை  
F Lain-lain / மற்றது  
G Tidak berkaitan/ambil makan tengahari / தொடர்பு இல்லை/ மதிய உணவை உட்கொள்வேன்
- B10** Kebiasaannya, dalam seminggu berapa hari anda mengambil minum petang (3.00 petang hingga 6.00 petang)?  
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை மாலை சிற்றுண்டி உட்கொள்வீர்கள் (மாலை மணி 3.00-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 அவ்வண்ணை பெருவீர்கள்?
- A Disediakan di rumah / வீடு  
B Beli di restoran atau warung / கடை  
C Disediakan di asrama / பள்ளி விடுதி  
D Lain-lain / மற்றது  
E Tidak berkaitan/tidak ambil makan malam / தொடர்பு யல்லை/பரவு உணவு உண்பதில்லை
- B14** Sekiranya anda tidak mengambil makan malam, apakah sebabnya?  
ஏதனால் பரவு உணவு உட்கொள்வதில்லை?
- A Tiada makanan / உணவு யல்லை  
B Tiada selera / உண்ண விருப்பமில்லை  
C Tiada masa / நேரம்யல்லை  
D Berdiet / உணவு கட்டுப்பாடு  
E Tiada duit / பணம் பற்றாக்குறை  
F Lain-lain / மற்றது  
G Tidak berkaitan/ambil makan malam / தொடர்பு யல்லை/பரவு உணவு உட்கொள்வேன்.
- B15** Dalam seminggu yang lepas, berapa kerap anda ambil makanan berat selepas makan malam? (Contoh: nasi lemak, roti canal, mee goreng, burger, ayam goreng, mee segera dan sebagainya. Ini tidak termasuk snek ringan contohnya 2 keping biskut dan/atau satu gelas susu)  
கடந்த வாரத்தில், பரவில் ஏத்தனை முறை அதிகமான அளவில் உணவு உட்கொண்டீர்கள்?  
(உதாரணமாக: நாசி லெமாக், ரொத்தி சாளாய், மீ பிரத்தல், பர்கர், பொரித்தக் கோழி, துரித மீமற்றும் சில. யதில் பால்மற்றும் பிஸ்கிட் போன்ற உணவு அடங்காது. (உதாரணத்திற்கு 2 துண்டு பிஸ்கிட் மற்றும்/ அல்லது ஒரு குவளைப்பால்)
- A 1 hari / 1 நாள்  
B 2 hari / 2 நாள்  
C 3 hari / 3 நாள்  
D 4 hari / 4 நாள்  
E 5 hari / 5 நாள்  
F 6 hari / 6 நாள்  
G 7 hari / 7 நாள்  
H Tidak ambil makanan berat selepas makan malam /  
பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை
- B16** Di manakah anda mengambil makanan berat tersebut?  
எங்கு யல்வண்ணை உட்கொள்வீர்கள்?
- A Rumah / வீடு  
B Restoran atau warung / கடை  
C Asrama / பள்ளி விடுதி  
D Lain-lain / மற்றது  
E Tidak berkaitan/tidak ambil makanan berat /  
தொடர்பு யல்லை/பரவில் நாள் அதிகமான அளவில் உணவு உண்பதில்லை

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

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

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



Tinjauan Persekitaran Keluarga

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

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

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

**MODUL C : AKTIVITI FIZIKAL**

**தொகுதி C : உடல் செயல்பாடு நடவடிக்கை**

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

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

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

Tinjauan Persekitaran (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 நேரம் முழுவதும் விளையாடிக்கொண்டிருந்தேன்
- C4** Dalam 7 hari yang lepas, apakah perkara yang biasa anda lakukan semasa waktu makan tengahari (selain daripada makan)?  
கடந்த 7 நாட்களில், ஓய்வு நேரத்தின் பொழுது நீங்கள் என்ன செய்தீர்கள்?
- A Duduk (berbual, membaca, membuat kerja sekolah)  
உட்கார்ந்திருந்தேன் (பேசிக்கொண்டு, படித்துக்கொண்டு, பாடம் செய்துக்கொண்டு)
- B Berdiri atau berjalan-jalan  
தின்றுகொண்டு அல்லது நடந்துக்கொண்டிருந்தேன்
- C Berlari atau bermain sedikit  
ஓடிக்கொண்டு அல்லது விளையாடிக்கொண்டிருந்தேன்
- D Berlari dan bermain sedikit  
ஓடிக்கொண்டுமற்றும் விளையாடிக்கொண்டிருந்தேன்
- E Berlari dan bermain hampir sepanjang masa  
ஓய்வு நேரம் முழுவதும் விளையாடிக்கொண்டிருந்தேன்

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

Tinjauan Persekitaran Keluarga

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

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

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

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

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

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

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

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

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

*Tinjauan Persekolahan Kognitif*

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

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



Tinjauan Persekitaran Keluarga

**D4** Sekiranya anda berhasrat untuk **mengurangkan berat badan**, apakah kaedah yang menjadi pilihan utama anda?   
 எவ்வாறு உடல் எடையை குறைக்க விருப்பம்?

A Bersenam   
 உடற்பயிற்சி

B Kurangkan pengambilan makanan tinggi lemak (contoh: makanan bergoreng)   
 கொழுப்பு நிறைந்த உணவை குறைத்தல்

C Kurangkan pengambilan makanan manis   
 டீஸிப்பு நிறைந்த உணவை குறைத்தல்

D Meningkatkan pengambilan sayur-sayuran dan buah-buahan   
 நிறைய பழம் மற்றும் காய்கறிகள் உட்கொள்ளுதல்

E Tidak mengambil hidangan utama (sarapan/ tengah hari/ makan malam)   
 உணவை தவிர்த்தல் (காலை சிற்றுண்டி/ மாலை உணவு/ யரவு உணவு)

F Mengambil pil diet/menggunakan krim pelangsing tubuh   
 மருந்து பயன்படுத்துதல்

G Berpuasa   
 விரதம்

H Mendapat khidmat professional   
 அறிவுரை நாடுதல்

I Tidak berhasrat mengurangkan berat badan   
 உடல் எடையைக் குறைக்க விருப்பமில்லை

**D5** Sekiranya anda berhasrat untuk **menambahkan berat badan**, apakah faktor utama yang mendorong anda   
 berbuat demikian?   
 அதனால் நீங்கள் உடல் எடையை அதிகரிக்க முயற்சி செய்கிறீர்கள்?

A Kesihatan / உடல் நிலையைப் பேண

B Kecantikan / அழகைப் பேண

C Meningkatkan keyakinan diri / தன்னிக்கையை உயர்த்த

D Mendapat ramai kawan / நிறைய நண்பர்கள் கிடைக்க

E Tidak berhasrat menambah berat badan / உடல் எடையைக் அதிகரிக்க விருப்பமில்லை

**D6** Sekiranya anda berhasrat untuk **menambahkan berat badan**, apakah kaedah yang menjadi pilihan utama anda?   
 எவ்வாறு உடல் எடையை அதிகரிப்பீர்கள்?

A Menambah kuantiti makanan yang diambil   
 உட்கொள்ளும் உணவின் அளவை அதிகரிப்பேன்

B Mengambil suplemen (Makanan tambahan seperti susu, suplemen vitamin)   
 மருந்து உட்கொள்ளுவேன்

C Mengambil makanan yang berkalori tinggi   
 அதிக புரதச்சத்து உள்ள உணவை உட்கொள்ளுவேன்

D Lain-lain   
 மற்றது

F Tidak berhasrat menambah berat badan   
 உடல் எடையைக் அதிகரிக்க விருப்பமில்லை

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

Tinjauan Persekitaran Keluarga

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

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

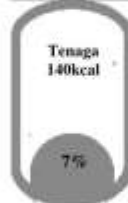
- F5** Jika saya minum 100ml minuman ini, ia membekalkan 56 kcal tenaga.  
நான் 100ml குளிர்பானம் குடித்தால், எனக்கு 56 கலோரிச் சத்துகள் கிடைக்கும்.
- A Betul / சரி  
B Salah / பிழை  
C Tidak tahu / தெரியவில்லை
- F6** Jika saya minum satu kotak minuman ini, bermaksud saya telah mengambil 26.5 gram gula.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



- 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 டீய்வுண்டை உட்கொண்டால், எனக்கு 2000 கலோரியிலிருந்து 7% சத்து கிடைக்கும்.
- A Betul / சரி  
B Salah / பிழை  
C Tidak tahu / தெரியவில்லை

**Produk aiskrim A**  
பனிக்கூல் A



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

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

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

A. Pepejal susu  
பால்

B. Sirap glukosa  
குளுகோஸ்

C. Gula  
சர்க்கரை

D. Olein/Minyak isirung kelapa sawit  
பனை எண்ணெய்

E. Serbuk koko  
கொக்கோ

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

A. Sirap glukosa  
குளுகோஸ்

B. Gula  
சர்க்கரை

C. Olein/Minyak isirung kelapa sawit  
பனை எண்ணெய்

D. Pepejal susu  
பால்

E. Serbuk koko  
கொக்கோ



Tinjauan Pendidikan Kesihatan

<b>MODUL G : PENGUKURAN ANTROPOMETRI</b> <b>தொகுதி G : ஆந்தரோபோமெற்றிக் அளவீடுகள்</b>				
<b>Arahan : Bahagian ini akan diisi oleh pelajar di dalam kertas jawapan yang disediakan.</b> <b>கட்டளை: கீழ்க்காணும் பத்திரத்தை நிரப்புக.</b>				
G1	Tarikh pengukuran Antropometri ஆந்தரோபோமெற்றிக் அளவு எடுக்கப்பட்ட திகதி <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 20%;">Hari நாள்</td> <td style="width: 20%;">Bulan மாதம்</td> <td style="width: 60%;">Tahun ஆண்டு</td> </tr> </table>	Hari நாள்	Bulan மாதம்	Tahun ஆண்டு
Hari நாள்	Bulan மாதம்	Tahun ஆண்டு		
G2	Berat Badan உடல் எடை  G2a Berat 1 எடை 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> kg  G2b Berat 2 எடை 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> kg  Enggan diukur அளக்கவில்லை <input type="checkbox"/>			
G3	Tinggi உயரம்  G3a Tinggi 1 உயரம் 1 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm  G3b Tinggi 2 உயரம் 2 <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> cm  Enggan diukur அளக்கவில்லை <input type="checkbox"/>			

## ADOLESCENT NUTRITION SURVEY 2017

马来西亚学生营养调查 2017




## Survey form/调查问卷

## INTRODUCTION / 简介

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

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

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

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

THANK YOU FOR YOUR WILLINGNESS TO COMPLETE THE SURVEY

感谢你愿意回答问卷

<b>MODULE A : PERSONAL INFORMATION</b>			
<b>A组：个人资料</b>			
<b>INSTRUCTION : Fill the student ID, date of birth and shade your answer on the answer sheet provided</b>			
<b>指示：填写学生编号，出生日期并在准备好的答案纸上划黑作答</b>			
A1	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	
		<b>Primary school/小学</b>	<b>Secondary school/中学</b>
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

<b>MODULE B: Meal pattern</b>	
<b>组 B: 饮食习惯</b>	
<b>Instruction: Choose the answer and shade on the answer sheet provided</b>	
<b>指示: 请在准备好的答案纸上划圈作答</b>	
<b>B1</b>	<p>What is your school session? 请问你现在就读早上或下午班?</p> <p>A Morning session only/上午班 B Afternoon session only/下午班 C Morning and afternoon session/上午至下午班</p>
<b>B2</b>	<p>Normally, how many days in a week do you take breakfast (from 6.00AM till 8.00AM)? 你通常在一个星期内有几天会吃早餐(从早上6点到8点)?</p> <p>A 1 day/1天 B 2 days/2天 C 3 days/3天 D 4 days/4天 E 5 days/5天 F 6 days/6天 G 7 days/7天 H Not applicable / I do not take breakfast/不相关 / 没有吃早餐</p>
<b>B3</b>	<p>Normally, where do you get your breakfast from? 你通常从哪里获得早餐?</p> <p>A Prepared at home/在家准备 B Buy from school canteen/学校食堂购买 C Buy at restaurant or kiosk/餐馆或摊子购买 D Provided by the hostel/宿舍提供 E Others/其他途径 F I do not take breakfast/没有吃早餐</p>
<b>B4</b>	<p>If you do not take breakfast, what is the reason? 如果你没有吃早餐, 请问是什么原因?</p> <p>A No food/没有食物 B No appetite/没有胃口 C No time/没有时间 D On diet/ control body weight/节食/控制体重 E No money/没有钱 F Others/其他原因 G Not applicable/ because I take breakfast everyday 不相关/我每天都吃早餐</p>

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

上个星期的每一天，你有多少次参与课外活动（体育，玩耍，跳舞或其他课外活动）

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

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

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

- 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



*Ujian Praktek Kejuruan*

**MODULE E: SUPPLEMENT INTAKE**

**E组：食用营养补剂**

**Instruction : Choose the answer and shade on the answer sheet provided**

**指示：请在准备好的答案纸上划黑作答**

- E1** Are you taking any vitamin supplement/ minerals?  
 你有在食用维生素/矿物质的补剂吗?  
 A Yes/有  
 B No/没有  
 (If No, please answer 'I DON'T TAKE SUPPLEMENT' at question E2, E3, danE4  
 (如果没有, 请在E2, E3 和 E4 回答没有食用补剂))
- E2** What type of vitamin supplement/ minerals that you usually take?  
 你在食用什么维生素/矿物质补剂?  
 A Multivitamin/多元维生素  
 B Vitamin C/维生素 C  
 C Iron supplement (Ferum)/铁质  
 D Others/其他  
 E I do not take supplement/没有食用补剂
- E3** What is the reason for you to take vitamin supplement/ minerals?  
 是什么原因使你在食用维生素/矿物质补剂?  
 A Prescribed by doctor/医生指示  
 B Advised by parent/父母要求  
 C Self-awareness/自我意识  
 D Friend influence/朋友影响  
 E Others/其他  
 F I do not take supplement/没有食用补剂
- E4** How often do you take vitamin supplement / minerals?  
 你如何食用该维生素/矿物质补剂?  
 A Everyday/每天  
 B 5-6 times per week/一星期 5 至 6 次  
 C 3-4 times per week/一星期 3 至 4 次  
 D 1-2 times per week/一星期 1 至 2 次  
 E I do not take supplement/没有服用补剂
- E5** Are you taking any **food supplement**?  
 你有在食用食物补剂吗?  
 A Yes/有  
 B No/没有  
 (If NO, please answer 'I DON'T TAKE SUPPLEMENT' at question E6, E7, danE8)  
 (如果没有, 请在E6, E7 和 E8 回答没有食用补剂))

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

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

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

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

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

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

<b>MODULE F: NUTRITION AND FOOD LABELLING</b>																			
<b>F 组：食品标签（只限于中学生作答）</b>																			
<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>																			
<b>F1</b>	<p>Do you read food label when buying or receiving food/drink? 当你正在购买或接受食品/饮料的时候，你会否阅读食品标签？</p> <p>A. Yes, every time/每次都会</p> <p>B. Yes, sometimes/偶尔会</p> <p>C. No/不会</p>																		
<p><b>(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)</b></p> <p><b>(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)</b></p>																			
<b>F2</b>	<p>If you do not read food labels, specify the reason? <b>You may choose more than one answer</b> 如果你没有阅读食品标签，请列明原因。你可以选择多个答案</p> <table border="1" style="margin: 10px 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: 50px;"><b>A</b></td> <td>Small printing font/字体太小</td> </tr> <tr> <td><b>B</b></td> <td>Do not understand food labels/不明白</td> </tr> <tr> <td><b>C</b></td> <td>Not interesting/不感兴趣</td> </tr> <tr> <td><b>D</b></td> <td>Do not know the importance/不懂其重要性</td> </tr> <tr> <td><b>E</b></td> <td>No time/没有时间</td> </tr> <tr> <td><b>F</b></td> <td>Already know the information/已经知道相关资料</td> </tr> </table>	Reasons for not reading food labels/ 没有阅读食品标签的原因		<b>A</b>	Small printing font/字体太小	<b>B</b>	Do not understand food labels/不明白	<b>C</b>	Not interesting/不感兴趣	<b>D</b>	Do not know the importance/不懂其重要性	<b>E</b>	No time/没有时间	<b>F</b>	Already know the information/已经知道相关资料				
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<b>F</b>	Already know the information/已经知道相关资料																		
<b>F3</b>	<p>What kind of information do you read from the food label? <b>You may choose more than one answer.</b> 你会从食物营养标签上阅读哪些营养资料？你可以选择多个答案</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tr> <th colspan="2">Nutrition fact information/营养资料</th> </tr> <tr> <td style="width: 50px;"><b>A</b></td> <td>Energy content/日能</td> </tr> <tr> <td><b>B</b></td> <td>Carbohydrate/sugar content/碳水化合物/糖含量</td> </tr> <tr> <td><b>C</b></td> <td>Fat content/脂肪含量</td> </tr> <tr> <td><b>D</b></td> <td>Protein content/蛋白质含量</td> </tr> <tr> <td><b>E</b></td> <td>Salt/ sodium content/钠含量</td> </tr> <tr> <td><b>F</b></td> <td>Vitamin content/维生素含量</td> </tr> <tr> <td><b>G</b></td> <td>Mineral content/矿物质含量</td> </tr> <tr> <td><b>H</b></td> <td>Fiber/纤维</td> </tr> </table>	Nutrition fact information/营养资料		<b>A</b>	Energy content/日能	<b>B</b>	Carbohydrate/sugar content/碳水化合物/糖含量	<b>C</b>	Fat content/脂肪含量	<b>D</b>	Protein content/蛋白质含量	<b>E</b>	Salt/ sodium content/钠含量	<b>F</b>	Vitamin content/维生素含量	<b>G</b>	Mineral content/矿物质含量	<b>H</b>	Fiber/纤维
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<b>H</b>	Fiber/纤维																		

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

根据以下饮品为例，你会阅读以下哪些资料？您可以选择多个答案



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

*English/Chinese/Chinese*

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

根据以下**XYZ包装饮料**的食品说明。请阅读明白并确定下列陈述正确与否

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

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

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

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

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

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

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

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



Base on/根据  
2000 kcal/千卡


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

**Product Ice Cream A**  
冰淇淋 A 产品

**List of ingredients/成分:**

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

糖, 精油/棕榈仁油, 乳固体, 葡萄糖浆,  
可可粉



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

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

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

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

<b>MODULE G : ANTHROPOMETRIC MEASUREMENT</b>							
<b>G组：人体测量</b>							
<i>Instruction: This section will be completed by the student in the answer sheets provided</i> 指示：在这环节，学生将在所准备的答案纸上作答							
G1	Anthropometry measurement date/测量日期: <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 20%;"><input type="text"/></td> <td style="width: 20%;"><input type="text"/></td> <td style="width: 60%;"><input type="text"/></td> </tr> <tr> <td>Day/日期</td> <td>Month/月份</td> <td>Year/年份</td> </tr> </table>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Day/日期	Month/月份	Year/年份
<input type="text"/>	<input type="text"/>	<input type="text"/>					
Day/日期	Month/月份	Year/年份					
G2	Body weight/体重						
G2a	Weight 1/体重1 <input type="text"/> <input type="text"/> <input type="text"/> : <input type="text"/> kg/公斤						
G2b	Weight 2/体重2 <input type="text"/> <input type="text"/> <input type="text"/> : <input type="text"/> kg/公斤						
	Refuse to be measured 不愿被测量 <input type="text"/>						
G3	Body height/身高						
G3a	Height 1/身高1 <input type="text"/> <input type="text"/> <input type="text"/> : <input type="text"/> cm/厘米						
G3b	Height 2/身高2 <input type="text"/> <input type="text"/> <input type="text"/> : <input type="text"/> cm/厘米						
	Refuse to be measured 不愿被测量 <input type="text"/>						





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

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

(Tandatangan)

Nama Ibubapa/Penjaga\* :

Nombor K/P :

Tarikh :

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

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

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

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

(Tandatangan)

Nama Ibubapa/Penjaga\* :

Nombor K/P :

Tarikh :

## Students Consent Form

Borang Persetujuan Responden (Bawah 18 Tahun) NHMS 2017

### RISALAH MAKLUMAT RESPONDEN (BAWAH 18 TAHUN)

#### 1. Tajuk:

Tinjauan Kebangsaan Kesihatan dan Morbiditi (NHMS) 2017

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

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

#### 3. Nama Penaja:

Kementerian Kesihatan Malaysia

#### 4. Pengenalan:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



Borang Perseetujuan Responden (Bawah 18 Tahun) NHMS 2017

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

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

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

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

**Responden :**

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

**Penyelidik:**

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

**Appendix 9: List of Abbreviations**

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



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