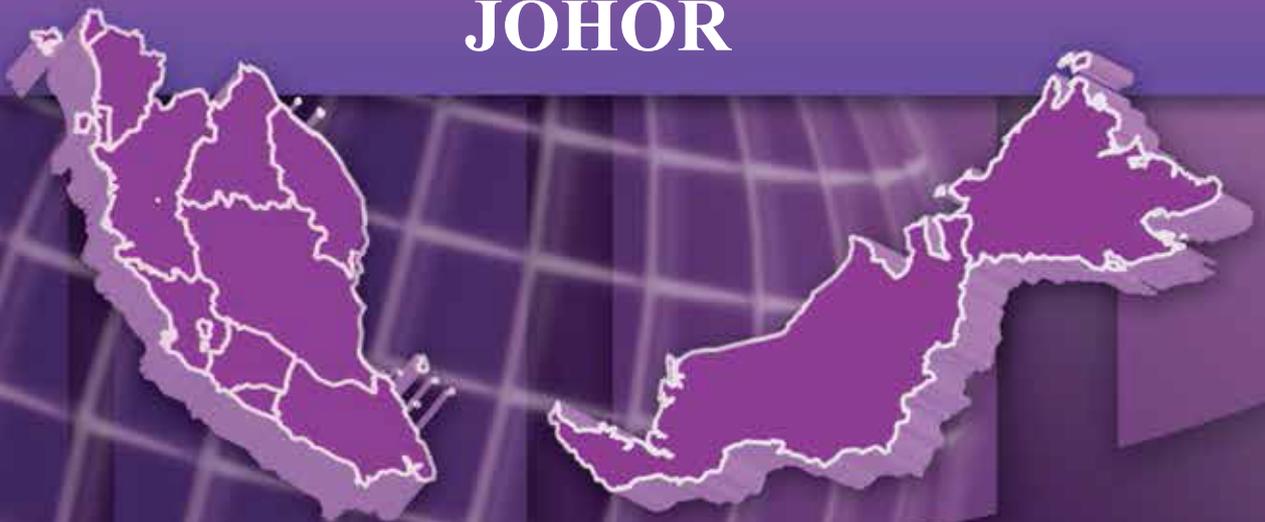# NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY

JOHOR

THE NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT NUTRITION SURVEY 2017

Contributors

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

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Executive Summary

The Adolescent Nutrition Survey (ANS) is the second nation-wide study among adolescents in Malaysia after the Malaysia School-based Nutrition Survey (MSNS) 2012. There are three main scopes in this survey which are Adolescent Nutrition Survey (ANS), Habitual Food Intake and Dietary Intake. ANS consists of six topics such as nutritional status, body weight perception, meal pattern, physical activity, vitamin/mineral, food supplement intakes and food and nutrition labelling. This survey was conducted at 311 randomly selected schools in all states including three federal territories in Malaysia. This school-based survey was a cross-sectional study involving school-going adolescents aged Primary 4 To Secondary 5 attending school in Malaysia. A multistage stratified cluster sampling design was used to recruit national representative samples from students in Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age). The survey was conducted using self-administered questionnaires. 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 ≥-2SD) was 92.2% and stunting was 7.8%. The prevalence of stunting was higher in rural areas (8.0%) as compared to urban areas (7.7%). In terms of BMI for age (BAZ), the prevalence of thinness was 5.7%, overweight was 14.7 % and obesity was 14.9%.

Among those school-going adolescents who had actual normal weight, 47.8% correctly perceived their weight to be normal. Among those who were actually thin, 78.0% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 45.7% and 10.6% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 58.9% 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 32.2%. More than half, one to six days per week (59.2%) and some of them did not having breakfast in a week (8.6%). Among those who had breakfast, 73.9% had it at home. Boys (33.3%) reported having breakfast daily (seven days per week), higher than girls areas (31.1%). The two main reasons of skipping breakfast were no appetite (41.9%) and no time (33.0%).

The prevalence of having lunch seven days per week among school-going adolescents was 49.9%; 48.0% had lunch up to six days per week and 2.1% did not have lunch in a week. No appetite (45.5%) and no time (21.0%) were the two main reasons for skipping lunch. As for dinner, 56.7% of school-going adolescents had dinner seven days per week, 40.7% 1-6 days per week and 2.6% did not have dinner in a week. Only 6.9% took heavy meals after dinner seven days per week. There were 2.4% who had fast food daily and 12.6% did not have fast food. Social media (YouTube, Facebook, Instagram, etc.) and television were reported as the

main sources which affected dietary pattern in 38.0% and 35.6%. A percentage of 30.0% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Johor was 42.0%. Boys and younger adolescents were more active than girls and older adolescents. The most favourite activities during spare time were walking for exercise, jogging / running, badminton, tagging and cycling. More adolescents watched television, played computer or video games over the weekend compared to schooling days.

The prevalence of vitamin/minerals and food supplements intake among adolescence in Johor was 46.1% and 31.9%. There was no significant difference of intake prevalence between the genders, ethnicity, school class and localities. In average, the vitamin/mineral and food supplements were consumed every day by 18.9% and 13.6 % of adolescents. The most commonly consumed vitamin/minerals and food supplements were Vitamin C, 39.7% and Bee Product 19.8%. The main reason for taking vitamin / minerals and food supplements was due to parent's advise which, 46.3% and 33.3% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 35.6% always reading food and nutrition labelling. Another 49.0% reported as sometimes and only 15.3% never reading food label. They were more concerned about fat and total energy compared to other nutrients. 42.3% of adolescents both answered correctly on nutrition facts and 22.3% of adolescents answered correctly questions regarding the front of pack labelling and only 6.3% answered both correctly regarding the most and least ingredients based on the food ingredient list.

1.0 Introduction

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

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

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

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

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

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

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1.1 Objectives

1.1.1 General Objectives

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

1.1.2 Specific Objectives

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

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

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

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

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

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

1.2 The NHMS 2017 Organisation Team

The organisation of NHMS 2017 was set up at various levels of the Ministry of Health and Minstry 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.**

Advisor
Dr. Haji Tahir Bin Aris
Director, Institute for Public Health

1. State Education Department
2. District Education Department
3. School Head/ Principal
4. State Liaison Officer

Coordinator
Dr. Muhammad Fadhli B. Mohd Yusoff

Principal Investigators
Dr. S Maria Binti Awaluddin
Pn. Ruhaya Binti Salleh
En. Mohammad Aznuddin Bin Abd Razak

Research Officers (temporary staff)
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Pn Siti Noafika Bt. Anwar
En. Muhammad Suhaimi Bin Mohamad Idrus
Cik Shahibul Bariah Bt. Mat Ghani
Pn. Nur Fadzilla Bt. Mohd Radzi
En. Muhammad Zuhdi Bin Khiruddin
En. Amir Jazali Bin Zaili
En. Muhammad Asyraf Bin Napiah

Project Manager
Pn. Hamizatul Akmal Bt Abd Hamid
Pn. Wan Shakira Bt Rodzlan Hasani

Operation Centre and Logistics
En. Lim Kuang Kuay
En. Azli B. Baharudin @ Shaharuddin

Data Analysis

Dr. Maria Safura Binti Mohamad
Dr. Noor Ani Bt Ahmad
Pn. Rashidah Bt Dato' Ambak
Dr. S Maria Binti Awaluddin
Pn. Ruhaya Binti Salleh

Data Processing & Quality Control
Dr. Mohd Azahadi B. Omar
Pn. Norazizah Bt. Ibrahim Wong
Dr Rajini A/P Sooryanarayana
Pn Nur 'Ain binti Hashim
En. Sulaiman Bin Harun
En. Andy Bin Mustaming
Pn. Cheong Siew Man
Pn. Lalitha A/P Palaniveloo

Central Field Supervisor (North)

Dr. Noor Ani Bt. Ahmad
Pn. Norzawati Bt. Yoep

Central Field Supervisor (Central)

Dr. Nur Liana Bt Ab. Majid

Central Field Supervisor (South)

Dr Nur Asiah Mohamad

Central Field Supervisor (East)

Cik Hasimah Bt. Ismail

Central Field Supervisor (Sabah, Sarawak & WP Labuan)

Pn. Tee Guat Hiong
En. Mohd Hazrin B. Hasim @ Hashim

Field Supervisors

KEDAH
En. Mohd Naim B. Mohd Rasidi
Cik Hasmila Hassan

PERLIS
En. Sayan A/L Pan

P. PINANG
Pn. Nur Azna Bt Mahmud
Dr. Fazly Azry B. Abdul Aziz

PERAK
Dr Tania Gayle A/P Robert Lourdes
Dr Thamil Arasu A/L Saminathan

Field Supervisors

WP K. LUMPUR
Pn. Nur Shahida Bt. Abdul Aziz
Pn. Syafinaz Bt Mohd Sallehuddin

WP. PUTRAJAYA
Dr. Halizah Mat Ripn
Dr. Noor Aliza Bt. Lodz

SELANGOR
En. Azli B. Baharudin @ Shaharuddin
Pn. Chan Ying Ying

Field Supervisors

JOHOR
Pn. Fatimah Bt. Othman

NEGERI SEMBILAN
Dr Chandrika A/P Jeevanathan
Pn. Nor Azian Bt Mohd Zaki

MELAKA
Pn. Noraida Bt Mohd Kasim
Dr Shubash Shander A/L Ganapathy

Field Supervisors

PAHANG
En. Mohamad Hasnan B. Ahmad
Pn. Muslimah Bt Yusof

TERENGGANU
En. Mohd Azza B. Azlan

KELANTAN
Dr. Maisarah Binti Omar

Field Supervisors

SABAH
Cik Faizah Bt Paiwai
En. Mohamad Fuad B. Mohamad Anuar

SARAWAK
En. Mohamad Aznuddin B. Abd Razak
Matron Tilen Ong

WP LABUAN
Pn. Rasidah Bt Jamaluddin

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)

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

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

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

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

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

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

2.4 Sampling Design

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

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

2.5 Ethical Approval

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

2.6 Data Collection

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

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

2.7 Data Management

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

2.7.1 Data Operation Centre

An operation centre with several stations was set up to receive data "bundles" from the field:
Station 1: Respondent ID checking
Station 2: Scanning
Station 3: Verification
Station 4: Storage

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┌─────────────────────────┐
│        Work Flow        │
└─────────────────────────┘

┌───────────────────────────────────────┐
│  Received bundles via courier or by-hand │
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                    │
                    ▼
┌───────────────────────────────────────┐
│   Bundle receiving forms were filled-up │
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                    │
                    ▼
┌───────────────────────────────────────┐
│    School ID were checked and verified  │ ◄──────┐
└───────────────────────────────────────┘        │
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┌───────────────────────────────────────┐        │
│   Student ID were checked for each OMR  │        │
└───────────────────────────────────────┘        │
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                    ▼                              │
               ◇ Status ◇ ──────────►  ┌───────────┐
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                    ▼                   └───────────┘
             ┌───────────┐
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             └───────────┘
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│       OMR forms were scanned            │
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│          Data Verification              │
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┌───────────────────────────────────────┐
│        Questionnaires Storage           │
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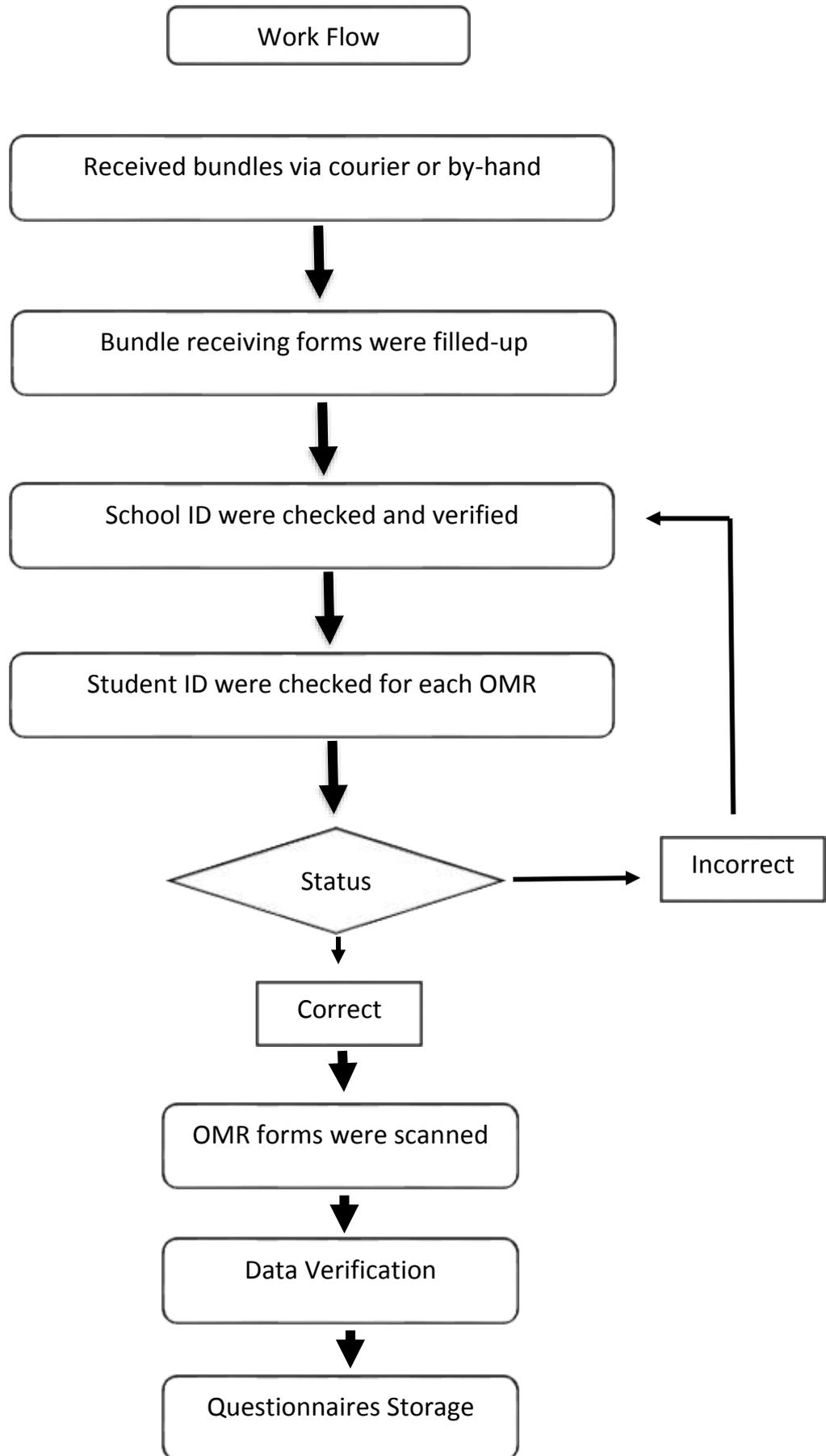
Figure 2: Work Flow of NHMS 2017

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2.7.2 Data Analysis

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

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

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

Where;

W1 = the inverse of the probability of selecting the school

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

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

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

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

2.8 Survey Instruments

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

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

3.0 Findings

3.1 General Findings

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

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

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

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

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

	NHMS 2017			School Enrolment 2017	
	n	Estimated Enrolment (weighted)	Prevalence (%)	Total Enrolment	Prevalence (%)
MALAYSIA	40087	3,480,500	100	3,480,439	100
State					
Johor	2565	439,369	12.6	439,406	12.6
Kedah	2490	250,426	7.2	250,388	7.2
Kelantan	2464	207,201	6	207,206	6
Melaka	2685	106,254	3.1	106,253	3.1
Negeri Sembilan	2431	139,235	4	139,242	4
Pahang	2563	174,713	5	174,721	5
Pulau Pinang	2547	178,446	5.1	178,453	5.1
Perak	2527	281,354	8.1	281,352	8.1
Perlis	2496	38,004	1.1	37,999	1.1
Selangor	2503	651,976	18.7	651,925	18.7
Terengganu	2437	158,658	4.6	158,645	4.6
Sabah	2437	331,295	9.5	331,298	9.5
Sarawak	2534	321,046	9.2	321,063	9.2
WP Kuala Lumpur	2410	177,937	5.1	177,902	5.1
WP Labuan	2525	9,604	0.3	9,602	0.3
WP Putrajaya	2473	14,982	0.4	14,984	0.4
Sex					
Male	19677	1,746,339	50.2	1,746,326	50.2
Female	20410	1,734,161	49.8	1,734,113	49.8
Form					
Standard 4	4617	448,352	12.9	448,329	12.9
Standard 5	4205	442,371	12.7	442,339	12.7
Standard 6	3777	443,262	12.7	443,262	12.7
Form 1	5702	450,996	13	451,024	13
Form 2	5499	426,921	12.3	426,908	12.3
Form 3	5834	431,004	12.4	431,043	12.4
Form 4	5536	414,703	11.9	414,653	11.9
Form 5	4917	422,891	12.2	422,881	12.2
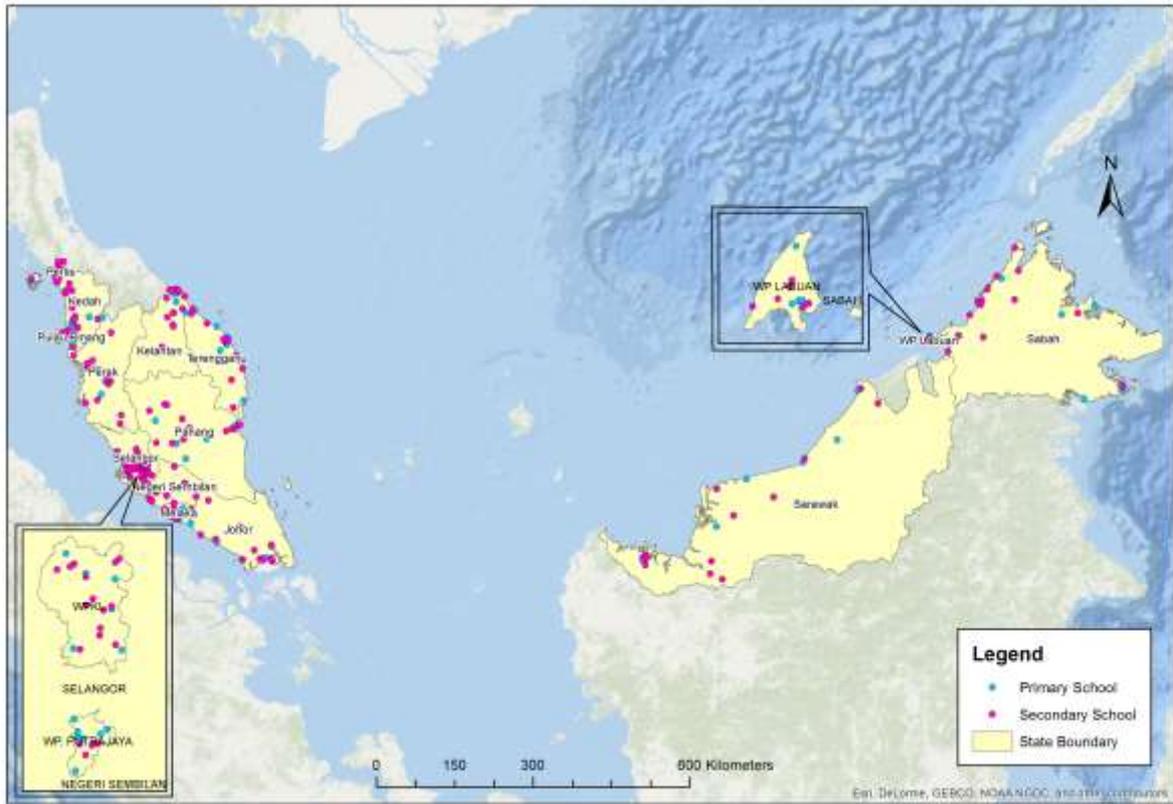
Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 20

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

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3.2.1 Introduction

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

3.2.2 Objectives

General objective:

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

Specific objective:

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

3.2.3 Variable definition

The nutritional status of adolescents was identified based on the World Health Organization Growth Reference 2007 (WHO 2007)[1]. The major indices referred to were:
   a. Height-for-Age z-score (for adolescents between (Primary 4 to Secondary 5), and
   b. BMI-for-Age z-score (for adolescents between Primary 4 to Secondary 5)

3.2.4 Findings

3.2.4.1 Height-for-Age z-score

The finding of the survey showed that 92.2% (95% CI: 90.96, 93.32) of the adolescents had normal height-for-age status (HAZ: ≥ -2SD to ≤ +2SD). The prevalence was higher than national level [91.8% (95% CI: 91.19, 92.29)]. Comparing between strata, rural area had higher percentage of total stunting [8.0% (95% CI: 6.55, 9.83)] compared to urban area [7.7% (95% CI: 6.36, 9.29%)]. In term of sexes, girls had higher percentage of total stunting [8.6% (95% CI: 6.86, 10.65)] compared to boys [7.0% (95% CI: 5.63, 8.68)]. Comparing class category, primary

level had higher percentage of total stunting [9.0% (95% CI: 7.13, 11.20)] compared to secondary level [7.1% (95% CI: 6.03, 8.30)].

3.2.4.2 BMI-for-Age z-score

In terms of BMI-for-age status, the findings showed that 64.7% (95% CI: 62.60, 66.68) of the population was in the normal range (> -2SD to < +1SD). The prevalence was higher than national level [62.9% (95% CI: 61.84, 64.02). Comparing between strata, rural area had higher percentage of thinness [6.1% (95% CI: 4.13-8.89)] compared to urban area [5.6% (95% CI: 4.30-7.17%)]. According to sexes, more boys [7.0% (95% CI: 5.17, 9.49)] were thinner than girls [4.3% (95% CI: 3.38, 5.52)]. In term of class category, secondary level had higher percentage of thinness [6.0% (95% CI: 4.58, 7.85)] compared to primary level [5.1% (95% CI: 3.72, 7.06)].

On the other hand, the prevalence of overweight in Johor (BMI-for-age: > +1SD to < +2SD) was 14.7% (95% CI: 13.39, 16.18). The state prevalence was lower than national prevalence [15.6% (95% CI: 15.06, 16.19)]. Between strata, urban strata showed higher prevalence of overweight [14.9% (95% CI: 13.41, 16.63)] than rural strata [14.0% (95% CI: 11.57, 16.94)]. Comparing between sexes, boys had higher prevalence of overweight [15.0% (95% CI: 12.95, 17.41)] than girl [14.4% (95% CI: 12.41, 16.68)]. In term of class category, primary level had higher prevalence of overweight [16.1% (95% CI: 13.66, 18.79) compared with secondary level [13.9% (95% CI: 12.49, 15.55)].

For the prevalence of obesity (BMI-for-age: > +2SD), the state prevalence was 14.9% (95% CI: 13.33, 16.64), which the prevalence was higher than national prevalence [14.8% (95% CI: 14.00, 15.73)]. Between strata, rural strata showed higher prevalence of obesity [15.3% (95% CI: 12.69, 18.25)] than urban strata [14.8% (95% CI: 12.92, 16.91)]. Comparing between sexes, boys had higher prevalence of obesity [17.6% (95% CI: 15.64, 19.68)] than girl [12.2% (95% CI: 10.56, 14.09)]. In term of class category, 16.7% (95% CI: 14.01, 19.76) primary level were obese compared to 13.9% (95% CI: 12.38, 15.49) secondary level.

3.2.5 Conclusion

The prevalence of stunted for adolescent aged 10 to 17 years in Johor was 7.8%. On the other hand, the prevalence of overweight and obesity among this population were 14.7% and 14.9% respectively. In contrast, 5.7% of the population were found to be thin. High intake of energy and nutrient are very important for physical growth and development at this age. The concept of healthy eating and living should be practised at younger age to ensure healthy physical and mental development. In consequences, it is hope reduce the prevalence of stunted, thinness, overweight and obesity.

3.2.6 Recommendation

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

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

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

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

| Characteristic | Stunting (<-2SD) | | | | | Normal (≥-2SD) | | | | |
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	197	34161	7.8	6.68	9.04	2366	404915	92.2	90.96	93.32
Locality of School										
Urban	151	25936	7.7	6.36	9.29	1834	310806	92.3	90.71	93.64
Rural	46	8225	8.0	6.55	9.83	532	94109	92.0	90.17	93.45
Sex										
Boys	82	15491	7.0	5.63	8.68	1093	205649	93.0	91.32	94.37
Girls	115	18670	8.6	6.86	10.65	1273	199266	91.4	89.35	93.14
Class										
Standard 4	25	5340	9.6	6.70	13.61	237	50193	90.4	86.39	93.30
Standard 5	29	5316	9.8	6.95	13.62	264	48982	90.2	86.38	93.05
Standard 6	18	4006	7.4	5.19	10.56	256	49837	92.6	89.44	94.81
Form 1	17	3106	5.4	3.34	8.49	324	54845	94.6	91.51	96.66
Form 2	35	4724	8.9	6.74	11.69	363	48290	91.1	88.31	93.26
Form 3	23	3769	7.0	4.92	9.75	319	50433	93.0	90.25	95.08
Form 4	29	3921	7.3	5.64	9.30	337	50108	92.7	90.70	94.36
Form 5	21	3979	7.1	4.70	10.53	266	52225	92.9	89.47	95.30
Class Category										
Primary Level	72	14662	9.0	7.13	11.20	757	149013	91.0	88.80	92.87
Secondary Level	125	19499	7.1	6.03	8.30	1609	255902	92.9	91.70	93.97
Ethnicity										
Malay	169	29661	9.0	7.93	10.21	1721	299800	91.0	89.79	92.07
Chinese	19	2803	3.4	2.05	5.49	493	80496	96.6	94.51	97.95
Indian	4	825	4.4	1.10	16.05	113	17890	95.6	83.95	98.90
Bumiputera Sabah	1	199	8.8	2.35	28.04	13	2050	91.2	71.96	97.65
Bumiputera Sarawak	4	673	18.3	4.13	53.70	16	3010	81.7	46.30	95.87
Others	-	-	-	-	-	10	1668	100.0	0.00	100.00

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

| Characteristic | Thinness (<-2SD) | | | | | Normal BMI (≥ -2SD to ≤ +1SD) | | | | |
	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
Johor	140	24933	5.7	4.57	7.05	1669	283455	64.7	62.60	66.68
Locality of School										
Urban	106	18701	5.6	4.30	7.17	1292	217340	64.7	62.15	67.14
Rural	34	6231	6.1	4.13	8.89	377	66115	64.6	61.48	67.61
Sex										
Boys	79	15520	7.0	5.17	9.49	712	133296	60.4	57.42	63.22
Girls	61	9413	4.3	3.38	5.52	957	150159	69.0	66.49	71.48
Class										
Standard 4	17	3659	6.6	4.67	9.32	165	34691	62.8	56.40	68.81
Standard 5	11	2028	3.8	2.75	5.13	177	32485	60.3	55.69	64.75
Standard 6	15	2690	5.0	2.80	8.76	169	34021	63.2	57.19	68.79
Form 1	21	3648	6.3	3.60	10.78	204	34060	58.8	52.90	64.41
Form 2	19	2563	4.8	2.91	7.93	268	35534	67.0	62.11	71.60
Form 3	17	2802	5.2	2.95	8.92	219	34632	63.9	56.57	70.62
Form 4	23	3865	7.2	4.18	11.99	252	36775	68.1	61.42	74.05
Form 5	17	3678	6.5	4.16	10.16	215	41256	73.4	69.20	77.22
Class Category										
Primary Level	43	8377	5.1	3.72	7.06	511	101197	62.1	59.60	64.55
Secondary Level	97	16556	6.0	4.58	7.85	1158	182258	66.2	63.53	68.73
Ethnicity										
Malay	96	17224	5.2	4.07	6.71	1210	209725	63.8	61.82	65.74
Chinese	33	5465	6.6	4.67	9.14	350	56298	67.6	60.69	73.79
Indian	9	1801	9.6	3.96	21.58	78	12262	65.5	48.57	79.27
Bumiputera Sabah	-	-	-	-	-	12	1861	82.8	42.42	96.91
Bumiputera Sarawak	1	305	8.3	1.67	32.50	15	2600	70.6	57.23	81.16
Others	1	137	8.2	1.06	42.89	4	708	42.4	14.13	76.76

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

| Characteristic | Overweight (> +1SD to ≤ +2SD) | | | | | Obese (> +2SD) | | | | |
	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
Johor	382	64587	14.7	13.39	16.18	368	65367	14.9	13.33	16.64
Locality of School										
Urban	299	50219	14.9	13.41	16.63	284	49747	14.8	12.92	16.91
Rural	83	14367	14.0	11.57	16.94	84	15620	15.3	12.69	18.25
Sex										
Boys	179	33228	15.0	12.95	17.41	203	38800	17.6	15.64	19.68
Girls	203	31358	14.4	12.41	16.68	165	26567	12.2	10.56	14.09
Class										
Standard 4	42	9128	16.5	13.70	19.81	37	7752	14.0	9.71	19.86
Standard 5	50	8766	16.3	11.07	23.28	52	10588	19.7	12.06	30.38
Standard 6	44	8279	15.4	12.13	19.30	46	8853	16.4	11.64	22.72
Form 1	56	9428	16.3	12.39	21.07	60	10816	18.7	14.79	23.28
Form 2	59	8006	15.1	12.26	18.46	52	6911	13.0	9.66	17.37
Form 3	55	8562	15.8	12.46	19.83	51	8206	15.1	11.10	20.31
Form 4	49	7043	13.0	10.41	16.21	42	6346	11.7	7.88	17.16
Form 5	27	5375	9.6	7.04	12.86	28	5895	10.5	8.38	13.04
Class Category										
Primary Level	136	26173	16.1	13.66	18.79	135	27194	16.7	14.01	19.76
Secondary Level	246	38413	13.9	12.49	15.55	233	38173	13.9	12.38	15.49
Ethnicity										
Malay	293	50490	15.4	13.79	17.08	287	51289	15.6	13.83	17.56
Chinese	69	10911	13.1	9.22	18.27	60	10625	12.8	9.49	16.94
Indian	17	2650	14.2	8.18	23.40	13	2001	10.7	6.25	17.70
Bumiputera Sabah	-	-	-	-	-	2	387	17.2	3.09	57.58
Bumiputera Sarawak	1	180	4.9	0.41	39.11	3	598	16.2	9.98	25.29
Others	2	357	21.4	8.33	44.86	3	466	27.9	5.95	70.40

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

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3.3.1 Introduction

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

3.3.2 Objective

General objective:

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

Specific Objectives

I.   To determine body weight perception among adolescents

II.   To determine body weight perception among adolescents in comparison to actual BMI- for-age status

III. To describe intended action on their perceived body weight status

IV.   To describe motivating factors to change their body weight.

V.   To identify preferred options to change their body weight.

3.3.3 Variable definition

- **Body weight perception**: An interpretation or impression; an opinion or belief

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

- **Actual body weight:** Body weight that was measured during the survey.

- **Misperception**: - a wrong perception

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

3.3.4 Findings

Overall, 39.5% (95%CI: 37.10, 41.91) of the adolescents in Johor perceived that they have normal body weight. There was no significant different in school locality, however there were significant different in sex which boys was higher in perceived thin 35.5% (95%CI: 30.00, 41.42) as compared than girls, while girls was significantly higher in perceived overweight 33.6% (95% CI: 28.29, 39.47) compared with boys 20.2% (95% CI: 16.68, 24.22). There were no significant different in ethnicity as presented in **Table 3.3.1.**

Among the actual normal 47.8% (95% CI: 43.86 51.74) was correctly perceived their weight to be normal, 31.6% (95% CI: 25.02, 39.06) was underestimated their body weight, perceived to be thin, and 17.9% (95% CI: 14.20, 22.34), 2.7% (95% CI: 1.92, 3.71) were overestimated to be overweight, and obese respectively. However, among the actual overweight 45.7% (95% CI: 37.57, 54.07) was correctly perceived their weight to be overweight, but 11.6% (95% CI: 7.1, 18.4), 34.0% (95% CI: 28.63, 39.86), were underestimated their body weight to be thin or normal respectively. In addition, there were no significant different in school locality, sex and school category among adolescent whom have actual thin and normal body weight as compared with four categories of perception **(Table 3.3.2)**.

 Among all the adolescents who correctly perceived thin and have actual thin body weight, 69.8% (95% CI: 57.37, 79.92) reported they wanted to increase weight while adolescents who perceived normal and have actual normal body weight 34.8% (95% CI: 29.07, 40.96) have no plan to change their weight. There were no significant different in school locality, sex and school category among adolescent who correctly perceived thin, normal and overweight between four categories of action taken **(Table 3.3.3)**.

However, adolescents whom misperception, perceived thin but actually in overweight and obese categories, most of them 63.8% (95% CI: 52.63, 73.62) wanted to lose weight while 11.9% (95% CI: 6.54, 20.55) wanted to increase their weight **(Table 3.3.4)**.

About 65.2% (95% CI: 59.59, 70.43) adolescents choose health purpose as the main factor that motivate to lose weight followed by increase self-confidence 23.1% (95% CI: 18.34, 28.62). If compared by sex, boys was higher than girls who choose health purpose as main factor to motivate them to reduce body weight, 69.9% (95% CI: 63.92, 75.33), 61.5% (95% CI: 54.70, 67.79) respectively **(Table 3.3.5)**.

However, main factor to motivate adolescents to increase body weight was also health purpose 61.7% (95% CI: 53.23, 69.53) and followed by increase self-confidence 26.6% (95% CI: 19.72, 34.79) (Table 3.3.6). Exercise was the highest option preferred by adolescent to lose body weight 58.9% (95% CI: 54.74, 62.98) (Table 3.3.7), while increase quantity of food was the highest option preferred by adolescents to increase their body weight, 54.5% (95% CI: 46.82, 61.93) **(Table 3.3.8)**.

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3.3.5 Discussion/Conclusion

The prevalence of perception on being normal weight in Johor was lower than the national prevalence at 39.5% and 41.4% respectively. The national prevalence between school locality and sex are similar compared with Johor. Both urban and rural had similar perception of being normal weight ; 39.4 % and 39.6 %, while boys had the higher perception of being normal weight (39.9%) compared with the girls (39.0 %)

The prevalence of the adolescent who correctly perceived thin and have actual thin body weight was lower in Johor compared with the national prevalence 66.3 % and 69.6% respectively. In Johor, the trend of main factors to lose body weight among adolescent are similar with the national trend. Health purpose is the highest 65.2% main factor to lose body weight; followed by to increase self confidence 23.1% , beauty purpose 9.9 % and to have more friends 1.8% .

Similar trend for those who want to increase body weight, health purpose became the highest 61.7 % main factor but it was lower compared with the national prevalence. Its folllowed by to increase self confidence 26.6% , beauty purpose 7.5% and to have more friends 4.2%.

Adolescents in Johor choose to exercise as the preferred option to lose weight. It was higher compared with the national prevalence 58.9% and 56.3% respectively. Followed by reduce comsumption of high fat foods 24.1%, increase intake of fruits and vegetables 5.4 % and reduce intake of high sugar foods 5.3%. This trend are similar with the national trend of prevalence.

For both national and Johor, boys has the highest prevalens to choose exercise as the preferred option to lose weight while girls choose to reduce consumption of high fat foods. Primary students choose to exersice 59.4 % while secondary students choose to reduce consumption of high fat foods 26.6% as the preferred option to lose weight. Adolescents choose to increase quantity of food as the preferred option to increase body weight. It was higher compared with the national prevalence 54.5% and 52.4% respectively. Followed by taking supplement 26.0%, take high calorie foods 11.0 % and others 8.6 % . The trend is similar with the national trend of prevalence.

3.3.6 Recommendation

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

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

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

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

Characteristics	Perceived thin					Perceived Normal				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	690	126343	28.9	23.90	34.54	1012	172423	39.5	37.10	41.91
Locality of School										
Urban	542	97918	29.3	23.22	36.14	784	131968	39.4	36.55	42.41
Rural	148	28425	27.8	20.62	36.41	228	40455	39.6	36.00	43.33
Sex										
Boys	399	77940	35.5	30.00	41.42	475	87663	39.9	35.71	44.31
Girls	291	48403	22.3	17.06	28.55	537	84760	39.0	36.65	41.44
School Category										
Primary	325	65071	40.2	36.20	44.28	311	60619	37.4	35.47	39.43
Secondary	365	61272	22.3	18.79	26.25	701	111805	40.7	37.42	44.05
Class										
Standard 4	128	27814	50.9	41.41	60.40	86	17904	32.8	28.86	36.97
Standard 5	108	20227	37.3	35.18	39.37	111	20693	38.1	35.06	41.25
Standard 6	89	17030	32.1	26.91	37.75	114	22022	41.5	36.25	46.94
Form 1	80	14329	24.9	20.33	30.09	141	23761	41.3	34.21	48.73
Form 2	92	12611	23.7	17.67	31.08	161	21188	39.9	33.70	46.37
Form 3	62	10211	18.9	14.35	24.49	137	22107	40.9	35.02	47.10
Form 4	74	11649	21.6	17.02	26.92	143	21591	40.0	35.81	44.26
Form 5	57	12474	22.3	17.19	28.33	119	23157	41.3	34.80	48.20
Ethnicity										
Malay	532	98845	30.1	24.50	36.44	756	130998	39.9	37.06	42.89
Chinese	109	19185	23.2	16.91	30.96	199	32032	38.7	34.94	42.66
Indian	33	5395	28.9	21.42	37.78	44	7183	38.5	28.23	49.91
Bumiputera Sabah	6	1017	45.2	27.65	64.08	3	434	19.3	7.51	41.34
Bumiputera Sarawak	6	1288	35.0	8.08	76.71	8	1409	38.2	27.31	50.50
Others	4	612	42.6	21.35	66.90	2	368	25.6	6.70	62.20

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
JOHOR	727	117411	26.9	22.99	31.17	124	20566	4.7	3.62	6.11
Locality of School										
Urban	551	88701	26.5	22.07	31.48	99	16014	4.8	3.51	6.49
Rural	176	28710	28.1	20.92	36.62	25	4553	4.5	2.75	7.15
Sex										
Boys	243	44318	20.2	16.68	24.22	51	9604	4.4	2.92	6.51
Girls	484	73093	33.6	28.29	39.47	73	10962	5.0	3.58	7.07
School Category										
Primary	145	28272	17.5	15.95	19.07	41	8014	4.9	3.24	7.48
Secondary	582	89140	32.4	29.90	35.09	83	12552	4.6	3.27	6.36
Class										
Standard 4	36	6822	12.5	7.87	19.27	8	2065	3.8	1.73	8.08
Standard 5	56	10621	19.6	16.91	22.52	18	2758	5.1	2.10	11.80
Standard 6	53	10828	20.4	16.55	24.88	15	3192	6.0	3.72	9.57
Form 1	103	17085	29.7	24.75	35.14	15	2385	4.1	2.52	6.74
Form 2	127	16628	31.3	23.68	40.06	19	2718	5.1	2.01	12.43
Form 3	123	18761	34.7	28.76	41.22	19	2941	5.4	4.05	7.29
Form 4	126	17667	32.7	29.20	36.40	23	3122	5.8	3.28	9.97
Form 5	103	18999	33.9	29.27	38.90	7	1385	2.5	0.92	6.44
Ethnicity										
Malay	527	86300	26.3	21.99	31.15	69	11871	3.6	2.81	4.65
Chinese	155	24362	29.5	22.62	37.36	46	7124	8.6	6.22	11.81
Indian	34	4981	26.7	17.52	38.46	6	1097	5.9	2.82	11.86
Bumiputera Sabah	4	668	29.7	17.93	44.97	1	130	5.8	0.59	38.48
Bumiputera Sarawak	5	833	22.6	5.25	60.64	1	154	4.2	0.83	18.59
Others	2	268	18.6	3.45	59.32	1	191	13.3	1.83	55.65

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
JOHOR	106	78.0	69.66	84.59	28	17.9	12.54	24.94	3	2.3	0.71	7.10	2	1.8	0.35	8.62
Locality of school																
Urban	78	75.9	65.32	84.04	23	19.4	12.94	28.08	2	2.3	0.53	9.33	2	2.4	0.48	11.07
Rural	28	84.3	79.54	88.17	5	13.5	8.21	21.26	1	2.2	0.42	10.83	0	0.0	0.00	0.00
Sex																
Boys	61	79.2	68.14	87.15	15	17.2	10.75	26.28	3	3.6	1.10	11.31	0	0.0	0.00	0.00
Girls	45	76.0	62.12	86.00	13	19.2	10.36	32.72	0	0.0	0.00	0.00	2	4.8	0.93	21.25
School Category																
Primary	29	70.6	52.84	83.69	12	23.1	12.53	38.61	1	2.4	0.32	15.93	1	4.0	0.58	22.55
Secondary	77	81.8	74.82	87.24	16	15.3	10.49	21.69	2	2.2	0.53	8.88	1	0.7	0.08	5.67

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

Perceived	Actual normal															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
JOHOR	489	31.6	25.02	39.06	802	47.8	43.86	51.74	326	17.9	14.20	22.34	46	2.7	1.92	3.71
Locality of school																
Urban	390	32.5	24.50	41.66	617	47.4	42.63	52.23	245	17.5	13.21	22.86	35	2.6	1.72	3.86
Rural	99	28.8	20.76	38.34	185	49.0	43.57	54.54	81	19.2	13.24	27.08	11	3.0	1.80	4.89
Sex																
Boys	266	39.0	32.05	46.45	354	49.0	42.43	55.62	69	9.4	6.79	12.94	19	2.6	1.56	4.18
Girls	223	25.1	18.39	33.22	448	46.7	43.41	50.03	257	25.4	19.74	32.11	27	2.8	1.80	4.27
School Category																
Primary	232	46.6	41.42	51.82	212	41.2	37.10	45.49	44	8.7	7.16	10.57	19	3.5	2.53	4.75
Secondary	257	23.4	19.11	28.25	590	51.4	47.86	54.93	282	23.0	20.08	26.18	27	2.2	1.32	3.77

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

Perceived	Actual overweight															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
JOHOR	41	11.6	7.09	18.41	122	34.0	28.63	39.86	186	45.7	37.57	54.07	32	8.7	5.94	12.51
Locality of school																
Urban	31	10.8	5.77	19.44	98	35.3	29.11	42.03	144	45.4	35.40	55.70	25	8.5	5.42	13.11
Rural	10	14.3	7.19	26.34	24	29.6	21.07	39.73	42	46.9	37.29	56.73	7	9.3	4.62	17.76
Sex																
Boys	28	16.9	10.33	26.38	73	40.6	34.52	47.00	64	33.4	24.89	43.20	14	9.1	5.27	15.18
Girls	13	6.0	2.55	13.35	49	27.0	17.25	39.62	122	58.8	47.63	69.10	18	8.3	4.75	13.96
School Category																
Primary	28	20.2	12.33	31.42	54	40.3	35.95	44.85	43	30.7	24.55	37.62	10	8.7	4.35	16.76
Secondary	13	5.8	2.91	11.05	68	29.8	22.81	37.77	143	55.9	48.24	63.20	22	8.6	5.61	13.07

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

Perceived	Actual obese															
	Thin				Normal				Overweight				Obese			
	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper	n	%	Lower	Upper
JOHOR	52	15.4	10.48	22.00	59	17.2	12.59	23.17	210	56.8	48.53	64.68	43	10.6	6.43	16.97
Locality of school																
Urban	41	15.9	10.12	24.02	45	16.5	12.19	22.03	158	56.2	46.65	65.30	36	11.4	6.73	18.69
Rural	11	13.8	7.01	25.51	14	19.5	8.40	38.92	52	58.6	42.46	73.12	7	8.1	1.98	27.54
Sex																
Boys	44	22.0	15.09	30.86	33	17.3	11.73	24.77	105	52.3	40.75	63.63	18	8.4	4.74	14.51
Girls	8	5.9	3.06	11.04	26	17.2	10.85	26.09	105	63.2	53.86	71.68	25	13.7	7.63	23.48
School Category																
Primary	34	25.4	19.57	32.20	33	25.8	20.03	32.52	55	41.6	36.09	47.30	11	7.3	2.41	19.90
Secondary	18	8.4	4.47	15.09	26	11.2	7.90	15.75	155	67.5	59.61	74.45	32	12.9	7.84	20.62

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

	Perceived thin - actual thin									
	Lose weight					Increase weight				
Characteristic	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	5	1032	5.4	2.30	12.19	75	13319	69.8	57.37	79.92
Locality of school										
Urban	3	536	3.8	1.31	10.63	57	10202	72.6	61.53	81.46
Rural	2	495	9.9	2.69	30.24	18	3118	62.1	29.39	86.54
Sex										
Boys	4	878	7.1	2.62	18.00	46	8943	72.8	58.37	83.57
Girls	1	154	2.3	0.29	15.63	29	4376	64.5	47.82	78.31
School category										
Primary	2	477	8.4	2.09	28.20	16	3002	52.9	29.28	75.23
Secondary	3	555	4.1	1.48	11.05	59	10317	77.0	67.70	84.28

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

	Perceived thin - actual thin									
	No action					Maintain body weight				
Characteristic	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	19	3275	17.2	10.56	26.69	6	1448	7.6	3.43	15.95
Locality of school										
Urban	14	2280	16.2	8.99	27.52	4	1033	7.3	2.68	18.57
Rural	5	995	19.8	8.14	40.79	2	415	8.3	2.47	24.28
Sex										
Boys	8	1593	13.0	7.22	22.16	3	878	7.1	2.22	20.70
Girls	11	1682	24.8	14.31	39.45	3	569	8.4	2.53	24.41
School category										
Primary	7	1322	23.3	8.54	49.61	3	879	15.5	5.77	35.37
Secondary	12	1953	14.6	9.68	21.38	3	569	4.2	1.45	11.78

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

	Perceived normal - actual normal									
	Lose weight					Increase weight				
Characteristic	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	218	36882	27.4	22.10	33.32	70	11948	8.9	6.84	11.41
Locality of school										
Urban	168	28251	27.6	20.92	35.36	49	8432	8.2	6.20	10.83
Rural	50	8632	26.7	22.44	31.44	21	3516	10.9	6.48	17.69
Sex										
Boys	71	13516	20.8	14.37	29.16	46	7956	12.3	9.35	15.90
Girls	147	23366	33.4	27.18	40.31	24	3992	5.7	3.79	8.51
School category										
Primary	68	13941	33.7	22.70	46.84	21	3620	8.8	5.51	13.64
Secondary	150	22941	24.5	19.88	29.88	49	8328	8.9	6.51	12.07

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
JOHOR	278	46897	34.8	29.07	40.96	236	39114	29.0	24.86	33.53
Locality of school										
Urban	215	34950	34.1	27.78	41.03	185	30879	30.1	26.68	33.80
Rural	63	11946	37.0	25.29	50.36	51	8235	25.5	14.50	40.79
Sex										
Boys	129	24403	37.6	30.26	45.51	108	19059	29.4	24.70	34.47
Girls	149	22493	32.2	25.68	39.45	128	20055	28.7	23.06	35.06
School category										
Primary	70	13551	32.8	19.63	49.31	53	10235	24.8	16.80	34.89
Secondary	208	33346	35.7	30.73	40.93	183	28880	30.9	26.35	35.83

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
JOHOR	159	24923	84.7	76.81	90.18	1	180	0.6	0.07	4.83
Locality of school										
Urban	121	19028	83.8	74.97	89.95					
Rural	38	5896	87.5	67.21	95.99	1	180	2.7	0.39	16.13
Sex										
Boys	55	9249	83.3	70.35	91.26	1	180	1.6	0.21	11.32
Girls	104	15675	85.5	75.63	91.80					
School category										
Primary	36	6563	82.2	74.98	87.67					
Secondary	123	18361	85.6	74.49	92.33	1	180	0.8	0.10	6.46

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
JOHOR	22	3665	12.4	8.27	18.31	4	672	2.3	0.72	7.01
Locality of school										
Urban	19	3004	13.2	8.67	19.68	4	672	3.0	0.96	8.76
Rural	3	662	9.8	3.31	25.74					
Sex										
Boys	6	1325	11.9	6.06	22.15	2	353	3.2	0.73	12.75
Girls	16	2340	12.8	7.28	21.43	2	319	1.7	0.40	7.22
School category										
Primary	7	1422	17.8	12.33	25.02					
Secondary	15	2244	10.5	5.75	18.27	4	672	3.1	1.03	9.17

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
JOHOR	61	11082	63.8	52.63	73.62	12	2060	11.9	6.54	20.55
Locality of school										
Urban	48	8501	64.6	50.43	76.57	11	1857	14.1	8.26	23.06
Rural	13	2581	61.3	45.94	74.65	1	203	4.8	0.48	34.79
Sex										
Boys	45	8553	61.3	46.88	73.93	10	1761	12.6	6.12	24.22
Girls	16	2529	74.0	41.30	92.03	2	299	8.7	1.13	44.59
School category										
Primary	40	7345	61.2	47.17	73.53	10	1721	14.3	7.60	25.40
Secondary	21	3737	69.6	53.38	82.12	2	339	6.3	1.48	23.18

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
JOHOR	14	3239	18.6	9.86	32.43	6	994	5.7	2.24	13.85
Locality of school										
Urban	8	2001	15.2	5.71	34.67	5	803	6.1	2.25	15.48
Rural	6	1238	29.4	22.66	37.14	1	191	4.5	0.38	36.90
Sex										
Boys	12	2805	20.1	11.73	32.23	5	840	6.0	1.88	17.61
Girls	2	435	12.7	2.63	44.05	1	154	4.5	0.61	26.47
School category										
Primary	8	2266	18.9	7.89	38.72	4	677	5.6	1.81	16.23
Secondary	6	974	18.1	8.99	33.20	2	317	5.9	1.09	26.31

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
JOHOR	376	63079	42.8	38.20	47.56	234	41889	28.4	24.26	33.01
Locality of school										
Urban	293	49105	43.2	37.80	48.72	178	31624	27.8	22.61	33.68
Rural	83	13973	41.6	33.26	50.43	56	10265	30.6	26.69	34.72
Sex										
Boys	118	23011	34.1	27.33	41.49	126	24405	36.1	30.01	42.71
Girls	258	40068	50.2	44.14	56.33	108	17484	21.9	16.29	28.83
School category										
Primary	122	24548	41.7	34.31	49.39	81	16557	28.1	20.79	36.77
Secondary	254	38531	43.6	37.74	49.62	153	25332	28.7	23.92	33.92

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
JOHOR	172	29476	20.0	16.67	23.82	79	12880	8.7	6.69	11.34
Locality of school										
Urban	141	23655	20.8	17.05	25.12	58	9344	8.2	5.99	11.18
Rural	31	5821	17.3	10.93	26.37	21	3536	10.5	6.69	16.17
Sex										
Boys	79	14687	21.7	16.97	27.40	31	5463	8.1	5.77	11.21
Girls	93	14789	18.5	13.40	25.08	48	7417	9.3	6.62	12.91
School category										
Primary	60	12191	20.7	17.09	24.82	32	5637	9.6	6.11	14.66
Secondary	112	17285	19.6	14.72	25.51	47	7242	8.2	5.84	11.38

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
JOHOR	738	128363	65.2	59.59	70.43	121	19559	9.9	7.99	12.30
Locality of school										
Urban	577	100612	66.5	59.56	72.71	100	15680	10.4	8.01	13.30
Rural	161	27751	61.1	56.20	65.73	21	3879	8.5	5.91	12.18
Sex										
Boys	319	61011	69.9	63.92	75.33	29	5629	6.5	4.32	9.53
Girls	419	67352	61.5	54.70	67.79	92	13930	12.7	9.71	16.46
School category										
Primary	278	55447	74.1	70.11	77.77	32	6597	8.8	7.15	10.83
Secondary	460	72916	59.7	53.94	65.29	89	12961	10.6	7.82	14.27
Class										
Standard 4	93	19349	76.1	69.52	81.63	12	2856	11.2	6.03	19.96
Standard 5	99	18567	70.8	59.31	80.20	12	2211	8.4	4.62	14.92
Standard 6	86	17531	75.7	69.41	81.01	8	1530	6.6	3.93	10.88
Form 1	135	23277	74.4	67.80	80.04	13	1899	6.1	3.07	11.65
Form 2	98	13055	56.4	50.43	62.12	18	2207	9.5	4.43	19.30
Form 3	83	12854	56.8	48.05	65.19	13	1900	8.4	5.25	13.19
Form 4	94	13613	55.7	46.73	64.30	26	3742	15.3	10.03	22.66
Form 5	50	10118	49.3	34.58	64.12	19	3213	15.7	9.99	23.68
Ethnicity										
Malay	612	106986	66.4	60.56	71.69	77	13050	8.1	6.62	9.86
Chinese	82	14370	57.0	40.71	71.84	38	5618	22.3	12.82	35.82
Indian	34	5235	67.8	58.04	76.21	5	725	9.4	3.86	21.11
Bumiputera Sabah	2	361	52.4	19.02	83.76					
Bumiputera Sarawak	7	1212	83.2	39.42	97.41					
Others	1	199	39.4	4.46	90.04	1	166	32.9	3.36	87.31

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 | Estimated | Prevalence | 95% CI | | Unweighted | Estimated | Prevalence | 95% CI | |
	Count	Population	(%)	Lower	Upper	Count	Population	(%)	Lower	Upper
JOHOR	283	45434	23.1	18.34	28.62	20	3490	1.8	1.06	2.94
Locality of school										
Urban	203	31987	21.1	15.87	27.56	18	3126	2.1	1.24	3.42
Rural	80	13447	29.6	24.59	35.14	2	364	0.8	0.23	2.74
Sex										
Boys	103	18383	21.1	15.65	27.75	11	2223	2.5	1.22	5.22
Girls	180	27051	24.7	20.01	30.03	9	1267	1.2	0.52	2.54
School category										
Primary	55	10431	13.9	10.98	17.55	12	2328	3.1	2.11	4.56
Secondary	228	35003	28.7	24.22	33.60	8	1162	1.0	0.42	2.12
Class										
Standard 4	13	2578	10.1	4.55	21.09	4	643	2.5	0.52	11.33
Standard 5	22	4055	15.5	9.74	23.69	7	1377	5.3	3.93	6.98
Standard 6	20	3798	16.4	9.94	25.85	1	308	1.3	0.27	6.22
Form 1	35	5956	19.0	13.87	25.56	1	156	0.5	0.06	3.74
Form 2	54	7201	31.1	25.38	37.43	5	699	3.0	1.38	6.47
Form 3	50	7866	34.8	26.17	44.50					
Form 4	47	6783	27.7	20.74	36.05	2	306	1.3	0.29	5.25
Form 5	42	7196	35.1	22.29	50.38					
Ethnicity										
Malay	238	38449	23.8	18.38	30.34	15	2758	1.7	0.90	3.23
Chinese	32	4808	19.1	13.73	25.84	3	433	1.7	0.76	3.82
Indian	9	1463	18.9	9.98	33.01	2	299	3.9	1.02	13.57
Bumiputera Sabah	2	328	47.6	16.24	80.98					
Bumiputera Sarawak	1	245	16.8	2.59	60.58					
Others	1	140	27.8	2.68	84.25					

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	239	41962	61.7	53.23	69.53	30	5079	7.5	5.78	9.60
Locality of school										
Urban	174	30215	59.6	49.79	68.67	22	3725	7.3	5.49	9.77
Rural	65	11748	67.9	53.86	79.37	8	1353	7.8	4.63	12.94
Sex										
Boys	144	27187	62.9	53.96	70.95	15	2721	6.3	4.17	9.38
Girls	95	14775	59.7	48.51	70.00	15	2358	9.5	5.60	15.75
School category										
Primary	71	13471	56.3	41.06	70.36	9	1634	6.8	4.84	9.53
Secondary	168	28491	64.7	56.02	72.46	21	3445	7.8	5.58	10.86
Class										
Standard 4	24	4532	54.9	24.28	82.24	1	304	3.7	0.58	19.99
Standard 5	29	5418	52.3	34.80	69.32	4	596	5.8	1.26	22.65
Standard 6	18	3521	65.9	33.01	88.34	4	734	13.7	4.04	37.59
Form 1	26	4565	75.6	56.58	88.06	1	196	3.2	0.52	17.56
Form 2	38	5142	60.6	43.16	75.77	5	710	8.4	4.30	15.67
Form 3	38	6407	65.8	50.80	78.12	4	672	6.9	2.87	15.66
Form 4	37	5854	66.8	50.53	79.79	7	1041	11.9	5.00	25.62
Form 5	29	6523	59.2	45.09	71.91	4	827	7.5	2.67	19.31
Ethnicity										
Malay	177	31141	58.3	48.39	67.53	20	3385	6.3	4.52	8.81
Chinese	41	7077	73.1	58.52	83.91	6	1132	11.7	6.41	20.37
Indian	14	2427	79.3	60.48	90.61	2	234	7.7	1.43	32.18
Bumiputera Sabah	2	334	50.4	18.83	81.71	2	328	49.6	18.29	81.17
Bumiputera Sarawak	4	845	83.3	66.48	92.57					
Others	1	137.468	100.0	100.00	100.00					

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
JOHOR	97	18072	26.6	19.72	34.79	16	2884	4.2	2.51	7.09
Locality of school										
Urban	75	14115	27.8	20.08	37.19	15	2651	5.2	3.27	8.26
Rural	22	3958	22.9	11.53	40.33	1	233	1.3	0.17	9.74
Sex										
Boys	57	11328	26.2	18.44	35.77	11	2020	4.7	2.73	7.87
Girls	40	6745	27.3	19.38	36.88	5	864	3.5	1.51	7.86
School category										
Primary	30	6611	27.6	14.84	45.49	12	2230	9.3	7.62	11.33
Secondary	67	11462	26.0	18.99	34.54	4	653	1.5	0.59	3.65
Class										
Standard 4	11	2666	32.3	10.58	65.82	4	749	9.1	2.79	25.77
Standard 5	15	3164	30.6	17.70	47.40	7	1173	11.3	4.76	24.64
Standard 6	4	781	14.6	4.98	35.83	1	308	5.8	0.97	27.68
Form 1	7	1277	21.2	11.15	36.44					
Form 2	18	2333	27.5	15.74	43.57	2	293	3.5	0.73	14.77
Form 3	15	2483	25.5	14.92	40.00	1	182	1.9	0.24	13.03
Form 4	11	1697	19.3	11.54	30.60	1	178	2.0	0.26	14.18
Form 5	16	3671	33.3	19.99	49.97					
Ethnicity										
Malay	89	16593	31.1	22.74	40.80	13	2318	4.3	2.36	7.84
Chinese	6	1082	11.2	4.92	23.41	2	395	4.1	0.92	16.24
Indian	2	397	13.0	4.42	32.51					
Bumiputera Sabah										
Bumiputera Sarawak						1	170	16.7	7.43	33.52
Others										

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
JOHOR	684	116821	58.9	54.74	62.98	292	47821	24.1	21.06	27.47
Locality of school										
Urban	538	91045	59.6	54.60	64.36	214	35221	23.0	20.26	26.09
Rural	146	25776	56.7	49.31	63.87	78	12600	27.7	19.61	37.64
Sex										
Boys	311	58255	65.3	57.93	71.94	94	17385	19.5	14.86	25.11
Girls	373	58566	53.7	49.16	58.25	198	30436	27.9	24.48	31.65
School category										
Primary	236	45423	59.4	50.87	67.32	76	15384	20.1	16.39	24.42
Secondary	448	71398	58.7	54.28	62.90	216	32437	26.6	22.67	31.04
Class										
Standard 4	76	14991	58.0	41.15	73.17	21	4311	16.7	11.21	24.09
Standard 5	96	17636	64.8	53.59	74.62	23	4438	16.3	12.79	20.57
Standard 6	64	12796	54.5	43.69	64.96	32	6635	28.3	21.12	36.73
Form 1	127	21841	69.2	58.83	77.89	44	7136	22.6	14.51	33.44
Form 2	102	13565	59.0	49.77	67.57	49	6334	27.5	19.20	37.79
Form 3	72	11361	51.6	42.04	61.02	50	7759	35.2	26.47	45.11
Form 4	90	13735	55.8	50.15	61.37	45	6173	25.1	18.80	32.65
Form 5	57	10896	53.1	43.25	62.67	28	5035	24.5	16.14	35.43
Ethnicity										
Malay	547	94572	58.7	53.77	63.46	249	40791	25.3	21.75	29.25
Chinese	94	15285	57.1	48.78	65.08	29	5042	18.8	15.22	23.09
Indian	32	4993	64.7	54.57	73.60	11	1473	19.1	8.69	36.84
Bumiputera Sabah	2	328	47.6	16.24	80.98	2	361	52.4	19.02	83.76
Bumiputera Sarawak	7	1303	89.4	57.57	98.14	1	154	10.6	1.86	42.43
Others	2	339	67.1	12.69	96.64					

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
JOHOR	55	10562	5.3	3.21	8.72	61	10794	5.4	3.83	7.68
Locality of school										
Urban	43	8262	5.4	2.94	9.74	51	9045	5.9	4.17	8.35
Rural	12	2300	5.1	2.32	10.70	10	1749	3.8	1.36	10.38
Sex										
Boys	18	4140	4.6	2.20	9.53	23	4795	5.4	3.30	8.63
Girls	37	6422	5.9	3.87	8.86	38	5998	5.5	3.84	7.82
School category										
Primary	30	6936	9.1	5.47	14.66	25	5114	6.7	4.33	10.18
Secondary	25	3626	3.0	2.03	4.35	36	5680	4.7	2.81	7.64
Class										
Standard 4	14	3778	14.6	5.62	32.97	6	1336	5.2	2.11	12.11
Standard 5	10	2046	7.5	4.41	12.54	11	2226	8.2	4.77	13.67
Standard 6	6	1112	4.7	2.13	10.22	8	1552	6.6	4.38	9.87
Form 1	3	475	1.5	0.46	4.76	6	1101	3.5	1.06	10.86
Form 2	5	641	2.8	1.03	7.31	5	757	3.3	0.84	12.03
Form 3	4	526	2.4	0.73	7.55	6	928	4.2	2.27	7.69
Form 4	7	905	3.7	1.82	7.29	11	1373	5.6	2.90	10.47
Form 5	6	1081	5.3	2.47	10.85	8	1521	7.4	3.61	14.59
Ethnicity										
Malay	39	8082	5.0	2.65	9.31	40	7128	4.4	3.08	6.31
Chinese	13	1987	7.4	3.69	14.38	17	2908	10.9	6.52	17.58
Indian	2	328	4.2	0.89	17.94	4	758	9.8	3.94	22.40
Bumiputera Sabah										
Bumiputera Sarawak										
Others										

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
JOHOR	16	2859	1.4	0.79	2.61	4	658	0.3	0.12	0.93
Locality of school										
Urban	12	1878	1.2	0.61	2.46	2	267	0.2	0.04	0.74
Rural	4	981	2.2	0.76	5.97	2	392	0.9	0.25	2.89
Sex										
Boys	6	1259	1.4	0.48	4.08	2	284	0.3	0.07	1.40
Girls	10	1600	1.5	0.79	2.72	2	375	0.3	0.07	1.61
School category										
Primary	6	1333	1.7	0.77	3.91	2	382	0.5	0.11	2.16
Secondary	10	1525	1.3	0.53	2.92	2	276	0.2	0.06	0.93
Class										
Standard 4	2	643	2.5	0.71	8.37	1	245	0.9	0.12	6.94
Standard 5	2	274	1.0	0.14	6.72	1	137	0.5	0.07	3.44
Standard 6	2	417	1.8	0.43	6.99					
Form 1	1	224	0.7	0.09	5.67					
Form 2	2	264	1.1	0.28	4.62	1	146	0.6	0.08	4.64
Form 3										
Form 4	4	567	2.3	0.33	14.39	1	130	0.5	0.08	3.52
Form 5	3	470	2.3	0.76	6.65					
Ethnicity										
Malay	12	2256	1.4	0.67	2.89	4	658	0.4	0.15	1.13
Chinese	4	603	2.3	0.78	6.32					
Indian										
Bumiputera Sabah										
Bumiputera Sarawak										
Others										

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

Characteristics	Fasting					Professional advise				
	Unweighted count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Unweighted count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	49	7684	3.9	2.55	5.84	6	1050	0.5	0.21	1.34
Locality of school										
Urban	40	6433	4.2	2.60	6.75	4	666	0.4	0.13	1.50
Rural	9	1251	2.8	1.46	5.13	2	384	0.8	0.24	2.95
Sex										
Boys	13	2356	2.6	1.52	4.55	4	786	0.9	0.27	2.86
Girls	36	5328	4.9	2.99	7.90	2	264	0.2	0.06	1.03
School category										
Primary	8	1610	2.1	1.42	3.11	2	337	0.4	0.06	3.38
Secondary	41	6074	5.0	3.14	7.85	4	713	0.6	0.23	1.50
Class										
Standard 4	2	343	1.3	0.43	4.05	1	200	0.8	0.09	6.08
Standard 5	2	314	1.2	0.13	9.46	1	137	0.5	0.07	3.44
Standard 6	4	954	4.1	1.71	9.35					
Form 1	3	596	1.9	0.23	13.78	1	201	0.6	0.08	4.69
Form 2	10	1299	5.6	2.29	13.27					
Form 3	9	1311	6.0	2.97	11.60	1	136	0.6	0.08	4.64
Form 4	11	1590	6.5	3.31	12.23	1	128	0.5	0.06	4.13
Form 5	8	1278	6.2	3.13	12.00	1	248	1.2	0.15	9.28
Ethnicity										
Malay	42	6581	4.1	2.54	6.51	6	1050	0.7	0.25	1.67
Chinese	6	933	3.5	2.19	5.50					
Indian	1	170	2.2	0.35	12.55					
Bumiputera Sabah										
Bumiputera Sarawak										
Others										

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

Characteristics	Increase quantity of food					Taking supplement				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	215	37441	54.5	46.82	61.93	99	17853	26.0	20.47	32.36
Locality of school										
Urban	154	26667	51.9	43.47	60.17	76	13817	26.9	22.05	32.33
Rural	61	10774	62.2	47.23	75.17	23	4037	23.3	9.94	45.56
Sex										
Boys	117	21987	50.7	42.48	58.96	65	12031	27.8	20.99	35.73
Girls	98	15454	60.9	51.90	69.15	34	5822	22.9	15.24	33.00
School category										
Primary	50	10077	41.9	37.72	46.24	42	7859	32.7	26.98	38.98
Secondary	165	27364	61.2	52.07	69.66	57	9994	22.4	15.73	30.78
Class										
Standard 4	20	4180	51.8	39.99	63.50	12	2227	27.6	15.91	43.51
Standard 5	20	3800	36.6	29.77	44.07	19	3670	35.4	24.24	48.34
Standard 6	10	2097	37.4	21.43	56.79	11	1962	35.0	22.15	50.55
Form 1	18	3199	51.4	40.75	62.01	11	2008	32.3	19.98	47.65
Form 2	40	5327	59.7	39.30	77.25	12	1685	18.9	7.06	41.68
Form 3	38	6118	63.0	45.07	77.91	13	2340	24.1	9.92	47.77
Form 4	35	5336	62.1	41.37	79.21	14	2260	26.3	13.23	45.52
Form 5	34	7384	65.7	47.92	79.89	7	1701	15.1	8.18	26.29
Ethnicity										
Malay	174	30682	56.8	48.33	64.93	77	13700	25.4	18.89	33.16
Chinese	30	5028	50.2	36.52	63.88	15	2727	27.2	17.19	40.29
Indian	5	731	22.5	5.57	58.77	5	961	29.6	6.55	71.53
Bumiputera Sabah	2	322	66.9	8.82	97.68	1	160	33.1	2.32	91.18
Bumiputera Sarawak	3	540	63.9	29.57	88.17	1	305	36.1	11.83	70.43
Others	1	137	100.0	100.00	100.00					

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
JOHOR	41	7537	11.0	7.63	15.51	33	5896	8.6	5.75	12.61
Locality of school										
Urban	33	6007	11.7	7.79	17.17	28	4918	9.6	6.26	14.34
Rural	8	1530	8.8	4.56	16.44	5	978	5.6	2.08	14.41
Sex										
Boys	25	5001	11.5	6.93	18.60	22	4317	10.0	6.03	16.03
Girls	16	2536	10.0	6.65	14.73	11	1579	6.2	3.02	12.39
School category										
Primary	19	3784	15.7	11.05	21.94	13	2318	9.6	5.58	16.15
Secondary	22	3753	8.4	5.16	13.37	20	3578	8.0	4.53	13.76
Class										
Standard 4	4	1044	12.9	3.81	35.80	3	611	7.6	2.77	19.09
Standard 5	11	1830	17.6	7.49	36.17	6	1076	10.4	4.91	20.61
Standard 6	4	910	16.3	4.69	43.36	4	631	11.3	4.85	24.01
Form 1	5	816	13.1	5.30	28.97	1	196	3.1	0.50	17.31
Form 2	6	824	9.2	4.54	17.87	8	1083	12.1	4.61	28.34
Form 3	5	885	9.1	3.85	20.05	2	371	3.8	1.17	11.77
Form 4	3	468	5.4	1.97	14.19	3	527	6.1	2.45	14.52
Form 5	3	760	6.8	1.90	21.38	6	1401	12.5	4.67	29.25
Ethnicity										
Malay	30	5785	10.7	6.74	16.61	23	3831	7.1	4.42	11.19
Chinese	4	668	6.7	3.16	13.56	8	1589	15.9	9.98	24.31
Indian	7	1084	33.3	17.57	53.99	2	475	14.6	2.20	56.57
Bumiputera Sabah										
Bumiputera Sarawak										
Others										

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

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3.4.1 Introduction

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

3.4.2 Objective

General objective:

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

Specific objective:

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

3.4.3 Variable Definition

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

- **Breakfast**: defined as the first food taken after waking from sleep, food intake in the early morning, between 6.00 am to 8.00 am.

- **Lunch**: defined as foods consumed or meal between 11.00 am to 3.00 pm.

- **Dinner**: defined as foods consumed or meal between 6.00 pm to 10.00 pm.

- **Afternoon tea**: defined as food and/ or drinks taken between lunch and dinner, between 3.00 pm to 6.00 pm.

- **Heavy meal after dinner**: food taken at night after the dinner after 10.00 pm. Examples of foods that are considered heavy meal is high calorie food such as *nasi lemak, roti canai*, fried mee, burger, fried chicken and so on. It does not include two small snacks like crackers and/or a glass of milk.

- **Skipping meal**: the omission or lack of consumption of one or more of the traditional main meals (breakfast, lunch or dinner) throughout the day.

- **Dieting**: to limit food intake in terms of the amount of frequency of eating for weight loss purposes.

- **Fast food**: meant in this question, including ready-to-eat food. Ready-to-eat foods are foods that can be eaten immediately after purchase. It consists of cooked food, food either hot or cold foods and foods that can be eaten without further cooking or heating.

- **Snacking**: consumption of energy outside of traditional meals such as breakfast, lunch, and dinner.

- **Eating during school break time**: Eating time between the intervals of classes after school started.

- **Eating out**: either eating at restaurant or hawker stall and does not includes buying outside food and eat it at home.

- **Snack food**: snack food such as bun, biscuits, fruits, nuts, crackers, ice cream, junk foods, pickles, flavored/carbonated drink, fries/ nugget/sausage, candy or chocolate.

3.4.4 Findings

There were 2,561 respondents that represent 438,443 adolescents aged 10 to 17 years old in Johor responded to this module. About 32.2% (95% CI: 26.76, 38.21), 49.9% (95% CI: 41.89, 57.89) and 56.7% (95% CI: 48.81, 64.27) had consumed breakfast, lunch and dinner seven days per week respectively. Majority of adolescent in Johor having their source of food for main meal from home. No appetite become the main reason why adolescent in this state tend to skip the main meal. About 61.3% (95% CI: 57.58, 64.85) adolescents in Johor 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 6.9% (95% CI: 5.50, 8.70) adolescents in Johor having daily heavy meal after dinner. About 2.4% (95% CI: 1.61, 3.60) adolescents in Johor consumed fast food on daily basis. During the school day, 9.6% (95% CI: 7.80, 11.77) and 47.9% (95% CI: 42.90, 52.92) of adolescent practice in bringing food and drink everyday respectively. The most common food brought to school was nasi lemak/fried rice/mixed rice and the most common drink brought to school was plain water. Most of the adolescent also spend their pocket money for buying food or drink. About 4.8% (95% CI: 3.62, 6.46) of adolescents in Johor had eating out as frequent as 7 times or more in a week. In term of snack food, bread/bun/sandwich was the most popular snack food consumed by adolescent in Johor and most of them taking snack food one to three times in a week. The analysis also revealed that, flavoured/carbonated drink was the most type of food or drink that adolescent in Johor bought out of school area and more than half of them had bought food or drink out of school area at least one time in a week. In Johor, social media and television was the two main medias source that influence the dietary pattern of the adolescent.

3.4.5 Discussions/Conclusion

The prevalence of daily breakfast was a bit of concern in Johor as it considers is low. Skipping main meal was not recommended as it will lead to misbalance in the dietary intake. Therefore, deeper understanding on the reason why adolescents had no appetite and then skipping main meal is needed. Type of food brought to school and type of food or drink bought out of school area among adolescent in Johor also rise the concern as the food that they brought and the drink that they bought was categorized in high calorie. Perhaps through social media and television, we can enhance the promotion of healthy food to be choose and reduce or banned any advertisement regarding unhealthy food.

3.4.6 Recommendation

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

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

Socio-demographic Characteristics	Breakfast frequency per week									
	Daily (7 days)					1 to 6 days				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	847	141276	32.2	26.76	38.21	1472	259438	59.2	52.56	65.47
Locality of school										
Urban	671	108240	32.2	25.63	39.56	1120	197929	58.9	50.49	66.80
Rural	176	33036	32.3	24.20	41.58	352	61509	60.1	52.85	66.94
Sex										
Boys	397	73489	33.3	27.71	39.46	687	131918	59.8	52.98	66.31
Girls	450	67787	31.1	24.38	38.73	785	127520	58.5	50.69	65.93
Ethnicity										
Malay	570	96705	29.4	23.09	36.53	1145	205497	62.4	54.56	69.64
Chinese	214	34842	42.0	37.33	46.89	244	39813	48.0	43.70	52.39
Indian	46	7035	37.3	28.07	47.63	64	10644	56.5	47.77	64.81
Bumiputera Sabah	3	388	17.2	2.58	62.04	11	1861	82.8	37.96	97.42
Bumiputera Sarawak	9	1598	43.4	31.07	56.56	6	1194	32.4	12.68	61.34
Others	5	707	49.2	17.33	81.69	2	428	29.8	8.21	66.76
School level										
Primary school	257	48117	29.5	18.90	42.88	518	105946	64.9	51.27	76.52
Secondary school	590	93159	33.8	29.20	38.82	954	153492	55.8	50.98	60.43
Class										
Standard 4	88	17931	32.4	20.25	47.56	164	35659	64.5	48.68	77.65
Standard 5	69	11982	22.2	10.48	40.96	196	37508	69.4	50.46	83.53
Standard 6	100	18204	33.8	23.81	45.50	158	32778	60.9	48.74	71.81
Form 1	139	23179	40.2	32.73	48.09	176	30317	52.5	45.42	59.56
Form 2	138	18212	34.2	24.85	44.89	212	28509	53.5	45.04	61.73
Form 3	120	19368	35.8	30.67	41.37	183	28848	53.4	47.02	59.64
Form 4	113	17060	31.6	24.22	39.99	199	29269	54.2	48.12	60.11
Form 5	80	15340	27.3	20.27	35.67	184	36549	65.0	56.83	72.43
School session										
Morning session	573	96099	33.4	27.58	39.73	954	167282	58.1	51.16	64.74
Evening session	129	20102	31.8	26.45	37.70	232	36114	57.1	49.61	64.37
Morning and evening session	143	24854	28.7	20.48	38.71	283	55392	64.1	53.83	73.14
BMI-for-age status (BAZ)										
Thiness (<-2sd)	53	8882	35.6	26.98	45.31	73	13922	55.8	46.35	64.92
Normal (≥-2sd - ≤+1sd)	554	92103	32.6	26.79	39.00	959	166670	59.0	52.58	65.12
Overweight (>+1sd - ≤+2sd)	113	18418	28.5	21.42	36.86	233	40379	62.5	53.87	70.43
Obese (>+2sd)	126	21737	33.3	27.54	39.50	203	37733	57.7	48.65	66.31
Height-for-age status (HAZ)										
Stunting (<-2sd)	57	9481	27.8	18.62	39.21	127	22691	66.4	53.45	77.32
Normal (≥-2sd)	790	131795	32.6	27.45	38.25	1343	236454	58.5	52.31	64.49

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
JOHOR	242	37729	8.6	6.71	10.97
Locality of school					
Urban	192	29940	8.9	6.71	11.74
Rural	50	7789	7.6	4.54	12.50
Sex					
Boys	88	15093	6.8	4.90	9.49
Girls	154	22636	10.4	7.82	13.68
Ethnicity					
Malay	175	27135	8.2	6.06	11.11
Chinese	52	8234	9.9	6.70	14.48
Indian	8	1166	6.2	4.08	9.28
Bumiputera Sabah					
Bumiputera Sarawak	5	891	24.2	12.93	40.68
Others	2	303	21.1	7.85	45.55
School level					
Primary school	52	9097	5.6	3.57	8.61
Secondary school	190	28632	10.4	8.39	12.83
Class					
Standard 4	9	1713	3.1	1.15	8.11
Standard 5	27	4522	8.4	4.80	14.21
Standard 6	16	2862	5.3	2.36	11.52
Form 1	25	4210	7.3	3.31	15.32
Form 2	50	6586	12.4	8.57	17.48
Form 3	38	5821	10.8	7.09	16.03
Form 4	54	7700	14.3	10.86	18.49
Form 5	23	4315	7.7	5.77	10.15
School session					
Morning session	158	24516	8.5	6.37	11.30
Evening session	48	6978	11.0	7.90	15.23
Morning and evening session	36	6236	7.2	5.16	10.00
BMI-for-age status (BAZ)					
Thiness (<-2sd)	14	2129	8.5	5.15	13.84
Normal (≥-2sd - ≤+1sd)	152	23756	8.4	6.46	10.88
Overweight (>+1sd - ≤+2sd)	36	5790	9.0	6.43	12.37
Obese (>+2sd)	39	5896	9.0	5.67	14.05
Height-for-age status (HAZ)					
Stunting (<-2sd)	13	1989	5.8	2.91	11.31
Normal (≥-2sd)	229	35740	8.8	6.94	11.21

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

Socio-demographic Characteristics	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	1689	293081	73.9	69.88	77.61	258	46531	11.7	8.95	15.25
Locality of school										
Urban	1260	216584	71.6	67.18	75.73	214	37848	12.5	9.49	16.34
Rural	429	76496	81.3	75.93	85.65	44	8683	9.2	4.44	18.17
Sex										
Boys	760	144299	70.9	65.82	75.48	147	28556	14.0	9.91	19.48
Girls	929	148782	77.1	70.39	82.73	111	17975	9.3	7.61	11.37
Ethnicity										
Malay	1258	223065	74.2	69.28	78.55	189	34825	11.6	8.15	16.20
Chinese	311	50328	69.7	62.05	76.32	55	9609	13.3	9.72	17.93
Indian	93	15164	86.7	80.42	91.19	9	1219	7.0	3.64	12.93
Bumiputera Sabah	9	1364	60.7	39.50	78.45	3	479	21.3	8.22	44.94
Bumiputera Sarawak	13	2452	93.5	75.21	98.56	1	170	6.5	1.44	24.79
Others	5	707	62.3	21.29	90.98	1	230	20.2	2.41	72.19
School level										
Primary school	564	113048	74.4	72.32	76.45	142	27710	18.2	15.45	21.42
Secondary school	1125	180033	73.6	67.07	79.26	116	18820	7.7	5.82	10.12
Class										
Standard 4	185	39729	75.7	69.64	80.86	44	8894	16.9	11.56	24.15
Standard 5	186	35086	71.5	64.08	77.98	58	10869	22.2	18.19	26.71
Standard 6	193	38232	76.0	70.26	80.89	40	7947	15.8	9.37	25.37
Form 1	236	40010	75.2	69.32	80.22	18	2959	5.6	2.97	10.17
Form 2	232	30961	67.2	55.44	77.18	21	2903	6.3	4.07	9.63
Form 3	234	37258	77.6	67.47	85.33	21	3282	6.8	3.44	13.15
Form 4	227	33378	72.3	64.31	79.12	32	4730	10.2	5.75	17.61
Form 5	196	38427	75.1	64.23	83.55	24	4946	9.7	6.28	14.60
School session										
Morning session	1084	186851	71.8	66.60	76.41	187	34209	13.1	9.80	17.40
Evening session	273	42657	75.6	68.41	81.51	17	2866	5.1	3.18	8.00
Morning and evening session	331	63342	80.1	73.11	85.64	54	9456	12.0	7.11	19.43
BMI-for-age status (BAZ)										
Thinness (<-2sd)	91	16701	74.0	65.04	81.25	15	2635	11.7	6.96	18.92
Normal (≥-2sd - ≤+1sd)	1113	191311	74.8	70.70	78.47	166	29542	11.5	8.47	15.55
Overweight (>+1sd - ≤+2sd)	245	41634	71.3	65.71	76.34	38	7014	12.0	8.45	16.80
Obese (>+2sd)	236	42726	72.5	65.64	78.43	39	7339	12.5	7.82	19.26
Height-for-age status (HAZ)										
Stunting (<-2sd)	126	21951	69.5	63.04	75.31	25	4845	15.3	9.20	24.48
Normal (≥-2sd)	1562	270999	74.3	69.97	78.20	233	41686	11.4	8.82	14.68

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
JOHOR	164	27375	6.9	5.22	9.08	132	20545	5.2	2.20	11.72
Locality of school										
Urban	138	23118	7.6	5.67	10.24	118	18242	6.0	2.35	14.65
Rural	26	4257	4.5	2.40	8.35	14	2304	2.4	0.54	10.45
Sex										
Boys	83	15225	7.5	5.28	10.48	54	9674	4.8	1.49	14.15
Girls	81	12149	6.3	4.41	8.92	78	10871	5.6	1.80	16.28
Ethnicity										
Malay	95	16424	5.5	4.11	7.23	131	20294	6.7	2.71	15.83
Chinese	62	9835	13.6	9.57	19.00	1	251	0.3	0.04	2.77
Indian	5	710	4.1	1.43	10.98					
Bumiputera Sabah	2	406	18.1	7.35	37.99					
Bumiputera Sarawak										
Others										
School level										
Primary school	40	7750	5.1	3.19	8.06	3	537	0.4	0.04	2.72
Secondary school	124	19624	8.0	5.89	10.84	129	20008	8.2	3.76	16.90
Class										
Standard 4	11	2378	4.5	2.69	7.54	1	213	0.4	0.06	2.74
Standard 5	13	2484	5.1	2.41	10.35					
Standard 6	16	2888	5.7	3.09	10.43	2	324	0.6	0.08	4.76
Form 1	26	4455	8.4	5.09	13.46	29	5044	9.5	4.14	20.22
Form 2	38	4966	10.8	6.59	17.16	42	5519	12.0	4.22	29.60
Form 3	19	3011	6.3	3.89	9.96	24	3863	8.0	2.65	21.97
Form 4	19	2768	6.0	3.25	10.80	21	3277	7.1	2.38	19.32
Form 5	22	4424	8.6	5.50	13.35	13	2306	4.5	1.82	10.73
School session										
Morning session	90	15562	6.0	4.23	8.39	110	17042	6.5	2.60	15.52
Evening session	53	7910	14.0	9.89	19.48	14	2193	3.9	1.41	10.23
Morning and evening session	20	3595	4.5	3.40	6.06	8	1310	1.7	0.66	4.09
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	1424	6.3	3.23	11.96	6	961	4.3	1.26	13.43
Normal (≥-2sd - ≤+1sd)	102	16382	6.4	4.53	8.98	80	12518	4.9	2.16	10.70
Overweight (>+1sd - ≤+2sd)	29	4721	8.1	5.20	12.36	26	4086	7.0	2.87	16.10
Obese (>+2sd)	25	4849	8.2	5.03	13.17	20	2980	5.1	1.66	14.37
Height-for-age status (HAZ)										
Stunting (<-2sd)	12	2095	6.6	4.05	10.68	12	1943	6.2	2.22	15.90
Normal (≥-2sd)	152	25280	6.9	5.16	9.24	120	18603	5.1	2.18	11.48

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

Socio-demographic Characteristics	Source of food for breakfast				
	Others				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	50	8901	2.2	1.51	3.34
Locality of school					
Urban	37	6510	2.2	1.64	2.82
Rural	13	2391	2.5	0.70	8.84
Sex					
Boys	31	5812	2.9	1.62	4.97
Girls	19	3089	1.6	0.97	2.63
Ethnicity					
Malay	33	6076	2.0	1.14	3.54
Chinese	14	2229	3.1	1.90	4.97
Indian	2	397	2.3	0.76	6.61
Bumiputera Sabah					
Bumiputera Sarawak					
Others	1	199	17.5	2.02	68.57
School level					
Primary school	14	2817	1.9	1.62	2.12
Secondary school	36	6084	2.5	1.40	4.38
Class					
Standard 4	6	1276	2.4	1.42	4.14
Standard 5	4	608	1.2	0.23	6.38
Standard 6	4	934	1.9	0.70	4.80
Form 1	4	758	1.4	0.58	3.43
Form 2	12	1709	3.7	1.27	10.32
Form 3	3	571	1.2	0.25	5.52
Form 4	12	1998	4.3	2.41	7.66
Form 5	5	1048	2.0	0.84	4.89
School session					
Morning session	38	6697	2.6	1.54	4.26
Evening session	5	836	1.5	0.71	3.04
Morning and evening session	7	1369	1.7	0.98	3.04
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	861	3.8	1.51	9.33
Normal (≥-2sd - ≤+1sd)	34	6075	2.4	1.54	3.65
Overweight (>+1sd - ≤+2sd)	6	923	1.6	0.59	4.17
Obese (>+2sd)	6	1042	1.8	0.67	4.59
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	742	2.4	0.54	9.58
Normal (≥-2sd)	45	8159	2.2	1.58	3.15

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

Socio-demographic Characteristics	Reasons for skiping breakfast									
	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	175	29236	10.7	8.79	13.04	653	114063	41.9	38.99	44.83
Locality of school										
Urban	126	21326	10.2	8.69	12.02	496	86801	41.7	37.93	45.49
Rural	49	7910	12.4	6.94	21.07	157	27262	42.6	40.29	44.96
Sex										
Boys	80	14190	10.7	8.11	14.03	276	53184	40.2	35.55	44.93
Girls	95	15046	10.8	8.73	13.18	377	60879	43.5	40.34	46.75
Ethnicity										
Malay	143	24196	11.2	9.13	13.61	526	93400	43.1	39.67	46.67
Chinese	24	3698	8.8	5.08	14.67	89	14283	33.8	28.07	40.09
Indian	3	526	5.9	1.43	21.34	28	4510	50.5	37.42	63.56
Bumiputera Sabah	2	355	19.1	7.11	42.06	3	494	26.5	10.13	53.63
Bumiputera Sarawak	1	157	7.5	0.66	50.10	6	1148	55.1	29.69	78.05
Others	2	303	41.5	14.95	74.04	1	230	31.4	7.22	72.89
School level										
Primary school	49	9360	8.9	6.69	11.87	241	48909	46.8	44.51	49.01
Secondary school	126	19876	11.8	9.22	15.09	412	65155	38.8	35.99	41.77
Class										
Standard 4	12	3001	8.8	3.74	19.17	84	17242	50.3	41.39	59.24
Standard 5	25	4537	12.0	8.87	16.07	89	16854	44.6	39.79	49.53
Standard 6	12	1823	5.6	1.94	15.08	68	14813	45.5	37.71	53.50
Form 1	10	1620	5.5	2.47	11.62	77	13436	45.2	39.35	51.24
Form 2	33	4396	13.6	8.07	21.89	95	12755	39.4	32.02	47.20
Form 3	23	3781	11.8	8.29	16.54	83	13094	40.9	34.58	47.48
Form 4	28	4005	11.6	7.82	17.00	90	13015	37.9	31.26	44.94
Form 5	32	6074	15.5	11.21	21.02	67	12855	32.8	27.01	39.12
School session										
Morning session	107	17941	10.2	8.00	12.91	418	72943	41.4	36.58	46.48
Evening session	26	3687	9.3	6.38	13.37	116	17849	45.0	40.01	50.13
Morning and evening session	42	7608	13.6	9.90	18.33	117	22732	40.5	35.36	45.95
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	1791	12.2	5.22	25.89	32	6306	42.9	32.21	54.24
Normal (≥-2sd - ≤+1sd)	122	20392	11.8	9.68	14.37	431	74195	43.0	39.23	46.89
Overweight (>+1sd - ≤+2sd)	21	3577	8.4	5.20	13.36	99	17628	41.5	34.48	48.88
Obese (>+2sd)	21	3476	8.3	5.15	13.17	87	15206	36.4	30.49	42.70
Height-for-age status (HAZ)										
Stunting (<-2sd)	17	2872	13.1	7.77	21.37	49	8906	40.7	30.86	51.45
Normal (≥-2sd)	158	26364	10.5	8.51	12.98	603	105026	42.0	39.39	44.60

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

Socio-demographic Characteristics	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	516	89832	33.0	30.50	35.57	66	11566	4.2	3.37	5.33
Locality of school										
Urban	398	69361	33.3	30.20	36.52	53	9286	4.5	3.42	5.78
Rural	118	20471	32.0	28.71	35.46	13	2280	3.6	2.31	5.45
Sex										
Boys	224	42472	32.1	27.93	36.51	37	7047	5.3	4.01	7.03
Girls	292	47359	33.9	31.76	36.01	29	4519	3.2	2.23	4.65
Ethnicity										
Malay	403	70994	32.8	29.70	36.04	48	8594	4.0	3.00	5.24
Chinese	91	15225	36.1	32.87	39.36	13	2152	5.1	3.32	7.75
Indian	15	2296	25.7	12.24	46.25	3	498	5.6	1.66	17.17
Bumiputera Sabah	4	736	39.5	22.23	59.90	1	123	6.6	0.55	47.72
Bumiputera Sarawak	3	581	27.9	16.52	43.00	1	199	9.5	1.44	43.20
Others										
School level										
Primary school	156	31957	30.5	27.95	33.28	21	4267	4.1	3.04	5.45
Secondary school	360	57875	34.5	31.15	38.02	45	7299	4.4	3.16	5.96
Class										
Standard 4	41	9122	26.6	21.38	32.62	4	809	2.4	0.77	7.01
Standard 5	60	11584	30.7	25.73	36.09	8	1383	3.7	2.26	5.88
Standard 6	55	11250	34.5	28.01	41.73	9	2076	6.4	4.29	9.37
Form 1	48	8104	27.3	18.28	38.61	11	1962	6.6	2.97	14.04
Form 2	80	10753	33.2	24.78	42.79	11	1453	4.5	1.91	10.14
Form 3	70	10735	33.5	27.37	40.26	10	1525	4.8	2.64	8.43
Form 4	86	12837	37.3	30.17	45.11	7	1055	3.1	1.62	5.74
Form 5	76	15446	39.4	33.58	45.51	6	1303	3.3	1.36	7.90
School session										
Morning session	365	62398	35.5	32.04	39.03	38	6613	3.8	2.91	4.84
Evening session	57	8816	22.2	16.75	28.89	20	3307	8.3	5.01	13.58
Morning and evening session	93	18507	33.0	28.15	38.26	8	1646	2.9	1.67	5.11
BMI-for-age status (BAZ)										
Thinness (<-2sd)	24	4258	28.9	21.90	37.18	2	425	2.9	0.76	10.32
Normal (≥-2sd - ≤+1sd)	320	55133	32.0	28.58	35.55	26	4240	2.5	1.73	3.47
Overweight (>+1sd - ≤+2sd)	89	15076	35.5	30.08	41.30	18	3143	7.4	4.32	12.40
Obese (>+2sd)	82	15203	36.4	31.42	41.63	20	3758	9.0	5.89	13.50
Height-for-age status (HAZ)										
Stunting (<-2sd)	40	6492	29.7	22.09	38.65	5	922	4.2	2.08	8.34
Normal (≥-2sd)	475	83178	33.2	30.90	35.68	61	10645	4.3	3.21	5.62

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

Socio-demographic Characteristics	Reasons for skiping breakfast									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	51	9489	3.5	2.31	5.23	108	18167	6.7	4.93	8.97
Locality of school										
Urban	39	7080	3.4	2.12	5.40	86	14508	7.0	4.92	9.78
Rural	12	2409	3.8	1.60	8.60	22	3658	5.7	3.03	10.52
Sex										
Boys	33	6371	4.8	2.89	7.91	48	9191	6.9	4.63	10.27
Girls	18	3118	2.2	1.44	3.44	60	8976	6.4	4.73	8.65
Ethnicity										
Malay	43	8045	3.7	2.35	5.84	67	11288	5.2	3.71	7.27
Chinese	5	804	1.9	0.79	4.50	37	6070	14.4	9.59	20.98
Indian	1	286	3.2	0.35	23.69	4	808	9.1	3.57	21.13
Bumiputera Sabah	1	154	8.3	2.68	22.80					
Bumiputera Sarawak										
Others	1	199	27.2	2.37	85.13					
School level										
Primary school	28	5754	5.5	3.24	9.19	22	4358	4.2	2.64	6.51
Secondary school	23	3735	2.2	1.47	3.36	86	13808	8.2	6.16	10.92
Class										
Standard 4	12	3206	9.4	4.63	18.01	5	882	2.6	0.71	8.91
Standard 5	11	1729	4.6	2.13	9.54	9	1694	4.5	1.31	14.28
Standard 6	5	819	2.5	0.68	8.90	8	1782	5.5	3.35	8.82
Form 1	10	1866	6.3	3.31	11.59	16	2720	9.2	6.39	12.96
Form 2	6	813	2.5	1.10	5.61	17	2242	6.9	4.13	11.36
Form 3	3	482	1.5	0.48	4.59	16	2416	7.5	3.38	15.99
Form 4	3	424	1.2	0.32	4.64	21	3044	8.9	5.25	14.54
Form 5	1	150	0.4	0.05	3.13	16	3386	8.6	4.34	16.44
School session										
Morning session	26	4631	2.6	1.57	4.39	67	11464	6.5	4.67	9.02
Evening session	11	1915	4.8	2.24	10.09	27	4073	10.3	7.30	14.26
Morning and evening session	14	2943	5.2	2.80	9.64	14	2629	4.7	2.45	8.80
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	522	3.5	1.05	11.28	8	1407	9.6	4.00	21.15
Normal (≥-2sd - ≤+1sd)	35	6309	3.7	2.22	5.97	73	12207	7.1	5.08	9.78
Overweight (>+1sd - ≤+2sd)	8	1398	3.3	1.39	7.59	11	1656	3.9	1.98	7.54
Obese (>+2sd)	5	1259	3.0	1.45	6.14	16	2897	6.9	4.27	11.07
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1496	6.8	2.71	16.21	7	1168	5.3	2.63	10.57
Normal (≥-2sd)	43	7993	3.2	2.05	4.94	101	16998	6.8	5.04	9.11

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 Lower	Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	1326	218712	49.9	41.89	57.89	1179	210292	48.0	39.90	56.14
Locality of school										
Urban	1081	175901	52.3	41.97	62.38	863	153950	45.7	35.55	56.30
Rural	245	42810	42.0	36.66	47.59	316	56341	55.3	49.79	60.70
Sex										
Boys	572	105904	48.0	39.83	56.36	572	109667	49.7	41.22	58.29
Girls	754	112808	51.8	42.60	60.80	607	100625	46.2	37.35	55.23
Ethnicity										
Malay	852	142134	43.2	36.24	50.47	992	179431	54.6	46.97	61.94
Chinese	380	61675	74.0	66.09	80.67	122	19825	23.8	17.66	31.27
Indian	75	11939	63.4	51.62	73.70	41	6627	35.2	25.30	46.48
Bumiputera Sabah	5	732	32.6	17.24	52.78	9	1517	67.4	47.22	82.76
Bumiputera Sarawak	9	1523	41.3	15.97	72.34	11	2160	58.7	27.66	84.03
Others	5	707	49.2	17.33	81.69	4	731	50.8	18.31	82.67
School level										
Primary school	333	63020	38.7	27.44	51.27	478	97329	59.7	46.78	71.48
Secondary school	993	155691	56.5	49.27	63.49	701	112962	41.0	34.45	47.89
Class										
Standard 4	99	19837	35.9	21.27	53.65	158	34677	62.7	44.42	77.96
Standard 5	100	18091	33.5	26.16	41.70	184	34644	64.1	55.03	72.30
Standard 6	134	25092	46.8	33.37	60.78	136	28008	52.3	37.77	66.41
Form 1	194	32128	55.6	45.65	65.17	133	23382	40.5	31.17	50.54
Form 2	218	28565	53.6	42.35	64.47	172	23371	43.8	34.11	54.08
Form 3	205	32447	59.9	51.19	67.96	131	20780	38.3	30.40	46.95
Form 4	220	32054	59.3	50.93	67.21	140	21088	39.0	31.92	46.63
Form 5	156	30498	54.3	43.46	64.68	125	24341	43.3	33.68	53.47
School session										
Morning session	914	150253	52.1	43.22	60.91	737	131940	45.8	37.10	54.72
Evening session	185	28701	45.4	39.17	51.74	208	32014	50.6	43.82	57.40
Morning and evening session	224	39427	45.8	35.95	56.00	232	45799	53.2	43.20	62.97
BMI-for-age status (BAZ)										
Thinness (<-2sd)	73	12406	49.8	39.98	59.56	65	12177	48.8	38.37	59.41
Normal (≥-2sd - ≤+1sd)	894	145598	51.5	42.44	60.49	737	131185	46.4	37.37	55.70
Overweight (>+1sd - ≤+2sd)	180	29364	45.6	37.19	54.19	195	34063	52.9	44.51	61.04
Obese (>+2sd)	177	31050	47.5	40.23	54.88	178	32132	49.2	41.41	56.95
Height-for-age status (HAZ)										
Stunting (<-2sd)	96	15264	44.7	31.60	58.55	97	18081	52.9	40.53	64.97
Normal (≥-2sd)	1228	203155	50.3	42.57	58.00	1082	192211	47.6	39.73	55.55

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

Characteristics	Lunch frequency per week				
	Did not take lunch				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	55	9403	2.1	1.60	2.87
Locality of school					
Urban	40	6688	2.0	1.47	2.68
Rural	15	2715	2.7	1.38	5.08
Sex					
Boys	27	4874	2.2	1.29	3.76
Girls	28	4529	2.1	1.48	2.92
Ethnicity					
Malay	43	7324	2.2	1.58	3.14
Chinese	10	1799	2.2	0.99	4.65
Indian	2	279	1.5	0.19	10.54
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	14	2561	1.6	1.11	2.21
Secondary school	41	6841	2.5	1.75	3.50
Class					
Standard 4	4	789	1.4	0.51	3.92
Standard 5	7	1297	2.4	1.32	4.33
Standard 6	3	475	0.9	0.34	2.28
Form 1	13	2243	3.9	2.15	6.91
Form 2	10	1370	2.6	1.20	5.43
Form 3	6	975	1.8	0.77	4.13
Form 4	6	888	1.6	0.71	3.74
Form 5	6	1365	2.4	0.70	8.13
School session					
Morning session	35	6026	2.1	1.38	3.15
Evening session	16	2526	4.0	2.36	6.69
Morning and evening session	4	851	1.0	0.45	2.15
BMI-for-age status (BAZ)					
Thinness (<-2sd)	2	350	1.4	0.33	5.79
Normal (≥-2sd - ≤+1sd)	34	5846	2.1	1.37	3.10
Overweight (>+1sd - ≤+2sd)	6	1022	1.6	0.75	3.32
Obese (>+2sd)	13	2184	3.3	1.92	5.76
Height-for-age status (HAZ)					
Stunting (<-2sd)	4	816	2.4	0.83	6.69
Normal (≥-2sd)	51	8587	2.1	1.52	2.96

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

Characteristics	Prepared at home					School canteen				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	1626	277825	65.3	61.25	69.06	470	82504	19.4	15.02	24.63
Locality of school										
Urban	1264	213790	65.4	60.47	69.98	338	59539	18.2	13.10	24.74
Rural	362	64035	64.9	58.72	70.53	132	22965	23.3	16.46	31.80
Sex										
Boys	686	130199	60.8	55.18	66.21	244	45652	21.3	16.11	27.68
Girls	940	147626	69.7	65.52	73.64	226	36852	17.4	13.32	22.42
Ethnicity										
Malay	1189	207821	64.9	60.45	69.18	367	65536	20.5	15.96	25.88
Chinese	322	51418	64.2	55.31	72.15	71	11783	14.7	7.79	26.03
Indian	90	14329	78.7	69.22	85.85	18	2839	15.6	8.41	27.10
Bumiputera Sabah	8	1260	56.0	31.48	77.96	4	610	27.1	12.13	50.07
Bumiputera Sarawak	13	2480	67.3	52.70	79.22	6	1005	27.3	18.54	38.19
Others	4	516	35.9	9.49	74.95	4	731	50.8	18.31	82.67
School level										
Primary school	496	97971	61.8	57.31	66.02	221	44129	27.8	24.56	31.33
Secondary school	1130	179854	67.3	61.87	72.37	249	38375	14.4	10.20	19.86
Class										
Standard 4	155	31507	58.4	50.48	65.90	70	16210	30.0	23.06	38.10
Standard 5	165	30623	59.0	53.57	64.22	88	16457	31.7	26.15	37.85
Standard 6	176	35842	67.9	57.61	76.72	63	11462	21.7	13.04	33.92
Form 1	208	35083	63.5	55.56	70.74	61	10214	18.5	12.91	25.75
Form 2	214	28562	55.5	45.57	65.07	89	11821	23.0	15.70	32.35
Form 3	236	37229	70.6	61.05	78.57	38	6062	11.5	5.52	22.37
Form 4	272	39789	75.1	67.71	81.31	34	5053	9.5	6.18	14.45
Form 5	200	39192	71.7	62.09	79.63	27	5226	9.6	4.77	18.24
School session										
Morning session	1108	187967	67.0	61.24	72.31	254	46156	16.5	11.78	22.51
Evening session	220	34232	56.6	50.85	62.20	121	18300	30.3	22.36	39.54
Morning and evening session	297	55395	65.8	61.63	69.69	95	18048	21.4	15.96	28.14
BMI-for-age status (BAZ)										
Thinness (<-2sd)	98	17799	73.1	60.48	82.78	21	3502	14.4	7.75	25.12
Normal (≥-2sd - ≤+1sd)	1068	180778	65.7	61.95	69.27	296	51698	18.8	14.44	24.07
Overweight (>+1sd - ≤+2sd)	238	39500	62.8	56.48	68.64	75	13437	21.3	14.88	29.65
Obese (>+2sd)	220	39314	63.1	56.61	69.23	75	13432	21.6	16.10	28.28
Height-for-age status (HAZ)										
Stunting (<-2sd)	119	20305	61.7	55.10	67.89	44	7964	24.2	17.50	32.46
Normal (≥-2sd)	1506	257389	65.6	61.46	69.46	425	74378	18.9	14.57	24.27

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

Characteristics	Restaurant/ kiosk					Hostel				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	198	34093	8.0	6.39	9.99	141	21887	5.1	2.32	10.99
Locality of school										
Urban	166	28392	8.7	6.76	11.08	124	18957	5.8	2.39	13.40
Rural	32	5701	5.8	3.79	8.71	17	2931	3.0	0.63	12.90
Sex										
Boys	110	20831	9.7	7.44	12.63	62	10871	5.1	1.80	13.48
Girls	88	13262	6.3	4.68	8.34	79	11017	5.2	1.75	14.45
Ethnicity										
Malay	112	19621	6.1	4.91	7.63	112	19621	6.1	4.91	7.63
Chinese	81	13565	16.9	13.76	20.65	81	13565	16.9	13.76	20.65
Indian	4	709	3.9	1.54	9.51	4	709	3.9	1.54	9.51
Bumiputera Sabah	1	199	8.8	2.35	28.04	1	199	8.8	2.35	28.04
Bumiputera Sarawak										
Others										
School level										
Primary school	60	11638	7.3	4.64	11.42	5	856	0.5	0.13	2.14
Secondary school	138	22456	8.4	6.62	10.62	136	21031	7.9	3.80	15.61
Class										
Standard 4	17	3774	7.0	3.35	14.01	3	532	1.0	0.24	4.01
Standard 5	22	4003	7.7	6.24	9.49					
Standard 6	21	3861	7.3	4.11	12.69	2	324	0.6	0.08	4.45
Form 1	22	3705	6.7	4.22	10.49	30	5290	9.6	4.24	20.18
Form 2	30	3936	7.7	5.59	10.40	48	6425	12.5	5.11	27.45
Form 3	24	3727	7.1	4.40	11.15	25	4130	7.8	2.95	19.20
Form 4	26	3840	7.3	4.32	11.91	22	3437	6.5	2.30	16.98
Form 5	36	7248	13.3	8.18	20.76	11	1750	3.2	0.93	10.39
School session										
Morning session	132	22698	8.1	6.16	10.56	117	18113	6.5	2.78	14.28
Evening session	29	4351	7.2	5.39	9.54	15	2337	3.9	1.31	10.86
Morning and evening session	36	6736	8.0	5.12	12.28	9	1438	1.7	0.60	4.73
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	1864	7.7	3.40	16.34	6	961	3.9	1.17	12.48
Normal (≥-2sd - ≤+1sd)	136	22673	8.2	6.47	10.45	88	13598	4.9	2.27	10.41
Overweight (>+1sd - ≤+2sd)	28	5086	8.1	5.17	12.43	25	3907	6.2	2.57	14.24
Obese (>+2sd)	24	4470	7.2	4.79	10.63	22	3421	5.5	2.23	12.91
Height-for-age status (HAZ)										
Stunting (<-2sd)	13	2376	7.2	4.73	10.87	11	1773	5.4	1.94	14.06
Normal (≥-2sd)	185	31717	8.1	6.39	10.17	130	20115	5.1	2.35	10.82

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

Characteristics	Source of food for lunch				
			Other		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	51	9426	2.2	1.62	3.03
Locality of school					
Urban	35	6318	1.9	1.26	2.94
Rural	16	3107	3.1	2.53	3.90
Sex					
Boys	34	6469	3.0	2.10	4.34
Girls	17	2956	1.4	0.91	2.13
Ethnicity					
Malay	30	5657	1.8	1.22	2.55
Chinese	18	3199	4.0	2.84	5.59
Indian					
Bumiputera Sabah	1	180	8.0	0.74	50.41
Bumiputera Sarawak	1	199	5.4	1.06	23.37
Others	1	191	13.3	1.83	55.65
School level					
Primary school	20	4039	2.5	1.48	4.33
Secondary school	31	5387	2.0	1.39	2.92
Class					
Standard 4	9	1931	3.6	1.67	7.51
Standard 5	5	820	1.6	0.56	4.40
Standard 6	6	1288	2.4	1.16	5.05
Form 1	5	974	1.8	0.74	4.13
Form 2	5	691	1.3	0.62	2.87
Form 3	10	1613	3.1	1.31	6.99
Form 4	5	845	1.6	0.68	3.72
Form 5	6	1264	2.3	0.91	5.72
School session					
Morning session	30	5573	2.0	1.23	3.18
Evening session	7	1248	2.1	1.02	4.11
Morning and evening session	14	2604	3.1	1.72	5.49
BMI-for-age status (BAZ)					
Thinness (<-2sd)	1	235	1.0	0.12	7.36
Normal (≥-2sd - ≤+1sd)	34	6407	2.3	1.62	3.34
Overweight (>+1sd - ≤+2sd)	6	1007	1.6	0.68	3.73
Obese (>+2sd)	9	1620	2.6	1.20	5.56
Height-for-age status (HAZ)					
Stunting (<-2sd)	3	491	1.5	0.43	5.09
Normal (≥-2sd)	48	8935	2.3	1.68	3.07

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

Characteristics	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	144	25565	13.2	11.19	15.56	481	88032	45.5	40.27	50.88
Locality of school										
Urban	104	18633	13.3	11.64	15.19	343	62633	44.8	38.38	51.34
Rural	40	6932	13.0	7.81	20.75	138	25399	47.5	38.13	57.06
Sex										
Boys	83	15737	15.5	12.74	18.74	216	42988	42.4	36.42	48.52
Girls	61	9828	10.7	7.46	15.11	265	45044	49.0	42.37	55.72
Ethnicity										
Malay	122	22156	13.2	10.99	15.69	434	80115	47.6	42.36	52.88
Chinese	17	2605	15.2	8.86	24.76	27	4470	26.0	20.36	32.64
Indian	1	129	3.3	0.40	22.34	11	1704	43.4	28.96	59.07
Bumiputera Sabah	2	355	30.0	12.12	57.17	2	340	28.7	3.70	80.90
Bumiputera Sarawak	1	154	7.6	0.76	46.91	6	1174	58.0	42.39	72.22
Others	1	166	22.7	5.74	58.51	1	230	31.4	7.22	72.89
School level										
Primary school	58	11524	13.0	10.36	16.12	223	46542	52.4	46.88	57.84
Secondary school	86	14041	13.4	10.57	16.92	258	41490	39.7	35.78	43.75
Class										
Standard 4	17	4401	13.6	9.16	19.70	83	17415	53.8	45.21	62.13
Standard 5	31	5243	16.4	10.28	25.07	84	16547	51.7	42.46	60.79
Standard 6	10	1880	7.7	3.87	14.72	56	12579	51.5	33.87	68.70
Form 1	13	2344	10.7	6.73	16.52	50	8727	39.8	34.32	45.46
Form 2	28	3873	18.1	11.76	26.76	62	8404	39.2	35.45	43.14
Form 3	13	2043	10.8	7.60	15.13	58	9355	49.5	36.89	62.10
Form 4	12	1855	9.8	5.27	17.46	50	7576	40.0	31.48	49.08
Form 5	20	3926	16.9	10.71	25.54	38	7429	31.9	24.26	40.68
School session										
Morning session	95	16898	13.9	11.22	17.04	303	56106	46.1	39.79	52.47
Evening session	25	3800	12.3	9.50	15.86	79	12076	39.2	32.42	46.40
Morning and evening session	24	4866	12.1	9.07	15.96	97	19312	48.0	41.12	54.96
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	1600	15.0	8.99	23.82	27	5199	48.6	34.23	63.19
Normal (≥-2sd - ≤+1sd)	91	16028	13.4	10.10	17.54	301	55291	46.2	39.76	52.74
Overweight (>+1sd - ≤+2sd)	24	4056	12.8	8.98	17.88	81	14633	46.1	38.15	54.29
Obese (>+2sd)	19	3881	12.7	7.37	20.92	70	12470	40.7	31.17	50.97
Height-for-age status (HAZ)										
Stunting (<-2sd)	16	2783	16.5	9.38	27.41	41	7513	44.6	36.27	53.17
Normal (≥-2sd)	128	22782	12.9	11.01	15.07	440	80519	45.6	40.20	51.14

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

Characteristics	Reasons for skiping lunch									
	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	228	40516	21.0	18.21	23.98	104	17285	8.9	6.67	11.87
Locality of school										
Urban	174	30918	22.1	18.92	25.64	75	12298	8.8	6.18	12.36
Rural	54	9598	18.0	12.97	24.32	29	4987	9.3	5.62	15.08
Sex										
Boys	115	21113	20.8	15.86	26.80	44	8409	8.3	6.25	10.91
Girls	113	19402	21.1	17.57	25.17	60	8876	9.7	6.05	15.07
Ethnicity										
Malay	190	33920	20.1	17.36	23.26	86	14552	8.6	6.24	11.86
Chinese	29	5047	29.4	21.87	38.24	15	2310	13.5	8.46	20.71
Indian	6	845	21.5	12.25	35.01	2	269	6.9	1.73	23.52
Bumiputera Sabah	1	180	15.2	4.99	37.97	1	154	13.0	4.33	33.12
Bumiputera Sarawak	2	525	25.9	9.66	53.44					
Others										
School level										
Primary school	83	16463	18.5	16.05	21.30	31	5595	6.3	4.14	9.46
Secondary school	145	24053	23.0	19.12	27.42	73	11690	11.2	8.65	14.34
Class										
Standard 4	24	5134	15.9	12.03	20.61	8	1833	5.7	3.73	8.50
Standard 5	26	5227	16.3	10.23	25.03	12	1809	5.6	1.99	15.04
Standard 6	33	6102	25.0	16.24	36.34	11	1953	8.0	4.21	14.66
Form 1	28	4775	21.8	15.87	29.06	12	2052	9.3	5.72	14.91
Form 2	27	3658	17.1	12.03	23.68	17	2286	10.7	6.88	16.20
Form 3	30	4807	25.4	15.54	38.69	9	1336	7.1	3.55	13.55
Form 4	24	3665	19.3	12.25	29.14	19	2783	14.7	9.23	22.55
Form 5	36	7147	30.7	24.37	37.87	16	3233	13.9	8.45	21.98
School session										
Morning session	131	23273	19.1	15.61	23.18	71	11487	9.4	6.92	12.74
Evening session	47	7377	23.9	19.52	29.01	16	2511	8.1	5.63	11.66
Morning and evening session	50	9865	24.5	19.04	30.97	17	3287	8.2	4.72	13.77
BMI-for-age status (BAZ)										
Thinness (<-2sd)	11	1957	18.3	10.20	30.62					
Normal (≥-2sd - ≤+1sd)	142	25050	20.9	17.08	25.37	57	9786	8.2	6.19	10.72
Overweight (>+1sd - ≤+2sd)	37	6627	20.9	14.83	28.58	23	3548	11.2	6.34	18.98
Obese (>+2sd)	38	6882	22.5	15.88	30.76	23	3813	12.4	7.09	20.92
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	2565	15.2	10.05	22.37	8	1298	7.7	3.43	16.40
Normal (≥-2sd)	214	37951	21.5	18.70	24.60	96	15986	9.1	6.94	11.74

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

	Reasons for skiping lumch									
Characteristics	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	56	10223	5.3	4.13	6.75	68	11749	6.1	4.67	7.86
Locality of school										
Urban	38	7042	5.0	3.70	6.81	48	8382	6.0	4.36	8.18
Rural	18	3181	6.0	3.94	8.90	20	3368	6.3	4.00	9.79
Sex										
Boys	34	6196	6.1	3.81	9.65	38	7050	6.9	5.16	9.30
Girls	22	4027	4.4	2.49	7.59	30	4700	5.1	3.46	7.50
Ethnicity										
Malay	47	8834	5.2	3.97	6.90	50	8759	5.2	3.81	7.07
Chinese	3	428	2.5	0.58	10.07	15	2313	13.5	10.19	17.59
Indian	3	471	12.0	4.69	27.44	2	507	12.9	3.39	38.58
Bumiputera Sabah	1	154	13.0	4.33	33.12					
Bumiputera Sarawak						1	170	8.4	3.40	19.34
Others	2	336	46.0	5.70	92.29					
School level										
Primary school	23	4877	5.5	4.02	7.45	19	3842	4.3	2.99	6.21
Secondary school	33	5346	5.1	3.51	7.39	49	7907	7.6	5.73	9.92
Class										
Standard 4	11	2707	8.4	4.63	14.63	4	894	2.8	1.36	5.50
Standard 5	4	684	2.1	1.02	4.40	12	2508	7.8	4.72	12.73
Standard 6	8	1486	6.1	4.02	9.10	3	441	1.8	0.61	5.25
Form 1	10	1877	8.5	4.29	16.32	12	2177	9.9	6.55	14.75
Form 2	11	1526	7.1	4.24	11.72	12	1676	7.8	3.95	14.90
Form 3	2	316	1.7	0.42	6.37	7	1056	5.6	2.61	11.54
Form 4	8	1215	6.4	3.33	11.99	12	1866	9.8	6.58	14.48
Form 5	2	412	1.8	0.39	7.67	6	1131	4.9	1.65	13.43
School session										
Morning session	30	5660	4.6	3.28	6.55	47	8359	6.9	5.05	9.27
Evening session	17	2745	8.9	5.54	14.02	15	2304	7.5	5.76	9.65
Morning and evening session	9	1818	4.5	3.22	6.31	6	1086	2.7	1.13	6.29
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	787	7.4	3.17	16.14	5	1157	10.8	3.75	27.39
Normal (≥-2sd - ≤+1sd)	38	6779	5.7	4.21	7.58	40	6788	5.7	3.82	8.34
Overweight (>+1sd - ≤+2sd)	8	1584	5.0	2.81	8.71	8	1281	4.0	2.10	7.62
Obese (>+2sd)	5	1074	3.5	1.18	9.93	15	2523	8.2	4.98	13.31
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	1863	11.0	5.09	22.34	4	838	5.0	1.86	12.60
Normal (≥-2sd)	49	8360	4.7	3.55	6.30	64	10912	6.2	4.76	8.00

Table 3.4.7 : Prevalence of dinner 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 Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	1480	247609	56.7	48.81	64.27	999	177564	40.7	33.30	48.47
Locality of school										
Urban	1187	197041	58.8	49.55	67.52	733	129059	38.5	29.99	47.84
Rural	293	50568	49.7	35.82	63.63	266	48505	47.7	34.78	60.89
Sex										
Boys	684	126828	57.7	49.21	65.68	456	88292	40.1	32.36	48.45
Girls	796	120781	55.7	46.83	64.28	543	89272	41.2	32.94	49.98
Ethnicity										
Malay	955	162885	49.7	43.63	55.86	872	156079	47.7	41.74	53.64
Chinese	424	68716	82.7	77.73	86.70	75	12568	15.1	11.51	19.62
Indian	76	12089	64.7	45.10	80.32	37	5984	32.0	18.79	48.94
Bumiputera Sabah	7	1013	45.0	22.82	69.42	6	1029	45.7	27.93	64.72
Bumiputera Sarawak	12	1998	54.2	17.89	86.58	7	1515	41.1	13.79	75.34
Others	6	909	63.2	27.30	88.70	2	390	27.1	6.64	65.96
School level										
Primary school	394	77125	47.8	36.09	59.69	397	79811	49.4	37.50	61.42
Secondary school	1086	170484	61.9	53.16	70.02	602	97753	35.5	28.04	43.79
Class										
Standard 4	113	22957	42.1	26.98	58.81	135	29728	54.5	37.54	70.45
Standard 5	127	24484	45.4	34.36	56.98	155	28219	52.4	40.56	63.92
Standard 6	154	29683	56.0	40.64	70.27	107	21864	41.2	27.52	56.47
Form 1	234	38840	67.2	56.45	76.40	96	17245	29.8	21.60	39.63
Form 2	250	32513	61.1	48.95	72.09	139	19236	36.2	26.03	47.73
Form 3	231	36634	67.6	58.62	75.42	105	16636	30.7	23.22	39.34
Form 4	210	30841	57.3	50.05	64.24	142	21202	39.4	33.14	46.00
Form 5	161	31656	56.3	42.46	69.27	120	23434	41.7	29.61	54.87
School session										
Morning session	961	160176	55.8	46.76	64.39	672	119354	41.5	33.03	50.60
Evening session	272	41494	65.7	56.81	73.62	130	20685	32.8	25.45	41.00
Morning and evening session	244	45608	53.4	46.30	60.41	195	36987	43.3	37.17	49.69
BMI-for-age status (BAZ)										
Thinness (<-2sd)	82	13899	55.7	44.14	66.76	52	9891	39.7	29.14	51.25
Normal (≥-2sd - ≤+1sd)	992	164733	58.5	50.10	66.39	632	111459	39.6	31.81	47.89
Overweight (>+1sd - ≤+2sd)	203	33433	51.9	41.78	61.82	161	28441	44.1	34.18	54.58
Obese (>+2sd)	202	35382	54.5	46.62	62.25	150	27211	41.9	35.02	49.21
Height-for-age status (HAZ)										
Stunting (<-2sd)	98	16200	47.6	36.65	58.80	94	17221	50.6	39.75	61.42
Normal (≥-2sd)	1381	231248	57.5	49.67	64.92	904	160212	39.8	32.62	47.48

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

Characteristics	Dinner frequency per week				
	Did not take dinner				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	72	11499	2.6	1.85	3.74
Locality of school					
Urban	56	8839	2.6	1.71	4.05
Rural	16	2660	2.6	1.54	4.41
Sex					
Boys	28	4843	2.2	1.47	3.29
Girls	44	6656	3.1	2.05	4.57
Ethnicity					
Malay	53	8528	2.6	1.72	3.93
Chinese	12	1835	2.2	1.42	3.41
Indian	4	618	3.3	1.04	10.04
Bumiputera Sabah	1	207	9.2	1.01	50.25
Bumiputera Sarawak	1	170	4.6	0.96	19.47
Others	1	140	9.7	1.01	53.32
School level					
Primary school	27	4534	2.8	1.33	5.83
Secondary school	45	6966	2.5	1.80	3.55
Class					
Standard 4	10	1880	3.4	1.71	6.80
Standard 5	8	1185	2.2	0.62	7.49
Standard 6	9	1469	2.8	0.99	7.54
Form 1	10	1712	3.0	1.50	5.77
Form 2	10	1421	2.7	1.44	4.91
Form 3	6	932	1.7	0.75	3.92
Form 4	13	1786	3.3	2.32	4.73
Form 5	6	1114	2.0	0.81	4.76
School session					
Morning session	49	7751	2.7	1.99	3.65
Evening session	6	970	1.5	0.48	4.79
Morning and evening session	17	2779	3.3	1.67	6.26
BMI-for-age status (BAZ)					
Thinness (<-2sd)	6	1143	4.6	2.01	10.10
Normal (≥-2sd - ≤+1sd)	35	5507	2.0	1.23	3.10
Overweight (>+1sd - ≤+2sd)	17	2576	4.0	2.39	6.61
Obese (>+2sd)	14	2274	3.5	2.00	6.07
Height-for-age status (HAZ)					
Stunting (<-2sd)	4	604	1.8	0.64	4.81
Normal (≥-2sd)	68	10895	2.7	1.88	3.88

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
JOHOR	1953	333731	79.6	76.08	82.71	288	51120	12.2	10.12	14.62
Locality of school										
Urban	1492	253056	78.6	74.83	81.90	228	40098	12.5	10.09	15.26
Rural	461	80675	83.0	74.66	88.96	60	11021	11.3	7.70	16.38
Sex										
Boys	866	162607	77.2	72.24	81.44	151	28877	13.7	10.89	17.10
Girls	1087	171124	82.1	76.36	86.61	137	22242	10.7	8.79	12.88
Ethnicity										
Malay	1410	245414	77.8	73.41	81.66	215	39311	12.5	10.33	14.96
Chinese	409	66406	83.7	78.13	88.12	61	10021	12.6	9.56	16.52
Indian	102	16371	92.4	86.06	95.95	7	1045	5.9	2.72	12.31
Bumiputera Sabah	8	1195	58.5	35.75	78.19	3	468	22.9	4.11	67.34
Bumiputera Sarawak	19	3513	100.0	0.00	100.00					
Others	5	832	64.0	38.89	83.29	2	276	21.3	5.78	54.29
School level										
Primary school	614	121391	78.2	75.74	80.39	127	24822	16.0	15.20	16.79
Secondary school	1339	212340	80.4	74.97	84.96	161	26298	10.0	7.64	12.89
Class										
Standard 4	185	38280	73.6	66.40	79.70	40	8582	16.5	13.04	20.65
Standard 5	221	41756	79.9	73.26	85.24	49	8743	16.7	11.75	23.27
Standard 6	208	41355	81.0	75.33	85.63	38	7497	14.7	12.18	17.60
Form 1	260	43552	78.2	70.09	84.52	33	6180	11.1	7.47	16.17
Form 2	288	38174	76.0	64.22	84.84	37	5008	10.0	6.30	15.42
Form 3	274	43449	82.3	73.67	88.48	29	4457	8.4	4.71	14.67
Form 4	289	42463	82.2	75.20	87.49	32	4549	8.8	5.70	13.35
Form 5	228	44701	83.5	75.21	89.47	30	6104	11.4	7.58	16.82
School session										
Morning session	1269	215831	78.4	73.62	82.44	187	33749	12.3	9.66	15.42
Evening session	326	50331	81.3	75.97	85.75	50	7995	12.9	8.62	18.92
Morning and evening session	358	67569	83.0	75.55	88.52	49	8836	10.9	7.82	14.88
BMI-for-age status (BAZ)										
Thinness (<-2sd)	112	20099	87.3	78.61	92.84	12	2149	9.3	5.71	14.91
Normal (≥-2sd - ≤+1sd)	1295	219658	80.5	77.12	83.49	179	31146	11.4	9.29	13.95
Overweight (>+1sd - ≤+2sd)	276	46756	76.3	71.27	80.74	48	8401	13.7	10.46	17.78
Obese (>+2sd)	267	46812	76.2	70.01	81.47	47	9105	14.8	10.45	20.60
Height-for-age status (HAZ)										
Stunting (<-2sd)	150	25814	78.5	70.56	84.73	22	4095	12.5	8.46	17.95
Normal (≥-2sd)	1802	307786	79.7	76.22	82.82	265	46863	12.1	9.98	14.69

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
JOHOR	134	21421	5.1	2.57	9.89	70	13011	3.1	2.17	4.41
Locality of school										
Urban	115	17852	5.5	2.51	11.82	60	11040	3.4	2.31	5.05
Rural	19	3569	3.7	1.19	10.74	10	1971	2.0	1.34	3.05
Sex										
Boys	58	10635	5.0	2.14	11.43	41	8604	4.1	2.70	6.12
Girls	76	10787	5.2	1.89	13.35	29	4407	2.1	1.28	3.46
Ethnicity										
Malay	130	20758	6.6	3.12	13.34	52	9914	3.1	2.02	4.86
Chinese	2	294	0.4	0.12	1.13	15	2587	3.3	1.95	5.42
Indian	1	170	1.0	0.14	6.33	1	140	0.8	0.10	5.67
Bumiputera Sabah	1	199	9.7	2.93	27.81	1	180	8.8	2.67	25.42
Bumiputera Sarawak										
Others						1	191	14.7	2.05	58.70
School level										
Primary school	12	2739	1.8	1.10	2.83	29	6374	4.1	2.33	7.12
Secondary school	122	18683	7.1	3.42	14.07	41	6637	2.5	1.79	3.53
Class										
Standard 4	5	1407	2.7	1.16	6.17	15	3753	7.2	4.47	11.44
Standard 5	5	1026	2.0	0.93	4.12	4	727	1.4	0.79	2.43
Standard 6	2	307	0.6	0.16	2.19	10	1894	3.7	1.56	8.55
Form 1	23	4152	7.5	3.57	14.91	12	1840	3.3	1.55	6.91
Form 2	47	6186	12.3	5.01	27.21	6	855	1.7	0.70	4.06
Form 3	25	4080	7.7	2.79	19.63	5	837	1.6	0.61	4.06
Form 4	16	2515	4.9	1.59	13.98	13	2158	4.2	1.97	8.62
Form 5	11	1750	3.3	0.96	10.54	5	948	1.8	0.50	6.09
School session										
Morning session	108	17152	6.2	2.89	12.89	45	8731	3.2	2.05	4.88
Evening session	15	2241	3.6	1.56	8.18	9	1306	2.1	0.86	5.09
Morning and evening session	11	2029	2.5	1.43	4.32	16	2974	3.7	1.38	9.33
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	582	2.5	0.93	6.71	1	180	0.8	0.10	6.03
Normal (≥-2sd - ≤+1sd)	83	13172	4.8	2.45	9.29	49	8895	3.3	2.34	4.52
Overweight (>+1sd - ≤+2sd)	26	4148	6.8	3.00	14.59	10	1949	3.2	1.65	6.06
Obese (>+2sd)	21	3519	5.7	2.70	11.74	10	1987	3.2	1.80	5.76
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	2481	7.5	3.36	16.06	3	502	1.5	0.32	6.91
Normal (≥-2sd)	120	18940	4.9	2.47	9.53	67	12509	3.2	2.34	4.47

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

Socio-demographic Characteristics	No food available					No appetite				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	139	25200	14.9	12.71	17.41	449	80228	47.5	43.18	51.77
Locality of school										
Urban	104	18695	15.1	12.25	18.55	340	60007	48.6	43.76	53.43
Rural	35	6505	14.3	13.01	15.66	109	20221	44.4	36.68	52.42
Sex										
Boys	82	15937	19.1	16.05	22.59	193	37764	45.3	40.54	50.10
Girls	57	9263	10.8	8.66	13.43	256	42464	49.6	43.21	55.97
Ethnicity										
Malay	121	22043	14.7	12.29	17.52	400	71872	48.0	43.13	52.87
Chinese	10	1805	15.1	7.70	27.52	34	5786	48.4	34.39	62.73
Indian	4	647	15.5	7.64	28.79	7	919	21.9	5.34	58.35
Bumiputera Sabah	3	535	43.3	14.63	77.27	2	314	25.4	12.77	44.14
Bumiputera Sarawak	1	170	11.3	5.76	20.93	6	1338	88.7	79.07	94.24
Others										
School level										
Primary school	58	11591	15.2	13.29	17.36	211	41615	54.6	51.80	57.42
Secondary school	81	13609	14.7	11.12	19.07	238	38612	41.6	37.92	45.33
Class										
Standard 4	22	5887	20.3	9.64	37.86	73	14715	50.8	37.15	64.31
Standard 5	27	4270	16.5	9.84	26.43	74	13343	51.6	41.32	61.84
Standard 6	9	1435	6.7	2.29	18.10	64	13557	63.4	54.27	71.72
Form 1	12	2427	15.8	9.87	24.42	45	7693	50.2	40.92	59.42
Form 2	25	3440	18.4	11.50	28.21	53	7365	39.5	33.77	45.46
Form 3	10	1661	10.7	6.38	17.31	45	7150	45.9	32.97	59.42
Form 4	19	2773	13.6	8.96	20.10	44	6634	32.5	24.16	42.18
Form 5	15	3308	14.4	7.90	24.92	51	9771	42.6	32.57	53.37
School session										
Morning session	91	17351	15.3	12.28	18.91	285	50357	44.4	39.48	49.45
Evening session	26	4218	22.3	15.93	30.23	51	8081	42.7	36.32	49.25
Morning and evening session	22	3631	10.0	6.27	15.69	111	21251	58.7	52.13	65.03
BMI-for-age status (BAZ)										
Thinness (<-2sd)	8	1635	16.7	8.90	29.30	30	5928	60.7	48.15	72.00
Normal (≥-2sd - ≤+1sd)	93	16854	16.1	12.56	20.43	281	49441	47.3	43.37	51.17
Overweight (>+1sd - ≤+2sd)	20	3517	12.7	8.22	19.17	73	13139	47.5	39.28	55.91
Obese (>+2sd)	18	3194	12.0	6.96	19.92	63	11452	43.0	32.45	54.27
Height-for-age status (HAZ)										
Stunting (<-2sd)	14	2841	17.2	8.66	31.32	39	7398	44.8	32.96	57.30
Normal (≥-2sd)	125	22359	14.7	12.73	16.85	409	72699	47.7	43.39	52.04

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

Socio-demographic Characteristics	No time					On diet/ control body weight				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	122	21835	12.9	10.77	15.41	176	29944	17.7	12.85	23.91
Locality of school										
Urban	92	16431	13.3	11.07	15.91	116	19613	15.9	10.37	23.55
Rural	30	5403	11.9	7.53	18.20	60	10331	22.7	17.15	29.39
Sex										
Boys	58	10584	12.7	9.53	16.71	61	11965	14.3	9.93	20.29
Girls	64	11250	13.1	9.19	18.44	115	17979	21.0	14.75	28.97
Ethnicity										
Malay	111	19980	13.3	10.98	16.11	151	25942	17.3	12.31	23.82
Chinese	8	1395	11.7	7.03	18.77	14	2053	17.2	4.95	45.27
Indian	2	280	6.7	1.28	28.40	10	1743	41.6	17.97	69.90
Bumiputera Sabah	1	180	14.6	3.06	47.87	1	207	16.8	2.22	64.19
Bumiputera Sarawak										
Others										
School level										
Primary school	57	11155	14.6	12.05	17.67	35	7442	9.8	6.22	15.02
Secondary school	65	10680	11.5	8.75	14.97	141	22502	24.2	19.00	30.36
Class										
Standard 4	23	4866	16.8	13.33	20.95	9	2280	7.9	2.51	22.07
Standard 5	16	2898	11.2	7.65	16.16	17	3417	13.2	7.77	21.63
Standard 6	18	3390	15.9	9.40	25.52	9	1745	8.2	3.74	16.89
Form 1	5	882	5.8	2.58	12.32	16	2819	18.4	10.89	29.35
Form 2	18	2596	13.9	7.28	24.96	29	4023	21.6	13.52	32.57
Form 3	13	2127	13.7	9.22	19.78	19	2890	18.6	10.46	30.75
Form 4	15	2380	11.7	7.35	18.02	45	6464	31.7	22.04	43.22
Form 5	14	2695	11.8	5.47	23.48	32	6307	27.5	20.50	35.87
School session										
Morning session	84	14951	13.2	10.28	16.77	136	22729	20.0	14.36	27.27
Evening session	10	1448	7.6	3.26	16.89	19	3186	16.8	10.42	26.00
Morning and evening session	28	5435	15.0	11.28	19.73	21	4030	11.1	6.72	17.89
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	993	10.2	3.45	26.39	2	409	4.2	0.58	24.74
Normal (≥-2sd - ≤+1sd)	77	13494	12.9	10.48	15.78	101	17118	16.4	11.62	22.54
Overweight (>+1sd - ≤+2sd)	22	4100	14.8	9.70	22.02	33	5390	19.5	11.18	31.78
Obese (>+2sd)	17	3248	12.2	8.08	18.00	39	6890	25.9	18.70	34.65
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	1467	8.9	3.40	21.27	17	3044	18.4	10.81	29.66
Normal (≥-2sd)	112	20367	13.4	11.10	16.00	159	26901	17.6	12.77	23.88

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

Socio-demographic Characteristics	Reasons for skiping dinner									
	No money					Others				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	22	3996	2.4	1.61	3.46	47	7853	4.6	3.01	7.11
Locality of school										
Urban	14	2645	2.1	1.25	3.65	36	6130	5.0	2.99	8.13
Rural	8	1350	3.0	1.76	4.96	11	1723	3.8	1.65	8.46
Sex										
Boys	17	3237	3.9	2.35	6.34	21	3919	4.7	2.69	8.08
Girls	5	759	0.9	0.36	2.15	26	3934	4.6	3.04	6.89
Ethnicity										
Malay	18	3364	2.2	1.46	3.44	40	6589	4.4	2.73	7.02
Chinese	1	123	1.0	0.13	7.70	5	785	6.6	2.70	15.14
Indian	2	310	7.4	2.76	18.37	1	288	6.9	0.69	43.91
Bumiputera Sabah										
Bumiputera Sarawak										
Others	1	199	51.0	4.76	95.59	1	191	49.0	4.41	95.24
School level										
Primary school	10	2040	2.7	1.57	4.52	12	2339	3.1	1.59	5.85
Secondary school	12	1956	2.1	1.25	3.52	35	5514	5.9	3.51	9.86
Class										
Standard 4	2	390	1.3	0.32	5.40	4	836	2.9	1.35	6.07
Standard 5	6	1204	4.7	2.85	7.52	4	703	2.7	1.15	6.28
Standard 6	2	446	2.1	0.86	4.99	4	800	3.7	1.62	8.40
Form 1	3	583	3.8	1.48	9.43	5	927	6.0	1.77	18.67
Form 2	3	451	2.4	0.98	5.85	6	786	4.2	1.76	9.73
Form 3	2	354	2.3	0.68	7.29	9	1393	8.9	4.49	17.00
Form 4	4	568	2.8	1.13	6.71	10	1576	7.7	3.83	14.98
Form 5	32	6307	27.5	20.50	35.87	5	832	3.6	1.39	9.16
School session										
Morning session	14	2618	2.3	1.29	4.10	31	5384	4.7	2.88	7.74
Evening session	5	871	4.6	1.94	10.51	8	1138	6.0	3.41	10.37
Morning and evening session	3	507	1.4	0.47	4.14	8	1331	3.7	1.39	9.39
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	336	3.4	0.86	12.74	3	464	4.7	0.91	21.31
Normal (≥-2sd - ≤+1sd)	16	2929	2.8	1.79	4.35	28	4789	4.6	3.07	6.78
Overweight (>+1sd - ≤+2sd)	1	125	0.5	0.05	3.69	9	1373	5.0	2.57	9.38
Obese (>+2sd)	3	607	2.3	0.69	7.29	7	1227	4.6	1.92	10.65
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	823	5.0	1.71	13.71	6	932	5.6	1.80	16.30
Normal (≥-2sd)	17	3172	2.1	1.24	3.47	41	6921	4.5	3.01	6.80

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
JOHOR	1582	268584	61.3	57.58	64.85	899	156223	35.6	32.46	38.96
Locality of school										
Urban	1227	205414	61.1	56.87	65.08	695	120366	35.8	32.41	39.28
Rural	355	63171	62.0	54.09	69.34	204	35857	35.2	27.60	43.62
Sex										
Boys	719	134084	60.9	56.90	64.68	410	78572	35.7	32.08	39.42
Girls	863	134501	61.7	57.02	66.17	489	77651	35.6	31.55	39.91
Ethnicity										
Malay	1169	201906	61.4	57.05	65.53	672	118812	36.1	32.32	40.09
Chinese	320	51692	62.2	54.46	69.33	172	28095	33.8	27.94	40.20
Indian	69	10886	57.8	46.87	67.95	40	6694	35.5	26.62	45.55
Bumiputera Sabah	4	580	25.8	12.78	45.19	8	1309	58.2	36.16	77.39
Bumiputera Sarawak	15	2669	72.4	48.21	88.13	4	837	22.7	5.62	59.20
Others	5	852	59.2	24.97	86.39	3	476	33.1	9.93	68.94
School level										
Primary school	524	102189	62.8	57.19	68.02	285	57583	35.4	29.88	41.27
Secondary school	1058	166395	60.4	55.47	65.13	614	98640	35.8	31.96	39.84
Class										
Standard 4	163	34706	62.8	52.81	71.73	93	19583	35.4	26.73	45.18
Standard 5	185	33995	63.1	56.77	69.10	100	18817	35.0	29.18	41.20
Standard 6	176	33488	62.4	52.14	71.64	92	19183	35.7	26.73	45.88
Form 1	228	37879	65.6	58.66	71.90	103	18254	31.6	26.24	37.52
Form 2	242	31846	59.7	49.21	69.44	144	19491	36.6	27.61	46.55
Form 3	211	33426	61.7	53.41	69.30	121	19220	35.5	28.56	43.03
Form 4	225	32911	60.9	52.69	68.56	125	18553	34.3	28.39	40.83
Form 5	152	30333	54.0	44.23	63.42	121	23122	41.1	33.10	49.68
School session										
Morning session	1021	174086	60.5	56.26	64.51	603	103382	35.9	32.61	39.35
Evening session	271	41327	65.1	57.82	71.81	128	20345	32.1	25.97	38.85
Morning and evening session	288	52951	61.3	52.79	69.26	166	32078	37.2	29.28	45.80
BMI-for-age status (BAZ)										
Thinness (<-2sd)	92	16339	66.1	58.89	72.72	47	8362	33.9	27.28	41.11
Normal (≥-2sd - ≤+1sd)	1050	176399	62.4	58.49	66.09	562	97500	34.5	30.67	38.48
Overweight (>+1sd - ≤+2sd)	223	37017	57.3	52.61	61.88	147	25560	39.6	35.22	44.10
Obese (>+2sd)	213	38096	58.5	50.14	66.38	141	24506	37.6	32.06	43.53
Height-for-age status (HAZ)										
Stunting (<-2sd)	126	21249	62.2	51.93	71.49	66	11946	35.0	25.17	46.23
Normal (≥-2sd)	1454	247042	61.2	57.68	64.55	833	144277	35.7	32.84	38.71

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
JOHOR	79	13504	3.1	2.08	4.54
Locality of school					
Urban	62	10662	3.2	1.95	5.11
Rural	17	2842	2.8	1.83	4.24
Sex					
Boys	42	7658	3.5	2.19	5.47
Girls	37	5846	2.7	1.82	3.93
Ethnicity					
Malay	47	8246	2.5	1.54	4.06
Chinese	19	3344	4.0	2.10	7.56
Indian	9	1266	6.7	3.70	11.90
Bumiputera Sabah	2	360	16.0	5.31	39.31
Bumiputera Sarawak	1	178	4.8	0.95	21.18
Others	1	110	7.7	0.78	46.70
School level					
Primary school	16	3042	1.9	1.03	3.36
Secondary school	63	10463	3.8	2.51	5.70
Class					
Standard 4	5	1014	1.8	0.57	5.75
Standard 5	6	1023	1.9	0.69	5.12
Standard 6	5	1004	1.9	0.98	3.56
Form 1	9	1622	2.8	1.14	6.78
Form 2	14	1969	3.7	1.94	6.91
Form 3	10	1555	2.9	1.33	6.10
Form 4	16	2566	4.7	2.75	8.07
Form 5	14	2750	4.9	2.24	10.34
School session					
Morning session	61	10452	3.6	2.27	5.77
Evening session	11	1767	2.8	1.14	6.63
Morning and evening session	7	1285	1.5	1.03	2.15
BMI-for-age status (BAZ)					
Thinness (<-2sd)					
Normal (≥-2sd - ≤+1sd)	54	8962	3.2	2.23	4.48
Overweight (>+1sd - ≤+2sd)	12	2010	3.1	1.28	7.34
Obese (>+2sd)	13	2532	3.9	1.61	9.08
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	966	2.8	1.18	6.62
Normal (≥-2sd)	74	12538	3.1	2.08	4.60

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

	Source of food during recess time									
	Bring from home					School canteen				
Characteristics	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	489	83721	19.95	16.13	24.41	1809	309938	73.85	69.27	77.97
Locality of school										
Urban	419	71654	22.32	18.19	27.09	1348	228077	71.05	66.17	75.49
Rural	70	12067	12.23	8.84	16.68	461	81862	82.96	81.41	84.40
Sex										
Boys	205	38768	18.49	14.54	23.23	828	155512	74.17	69.75	78.15
Girls	284	44953	21.40	16.75	26.93	981	154426	73.53	67.82	78.55
Ethnicity										
Malay	310	54716	17.23	13.21	22.18	1407	244621	77.05	73.09	80.58
Chinese	139	22627	28.93	21.34	37.91	302	48806	62.39	52.54	71.32
Indian	36	5651	32.76	24.01	42.90	67	10885	63.10	53.79	71.53
Bumiputera Sabah	2	256	13.57	1.28	65.47	10	1633	86.43	34.53	98.72
Bumiputera Sarawak	2	471	13.44	4.27	35.10	15	2666	76.04	62.86	85.62
Others						8	1328	100.00	0.00	100.00
School level										
Primary school	222	41539	26.29	20.21	33.44	539	108717	68.81	60.24	76.25
Secondary school	267	42181	16.12	12.84	20.05	1270	201222	76.90	72.71	80.61
Class										
Standard 4	86	17479	32.74	27.78	38.11	154	33356	62.47	55.89	68.63
Standard 5	68	11494	22.00	15.84	29.71	200	38049	72.84	64.42	79.89
Standard 6	68	12566	23.99	15.41	35.36	278	43998	84.38	77.19	89.61
Form 1	52	8686	15.70	9.89	24.01	185	37311	71.24	58.61	81.24
Form 2	54	7182	14.21	9.93	19.93	244	41630	75.23	67.42	81.68
Form 3	39	6113	11.72	6.85	19.34	299	39676	78.51	72.15	83.75
Form 4	64	8998	17.66	12.04	25.16	259	38233	75.05	66.28	82.15
Form 5	58	11202	21.25	14.91	29.35	190	37684	71.49	62.01	79.39
School session										
Morning session	354	60886	22.22	17.56	27.70	1142	194488	70.99	65.98	75.54
Evening session	48	7320	11.96	7.96	17.58	323	49981	81.64	74.58	87.08
Morning and evening session	87	15514	18.43	13.85	24.10	344	65470	77.77	71.24	83.16
BMI-for-age status (BAZ)										
Thinness (<-2sd)	30	5596	22.86	13.06	36.90	99	17373	70.97	58.14	81.14
Normal (≥-2sd - ≤+1sd)	316	53596	19.82	15.78	24.58	1171	199288	73.68	68.65	78.17
Overweight (>+1sd - ≤+2sd)	82	13758	22.28	16.89	28.79	267	45201	73.20	65.99	79.35
Obese (>+2sd)	60	10467	16.90	12.74	22.06	267	47352	76.44	70.63	81.40
Height-for-age status (HAZ)										
Stunting (<-2sd)	43	7985	24.49	16.63	34.52	135	23054	70.70	61.45	78.50
Normal (≥-2sd)	446	75736	19.58	15.85	23.95	1672	286591	74.10	69.36	78.33

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 Lower	Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	72	12361	2.95	2.09	4.14	40	6467	1.54	0.76	3.09
Locality of school										
Urban	63	10797	3.36	2.37	4.75	30	4717	1.47	0.63	3.39
Rural	9	1565	1.59	0.70	3.53	10	1750	1.77	0.52	5.86
Sex										
Boys	40	7635	3.64	2.57	5.13	20	3635	1.73	0.82	3.63
Girls	32	4727	2.25	1.27	3.95	20	2832	1.35	0.49	3.66
Ethnicity										
Malay	36	6368	2.01	1.40	2.87	37	5902	1.86	0.83	4.13
Chinese	32	5280	6.75	5.33	8.51	2	395	0.51	0.11	2.36
Indian	4	713	4.13	1.52	10.75					
Bumiputera Sabah										
Bumiputera Sarawak						1	170	4.85	1.08	19.17
Others										
School level										
Primary school	26	4869	3.08	1.66	5.66	4	784	0.50	0.16	1.48
Secondary school	46	7492	2.86	1.92	4.25	36	5683	2.17	1.07	4.35
Class										
Standard 4	7	1520	2.85	1.14	6.95	2	395	0.74	0.11	4.96
Standard 5	9	1481	2.84	1.20	6.53	1	233	0.45	0.06	3.39
Standard 6	10	1868	3.57	2.10	5.98	1	156	0.30	0.04	2.18
Form 1	6	935	1.69	0.81	3.47	13	2169	3.92	1.62	9.20
Form 2	7	961	1.90	0.80	4.46	13	1732	3.43	1.42	8.06
Form 3	4	639	1.22	0.38	3.85	6	1106	2.12	0.46	9.23
Form 4	16	2453	4.82	2.46	9.22	2	356	0.70	0.19	2.48
Form 5	13	2505	4.75	2.61	8.51	2	320	0.61	0.08	4.32
School session										
Morning session	53	8944	3.26	2.13	4.96	24	4008	1.46	0.62	3.42
Evening session	8	1248	2.04	1.47	2.82	11	1600	2.61	0.53	11.91
Morning and evening session	10	1861	2.21	1.21	4.02	5	859	1.02	0.32	3.19
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	732	2.99	1.12	7.74	1	199	0.81	0.10	6.20
Normal (≥-2sd - ≤+1sd)	49	8161	3.02	2.06	4.41	24	3812	1.41	0.64	3.10
Overweight (>+1sd - ≤+2sd)	6	1022	1.65	0.69	3.90	7	1116	1.81	0.59	5.37
Obese (>+2sd)	13	2447	3.95	2.10	7.32	8	1340	2.16	0.93	4.92
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	543	1.67	0.54	4.98	3	465	1.43	0.42	4.67
Normal (≥-2sd)	69	11818	3.06	2.14	4.35	37	6002	1.55	0.76	3.14

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				
			Other		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	41	7194	1.71	1.14	2.57
Locality of school					
Urban	34	5758	1.79	1.12	2.87
Rural	7	1436	1.45	0.69	3.04
Sex					
Boys	21	4109	1.96	1.13	3.39
Girls	20	3085	1.47	0.75	2.85
Ethnicity					
Malay	33	5877	1.85	1.20	2.85
Chinese	7	1117	1.43	0.75	2.69
Indian					
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	9	2098	1.33	0.72	2.44
Secondary school	32	5096	1.95	1.17	3.23
Class					
Standard 4	2	643	1.20	0.36	3.91
Standard 5	5	979	1.87	0.95	3.67
Standard 6	2	476	0.91	0.34	2.43
Form 1	11	1917	3.46	1.68	7.02
Form 2	7	982	1.94	0.62	5.92
Form 3	2	289	0.55	0.13	2.28
Form 4	6	905	1.78	0.70	4.41
Form 5	6	1004	1.90	0.54	6.49
School session					
Morning session	32	5642	2.06	1.33	3.17
Evening session	6	1072	1.75	0.69	4.34
Morning and evening session	3	480	0.57	0.12	2.65
BMI-for-age status (BAZ)					
Thinness (<-2sd)	3	580	2.37	0.47	11.06
Normal (≥-2sd - ≤+1sd)	32	5612	2.08	1.29	3.33
Overweight (>+1sd - ≤+2sd)	4	657	1.06	0.39	2.85
Obese (>+2sd)	2	345	0.56	0.13	2.38
Height-for-age status (HAZ)					
Stunting (<-2sd)	4	563	1.73	0.60	4.84
Normal (≥-2sd)	37	6631	1.71	1.09	2.68

Table 3.4.12 : Prevalence of afternoon tea 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 Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	629	108586	24.8	22.14	27.66	1567	270908	61.9	57.86	65.73
Locality of school										
Urban	485	81661	24.3	21.67	27.16	1198	205516	61.2	56.34	65.81
Rural	144	26924	26.4	19.80	34.29	369	65392	64.1	57.32	70.45
Sex										
Boys	311	57904	26.3	22.57	30.38	713	136319	61.9	56.22	67.25
Girls	318	50682	23.3	20.27	26.61	854	134588	61.9	58.08	65.49
Ethnicity										
Malay	488	85134	25.9	22.59	29.49	1185	209510	63.7	59.82	67.46
Chinese	92	15385	18.6	15.22	22.45	290	46542	56.2	49.67	62.45
Indian	38	6168	32.7	23.45	43.60	66	10228	54.3	43.56	64.60
Bumiputera Sabah						12	1958	87.0	68.84	95.34
Bumiputera Sarawak	9	1504	40.8	11.11	79.19	10	2002	54.4	14.28	89.49
Others	2	395	27.5	3.49	79.88	4	667	46.4	12.30	84.20
School level										
Primary school	228	43967	27.1	21.64	33.28	501	101118	62.3	53.63	70.17
Secondary school	401	64618	23.5	20.92	26.21	1066	169789	61.6	57.76	65.39
Class										
Standard 4	71	14808	27.0	19.81	35.68	158	34166	62.3	50.65	72.74
Standard 5	84	14960	27.8	20.09	37.15	179	33720	62.7	55.16	69.68
Standard 6	73	14200	26.4	22.63	30.49	164	33232	61.7	52.00	70.59
Form 1	105	17496	30.2	23.22	38.21	199	34056	58.8	51.51	65.66
Form 2	98	13310	25.0	18.98	32.22	238	31792	59.8	53.25	65.95
Form 3	75	12240	22.6	16.73	29.91	219	34447	63.7	57.58	69.49
Form 4	70	10982	20.3	16.39	24.93	230	33891	62.7	55.76	69.20
Form 5	53	10590	18.8	15.48	22.74	180	35603	63.3	56.23	69.92
School session										
Morning session	398	69040	24.0	20.86	27.47	1031	176868	61.5	56.48	66.30
Evening session	105	16092	25.4	17.75	35.02	242	37661	59.5	52.05	66.57
Morning and evening session	126	23454	27.1	24.09	30.38	293	56070	64.8	60.36	69.06
BMI-for-age status (BAZ)										
Thinness (<-2sd)	38	6129	24.9	18.04	33.37	86	16039	65.2	55.10	74.14
Normal (≥-2sd - ≤+1sd)	424	72967	25.8	22.81	29.02	1035	176860	62.5	58.26	66.59
Overweight (>+1sd - ≤+2sd)	82	14005	21.7	16.60	27.93	227	38638	60.0	53.79	65.85
Obese (>+2sd)	84	15328	23.5	20.27	27.09	216	38935	59.7	55.41	63.87
Height-for-age status (HAZ)										
Stunting (<-2sd)	56	9536	28.0	19.95	37.87	122	21787	64.1	52.51	74.22
Normal (≥-2sd)	573	99050	24.5	21.99	27.29	1444	248959	61.7	57.92	65.33

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				
	Did not take afternoon tea				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	361	58354	13.3	10.23	17.18
Locality of school					
Urban	298	48731	14.5	10.88	19.09
Rural	63	9623	9.4	5.28	16.32
Sex					
Boys	146	26040	11.8	8.10	16.94
Girls	215	32313	14.9	11.72	18.64
Ethnicity					
Malay	214	34117	10.4	8.19	13.07
Chinese	127	20942	25.3	19.69	31.81
Indian	14	2449	13.0	6.64	23.89
Bumiputera Sabah	2	291	13.0	4.66	31.16
Bumiputera Sarawak	1	178	4.8	0.95	21.18
Others	3	376	26.2	6.11	65.86
School level					
Primary school	94	17341	10.7	5.19	20.71
Secondary school	267	41012	14.9	12.37	17.82
Class					
Standard 4	30	5837	10.6	3.73	26.81
Standard 5	27	5093	9.5	6.84	12.97
Standard 6	37	6411	11.9	5.01	25.72
Form 1	37	6399	11.0	8.06	14.95
Form 2	63	8094	15.2	10.50	21.54
Form 3	47	7352	13.6	10.43	17.56
Form 4	66	9156	16.9	11.99	23.41
Form 5	54	10011	17.8	11.62	26.31
School session					
Morning session	254	41652	14.5	10.75	19.24
Evening session	62	9523	15.0	12.14	18.51
Morning and evening session	43	6958	8.0	5.25	12.14
BMI-for-age status (BAZ)					
Thinness (<-2sd)	14	2423	9.9	5.30	17.58
Normal (≥-2sd - ≤+1sd)	207	33073	11.7	8.71	15.51
Overweight (>+1sd - ≤+2sd)	72	11787	18.3	13.94	23.63
Obese (>+2sd)	67	10941	16.8	12.72	21.81
Height-for-age status (HAZ)					
Stunting (<-2sd)	18	2675	7.9	3.34	17.44
Normal (≥-2sd)	342	55548	13.8	10.64	17.63

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

	Source of food for afternoon tea									
	Prepared at home					School canteen				
Characteristics	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	1406	242454	64.8	60.93	68.43	335	60587	16.2	11.44	22.39
Locality of school										
Urban	1044	177548	62.9	58.82	66.71	255	45793	16.2	10.50	24.18
Rural	362	64905	70.7	63.76	76.75	80	14793	16.1	9.91	25.10
Sex										
Boys	607	115228	60.3	55.15	65.22	189	36084	18.9	13.33	26.05
Girls	799	127226	69.4	64.61	73.87	146	24502	13.4	8.95	19.51
Ethnicity										
Malay	1075	189387	65.0	59.68	69.90	278	51677	17.7	12.36	24.76
Chinese	231	37192	61.8	54.59	68.47	34	5025	8.3	5.06	13.46
Indian	80	12294	76.6	62.49	86.55	12	2002	12.5	4.73	29.04
Bumiputera Sabah	6	959	49.0	24.45	74.03	3	509	26.0	9.32	54.58
Bumiputera Sarawak	12	2251	64.2	37.08	84.53	6	1009	28.8	6.87	68.91
Others	2	370	34.8	9.22	73.69	2	364	34.3	9.30	72.68
School level										
Primary school	446	89341	62.4	59.27	65.36	182	36434	25.4	19.98	31.77
Secondary school	960	153113	66.3	60.52	71.57	153	24153	10.5	6.82	15.69
Class										
Standard 4	137	29007	59.9	51.59	67.76	54	12060	24.9	16.29	36.16
Standard 5	171	32047	66.6	62.53	70.53	66	12118	25.2	20.05	31.16
Standard 6	138	28287	60.5	55.24	65.44	62	12257	26.2	19.05	34.87
Form 1	181	30206	59.3	51.70	66.42	54	9719	19.1	11.62	29.69
Form 2	191	25784	58.5	45.03	70.89	63	8184	18.6	9.59	32.94
Form 3	204	32246	70.0	60.83	77.86	22	3527	7.7	2.64	20.26
Form 4	217	32175	72.9	65.35	79.34	5	833	1.9	0.41	8.27
Form 5	167	32702	71.3	58.92	81.11	9	1889	4.1	1.58	10.28
School session										
Morning session	964	164437	67.8	62.32	72.90	126	25614	10.6	5.87	18.30
Evening session	181	27924	52.6	48.78	56.49	116	17792	33.5	28.19	39.37
Morning and evening session	261	50092	63.7	56.52	70.40	93	17181	21.9	15.05	30.65
BMI-for-age status (BAZ)										
Thinness (<-2sd)	84	15302	69.5	61.91	76.18	12	1829	8.3	4.33	15.35
Normal (≥-2sd - ≤+1sd)	941	160665	65.1	61.19	68.78	222	40117	16.2	11.26	22.88
Overweight (>+1sd - ≤+2sd)	190	32237	61.9	55.27	68.04	53	9574	18.4	12.71	25.80
Obese (>+2sd)	190	34092	64.7	57.18	71.48	46	8794	16.7	11.39	23.77
Height-for-age status (HAZ)										
Stunting (<-2sd)	116	20530	66.5	58.90	73.33	32	5906	19.1	13.67	26.10
Normal (≥-2sd)	1290	221923	64.6	60.59	68.50	303	54681	15.9	11.10	22.33

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
JOHOR	219	38421	10.3	8.07	12.97	135	21189	5.7	2.50	12.30
Locality of school										
Urban	191	33407	11.8	9.29	14.94	115	17856	6.3	2.50	15.07
Rural	28	5014	5.5	3.90	7.59	20	3333	3.6	0.72	16.28
Sex										
Boys	109	21695	11.4	8.70	14.68	67	11683	6.1	2.31	15.22
Girls	110	16726	9.1	6.83	12.09	68	9506	5.2	1.55	16.00
Ethnicity										
Malay	125	22266	7.6	6.11	9.50	131	20475	7.0	2.92	15.95
Chinese	85	14500	24.1	18.96	30.08	2	395	0.7	0.13	3.26
Indian	6	1143	7.1	3.04	15.79	1	138	0.9	0.14	5.22
Bumiputera Sabah	1	130	6.6	0.70	41.57	1	180	9.2	0.86	54.29
Bumiputera Sarawak	1	245	7.0	1.54	26.58					
Others	1	137	12.9	1.94	52.75					
School level										
Primary school	62	12203	8.5	5.67	12.60	6	1166	0.8	0.25	2.65
Secondary school	157	26218	11.3	8.61	14.81	129	20022	8.7	4.00	17.75
Class										
Standard 4	20	4310	8.9	5.07	15.19	5	1010	2.1	0.78	5.49
Standard 5	18	3217	6.7	4.12	10.68					
Standard 6	24	4675	10.0	5.99	16.20	1	156	0.3	0.04	2.49
Form 1	27	4547	8.9	5.48	14.21	31	5389	10.6	4.98	21.05
Form 2	16	2078	4.7	2.76	7.96	49	6587	15.0	6.10	32.26
Form 3	34	5231	11.4	7.43	16.99	20	3405	7.4	2.43	20.37
Form 4	38	5558	12.6	7.68	19.97	21	3342	7.6	2.54	20.47
Form 5	42	8805	19.2	12.59	28.14	8	1300	2.8	0.64	11.63
School session										
Morning session	157	27006	11.1	8.14	15.06	110	17167	7.1	2.85	16.55
Evening session	25	4118	7.8	5.18	11.47	16	2526	4.8	2.01	10.85
Morning and evening session	36	6989	8.9	6.57	11.93	9	1496	1.9	0.81	4.40
BMI-for-age status (BAZ)										
Thinness (<-2sd)	18	3362	15.3	9.41	23.82	5	762	3.5	1.18	9.73
Normal (≥-2sd - ≤+1sd)	143	24531	9.9	7.50	13.06	84	13099	5.3	2.28	11.88
Overweight (>+1sd - ≤+2sd)	31	5255	10.1	6.83	14.64	23	3681	7.1	3.02	15.66
Obese (>+2sd)	26	5111	9.7	6.03	15.23	23	3646	6.9	2.86	15.78
Height-for-age status (HAZ)										
Stunting (<-2sd)	13	2184	7.1	3.77	12.90	12	1948	6.3	2.17	17.01
Normal (≥-2sd)	205	36075	10.5	8.24	13.31	123	19241	5.6	2.51	12.04

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				
			Other		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	69	11678	3.1	2.26	4.30
Locality of school					
Urban	49	7883	2.8	1.84	4.22
Rural	20	3794	4.1	2.93	5.80
Sex					
Boys	34	6411	3.4	2.12	5.27
Girls	35	5267	2.9	2.02	4.08
Ethnicity					
Malay	44	7740	2.7	1.87	3.76
Chinese	20	3096	5.1	3.13	8.32
Indian	3	471	2.9	0.69	11.62
Bumiputera Sabah	1	180	9.2	2.29	30.40
Bumiputera Sarawak					
Others	1	191	18.0	2.51	65.05
School level					
Primary school	22	4123	2.9	1.49	5.48
Secondary school	47	7555	3.3	2.34	4.55
Class					
Standard 4	10	2002	4.1	2.14	7.85
Standard 5	4	702	1.5	0.31	6.53
Standard 6	8	1419	3.0	1.71	5.33
Form 1	8	1105	2.2	0.99	4.70
Form 2	10	1408	3.2	1.41	7.08
Form 3	10	1636	3.6	1.55	7.92
Form 4	14	2221	5.0	2.60	9.51
Form 5	5	1185	2.6	0.91	7.09
School session					
Morning session	50	8175	3.4	2.33	4.85
Evening session	5	678	1.3	0.48	3.39
Morning and evening session	14	2825	3.6	2.16	5.93
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	760	3.5	1.29	8.91
Normal (≥-2sd - ≤+1sd)	50	8465	3.4	2.44	4.81
Overweight (>+1sd - ≤+2sd)	9	1366	2.6	0.84	7.84
Obese (>+2sd)	6	1086	2.1	0.89	4.67
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	303	1.0	0.22	4.20
Normal (≥-2sd)	67	11374	3.3	2.43	4.50

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
JOHOR	178	30383	6.9	5.50	8.70	1833	317220	72.4	69.22	75.35
Locality of school										
Urban	135	22723	6.8	5.08	8.95	1407	241236	71.8	67.66	75.65
Rural	43	7661	7.5	5.36	10.37	426	75984	74.3	73.14	75.33
Sex										
Boys	100	18363	8.3	6.35	10.89	865	163438	74.3	70.68	77.54
Girls	78	12020	5.5	4.09	7.39	968	153782	70.5	66.86	73.91
Ethnicity										
Malay	151	25587	7.8	6.06	9.94	1386	243978	74.2	70.91	77.25
Chinese	20	3715	4.5	2.60	7.56	328	53444	64.2	60.06	68.22
Indian	2	299	1.6	0.37	6.55	88	14220	75.5	69.64	80.47
Bumiputera Sabah						11	1755	78.0	30.17	96.69
Bumiputera Sarawak	5	783	21.2	7.43	47.57	15	2901	78.8	52.43	92.57
Others						5	923	64.2	30.24	88.10
School level										
Primary school	56	10509	6.5	4.70	8.81	618	123195	75.7	69.05	81.29
Secondary school	122	19874	7.2	5.31	9.73	1215	194025	70.4	68.27	72.53
Class										
Standard 4	20	4526	8.2	5.58	12.03	197	42169	76.8	69.12	83.09
Standard 5	25	3814	7.1	3.12	15.20	205	38178	70.7	61.54	78.37
Standard 6	11	2169	4.0	2.09	7.61	216	42849	79.6	71.67	85.72
Form 1	26	4624	8.0	5.55	11.35	245	41387	71.4	64.97	77.09
Form 2	31	4197	7.9	4.11	14.69	285	38311	72.2	64.30	78.94
Form 3	31	4989	9.2	6.09	13.68	236	37337	68.9	63.14	74.10
Form 4	23	3639	6.7	4.13	10.80	252	37714	69.8	66.08	73.28
Form 5	11	2425	4.3	1.95	9.27	197	39276	69.9	63.76	75.37
School session										
Morning session	113	19651	6.8	5.36	8.67	1192	205429	71.4	67.19	75.23
Evening session	35	5508	8.7	5.63	13.21	297	45897	72.5	68.55	76.14
Morning and evening session	30	5224	6.0	3.89	9.28	342	65355	75.7	69.54	80.93
BMI-for-age status (BAZ)										
Thinness (<-2sd)	12	1971	7.9	3.88	15.56	104	19040	76.7	63.48	86.18
Normal (≥-2sd - ≤+1sd)	119	20015	7.1	5.32	9.37	1195	205168	72.6	69.46	75.56
Overweight (>+1sd - ≤+2sd)	26	4548	7.0	4.80	10.22	271	46230	71.6	65.56	76.92
Obese (>+2sd)	21	3849	5.9	4.05	8.48	259	46053	70.5	64.55	75.74
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	2399	7.0	4.38	11.15	141	25089	73.7	63.35	82.00
Normal (≥-2sd)	163	27984	6.9	5.45	8.77	1691	292000	72.3	69.26	75.14

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
JOHOR	548	90598	20.7	17.61	24.12
Locality of school					
Urban	439	71910	21.4	17.56	25.84
Rural	109	18688	18.3	15.68	21.17
Sex					
Boys	205	38282	17.4	13.86	21.60
Girls	343	52316	24.0	20.57	27.77
Ethnicity					
Malay	350	59231	18.0	15.62	20.68
Chinese	163	26031	31.3	27.18	35.72
Indian	28	4327	23.0	18.93	27.56
Bumiputera Sabah	3	494	22.0	3.31	69.83
Bumiputera Sarawak					
Others	4	515	35.8	11.90	69.76
School level					
Primary school	151	29054	17.9	12.60	24.67
Secondary school	397	61544	22.3	19.34	25.67
Class					
Standard 4	43	8189	14.9	7.78	26.71
Standard 5	61	12040	22.3	15.50	30.95
Standard 6	47	8825	16.4	9.78	26.17
Form 1	70	11940	20.6	15.26	27.22
Form 2	82	10548	19.9	13.91	27.58
Form 3	75	11876	21.9	17.20	27.49
Form 4	91	12677	23.5	19.68	27.72
Form 5	79	14503	25.8	20.47	31.97
School session					
Morning session	380	62710	21.8	17.93	26.21
Evening session	77	11894	18.8	16.17	21.73
Morning and evening session	89	15774	18.3	13.29	24.59
BMI-for-age status (BAZ)					
Thinness (<-2sd)	23	3811	15.4	8.92	25.15
Normal (≥-2sd - ≤+1sd)	351	57352	20.3	17.13	23.88
Overweight (>+1sd - ≤+2sd)	85	13808	21.4	16.03	27.92
Obese (>+2sd)	88	15466	23.7	19.05	28.99
Height-for-age status (HAZ)					
Stunting (<-2sd)	40	6544	19.2	12.35	28.69
Normal (≥-2sd)	507	83893	20.8	17.80	24.09

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
JOHOR	1132	194521	57.0	54.13	59.83	673	118311	34.7	32.01	37.42
Locality of school										
Urban	849	144722	56.0	52.44	59.59	523	90969	35.2	32.05	38.55
Rural	283	49799	60.0	57.05	62.80	150	27342	32.9	28.79	37.34
Sex										
Boys	496	92400	51.6	47.11	56.10	366	70688	39.5	35.95	43.14
Girls	636	102121	62.9	58.80	66.90	307	47623	29.4	25.35	33.70
Ethnicity										
Malay	862	151205	57.0	53.71	60.24	502	89472	33.7	30.24	37.41
Chinese	199	32012	56.6	46.65	66.12	130	21843	38.6	29.93	48.15
Indian	50	7831	58.2	46.61	68.96	31	4985	37.1	24.35	51.85
Bumiputera Sabah	7	1040	65.1	44.66	81.11	2	379	23.7	9.26	48.56
Bumiputera Sarawak	12	2096	59.7	46.85	71.29	6	1237	35.2	25.22	46.67
Others	2	337	36.5	5.84	84.23	2	395	42.8	5.86	90.00
School level										
Primary school	374	75132	57.7	52.13	63.10	239	47335	36.4	32.00	40.94
Secondary school	758	119389	56.6	53.54	59.54	434	70976	33.6	30.38	37.04
Class										
Standard 4	120	25531	56.0	46.77	64.88	75	16442	36.1	28.35	44.61
Standard 5	131	24214	59.1	53.75	64.23	83	15526	37.9	31.23	45.05
Standard 6	123	25386	58.2	51.83	64.22	81	15367	35.2	30.27	40.47
Form 1	162	27091	60.4	53.41	67.08	72	12400	27.7	21.15	35.29
Form 2	172	23084	55.6	46.30	64.44	93	12384	29.8	24.47	35.75
Form 3	156	24956	59.2	52.45	65.67	86	13225	31.4	24.37	39.38
Form 4	164	24021	58.2	51.90	64.33	97	15119	36.7	30.19	43.65
Form 5	104	20237	49.0	43.60	54.38	86	17847	43.2	38.64	47.87
School session										
Morning session	716	122440	55.2	51.70	58.58	446	78675	35.4	31.72	39.36
Evening session	204	31652	62.5	59.83	65.11	100	15237	30.1	27.31	33.03
Morning and evening session	211	40198	59.0	55.19	62.69	126	24091	35.4	31.63	39.27
BMI-for-age status (BAZ)										
Thinness (<-2sd)	66	11503	55.9	41.49	69.38	38	7273	35.3	24.77	47.58
Normal (≥-2sd - ≤+1sd)	746	126691	57.2	54.18	60.08	437	76625	34.6	31.63	37.62
Overweight (>+1sd - ≤+2sd)	160	27802	56.1	51.15	60.88	107	17902	36.1	29.58	43.19
Obese (>+2sd)	158	28090	57.5	47.50	66.95	90	16353	33.5	26.50	41.27
Height-for-age status (HAZ)										
Stunting (<-2sd)	91	15852	58.7	50.77	66.17	47	8645	32.0	25.09	39.81
Normal (≥-2sd)	1040	178538	56.8	53.96	59.67	626	109666	34.9	32.16	37.77

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

Characteristics	Hostel					Others				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	83	12789	3.7	1.79	7.67	85	15641	4.6	3.54	5.92
Locality of school										
Urban	71	10672	4.1	1.80	9.23	64	11845	4.6	3.32	6.30
Rural	12	2117	2.5	0.56	10.92	21	3796	4.6	3.18	6.53
Sex										
Boys	34	5769	3.2	1.29	7.81	53	10157	5.7	3.79	8.41
Girls	49	7019	4.3	1.41	12.54	32	5484	3.4	2.25	5.05
Ethnicity										
Malay	80	12337	4.7	2.11	9.95	67	12240	4.6	3.58	5.92
Chinese	1	120	0.2	0.02	1.85	14	2544	4.5	2.71	7.39
Indian	2	332	2.5	0.34	15.96	1	305	2.3	0.31	14.80
Bumiputera Sabah						1	180	11.3	0.86	64.90
Bumiputera Sarawak						1	180	5.1	0.43	40.20
Others						1	191	20.7	2.01	76.79
School level										
Primary school	6	1168	0.9	0.47	1.70	34	6562	5.0	3.87	6.54
Secondary school	77	11620	5.5	2.64	11.11	51	9079	4.3	2.88	6.38
Class										
Standard 4	3	762	1.7	0.80	3.45	13	2835	6.2	4.70	8.19
Standard 5	1	130	0.3	0.04	2.57	8	1105	2.7	0.81	8.62
Standard 6	2	277	0.6	0.08	4.71	13	2622	6.0	3.91	9.13
Form 1	17	2954	6.6	3.13	13.33	13	2373	5.3	3.35	8.27
Form 2	38	5109	12.3	5.06	26.95	7	974	2.3	0.83	6.43
Form 3	11	1774	4.2	1.59	10.66	13	2180	5.2	2.86	9.18
Form 4	6	973	2.4	0.82	6.60	7	1130	2.7	1.29	5.71
Form 5	5	810	2.0	0.64	5.81	11	2422	5.9	3.53	9.59
School session										
Morning session	67	10566	4.8	2.14	10.26	57	10261	4.6	3.34	6.37
Evening session	10	1367	2.7	1.07	6.65	14	2383	4.7	2.63	8.27
Morning and evening session	6	856	1.3	0.43	3.60	14	2997	4.4	2.68	7.15
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	951	4.6	1.82	11.27	4	849	4.1	1.59	10.31
Normal (≥-2sd - ≤+1sd)	52	7988	3.6	1.73	7.36	58	10363	4.7	3.61	6.04
Overweight (>+1sd - ≤+2sd)	10	1476	3.0	1.16	7.44	13	2405	4.9	2.13	10.66
Obese (>+2sd)	15	2374	4.9	1.86	12.09	10	2024	4.1	1.98	8.46
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1245	4.6	1.88	10.88	7	1272	4.7	2.19	9.82
Normal (≥-2sd)	75	11544	3.7	1.75	7.53	78	14369	4.6	3.51	5.94

Table 3.4.16 : Prevalence of fast food consumption 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 Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	56	10561	2.4	1.61	3.60	2161	371557	85.0	82.09	87.45
Locality of school										
Urban	45	8447	2.5	1.50	4.19	1652	281154	83.8	80.04	86.91
Rural	11	2114	2.1	1.27	3.38	509	90403	88.9	85.42	91.65
Sex										
Boys	34	6635	3.0	2.05	4.42	982	185595	84.4	80.53	87.66
Girls	22	3926	1.8	0.91	3.55	1179	185962	85.5	81.86	88.52
Ethnicity										
Malay	45	8666	2.6	1.68	4.12	1656	289057	88.1	85.93	89.91
Chinese	6	1108	1.3	0.55	3.21	370	60498	72.9	67.74	77.44
Indian	2	280	1.5	0.40	5.42	100	15986	84.8	77.56	90.04
Bumiputera Sabah						12	1938	86.2	67.15	95.00
Bumiputera Sarawak	3	507	14.4	7.81	25.12	15	2869	81.6	63.41	91.95
Others						8	1209	84.0	40.96	97.56
School level										
Primary school	34	6595	4.1	3.09	5.33	711	141461	87.2	81.38	91.39
Secondary school	22	3966	1.4	0.69	3.00	1450	230096	83.6	80.34	86.49
Class										
Standard 4	12	2576	4.7	3.16	6.91	219	46954	85.5	76.71	91.37
Standard 5	12	1940	3.6	1.77	7.27	256	47889	89.3	80.92	94.27
Standard 6	10	2080	3.9	2.09	7.07	236	46617	86.8	84.15	89.09
Form 1	4	844	1.5	0.50	4.21	284	48014	83.1	77.32	87.66
Form 2	4	589	1.1	0.32	3.78	343	45663	86.3	82.33	89.56
Form 3	4	713	1.3	0.42	4.00	289	45799	84.5	80.31	87.93
Form 4	7	1159	2.1	0.89	5.10	299	44195	81.8	76.77	85.94
Form 5	3	661	1.2	0.28	4.89	235	46425	82.6	74.63	88.46
School session										
Morning session	39	7687	2.7	1.51	4.68	1413	241645	84.1	80.85	86.88
Evening session	7	1237	2.0	0.84	4.53	348	53666	85.0	81.22	88.17
Morning and evening session	10	1637	1.9	0.68	5.14	399	75938	88.0	82.69	91.78
BMI-for-age status (BAZ)										
Thinness (<-2sd)	1	213	0.9	0.10	7.21	127	22786	92.7	85.50	96.43
Normal (≥-2sd - ≤+1sd)	37	6417	2.3	1.35	3.80	1402	239401	84.8	80.81	88.00
Overweight (>+1sd - ≤+2sd)	8	1431	2.2	1.09	4.48	316	53917	83.9	77.09	88.93
Obese (>+2sd)	9	2197	3.4	1.21	9.12	312	54891	84.5	79.47	88.53
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	1129	3.3	1.50	7.26	171	29978	88.6	82.59	92.66
Normal (≥-2sd)	49	9432	2.3	1.48	3.69	1989	341448	84.7	81.58	87.36

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				
	Did not ate fast food				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	337	55199	12.6	9.74	16.20
Locality of school					
Urban	282	46039	13.7	10.01	18.51
Rural	55	9160	9.0	5.84	13.65
Sex					
Boys	152	27598	12.6	9.06	17.15
Girls	185	27600	12.7	9.37	16.97
Ethnicity					
Malay	183	30515	9.3	7.16	11.99
Chinese	134	21425	25.8	20.50	31.93
Indian	16	2579	13.7	8.35	21.62
Bumiputera Sabah	2	311	13.8	5.00	32.85
Bumiputera Sarawak	1	138	3.9	0.83	16.59
Others	1	230	16.0	2.44	59.04
School level					
Primary school	77	14167	8.7	4.69	15.70
Secondary school	260	41031	14.9	11.69	18.85
Class					
Standard 4	28	5375	9.8	3.84	22.76
Standard 5	22	3792	7.1	3.62	13.38
Standard 6	27	5000	9.3	6.16	13.83
Form 1	52	8914	15.4	10.79	21.57
Form 2	50	6634	12.5	9.21	16.86
Form 3	49	7690	14.2	10.69	18.60
Form 4	60	8675	16.1	11.63	21.76
Form 5	49	9118	16.2	10.16	24.91
School session					
Morning session	230	38002	13.2	9.90	17.45
Evening session	53	8216	13.0	9.78	17.12
Morning and evening session	52	8760	10.1	6.82	14.84
BMI-for-age status (BAZ)					
Thinness (<-2sd)	10	1592	6.5	3.00	13.43
Normal (≥-2sd - ≤+1sd)	225	36658	13.0	9.56	17.39
Overweight (>+1sd - ≤+2sd)	56	8942	13.9	9.07	20.74
Obese (>+2sd)	45	7844	12.1	8.58	16.74
Height-for-age status (HAZ)					
Stunting (<-2sd)	17	2745	8.1	4.82	13.32
Normal (≥-2sd)	319	52292	13.0	9.85	16.90

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
JOHOR	251	42059	9.6	7.80	11.77	1274	219295	50.1	44.28	55.83
Locality of school										
Urban	218	36423	10.8	8.67	13.46	1016	173791	51.7	44.51	58.79
Rural	33	5635	5.5	3.84	7.9	258	45504	44.7	36.22	53.45
Sex										
Boys	115	21875	9.9	7.64	12.81	510	97170	44.1	37.07	51.37
Girls	136	20184	9.3	6.88	12.38	764	122125	56.1	50.84	61.2
Ethnicity										
Malay	162	27847	8.5	6.65	10.72	939	165428	50.3	43.22	57.39
Chinese	59	9299	11.2	7.46	16.47	261	41826	50.4	42.43	58.25
Indian	25	4002	21.2	13.84	31.16	60	9693	51.4	39.33	63.37
Bumiputera Sabah	2	258	11.5	1.95	45.8	4	592	26.3	6.5	64.79
Bumiputera Sarawak	2	463	12.6	3.71	34.87	8	1488	40.4	29.76	52.04
Others	1	191	13.3	1.83	55.65	2	268	18.6	3.45	59.32
School level										
Primary school	87	15827	9.7	6.72	13.9	478	95472	58.7	50.29	66.67
Secondary school	164	26232	9.5	7.21	12.47	796	123823	44.9	39.49	50.51
Class										
Standard 4	38	7376	13.5	7.5	22.96	139	29549	53.9	46.45	61.16
Standard 5	24	3976	7.4	4.51	11.78	179	34176	63.2	52.32	72.9
Standard 6	25	4475	8.3	5.07	13.41	160	31748	59.1	51.46	66.39
Form 1	38	6522	11.3	6.7	18.31	155	25949	44.8	37.46	52.32
Form 2	37	5104	9.6	5.2	16.96	158	20841	39.1	33.39	45.12
Form 3	26	4051	7.5	3.9	13.94	141	21371	39.5	30.73	49.11
Form 4	34	4683	8.7	5.49	13.43	182	25565	47.3	38.68	56.12
Form 5	29	5871	10.4	7.13	15.06	160	30097	53.5	45.1	61.8
School session										
Morning session	177	29983	10.4	8.38	12.87	842	142410	49.5	44.23	54.7
Evening session	23	3648	5.8	3.07	10.53	171	26916	42.4	34.6	50.66
Morning and evening session	51	8428	9.8	6.51	14.46	258	49440	57.4	47.61	66.69
BMI-for-age status (BAZ)										
Thinness (<-2sd)	19	3279	13.3	7.73	21.86	60	11018	44.6	34.73	54.92
Normal (≥-2sd - ≤+1sd)	158	26271	9.3	7.3	11.74	821	139519	49.3	43.44	55.24
Overweight (>+1sd - ≤+2sd)	43	6986	10.8	7.43	15.48	185	31601	48.9	40.58	57.33
Obese (>+2sd)	31	5522	8.5	5.67	12.55	205	36560	56.3	48.28	63.93
Height-for-age status (HAZ)										
Stunting (<-2sd)	19	3244	9.5	6.56	13.55	103	18013	52.7	41.47	63.72
Normal (≥-2sd)	232	38815	9.6	7.63	12.05	1171	201282	49.9	44.09	55.65

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				
			Never		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	1034	176758	40.3	34.33	46.67
Locality of school					
Urban	749	126041	37.5	30.4	45.15
Rural	285	50717	49.8	42.6	56.99
Sex					
Boys	546	101315	46.0	38.2	53.95
Girls	488	75443	34.6	29.62	40.04
Ethnicity					
Malay	786	135551	41.2	33.6	49.29
Chinese	191	31945	38.5	28.86	49.04
Indian	33	5151	27.3	17.05	40.77
Bumiputera Sabah	8	1399	62.2	20.55	91.27
Bumiputera Sarawak	10	1733	47.0	33.93	60.57
Others	6	980	68.1	32.46	90.49
School level					
Primary school	259	51284	31.5	23.67	40.64
Secondary school	775	125474	45.5	39	52.23
Class					
Standard 4	82	17904	32.7	22.92	44.15
Standard 5	89	15916	29.4	20.89	39.72
Standard 6	88	17465	32.5	25.87	39.98
Form 1	148	25480	44.0	36.06	52.19
Form 2	205	27361	51.3	42.48	60.1
Form 3	174	28615	53.0	42.14	63.5
Form 4	150	23782	44.0	33.74	54.83
Form 5	98	20236	36.0	26.08	47.28
School session					
Morning session	666	115545	40.1	34.13	46.44
Evening session	216	32874	51.8	43.53	60.02
Morning and evening session	151	28229	32.8	24.79	41.92
BMI-for-age status (BAZ)					
Thinness (<-2sd)	60	10405	42.1	30.53	54.65
Normal (≥-2sd - ≤+1sd)	687	117025	41.4	34.9	48.16
Overweight (>+1sd - ≤+2sd)	154	26000	40.3	32.61	48.41
Obese (>+2sd)	130	22899	35.2	28.64	42.45
Height-for-age status (HAZ)					
Stunting (<-2sd)	75	12904	37.8	27.4	49.4
Normal (≥-2sd)	957	163561	40.5	34.38	46.97

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

| Characteristics | Nasi lemak/fried rice/mixed rice | | | | | Noodle/Vermicelli/ Kueh Teow | | | | |
	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper
JOHOR	565	97434	38.5	32.57	44.71	236	38803	15.3	12.59	18.51
Locality of school										
Urban	432	73706	36.0	29.49	43.10	186	29866	14.6	11.70	18.05
Rural	133	23728	48.7	39.61	57.94	50	8936	18.4	12.79	25.62
Sex										
Boys	256	49711	43.7	35.76	51.92	73	13254	11.6	9.36	14.40
Girls	309	47723	34.2	27.37	41.77	163	25549	18.3	14.65	22.65
Ethnicity										
Malay	481	84531	44.9	40.00	49.89	182	30810	16.4	13.30	19.97
Chinese	58	8529	17.3	10.42	27.33	40	6034	12.2	6.76	21.16
Indian	16	2614	20.9	12.84	32.23	12	1533	12.3	4.98	27.17
Bumiputera Sabah	3	471	55.4	13.93	90.50					
Bumiputera Sarawak	5	958	49.1	35.74	62.65	2	425	21.8	6.15	54.20
Others	2	331	72.2	15.61	97.32					
School level										
Primary school	205	40866	38.2	29.37	47.88	81	15566	14.5	10.71	19.46
Secondary school	360	56568	38.6	30.97	46.94	155	23237	15.9	12.43	20.06
Class										
Standard 4	58	12555	35.2	24.95	46.95	28	5558	15.6	9.83	23.78
Standard 5	78	14557	40.3	33.51	47.47	24	4308	11.9	7.71	17.99
Standard 6	69	13754	39.1	27.25	52.45	29	5700	16.2	10.19	24.82
Form 1	61	10576	33.6	26.74	41.32	23	3766	12.0	7.53	18.53
Form 2	76	10123	40.6	31.33	50.55	29	3928	15.7	11.27	21.57
Form 3	73	11121	45.7	32.18	59.83	22	3294	13.5	9.04	19.77
Form 4	72	9775	32.5	23.05	43.68	47	6454	21.5	15.60	28.79
Form 5	78	14973	42.1	29.22	56.14	34	5795	16.3	9.67	26.14
School session										
Morning session	377	64314	38.4	31.52	45.80	161	26013	15.5	12.37	19.34
Evening session	75	11763	40.5	28.14	54.18	17	2623	9.0	4.59	16.99
Morning and evening session	112	21049	37.4	30.77	44.47	57	10056	17.9	13.19	23.72
BMI-for-age status (BAZ)										
Thinness (<-2sd)	24	4910	35.0	23.25	49.00	8	1336	9.5	3.77	22.12
Normal (≥-2sd - ≤+1sd)	363	61754	38.4	32.07	45.10	155	25266	15.7	12.72	19.22
Overweight (>+1sd - ≤+2sd)	85	14559	38.8	32.04	46.04	44	7094	18.9	14.48	24.31
Obese (>+2sd)	93	16211	40.2	31.45	49.62	29	5106	12.7	8.71	18.06
Height-for-age status (HAZ)										
Stunting (<-2sd)	52	9765	47.6	38.87	56.40	18	3295	16.0	10.55	23.66
Normal (≥-2sd)	513	87669	37.7	31.61	44.11	218	35508	15.3	12.53	18.44

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

Characteristics	Bread/bun/sandwich					Nugget/sausage/burger				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	521	86607	34.2	28.11	40.83	186	34403	13.6	9.80	18.51
Locality of school										
Urban	458	76144	37.2	30.26	44.72	150	27753	13.6	9.20	19.54
Rural	63	10463	21.5	14.58	30.50	36	6650	13.7	8.26	21.75
Sex										
Boys	177	32756	28.8	21.40	37.49	75	15137	13.3	9.87	17.68
Girls	344	53851	38.6	31.96	45.69	111	19266	13.8	9.15	20.30
Ethnicity										
Malay	288	49884	26.5	23.12	30.17	170	31706	16.8	13.16	21.30
Chinese	192	30405	61.7	52.00	70.49	11	1955	4.0	1.58	9.62
Indian	38	5816	46.6	28.59	65.47	3	479	3.8	1.37	10.29
Bumiputera Sabah	2	256	30.1	3.74	82.72	1	123	14.5	1.49	65.46
Bumiputera Sarawak	1	245	12.6	2.47	44.86					
Others						1	140	30.5	3.02	86.12
School level										
Primary school	164	32092	30.0	22.56	38.66	94	20045	18.7	13.21	25.88
Secondary school	357	54515	37.2	29.23	46.03	92	14358	9.8	7.25	13.15
Class										
Standard 4	43	8866	24.8	13.02	42.17	40	8739	24.5	15.37	36.64
Standard 5	56	10820	30.0	25.24	35.13	37	7870	21.8	14.18	31.95
Standard 6	65	12405	35.3	26.80	44.82	17	3436	9.8	6.76	13.93
Form 1	70	11226	35.7	25.14	47.88	17	2878	9.2	5.60	14.63
Form 2	65	8479	34.0	24.10	45.50	18	2432	9.8	6.56	14.25
Form 3	63	9402	38.6	26.33	52.54	18	2855	11.7	7.22	18.49
Form 4	87	11771	39.2	27.81	51.81	21	2920	9.7	5.57	16.40
Form 5	72	13637	38.3	26.80	51.35	18	3273	9.2	4.90	16.61
School session										
Morning session	357	57791	34.5	26.96	42.94	122	22558	13.5	9.11	19.48
Evening session	60	9457	32.6	24.79	41.41	24	3775	13.0	9.47	17.57
Morning and evening session	102	19139	34.0	26.57	42.25	40	8070	14.3	10.44	19.35
BMI-for-age status (BAZ)										
Thinness (<-2sd)	29	4649	33.2	20.29	49.21	15	3158	22.5	13.70	34.80
Normal (≥-2sd - ≤+1sd)	343	56344	35.0	28.36	42.32	118	21059	13.1	9.69	17.45
Overweight (>+1sd - ≤+2sd)	70	11290	30.1	23.32	37.86	28	5383	14.4	7.97	24.48
Obese (>+2sd)	77	13884	34.4	27.25	42.40	24	4499	11.2	7.41	16.46
Height-for-age status (HAZ)										
Stunting (<-2sd)	41	6615	32.2	23.79	41.98	21	3674	17.9	11.41	26.94
Normal (≥-2sd)	480	79992	34.4	28.19	41.11	165	30729	13.2	9.41	18.21

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

Characteristics	Biscuit					Fruits				
	Count	Estimated Population	Prevalence (%)	95% CI		Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	165	27694	10.9	7.96	14.83	36	6485	2.6	1.65	3.96
Locality of school										
Urban	138	23292	11.4	8.04	15.88	33	5831	2.8	1.83	4.40
Rural	27	4401	9.0	4.16	18.53	3	654	1.3	0.33	5.35
Sex										
Boys	48	9832	8.6	5.75	12.79	9	1633	1.4	0.77	2.65
Girls	117	17862	12.8	8.46	18.91	27	4852	3.5	2.20	5.46
Ethnicity										
Malay	96	16560	8.8	5.81	13.10	22	4183	2.2	1.30	3.78
Chinese	57	9141	18.5	14.34	23.63	10	1635	3.3	1.33	8.00
Indian	10	1728	13.8	5.99	28.80	3	501	4.0	1.46	10.51
Bumiputera Sabah										
Bumiputera Sarawak	1	138	7.1	1.18	32.74	1	166	8.5	0.90	48.75
Others	1	128	27.8	2.68	84.39					
School level										
Primary school	45	9334	8.7	4.57	16.02	23	4556	4.3	3.13	5.77
Secondary school	120	18360	12.5	9.00	17.22	13	1929	1.3	0.65	2.67
Class										
Standard 4	17	3626	10.2	5.00	19.53	10	1950	5.5	2.90	10.06
Standard 5	13	2473	6.8	3.74	12.20	8	1409	3.9	2.78	5.44
Standard 6	15	3234	9.2	4.66	17.36	5	1197	3.4	1.38	8.18
Form 1	20	3126	9.9	5.18	18.26	2	386	1.2	0.29	4.99
Form 2	31	3945	15.8	7.57	30.13	3	376	1.5	0.47	4.70
Form 3	17	2621	10.8	5.52	19.94	4	557	2.3	0.73	6.92
Form 4	18	2667	8.9	4.52	16.69	1	130	0.4	0.06	2.82
Form 5	34	6001	16.9	11.41	24.23	3	480	1.3	0.16	10.26
School session										
Morning session	105	17466	10.4	6.76	15.76	24	4124	2.5	1.37	4.40
Evening session	26	3836	13.2	6.85	23.95	4	631	2.2	0.73	6.31
Morning and evening session	33	6282	11.2	7.93	15.45	8	1729	3.1	1.56	5.94
BMI-for-age status (BAZ)										
Thinness (<-2sd)	10	1621	11.6	5.57	22.49	1	137	1.0	0.12	7.21
Normal (≥-2sd - ≤+1sd)	108	18161	11.3	8.14	15.45	22	3942	2.4	1.49	4.01
Overweight (>+1sd - ≤+2sd)	22	3476	9.3	4.73	17.37	8	1518	4.0	1.89	8.45
Obese (>+2sd)	24	4279	10.6	5.94	18.25	5	888	2.2	0.84	5.63
Height-for-age status (HAZ)										
Stunting (<-2sd)	15	2367	11.5	5.94	21.18	4	759	3.7	1.61	8.26
Normal (≥-2sd)	150	25327	10.9	7.87	14.86	32	5726	2.5	1.59	3.78

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

Characteristics	Type of food				
			Others		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	119	20454	8.1	6.16	10.52
Locality of school					
Urban	93	15676	7.7	5.50	10.58
Rural	26	4778	9.8	7.03	13.54
Sex					
Boys	62	11392	10.0	6.97	14.17
Girls	57	9062	6.5	4.85	8.65
Ethnicity					
Malay	76	13009	6.9	5.31	8.94
Chinese	31	5429	11.0	6.51	18.03
Indian	9	1521	12.2	5.94	23.33
Bumiputera Sabah	1	131	15.4	1.60	67.20
Bumiputera Sarawak	2	364	18.7	5.10	49.56
Others					
School level					
Primary school	50	9088	8.5	5.71	12.46
Secondary school	69	11366	7.8	5.34	11.15
Class					
Standard 4	14	2718	7.6	4.97	11.48
Standard 5	19	3323	9.2	6.18	13.47
Standard 6	17	3047	8.7	4.51	16.01
Form 1	20	3616	11.5	6.54	19.45
Form 2	15	2027	8.1	4.09	15.50
Form 3	7	1090	4.5	2.22	8.84
Form 4	18	2639	8.8	4.56	16.23
Form 5	9	1993	5.6	2.01	14.64
School session					
Morning session	78	13291	7.9	5.68	10.98
Evening session	20	3314	11.4	6.84	18.43
Morning and evening session	21	3849	6.8	4.27	10.76
BMI-for-age status (BAZ)					
Thinness (<-2sd)	8	1248	8.9	4.10	18.26
Normal (≥-2sd - ≤+1sd)	68	11915	7.4	5.34	10.19
Overweight (>+1sd - ≤+2sd)	19	3078	8.2	4.23	15.31
Obese (>+2sd)	24	4214	10.5	7.47	14.44
Height-for-age status (HAZ)					
Stunting (<-2sd)	5	917	4.5	2.10	9.25
Normal (≥-2sd)	114	19537	8.4	6.45	10.85

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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
JOHOR	1265	210073	47.9	42.90	52.92	832	146377	33.4	29.44	37.54
Locality of school										
Urban	1034	170815	50.8	44.85	56.69	606	105642	31.4	26.71	36.52
Rural	231	39258	38.4	30.92	46.40	226	40734	39.8	32.99	47.04
Sex										
Boys	461	84393	38.2	32.10	44.70	420	80547	36.5	30.60	42.75
Girls	804	125680	57.7	52.77	62.49	412	65830	30.2	26.47	34.27
Ethnicity										
Malay	871	147528	44.8	39.57	50.13	697	123865	37.6	34.08	41.28
Chinese	286	45363	54.6	39.83	68.55	102	16719	20.1	14.78	26.76
Indian	87	13633	72.3	62.41	80.47	18	3228	17.1	11.16	25.37
Bumiputera Sabah	4	656	29.2	17.48	44.51	8	1256	55.9	35.88	74.10
Bumiputera Sarawak	12	2127	57.8	40.45	73.34	5	1031	28.0	14.19	47.77
Others	5	766	53.2	19.05	84.64	2	277	19.3	4.67	53.82
School level										
Primary school	386	74320	45.6	38.85	52.50	303	61775	37.9	31.18	45.11
Secondary school	879	135753	49.2	42.01	56.51	529	84602	30.7	26.44	35.29
Class										
Standard 4	121	24221	43.9	32.34	56.22	91	20037	36.3	27.89	45.72
Standard 5	128	23355	43.2	36.67	50.03	120	23545	43.6	35.20	52.34
Standard 6	137	26743	49.7	42.87	56.48	92	18192	33.8	28.71	39.27
Form 1	174	29130	50.3	42.51	58.01	101	17299	29.9	23.10	37.61
Form 2	173	22654	42.5	33.35	52.19	144	19176	36.0	29.36	43.17
Form 3	188	28732	53.0	44.88	60.99	98	15957	29.4	23.25	36.50
Form 4	183	25860	47.9	37.49	58.42	108	16284	30.1	24.25	36.76
Form 5	161	29377	52.3	40.97	63.34	78	15886	28.3	20.70	37.30
School session										
Morning session	846	137709	47.8	41.15	54.54	520	92895	32.3	27.19	37.77
Evening session	189	29676	46.8	40.90	52.75	138	20853	32.9	27.93	38.22
Morning and evening session	229	42380	49.1	41.64	56.57	170	32066	37.1	30.97	43.76
BMI-for-age status (BAZ)										
Thinness (<-2sd)	64	10858	43.5	35.43	52.03	46	8622	34.6	26.38	43.81
Normal (≥-2sd - ≤+1sd)	811	133316	47.1	41.90	52.40	551	96040	33.9	29.33	38.88
Overweight (>+1sd - ≤+2sd)	192	31286	48.4	38.80	58.20	123	21436	33.2	26.04	41.21
Obese (>+2sd)	197	34452	52.8	45.67	59.90	109	19681	30.2	25.12	35.79
Height-for-age status (HAZ)										
Stunting (<-2sd)	99	16325	48.0	40.58	55.46	62	10687	31.4	25.43	38.08
Normal (≥-2sd)	1165	193587	47.9	42.46	53.33	770	135690	33.6	29.16	38.26

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				
			Never		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	464	82251	18.7	14.75	23.54
Locality of school					
Urban	343	59909	17.8	12.92	24.04
Rural	121	22341	21.8	15.20	30.32
Sex					
Boys	293	55970	25.3	19.24	32.58
Girls	171	26281	12.1	9.17	15.71
Ethnicity					
Malay	321	57957	17.6	13.95	21.96
Chinese	123	21052	25.3	16.17	37.35
Indian	13	1985	10.5	5.93	18.03
Bumiputera Sabah	2	336	15.0	2.35	56.27
Bumiputera Sarawak	3	525	14.2	7.42	25.61
Others	2	395	27.5	3.49	79.88
School level					
Primary school	136	26912	16.5	9.53	27.07
Secondary school	328	55338	20.1	15.43	25.69
Class					
Standard 4	48	10879	19.7	11.22	32.35
Standard 5	43	7126	13.2	6.22	25.83
Standard 6	45	8908	16.5	10.09	25.94
Form 1	66	11523	19.9	14.36	26.87
Form 2	83	11477	21.5	14.95	29.98
Form 3	56	9512	17.5	12.64	23.85
Form 4	75	11886	22.0	14.15	32.55
Form 5	48	10941	19.5	12.59	28.85
School session					
Morning session	319	57442	19.9	15.12	25.84
Evening session	83	12910	20.4	15.38	26.43
Morning and evening session	62	11899	13.8	9.04	20.46
BMI-for-age status (BAZ)					
Thinness (<-2sd)	30	5453	21.9	13.11	34.17
Normal (≥-2sd - ≤+1sd)	304	53597	18.9	14.62	24.18
Overweight (>+1sd - ≤+2sd)	67	11865	18.4	12.76	25.73
Obese (>+2sd)	61	11068	17.0	11.45	24.44
Height-for-age status (HAZ)					
Stunting (<-2sd)	35	7013	20.6	14.77	28.00
Normal (≥-2sd)	428	75107	18.6	14.09	24.08

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

Characteristics	Type of drinks									
	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
JOHOR	1891	318556	89.4	86.14	92.01	186	32641	9.2	7.30	11.44
Locality of school										
Urban	1481	246962	89.3	85.35	92.32	151	26886	9.7	7.57	12.42
Rural	410	71594	89.8	83.65	93.76	35	5755	7.2	5.16	10.00
Sex										
Boys	750	138931	84.2	78.19	88.84	95	19202	11.6	7.99	16.66
Girls	1141	179625	93.9	91.26	95.79	91	13439	7.0	5.21	9.41
Ethnicity										
Malay	1412	241785	89.2	86.02	91.67	132	24315	9.0	6.93	11.54
Chinese	348	55434	89.3	78.59	94.99	45	6834	11.0	7.30	16.27
Indian	97	15511	92.0	82.10	96.64	5	737	4.4	1.59	11.45
Bumiputera Sabah	11	1781	93.1	51.56	99.43	2	311	16.3	6.06	36.93
Bumiputera Sarawak	16	3001	95.0	62.53	99.54	2	443	14.0	7.25	25.43
Others	7	1044	100.0	100.00	100.00					
School level										
Primary school	593	116870	86.0	82.20	89.13	73	14859	10.9	8.21	14.42
Secondary school	1298	201686	91.5	87.60	94.29	113	17782	8.1	6.11	10.59
Class										
Standard 4	176	36347	82.1	74.62	87.77	24	5367	12.1	6.38	21.84
Standard 5	209	39636	84.9	80.31	88.62	28	4929	10.6	7.94	13.91
Standard 6	208	40887	91.0	85.53	94.52	21	4562	10.2	5.34	18.47
Form 1	253	42475	91.5	85.72	95.05	20	3502	7.5	4.91	11.41
Form 2	284	37224	89.0	80.48	94.06	38	5034	12.0	8.29	17.16
Form 3	271	42090	94.2	89.12	96.97	18	2773	6.2	3.40	11.07
Form 4	267	38427	91.2	82.15	95.87	19	2728	6.5	3.22	12.58
Form 5	223	41470	91.6	82.60	96.18	18	3745	8.3	4.56	14.55
School session										
Morning session	1234	205767	89.2	84.77	92.50	113	20321	8.8	6.58	11.71
Evening session	297	45877	90.8	85.02	94.48	30	4473	8.9	5.27	14.49
Morning and evening session	357	66581	89.4	85.51	92.39	40	7319	9.8	7.25	13.20
BMI-for-age status (BAZ)										
Thinness (<-2sd)	95	16522	85.8	72.81	93.20	12	2363	12.3	6.11	23.14
Normal (≥-2sd - ≤+1sd)	1227	204106	89.0	85.30	91.85	117	20348	8.9	7.24	10.83
Overweight (>+1sd - ≤+2sd)	287	48016	91.1	84.18	95.14	30	4864	9.2	5.69	14.63
Obese (>+2sd)	279	49290	91.1	86.46	94.19	26	4762	8.8	5.38	14.06
Height-for-age status (HAZ)										
Stunting (<-2sd)	145	24214	89.6	82.56	94.06	16	2583	9.6	6.13	14.62
Normal (≥-2sd)	1745	294180	89.4	86.18	91.95	170	30058	9.1	7.28	11.40

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

Characteristics	Carbonated drink					Milk/ cultured drink				
	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper
JOHOR	41	7921	2.2	1.44	3.41	53	9123	2.6	1.90	3.44
Locality of school										
Urban	33	6267	2.3	1.37	3.72	42	7344	2.7	1.88	3.74
Rural	8	1654	2.1	0.93	4.58	11	1779	2.2	1.38	3.60
Sex										
Boys	27	5227	3.2	1.98	5.04	20	3883	2.4	1.46	3.76
Girls	14	2694	1.4	0.72	2.75	33	5240	2.7	2.03	3.70
Ethnicity										
Malay	29	5767	2.1	1.24	3.62	41	7359	2.7	1.96	3.75
Chinese	9	1573	2.5	1.17	5.40	10	1498	2.4	1.02	5.58
Indian	3	581	3.4	0.73	14.73	2	266	1.6	0.41	5.89
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
School level										
Primary school	17	3952	2.9	1.65	5.09	24	4827	3.6	2.52	4.98
Secondary school	24	3969	1.8	1.07	3.01	29	4296	1.9	1.45	2.61
Class										
Standard 4	7	1562	3.5	1.96	6.29	6	1339	3.0	1.16	7.67
Standard 5	9	2243	4.8	1.83	12.05	12	2240	4.8	2.44	9.22
Standard 6	1	147	0.3	0.04	2.79	6	1248	2.8	1.70	4.52
Form 1	7	1282	2.8	1.03	7.19	3	447	1.0	0.35	2.66
Form 2	9	1240	3.0	1.21	7.11	11	1471	3.5	2.00	6.10
Form 3	4	682	1.5	0.44	5.11	4	582	1.3	0.38	4.37
Form 4	2	289	0.7	0.14	3.31	6	847	2.0	0.95	4.22
Form 5	2	476	1.1	0.24	4.41	5	948	2.1	0.85	5.07
School session										
Morning session	26	4715	2.0	1.24	3.37	36	6433	2.8	1.99	3.90
Evening session	5	868	1.7	0.56	5.16	9	1358	2.7	1.46	4.89
Morning and evening session	10	2338	3.1	1.68	5.80	8	1332	1.8	0.97	3.26
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	632	3.3	0.60	16.13	2	558	2.9	0.59	12.99
Normal (≥-2sd - ≤+1sd)	24	4909	2.1	1.09	4.14	36	5809	2.5	1.88	3.41
Overweight (>+1sd - ≤+2sd)	7	1141	2.2	0.90	5.13	7	1138	2.2	1.14	4.06
Obese (>+2sd)	6	1239	2.3	1.02	5.04	6	1325	2.4	1.03	5.70
Height-for-age status (HAZ)										
Stunting (<-2sd)	7	1347	5.0	2.01	11.82	3	409	1.5	0.48	4.62
Normal (≥-2sd)	34	6574	2.0	1.34	2.98	50	8714	2.6	1.92	3.63

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

Characteristics	Type of drinks				
	Others				
	Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper
JOHOR	33	5575	1.6	0.89	2.73
Locality of school					
Urban	24	3872	1.4	0.72	2.72
Rural	9	1703	2.1	0.78	5.74
Sex					
Boys	23	4111	2.5	1.36	4.51
Girls	10	1464	0.8	0.33	1.79
Ethnicity					
Malay	24	4122	1.5	0.76	3.01
Chinese	9	1453	2.3	1.17	4.63
Indian					
Bumiputera Sabah					
Bumiputera Sarawak					
Others					
School level					
Primary school	18	3006	2.2	1.01	4.77
Secondary school	15	2569	1.2	0.53	2.52
Class					
Standard 4	8	1407	3.2	1.24	7.91
Standard 5	6	1010	2.2	1.09	4.26
Standard 6	4	589	1.3	0.36	4.64
Form 1	1	224	0.5	0.06	3.90
Form 2	2	269	0.6	0.16	2.52
Form 3	6	1128	2.5	0.80	7.68
Form 4	5	779	1.8	0.59	5.67
Form 5	1	168	0.4	0.05	2.74
School session					
Morning session	23	3961	1.7	0.93	3.16
Evening session	3	440	0.9	0.34	2.21
Morning and evening session	7	1175	1.6	0.45	5.37
BMI-for-age status (BAZ)					
Thinness (<-2sd)	4	625	3.2	1.17	8.69
Normal (≥-2sd - ≤+1sd)	20	3512	1.5	0.76	3.06
Overweight (>+1sd - ≤+2sd)	5	817	1.6	0.51	4.63
Obese (>+2sd)	4	621	1.1	0.45	2.92
Height-for-age status (HAZ)					
Stunting (<-2sd)	2	286	1.1	0.24	4.55
Normal (≥-2sd)	31	5289	1.6	0.88	2.90

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

Characteristics	Buy food/drinks					Buy stationery				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	1628	281004	65.9	62.76	68.93	113	19291	4.5	3.81	5.37
Locality of school										
Urban	1244	212286	65.0	61.38	68.53	89	15009	4.6	3.77	5.60
Rural	384	68718	68.8	62.82	74.14	24	4282	4.3	3.06	5.98
Sex										
Boys	737	139353	64.6	61.05	68.03	49	9546	4.4	3.24	6.03
Girls	891	141651	67.2	63.44	70.82	64	9745	4.6	3.41	6.24
Ethnicity										
Malay	1274	223354	69.1	66.96	71.24	69	12291	3.8	2.97	4.85
Chinese	274	45145	57.2	51.95	62.28	28	4135	5.2	3.73	7.31
Indian	57	8829	51.0	35.83	66.02	13	2271	13.1	5.34	28.78
Bumiputera Sabah	8	1172	52.1	33.56	70.14	1	180	8.0	2.14	25.66
Bumiputera Sarawak	12	2040	57.8	26.50	83.93	2	415	11.8	2.34	42.67
Others	3	465	36.5	9.34	76.25					
School level										
Primary school	548	109784	68.9	63.05	74.14	39	7491	4.7	3.91	5.63
Secondary school	1080	171220	64.2	61.16	67.03	74	11800	4.4	3.42	5.70
Class										
Standard 4	173	36844	68.7	63.15	73.80	20	4089	7.6	5.72	10.10
Standard 5	200	38099	72.3	62.03	80.60	12	2101	4.0	2.85	5.54
Standard 6	175	34841	65.6	58.94	71.76	7	1301	2.5	1.39	4.27
Form 1	213	35766	63.5	59.28	67.49	18	3379	6.0	3.42	10.31
Form 2	254	33585	65.9	59.06	72.13	21	3023	5.9	3.15	10.88
Form 3	218	34152	64.6	57.59	71.01	6	942	1.8	0.94	3.34
Form 4	214	32076	61.7	55.23	67.84	18	2376	4.6	2.33	8.79
Form 5	181	35640	65.1	56.41	72.87	11	2080	3.8	2.21	6.45
School session										
Morning session	1070	184488	66.1	62.37	69.66	74	12381	4.4	3.59	5.47
Evening session	257	39201	63.4	59.95	66.62	17	2805	4.5	2.61	7.77
Morning and evening session	301	57316	67.6	62.73	72.17	22	4105	4.8	3.08	7.55
BMI-for-age status (BAZ)										
Thinness (<-2sd)	75	13080	52.9	42.12	63.48	7	1286	5.2	2.50	10.51
Normal (≥-2sd - ≤+1sd)	1081	185637	67.6	63.71	71.34	68	11121	4.1	3.31	4.96
Overweight (>+1sd - ≤+2sd)	247	42052	67.1	62.05	71.86	19	3115	5.0	2.98	8.18
Obese (>+2sd)	221	39496	62.1	56.56	67.25	18	3612	5.7	3.89	8.20
Height-for-age status (HAZ)										
Stunting (<-2sd)	122	21323	64.5	58.60	70.02	13	2252	6.8	4.96	9.30
Normal (≥-2sd)	1505	259520	66.0	62.77	69.12	100	17039	4.3	3.53	5.31

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

Characteristics	Saving					Others				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	623	105938	24.8	22.35	27.53	117	20087	4.7	3.47	6.36
Locality of school										
Urban	506	85957	26.3	23.84	29.00	78	13134	4.0	2.97	5.43
Rural	117	19982	20.0	15.31	25.67	39	6954	7.0	4.05	11.71
Sex										
Boys	286	53519	24.8	21.63	28.31	72	13237	6.1	4.35	8.59
Girls	337	52419	24.9	22.46	27.47	45	6851	3.3	2.11	4.97
Ethnicity										
Malay	432	74367	23.0	20.67	25.55	77	13026	4.0	2.79	5.80
Chinese	145	23681	30.0	24.78	35.80	34	5971	7.6	5.11	11.06
Indian	35	5865	33.9	23.68	45.87	2	340	2.0	0.68	5.56
Bumiputera Sabah	3	535	23.8	8.92	49.88	2	361	16.1	5.74	37.58
Bumiputera Sarawak	4	873	24.7	8.88	52.59	1	199	5.6	1.12	23.99
Others	4	617	48.5	19.48	78.57	1	191	15.0	2.25	57.44
School level										
Primary school	191	37370	23.4	19.09	28.44	26	4774	3.0	2.10	4.26
Secondary school	432	68568	25.7	22.90	28.70	91	15314	5.7	4.18	7.83
Class										
Standard 4	53	11400	21.3	17.64	25.41	6	1278	2.4	1.11	5.04
Standard 5	59	10394	19.7	13.78	27.39	12	2131	4.0	2.11	7.61
Standard 6	79	15576	29.3	23.65	35.77	8	1364	2.6	1.45	4.50
Form 1	87	14871	26.4	22.81	30.32	13	2325	4.1	2.27	7.38
Form 2	84	11318	22.2	16.25	29.58	23	3039	6.0	3.93	8.94
Form 3	87	13882	26.3	21.89	31.14	23	3905	7.4	3.32	15.60
Form 4	101	14409	27.7	22.33	33.86	19	3100	6.0	2.93	11.75
Form 5	73	14088	25.7	19.22	33.52	13	2945	5.4	2.54	11.04
School session										
Morning session	407	68415	24.5	20.93	28.50	77	13763	4.9	3.40	7.11
Evening session	101	16315	26.4	23.81	29.09	24	3558	5.8	4.20	7.82
Morning and evening session	112	20559	24.3	21.08	27.75	16	2766	3.3	1.67	6.27
BMI-for-age status (BAZ)										
Thinness (<-2sd)	52	9711	39.3	30.31	49.08	4	635	2.6	0.63	9.88
Normal (≥-2sd - ≤+1sd)	385	64334	23.4	20.22	27.00	78	13343	4.9	3.37	6.96
Overweight (>+1sd - ≤+2sd)	92	15755	25.2	21.32	29.43	11	1705	2.7	1.17	6.19
Obese (>+2sd)	94	16138	25.4	20.25	31.24	24	4404	6.9	4.84	9.79
Height-for-age status (HAZ)										
Stunting (<-2sd)	51	8851	26.8	20.99	33.49	4	627	1.9	0.68	5.19
Normal (≥-2sd)	572	97087	24.7	22.13	27.46	113	19461	5.0	3.72	6.56

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
JOHOR	120	21196	4.8	3.62	6.46	340	60927	13.9	11.73	16.46
Locality of school										
Urban	104	17845	5.3	3.91	7.20	271	47587	14.2	12.12	16.52
Rural	16	3350	3.3	1.69	6.30	69	13340	13.1	7.56	21.75
Sex										
Boys	62	11881	5.4	3.71	7.83	176	33707	15.4	13.13	17.88
Girls	58	9315	4.3	3.12	5.84	164	27220	12.5	9.92	15.60
Ethnicity										
Malay	74	13545	4.1	2.83	5.97	234	42794	13.0	10.33	16.31
Chinese	40	6553	7.9	5.21	11.82	81	13680	16.5	12.88	20.91
Indian	2	340	1.8	0.38	8.02	15	2768	14.7	8.09	25.20
Bumiputera Sabah	1	131	5.8	0.53	41.75	3	478	21.3	8.25	44.74
Bumiputera Sarawak	2	397	10.8	2.00	41.72	4	793	21.5	9.43	41.99
Others	1	230	16.0	2.44	59.04	3	414	28.7	13.00	52.13
School level										
Primary school	60	11122	6.9	5.07	9.19	151	30656	18.9	16.51	21.52
Secondary school	60	10074	3.7	2.41	5.53	189	30271	11.0	9.58	12.61
Class										
Standard 4	22	4277	7.8	5.47	10.89	52	11030	20.0	15.77	25.03
Standard 5	20	3401	6.3	3.77	10.31	49	9650	17.8	13.62	23.04
Standard 6	18	3444	6.5	4.56	9.15	50	9977	18.8	16.80	20.95
Form 1	6	1239	2.1	0.58	7.58	33	5551	9.6	6.98	13.01
Form 2	10	1319	2.5	1.41	4.32	51	6831	12.8	9.42	17.26
Form 3	12	1983	3.7	1.68	7.78	33	5183	9.6	5.56	15.94
Form 4	16	2204	4.1	1.65	9.81	41	6247	11.6	8.42	15.77
Form 5	16	3329	6.0	3.36	10.32	31	6460	11.5	8.38	15.71
School session										
Morning session	70	12231	4.3	2.72	6.59	220	40152	14.0	11.24	17.21
Evening session	17	2883	4.6	2.21	9.15	51	7864	12.4	9.79	15.64
Morning and evening session	33	6082	7.1	5.00	9.96	68	12801	14.9	11.52	19.13
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	456	1.8	0.57	5.75	21	3810	15.3	10.87	21.23
Normal (≥-2sd - ≤+1sd)	79	13021	4.6	3.00	7.03	231	40953	14.5	12.16	17.23
Overweight (>+1sd - ≤+2sd)	16	2931	4.5	2.92	7.00	47	8607	13.3	9.85	17.79
Obese (>+2sd)	20	4323	6.7	3.59	12.09	41	7557	11.7	8.19	16.37
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1226	3.6	1.48	8.43	23	4319	12.6	8.16	19.07
Normal (≥-2sd)	111	19808	4.9	3.63	6.63	317	56608	14.0	11.86	16.56

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
JOHOR	1849	315584	72.1	69.61	74.54	246	39748	9.1	7.22	11.38
Locality of school										
Urban	1417	240354	71.6	68.62	74.43	187	29831	8.9	6.92	11.35
Rural	432	75230	73.9	69.56	77.77	59	9917	9.7	5.75	16.01
Sex										
Boys	820	154841	70.5	67.03	73.83	109	19074	8.7	6.60	11.35
Girls	1029	160743	73.8	70.65	76.63	137	20674	9.5	7.42	12.05
Ethnicity										
Malay	1401	243362	74.1	71.44	76.61	176	28677	8.7	6.57	11.52
Chinese	332	53886	65.0	58.53	71.02	56	8741	10.5	8.83	12.56
Indian	94	14535	77.1	66.28	85.26	7	1203	6.4	2.89	13.53
Bumiputera Sabah	8	1306	58.1	36.04	77.29	2	334	14.8	3.78	43.60
Bumiputera Sarawak	11	2018	54.8	29.62	77.72	3	475	12.9	2.34	47.74
Others	3	477	33.2	7.98	73.96	2	318	22.1	5.22	59.47
School level										
Primary school	553	110325	68.0	63.57	72.08	58	10195	6.3	3.96	9.82
Secondary school	1296	205259	74.6	72.57	76.52	188	29554	10.7	8.84	13.00
Class										
Standard 4	171	37045	67.2	58.44	74.88	15	2786	5.1	2.90	8.66
Standard 5	198	36682	67.8	63.72	71.71	25	4334	8.0	5.00	12.61
Standard 6	184	36599	68.9	64.26	73.25	18	3075	5.8	2.93	11.12
Form 1	259	44077	76.1	70.90	80.55	43	7085	12.2	8.83	16.68
Form 2	296	39552	74.4	69.91	78.34	42	5494	10.3	8.29	12.79
Form 3	258	40544	74.8	68.45	80.24	39	6492	12.0	8.02	17.51
Form 4	276	40777	75.7	69.75	80.81	32	4638	8.6	6.42	11.45
Form 5	207	40309	72.1	65.36	77.89	32	5844	10.4	8.37	12.96
School session										
Morning session	1244	210811	73.3	69.73	76.57	150	24451	8.5	6.73	10.69
Evening session	295	45704	72.2	67.78	76.23	46	6850	10.8	8.26	14.05
Morning and evening session	307	58421	68.1	61.53	74.07	50	8447	9.9	6.17	15.37
BMI-for-age status (BAZ)										
Thinness (<-2sd)	100	17911	72.2	65.64	77.86	15	2645	10.7	7.40	15.10
Normal (≥-2sd - ≤+1sd)	1182	200898	71.2	68.12	74.05	171	27401	9.7	7.61	12.31
Overweight (>+1sd - ≤+2sd)	287	48167	74.6	70.83	77.99	32	4881	7.6	4.74	11.85
Obese (>+2sd)	276	48046	74.2	66.98	80.32	28	4821	7.4	4.93	11.10
Height-for-age status (HAZ)										
Stunting (<-2sd)	148	26017	76.2	67.55	83.06	18	2600	7.6	3.83	14.57
Normal (≥-2sd)	1700	289437	71.8	69.07	74.42	228	37149	9.2	7.36	11.49

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

	7 times or more					4 to 6 times				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	187	31246	7.1	6.10	8.36	584	100402	23.0	20.43	25.72
Locality of school										
Urban	148	24589	7.3	6.26	8.59	465	78727	23.5	20.61	26.67
Rural	39	6658	6.5	4.15	10.09	119	21675	21.2	16.65	26.62
Sex										
Boys	90	16197	7.4	5.75	9.39	261	49830	22.7	18.82	27.05
Girls	97	15050	6.9	5.39	8.86	323	50572	23.3	21.09	25.60
Ethnicity										
Malay	124	21375	6.5	5.38	7.87	454	79712	24.3	21.74	27.05
Chinese	49	7642	9.2	6.39	13.11	95	15078	18.2	14.13	23.06
Indian	7	1053	5.6	3.15	9.86	23	3722	19.9	13.06	29.11
Bumiputera Sabah	1	156	7.0	0.64	46.49	4	644	28.6	14.05	49.57
Bumiputera Sarawak	6	1020	27.7	11.62	52.75	5	861	23.4	13.15	38.05
Others						3	386	26.9	8.00	60.78
School level										
Primary school	54	10203	6.3	4.88	8.10	198	39778	24.6	19.95	29.85
Secondary school	133	21044	7.6	6.32	9.22	386	60624	22.0	19.38	24.92
Class										
Standard 4	18	3574	6.5	4.02	10.46	58	12727	23.3	16.84	31.25
Standard 5	20	3865	7.2	4.35	11.54	72	13448	24.9	22.05	27.99
Standard 6	16	2764	5.2	2.94	9.01	68	13602	25.6	19.75	32.38
Form 1	20	3548	6.2	3.56	10.42	66	10905	18.9	13.70	25.52
Form 2	34	4633	8.7	5.74	12.95	93	12460	23.4	19.03	28.36
Form 3	25	3966	7.3	5.10	10.39	74	12011	22.2	16.37	29.27
Form 4	28	3946	7.3	4.51	11.70	92	13360	24.8	18.21	32.84
Form 5	26	4951	8.8	5.66	13.46	61	11888	21.2	16.44	26.78
School session										
Morning session	120	20105	7.0	5.70	8.59	398	67882	23.7	20.72	26.87
Evening session	35	5522	8.7	5.76	13.00	77	11597	18.3	13.50	24.38
Morning and evening session	32	5619	6.5	4.56	9.28	109	20923	24.3	20.07	29.15
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	2179	8.7	5.09	14.61	33	5701	22.9	15.89	31.75
Normal (≥-2sd - ≤+1sd)	123	20165	7.2	5.75	8.89	401	68037	24.2	21.44	27.12
Overweight (>+1sd - ≤+2sd)	23	3783	5.9	3.75	9.07	86	14416	22.4	17.62	27.96
Obese (>+2sd)	28	5120	7.9	5.52	11.05	60	11488	17.6	11.26	26.50
Height-for-age status (HAZ)										
Stunting (<-2sd)	19	3105	9.1	5.10	15.80	45	7664	22.5	17.41	28.61
Normal (≥-2sd)	168	28142	7.0	5.94	8.20	538	92576	23.0	20.16	26.08

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
JOHOR	1686	289273	66.2	64.07	68.22	95	16215	3.7	2.28	5.98
Locality of school										
Urban	1283	218168	65.1	62.76	67.44	79	13459	4.0	2.26	7.05
Rural	403	71105	69.6	66.92	72.11	16	2756	2.7	1.68	4.31
Sex										
Boys	762	143692	65.4	62.41	68.24	54	10050	4.6	2.67	7.72
Girls	924	145581	67.0	64.36	69.49	41	6165	2.8	1.75	4.55
Ethnicity										
Malay	1261	219738	67.0	64.62	69.25	43	7261	2.2	1.41	3.46
Chinese	322	52575	63.4	57.78	68.61	44	7679	9.3	6.13	13.73
Indian	80	12885	68.9	58.35	77.76	7	1046	5.6	2.36	12.66
Bumiputera Sabah	9	1449	64.4	42.24	81.78					
Bumiputera Sarawak	9	1802	48.9	29.94	68.24					
Others	5	823	57.2	32.62	78.66	1	230	16.0	2.44	59.04
School level										
Primary school	536	106353	65.7	63.53	67.77	31	5579	3.4	0.97	11.52
Secondary school	1150	182920	66.5	63.36	69.43	64	10636	3.9	2.79	5.33
Class										
Standard 4	166	35224	64.4	59.11	69.41	16	3150	5.8	2.06	15.08
Standard 5	193	35778	66.2	63.22	69.13	6	922	1.7	0.29	9.53
Standard 6	177	35352	66.4	61.33	71.15	9	1508	2.8	0.75	10.12
Form 1	235	39937	69.3	63.13	74.78	18	3270	5.7	2.40	12.82
Form 2	258	34242	64.2	59.53	68.68	15	1972	3.7	1.80	7.45
Form 3	230	36054	66.5	60.54	72.01	13	2171	4.0	2.09	7.53
Form 4	236	35150	65.3	58.49	71.48	9	1396	2.6	1.28	5.17
Form 5	191	37538	66.8	59.51	73.35	9	1827	3.2	1.49	6.96
School session										
Morning session	1105	189123	65.9	63.45	68.29	56	9825	3.4	2.04	5.69
Evening session	269	41603	65.7	60.69	70.43	28	4576	7.2	4.65	11.07
Morning and evening session	307	57676	67.0	62.57	71.22	11	1814	2.1	0.67	6.45
BMI-for-age status (BAZ)										
Thinness (<-2sd)	86	15655	62.8	52.02	72.42	8	1398	5.6	2.78	11.00
Normal (≥-2sd - ≤+1sd)	1083	184882	65.7	62.53	68.68	51	8434	3.0	1.87	4.77
Overweight (>+1sd - ≤+2sd)	257	43567	67.6	61.98	72.75	15	2684	4.2	1.83	9.22
Obese (>+2sd)	258	44902	68.9	61.50	75.37	21	3699	5.7	2.98	10.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	125	22099	64.9	55.94	72.98	7	1164	3.4	1.24	9.08
Normal (≥-2sd)	1560	267043	66.3	64.06	68.45	88	15051	3.7	2.32	5.96

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
JOHOR	910	154060	35.2	30.81	39.76	442	76513	17.5	15.15	20.04
Locality of school										
Urban	706	119253	35.5	30.53	40.82	347	59808	17.8	14.94	21.09
Rural	204	34806	34.0	25.51	43.69	95	16705	16.3	14.20	18.69
Sex										
Boys	415	77541	35.2	29.66	41.14	208	39229	17.8	14.66	21.44
Girls	495	76519	35.1	31.21	39.25	234	37284	17.1	14.55	20.03
Ethnicity										
Malay	666	113975	34.7	29.76	39.91	319	56150	17.1	14.99	19.38
Chinese	166	27104	32.5	25.70	40.21	107	17893	21.5	15.59	28.84
Indian	58	9468	50.6	38.30	62.79	13	1982	10.6	6.52	16.73
Bumiputera Sabah	8	1310	58.3	42.34	72.63	1	180	8.0	2.14	25.66
Bumiputera Sarawak	8	1562	42.4	30.48	55.30	2	308	8.4	5.67	12.16
Others	4	640	44.5	22.67	68.71					
School level										
Primary school	216	43192	26.4	22.85	30.38	167	33319	20.4	19.40	21.44
Secondary school	694	110867	40.3	36.06	44.75	275	43194	15.7	12.69	19.30
Class										
Standard 4	56	12361	22.4	17.10	28.66	56	12192	22.0	19.14	25.25
Standard 5	76	14132	26.1	20.64	32.38	58	10961	20.2	16.35	24.77
Standard 6	84	16699	31.0	25.68	36.91	53	10166	18.9	16.65	21.33
Form 1	114	19707	34.2	26.78	42.57	57	9384	16.3	12.40	21.15
Form 2	147	19333	36.5	29.75	43.92	67	9136	17.3	11.94	24.32
Form 3	140	22253	41.1	32.77	49.88	55	8504	15.7	11.40	21.21
Form 4	159	23210	43.0	36.73	49.42	57	8126	15.0	12.07	18.59
Form 5	134	26364	46.9	39.31	54.65	39	8044	14.3	7.84	24.69
School session										
Morning session	604	100907	35.0	30.12	40.29	283	49084	17.0	14.27	20.23
Evening session	149	23386	37.2	27.43	48.19	72	10859	17.3	12.64	23.18
Morning and evening session	155	29546	34.2	27.29	41.78	85	16229	18.8	15.81	22.12
BMI-for-age status (BAZ)										
Thinness (<-2sd)	51	8971	36.0	27.08	45.96	25	4579	18.4	10.67	29.75
Normal (≥-2sd - ≤+1sd)	610	102386	36.3	31.64	41.13	267	46002	16.3	13.90	18.99
Overweight (>+1sd - ≤+2sd)	134	22460	34.8	28.49	41.64	89	15170	23.5	19.04	28.61
Obese (>+2sd)	113	19803	30.4	24.56	36.84	60	10458	16.0	12.71	20.02
Height-for-age status (HAZ)										
Stunting (<-2sd)	70	10927	32.0	23.41	41.98	40	6895	20.2	15.85	25.35
Normal (≥-2sd)	840	143132	35.5	31.27	39.87	402	69618	17.2	14.75	20.06

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
JOHOR	545	90828	20.7	17.40	24.50	478	81335	18.6	16.04	21.38
Locality of school										
Urban	414	67022	20.0	16.12	24.44	392	66230	19.7	16.83	22.97
Rural	131	23805	23.3	18.34	29.03	86	15105	14.8	12.23	17.71
Sex										
Boys	240	45040	20.4	17.44	23.80	188	35739	16.2	13.14	19.85
Girls	305	45788	21.0	15.45	27.94	290	45596	20.9	18.09	24.09
Ethnicity										
Malay	389	66953	20.4	16.77	24.49	322	56204	17.1	14.67	19.82
Chinese	122	18701	22.5	15.77	30.92	133	21525	25.8	20.80	31.61
Indian	26	3853	20.6	12.12	32.76	16	2439	13.0	6.86	23.37
Bumiputera Sabah	2	258	11.5	1.95	45.80	3	490	21.8	10.43	39.94
Bumiputera Sarawak	6	1063	28.9	17.34	43.99	3	567	15.4	4.75	39.89
Others						1	110	7.7	0.78	46.70
School level										
Primary school	133	25854	15.8	12.40	19.99	194	37558	23.0	19.98	26.32
Secondary school	412	64974	23.6	20.04	27.66	284	43777	15.9	13.45	18.75
Class										
Standard 4	34	7228	13.1	8.66	19.24	67	13713	24.8	18.58	32.27
Standard 5	52	9741	18.0	14.50	22.08	62	11053	20.4	17.55	23.60
Standard 6	47	8886	16.5	12.44	21.57	65	12792	23.8	20.77	27.03
Form 1	75	12795	22.2	17.84	27.35					
Form 2	82	10990	20.8	14.88	28.23	71	9347	17.7	13.10	23.40
Form 3	81	12641	23.3	18.70	28.68	52	8132	15.0	11.35	19.57
Form 4	87	12687	23.5	18.31	29.58	64	9133	16.9	11.93	23.41
Form 5	87	15860	28.2	21.02	36.73	53	9703	17.3	11.65	24.83
School session										
Morning session	371	61732	21.4	17.93	25.41	322	54525	18.9	15.93	22.35
Evening session	78	11983	19.1	15.00	23.93	59	9142	14.6	11.72	17.92
Morning and evening session	95	16805	19.4	13.08	27.87	94	17139	19.8	16.58	23.51
BMI-for-age status (BAZ)										
Thinness (<-2sd)	31	5424	21.8	14.26	31.72	21	3418	13.7	8.78	20.77
Normal (≥-2sd - ≤+1sd)	369	60469	21.4	17.23	26.29	308	52687	18.7	16.15	21.45
Overweight (>+1sd - ≤+2sd)	73	11724	18.2	13.39	24.14	82	13503	20.9	15.84	27.08
Obese (>+2sd)	69	12785	19.6	15.81	24.03	67	11726	18.0	12.90	24.49
Height-for-age status (HAZ)										
Stunting (<-2sd)	33	5561	16.3	10.61	24.16	45	7761	22.7	16.74	30.06
Normal (≥-2sd)	511	85136	21.1	17.86	24.72	433	73574	18.2	15.86	20.85

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

Characteristics	Nuts					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper
JOHOR	62	11063	2.5	1.84	3.45	367	63647	14.5	12.18	17.24
Locality of school										
Urban	48	8334	2.5	1.65	3.72	269	46471	13.8	11.31	16.82
Rural	14	2730	2.7	1.97	3.60	98	17175	16.8	11.94	23.07
Sex										
Boys	27	5433	2.5	1.48	4.07	171	32189	14.6	11.34	18.62
Girls	35	5630	2.6	1.89	3.53	196	31458	14.4	11.40	18.12
Ethnicity										
Malay	52	9629	2.9	2.17	3.94	307	53852	16.4	13.82	19.31
Chinese	5	768	0.9	0.27	3.12	34	5343	6.4	5.21	7.87
Indian	5	665	3.6	1.06	11.22	17	2802	15.0	10.16	21.52
Bumiputera Sabah						2	322	14.3	3.67	42.36
Bumiputera Sarawak						5	1061	28.8	16.10	46.02
Others						2	268	18.6	3.45	59.32
School level										
Primary school	22	4881	3.0	1.64	5.39	106	22534	13.8	9.67	19.31
Secondary school	40	6183	2.2	1.79	2.83	261	41113	15.0	12.31	18.05
Class										
Standard 4	7	1363	2.5	1.00	5.96	33	8131	14.7	7.42	27.06
Standard 5	7	1551	2.9	1.07	7.44	33	6157	11.4	8.96	14.32
Standard 6	8	1966	3.7	1.51	8.57	40	8246	15.3	10.75	21.35
Form 1	6	1026	1.8	0.62	5.04	50	8744	15.2	10.29	21.86
Form 2	11	1509	2.9	1.54	5.23	58	7581	14.3	10.93	18.58
Form 3	7	1156	2.1	0.79	5.61	57	8975	16.6	12.45	21.68
Form 4	11	1651	3.1	1.70	5.43	62	8983	16.6	11.81	22.89
Form 5	5	841	1.5	0.60	3.69	34	6830	12.2	8.57	16.96
School session										
Morning session	43	7238	2.5	1.93	3.26	226	39435	13.7	11.23	16.59
Evening session	5	672	1.1	0.40	2.84	76	11737	18.7	14.56	23.64
Morning and evening session	14	3154	3.6	1.60	8.08	65	12474	14.4	11.19	18.40
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	542	2.2	0.70	6.58	19	3588	14.4	8.97	22.29
Normal (≥-2sd - ≤+1sd)	46	8143	2.9	2.06	4.02	236	40458	14.3	12.43	16.46
Overweight (>+1sd - ≤+2sd)	7	1259	2.0	0.92	4.09	43	7102	11.0	8.02	14.90
Obese (>+2sd)	5	956	1.5	0.45	4.63	68	12337	18.9	13.13	26.47
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	943	2.8	1.08	6.86	29	5289	15.5	11.47	20.57
Normal (≥-2sd)	57	9958	2.5	1.80	3.37	337	58196	14.4	11.97	17.26

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

Characteristics	Type of snack foods				
	Ice cream				
	Count	Estimated Population	Percentage (%)	95% CI	
				Lower	Upper
JOHOR	407	69419	15.8	13.31	18.75
Locality of school					
Urban	332	55519	16.5	13.57	19.98
Rural	75	13900	13.6	9.91	18.34
Sex					
Boys	153	29205	13.3	10.66	16.36
Girls	254	40214	18.5	15.11	22.36
Ethnicity					
Malay	285	49558	15.1	12.82	17.64
Chinese	101	16718	20.1	14.83	26.58
Indian	15	2127	11.4	4.96	23.95
Bumiputera Sabah	1	160	7.1	0.80	41.90
Bumiputera Sarawak	4	745	20.2	12.31	31.43
Others	1	110	7.7	0.78	46.70
School level					
Primary school	159	31141	19.1	15.29	23.53
Secondary school	248	38277	13.9	11.19	17.19
Class					
Standard 4	59	11528	20.8	13.27	31.18
Standard 5	50	10250	18.9	13.81	25.37
Standard 6	50	9363	17.4	11.73	25.00
Form 1	48	7373	12.8	7.45	21.15
Form 2	55	7167	13.5	9.75	18.52
Form 3	55	8630	15.9	12.28	20.39
Form 4	54	7977	14.8	11.69	18.48
Form 5	36	7131	12.7	9.44	16.85
School session					
Morning session	269	46044	16.0	13.10	19.37
Evening session	59	8659	13.8	7.84	23.09
Morning and evening session	79	14716	17.0	13.86	20.72
BMI-for-age status (BAZ)					
Thinness (<-2sd)	21	3812	15.3	11.55	19.96
Normal (≥-2sd - ≤+1sd)	270	45617	16.2	13.41	19.33
Overweight (>+1sd - ≤+2sd)	56	9260	14.3	10.35	19.53
Obese (>+2sd)	60	10729	16.4	13.10	20.45
Height-for-age status (HAZ)					
Stunting (<-2sd)	27	5239	15.3	9.00	24.92
Normal (≥-2sd)	380	64179	15.9	13.25	18.95

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
JOHOR	287	53521	12.2	7.84	18.52	1487	257526	58.7	52.99	64.24
Locality of school										
Urban	247	44688	13.3	8.40	20.40	1157	197717	58.8	51.83	65.46
Rural	40	8833	8.6	2.62	24.91	330	59809	58.4	49.37	66.99
Sex										
Boys	133	25402	11.5	7.97	16.39	692	132350	60.0	54.36	65.46
Girls	154	28119	12.9	7.38	21.58	795	125176	57.4	50.37	64.15
Ethnicity										
Malay	206	39513	12.0	7.11	19.53	1134	200674	60.9	55.90	65.75
Chinese	66	11269	13.6	6.92	24.93	258	41327	49.8	34.84	64.81
Indian	10	1790	9.5	4.33	19.56	67	10769	57.1	48.42	65.45
Bumiputera Sabah	1	156	7.0	0.64	46.49	10	1644	73.1	53.00	86.73
Bumiputera Sarawak	2	397	10.8	2.00	41.72	12	2260	61.4	19.98	90.99
Others	2	395	27.5	3.49	79.88	6	853	59.3	20.95	88.87
School level										
Primary school	182	37274	22.9	17.27	29.69	486	97238	59.7	47.81	70.59
Secondary school	105	16247	5.9	4.27	8.08	1001	160288	58.1	52.30	63.76
Class										
Standard 4	53	11097	20.1	14.71	26.91	150	32878	59.6	47.25	70.89
Standard 5	68	13626	25.2	17.45	34.85	177	33015	61.0	49.75	71.15
Standard 6	61	12551	23.4	14.17	36.23	159	31344	58.5	42.17	73.23
Form 1	17	3088	5.3	3.26	8.60	201	34413	59.4	50.92	67.32
Form 2	34	4527	8.5	5.75	12.37	235	31533	59.2	53.31	64.75
Form 3	21	3297	6.1	3.34	10.83	189	29821	55.0	47.56	62.26
Form 4	25	3670	6.8	3.70	12.14	196	28877	53.4	43.26	63.35
Form 5	8	1665	3.0	1.17	7.29	180	35643	63.4	54.25	71.70
School session										
Morning session	184	33668	11.7	7.36	18.11	962	165904	57.7	50.78	64.26
Evening session	31	5053	8.0	4.85	12.81	218	34230	54.0	47.93	59.87
Morning and evening session	72	14800	17.1	10.55	26.55	302	56521	65.4	59.36	70.90
BMI-for-age status (BAZ)										
Thinness (<-2sd)	12	1972	7.9	4.93	12.44	83	15203	61.0	50.73	70.34
Normal (≥-2sd - ≤+1sd)	197	36250	12.8	8.11	19.63	969	165961	58.6	53.14	63.91
Overweight (>+1sd - ≤+2sd)	43	8112	12.6	7.16	21.11	216	36852	57.1	46.74	66.80
Obese (>+2sd)	35	7186	11.1	5.74	20.28	215	38772	59.7	53.72	65.48
Height-for-age status (HAZ)										
Stunting (<-2sd)	20	3668	10.7	6.67	16.84	120	21529	63.0	53.09	71.96
Normal (≥-2sd)	267	49853	12.3	7.88	18.79	1366	235836	58.4	52.71	63.82

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				
			Never		
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	787	127461	29.1	21.85	37.53
Locality of school					
Urban	579	93769	27.9	19.95	37.52
Rural	208	33692	32.9	19.20	50.35
Sex					
Boys	347	62692	28.4	21.99	35.91
Girls	440	64769	29.7	21.01	40.17
Ethnicity					
Malay	550	89128	27.1	18.88	37.17
Chinese	186	30381	36.6	28.35	45.75
Indian	41	6286	33.4	25.86	41.80
Bumiputera Sabah	3	449	20.0	8.40	40.41
Bumiputera Sarawak	6	1026	27.8	9.20	59.52
Others	1	191	13.3	1.83	55.65
School level					
Primary school	157	28303	17.4	8.53	32.19
Secondary school	630	99159	36.0	29.75	42.70
Class					
Standard 4	57	11162	20.2	12.09	31.89
Standard 5	47	7500	13.9	5.31	31.55
Standard 6	53	9640	18.0	9.04	32.69
Form 1	123	20451	35.3	26.61	45.06
Form 2	131	17246	32.4	25.43	40.14
Form 3	132	21083	38.9	30.45	48.07
Form 4	145	21483	39.8	31.89	48.20
Form 5	99	18896	33.6	24.28	44.44
School session					
Morning session	538	88145	30.6	23.29	39.12
Evening session	161	24156	38.1	29.69	47.24
Morning and evening session	88	15161	17.5	11.46	25.88
BMI-for-age status (BAZ)					
Thinness (<-2sd)	45	7758	31.1	22.45	41.35
Normal (≥-2sd - ≤+1sd)	501	80849	28.6	21.56	36.77
Overweight (>+1sd - ≤+2sd)	123	19623	30.4	20.85	41.96
Obese (>+2sd)	116	18944	29.2	20.00	40.46
Height-for-age status (HAZ)					
Stunting (<-2sd)	57	8964	26.2	16.55	38.96
Normal (≥-2sd)	729	118366	29.3	22.20	37.57

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	Candy/chocolate					French fries/nugget/sausage				
	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper
JOHOR	364	61816	14.1	11.35	17.38	475	82519	18.8	14.72	23.73
Locality of school										
Urban	265	43345	12.9	9.97	16.50	405	69283	20.6	15.84	26.32
Rural	99	18472	18.1	13.46	23.88	70	13236	13.0	7.90	20.56
Sex										
Boys	155	29240	13.3	10.31	16.89	229	43214	19.6	15.57	24.36
Girls	209	32576	14.9	11.65	18.97	246	39305	18.0	13.37	23.87
Ethnicity										
Malay	290	50391	15.3	12.61	18.44	344	59821	18.2	13.71	23.66
Chinese	50	7576	9.1	5.29	15.26	115	20050	24.1	16.89	33.20
Indian	20	3245	17.4	8.96	31.07	14	2331	12.5	5.38	26.42
Bumiputera Sabah	1	199	8.8	2.35	28.04	1	180	8.0	0.74	50.41
Bumiputera Sarawak	2	295	8.0	2.02	26.95	1	138	3.7	0.74	16.82
Others	1	110	7.7	0.78	46.70					
School level										
Primary school	101	20607	12.6	8.40	18.59	179	34760	21.3	17.88	25.21
Secondary school	263	41209	15.0	11.73	18.89	296	47759	17.3	11.61	25.08
Class										
Standard 4	25	5409	9.8	5.77	16.24	53	12622	22.9	14.69	33.95
Standard 5	37	7330	13.5	9.85	18.32	63	11062	20.4	15.03	27.16
Standard 6	39	7868	14.6	7.26	27.23	63	11077	20.6	11.95	33.08
Form 1	44	7727	13.4	8.93	19.58	43	7577	13.1	8.69	19.34
Form 2	64	8331	15.6	10.83	22.03	76	10248	19.2	13.58	26.50
Form 3	47	7214	13.3	9.67	18.05	56	8805	16.2	8.97	27.63
Form 4	57	8164	15.1	11.39	19.77	56	8206	15.2	9.07	24.34
Form 5	51	9772	17.4	10.06	28.37	65	12923	23.0	12.78	37.83
School session										
Morning session	235	40068	13.9	10.73	17.88	332	58072	20.2	15.39	26.00
Evening session	60	8788	13.9	9.43	19.90	59	9045	14.3	8.65	22.61
Morning and evening session	67	12542	14.5	9.77	20.99	83	15171	17.5	13.17	22.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	4586	18.4	13.39	24.74	29	5462	21.9	13.86	32.84
Normal (≥-2sd - ≤+1sd)	256	43155	15.3	12.10	19.07	908	157722	18.6	13.86	24.60
Overweight (>+1sd - ≤+2sd)	51	8575	13.3	9.65	17.99	66	12074	18.7	13.29	25.65
Obese (>+2sd)	32	5500	8.4	5.04	13.77	69	11826	18.1	13.74	23.56
Height-for-age status (HAZ)										
Stunting (<-2sd)	32	5817	17.0	12.12	23.39	49	8154	23.9	17.96	30.99
Normal (≥-2sd)	332	56000	13.9	10.98	17.35	426	74365	18.4	14.22	23.49

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
JOHOR	518	93595	21.3	17.65	25.57	51	9494	2.2	1.18	3.94
Locality of school										
Urban	407	73093	21.7	17.19	27.06	44	8046	2.4	1.20	4.72
Rural	111	20502	20.1	16.27	24.53	7	1448	1.4	0.66	3.02
Sex										
Boys	565	107720	23.7	20.18	27.58	809	153780	2.8	1.58	4.90
Girls	245	41359	19.0	14.15	24.97	22	3319	1.5	0.62	3.67
Ethnicity										
Malay	400	73776	22.4	18.39	26.99	27	5249	1.6	1.07	2.37
Chinese	86	14232	17.1	13.81	21.02	21	3665	4.4	1.73	10.79
Indian	21	3499	18.8	12.57	27.07	2	351	1.9	0.46	7.43
Bumiputera Sabah	4	643	28.6	15.79	46.06					
Bumiputera Sarawak	7	1446	39.2	21.73	60.05					
Others						1	230	16.0	2.44	59.04
School level										
Primary school	192	39744	24.4	17.89	32.30	31	6319	3.9	1.89	7.78
Secondary school	326	53851	19.5	16.04	23.61	20	3175	1.2	0.59	2.23
Class										
Standard 4	46	10275	18.7	13.93	24.55	12	2686	4.9	1.86	12.18
Standard 5	79	14727	27.2	20.41	35.25	6	1012	1.9	1.05	3.32
Standard 6	67	14741	27.4	17.94	39.40	13	2621	4.9	2.32	9.93
Form 1	54	10154	17.6	9.09	31.27	1	245	0.4	0.06	3.05
Form 2	93	12511	23.5	18.72	29.00	6	894	1.7	0.52	5.29
Form 3	63	10570	19.5	14.78	25.28	2	324	0.6	0.14	2.54
Form 4	62	9319	17.2	13.47	21.82	9	1319	2.4	0.97	5.98
Form 5	54	11297	20.1	14.80	26.70	2	393	0.7	0.17	2.80
School session										
Morning session	324	57782	20.1	16.70	23.96	35	6440	2.2	1.09	4.55
Evening session	87	14321	22.6	13.86	34.56	2	371	0.6	0.13	2.66
Morning and evening session	106	21381	24.7	20.29	29.76	14	2683	3.1	1.87	5.09
BMI-for-age status (BAZ)										
Thinness (<-2sd)	31	5911	23.7	18.26	30.18	7	1292	5.2	1.99	12.84
Normal (≥-2sd - ≤+1sd)	320	56818	20.1	17.25	23.28	26	4784	1.7	0.88	3.21
Overweight (>+1sd - ≤+2sd)	82	13892	21.5	16.81	27.10	8	1429	2.2	0.87	5.52
Obese (>+2sd)	83	16508	25.3	16.04	37.56	10	1990	3.1	1.78	5.18
Height-for-age status (HAZ)										
Stunting (<-2sd)	32	6404	18.7	10.36	31.52	4	869	2.5	0.88	7.09
Normal (≥-2sd)	485	87029	21.5	18.15	25.36	47	8625	2.1	1.13	3.98

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	Snack food					Fish cracker				
	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Percentage (%)	95% CI Lower	95% CI Upper
JOHOR	299	49750	11.3	8.06	15.73	200	34331	7.8	5.40	11.23
Locality of school										
Urban	249	40409	12.0	7.97	17.71	158	26830	8.0	5.02	12.45
Rural	50	9341	9.1	6.70	12.37	42	7501	7.3	4.92	10.84
Sex										
Boys	102	19805	9.0	6.63	12.05	87	16952	7.7	5.20	11.21
Girls	197	29945	13.7	8.36	21.75	113	17379	8.0	5.15	12.15
Ethnicity										
Malay	176	32119	9.8	7.53	12.54	158	27744	8.4	5.55	12.58
Chinese	110	15734	18.9	8.16	38.01	24	3871	4.7	3.44	6.28
Indian	6	828	4.4	1.54	12.11	14	2016	10.8	4.33	24.52
Bumiputera Sabah	3	421	18.7	4.37	53.69	2	361	16.1	5.74	37.58
Bumiputera Sarawak	3	520	14.1	4.03	39.20					
Others	1	128	8.9	0.91	50.71	2	339	23.5	4.46	67.03
School level										
Primary school	83	17821	10.9	7.83	15.07	65	12742	7.8	4.33	13.71
Secondary school	216	31929	11.6	7.00	18.59	135	21589	7.8	4.84	12.44
Class										
Standard 4	20	4289	7.8	4.62	12.84	29	6028	10.9	5.30	21.25
Standard 5	28	5730	10.6	7.25	15.20	16	3095	5.7	3.27	9.80
Standard 6	35	7802	14.5	7.91	25.05	20	3619	6.7	4.07	10.90
Form 1	42	6213	10.8	4.47	23.72	24	3959	6.9	3.71	12.31
Form 2	40	5066	9.5	5.92	14.91	21	2841	5.3	3.03	9.21
Form 3	45	6836	12.6	8.13	19.06	31	4671	8.6	4.74	15.17
Form 4	50	6828	12.6	7.81	19.81	27	3823	7.1	3.53	13.68
Form 5	39	6985	12.4	6.34	22.94	32	6294	11.2	7.12	17.17
School session										
Morning session	203	33034	11.5	8.28	15.71	1063	185272	8.0	5.15	12.24
Evening session	32	4796	7.6	5.49	10.32	24	3894	6.1	3.78	9.81
Morning and evening session	62	11699	13.5	7.70	22.68	37	7406	8.6	5.38	13.36
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	1061	4.3	1.45	11.84	9	1592	6.4	3.26	12.14
Normal (≥-2sd - ≤+1sd)	227	37040	13.1	9.18	18.36	131	23058	8.2	5.54	11.84
Overweight (>+1sd - ≤+2sd)	39	6512	10.1	6.10	16.22	29	4899	7.6	4.41	12.74
Obese (>+2sd)	26	5137	7.9	4.07	14.70	30	4621	7.1	3.45	13.99
Height-for-age status (HAZ)										
Stunting (<-2sd)	20	3257	9.5	5.50	16.03	17	3108	9.1	6.07	13.42
Normal (≥-2sd)	279	46494	11.5	8.11	16.07	182	31062	7.7	5.18	11.26

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
JOHOR	276	47833	10.9	8.05	14.61
Locality of school					
Urban	210	36013	10.7	7.41	15.23
Rural	66	11820	11.6	6.92	18.75
Sex					
Boys	97	18524	8.4	6.03	11.58
Girls	179	29309	13.4	9.87	18.05
Ethnicity					
Malay	213	38265	11.6	8.38	15.89
Chinese	45	6537	7.9	4.43	13.58
Indian	12	2033	10.9	5.46	20.61
Bumiputera Sabah	2	339	15.1	2.65	53.58
Bumiputera Sarawak	3	549	14.9	7.28	28.08
Others	1	110	7.7	0.78	46.70
School level					
Primary school	121	24327	14.9	9.90	21.87
Secondary school	155	23505	8.5	6.27	11.51
Class					
Standard 4	37	7420	13.5	7.32	23.49
Standard 5	55	10960	20.2	12.45	31.18
Standard 6	29	5947	11.0	7.12	16.74
Form 1	41	6309	10.9	5.73	19.83
Form 2	250	33457	5.3	3.45	8.08
Form 3	34	5398	57.3	48.10	65.93
Form 4	43	6116	11.3	8.98	14.17
Form 5	15	2853	5.1	3.38	7.56
School session					
Morning session	174	29464	10.2	7.37	14.05
Evening session	27	4075	6.4	2.81	14.01
Morning and evening session	74	13986	16.2	12.40	20.81
BMI-for-age status (BAZ)					
Thinness (<-2sd)	12	1831	7.3	3.51	14.72
Normal (≥-2sd - ≤+1sd)	188	32987	11.7	8.51	15.79
Overweight (>+1sd - ≤+2sd)	47	7560	11.7	8.17	16.50
Obese (>+2sd)	28	5318	8.2	4.53	14.25
Height-for-age status (HAZ)					
Stunting (<-2sd)	22	3975	11.6	7.47	17.69
Normal (≥-2sd)	254	43858	10.9	7.99	14.58

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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	Social media					Television				
	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	983	166426	38.0	34.51	41.61	878	155849	35.6	29.66	41.98
Locality of school										
Urban	771	129971	38.7	34.39	43.23	654	114342	34.1	27.32	41.52
Rural	212	36455	35.6	31.85	39.59	224	41507	40.6	29.44	52.75
Sex										
Boys	423	79407	36.0	31.48	40.86	399	77076	35.0	28.59	41.95
Girls	560	87019	40.0	35.65	44.48	479	78773	36.2	29.89	43.01
Ethnicity										
Malay	761	130389	39.7	35.62	43.88	736	132467	40.3	34.75	46.13
Chinese	177	28591	34.4	28.15	41.21	85	13995	16.8	11.64	23.72
Indian	27	4270	22.7	18.69	27.18	41	6662	35.4	26.77	45.00
Bumiputera Sabah	4	566	25.2	11.78	45.91	3	505	22.4	7.82	49.67
Bumiputera Sarawak	11	2195	59.6	38.25	77.84	10	1746	47.4	25.43	70.42
Others	3	415	28.8	9.61	60.67	3	475	33.0	9.89	68.84
School level										
Primary school	254	51841	31.9	27.00	37.33	374	74803	46.1	36.59	55.88
Secondary school	729	114585	41.6	38.13	45.08	504	81046	29.4	24.89	34.35
Class										
Standard 4	76	16504	30.1	22.57	38.95	127	27323	49.9	36.83	62.94
Standard 5	86	16870	31.3	25.00	38.43	133	24682	45.8	33.67	58.51
Standard 6	92	18467	34.4	31.58	37.34	114	22798	42.5	34.44	50.93
Form 1	110	18668	32.2	24.58	40.94	108	18780	32.4	24.02	42.10
Form 2	159	21035	39.5	35.29	43.79	116	15655	29.4	24.32	34.98
Form 3	148	23275	42.9	36.87	49.23	97	15558	28.7	22.41	35.95
Form 4	171	24788	45.9	41.03	50.80	102	14971	27.7	21.11	35.44
Form 5	141	26820	47.7	41.44	54.07	81	16082	28.6	19.89	39.28
School session										
Morning session	636	107637	37.4	33.15	41.86	563	99469	34.6	27.87	41.93
Evening session	168	25324	40.0	32.94	47.51	139	22385	35.4	28.30	43.13
Morning and evening session	175	32825	38.2	32.60	44.05	171	33125	38.5	32.15	45.28
BMI-for-age status (BAZ)										
Thinness (<-2sd)	48	8436	33.8	25.40	43.44	60	11024	44.2	34.35	54.55
Normal (≥-2sd - ≤+1sd)	658	110447	39.1	35.30	42.96	554	96700	34.2	28.18	40.77
Overweight (>+1sd - ≤+2sd)	130	22405	34.9	27.73	42.73	131	23388	36.4	28.46	45.12
Obese (>+2sd)	144	24542	37.7	30.64	45.42	132	24576	37.8	31.10	44.99
Height-for-age status (HAZ)										
Stunting (<-2sd)	77	13063	38.2	28.81	48.64	82	14749	43.2	36.35	50.27
Normal (≥-2sd)	906	153363	38.0	34.63	41.50	795	140938	34.9	28.96	41.41

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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
JOHOR	74	14383	3.3	2.23	4.80	144	24202	5.5	4.74	6.44
Locality of school										
Urban	61	11833	3.5	2.26	5.46	122	20220	6.0	5.22	6.94
Rural	13	2550	2.5	1.69	3.67	22	3982	3.9	2.58	5.84
Sex										
Boys	54	10959	5.0	3.31	7.40	62	11926	5.4	4.32	6.76
Girls	20	3424	1.6	0.93	2.65	82	12276	5.6	4.41	7.18
Ethnicity										
Malay	55	11099	3.4	2.25	5.05	104	17469	5.3	4.36	6.47
Chinese	11	1982	2.4	0.75	7.34	26	4287	5.2	3.29	7.98
Indian	5	721	3.8	1.98	7.25	13	2247	11.9	4.95	26.03
Bumiputera Sabah						1	199	8.8	2.35	28.04
Bumiputera Sarawak	3	581	15.8	4.51	42.60					
Others										
School level										
Primary school	44	9233	5.7	4.51	7.15	56	10356	6.4	5.42	7.49
Secondary school	30	5150	1.9	1.21	2.86	88	13846	5.0	4.00	6.30
Class										
Standard 4	17	4151	7.6	5.47	10.40	19	3823	7.0	4.91	9.82
Standard 5	12	2201	4.1	2.75	6.04	19	3133	5.8	3.41	9.76
Standard 6	15	2881	5.4	3.56	8.01	18	3400	6.3	4.94	8.09
Form 1	9	1824	3.1	1.65	5.92	23	4126	7.1	4.49	11.11
Form 2	8	1183	2.2	0.88	5.47	25	3352	6.3	4.18	9.35
Form 3	5	879	1.6	0.52	4.90	17	2620	4.8	2.72	8.45
Form 4	7	1110	2.1	0.85	4.88	14	2020	3.7	2.37	5.85
Form 5	1	154	0.3	0.04	2.05	9	1729	3.1	1.43	6.51
School session										
Morning session	43	8306	2.9	1.88	4.41	93	15945	5.5	4.68	6.54
Evening session	10	1932	3.1	1.64	5.60	24	3794	6.0	3.53	10.00
Morning and evening session	21	4144	4.8	3.46	6.66	27	4463	5.2	3.56	7.50
BMI-for-age status (BAZ)										
Thinness (<-2sd)	4	891	3.6	1.04	11.54	7	1431	5.7	3.16	10.21
Normal (≥-2sd - ≤+1sd)	43	8210	2.9	1.78	4.71	92	15667	5.5	4.60	6.66
Overweight (>+1sd - ≤+2sd)	8	1337	2.1	0.92	4.62	32	4783	7.4	4.99	10.96
Obese (>+2sd)	18	3807	5.9	3.88	8.74	13	2321	3.6	1.92	6.55
Height-for-age status (HAZ)										
Stunting (<-2sd)	6	1249	3.7	1.38	9.33	16	2562	7.5	4.40	12.49
Normal (≥-2sd)	68	13134	3.3	2.28	4.63	128	21640	5.4	4.58	6.27

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

Characteristics	Sources of media				
	Not affected				
	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
JOHOR	798	131339	30.0	24.16	36.54
Locality of school					
Urban	625	101943	30.4	23.45	38.31
Rural	173	29395	28.7	19.38	40.32
Sex					
Boys	364	66571	30.2	23.15	38.35
Girls	434	64768	29.8	24.05	36.18
Ethnicity					
Malay	476	79818	24.3	20.03	29.12
Chinese	265	42747	51.4	46.38	56.42
Indian	44	6634	35.2	23.79	48.60
Bumiputera Sabah	6	979	43.5	29.28	58.95
Bumiputera Sarawak	3	472	12.8	3.37	38.22
Others	4	688	47.8	24.94	71.65
School level					
Primary school	187	34817	21.5	12.70	33.88
Secondary school	611	96522	35.0	30.03	40.34
Class					
Standard 4	48	9426	17.2	6.81	37.14
Standard 5	68	11658	21.6	13.04	33.72
Standard 6	71	13733	25.6	18.13	34.81
Form 1	125	20414	35.2	24.24	48.04
Form 2	132	17297	32.4	27.32	38.04
Form 3	126	19948	36.8	30.92	43.11
Form 4	131	19454	36.0	29.74	42.79
Form 5	97	19409	34.5	26.49	43.57
School session					
Morning session	550	90322	31.4	24.78	38.84
Evening session	122	18164	28.7	21.55	37.09
Morning and evening session	126	22853	26.6	20.71	33.37
BMI-for-age status (BAZ)					
Thinness (<-2sd)	39	6431	25.8	18.31	35.03
Normal (≥-2sd - ≤+1sd)	523	85905	30.4	23.93	37.72
Overweight (>+1sd - ≤+2sd)	132	21246	33.1	25.82	41.19
Obese (>+2sd)	103	17626	27.1	22.23	32.60
Height-for-age status (HAZ)					
Stunting (<-2sd)	45	7245	21.2	13.07	32.52
Normal (≥-2sd)	752	123963	30.7	25.11	36.96

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

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3.5.1 Introduction

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

3.5.2 Objectives

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

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

3.5.3 Variable definitions

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

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

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

3.5.4 Findings

The mean score for the physical activity level for adolescent in Johor was 2.27 (95% CI: 2.18, 2.36) **(Table 3.5.1)**. Overall prevalence of physically active among adolescents was 42.0% (95% CI: 35.99, 48.21) and the prevalence of physically inactive was 58.0% (95% CI: 51.79, 64.01). In terms of school locality, there was no significant difference of physically active between students studying in urban area (43.4%; 95% CI: 36.93, 50.16) and students from rural areas (37.3%; 95% CI: 25.13, 51.40). Boys showed higher prevalence of physically active [50.3% (95% CI: 43.49, 57.15) compared to girls, 33.8% (95% CI: 26.44, 42.04). Primary students [54.8% (95% CI: 46.50, 62.76)] were significantly more active than secondary students [35.2% (95% CI: 30.59, 40.07)]. In term of BMI-for-age status, there was no significant difference among thinness [36.3% (95% CI: 26.82, 46.94)], normal [42.0% (95% CI: 35.93, 48.34)], overweight [42.6% (95% CI: 34.72, 50.92)] and obese [43.7% (95% CI: 35.29, 52.49)] **(Table 3.5.2)**.

The most popular spare-time physical activity according to percentage of adolescents in Johor was walking for exercise [84.2% (95% CI: 81.59, 86.58)] **(Table 3.5.3)**. About 16.3% (95% CI: 13.90, 18.93)] of adolescents reported they do not attend/very rare participated in PE class **(Table 3.5.4)**. A total of 51.9 (95% CI:44.66, 59.11) and 67.7% (95% CI:61.80, 73.06) of the adolescents watched television, using computer and playing video games less than 2 hours per day over the weekend and during school days, respectively **(Table 3.5.5** and **Table 3.5.6)**.

3.5.5 Discussion

The prevalence of physically active among adolescents in Johor was 42.0% which is a bit lower than national prevalence (44.6%). Boys and primary students were observed as having higher prevalence of physically active than girls and secondary students. However, there was no significant difference in terms of school locality and BMI of age status of the students. More than half of adolescents in Johor had engaged on screen activities less than 2 hours during weekends and school days.

3.5.6 Conclusion

Based on National Health and Morbidity Survey (2017), 58.0% of children and adolescents in Johor were physically inactive. The prevalence of physically inactive among Malaysian adolescents was slightly decreased as compared to the Malaysian School-Based Nutrition Survey (2012) but remains high. Therefore, more programmes and strategies to increase physical activity should be implemented among children and adolescents in Malaysia.

3.5.7 Recommendations

Adolescents should be encouraged to be more active in their daily life. Policy and campaign to promote physical activity among children and adolescents should be enhanced and health promotion activities to increase physical activity should be promoted. A comprehensive

surveillance system for monitoring physical activity should be developed to ensure compliance with physical activity recommendation among children and adolescents.

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

References

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

| Characteristic | Mean total scores in PAQ-C | | |
| | Mean | 95% CI | |
		Lower	Upper
JOHOR	2.27	2.18	2.36
Locality of school			
Urban	2.28	2.18	2.38
Rural	2.23	2.06	2.41
Sex			
Boys	2.40	2.31	2.49
Girls	2.14	2.04	2.24
Class			
Standard 4	2.40	2.24	2.56
Standard 5	2.51	2.37	2.64
Standard 6	2.45	2.29	2.61
Form 1	2.28	2.21	2.35
Form 2	2.28	2.16	2.40
Form 3	2.09	2.01	2.17
Form 4	2.17	2.05	2.30
Form 5	2.05	1.92	2.18
Ethnicity			
Malay	2.32	2.23	2.41
Chinese	2.00	1.87	2.13
Indian	2.50	2.39	2.62
Bumiputera Sabah	2.29	1.87	2.71
Bumiputera Sarawak	2.55	2.28	2.81
Others	1.98	1.60	2.36
School Category			
Primary	2.45	2.34	2.57
Secondary	2.17	2.11	2.24
BMI-for-age status (BAZ)			
Thinness (<-2sd)	2.18	2.05	2.32
Normal (≥-2sd - ≤+1sd)	2.27	2.19	2.35
Overweight (>+1sd - ≤+2sd)	2.25	2.14	2.36
Obese (>+2sd)	2.32	2.19	2.45
Height-for-age status (HAZ)			
Stunting (<-2sd)	2.29	2.17	2.41
Normal (≥-2sd)	2.27	2.18	2.36

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		Active					Not active			
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	959	169757	42.0	35.99	48.21	1419	234629	58.0	51.79	64.01
Locality of School										
Urban	766	133838	43.4	36.93	50.16	1066	174340	56.6	49.84	63.07
Rural	193	35919	37.3	25.13	51.40	353	60289	62.7	48.60	74.87
Sex										
Boys	543	100713	50.3	43.49	57.15	526	99402	49.7	42.85	56.51
Girls	416	69045	33.8	26.44	42.04	893	135228	66.2	57.96	73.56
Class										
Standard 4	121	24377	53.3	42.06	64.30	99	21322	46.7	35.70	57.94
Standard 5	139	26629	57.0	48.67	64.92	112	20102	43.0	35.08	51.33
Standard 6	133	25840	53.9	42.66	64.83	111	22065	46.1	35.17	57.34
Form 1	138	23732	43.7	37.72	49.80	184	30615	56.3	50.20	62.28
Form 2	147	20188	40.3	32.14	49.13	228	29854	59.7	50.87	67.86
Form 3	90	14594	27.6	21.67	34.51	243	38224	72.4	65.49	78.33
Form 4	120	19073	36.6	28.20	45.99	233	32988	63.4	54.01	71.80
Form 5	71	15325	28.0	20.12	37.46	209	39459	72.0	62.54	79.88
Ethnicity										
Malay	760	136532	45.0	38.56	51.70	994	166588	55.0	48.30	61.44
Chinese	120	20167	26.2	19.45	34.22	356	56900	73.8	65.78	80.55
Indian	63	10393	60.6	52.50	68.09	44	6766	39.4	31.91	47.50
Bumiputera Sabah	5	744	38.8	16.22	67.46	7	1175	61.2	32.54	83.78
Bumiputera Sarawak	9	1615	43.9	33.31	54.98	11	2068	56.1	45.02	66.69
Others	2	306	21.3	5.77	54.31	7	1133	78.7	45.69	94.23
School Category										
Primary	393	76846	54.8	46.50	62.76	322	63489	45.2	37.24	53.50
Secondary	566	92912	35.2	30.59	40.07	1097	171140	64.8	59.93	69.41
BMI-for-age status (BAZ)										
Thinness (<-2sd)	49	8653	36.3	26.82	46.94	84	15196	63.7	53.06	73.18
Normal (≥-2sd - ≤+1sd)	632	110848	42.0	35.93	48.34	933	153029	58.0	51.66	64.07
Overweight (>+1sd - ≤+2sd)	140	24814	42.6	34.72	50.92	209	33404	57.4	49.08	65.28
Obese (>+2sd)	137	25286	43.7	35.29	52.50	190	32570	56.3	47.50	64.71
Height-for-age status (HAZ)										
Stunting (<-2sd)	76	13300	41.4	35.20	47.95	109	18800	58.6	52.05	64.80
Normal (≥-2sd)	883	156457	42.1	35.89	48.49	1308	215537	57.9	51.51	64.11

Notes:

Low PAL is classifies 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	95% CI Upper
Walking for exercise	2142	84.2	81.59	86.58
Jogging/Running	1943	77.0	73.02	80.54
Tagging	1698	67.3	59.58	74.26
Badminton	1672	66.9	59.86	73.30
Cycling	1508	61.2	53.12	68.64

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 Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	416	70933	16.3	13.90	18.93	1423	244414	56.0	53.75	58.28
Locality of school										
Urban	316	53382	16.0	13.07	19.39	1077	182819	54.7	52.20	57.23
Rural	100	17551	17.2	14.60	20.11	346	61595	60.3	57.50	63.03
Sex										
Boys	198	37272	17.0	13.70	21.02	603	114948	52.6	48.77	56.36
Girls	218	33661	15.5	12.36	19.20	820	129466	59.5	55.06	63.80
Class										
Standard 4	41	9302	17.2	12.52	23.21	149	31367	58.1	53.53	62.45
Standard 5	47	7695	14.3	8.56	23.02	163	30716	57.2	52.65	61.65
Standard 6	35	6917	13.0	10.36	16.19	159	31174	58.6	52.44	64.47
Form 1	56	9774	16.9	11.68	23.73	171	28912	49.9	44.35	55.44
Form 2	69	9552	17.9	11.18	27.47	209	27627	51.8	44.25	59.32
Form 3	52	8356	15.5	10.77	21.71	191	30074	55.7	49.00	62.14
Form 4	58	8512	15.8	10.38	23.19	206	30223	55.9	50.75	61.00
Form 5	58	10824	19.3	12.50	28.69	175	34321	61.3	53.42	68.67
Ethnicity										
Malay	282	48134	14.7	12.82	16.75	1088	190795	58.2	56.03	60.27
Chinese	110	18676	22.8	16.75	30.20	254	40113	48.9	42.63	55.27
Indian	16	2594	13.8	6.29	27.53	58	9493	50.4	42.40	58.33
Bumiputera Sabah	2	355	15.8	5.66	36.96	7	1172	52.1	28.01	75.30
Bumiputera Sarawak	5	983	26.7	7.91	60.65	11	2009	54.5	43.00	65.63
Others	1	191	13.3	1.83	55.65	5	832	57.8	33.52	78.84
School level										
Primary	123	23914	14.9	12.50	17.57	471	93257	57.9	55.39	60.47
Secondary	293	47019	17.1	13.81	20.93	952	151157	54.9	51.86	57.93
BMI-for-age status (BAZ)										
Thinness (<-2sd)	24	4308	17.6	11.32	26.26	76	13390	54.6	47.76	61.30
Normal (≥-2sd - ≤+1sd)	273	46088	16.4	14.08	18.94	905	155032	55.1	51.75	58.33
Overweight (>+1sd - ≤+2sd)	65	11095	17.3	12.67	23.30	221	37527	58.7	53.41	63.75
Obese (>+2sd)	53	9305	14.3	9.70	20.55	217	37736	57.9	51.27	64.32
Height-for-age status (HAZ)										
Stunting (<-2sd)	33	5807	17.0	12.50	22.71	119	21086	61.7	54.78	68.23
Normal (≥-2sd)	383	65126	16.2	13.71	19.06	1303	223197	55.6	53.20	57.88

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

| Characteristic | | | Always | | |
| | Count | Estimated population | Prevalence (%) | 95% CI | |
				Lower	Upper
JOHOR	711	120863	27.7	24.88	30.72
Locality of school					
Urban	580	97856	29.3	25.98	32.84
Rural	131	23007	22.5	21.75	23.31
Sex					
Boys	363	66407	30.4	25.95	35.19
Girls	348	54455	25.0	20.80	29.79
Class					
Standard 4	66	13359	24.7	17.34	33.96
Standard 5	79	15280	28.5	22.54	35.23
Standard 6	77	15121	28.4	21.67	36.29
Form 1	114	19265	33.2	27.22	39.87
Form 2	122	16127	30.3	23.04	38.59
Form 3	98	15592	28.9	22.57	36.09
Form 4	102	15295	28.3	20.82	37.23
Form 5	53	10823	19.3	14.23	25.73
Ethnicity					
Malay	514	89090	27.2	24.73	29.74
Chinese	141	23186	28.3	23.65	33.43
Indian	44	6758	35.9	24.00	49.73
Bumiputera Sabah	5	721	32.1	13.95	57.91
Bumiputera Sarawak	4	691	18.8	4.53	52.93
Others	3	416	28.9	9.64	60.81
School level					
Primary	222	43761	27.2	24.21	30.40
Secondary	489	77102	28.0	23.95	32.46
BMI-for-age status (BAZ)					
Thinness (<-2sd)	38	6819	27.8	21.56	35.07
Normal (≥-2sd - ≤+1sd)	483	80449	28.6	24.62	32.88
Overweight (>+1sd - ≤+2sd)	92	15336	24.0	18.50	30.47
Obese (>+2sd)	97	18096	27.8	21.70	34.81
Height-for-age status (HAZ)					
Stunting (<-2sd)	45	7268	21.3	15.36	28.69
Normal (≥-2sd)	665	113433	28.2	25.45	31.19

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
JOHOR	1282	225694	51.9	44.66	59.11	1263	208961	48.1	40.89	55.34
Locality of school										
Urban	975	170504	51.3	41.81	60.67	993	161955	48.7	39.33	58.19
Rural	307	55190	54.0	52.20	55.80	270	47006	46.0	44.20	47.80
Sex										
Boys	597	111707	51.4	45.66	57.02	563	105822	48.6	42.98	54.34
Girls	685	113987	52.5	41.46	63.30	700	103139	47.5	36.70	58.54
Class										
Standard 4	178	36547	69.5	59.20	78.17	73	16035	30.5	21.83	40.80
Standard 5	192	35744	66.2	51.02	78.61	99	18268	33.8	21.39	48.98
Standard 6	162	32029	60.7	50.25	70.31	107	20713	39.3	29.69	49.75
Form 1	184	32172	55.5	47.86	62.92	157	25780	44.5	37.08	52.14
Form 2	185	24900	46.8	40.00	53.79	214	28268	53.2	46.21	60.00
Form 3	129	20957	38.7	29.84	48.30	213	33245	61.3	51.70	70.16
Form 4	135	19935	36.9	30.18	44.16	231	34095	63.1	55.84	69.82
Form 5	117	23411	41.8	32.90	51.33	169	32558	58.2	48.67	67.10
Ethnicity										
Malay	1018	181327	55.5	48.20	62.51	862	145578	44.5	37.49	51.80
Chinese	168	28507	35.0	23.53	48.43	336	53027	65.0	51.57	76.47
Indian	73	11967	63.5	51.89	73.73	45	6878	36.5	26.27	48.11
Bumiputera Sabah	8	1340	59.6	33.44	81.25	6	908	40.4	18.75	66.56
Bumiputera Sarawak	9	1615	43.9	32.08	56.36	11	2068	56.1	43.64	67.92
Others	6	937	65.1	39.18	84.40	3	502	34.9	15.60	60.82
School level										
Primary	532	104320	65.5	55.92	73.92	279	55015	34.5	26.08	44.08
Secondary	750	121374	44.1	39.02	49.27	984	153946	55.9	50.73	60.98
BMI-for-age status (BAZ)										
Thinness (<-2sd)	71	12388	50.2	39.27	61.03	68	12309	49.8	38.97	60.73
Normal (≥-2sd - ≤+1sd)	836	147160	52.6	44.14	60.82	818	132864	47.4	39.18	55.86
Overweight (>+1sd - ≤+2sd)	173	30272	47.1	37.86	56.56	207	33992	52.9	43.44	62.14
Obese (>+2sd)	199	35439	54.6	46.79	62.12	168	29508	45.4	37.88	53.21
Height-for-age status (HAZ)										
Stunting (<-2sd)	119	20986	61.7	52.11	70.42	77	13038	38.3	29.58	47.89
Normal (≥-2sd)	1162	204547	51.1	43.78	58.36	1185	195792	48.9	41.64	56.22

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 Lower	95% CI Upper	Unweighted count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	1702	293775	67.7	61.80	73.06	839	140257	32.3	26.94	38.20
Locality of school										
Urban	1315	225999	68.0	60.49	74.68	651	106349	32.0	25.32	39.51
Rural	387	67776	66.7	60.84	72.00	188	33909	33.3	28.00	39.16
Sex										
Boys	770	143500	65.9	60.51	70.93	392	74217	34.1	29.07	39.49
Girls	932	150275	69.5	61.58	76.37	447	66040	30.5	23.63	38.42
Class										
Standard 4	196	40889	77.2	67.49	84.71	57	12059	22.8	15.29	32.51
Standard 5	234	43745	81.3	72.12	88.03	56	10029	18.7	11.97	27.88
Standard 6	209	41201	77.4	70.80	82.95	62	11997	22.6	17.05	29.20
Form 1	230	39139	68.0	62.34	73.17	109	18424	32.0	26.83	37.66
Form 2	263	34964	65.9	57.69	73.27	135	18084	34.1	26.73	42.31
Form 3	209	33442	62.0	55.18	68.39	131	20490	38.0	31.61	44.82
Form 4	203	29693	55.0	48.50	61.25	163	24337	45.0	38.75	51.50
Form 5	158	30702	55.3	47.36	62.94	126	24837	44.7	37.06	52.64
Ethnicity										
Malay	1322	231788	71.1	64.94	76.49	554	94404	28.9	23.51	35.06
Chinese	259	42657	52.3	38.80	65.40	245	38966	47.7	34.60	61.20
Indian	92	14391	76.4	61.81	86.57	26	4455	23.6	13.43	38.19
Bumiputera Sabah	10	1614	71.8	41.24	90.20	4	635	28.2	9.80	58.76
Bumiputera Sarawak	13	2350	63.8	48.37	76.82	7	1334	36.2	23.18	51.63
Others	6	975	67.8	31.95	90.40	3	464	32.2	9.60	68.05
School level										
Primary	639	125835	78.7	73.05	83.41	175	34085	21.3	16.59	26.95
Secondary	1063	167940	61.3	57.13	65.25	664	106172	38.7	34.75	42.87
BMI-for-age status (BAZ)										
Thinness (<-2sd)	89	15576	63.1	53.75	71.50	50	9122	36.9	28.50	46.25
Normal (≥-2sd - ≤+1sd)	1101	189748	67.9	61.45	73.65	550	89884	32.1	26.35	38.55
Overweight (>+1sd - ≤+2sd)	261	44451	69.2	61.55	75.87	119	19812	30.8	24.13	38.45
Obese (>+2sd)	247	43433	67.1	59.35	74.04	119	21282	32.9	25.96	40.65
Height-for-age status (HAZ)										
Stunting (<-2sd)	134	23418	69.2	60.61	76.70	61	10406	30.8	23.30	39.39
Normal (≥-2sd)	1566	270064	67.5	61.60	72.95	778	129851	32.5	27.05	38.40

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

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3.6.1 Introduction

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

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

3.6.2 Objectives

General objective

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

Specific objective

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

3.6.3 Findings

The prevalence of vitamin/minerals and food supplements intake among adolescence in Johor was 46.1% (95% CI: 38.15, 54.18) **(Table 3.6.1)** and 31.9% (95% CI: 26.19, 38.18) **(Table 3.6.5)**. There was no significant difference of intake prevalence between the genders, ethnicity, school class and localities. In average, the vitamin/mineral and food supplements were consumed every day by 18.9% (95% CI 15.23, 23.17) and 13.6 % (95% CI 9.95, 18.32) of adolescents respectively **(Table 3.6.4** and **Table 3.6.8).** The most commonly consumed vitamin/minerals and food supplements were Vitamin C, 39.7% (95% CI: 32.98, 46.80) **(Table 3.6.2)** and Bee Product 19.8% (95% CI: 13.89, 27.46) **(Table 3.6.6)**. The main reason for taking vitamin/minerals and food supplements was due to parent's advice which, 46.3% (95% CI: 42.50, 50.20) **(Table 3.6.3)** and 33.3% (95% CI: 29.90, 36.90) **(Table 3.6.7)**.

3.6.4 Discussions

The prevalence of vitamin / mineral intake among adolescence in Johor was slightly higher than national prevalence which, 44.7% (95% CI: 42.49, 46.91) but slightly lesser than national for food supplement intake which, 30.6% (95% CI: 28.90, 32.43). The consumption of Vitamin C and Bee Product were significantly higher compared with the other types of vitamin/mineral and food supplement. The similar finding was consistent with the national finding. Survey showed that parent's advise was the main and significant reason for taking vitamin/mineral and food supplements among adolescents in Johor. It suggests the parents as strong influencer for food supplement and vitamin intake of the children.

3.6.5 Conclusions

Overall findings from this survey showed that almost half of Johor adolescents consumed vitamin / mineral and almost one-third of them consumed food supplements. Approximately, every five and three of ten parents influenced the children's vitamin/ mineral and food supplements intake. Vitamin C and Bee product remain as the main type of vitamin and food supplement consumed by adolescents in Johor.

3.6.6 Recommendation

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

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

Characteristics	Taking vitamin / mineral supplemet					Not taking vitamin / mineral supplemet				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	1135	201605	46.1	38.15	54.18	1421	236064	53.9	45.82	61.85
Locality of School										
Urban	894	156916	46.8	37.35	56.42	1085	178610	53.2	43.58	62.65
Rural	241	44690	43.8	31.32	57.02	336	57454	56.2	42.98	68.68
Sex										
Boys	574	109112	49.6	41.57	57.59	596	111025	50.4	42.41	58.43
Girls	561	92494	42.5	34.15	51.34	825	125039	57.5	48.66	65.85
Class										
Standard 4	178	37899	69.3	54.14	81.14	80	16820	30.7	18.86	45.86
Standard 5	182	34336	63.2	50.91	74.05	111	19962	36.8	25.95	49.09
Standard 6										
Remove class										
Form 1	157	27096	46.9	41.44	52.47	183	30656	53.1	47.53	58.56
Form 2	163	22044	41.4	35.48	47.49	237	31262	58.6	52.51	64.52
Form 3	117	18856	34.8	29.59	40.38	225	35346	65.2	59.62	70.41
Form 4	128	19128	35.4	29.25	42.08	238	34901	64.6	57.92	70.75
Form 5	64	12509	22.4	18.18	27.27	221	43345	77.6	72.73	81.82
Ethnicity										
Malay	889	161430	49.1	40.08	58.13	998	167498	50.9	41.87	59.92
Chinese	162	26398	31.9	28.13	35.95	347	56325	68.1	64.05	71.87
Indian	59	9623	51.6	40.41	62.64	58	9024	48.4	37.36	59.59
Bumiputera Sabah	7	1007	44.8	10.10	85.40	7	1242	55.2	14.60	89.90
Bumiputera Sarawak	12	2165	58.8	38.35	76.57	8	1518	41.2	23.43	61.65
Others	6	982	68.2	32.57	90.53	3	457	31.8	9.47	67.43
BMI-for age status (BAZ)										
Thinness (<-2sd)	63	7352	34.0	55.73	11.82	77	9796	44.3	66.00	9.52
Normal (≥-2sd - ≤+1sd)	750	96574	39.3	54.52	7.84	912	132246	45.5	60.73	6.90
Overweight (>+1sd - ≤+2sd)	159	18364	33.9	53.37	10.88	222	31338	46.6	66.13	8.33
Obese (>+2sd)	159	16580	34.4	57.28	12.18	208	30114	42.7	65.57	10.22
Height-for-age status (HAZ)										
Stunting (<-2sd)	99	9404	39.8	64.19	11.42	98	13457	35.8	60.22	12.43
Normal (≥-2sd)	1035	133621	38.0	53.36	8.15	1322	195251	46.6	62.05	6.82

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

Characteristics	Multivitamin					Vitamin C				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	148	26075	6.0	5.05	7.12	962	172318	39.7	32.98	46.80
Locality of School										
Urban	116	20205	6.1	5.18	7.10	749	132747	39.9	31.56	48.83
Rural	32	5870	5.8	3.38	9.77	213	39571	39.1	31.46	47.21
Sex										
Boys	79	15143	6.9	5.40	8.88	483	93308	42.8	35.57	50.33
Girls	69	10932	5.1	4.04	6.32	479	79010	36.6	29.50	44.24
Class										
Standard 4	19	4118	7.5	5.15	10.87	149	32078	58.6	49.39	67.29
Standard 5	25	4483	8.3	5.90	11.43	161	30154	55.5	43.62	66.84
Standard 6	16	3270	6.1	4.55	8.26	122	24715	46.5	39.68	53.40
Remove class										
Form 1	21	3781	6.6	3.36	12.51	147	25077	43.7	37.26	50.38
Form 2	20	2657	5.0	3.13	7.99	132	17956	34.0	28.45	40.09
Form 3	12	1893	3.6	1.64	7.57	95	15317	28.9	24.36	33.86
Form 4	24	3624	6.8	4.86	9.46	95	14403	27.1	21.82	33.01
Form 5	11	2249	4.0	1.89	8.46	61	12617	22.7	14.94	32.95
Ethnicity										
Malay	94	17102	5.2	4.18	6.55	771	140700	43.1	35.94	50.55
Chinese	37	6241	7.6	5.84	9.88	133	21903	26.7	19.88	34.89
Indian	12	1876	10.2	4.56	21.30	39	6576	35.8	27.35	45.20
Bumiputera Sabah	4	718	31.9	17.69	50.62	5	665	29.6	9.68	62.14
Bumiputera Sarawak	1	138	3.7	0.74	16.82	10	1857	50.4	29.60	71.09
Others	4	617	11.5	1.86	47.18	1	166	13.8	1.48	63.09
BMI-for age status (BAZ)										
Thinness (<-2sd)	11	1810	7.3	2.62	18.55	55	10209	40.9	30.51	52.27
Normal (≥ - 2sd - ≤+ 1sd)	89	15800	5.6	4.58	6.95	644	114369	40.9	34.20	47.95
Overweight (> +1sd - ≤+ 2sd)	21	3827	6.0	3.59	9.90	128	22784	35.8	28.38	43.93
Obese (> + 2sd)	26	4502	6.9	4.53	10.48	133	24687	38.0	29.75	47.11
Height-for - age status (HAZ)										
Stunting (<-2sd)	7	1331	3.9	1.68	8.87	84	15562	45.8	32.23	59.97
Normal (≥-2sd)	141	24744	6.2	5.17	7.39	877	156625	39.2	32.83	45.89

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

Characteristics	Iron					Others				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	118	21896	5.0	3.48	7.25	136	22898	5.3	4.11	6.74
Locality of School										
Urban	92	17036	5.1	3.26	7.95	102	16794	5.0	3.73	6.79
Rural	26	4860	4.8	2.87	7.90	34	6105	6.0	4.12	8.74
Sex										
Boys	81	15636	7.2	4.68	10.84	70	12131	5.6	3.93	7.83
Girls	37	6260	2.9	2.05	4.08	66	10767	5.0	3.50	7.04
Class										
Standard 4	20	4629	8.5	5.31	13.21	21	4394	8.0	4.13	15.04
Standard 5	27	5092	9.4	8.02	10.94	14	2074	3.8	1.53	9.21
Standard 6	22	4310	8.1	5.11	12.61	16	2904	5.5	2.77	10.49
Remove class										
Form 1	6	1121	2.0	0.81	4.65	17	2925	5.1	3.31	7.76
Form 2	24	3387	6.4	3.97	10.23	20	2731	5.2	3.19	8.29
Form 3	4	654	1.2	0.39	3.78	20	3248	6.1	3.53	10.42
Form 4	11	1801	3.4	1.70	6.63	18	2707	5.1	3.45	7.44
Form 5	4	902	1.6	0.49	5.20	10	1915	3.4	1.92	6.11
Ethnicity										
Malay	100	18804	5.8	3.96	8.31	102	17324	5.3	3.87	7.24
Chinese	10	1718	2.1	0.82	5.27	23	3838	4.7	3.08	7.07
Indian	5	882	4.8	1.31	16.11	8	1230	6.7	2.39	17.35
Bumiputera Sabah	1	156	7.0	0.64	46.49					
Bumiputera Sarawak	1	170	4.6	0.96	19.47	2	308	8.4	5.67	12.16
Others	1	199	31.8	9.47	67.43	3	457	100.0	100.00	100.00
BMI-for age status (BAZ)										
Thinness (<-2sd)	6	1248	5.0	2.16	11.17	5	974	3.9	1.25	11.54
Normal (≥ - 2sd - ≤+ 1sd)	70	12700	4.5	3.26	6.29	97	16215	5.8	4.34	7.70
Overweight (> +1sd - ≤+ 2sd)	22	4112	6.5	3.49	11.64	19	3165	5.0	2.68	9.05
Obese (> + 2sd)	19	3532	5.4	2.96	9.80	14	2388	3.7	2.00	6.68
Height-for - age status (HAZ)										
Stunting (<-2sd)	8	1178	3.5	1.59	7.39	11	1872	5.5	2.77	10.64
Normal (≥-2sd)	110	20718	5.2	3.45	7.71	125	21026	5.3	4.07	6.77

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

Characteristics	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	165	30864	15.4	12.56	18.71	535	92985	46.3	42.52	50.22
Locality of School										
Urban	119	21893	14.0	10.95	17.83	445	76748	49.2	45.89	52.55
Rural	46	8971	20.1	15.35	25.80	90	16237	36.3	31.89	41.02
Sex										
Boys	90	17980	16.5	13.04	20.71	238	44993	41.3	35.59	47.35
Girls	75	12884	14.0	11.23	17.40	297	47992	52.3	48.79	55.74
Class										
Standard 4	45	10605	28.0	17.57	41.46	74	14747	38.9	30.27	48.31
Standard 5	34	5890	17.4	8.39	32.75	84	17043	50.5	36.18	64.67
Standard 6	14	2522	8.5	4.73	14.91	75	14649	49.5	40.40	58.71
Remove class										
Form 1	29	5192	19.3	12.52	28.44	76	13036	48.3	37.52	59.33
Form 2	16	2218	10.1	7.10	14.08	80	10672	48.4	39.35	57.58
Form 3	14	2275	12.1	7.09	19.77	52	8208	43.5	31.91	55.91
Form 4	8	1180	6.2	3.02	12.33	66	9550	50.3	41.16	59.33
Form 5	5	982	7.8	3.34	17.37	28	5079	40.6	27.00	55.81
Ethnicity										
Malay	137	26433	16.4	13.46	19.95	408	72355	45.0	41.55	48.55
Chinese	16	2606	9.9	7.13	13.63	87	13595	51.8	42.66	60.73
Indian	10	1530	16.1	5.98	36.68	29	5005	52.7	32.23	72.28
Bumiputera Sabah	1	130	12.9	1.93	52.58	2	283	28.1	7.37	65.78
Bumiputera Sarawak	1	166	7.7	0.76	47.23	5	1041	48.1	25.50	71.51
Others						4	704	71.7	24.47	95.21
BMI-for age status (BAZ)										
Thinness (<-2sd)	8	1265	11.4	5.11	23.43	30	5179	46.6	34.46	59.08
Normal (≥ - 2sd - ≤+ 1sd)	115	21737	16.5	13.23	20.48	354	60776	46.3	41.41	51.17
Overweight (> +1sd - ≤+ 2sd)	19	3534	12.8	8.81	18.20	63	10883	39.4	32.73	46.46
Obese (> + 2sd)	21	4034	13.6	6.99	24.68	86	15712	52.8	44.52	61.01
Height-for - age status (HAZ)										
Stunting (<-2sd)	18	3297	18.5	13.79	24.41	50	8591	48.3	37.86	58.81
Normal (≥-2sd)	147	27567	15.1	12.02	18.78	484	84262	46.1	42.31	49.98

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

Characteristics	Self awareness					Influences by friends				
	Count	Estimated	Prevalence	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Johor	325	57152	28.5	25.68	31.47	26	5570	2.8	1.78	4.30
Locality of School										
Urban	243	42170	27.0	24.26	30.02	19	4205	2.7	1.53	4.70
Rural	82	14982	33.5	28.44	39.02	7	1365	3.1	1.77	5.21
Sex										
Boys	189	34952	32.1	28.01	36.53	18	3928	3.6	2.43	5.33
Girls	136	22200	24.2	22.04	26.46	8	1642	1.8	0.66	4.75
Class										
Standard 4	38	7922	20.9	16.24	26.48	8	2188	5.8	2.99	10.85
Standard 5	51	9024	26.7	20.61	33.86	1	233	0.7	0.08	5.50
Standard 6	43	9146	30.9	24.78	37.84	2	639	2.2	0.44	9.94
Remove class										
Form 1	40	7019	26.0	21.40	31.26	2	334	1.2	0.30	4.95
Form 2	53	7255	32.9	22.64	45.12	6	832	3.8	1.62	8.52
Form 3	38	6243	33.1	20.32	49.01	2	331	1.8	0.22	12.55
Form 4	39	5910	31.1	22.29	41.53	4	708	3.7	1.52	8.85
Form 5	23	4634	37.0	27.89	47.23	1	305	2.4	0.32	16.23
Ethnicity										
Malay	259	46272	28.8	25.91	31.86	23	5054	3.1	1.94	5.06
Chinese	42	7279	27.7	20.00	37.02	2	346	1.3	0.48	3.59
Indian	14	2048	21.6	9.70	41.28	1	170	1.8	0.28	10.67
Bumiputera Sabah	4	594	59.0	17.67	90.61					
Bumiputera Sarawak	4	682	31.5	16.92	50.95					
Others	2	277	28.3	4.79	75.53					
BMI-for age status (BAZ)										
Thinness (<-2sd)	17	3069	27.6	17.07	41.37	1	189	1.7	0.20	13.08
Normal (≥ - 2sd - ≤+ 1sd)	208	35816	27.3	22.65	32.41	15	3244	2.5	1.48	4.08
Overweight (> +1sd - ≤+ 2sd)	57	10052	36.4	30.10	43.15	7	1216	4.4	1.80	10.35
Obese (> + 2sd)	43	8215	27.6	21.80	34.33	3	922	3.1	0.74	12.06
Height-for - age status (HAZ)										
Stunting (<-2sd)	17	3169	17.8	10.03	29.59	4	912	5.1	1.62	15.09
Normal (≥-2sd)	308	53984	29.55	26.54	32.75	22	4658	2.5	1.71	3.79

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

Characteristics	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	50	8788	4.4	3.42	5.59
Locality of School					
Urban	39	6697	4.3	3.25	5.66
Rural	11	2091	4.7	2.88	7.52
Sex					
Boys	23	3964	3.6	2.19	6.01
Girls	27	4824	5.3	4.08	6.74
Class					
Standard 4	7	1200	3.2	1.84	5.39
Standard 5	7	1300	3.8	2.28	6.43
Standard 6	8	1767	6.0	2.73	12.59
Remove class					
Form 1	5	787	2.9	1.20	6.93
Form 2	6	790	3.6	1.13	10.75
Form 3	7	1184	6.3	2.98	12.72
Form 4	6	987	5.2	2.59	10.14
Form 5	4	774	6.2	2.72	13.49
Ethnicity					
Malay	40	7119	4.4	3.40	5.76
Chinese	7	1246	4.7	2.31	9.49
Indian	2	285	3.0	0.79	10.71
Bumiputera Sabah					
Bumiputera Sarawak	1	138	6.4	1.58	22.41
Others					
BMI-for age status (BAZ)					
Thinness (<-2sd)	4	697	6.3	2.12	17.08
Normal (≥ - 2sd - ≤+ 1sd)	36	6398	4.9	3.64	6.48
Overweight (> +1sd - ≤+ 2sd)	7	1298	4.7	2.12	10.10
Obese (> + 2sd)	3	396	1.3	0.42	4.16
Height-for - age status (HAZ)					
Stunting (<-2sd)	7	1195	6.7	2.65	15.97
Normal (≥-2sd)	43	7594	4.2	3.29	5.24

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

Characteristics	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	462	81832	18.9	15.23	23.17	213	38303	8.8	6.80	11.41
Locality of School										
Urban	378	66396	20.0	15.71	25.06	167	29736	8.9	6.55	12.10
Rural	84	15436	15.3	10.80	21.18	46	8566	8.5	5.40	13.07
Sex										
Boys	221	42650	19.6	15.78	24.05	120	22239	10.2	7.88	13.14
Girls	241	39182	18.2	14.15	23.02	93	16064	7.4	5.13	10.70
Class										
Standard 4	89	18563	33.9	26.71	41.97	40	9471	17.3	10.14	27.97
Standard 5	75	13664	25.2	20.52	30.59	40	6444	11.9	5.90	22.54
Standard 6	59	12208	23.0	19.23	27.15	29	5575	10.5	7.05	15.31
Remove class										
Form 1	64	10728	18.8	15.15	23.00	27	4732	8.3	5.65	11.97
Form 2	68	9222	17.5	12.96	23.28	33	4540	8.6	5.77	12.72
Form 3	41	6681	12.6	9.36	16.84	16	2606	4.9	2.91	8.23
Form 4	46	6917	13.0	9.74	17.21	16	2447	4.6	2.49	8.36
Form 5	20	3849	6.9	4.31	10.94	12	2489	4.5	2.17	9.03
Ethnicity										
Malay	349	63084	19.4	15.10	24.50	164	29761	9.1	6.77	12.22
Chinese	75	12486	15.2	10.46	21.66	31	5663	6.9	4.90	9.66
Indian	31	5207	28.3	19.44	39.32	12	1796	9.8	4.77	18.98
Bumiputera Sabah	3	457	20.3	9.08	39.39	2	360	16.0	5.31	39.31
Bumiputera Sarawak	3	458	12.4	3.49	35.78	3	525	14.2	7.42	25.61
Others	1	140	9.7	1.01	53.32	1	199	13.8	1.48	63.09
BMI-for age status (BAZ)										
Thinness (<-2sd)	24	2135	11.8	24.43	17.54	13	916	5.5	15.89	25.28
Normal (≥ - 2sd - ≤+ 1sd)	310	36186	15.4	25.07	11.60	149	16106	7.1	12.69	14.00
Overweight (> +1sd - ≤+ 2sd)	62	6890	12.7	21.36	12.42	18	1567	3.3	7.30	19.12
Obese (> + 2sd)	64	5907	12.4	24.39	16.28	33	3033	6.6	13.70	17.32
Height-for - age status (HAZ)										
Stunting (<-2sd)	40	3733	16.2	27.96	13.07	20	1346	6.7	16.44	21.47
Normal (≥-2sd)	421	51491	15.0	22.86	10.02	193	22303	6.7	11.19	12.23

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

Characteristics	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	224	40409	9.3	7.51	11.52	386	68524	15.8	13.39	18.58
Locality of School										
Urban	172	30523	9.2	7.06	11.87	282	49550	14.9	11.99	18.38
Rural	52	9886	9.8	6.83	13.82	104	18974	18.8	15.71	22.29
Sex										
Boys	125	24653	11.3	8.03	15.73	202	38202	17.5	14.80	20.68
Girls	99	15756	7.3	5.66	9.38	184	30322	14.1	11.12	17.62
Class										
Standard 4	34	7870	14.4	10.33	19.67	39	7879	14.4	11.62	17.71
Standard 5	40	7775	14.4	11.01	18.50	63	12669	23.4	15.84	33.13
Standard 6	27	5337	10.0	6.94	14.29	46	8799	16.5	12.17	22.09
Remove class										
Form 1	28	4995	8.7	5.59	13.40	55	9649	16.9	12.49	22.41
Form 2	34	4629	8.8	6.08	12.56	53	7183	13.7	10.00	18.37
Form 3	18	2859	5.4	3.37	8.57	47	7596	14.4	10.87	18.75
Form 4	31	4703	8.9	5.11	14.93	47	6989	13.2	9.75	17.53
Form 5	12	2239	4.0	2.09	7.63	36	7759	14.0	6.41	27.78
Ethnicity										
Malay	179	33191	10.2	8.14	12.69	313	56859	17.5	15.13	20.07
Chinese	30	4742	5.8	3.52	9.36	50	7937	9.7	7.67	12.15
Indian	11	1776	9.7	4.46	19.70	12	1879	10.2	4.83	20.33
Bumiputera Sabah	2	316	14.1	2.56	50.43	3	407	18.1	7.37	37.96
Bumiputera Sarawak	2	383	10.4	6.00	17.42	4	800	21.7	13.98	32.11
Others						4	643	44.7	13.99	80.06
BMI-for age status (BAZ)										
Thinness (<-2sd)	21	1509	8.9	28.86	28.28	15	1133	6.2	17.65	25.15
Normal (≥ - 2sd - ≤+ 1sd)	136	17710	7.1	9.54	6.91	255	34215	13.6	18.84	7.77
Overweight (> +1sd - ≤+ 2sd)	36	3834	7.7	15.33	16.63	62	5742	12.1	25.40	17.87
Obese (> + 2sd)	30	1617	5.3	16.17	26.57	54	5855	10.6	20.94	16.21
Height-for - age status (HAZ)										
Stunting (<-2sd)	21	1668	7.6	15.47	17.05	26	2663	9.3	18.65	16.68
Normal (≥-2sd)	203	24739	7.4	11.38	10.31	360	47658	13.6	18.85	7.86

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

Characteristics	Taking food supplemet					Not taking food supplement				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	784	138620	31.9	26.19	38.18	1757	296098	68.1	61.82	73.81
Locality of School										
Urban	624	108819	32.6	25.76	40.23	1347	225174	67.4	59.77	74.24
Rural	160	29801	29.6	21.80	38.77	410	70924	70.4	61.23	78.20
Sex										
Boys	160	29801	29.6	21.80	38.77	410	70924	70.4	61.23	78.20
Girls	382	62614	28.9	23.20	35.32	1000	154154	71.1	64.68	76.80
Class										
Standard 4	113	23914	44.2	39.00	49.56	142	30176	55.8	50.44	61.00
Standard 5	149	28209	52.0	44.59	59.23	144	26089	48.0	40.77	55.41
Standard 6	103	20167	38.2	30.50	46.60	165	32591	61.8	53.40	69.50
Remove class										
Form 1	93	15956	27.6	23.62	32.04	247	41796	72.4	67.96	76.38
Form 2	114	15208	28.6	23.83	33.90	285	37960	71.4	66.10	76.17
Form 3	72	11708	21.7	17.45	26.58	269	42324	78.3	73.42	82.55
Form 4	89	13505	25.1	19.87	31.28	275	40203	74.9	68.72	80.13
Form 5	51	9952	18.1	13.73	23.54	230	44960	81.9	76.46	86.27
Ethnicity										
Malay	597	107987	33.1	26.31	40.74	1275	217990	66.9	59.26	73.69
Chinese	138	22702	27.4	23.85	31.36	371	60021	72.6	68.64	76.15
Indian	30	4821	25.9	18.67	34.62	87	13825	74.1	65.38	81.33
Bumiputera Sabah	4	572	25.5	5.34	67.40	10	1676	74.5	32.60	94.66
Bumiputera Sarawak	10	1753	47.6	33.32	62.29	10	1930	52.4	37.71	66.68
Others	5	783	54.4	20.88	84.39	4	656	45.6	15.61	79.12
BMI-for age status (BAZ)										
Thinness (<-2sd)	49	5409	26.1	44.30	12.67	91	12385	55.7	73.89	6.72
Normal (≥ - 2sd - ≤+ 1sd)	498	60494	25.4	37.58	9.41	1152	174710	62.4	74.64	4.26
Overweight (> +1sd - ≤+ 2sd)	123	13795	25.6	42.75	12.30	255	36375	57.2	74.42	6.23
Obese (> + 2sd)	113	13104	26.7	38.65	8.88	254	37059	61.3	73.34	4.25
Height-for - age status (HAZ)										
Stunting (<-2sd)	66	5887	25.8	45.68	13.72	126	17243	54.3	74.23	7.41
Normal (≥-2sd)	718	90361	26.2	37.66	8.68	1629	250678	62.3	73.81	4.02

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

Characteristics	Spirulina					Fish oil				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	106	19742	4.6	2.84	7.30	219	39390	9.1	7.90	10.56
Locality of School										
Urban	91	16470	5.0	2.93	8.34	169	30327	9.2	7.60	11.02
Rural	15	3272	3.3	1.42	7.32	50	9063	9.1	8.09	10.11
Sex										
Boys	63	12423	5.7	3.50	9.24	127	24556	11.3	9.72	13.17
Girls	43	7319	3.4	2.01	5.76	92	14834	6.9	5.31	8.98
Class										
Standard 4	18	4439	8.1	4.66	13.76	34	7411	13.5	10.89	16.73
Standard 5	34	6210	11.5	7.62	16.97	29	5068	9.4	6.70	12.98
Standard 6	10	2269	4.3	1.62	10.71	24	4924	9.2	6.75	12.49
Remove class										
Form 1	12	2043	3.6	1.83	6.96	32	5587	9.8	6.54	14.57
Form 2	10	1514	2.9	1.11	7.46	31	4229	8.1	5.82	11.29
Form 3	5	778	1.5	0.58	3.73	19	3069	5.8	4.20	8.05
Form 4	16	2339	4.5	1.99	9.69	32	5091	9.7	6.58	14.06
Form 5	1	150	0.3	0.03	2.10	18	4013	7.3	3.52	14.46
Ethnicity										
Malay	83	16080	5.0	2.87	8.43	146	27069	8.3	6.97	9.97
Chinese	12	1767	2.2	1.30	3.62	51	8774	10.8	8.81	13.22
Indian	7	1289	7.1	3.14	15.32	17	2738	15.1	7.96	26.80
Bumiputera Sabah	3	436	19.4	3.05	64.85	3	515	22.9	10.63	42.55
Bumiputera Sarawak	1	170	4.6	0.96	19.47	1	157	4.3	0.39	33.62
Others						1	137	9.6	1.38	44.29
BMI-for age status (BAZ)										
Thinness (<-2sd)	8	1912	7.8	3.09	18.45	12	2242	9.2	4.18	18.95
Normal (≥ - 2sd - ≤+ 1sd)	69	12885	4.6	2.53	8.34	140	24130	8.7	7.01	10.72
Overweight (> +1sd - ≤+ 2sd)	10	1517	2.4	1.32	4.40	28	6131	9.8	5.06	18.09
Obese (> + 2sd)	19	3428	5.3	3.83	7.21	38	6750	10.4	7.70	13.85
Height-for - age status (HAZ)										
Stunting (<-2sd)	15	2827	8.3	5.07	13.35	15	2513	7.4	3.89	13.59
Normal (≥-2sd)	91	16915	4.3	2.65	6.79	204	36877	9.3	7.97	10.82

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

Characteristics	Bee Product					Chicken essence				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	471	85385	19.8	13.89	27.46	110	19348	4.5	3.55	5.66
Locality of School										
Urban	373	67517	20.4	13.13	30.31	85	14835	4.5	3.33	6.02
Rural	98	17868	17.8	13.27	23.56	25	4513	4.5	3.63	5.58
Sex										
Boys	227	43061	19.9	13.91	27.56	60	11235	5.2	4.01	6.68
Girls	244	42323	19.8	13.47	28.04	50	8113	3.8	2.79	5.12
Class										
Standard 4	89	18646	34.1	24.45	45.22	14	3342	6.1	3.84	9.57
Standard 5	93	17637	32.6	23.01	44.00	24	4056	7.5	4.89	11.35
Standard 6	72	14779	27.7	16.99	41.75	9	1615	3.0	1.29	6.94
Remove class										
Form 1	52	9193	16.2	12.30	21.05	14	2631	4.6	2.56	8.25
Form 2	66	8788	16.9	11.84	23.61	19	2699	5.2	2.73	9.66
Form 3	36	5902	11.2	7.99	15.56	10	1685	3.2	1.73	5.86
Form 4	40	5937	11.3	8.50	14.89	12	1790	3.4	2.16	5.34
Form 5	23	4504	8.2	5.05	12.97	8	1530	2.8	1.55	4.93
Ethnicity										
Malay	413	75837	23.4	17.08	31.13	70	12684	3.9	3.04	5.02
Chinese	39	6064	7.5	5.58	9.95	31	5199	6.4	3.90	10.36
Indian	14	2523	13.9	7.83	23.56	5	786	4.3	1.62	11.13
Bumiputera Sabah	1	180	8.0	2.14	25.66	0	0	0.0	0.00	0.00
Bumiputera Sarawak	2	411	11.2	3.25	31.89	3	569	15.4	6.92	30.98
Others	2	370	25.7	6.74	62.31	1	110	7.7	0.78	46.70
BMI-for age status (BAZ)										
Thinness (<-2sd)	28	5206	21.3	13.19	32.55	4	747	3.1	0.86	10.31
Normal (≥ - 2sd - ≤+ 1sd)	311	55807	20.1	14.00	27.97	74	12660	4.6	3.48	5.95
Overweight (> +1sd - ≤+ 2sd)	69	12114	19.3	14.29	25.64	16	2877	4.6	2.54	8.16
Obese (> + 2sd)	62	11954	18.4	11.92	27.25	15	2927	4.5	2.68	7.46
Height-for - age status (HAZ)										
Stunting (<-2sd)	44	8142	23.9	14.18	37.49	5	745	2.2	0.72	6.50
Normal (≥-2sd)	427	77243	19.5	13.86	26.66	105	18604	4.7	3.63	6.04

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

Characteristics		Others			
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	196	34750	8.1	6.45	10.04
Locality of School					
Urban	155	27227	8.2	6.52	10.34
Rural	41	7524	7.5	4.16	13.21
Sex					
Boys	109	21021	9.7	7.42	12.58
Girls	87	13729	6.4	4.78	8.55
Class					
Standard 4	35	7721	14.1	9.49	20.47
Standard 5	28	5253	9.7	7.98	11.79
Standard 6	23	4020	7.5	4.02	13.68
Remove class					
Form 1	27	4629	8.2	4.88	13.34
Form 2	29	3915	7.5	4.26	13.00
Form 3	22	3603	6.9	3.61	12.63
Form 4	18	2849	5.4	3.76	7.77
Form 5	14	2759	5.0	3.05	8.11
Ethnicity					
Malay	138	24810	7.6	5.91	9.85
Chinese	43	7382	9.1	6.65	12.34
Indian	7	1210	6.7	2.97	14.35
Bumiputera Sabah	1	154	6.8	1.85	61.84
Bumiputera Sarawak	5	829	22.5	5.05	61.35
Others	2	364	25.3	6.85	67.43
BMI-for age status (BAZ)					
Thinness (<-2sd)	12	1907	7.8	4.34	13.63
Normal (≥ - 2sd - ≤+ 1sd)	125	22418	8.1	6.41	10.11
Overweight (> +1sd - ≤+ 2sd)	32	5390	8.6	5.74	12.70
Obese (> + 2sd)	27	5035	7.7	5.41	10.97
Height-for - age status (HAZ)					
Stunting (<-2sd)	16	2844	8.4	5.17	13.26
Normal (≥-2sd)	180	31906	8.0	6.35	10.14

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

Characteristics	Doctor's Instruction					Parents' advice				
	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	95% CI Upper
Johor	118	23281	11.7	8.49	15.84	376	66441	33.3	29.91	36.89
Locality of School										
Urban	96	18806	12.1	8.64	16.79	306	53577	34.6	31.36	37.94
Rural	22	4475	10.0	4.68	20.27	70	12864	28.9	21.64	37.42
Sex										
Boys	75	15674	14.5	10.03	20.54	196	36637	33.9	29.27	38.90
Girls	43	7607	8.3	5.94	11.52	180	29804	32.6	28.73	36.69
Class										
Standard 4	33	7904	21.2	12.36	33.97	67	13257	35.6	26.83	45.45
Standard 5	28	4935	14.4	9.10	21.96	73	13757	40.1	37.20	43.00
Standard 6	10	2314	7.8	2.83	19.64	46	8854	29.8	22.56	38.16
Remove class										
Form 1	17	3291	12.3	6.93	20.94	53	9404	35.2	25.52	46.23
Form 2	14	2134	9.7	3.33	25.26	47	6181	28.2	19.68	38.64
Form 3	5	781	4.2	1.56	10.87	33	5463	29.5	19.18	42.35
Form 4	8	1296	6.9	2.73	16.34	42	6488	34.5	27.48	42.33
Form 5	3	626	5.1	1.65	14.90	15	3037	24.9	15.27	37.98
Ethnicity										
Malay	99	20014	12.5	8.94	17.25	292	52372	32.7	28.48	37.32
Chinese	10	1699	6.6	3.92	10.78	58	9463	36.5	30.59	42.94
Indian	8	1441	15.2	7.49	28.31	17	2850	30.0	21.26	40.52
Bumiputera Sabah	1	127	12.6	1.89	51.78	2	286	28.4	7.47	66.10
Bumiputera Sarawak						5	1041	48.1	25.50	71.51
Others						2	428	43.6	15.77	76.17
BMI-for age status (BAZ)										
Thinness (<-2sd)	8	1350	12.8	7.09	22.01	21	3684	34.9	23.32	48.63
Normal (≥ - 2sd - ≤+ 1sd)	80	16141	12.3	8.17	18.05	243	42149	32.1	27.62	36.87
Overweight (> +1sd - ≤ 2sd)	12	2590	9.5	4.85	17.69	51	8990	32.9	25.42	41.35
Obese (> + 2sd)	17	3063	10.4	6.34	16.61	60	11315	38.4	31.86	45.49
Height-for - age status (HAZ)										
Stunting (<-2sd)	10	1951	11.0	5.77	19.84	36	6777	38.1	26.76	50.84
Normal (≥-2sd)	108	21330	11.7	8.56	15.91	340	59663	32.9	29.74	36.15

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

Characteristics	Self awareness					Influences by friends				
	Count	Estimated	Prevalence	95% CI		Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Johor	213	37995	19.0	16.69	21.65	32	6776	3.4	1.81	6.30
Locality of School										
Urban	161	28279	18.3	15.45	21.43	27	5739	3.7	1.83	7.34
Rural	52	9716	21.8	19.19	24.70	5	1038	2.3	0.91	5.81
Sex										
Boys	106	20141	18.6	15.53	22.23	15	3343	3.1	1.34	6.98
Girls	107	17853	19.5	16.83	22.52	17	3433	3.8	2.10	6.63
Class										
Standard 4	28	6016	16.2	12.63	20.42	9	2269	6.1	3.21	11.26
Standard 5	41	8000	23.3	19.86	27.13	5	977	2.8	1.60	5.01
Standard 6	24	5080	17.1	13.36	21.58	9	2176	7.3	2.42	20.11
Remove class										
Form 1	27	4634	17.3	11.82	24.71	3	488	1.8	0.63	5.20
Form 2	34	4550	20.8	14.09	29.52	5	725	3.3	1.26	8.41
Form 3	21	3458	18.6	10.75	30.37					
Form 4	26	3845	20.5	15.03	27.24					
Form 5	12	2411	19.8	10.97	33.08	1	142	1.2	0.15	8.54
Ethnicity										
Malay	168	30788	19.3	16.69	22.09	26	5554	3.5	1.83	6.50
Chinese	30	4789	18.5	12.95	25.72	4	721	2.8	1.28	5.94
Indian	8	1377	14.5	7.43	26.39	1	331	3.5	0.45	22.57
Bumiputera Sabah	2	340	33.8	7.13	77.18			0.0	0.00	0.00
Bumiputera Sarawak	2	313	14.5	2.28	55.11	1	170	7.9	1.14	38.61
Others	3	388	39.5	7.91	83.22					
BMI-for age status (BAZ)										
Thinness (<-2sd)	15	2626	24.9	13.81	40.67	2	452	4.3	0.86	18.73
Normal (≥ - 2sd - ≤+ 1sd)	138	24125	18.4	15.60	21.48	19	3835	2.9	1.72	4.91
Overweight (> +1sd - ≤+ 2sd)	38	6645	24.3	19.73	29.58	3	731	2.7	0.59	11.27
Obese (> + 2sd)	22	4599	15.6	8.81	26.19	8	1759	6.0	3.51	10.00
Height-for - age status (HAZ)										
Stunting (<-2sd)	16	2719	15.3	8.97	24.78	4	760	4.3	2.01	8.83
Normal (≥-2sd)	197	35276	19.4	16.92	22.21	28	6016	3.3	1.72	6.29

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

Characteristics	Others				
	Count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
Johor	50	9041	4.5	3.17	6.43
Locality of School					
Urban	42	7725	5.0	3.47	7.11
Rural	8	1316	3.0	1.17	7.24
Sex					
Boys	30	5470	5.1	2.96	8.53
Girls	20	3571	3.9	2.40	6.30
Class					
Standard 4	13	2391	6.4	3.70	10.90
Standard 5	7	1272	3.7	2.33	5.85
Standard 6	8	1687	5.7	4.25	7.53
Remove class					
Form 1	4	697	2.6	1.05	6.31
Form 2	5	677	3.1	1.04	8.82
Form 3	4	654	3.5	0.76	14.92
Form 4	5	754	4.0	2.01	7.86
Form 5	4	909	7.5	2.45	20.57
Ethnicity					
Malay	39	7281	4.6	3.00	6.86
Chinese	6	1040	4.0	1.53	10.16
Indian	3	416	4.4	1.41	12.80
Bumiputera Sabah			0.0	0.00	0.00
Bumiputera Sarawak	2	304	14.0	4.41	36.59
Others					
BMI-for age status (BAZ)					
Thinness (<-2sd)	2	402	3.8	0.82	16.04
Normal (≥ - 2sd - ≤+ 1sd)	37	6516	5.0	3.24	7.52
Overweight (> +1sd - ≤+ 2sd)	7	1482	5.4	2.17	12.93
Obese (> + 2sd)	4	640	2.2	0.75	6.10
Height-for - age status (HAZ)					
Stunting (<-2sd)	8	1460	8.2	5.16	12.79
Normal (≥-2sd)	42	7581	4.2	2.77	6.25

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

Characteristics	Everyday					5 to 6 times per week				
	Count	Estimated population	Prevalence (%)	95% CI Lower	Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	Upper
Johor	321	58792	13.6	9.95	18.32	163	29340	6.8	5.29	8.66
Locality of School										
Urban	266	48386	14.6	10.26	20.30	131	23461	7.1	5.28	9.41
Rural	55	10407	10.4	6.51	16.09	32	5879	5.9	4.18	8.14
Sex										
Boys	168	32971	15.2	11.25	20.18	98	18719	8.6	6.71	11.02
Girls	153	25821	12.0	8.38	16.90	65	10620	4.9	3.45	7.02
Class										
Standard 4	70	15201	27.8	20.34	36.69	31	7249	13.2	8.16	20.80
Standard 5	67	12200	22.6	19.29	26.34	33	5900	10.9	7.88	15.00
Standard 6	40	8340	15.6	11.28	21.15	17	2800	5.2	2.66	10.06
Remove class										
Form 1	42	7210	12.6	9.01	17.47	21	3787	6.6	4.14	10.50
Form 2	40	5333	10.1	8.19	12.48	26	3580	6.8	3.34	13.35
Form 3	22	3471	6.6	4.45	9.77	13	2128	4.1	2.49	6.56
Form 4	28	4340	8.2	5.34	12.41	13	2041	3.9	1.90	7.67
Form 5	12	2697	4.9	2.72	8.62	9	1854	3.4	2.01	5.56
Ethnicity										
Malay	244	46122	14.2	10.01	19.72	129	23493	7.2	5.39	9.62
Chinese	55	9087	11.1	8.18	14.98	23	3858	4.7	3.71	6.00
Indian	17	2921	16.1	10.31	24.30	6	1089	6.0	2.88	12.11
Bumiputera Sabah	3	413	18.4	2.83	63.44	1	180	8.0	0.74	50.41
Bumiputera Sarawak						3	520	14.1	4.03	39.20
Others	2	250	17.4	3.19	57.41	1	199	13.8	1.48	63.09
BMI-for age status (BAZ)										
Thinness (<-2sd)	21	4254	17.5	9.31	30.42	11	2195	9.0	4.85	16.15
Normal (≥ - 2sd - ≤+ 1sd)	205	37428	13.4	9.04	19.45	106	18724	6.7	5.23	8.58
Overweight (> +1sd - ≤ 2sd)	45	7998	12.7	9.81	16.32	24	4242	6.7	4.31	10.41
Obese (> + 2sd)	49	8976	13.8	10.85	17.39	22	4179	6.4	4.18	9.74
Height-for - age status (HAZ)										
Stunting (<-2sd)	26	4789	14.1	7.91	23.99	11	1572	4.6	1.94	10.72
Normal (≥-2sd)	295	54003	13.6	10.05	18.06	152	27767	7.0	5.40	8.96

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

Characteristics	3 to 4 times per week					1 to 2 times per week				
	Count	Estimated population	Prevalence (%)	95% CI Lower	Upper	Count	Estimated population	Prevalence (%)	95% CI Lower	Upper
Johor	192	34321	7.9	6.55	9.59	378	67174	15.5	12.78	18.77
Locality of School										
Urban	143	24593	7.4	5.86	9.33	294	52310	15.8	12.33	19.93
Rural	49	9728	9.7	7.13	13.02	84	14865	14.8	12.48	17.45
Sex										
Boys	111	21296	9.8	7.72	12.38	184	35133	16.2	12.96	20.01
Girls	81	13025	6.1	4.62	7.89	194	32041	14.9	12.00	18.34
Class										
Standard 4	20	4523	8.3	5.90	11.47	50	10374	19.0	14.12	24.98
Standard 5	39	6876	12.7	9.52	16.87	60	11673	21.6	14.58	30.90
Standard 6	28	5492	10.3	8.16	12.83	52	10539	19.7	13.59	27.67
Remove class										
Form 1	22	4069	7.1	3.92	12.64	52	9115	16.0	10.48	23.62
Form 2	26	3595	6.8	4.50	10.24	55	7336	13.9	11.37	16.97
Form 3	14	2472	4.7	1.60	13.11	35	5659	10.8	7.07	16.17
Form 4	28	4118	7.8	5.71	10.53	44	6585	12.4	8.66	17.57
Form 5	15	3177	5.8	2.76	11.60	30	5893	10.7	6.24	17.65
Ethnicity										
Malay	153	28015	8.6	7.01	10.54	290	52207	16.1	13.14	19.47
Chinese	28	4744	5.8	4.06	8.26	63	10248	12.6	10.74	14.63
Indian	7	919	5.1	2.86	8.83	16	3000	16.6	7.32	33.26
Bumiputera Sabah	2	340	15.1	6.68	30.67	2	353	15.7	3.97	45.56
Bumiputera Sarawak	1	138	3.7	0.74	16.82	5	1000	27.1	20.34	35.22
Others	1	166	11.5	1.86	47.18	2	367	25.5	8.72	55.09
BMI-for age status (BAZ)										
Thinness (<-2sd)	10	1680	6.9	3.61	12.81	20	3457	14.2	9.67	20.39
Normal (≥ - 2sd - ≤+ 1sd)	124	21503	7.7	6.01	9.83	251	43926	15.7	12.86	19.14
Overweight (> +1sd - ≤+ 2sd)	30	5676	9.0	5.92	13.51	51	9223	14.7	10.62	19.90
Obese (> + 2sd)	28	5461	8.4	6.13	11.40	55	10431	16.0	11.79	21.43
Height-for - age status (HAZ)										
Stunting (<-2sd)	23	4300	12.7	8.27	19.01	30	5514	16.3	12.50	20.94
Normal (≥-2sd)	169	30021	7.5	6.26	9.06	348	61661	15.5	12.61	18.87

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

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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

General objective

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

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. 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.

3. To determine the types of information (expiry date, nutritional claim, nutrition facts, halal logo, food ingredients, storage instruction) read from the food label.

4. To determine the understanding of nutrition labelling (nutrition facts and front of pack).

5. 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 Johor

The results in **Table 3.7.1** showed 35.6% (95%CI: 30.63, 40.95) of adolescents in Johor reported as always reading food labels. Another 49.0% (95%CI: 44.73, 53.37) of adolescents reported as sometimes, while only 15.3% (95%CI: 11.87, 19.59) reported as never reading food labels when buying or receiving food. The prevalence of never reading food labels was significantly higher among boys 18.4% (95% CI: 13.96,23.89) than girls 12.3% (95%CI: 9.79, 15.35).

By locality of school, among those reported as always reading food labels, adolescents in rural area 39.6% (95%CI: 31.64, 48.25) showed slightly higher percentage compared to urban area 34.0% (95%CI: 28.24, 40.25). While, those reported as never read food labels showed higher percentage in rural area 16.0% (95%CI: 12.37, 20.36) compared to urban area 15.1% (95%CI: 10.61, 20.99). According to height-for-age status (HAZ), adolescents that were normal 35.8% (95%CI: 30.74, 41.19) showed higher prevalence of always reading food labels compared to stunted adolescents 33.0% (95%CI: 26.16, 40.58) and never read food labels were higher among stunted adolescents 15.4% (95%CI: 11.92, 19.69).

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

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 39.0% (95%CI: 30.61, 48.02), time constraint 17.5% (95%CI: 12.48, 23.97) and do not understand food labels 16.8% (95%CI: 12.34, 22.53). The results also revealed that 10.9% (95%CI: 6.67, 17.43) of adolescents did not know the importance of food labels; 11.9% (95%CI: 8.45, 16.42% of adolescents think that the size of the printing on food labels were too small and 11.8% (95%CI: 6.78, 19.78) 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 fat content 43.6% (95%CI: 36.94, 50.50), energy content 39.4% (95%CI: 36.42, 42.52) and carbohydrate content (including sugar) 37.7% (95%CI: 33.22, 42.37). It was followed by protein content 21.2% (95%CI: 17.93, 24.91), vitamin content 20.7% (95%CI: 18.48, 23.13), fiber 11.9% (95%CI: 10.13, 13.86) sodium content 9.7% (95%CI: 7.85, 11.98) and mineral content 9.7% (95%CI: 8.05, 11.57**) (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 81.1% (95%CI: 76.48 , 84.91), followed by halal logo 44.8% (95%CI: 38.90, 50.78) food ingredients 44.8% (95%CI: 38.90 , 50.78), nutrition fact 22.9% (95%CI: 18.48 , 28.09), storage instruction 20.2% (95%CI: 16.15 , 24.93) and nutritional claim (16.4% (95%CI: 13.93 , 19.16) **(Table 3.7.4)**.

By BMI-for-age status (BAZ), all adolescents who were normal weight 82.1% (95%CI: 77.08, 86.23), obese 79.7% (95%CI: 73.00, 85.09), thinness 79.5% (95%CI: 64.50, 89.26) and overweight 77.9% (95%CI: 67.87, 85.54) read significantly the most was expiry date. While all adolescents read the least was nutrition claim. Adolescents that were normal height-for-age 81.5% (95%CI: 76.80, 85.37) and stunting 75.0% (95%CI: 65.14, 83.56) also read most for expiry date. While the least read by stunting adolescents 17.3% (95%CI: 10.02, 28.17) and normal height-for-age 16.3% (95%CI: 13.83, 19.16) was nutritional claim. According to nutritional status, adolescents who always and sometimes read food labels also concerned mostly in expiry date compared to others **(Table 3.7.4)**.

3.7.4.5 Understanding of nutrition facts among adolescents in Johor

Overall, 56.8% (95%CI: 49.67, 66.88) and 52.7% (95%CI: 46.85, 58.39) 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 42.3% (95%CI: 34.52, 50.49) correct responses for both energy and sugar **(Table 3.7.5)**.

3.7.4.6 Understanding of front of pack labelling among adolescents in Johor

Overall, less than half of the adolescents 38.6% (95%CI: 31.61, 46.12) had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and 43.8% (95%CI: 39.66, 48.11) 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 22.3% (95%CI: 17.72,27.67) 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 Johor

Overall, less than half of the adolescents 38.6% (95%CI: 31.61, 46.12) 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 59.3% (95%CI: 54.37,64.04) reported a significantly higher prevalence of interpreting correctly as compared to boys 50.4% (95%CI: 41.80, 58.91). While, 14.2% (95%CI: 11.66, 17.15) 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 6.3% (95%CI: 4.92,7.93) 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 Johor. 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.

3.7.6 Recommendations

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

References

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.

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
JOHOR	602	97950	35.6	30.63	40.95	863	134860	49.0	44.73	53.37
Locality of School										
Urban	411	66429	34.0	28.24	40.25	646	99561	50.9	46.03	55.82
Rural	191	31521	39.6	31.64	48.25	217	35299	44.4	38.25	50.72
Sex										
Boys	271	50500	37.0	30.85	43.51	336	60982	44.6	39.53	49.85
Girls	331	47450	34.3	29.50	39.43	527	73878	53.4	49.02	57.73
Class										
Form 1	168	28788	49.8	43.46	56.24	139	23359	40.4	36.42	44.61
Form 2	133	18209	34.2	25.19	44.62	182	23805	44.8	36.18	53.68
Form 3	112	18275	33.7	39.27	39.27	173	26721	49.3	42.33	56.29
Form 4	100	14470	26.9	20.45	34.45	205	29832	55.4	49.20	61.45
Form 5	89	18207	32.5	24.91	41.15	164	31143	55.6	46.91	63.96
Ethnicity										
Malay	445	72522	37.1	31.99	42.46	613	96838	49.5	45.53	53.49
Chinese	79	12637	22.4	15.48	31.24	195	29666	52.6	44.99	60.02
Indian	56	8839	53.3	40.27	65.86	42	6266	37.8	28.74	47.73
Bumiputera Sabah	6	976	46.6	24.00	70.75	7	1117	53.4	29.25	76.00
Bumiputera Sarawak	13	2507	74.6	56.16	87.08	3	537	16.0	7.08	32.23
Others	3	468	51.8	10.91	90.38	3	437	48.2	9.62	89.09
BMI-for-age status (BAZ)										
Thinness (<-2sd)	33	5610	33.9	25.02	44.04	42	7363	44.5	33.33	56.20
Normal (≥-2sd - ≤+1sd)	392	63282	34.8	29.53	40.54	587	90969	50.1	44.95	55.19
Overweight (>+1sd - ≤+2sd)	91	14545	38.0	30.57	46.03	121	18566	48.5	41.37	55.68
Obese (>+2sd)	85	14351	37.6	28.95	47.11	113	17963	47.1	38.62	55.66
Height-for-age status (HAZ)										
Stunting (<-2sd)	41	6363	33.0	26.16	40.58	65	10242	53.1	42.78	63.10
Normal (≥-2sd)	601	91425	35.8	30.74	41.19	863	124618	48.8	44.53	53.07

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

Characteristic	Unweighted Count	Estimated Population	Never Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	267	42174	15.3	11.87	19.59
Locality of School					
Urban	188	29481	15.1	10.61	20.99
Rural	79	12693	16.0	12.37	20.36
Sex					
Boys	23.9%	25153	18.4	13.96	23.89
Girls	123	17022	12.3	9.79	15.35
Class					
Form 1	33	57753	9.7	5.02	17.93
Form 2	84	53175	21.0	16.24	26.68
Form 3	57	54202	17.0	12.49	22.68
Form 4	60	53841	17.7	12.61	24.32
Form 5	33	56014	11.9	6.68	20.29
Ethnicity					
Malay	167	26233	13.4	10.41	17.11
Chinese	89	14141	25.1	15.66	37.56
Indian	9	1485	8.9	3.90	19.24
Bumiputera Sabah					
Bumiputera Sarawak	2	316	9.4	1.68	38.57
Others					
BMI-for-age status (BAZ)					
Thinness (<-2sd)	22	3584	21.6	13.02	33.76
Normal (≥-2sd - ≤+1sd)	176	27429	15.1	11.25	19.97
Overweight (>+1sd - ≤+2sd)	33	5171	13.5	9.23	33.00
Obese (>+2sd)	35	5859	15.3	10.35	22.17
Height-for-age status (HAZ)					
Stunting (<-2sd)	18	2695	14.0	7.81	23.72
Normal (≥-2sd)	248	39348	15.4	11.92	19.69

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	30	5005	11.9	8.45	16.42	46	7095	16.8	12.34	22.53
Locality of School										
Urban	23	3921	13.3	8.70	19.82	30	4696	15.9	10.67	23.11
Rural	7	1083	8.5	7.33	9.91	16	2399	18.9	12.09	28.31
Sex										
Boys	21	3716	14.8	9.85	21.57	25	4159	16.5	11.66	22.93
Girls	9	1288	7.6	3.07	17.47	21	2936	17.2	10.25	27.57
Class										
Form 1	5	821	14.6	5.29	34.52	5	835	14.9	4.17	41.37
Form 2	5	652	5.8	1.79	17.48	17	2271	20.4	13.90	28.79
Form 3	6	1087	11.8	4.47	27.71	14	2262	24.6	12.80	41.96
Form 4	10	1715	18.0	11.99	26.07	6	943	9.9	4.00	22.41
Form 5	4	729	10.9	5.95	19.27	4	783	11.8	2.68	39.16
Ethnicity										
Malay	24	3848	14.7	0.00	21.87	36	5458	20.8	15.59	27.20
Chinese	5	997	7.0	3.44	13.89	10	1638	11.6	6.52	19.73
Indian	1	160	10.8	0.82	63.83					
Bumiputera Sabah										
Bumiputera Sarawak										
Others										
BMI-for-age status (BAZ)										
Thinness (<-2sd)	3	486	13.6	3.31	41.83	4	814	22.7	11.56	39.76
Normal (≥-2sd - ≤+1sd)	18	2994	10.9	7.00	16.62	31	4650	17.0	10.65	25.92
Overweight (>+1sd - ≤+2sd)	3	446	8.6	1.68	34.19	9	1290	24.9	10.07	49.68
Obese (>+2sd)	6	1079	18.4	6.77	41.24	2	341	5.8	1.10	25.64
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	636	23.6	10.67	44.40	3	426	15.8	4.29	44.07
Normal (≥-2sd)	26	4369	11.1	7.05	17.05	43	6669	16.9	12.06	23.29

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	108	16432	39.0	30.61	48.02	28	4614	10.9	6.67	17.43
Locality of School										
Urban	82	12457	42.3	32.91	52.19	17	2737	9.3	6.66	12.80
Rural	26	3974	31.3	19.12	46.78	11	1877	14.8	4.76	37.60
Sex										
Boys	48	8202	32.6	23.12	43.77	17	3156	12.5	6.57	22.64
Girls	60	8230	48.4	37.66	59.19	11	1457	8.6	4.33	16.23
Class										
Form 1	14	2180	38.9	24.28	55.81	2	355	6.3	2.01	18.27
Form 2	33	4211	37.7	25.84	51.31	10	1384	12.4	4.49	29.88
Form 3	25	4055	44.0	27.54	61.98	3	523	5.7	1.84	16.18
Form 4	25	3803	39.9	20.82	62.58	7	980	10.3	5.31	18.96
Form 5	11	2183	32.8	12.75	61.89	6	1371	20.6	9.40	39.28
Ethnicity										
Malay	50	7483	28.5	20.68	37.93	16	2524	9.6	4.46	19.54
Chinese	56	8581	60.7	48.16	71.94	11	1952	13.8	7.14	25.02
Indian	2	368	24.8	14.86	38.33					
Bumiputera Sabah										
Bumiputera Sarawak						1	138	43.7	43.68	43.68
Others										
BMI-for-age status (BAZ)										
Thinness (<-2sd)	9	1365	38.1	18.02	63.25	1	125	3.5	0.42	23.71
Normal (≥-2sd - ≤+1sd)	75	11347	41.4	32.84	50.45	21	3224	11.8	7.06	18.94
Overweight (>+1sd - ≤+2sd)	13	2095	40.5	20.58	64.17	3	509	9.9	2.87	28.81
Obese (>+2sd)	11	1625	27.7	16.17	43.32	3	754	12.9	4.41	32.15
Height-for-age status (HAZ)										
Stunting (<-2sd)	3	386	14.3	3.69	42.25	2	336	12.5	3.44	36.27
Normal (≥-2sd)	105	16046	40.8	32.03	50.16	26	4278	10.9	6.39	17.89

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 Lower	Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	45	7376	17.5	12.48	23.97	31	4981	11.8	6.78	19.78
Locality of School										
Urban	27	4405	14.9	10.43	20.94	17	2703	9.2	4.27	18.60
Rural	18	2972	23.4	14.15	36.18	14	2278	17.9	9.49	31.34
Sex										
Boys	28	4946	19.7	13.57	27.62	21	3580	14.2	6.89	27.11
Girls	17	2430	14.3	7.94	24.34	10	1401	8.2	3.84	16.78
Class										
Form 1	4	763	13.6	4.48	34.57	3	559	10.0	2.83	29.66
Form 2	11	1477	13.2	5.87	27.17	13	1861	16.7	8.04	31.39
Form 3	11	1694	18.4	9.15	33.53	4	676	7.3	2.03	23.24
Form 4	13	2260	23.7	10.02	46.41	9	1470	15.4	7.14	30.15
Form 5	6	1182	17.7	7.76	35.60	2	415	6.2	1.25	25.90
Ethnicity										
Malay	36	5830	22.2	15.17	31.34	22	3532	13.5	7.44	23.14
Chinese	7	1191	8.4	4.85	14.23	4	563	4.0	0.90	15.87
Indian	2	356	24.0	4.36	68.60	4	709	47.7	28.74	67.41
Bumiputera Sabah										
Bumiputera Sarawak						1	178	56.3	56.32	56.32
Others										
BMI-for-age status (BAZ)										
Thinness (<-2sd)	2	320	8.9	2.14	30.55	2	359	10.0	2.22	35.33
Normal (≥-2sd - ≤+1sd)	33	5432	19.8	13.28	28.49	20	3189	11.6	5.52	22.85
Overweight (>+1sd - ≤+2sd)	4	642	12.4	4.32	30.82	4	684	13.2	5.75	27.59
Obese (>+2sd)	6	982	16.8	8.01	31.76	5	749	12.8	6.83	22.67
Height-for-age status (HAZ)										
Stunting (<-2sd)	5	722	26.8	12.53	48.34	3	447	16.6	2.09	65.01
Normal (≥-2sd)	40	6654	16.9	11.93	23.42	28	4533	11.5	6.84	18.75

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
JOHOR	571	91798	39.4	36.42	42.52	554	87727	37.7	33.22	42.37
Locality of School										
Urban	417	65909	39.7	35.84	43.70	421	65765	39.6	34.84	44.61
Rural	154	25889	38.7	34.74	42.90	133	21961	32.9	24.95	41.90
Sex										
Boys	251	46488	41.7	37.78	45.73	215	39124	35.1	29.65	40.95
Girls	320	45310	37.3	33.60	41.25	339	48602	40.1	34.80	45.55
Class										
Form 1	104	18103	34.7	27.80	42.34	97	16484	31.6	26.58	37.10
Form 2	129	17213	41.0	33.39	49.00	103	13694	32.6	25.43	40.68
Form 3	121	19168	42.6	35.61	49.90	117	18540	41.2	35.05	47.64
Form 4	107	15634	35.3	28.92	42.22	130	18847	42.5	32.40	53.35
Form 5	110	21680	43.9	34.36	53.97	107	20161	40.9	32.45	49.83
Ethnicity										
Malay	409	65719	38.8	35.24	42.49	400	63570	37.5	32.96	42.35
Chinese	113	17910	42.3	34.76	50.30	105	16470	38.9	28.17	50.89
Indian	35	5647	37.4	30.20	45.18	37	5681	37.6	27.84	48.50
Bumiputera Sabah	2	367	17.5	4.41	49.51	5	748	35.7	20.31	54.83
Bumiputera Sarawak	10	1917	63.0	44.75	78.11	5	990	32.5	9.97	67.72
Others	2	238	26.3	4.18	74.45	2	268	29.6	4.80	77.75
BMI-for-age status (BAZ)										
Thinness (<-2sd)	34	5989	46.2	34.90	57.84	19	3174	24.5	15.43	36.51
Normal (≥-2sd - ≤+1sd)	386	61962	40.2	36.09	44.39	386	60945	39.5	33.43	45.93
Overweight (>+1sd - ≤+2sd)	78	12004	36.3	30.35	42.60	73	10996	33.2	26.75	40.38
Obese (>+2sd)	73	11843	36.6	30.70	43.04	76	12611	39.0	33.64	44.70
Height-for-age status (HAZ)										
Stunting (<-2sd)	31	4820	29.0	20.52	39.32	46	6855	41.3	33.41	49.63
Normal (≥-2sd)	540	86978	40.3	37.31	43.28	508	80871	37.4	32.95	42.14

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

Characteristic	Fat					Protein				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
JOHOR	663	101508	43.6	36.94	50.50	308	49381	21.2	17.93	24.91
Locality of School										
Urban	492	74452	44.9	36.42	53.59	232	36778	22.2	18.04	26.90
Rural	171	27057	40.5	31.53	50.14	76	12603	18.9	14.76	23.79
Sex										
Boys	213	38373	34.4	28.09	41.36	137	25172	22.6	17.87	28.11
Girls	450	63136	52.0	44.63	59.35	171	24210	20.0	16.44	24.00
Class										
Form 1	116	18702	35.9	24.83	48.63	69	11648	22.3	16.09	30.13
Form 2	130	17093	40.7	31.10	51.03	68	9046	21.5	16.63	27.41
Form 3	134	20537	45.6	38.00	53.50	55	8843	19.7	14.98	25.35
Form 4	152	21262	48.0	40.96	55.11	58	8169	18.4	13.41	24.81
Form 5	131	23914	48.5	38.89	58.14	58	11676	23.7	15.03	35.18
Ethnicity										
Malay	463	71897	42.5	37.07	48.02	229	36869	21.8	18.25	25.75
Chinese	144	21312	50.4	40.51	60.23	53	8368	19.8	13.72	27.67
Indian	47	6857	45.4	25.85	66.47	17	2642	17.5	9.79	29.28
Bumiputera Sabah	4	645	30.8	13.56	55.91	3	471	22.5	7.45	51.24
Bumiputera Sarawak	3	529	17.4	8.91	31.17	4	705	23.2	8.92	48.09
Others	2	268	29.6	4.80	77.75	2	326	36.1	6.02	83.22
BMI-for-age status (BAZ)										
Thinness (<-2sd)	25	4065	31.3	18.17	48.40	16	2545	19.6	8.30	39.71
Normal (≥-2sd - ≤+1sd)	434	66085	42.8	36.51	49.42	204	33009	21.4	17.97	25.29
Overweight (>+1sd - ≤+2sd)	100	15184	45.9	34.95	57.18	47	7190	21.7	15.11	30.18
Obese (>+2sd)	104	16174	50.1	42.13	57.97	41	6637	20.5	14.60	28.10
Height-for-age status (HAZ)										
Stunting (<-2sd)	44	6640	40.0	30.71	50.05	22	3261	19.6	11.89	30.68
Normal (≥-2sd)	619	94868	43.9	37.26	50.79	286	46120	21.3	18.32	24.72

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
JOHOR	141	22627	9.7	7.85	11.98	305	48211	20.7	18.48	23.13
Locality of School										
Urban	110	17630	10.6	8.49	13.21	222	34714	20.9	18.26	23.84
Rural	31	4997	7.5	4.81	11.46	83	13497	20.2	16.31	24.74
Sex										
Boys	57	10573	9.5	6.73	13.21	123	22376	20.1	16.95	23.61
Girls	84	12054	9.9	8.03	12.23	182	25835	21.3	18.59	24.27
Class										
Form 1	28	5027	9.6	5.79	15.62	70	11889	22.8	17.97	28.47
Form 2	30	3962	9.4	6.93	12.71	58	7646	18.2	14.42	22.71
Form 3	29	4494	10.0	6.23	15.63	61	9738	21.6	16.22	28.26
Form 4	22	3169	7.2	3.82	12.99	62	8949	20.2	16.22	24.86
Form 5	32	5974	12.1	7.90	18.10	54	9990	20.2	14.14	28.12
Ethnicity										
Malay	100	15997	9.4	7.46	11.89	217	34527	20.4	17.61	23.48
Chinese	28	4621	10.9	5.97	19.14	63	9666	22.9	17.39	29.42
Indian	10	1548	10.2	5.38	18.67	17	2801	18.5	12.03	27.49
Bumiputera Sabah	1	154	7.4	2.00	23.64	2	284	13.6	5.27	30.66
Bumiputera Sarawak	1	180	5.9	0.42	48.52	2	336	11.0	1.28	54.21
Others	1	128	14.1	1.26	67.81	4	596	65.8	17.90	94.46
BMI-for-age status (BAZ)										
Thinness (<-2sd)	6	924	7.1	2.96	16.18	18	2759	21.3	11.54	35.86
Normal (≥-2sd - ≤+1sd)	89	14230	9.2	7.27	11.64	208	32931	21.3	18.72	24.24
Overweight (>+1sd - ≤+2sd)	23	3563	10.8	7.12	15.94	47	7451	22.5	18.46	27.14
Obese (>+2sd)	23	3910	12.1	8.36	17.20	31	4908	15.2	10.88	20.81
Height-for-age status (HAZ)										
Stunting (<-2sd)	8	1147	6.9	3.59	12.87	22	3273	19.7	11.91	30.82
Normal (≥-2sd)	133	21480	9.9	8.06	12.21	282	44776	20.7	18.46	23.19

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
JOHOR	140	22506	9.7	8.05	11.57	176	27623	11.9	10.13	13.86
Locality of School										
Urban	106	17088	10.3	8.39	12.57	138	21471	12.9	11.03	15.11
Rural	34	5418	8.1	5.74	11.34	38	6152	9.2	7.46	11.32
Sex										
Boys	64	11712	10.5	7.78	14.03	67	12047	10.8	8.38	13.83
Girls	76	10794	8.9	7.30	10.80	109	15577	12.8	10.15	10.15
Class										
Form 1	30	5131	9.8	5.73	16.38	38	6300	12.1	8.04	17.76
Form 2	25	3312	7.9	5.54	11.10	35	4720	11.2	7.83	15.86
Form 3	25	3965	8.8	5.78	13.21	33	5287	11.8	7.32	18.32
Form 4	33	4826	10.9	6.81	16.98	36	5000	11.3	7.97	15.74
Form 5	27	5272	10.7	6.77	16.46	34	6316	12.8	8.75	18.35
Ethnicity										
Malay	94	14892	8.8	7.01	10.97	125	19693	11.6	9.50	14.16
Chinese	31	5058	12.0	7.42	18.71	41	6307	14.9	9.54	22.54
Indian	11	1874	12.4	6.22	23.20	8	1325	8.8	5.44	13.85
Bumiputera Sabah										
Bumiputera Sarawak	3	555	18.2	4.95	48.89	1	170	5.6	1.31	20.83
Others	1	128	14.1	1.26	67.81	1	128	14.1	1.26	67.81
BMI-for-age status (BAZ)										
Thinness (<-2sd)	7	1065	8.2	3.76	17.00	8	1259	9.7	5.52	16.52
Normal (≥-2sd - ≤+1sd)	93	15082	9.8	7.67	12.39	119	18832	12.2	10.07	14.73
Overweight (>+1sd - ≤+2sd)	22	3333	10.1	6.53	15.20	31	4558	13.8	9.51	19.52
Obese (>+2sd)	18	3027	9.4	5.84	14.70	18	2973	9.2	6.40	13.06
Height-for-age status (HAZ)										
Stunting (<-2sd)	10	1653	10.0	5.14	18.40	11	1572	9.5	5.21	16.60
Normal (≥-2sd)	130	20854	9.7	7.96	11.66	165	26051	12.1	10.24	14.15

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 Lower	Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	1196	188698	81.1	76.48	84.91	241	38134	16.4	13.93	19.16
Locality of School										
Urban	891	138496	83.4	78.41	87.48	183	28578	17.2	14.17	20.76
Rural	305	50202	75.1	68.28	80.91	58	9556	14.3	11.30	17.94
Sex										
Boys	465	85669	76.8	72.04	81.04	89	16660	14.9	11.84	18.69
Girls	731	103029	84.9	79.86	88.88	152	21474	17.7	14.41	21.55
Class										
Form 1	246	41344	79.3	73.07	84.37	51	8837	16.9	13.45	21.13
Form 2	238	31274	74.4	63.57	82.93	44	5729	13.6	9.84	18.59
Form 3	246	38639	85.9	78.51	91.00	42	6482	14.4	10.72	19.10
Form 4	256	36846	83.2	75.99	88.53	45	6099	13.8	8.12	22.39
Form 5	210	40594	82.3	73.16	88.75	59	10987	22.3	15.14	31.50
Ethnicity										
Malay	845	134318	79.3	74.90	83.12	126	20463	12.1	10.03	14.48
Chinese	247	38010	89.9	78.82	95.47	86	13289	31.4	22.94	41.34
Indian	79	12020	79.6	64.79	89.18	23	3425	22.7	16.71	30.00
Bumiputera Sabah	8	1269	60.6	36.09	80.79	3	510	24.4	9.08	50.96
Bumiputera Sarawak	13	2567	84.3	74.03	91.00	1	180	5.9	0.42	48.52
Others	4	515	57.0	21.57	86.42	2	268	29.6	4.80	77.75
BMI-for-age status (BAZ)										
Thinness (<-2sd)	60	10318	79.5	64.50	89.26	9	1268	9.8	3.75	23.14
Normal (≥-2sd - ≤+1sd)	806	126652	82.1	77.08	86.23	163	25698	16.7	13.98	19.74
Overweight (>+1sd - ≤+2sd)	169	25809	77.9	67.87	85.54	32	5090	15.4	11.23	20.69
Obese (>+2sd)	160	25757	79.7	73.00	85.09	37	6078	18.8	13.98	24.83
Height-for-age status (HAZ)										
Stunting (<-2sd)	80	12537	75.5	65.14	83.56	19	2871	17.3	10.02	28.17
Normal (≥-2sd)	1115	175999	81.5	76.80	85.37	222	35263	16.3	13.83	19.16

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	338	53385	22.9	18.48	28.09	660	104218	44.8	38.90	50.78
Locality of School										
Urban	262	40632	24.5	18.77	31.26	474	73907	44.5	36.42	52.93
Rural	76	12753	19.1	14.96	24.03	186	30312	45.4	43.59	47.14
Sex										
Boys	136	25006	22.4	17.16	28.75	273	49402	44.3	38.74	50.03
Girls	202	28379	23.4	18.54	29.06	387	54817	45.2	36.71	53.94
Class										
Form 1	64	10574	20.3	13.94	28.53	124	21213	40.7	29.78	52.58
Form 2	60	8238	19.6	13.99	26.78	145	19265	45.9	35.21	56.88
Form 3	62	9796	21.8	16.78	27.76	141	22216	49.4	38.46	60.35
Form 4	76	10759	24.3	17.31	32.95	139	20271	45.8	35.08	56.83
Form 5	76	14018	28.4	18.84	40.41	111	21254	43.1	31.42	55.54
Ethnicity										
Malay	215	34283	20.2	17.04	23.87	610	96210	56.8	50.22	63.17
Chinese	90	14054	33.2	24.64	43.09	15	2341	5.5	3.37	8.95
Indian	25	3776	25.0	11.55	45.96	25	3856	25.5	12.47	45.21
Bumiputera Sabah	3	479	22.9	9.65	45.27	6	1031	49.3	23.96	74.98
Bumiputera Sarawak	2	326	10.7	2.74	33.78	2	461	15.2	4.48	40.46
Others	3	466	51.5	10.46	90.63	2	318	35.2	10.00	72.63
BMI-for-age status (BAZ)										
Thinness (<-2sd)	13	2266	17.5	10.18	28.33	31	5377	41.5	32.02	51.56
Normal (≥-2sd - ≤+1sd)	234	37192	24.1	19.29	29.69	418	65416	42.4	36.26	48.80
Overweight (>+1sd - ≤+2sd)	45	6826	20.6	14.35	28.71	105	16376	49.5	40.56	58.40
Obese (>+2sd)	46	7100	22.0	15.24	30.61	105	16887	52.3	44.85	59.58
Height-for-age status (HAZ)										
Stunting (<-2sd)	20	3046	18.3	9.13	33.42	60	9284	55.9	40.86	69.95
Normal (≥-2sd)	318	50339	23.3	18.87	28.41	599	94773	43.9	38.36	49.53

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	437	68543	29.4	25.48	33.74	304	47005	20.2	16.15	24.93
Locality of School										
Urban	333	51625	31.1	26.74	35.83	243	37116	22.4	17.44	28.20
Rural	104	16918	25.3	18.66	33.38	61	9890	14.8	11.87	18.30
Sex										
Boys	164	30223	27.1	21.94	32.98	107	19573	17.6	12.72	23.74
Girls	273	38320	31.6	26.00	37.76	197	27432	22.6	17.58	28.58
Class										
Form 1	76	12604	24.2	19.28	29.84	61	9956	19.1	13.17	26.86
Form 2	86	11479	27.3	19.60	36.69	56	7366	17.5	13.04	23.17
Form 3	80	12299	27.3	21.24	34.41	63	9783	21.7	15.42	29.75
Form 4	101	14713	33.2	24.52	43.22	61	8315	18.8	12.52	27.17
Form 5	94	17449	35.4	25.79	46.26	63	11585	23.5	15.95	33.16
Ethnicity										
Malay	314	49564	29.3	25.58	33.24	180	27633	16.3	13.51	19.58
Chinese	87	13552	32.0	22.08	43.94	100	15621	36.9	30.14	44.28
Indian	26	3808	25.2	18.20	33.80	19	2855	18.9	9.36	34.46
Bumiputera Sabah	5	800	38.2	19.59	61.10	1	199	9.5	2.54	29.70
Bumiputera Sarawak	4	693	22.8	9.04	46.68	3	569	18.7	5.54	47.46
Others	1	128	14.1	1.26	67.81	1	128	14.1	1.26	67.81
BMI-for-age status (BAZ)										
Thinness (<-2sd)	18	3070	23.7	16.27	33.09	13	2014	15.5	7.89	28.28
Normal (≥-2sd - ≤+1sd)	282	44016	28.5	24.16	33.35	201	31014	20.1	16.10	24.82
Overweight (>+1sd - ≤+2sd)	62	9347	28.2	20.86	36.99	44	6574	19.9	14.19	27.06
Obese (>+2sd)	75	12111	37.5	29.96	45.65	46	7404	22.9	15.90	31.85
Height-for-age status (HAZ)										
Stunting (<-2sd)	31	4767	28.7	20.36	38.82	19	2910	17.5	11.99	24.89
Normal (≥-2sd)	406	63776	29.5	25.37	34.04	285	44096	20.4	16.20	25.39

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Table 3.7.5: Prevalence of undertanding 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 Lower	Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	Upper
JOHOR	763	37404	42.3	34.52	50.49	1008	50215	56.8	48.38	64.83
Locality of School										
Urban	664	32329	43.3	34.65	52.38	882	43702	58.5	49.67	66.88
Rural	99	5075	36.9	23.85	52.12	126	6512	47.3	30.93	64.29
Sex										
Boys	284	16826	38.3	29.88	47.46	393	23477	53.4	43.69	62.91
Girls	479	20578	46.3	37.71	55.05	615	26737	60.1	51.62	68.04
Class										
Form 1	89	5623	29.9	18.87	43.97	125	8107	43.2	30.13	57.21
Form 2	137	7450	42.0	29.28	55.97	182	9909	55.9	41.77	69.17
Form 3	182	7670	43.8	32.10	56.30	248	10569	60.4	48.32	71.33
Form 4	134	7359	43.7	36.05	51.60	182	10152	60.2	51.66	68.23
Form 5	221	9302	52.9	40.10	65.42	271	11478	65.3	51.78	76.79
Ethnicity										
Malay	536	25638	44.2	37.41	51.15	718	35106	60.5	54.35	66.29
Chinese	131	6878	46.5	33.15	60.31	164	8649	58.4	42.70	72.62
Indian	86	4359	31.7	19.28	47.32	114	5827	42.3	28.62	57.30
Bumiputera Sabah	1	64	9.4	0.90	54.08	2	118	17.4	3.11	58.03
Bumiputera Sarawak	2	121	19.7	4.15	58.23	3	171	27.7	11.61	52.89
Others	7	344	67.5	25.27	92.72	7	344	67.5	25.27	92.72
BMI-for-age status (BAZ)										
Thinness (<-2sd)	45	2376	38.5	23.37	56.31	56	2925	47.4	29.24	66.33
Normal (≥-2sd - ≤+1sd)	507	24890	43.8	34.91	53.13	655	32520	57.2	47.67	66.30
Overweight (>+1sd - ≤+2sd)	114	5232	40.9	33.09	49.30	153	7189	56.3	47.78	64.40
Obese (>+2sd)	96	4874	38.9	29.30	49.41	142	7486	59.7	50.66	68.14
Height-for-age status (HAZ)										
Stunting (<-2sd)	54	2480	40.0	29.66	51.25	70	3284	52.9	42.54	63.07
Normal (≥-2sd)	708	34892	42.5	34.60	50.80	937	46899	57.1	48.60	65.24

Table 3.7.5: Prevalence of undertanding 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
JOHOR	926	46557	52.7	46.85	58.39
Locality of School					
Urban	795	39545	53.0	46.36	59.48
Rural	131	7012	50.9	41.41	60.40
Sex					
Boys	374	22511	51.2	45.18	57.24
Girls	552	24046	54.1	46.33	61.60
Class					
Form 1	122	8056	42.9	32.69	53.73
Form 2	172	9376	52.9	42.08	63.49
Form 3	209	8935	51.1	39.68	62.33
Form 4	163	9178	54.5	48.48	60.31
Form 5	260	11012	62.7	52.97	71.46
Ethnicity					
Malay	641	31132	53.6	48.79	58.41
Chinese	142	7474	50.5	37.45	63.48
Indian	129	7105	51.6	40.07	62.94
Bumiputera Sabah	3	234	34.5	6.69	79.51
Bumiputera Sarawak	3	210	34.1	5.65	81.73
Others	8	403	79.0	47.87	93.89
BMI-for-age status (BAZ)					
Thinness (<-2sd)	60	3344	54.2	39.87	67.92
Normal (≥-2sd - ≤+1sd)	606	30320	53.4	46.60	60.01
Overweight (>+1sd - ≤+2sd)	134	6298	49.3	42.07	56.54
Obese (>+2sd)	125	6563	52.3	44.67	59.92
Height-for-age status (HAZ)					
Stunting (<-2sd)	63	2981	48.0	38.53	57.70
Normal (≥-2sd)	861	43495	53.0	46.96	58.91

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	390	61484	22.3	17.72	27.67	678	106444	38.6	31.61	46.12
Locality of School										
Urban	295	45929	23.5	17.78	30.28	515	79900	40.8	31.90	50.36
Rural	95	15554	19.5	13.30	27.59	163	26544	33.2	25.26	42.29
Sex										
Boys	172	31169	22.7	17.76	28.59	284	51745	37.7	30.70	45.31
Girls	218	30315	21.9	16.47	28.47	394	54699	39.5	30.29	49.49
Class										
Form 1	56	9627	16.6	11.50	23.40	116	19746	34.1	27.11	41.80
Form 2	77	10340	19.4	13.88	26.43	140	18553	34.8	28.61	41.56
Form 3	88	13605	25.1	17.49	34.64	138	21649	39.9	30.45	50.26
Form 4	98	14623	27.1	17.30	39.69	157	22834	42.3	27.44	58.62
Form 5	71	13288	23.6	16.48	32.69	127	23663	42.1	31.22	53.81
Ethnicity										
Malay	256	40830	20.8	16.39	26.03	418	66515	33.9	28.95	39.20
Chinese	98	15072	26.7	19.92	34.79	187	28268	50.1	35.90	64.25
Indian	29	4345	26.2	13.42	44.81	58	9037	54.5	38.77	69.33
Bumiputera Sabah	4	674	32.2	11.63	63.14	8	1315	62.9	45.08	77.72
Bumiputera Sarawak	3	563	16.8	7.78	32.44	6	1110	33.0	25.98	40.93
Others										
BMI-for-age status (BAZ)										
Thinness (<-2sd)	17	2854	17.2	12.55	23.21	34	5750	34.7	25.90	44.75
Normal (≥-2sd - ≤+1sd)	272	42310	23.2	18.42	28.82	462	71382	39.2	31.84	47.01
Overweight (>+1sd - ≤+2sd)	54	8482	22.1	13.11	34.72	93	14623	38.1	28.09	49.16
Obese (>+2sd)	46	7707	20.2	13.93	28.33	88	14558	38.1	31.42	45.35
Height-for-age status (HAZ)										
Stunting (<-2sd)	22	3404	17.5	12.24	24.29	36	5361	27.5	17.99	39.60
Normal (≥-2sd)	367	57948	22.6	18.03	28.03	641	100951	39.4	32.37	47.00

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
JOHOR	752	120861	43.8	39.66	48.11
Locality of School					
Urban	553	87983	44.9	39.84	50.14
Rural	199	32878	41.2	34.83	47.78
Sex					
Boys	355	65010	47.4	42.50	52.35
Girls	397	55851	40.3	34.90	45.97
Class					
Form 1	146	25386	43.8	36.42	51.48
Form 2	160	21519	40.4	32.50	48.77
Form 3	159	25220	46.5	37.28	56.02
Form 4	164	24569	45.5	37.16	54.04
Form 5	123	24166	43.0	34.75	51.65
Ethnicity					
Malay	545	88182	44.9	40.00	49.94
Chinese	136	21264	37.7	28.97	47.25
Indian	51	7908	47.7	29.72	66.23
Bumiputera Sabah	7	1143	54.6	35.75	72.25
Bumiputera Sarawak	11	2113	62.9	46.90	76.46
Others					
BMI-for-age status (BAZ)					
Thinness (<-2sd)	35	6074	36.7	28.56	45.64
Normal (≥-2sd - ≤+1sd)	501	79497	43.6	38.41	48.98
Overweight (>+1sd - ≤+2sd)	109	17131	44.6	37.01	52.44
Obese (>+2sd)	106	18028	47.2	40.12	54.45
Height-for-age status (HAZ)					
Stunting (<-2sd)	51	8390	43.0	33.16	53.48
Normal (≥-2sd)	700	112340	43.9	39.64	48.25

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 Lower	95% CI Upper	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
JOHOR	94	14567	6.3	4.92	7.93	817	128097	55.0	48.77	61.12
Locality of School										
Urban	72	10930	6.6	4.84	8.91	626	96839	58.3	50.88	65.44
Rural	22	3636	5.4	4.41	6.71	191	31258	46.8	41.62	52.01
Sex										
Boys	27	4796	4.3	2.59	7.06	309	56153	50.4	41.80	58.91
Girls	67	9771	8.1	6.61	9.77	508	71944	59.3	54.37	64.04
Class										
Form 1	23	3756	7.2	4.82	10.63	159	26368	50.6	42.22	58.88
Form 2	18	2335	5.6	3.21	9.45	167	22114	52.6	43.26	61.82
Form 3	14	2157	4.8	2.44	9.21	157	24013	53.4	41.95	64.45
Form 4	14	1942	4.4	2.56	7.40	168	24157	54.5	46.68	62.16
Form 5	25	4377	8.9	5.32	14.42	166	31445	63.7	50.51	75.13
Ethnicity										
Malay	69	10772	6.4	4.62	8.69	560	88150	52.0	46.31	57.74
Chinese	12	1820	4.3	2.06	8.76	179	27986	66.2	55.46	75.42
Indian	9	1347	8.9	3.84	19.37	58	8475	56.1	38.25	72.50
Bumiputera Sabah	0	0	0.0	0.00	0.00	7	1088	52.0	30.31	72.94
Bumiputera Sarawak	2	389	12.8	9.00	17.78	9	1883	61.9	21.42	90.61
Others	2	238	26.3	4.18	74.45	4	515	57.0	21.57	86.42
BMI-for-age status (BAZ)										
Thinness (<-2sd)	5	839	6.5	2.35	16.59	35	6007	46.3	36.02	56.92
Normal (≥-2sd - ≤+1sd)	58	9083	5.9	4.66	7.42	557	87288	56.6	50.76	62.24
Overweight (>+1sd - ≤+2sd)	20	3011	9.1	5.25	15.30	123	19007	57.4	46.81	67.36
Obese (>+2sd)	11	1633	5.1	2.29	10.79	102	15794	48.9	40.16	57.66
Height-for-age status (HAZ)										
Stunting (<-2sd)	4	590	3.6	1.36	9.00	53	8375	50.4	40.31	60.53
Normal (≥-2sd)	90	13976	6.5	4.98	8.36	764	119721	55.4	48.83	61.82

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
JOHOR	214	33024	14.2	11.66	17.15
Locality of School					
Urban	143	21661	13.0	10.42	16.23
Rural	71	11363	17.0	12.57	22.61
Sex					
Boys	78	13724	12.3	8.22	18.04
Girls	136	19301	15.9	13.64	18.47
Class					
Form 1	51	8341	16.0	10.78	23.09
Form 2	54	7136	17.0	13.74	20.81
Form 3	33	5197	11.6	7.26	17.89
Form 4	38	5696	12.9	8.04	19.94
Form 5	38	6654	13.5	8.08	21.65
Ethnicity					
Malay	163	25410	15.0	12.15	18.39
Chinese	22	3161	7.5	4.67	11.74
Indian	24	3688	24.4	12.57	42.05
Bumiputera Sabah	0	0	0.0	0.00	0.00
Bumiputera Sarawak	3	526	17.3	8.35	32.41
Others	2	238	26.3	4.18	74.45
BMI-for-age status (BAZ)					
Thinness (<-2sd)	10	1803	13.9	6.26	28.07
Normal (≥-2sd - ≤+1sd)	140	21450	13.9	10.81	17.72
Overweight (>+1sd - ≤+2sd)	37	5664	17.1	12.08	23.66
Obese (>+2sd)	26	3944	12.2	8.20	17.79
Height-for-age status (HAZ)					
Stunting (<-2sd)	11	1574	9.5	4.88	17.63
Normal (≥-2sd)	202	31288	14.5	11.88	17.55

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	Work closely with recruitment group for employment of RA Prepare Questionaires mannual, Data collection manual Meeting with Liason Officers Planning for data collection training Prepare security cards/name tags for research team Arrangement for advanced payment for team managers, nurses and drivers Process claims of MOH staff Prepare tickets for travelling Monitor the expenditure/budget	Dr. Muhammad Fadhli bin Mohd Yusoff Dr. S. Maria binti Awaluddin Pn. Ruhaya binti Salleh Pn. Hamizatul Akmal binti Abd Hamid Pn. Wan Shakira binti Rodzlan Hasani Cik Nur Hazwani binti Mohd Hasri
2	Survey Research Centre	Calculate the sample size Determine the sample distribution by state	Dr. Muhammad Fadhli bin Mohd Yusoff Pn. Norazizah binti Ibrahim Wong Pn. Wan Shakira binti Rodzlan Hasani
3	ICT Unit	Maintenance of the scanning machine Daily back up for databases	Pn. Siti Nor'ain Binti Hashim En. Sulaiman Bin Harun En. Yusmirol Bin Yusop En. Andy Bin Mustaming
4	Central Field Supervisors	**Before Data Collection** Central Field Supervisors are expected to prepare for the initiation of data collection.The preparation tasks include:	Dr Nor Asiah Binti Muhamad Dr Nur Liana Binti Ab Majid Pn. Norzawati Binti Yeop Dr. Noor Ani Binti Ahmad

| | | Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.

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:

• Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers.
• Manage transport: Vehicles
• Manage survey intruments and relavant form
• Manage lodging for data collectors

During Data Collection

Gather feedback from the field on the data collection status and problems related to logistics.

Visit the field to help data collectors solve the problem if necessary.

To ensure all data collection monitoring forms have been received on time.

To ensure bundle from field received by the Operation Centre by hand and bypost(Sabah, Sarawak, WP Labuan)

Updating the monitoring board for state acheivement and atteding CCT meeting. | Pn. Hasimah Binti Ismail

Pn. Helen Tee Guat Hiong

En. Mohd Hazrin Bin Hasim @ Hashim |

5	Data Processing and management	Setting up data processing facility Development of directory of variables database	Dr. Mohd Azahadi bin Omar
			Dr. Rajini a/p sooryanarayana
		Development of QC manual for data Processing Specify data structure for data processing and data output requirement	Dr. Fazila Haryati Binti Ahmad
			Pn. Nazirah Binti Alias
		Responsible for data entry and data Cleaning	
		Monitoring and evaluation of QC performance for data processing	
6	Operation Centre	Arrange date and place of meeting	Pn. Hamizatul Akmal binti Abd Hamid
		Prepare and circulate briefing materials	En. Azli bin Baharudin
		Prepare and circulate minutes of CCT meeting	Cik Nur Hazwani binti Mohd Hasri
		Prepare letters of appointment to state liaison officers, nurses, scouts and data collectors	Pn. Siti Noafika binti Anwar
			En. Muhammad Suhaimi bin Mohamad Idrus
		Prepare advertisement material for recruitment of data collectors, team leaders, and interviewers,	Cik Shahibul Bariah binti Mat Ghani
		Prepare letters of notifications for data collections	Pn. Nur Fadzilla binti Mohd Radzi
		Prepare manuals for scouts, field supervisors, data collectors and nurses	En. Muhammad Zuhdi Bin Khiruddin
		Develop a system/format and monitor the distribution of materials/equipment for field work	Cik Nurbaiti binti Asmawi
		Arrange transport/drivers for distribution and collection of materials/equipment/SAQ	

Appendix 5: List of Research Team Members, NHMS 2017

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

Appendix 6: List of Data Collection Teams

JOHOR

Liaison Officer

Mr. Yahya bin Ahmad

Field Supervisor

Ms. Fatimah binti Othman

Nutritionist

1. Ms. Nik Normasitah binti Nik Ismail
2. Mr. Mohd Razif bin Mohd Jamain
3. Ms. Siti Dinie Syazwani binti Azlam
4. Ms. Lee Pei Shan
5. Mr. Mohd Zaid bin Ramlan
6. Ms. Noraini binti Kosnon

Drivers

1. Mr. Osman bin Mohd
2. Mr. Mohd Safar bin Sarbani

Research Assistants

1. Mohd Nazrulshah bin Salim
2. Sharifah Solihah binti Syed Hashim
3. Khairulhanafi bin Muhammad Khair
4. Nur Hamizah binti Md Sha'eb
5. Siti Aisyah binti Ibrahim
6. Nor Hamizah binti Atan
7. Siti Nur Nadiah binti Khozaini
8. Nurul Siddiqah binti Whakiddin

Appendix 7: Nutrition Questionnaires

TINJAUAN KEBANGSAAN
KESIHATAN DAN MORBIDITI **NHMS**
NATIONAL HEALTH AND **2017**
MORBIDITY SURVEY

TINJAUAN PEMAKANAN REMAJA

BORANG SOAL SELIDIK

Tinjauan Pemakanan Remaja

TINJAUAN PEMAKANAN REMAJA 2017
மலேசிய பள்ளி மாணவர் உணவு முறை ஆய்வறிக்கை 2017

BORANG SOAL SELIDIK
அளவரிக்கை

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

மந்த ஆய்வு உங்கள் உணவு பழக்கமுறைமற்றும் சுகாதாரத்தின் அளவை கணக்கிட பயன்படும்.நம் நாட்டில் உள்ள அனைத்து மாணவர்களும் மந்த ஆய்வறிக்கையில்பங்குபெறுகின்றனர்.

நீங்கள் கொடுக்கும் தகவல்கள் நம் நாட்டில் உள்ளமாண�
ர்களின்உடல் நிலையைப் பேண மிகவும் உதவும்.

Panduan mengisi borang soal-selidik
ஆய்வறிக்கைய 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 சம்மந்தம்பட்டோர் மட்டுமேபயன்படுத்துவர் .உங்களுக்கு தெரிந்த விடையஇ அளிக்கவும். சரிஅல்லதுபிழ என்றுமட்டுமே 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 |
   | மவ்வாறு கருமையாக்கவும் ● | மவ்வாறல்ல ⊗ | 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 menjawap 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 தாள்களை வாங்கும் வரை பொருத்திருங்கள்.

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

1

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	Negeri மாநில	Strata நிலை	Kategori Sekolah பள்ளி பிரிவு	Kod Sekolah பள்ளி குறியீடு	Kelas வகுப்	Pelajar மாணவர்

A2	Tarikh lahir பிறந்த திகதி	Hari நாள்		Bulan மாதம்		Tahun ஆண்டு	

A3	Jantina
	பால்
		A. Lelaki
		    –ண்
		B. Perempuan
		    பெண்

A4	Bangsa
	மணம்
		A. Melayu
		    மலாய்
		B. Cina
		    சீனர்
		C. India
		    மந்தியர்
			D. Bumiputra Sabah
			    சபா பூர்வீகம்
			E. Bumiputra Sarawak
			    சரவாக்பூர்வீகம்
			F. Lain-Lain
			    மற்றது

		Sekolah Rendah ஆரம்பப்பள்ளி	Sekolah Menengah மடைநிலைப்பள்ளி	

A5	Kelas
	ÅlàÒ
		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
	ÅÅÐ
		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

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MODUL B : CORAK PEMAKANAN
தொகுதி B : உணவு பழக்கம்

Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில் கருமையாக்குக .

B1 Apakah sesi persekolahan anda?
உங்கள்பள்ளி எச்சமயத்தில் நடைப்பெறும் ?

A   Sesi pagi sahaja / காலையில் மட்டும்

B   Sesi petang sahaja / மதியத்தில் மட்டும்

C   Sesi pagi sampai petang / காலை முதல் மாலை வரை

B2 Kebiasaannya, dalam seminggu berapa hari anda mengambil sarapan (dari pukul 6.00 pagi hingga 8.00 pagi)?
ஒரு வாரத்தில் எத்தனை முறை காலை சிற்றுண்டி உட்கொள்வீர்கள்? (காலை மணி 6.00-லிருந்துகாலை மணி 8.00 வரை)?

A   1 hari / 1 நாள்

B   2 hari / 2 நாள்

C   3 hari / 3 நாள்

D   4 hari / 4 நாள்

E   5 hari / 5 நாள்

F   6 hari / 6 நாள்

G   7 hari / 7 நாள்

H   Tidak berkaitan / Tidak ambil sarapan
தொடர்பு யல்லை /காலை உணவு உட்கொள்வதில்லை

B3 Kebiasaannya, dari mana anda dapat makanan itu?
வழக்கமாக எங்கு காலை உணவை உட்கொள்வீர்கள்?

A   Disediakan di rumah / வீடு

B   Beli di kantin sekolah / பள்ளி சிற்றுண்டிச்சாலை

C   Beli di restoran atau warung / கடை

D   Disediakan di asrama / பள்ளி விடுதி

E   Lain-lain / மற்றது

F   Tidak ambil sarapan / காலை உணவு உட்கொள்வதில்லை

B4 Sekiranya anda tidak mengambil sarapan, apakah sebabnya?
ஏன் காலை உணவை உட்கொள்வதில்லை?

A   Tiada makanan / உணவு யல்லை

B   Tiada selera / உண்ண விருப்பமில்லை

C   Tiada masa / நேரம்யல்லை

D   Berdiet /kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்

E   Tiada duit / பணம் பற்றாகுறை

F   Lain-lain / மற்றது

G   Tidak berkaitan/kerana saya mengambil sarapan setiap hari
தொடர்பு யல்லை/ தினமும் காலை சிற்றுண்டி உட்கொள்வேன்.

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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

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B9 Sekiranya anda tidak mengambil makan tengahari, apakah sebabnya?
ஏன் மதிய உணவை உட்கொள்வதில்லை?

A Tiada makanan / உணவு இல்லை

B Tiada selera / உண்ண விருப்பமில்லை

C Tiada masa / நேரம்இல்லை

D Berdiet /kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்

E Tiada duit / பணம் பற்றாகுறை

F Lain-lain / மற்றது

G Tidak berkaitan/ambil makan tengahari / தொடர்பு இல்லை/ மதிய உணவை உட்கொள்வேன்

B10 Kebiasaannya, dalam seminggu berapa hari anda mengambil minum petang (3.00 petang hingga 6.00 petang)?
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை மாலை சிற்றுண்டி உட்கொள்வீர்கள் (மாலை மணி 3.00-லிருந்துமாலை மணி 6.00 வரை)?

A 1 hari / 1 நாள்

B 2 hari / 2 நாள்

C 3 hari / 3 நாள்

D 4 hari / 4 நாள்

E 5 hari / 5 நாள்

F 6 hari / 6 நாள்

G 7 hari / 7 நாள்

H Tidak minum petang / மாலை சிற்றுண்டி உட்கொள்வதில்லை

B11 Kebiasaannya, dari mana anda dapat makanan itu?
வழக்கமாக 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 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 இரவு உணவு உட்கொள்வீர்கள் (மதிய மணி 6.00-லிருந்துஇரவு 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 / இரவு உணவு உட்கொள்வதில்லை

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B13   Kebiasaannya, dari mana anda dapat makanan itu?
எங்கிருந்து அவ்வுணவை 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/யரவு உணவு உண்பதில்லை

B14   Sekiranya anda tidak mengambil makan malam, apakah sebabnya?
எதனால் யரவு உணவு உட்கொள்வதில்லை?

A   Tiada makanan / உணவு யல்லை

B   Tiada selera / உண்ண விருப்பமில்லை

C   Tiada masa / நேரம்யல்லை

D   Berdiet / உணவு கட்டுப்பாடு

E   Tiada duit / பணம் பற்றாகுறை

F   Lain-lain / மற்றது

G   Tidak berkaitan/ambil makan malam / தொடர்பு யல்லை/யரவு உணவு உட்கொள்வேன்.

B15   Dalam seminggu yang lepas, berapa kerap anda ambil makanan berat selepas makan malam? (Contoh: nasi lemak, roti canai, 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, யரவில் எத்தனை முறை அதிகமான அளவில் உணவு உட்கொண்டீர்கள்?
(உதாரணமாக: நாசி லெமாக், ரொத்தி சாணாய், 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 /
யரவில் நான் அதிகமான அளவில் உணவு உண்பதில்லை

B16   Di manakah anda mengambil makanan berat tersebut?
எங்கு யவ்வுணவை 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/யரவில் நான் அதிகமான அளவில் உணவு உண்பதில்லை

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B17 Kebiasaannya, dalam seminggu berapa hari anda makan makanan segera yang dibeli dari restoran makanan segera seperti burger, pizza, ayam goreng, kentang goreng, nuget dan sebagainya?
வழக்கமாக ஒரு வாரத்தில் எத்தனை முறை துரித உணவு உட்கொள்வீர்கள். உதாரணத்திற்கு பர்கர், பீசா, பொரித்தச் கோழி, பிராஞ் பிராய், 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 பள்ளிக்குவீட்டிலிருந்து 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 goring /nasi berlauk / நாசி லெமாக்/நாசி கோரேங்/நாசி பெர்லாவுக்

B Mee / Bihun / Kueh Teow / மீ / மீவுள் / குவே தியாவ்

C Roti / Ban / Sandwic / ரொத்தி / பன் / சான்விச்

D Nuget / Sosej / Burger / நகெட் / சொசேஜ் / பர்கர்

E Biskut / பிஸ்கிட்

F Buah-buahan / பழம்

G Lain-lain / மற்றது

H Tidak bawa bekal / பள்ளிக்கு உணவு எடுத்துச் செல்லமாட்டேன்

B20 Berapa kerap anda membawa bekal minuman ke sekolah?
பொதுவாக எத்தனை முறை பள்ளிக்கு நீர் எடுத்துச்செல்வீர்கள்?

A Setiap hari / தினமும்

B Kadang-kadang / சில நேரத்தில்

C Tidak / பள்ளிக்கு நீர் எடுத்துச் செல்லமாட்டேன்

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B21 Apakah bekalan minuman yang biasa dibawa ke sekolah? (Boleh pilih **SATU** atau **DUA** jawapan sahaja)
வழக்கமாக எவ்வகை நீரை பள்ளிக்கு எடுத்துச் செல்வீர்கள்?(ஒன்று அல்லது மரண்டு விடையை மட்டும் தெர்வு செய்க)

   A   Air kosong / தன்னீர்

   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 எதர்காக 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 மற்றும்பள்ளி 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 அல்லதுமரண்டு விடையை மட்டும் தெர்வு செய்க)

   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

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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 இரண்டு விடையை மட்டும் தெர்வு செய்க)

A Gula-gula/coklat / சாக்லெட்

B Kentang goreng / nuget / sosej / பிரஞ் பிரைஸ்/ நாகெட்/ சொசெஜ்

C Air berperisa/air berkarbonat / குளிர்பானம்/ 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 வாங்கமாட்டே

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

உங்கள் உணவு பழக்கமுறையைதூண்டிய தொடர்புத்துறை ஊடகம் எது? (ஒன்று அல்லதுயரண்டு விடையை மட்டும் தெர்வு செய்க)

A   Media sosial (contoh : Internet, YouTube, Facebook, Instagram, Twitter) /   சமூக வளைத்தலம்.(உதாரணம் : யூதுப், முகபுத்தகம், துவித்தர்)

B   Televisyen / தொலைக்காட்சி

C   Radio / வானொலி

D   Media cetak (contoh: majalah, surat khabar, papan iklan, risalah, katalog) /   அச்சு ஊடகங்கள் (உதாரணம்: பத்திரிக்கை, செய்தித்தாள், விளம்பரம், ஆய்வுகட்டுரைகள், அட்டவணை)

E   Tidak terpengaruh / பாதிக்கப்படவில்லை

Tinjauan Kesihatan Rinmjo

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?

ஓய்வு நேரத்தில் உடல் செயல்பாடு நடவடிக்கைகள்: கடந்த 7 நாட்களில் கீழ் குறிபிடப்படுள்ள
நடவடிக்கையை மேற்கொண்டீர்களா? (கடந்த வாரம்). ஆம் என்றால் எத்துனை முறை?

	Aktiviti நடவடிக்கை	Tiada	1-2 kali முறை	3-4 kali முறை	5-6 kali முறை	7 kali atau lebih முறை
a	Lompat tali சிகிப்பிங்	A	B	C	D	E
b	Mendayung / Berkenu படகு ஓட்டல்	A	B	C	D	E
c	Silat / Karate / Taekwondo 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 பேஸ்பாஸ	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 ஓகி	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 கார்பந்து	A	B	C	D	E
s	Pingpong பிங்பொங்	A	B	C	D	E

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Tinjauan Penduduk Kanju

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 நாட்களில்உடற்கல்வி பாடத்தின் பொழுது, எத்துனை முறை நீங்கள் முழுமையாகச் செயல்பட்டீர்கள்? (விளையாடுதல், ஓடுதல், குதித்தல்).

A Saya tidak mengikuti kelas pendidikan jasmani
நான் உடற்கல்வி வகுப்பில் பங்குப்பெறுவதில்லை

B Sangat jarang / மிகவும் குறைவு

C Kadang-kadang / சில சமயத்தில்

D Agak kerap / சற்று அதிகமாக

E Selalu / எப்பொழுதும்

C3 Dalam 7 hari yang lepas, apakah perkara yang anda biasa lakukan **semasa waktu rehat di sekolah**?
கடந்த 7 நாட்களில், ஓய்வு நேரத்தின் பொழுது நீங்கள் என்ன செய்தீர்கள்?

A Duduk (berbual, membaca, membuat kerja sekolah)
உட்கார்ந்திருந்தேன் (பேசிக்கொண்டு, படித்துக்கொண்டு, பாடம் செய்துக்கொண்டு)

B Berdiri **atau** berjalan-jalan
நின்றுகொண்டு அல்லது நடந்துக்கொண்டிருந்தேன்

C Berlari **atau** bermain sedikit
ஓடிக்கொண்டு அல்லது விளையாடிக்கொண்டிருந்தேன்

D Berlari **dan** bermain sedikit
ஓடிக்கொண்டுமற்றும் விளையாடிக்கொண்டிருந்தேன்

E Berlari **dan** bermain hampir sepanjang masa
ஓய்வு நேரம்முழுவதும் விளையாடிக்கொண்டிருந்தேன்

C4 Dalam 7 hari yang lepas, apakah perkara yang biasa anda lakukan **semasa waktu makan tengahari** (selain daripada makan)?
கடந்த 7 நாட்களில், ஓய்வு நேரத்தின் பொழுது நீங்கள் என்ன செய்தீர்கள்?

A Duduk (berbual, membaca, membuat kerja sekolah)
உட்கார்ந்திருந்தேன் (பேசிக்கொண்டு, படித்துக்கொண்டு, பாடம் செய்துக்கொண்டு)

B Berdiri **atau** berjalan-jalan
நின்றுகொண்டு அல்லது நடந்துக்கொண்டிருந்தேன்

C Berlari **atau** bermain sedikit
ஓடிக்கொண்டு அல்லது விளையாடிக்கொண்டிருந்தேன்

D Berlari **dan** bermain sedikit
ஓடிக்கொண்டுமற்றும் விளையாடிக்கொண்டிருந்தேன்

E Berlari **dan** bermain hampir sepanjang masa
ஓய்வு நேரம்முழுவதும் விளையாடிக்கொண்டிருந்தேன்

Tinjauan Penyelidikan Rawak

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 நீங்கள்உடல் செயல்பாடு நடவடிக்கையில் ஈடுபட்டிர்கள்?

A   Tiada / ஈடுப்படமாட்டேன்.

B   1 kali / 1 முறை

C   2 atau 3 kali / 2 அல்லது 3 முறை

D   4 atau 5 kali / 4 அல்லது 5 முறை

E   6 atau lebih kali / 6 முறைக்கு மேல்

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Tarjinal Pembekalar Kranju

C8 Yang manakah antara penyataan 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 ஈடுப்பட்டேன்

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, ஏரோபிக்ஸ்)

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, ஏரோபிக்ஸ்)

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, ஏரோபிக்ஸ்)

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, ஏரோபிக்ஸ்)

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, ஏரோபிக்ஸ்) 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

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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 பாதிக்கப்படிருந்ததா, அல்லதுஏதாவது 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 மறுதியில்தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுப்பட்டீர்களா?
(உதாரணம்: *பிஎஸ்பி, பிலே சிதேசன், கேம்போய்மற்றும் சில*)?

A Ya / ஆம்

B Tidak / இல்லை

C12 Berapa lamakah anda menonton televisyen dan/atau menggunakan komputer dan/ataubermain permainan video pada **hujung minggu**?
எவ்வளவு நேரம் கடந்த வார மறுதியில்தொலைக்காட்சி, கணினி, அல்லது கணினி விளையாட்டில் ஈடுப்பட்டீர்களா?

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 ஈடுப்பட்டீர்களா?

A Ya / ஆம்

B Tidak / இல்லை

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Tinjauan Penonton......

C14 Berapa lamakah anda menonton televisyen dan/atau menggunakan komputer dan/atau bermain permainan video pada **hari persekolahan**?
எவ்வளவு நேரம் மதில் 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

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MODUL D :	PERSEPSI PENGURUSAN BERAT BADAN
தொகுதி D :	உடல் எடை கட்டுப்பாடு

Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்

D1   Pada masa sekarang, anda rasa anda :
தற்சமயத்தில், என் உடல் எடை:

A   Kurang berat badan yang ketara
மிகவும் குறைவாக உள்ளது

B   Kurang berat badan
குறைவாக உள்ளது

C   Mempunyai berat badan yang sesuai
சரியாக உள்ளது

D   Berlebihan berat badan
சற்று அதிகமாக உள்ளது

E   Sangat berlebihan berat badan
மிகவும் அதிகமாக உள்ளது

D2   Apakah yang anda sedang lakukan terhadap berat badan anda?
உங்கள் உடல் எடையை சரிசெய்ய நீங்கள் ஏதாவது முயற்சியில் ஈடுபட்டுள்ளீர்களா?

A   Saya sedang berusaha untuk menurunkan berat badan saya
உடல் எடையை குறைக்க முயற்சிக்கிறேன்

B   Saya sedang berusaha untuk menambahkan berat badan saya
உடல் எடையை அதிகரிக்க முயற்சிக்கிறேன்

C   Saya tidak membuat apa-apa terhadap berat badan saya
ஒரு முயற்சியிலும் ஈடுபட வில்லை

D   Saya sedang mengekalkan berat badan saya
உடல் எடையை கட்டுப்படுத்த முயற்சிக்கிறேன்

D3   Sekiranya anda berhasrat untuk **mengurangkan berat badan**, apakah faktor utama yang mendorong anda berbuat demikian?
எதனால் நீங்கள் உடல் எடையை குறைக்க முயற்சி செய்கிறீர்கள்?

A   Kesihatan
உடல் நிலையைப் பேண

B   Kecantikan
அழகைப் பேண

C   Meningkatkan keyakinan diri
தன்னம்பிக்கையை உயர்த்த

D   Mendapat ramai kawan
நிறைய நண்பர்கள் கிடைக்க

E   Tidak berhasrat mengurangkan berat badan
உடல் எடையைக் குறைக்க விருப்பமில்லை

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Tingkatan Pemakanan Kedua

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
மணிப்பு நிறைந்த உணவை குறைத்தல்

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

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

F   Mengambil pil diet/menggunakan krim pelangsing tubuh
மருந்து பயன்படுத்துதல்

G   Berpuasa
விரதம்

H   Mendapat khidmat professional
அறிவுரை நாடுதல்

I   Tidak berhasrat mengurangkan berat badan
உடல் எடையைக் குறைக்க விருப்பமில்லை

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

A   Kesihatan / உடல் நிலையைப் பேண

B   Kecantikan / அழகைப் பேண

C   Meningkatkan keyakinan diri / தன்னபிக்கையை 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

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MODUL E :	PENGAMBILAN SUPLEMEN
தொகுதி E :	விடமின் மற்றும் மாற்றுச்சத்துணவு உட்கொள்ளுதல்

Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்

E1 Adakah anda ada mengambil sebarang suplemen **vitamin / mineral**?
நீங்கள் விடமின் ஒதாவது உட்கொள்கிறீர்களா?

   A   Ya / ஆம்

   B   Tidak / பல்லை

(Jika **TIDAK**, sila jawab**TIDAK AMBIL SUPLEMEN** di soalan E2, E3, dan E4)
(பல்லையென்றால்,விடமின்உட்கொள்ளவில்லையென்றுE2,E3,மற்றும்E4 கேள்விகளில் விடையளிக்கவும்)

E2 Apakah jenis suplemen vitamin / mineral yang biasa diambil?
எவ்வகை விடமின் உட்கொள்வீர்கள்?

   A   Multivitamin / மல்திவிடமின்

   B   Vitamin C / விடமின் C

   C   Zat besi (Ferum) / பரும்பு சத்து

   D   Lain-lain / மற்றது

   E   Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை

E3 Apakah sebab anda mengambil suplemen vitamin / mineral tersebut?
எதனால் விடமின் உட்கொள்கிறீர்கள்?

   A   Atas arahan doktor / மருத்துவரின் ஆலோசனை

   B   Atas arahan ibubapa / பெற்றோரின் ஆலோசனை

   C   Kesedaran sendiri / சுய முயற்சி

   D   Pengaruh kawan-kawan / நண்வர்களால்

   E   Lain-lain / மற்றது

   F   Tidak ambil suplemen / விடமின் உட்கொள்ளவில்லை

E4 Berapa kerap anda mengambil suplemen vitamin / mineral tersebut?
ஒரு வாரத்தில் எத்தனை முறை நீங்கள் விடமின் 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

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Tamil – Penduduk 18 tahun

E5 Adakah anda ada mengambil sebarang suplemen **makanan**?
நீங்கள் மாற்றுச்சத்துணவு உட்கொள்வீர்களா?

A   Ya / ஆம்

B   Tidak / இல்லை

(Jika **TIDAK**, sila jawab**TIDAK AMBIL SUPLEMEN** di soalan E6, E7, dan E8)
(இல்லை என்றால், விடமின் உட்கொள்ளவில்லை என்றுE2, E3, மற்றும்E4 கேள்விகளில் விடையளிக்கவும்)

E6 Apakah jenis suplemen makanan yang biasa diambil?
எவ்விதமான மாற்றுச்சத்துணவை நீங்கள் உட்கொள்கிறீர்கள்?

A   Spirulina / சிபிருலினா

B   Minyak ikan / மீன் எண்ணெ

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
நண்வர்களால்

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

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Tinjauan Pemakanan Semula

MODUL F :	LABEL MAKANAN DAN PEMAKANAN (SEKOLAH MENENGAH SAHAJA)
தொகுதி F :	உணவு மற்றும் உணவு உள்கொள்ளும்முறையையும்குறிப்பிடுக.
	(படைநிலைப்பள்ளி மட்டும்)

Arahan : Pilih jawapan dan hitamkan pada kertas jawapan yang disediakan.
கட்டளை : சரியான விடையைத் தெர்வு செய்து கொடுக்கப்படுள்ள விடைத்தாளில்

F1   Adakah anda membaca label makanan ketika membeli atau menerima makanan/minuman?
ஓர் உணவுப் பொருளை வாங்குவதற்கு முன் நீங்கள் அதன் அடையாள அட்டையை படிப்பீர்களா?

    A.   Ya, setiap kali **(terus ke soalan F3 dan jawab hingga soalan F10)**
    ஆம், ஒவ்வொருமுறையும் (கேள்வி F3- மல்மருந்து F10 வரை பதிலளிக்கவும்)

    B.   Ya, kadang-kadang / ஆம், சில சமயத்தில்

    C.   Tidak **(sila jawab soalan F2 dan terus ke soalan F5 hingga F8)**
    மல்லை (கேள்வி F2 மற்றும் F5 பின் அதிலிருந்து தொடர்ந்து F8 வரை பதிலளிக்கவும்)

F2   Jika anda tidak membaca label makanan, nyatakan sebab-sebabnya?**Anda boleh memilih lebih daripada satu jawapan.**
எதனால் நீங்கள் அவ்வடையாள அட்டையை படிக்கமாதீர்கள்?ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்.

	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

F3   Apakah jenis maklumat panel maklumat pemakanan yang anda baca? **Anda boleh memilih lebih daripada satu jawapan.**
எந்த வகையான தகவலை நீங்கள் உணவு அடையாள அட்டையில் படித்தீர்கள்? ஒரு விடைக்கு மேல் தேர்வு செய்யலாம்

	Maklumat khasiat makanan
A	Jumlah tenaga makanan உணவுச்சத்து
B	Kandungan karbohidrat/gula ஊட்டச்சத்துமற்றும் சர்ச்சரையின்அளவு
C	Kandungan lemak கொழுப்பின் அளவு
D	Kandungan protein புரதச்சத்து
E	Kandungan garam/natrium உப்பின் அளவு
F	Kandungan vitamin விடமினின் அளவு
G	Kandungan mineral கனிமத்தின் அளவு
H	Serat (fiber) -பைபெர்

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

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

Tarikh luput
காலாவதியாகும்

Akuan pemakanan
ஊட்டச்சத்து

Panel maklumat pemakanan
ஊட்டச்சத்து தகவல்

Logo halal
ஹலால்

Senarai ramuan/bahan
பொருளடக்கம்

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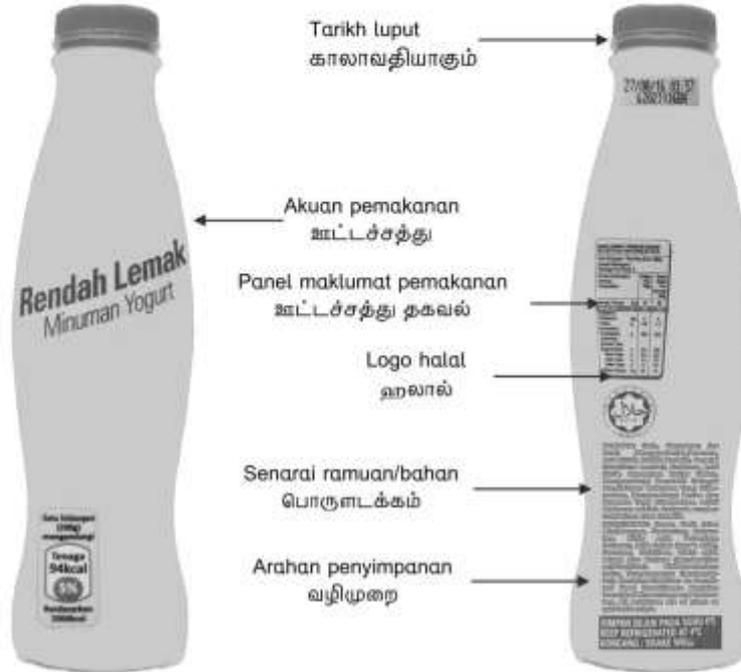
	Jenis Maklumat தகவல்களின் வகை
A	Tarikh luput காலாவதியாகும் திகதி
B	Akuan pemakanan ஊட்டச்சத்து கூற்றுகள்
C	Panel maklumat pemakanan ஊட்டச்சத்து தகவல்
D	Logo halal ஹலால் சின்னம்
E	Senarai ramuan/bahan பொருளடக்கம்
F	Arahan penyimpanan வழிமுறை

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.

கீழ்காணும் அட்டவணையில் குளிர்பானம் **XYZ**-ன் ஊட்டச்சத்து தகவல்கள்கொடுக்கப்பட்டுள்ளது. அதை படித்தப்பின் கொடுக்கப்பட்டுள்ளசூற்றுகள் 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.
யக்குளிர்பானத்தை நான் முழுமையாக அருந்தினால், நான் 26.5 கிராம் சர்க்கரை எடுப்பதற்கு ஈடாகும்.

A   Betul / சரி

B   Salah / பிழை

C   Tidak tahu / தெரியவில்லை

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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.

கீழ்காணும் கலோரி தகவலுக்கேற்ப, கொடுக்கப்பட்டுள்ள சூற்று சரி அல்லது பிழை என்று குறிப்பிடுக.

Satu Hidangan
Mengandungi 250 ml

ஒரு பரிமாறலில் 250 ml உள்ளது

Tenaga
140kcal

7%

Berdasarkan
2000kcal

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

    A   Betul / சரி

    B   Salah / பிழை

    C   Tidak tahu / தெரியவில்லை

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

    A   Betul / சரி

    B   Salah / பிழை

    C   Tidak tahu / தெரியவில்லை

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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
குழுகோஸ், கொக்கோ

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

A.   Pepejal susu
       பால்

B.   Sirap glukosa
       குழுகோஸ்

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?
       யப்பனிக்கூலில் குறைவான அளவில் பயன்படுத்தப்பட்டுள்ள பொருள் எது?

A.   Sirap glukosa
       குழுகோஸ்

B.   Gula
       சர்க்கரை

C.   Olein/Minyak isirung kelapa sawit
       பனை எண்ணெய்

D.   Pepejal susu
       பால்

E.   Serbuk koko
       கொக்கோ

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Tinjauan Pemeriksaan Kesihatan

MODUL G :   PENGUKURAN ANTROPOMETRI
தொகுதி G :   ஆந்த்ரோபோமெற்றிக் அளவீடுகள்

Arahan : Bahagian ini akan disi oleh pelajar di dalam kertas jawapan yang disediakan.
கட்டளை: கீழ்காணும் பத்திரத்தை திறப்புக.

G1	Tarikh pengukuran Antropometri ஆந்த்ரோபோமெற்றிக் அளவு எடுக்கப்பட்ட திகதி
	Hari நாள் Bulan மாதம் Tahun ஆண்டு

G2	Berat Badan உடல் எடை
G2a	Berat 1 எடை 1 . kg
G2b	Berat 2 எடை 2 . kg
	Enggan diukur அளக்கவில்லை

G3	Tinggi உயரம்
G3a	Tinggi 1 உயரம் 1 . cm
G3b	Tinggi 2 உயரம் 2 . cm
	Enggan diukur அளக்கவில்லை

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ADOLESCENT NUTRITION SURVEY 2017
马来西亚学生营养调查 2017

Survey form/调查问卷

INTRODUCTION / 简介

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

The information you provide will be used to develop better health programs for the future younger generation.
你所提供的资料将被用于规划更好的健康方案给予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**。请跟据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

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MODULE A : PERSONAL INFORMATION
A 组 : 个人资料

INSTRUCTION : Fill the student ID, date of birth and shade your answer on the answer sheet provided
指示 : 填写学生编号，出生日期并在准备好的答案纸上划黑作答

A1	Student ID/ 学生编号	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	Day/日期		Month/月		Year/年份	
A3	Gender/性别	A. Male/男 B. Female/女					
A4	Ethnicity/种族	A. Malay/马来人 B. Chinese.华人 C. Indian/印度人		D. Sabah indigenous/沙巴土著 E. Sarawak indigenous /沙捞越土著 F. Others/其他			

		Primary school/小学	Secondary school/中学	
A5	Class/年级	A. Primary 4/4年级 B. Primary 5/5年级 C. Primary 6/6年级	D. Remove class/预备班 E. Secondary1/初中1 F. Secondary2/初中2	G. Secondary3/初中3 H. Secondary4/初中4 I. Secondary5/初中5
A6	Age/年龄	A. 10 year old/10 岁 B. 11 year old /11岁 C. 12 year old /12岁	D. 13 year old /13岁 E. 14 year old / 14岁 F. 15 year old / 15岁	G. 16 year old /16岁 H. 17 year old / 17岁 I. 18 year old / 18岁

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Proposed: Word count Result

MODULE B: Meal pattern
组 B： 饮食习惯

Instruction : Choose the answer and shade on the answer sheet provided
指示：请在准备好的答案纸上划黑作答

B1   What is your school session?
请问你现在就读早上或下午班？

    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

B2   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）？

    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

B3   Normally, where do you get your breakfast from?
你通常从哪里获得早餐？

    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

B4   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？

    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

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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

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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/没有吃下午餐

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

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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

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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

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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

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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 : 游览网站 / 视频网站 / 面子书)
   B   Television/电视机
   C   Radio/电台
   D   Printed media (Example: magazine, newspaper, billboard, brochure, catalogue)
       平面媒体 (例子:杂志, 报章, 广告牌, 传单, 购物目录)
   E   Not affected/没有被影响

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MODULE C : PHYSICAL ACTIVITY
C 组 : 体能活动

Instruction : Choose the answer and shade on the answer sheet provided
指示：请在准备好的答案纸上划黑作答

C1   Physical activity during leisure time: Are you doing the activities listed below during the last 7 days (last week). If **YES**, how many times?
休闲体能活动：在过去的7天（上周）你有做出以下列出的哪些活动。如果有，请问多少次？

	Activity/活动	Never/没有	1-2 times/1-2 次	3-4 times/3-4 次	5-6 times/5-6 次	7 times or more/7 次或以上
a	Rope skipping/跳绳	A	B	C	D	E
b	Rowing/ Canoeing/划艇	A	B	C	D	E
c	*Silat* / Karate / Taekwondo 马来武术/空手道/跆拳道	A	B	C	D	E
d	Chasing game/追逐游戏	A	B	C	D	E
e	Brisk walking/步行运动	A	B	C	D	E
f	Cycling/骑脚踏车	A	B	C	D	E
g	Jogging / Running/慢跑 / 赛跑	A	B	C	D	E
h	Aerobics/有氧体操	A	B	C	D	E
i	Swimming/游泳	A	B	C	D	E
j	Baseball/棒球	A	B	C	D	E
k	Dancing/跳舞	A	B	C	D	E
l	Rugby/橄榄球	A	B	C	D	E
m	Badminton/羽毛球	A	B	C	D	E
n	Hockey/曲棍球	A	B	C	D	E
o	Volleyball/排球	A	B	C	D	E
p	Basketball / Netball/篮球	A	B	C	D	E
q	*Sepak takraw*/藤球	A	B	C	D	E
r	Football / Futsal/足球	A	B	C	D	E
s	Ping pong/乒乓球	A	B	C	D	E

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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/极少数
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

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C7   How many times have you been involved with sport activates, 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/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

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MODULE D : PERCEPTION OF WEIGHT MANAGEMENT
D 组 : 体重管理的自我观点

INSTRUCTION : Choose the answer and shade on the answer sheet provided.
指示 : 请在准备好的答案纸上划黑作答

D1 At the present time, you think you are:
目前，你觉得你:

　　A　Significant underweight/体重非常不足
　　B　Underweight/体重不足
　　C　Has appropriate body weight/拥有适当的体重
　　D　Overweight/体重过重
　　E　Obese/肥胖

D2 What are you doing to your body weight?
你对你的体重做了些什么?

　　A　I am trying to reduce my body weight/我正在努力减轻自己的体重
　　B　I am trying to increase my body weight/我正在努力增加自己的体重
　　C　I am not doing anything to my body weight/我什么也没做
　　D　I am maintaining my body weight/我正在维持自己的体重

D3 If you intend to **lose body weight**, what are the main factor that motivate you to do so?/如果你想**减肥**，是什么主要因素驱使你这样做呢?

　　A　Health/健康
　　B　Beauty/漂亮
　　C　Increase self-confidence/提高自信
　　D　To have more friends/结交更多朋友
　　E　Does not intend to lose body weight/没有想过减肥

D4 If you intend **to lose body weight**, what is the preferred option?
如果你想**减肥**，什么方法是你的首选?

　　A　Exercise/运动
　　B　Reduce consumption of high fat foods/减少吃油腻的食物[Example/例子: fried food/煎炸食物)
　　C　Reduce intake of sugary foods/减少吃甜食
　　D　Increase intake of vegetables and fruits/多吃蔬菜和水果
　　E　Skip main meals/不吃正餐（breakfast/早餐，lunch/午餐，dinner/晚餐）
　　F　Taking diet pills/ use slimming cream/吃减肥药/用减肥霜
　　G　Fasting/禁食
　　H　Get professional advise/征求专业服务
　　I　Does not intend to lose body weight/没有想过减肥

D5 If you intend to **increase body weight**, what are the main factor that motivate you to do so?
如果你想**增肥**，是什么主要因素驱使你这样做呢?

　　A　Healthy/健康
　　B　Beauty/漂亮
　　C　Increase self-confidence/提高自信
　　D　To have more friends/结交更多朋友
　　E　Does not intend to increase body weight/没有想过增肥

D6 If you intend **to increase body weight**, what is the preferred option?
如果你想**增肥**，什么方法是你的首选?

　　A　Increase the quantity of food consumed/吃更多的食物
　　B　Taking supplement (Additional foods such as milk, vitamin)/吃补助品 (如奶，维生素补助品)
　　C　Take high-calorie foods/吃高卡路里的食物
　　D　Others/其他
　　E　Does not intend to increase body weight/没有想过增肥

MODULE E :   SUPPLEMENT INTAKE
E 组 ：   食用营养补助品

Instruction : Choose the answer and shade on the answer sheet provided
指示 ：请在准备好的答案纸上划黑作答

E1   Are you taking any vitamin supplement/ minerals?
你有在食用维生素/矿物质的补助品吗？

   A   Yes/有
   B   No/没有
   [If **No**, please answer '**I DON'T TAKE SUPPLEMENT**' at question E2, E3, danE4
   (如果**没有**，请 在E2，E3 和 E4 回答**没有食用补助品**）

E2   What type of vitamin supplement/ minerals that you usually take?
你在食用什么维生素/矿物质补助品？

   A   Multivitamin/多元维生素
   B   Vitamin C/维生素 C
   C   Iron supplement (Ferum)/铁质
   D   Others/其他
   E   I do not take supplement/没有食用补助品

E3   What is the reason for you to take vitamin supplement/ minerals?
是什么原因使你在食用维生素/矿物质补助品？

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

E4   How often do you take vitamin supplement / minerals?
你如何食用该维生素/矿物质补助品？

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

E5   Are you taking any **food supplement**?
你有在食用食物补助品吗？

   A   Yes/有
   B   No/没有

   (If **NO**, please answer '**I DON'T TAKE SUPPLEMENT** 'at question E6, E7, danE8)
   (如果**没有**，请在E6，E7 和 E8 回答**没有食用补助品**）

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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

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MODULE F: NUTRITION AND FOOD LABELLING
F 组： 食品标签（只限于中学生作答）

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

F1 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？

A. Yes, every time/每次都会 } (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. Yes, sometimes/偶尔会

C. No/不会   [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)

F2 If you do not read food labels, specify the reason? **You may choose more than one answer**
如果你没有阅读食品标签，请列明原因。**你可以选择多个答案**

	Reasons for not reading food labels/ 没有阅读食品标签的原因
A	Small printing font/字体太小
B	Do not understand food labels/不明白
C	Not interesting/不感兴趣
D	Do not know the importance/不懂其重要性
E	No time/没有时间
F	Already know the information/已经知道相关资料

F3 What kind of information do you read from the food label? **You may choose more than one answer.**
你会从食物营养标签上阅读哪些营养资料？ **你可以选择多个答案**

	Nutrition fact information/营养资料
A	Energy content/日能
B	Carbohydrate/sugar content/碳水化合物/糖含量
C	Fat content/脂肪含量
D	Protein content/蛋白质含量
E	Salt/ sodium content/钠含量
F	Vitamin content/维生素含量
G	Mineral content/矿物质含量
H	Fiber/纤维

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

根据以下饮品为例，你会阅读以下哪些资料？**您可以选择多个答案**

Expiry date/
有限期

Dietary declaration/
食品标签

Nutrition fact/
营养资料

Halal logo/
清真标志

List of ingredients/
成分

Storage instructions/
存放指示

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

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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 werving/每食用份量
Contain/含有 250 ml/毫升

能量 Energy
140 kcal/千卡

7%

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？

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？

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

MODULE G : ANTHROPOMETRIC MEASUREMENT
G 组： 人体测量

Instruction: This section will be completed by the student in the answer sheets provided
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:

Day/日期 Month/月份 Year/年份

G2	Body weight/体重
G2a	Weight 1/体重1 · kg/公斤
G2b	Weight 2/体重2 · kg/公斤
	Refuse to be measured 不愿被测量

G3	Body height/身高
G3a	Height 1/身高 1 · cm/厘米
G3b	Height 2/身高 2 · cm/厘米
	Refuse to be measured 不愿被测量

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INSTITUT KESIHATAN UMUM
KEMENTERIAN KESIHATAN MALAYSIA
Jalan Bangsar
50590 Kuala Lumpur

Primary School Questionnaire Answer Sheet

Secondary school Questionnaire Answer Sheet

TINJAUAN PEMAKANAN REMAJA 2017
KERTAS JAWAPAN

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 diperoleh 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 tinjuan ini?

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

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

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

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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. Namub, segala maklumat yang diperoleh daripada tinjauan ini akan dapat membantu penggubal dasar untuk merancang dan menambahbaik program sedia ada untuk golongan remaja di Malaysia.

10. Adakah maklumat perubatan anak saya akan dirahsiakan?

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

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

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

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

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

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

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

		Sila tandakan √ di dalam kotak
1.	Saya telah diberi maklumat tentang tinjauan di atas dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	
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.	
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.	
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.	
5.	Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ibu bapa/penjaga termaklum ini yang telah ditandatangani dan bertarikh.	

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   :

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Borang Persetujuan Ibu Bapa/Penjaga NHMS 2017

BORANG PERSETUJUAN IBU BAPA/ PENJAGA (*Salinan Penyelidik*)

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

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

	Sila tandakan √ di dalam kotak
1. Saya telah diberi maklumat tentang tinjauan di atas dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	
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.	
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.	
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.	
5. Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ibu bapa/penjaga termaklum ini yang telah ditandatangani dan bertarikh.	

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   :

3

Students Consent Form

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 bersam-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 diperoleh 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 tinjuan 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.

1

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 diperoleh 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 berkelayakan, 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.	☐
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.	☐
3.	Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	☐
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.	☐
5.	Saya faham bahawa penyelidik, peninjau yang berkelayakan, 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.	☐
6.	Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ini yang telah ditandatangani dan bertarikh.	☐

Responden :

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

Penyelidik:

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

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Borang Persetujuan 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 √ 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.	
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.	
3.	Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	
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.	
5.	Saya faham bahawa penyelidik, peninjau yang berkelayakan, 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.	
6.	Saya akan menerima satu salinan maklumat tinjauan/borang persetujuan ini yang telah ditandatangani dan bertarikh.	

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

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

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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	Recommented 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

INSTITUT FOR PUBLIC HEALTH

Ministry of Health Malaysia