# NATIONAL HEALTH AND MORBIDITY SURVEY 2017

# ADOLESCENT NUTRITION SURVEY

## NEGERI SEMBILAN

**Institute for Public Health • Ministry of Health Malaysia**

iku
INSTITUTE FOR PUBLIC HEALTH

Ministry of Health Malaysia

MINISTRY OF EDUCATION MALAYSIA

# 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.

**(In alphabetical order)**

Ainan Nasrina Ismail, Azli Baharudin, Chan Ying Ying, Chin Kim Ling, Cheong Siew Man, Fatimah Othman, Hazizi Abu Saad, Jamilah Ahmad, Junaidah Raib, Lai Wai Kent, Lalitha Palaniveloo,  Ling Swee Nian, Mohd Azahadi Omar, Mahenderan a/l Appukutty, Mohamad Hasnan Ahmad, Mohamad Ihsan Tahir, Noor Ani Ahmad, Norlida Zulkafly, Nur Azna Mahmud, Nor Azian Mohd Zaki, Norazizah Ibrahim Wong, Noor Hasnani Ismail, Noor Ul-Aziha Muhammad, Nur Ili Mohamad Tarmizi, Nur Shahida Abdul Aziz, Poh Bee Koon, Rashidah Ambak, Rohana Ya'akof, Ruby Zainureen Zahedi, Ruhaya Salleh, Rusidah Selamat, Ruzita Abd Talib, Safiah Md Yusof, Sam Azura Ahmad, Shahrulnaz Norhazli Nazri, Syafinaz Sallehuddin, Subash Shander a/l Ganapathy, Suhaidi Sudin, Tan Beng Chin

**Editorial Reviewers**
Jane Ling Miaw Yn

**Editors**

Ruhaya Salleh, Tahir Aris, Muhammad Fadhli Mohd Yusoff,

**Suggested citation:**
Institute for Public Health (IPH) 2017. National Health and Morbidity Survey (NHMS) 2017: Adolescent Nutrition Survey 2017, Malaysia.

**Disclaimer:**
The views expressed in this report are those of the authors alone and do not necessarily represent the opinions of the other investigators participating in the survey, nor the view or policy of the Ministry of Health.

**Produce and Published by:**
The National Health and Morbidity Survey 2017: Adolescent Nutrition Survey 2017
Institute fo Public Health
National Institutes of Health
Ministry of Health Malaysia
Jalan Bangsar
50590 Kuala Lumpur, Malaysia
Tel: +603-22979400 / 521
Fax: +603-22823114
Website: www.iku.gov.my

**Any enquiries about this report should be directed to:**
Principal Investigator
National Health and Morbidity Survey 2017: Adolescent Nutrition Survey 2017
Institute for Public Health
National Institutes of Health
Ministry of Health Malaysia
Jalan Bangsar
50590 Kuala Lumpur, Malaysia
Tel: +603-22979400
Fax: +603-22823114
Website: www.iku.gov.my

# Acknowledgement

The authors would like to thank the Director General of Health Malaysia and the National Health and Morbidity Survey (NHMS) Steering Committee Team for supporting this research project via financial grant and technical support. The research team member would also like to express their gratitude to the Director General of Education, Ministry of Education, Malaysia as well as Director of Nutrition and other staff at Nutrition Division, Food Safety & Quality Division and the Ministry of Health for the input given.

The Adolescent Nutrition Survey would not have been completed without the commitment and dedication shown by the Ministry of Education Malaysia in conducting this study at selected schools nationwide. We specifically thanks the State Education Departments, Principals, Headmasters, teachers, students and parents for their excellent cooperation and commitment throughout the study.

The authors wish to extend ourtheir gratitude to all research team members. We are deeply indebted to the staff of the Institute for Public Health, State Health Department, State and District Nutritionist and our committed research assistants who contributed greatly to this study. Without their support and commitment, this study would not have come this far.

# Table of Contents

# List of Tables

**MEAL PATTERN AMONG ADOLESCENTS (PRIMARY 4 TO SECONDARY 5) IN NEGERI SEMBILAN**

**PHYSICAL ACTIVITY AMONG ADOLESCENTS (PRIMARY 4 TO SECONDARY 5) IN NEGERI SEMBILAN**

**List of Appendices**

**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 93.4% and stunting was 6.6%. The prevalence of stunting was higher in rural areas (10.9%) as compared to urban areas (6.1%). In terms of BMI for age (BAZ), the prevalence of thinness was 7.1%, overweight was 15.1% and obesity was 15.6%.

Among those school-going adolescents who had actual normal weight, 52.5% correctly perceived their weight to be normal. Among those who were actually thin, 68.3% correctly perceived their weight to be thin, while among those who were actually overweight and obese, 51.7% and 16.6% correctly perceived themselves to be overweight and obese respectively. Health was the main reason among those who wanted to lose and gain weight; with 56.1% preferring exercise as an option to lose weight; 53.1% 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 37.3%. The majority of them had breakfast one to six days per week (53.1%) and some of them did not having breakfast in a week (9.6%). Among those who had breakfast, 70.7% had it at home. Adolescents from urban areas (37.8%) reported having breakfast daily (seven days per week), higher than rural areas (33.1%). The two main reasons of skipping breakfast were no appetite (43.0%) and no time (33.0%).

The prevalence of having lunch seven days per week among school-going adolescents was 51.8%; 45.6% had lunch up to six days per week and 2.6% did not have lunch in a week. No appetite (43.4%) and no time (18.5%) were the two main reasons for skipping lunch. As for dinner, 58.1% of school-going adolescents had dinner seven days per week, 39.2% 1-6 days per week and 2.6% did not have dinner in a week. Only 7.5 % took heavy meals after dinner seven days per week.There were 1.7% who had fast food daily and 17.1% did not have fast food in a week. Social media (YouTube, Facebook, Instagram, etc.) and television were

reported as the main sources which affected dietary pattern in 35.5% and 29.4% respectively. A percentage of 36.4% reported that their dietary patterns were not affected by any media sources.

The prevalence of physical activity among school-going adolescents in Negeri Sembilan was 43.0%. 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 Negeri Sembilan was 40.1% and 28.3%. There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, classes and school localities. In average, the vitamin/mineral and food supplements were consumed everyday by 14.5% and 10.6% of adolescents respectively. The most commonly consumed vitamin/minerals and food supplements were Vitamin C, 34.2% and bee product 13.4% . The main reason for taking vitamin/minerals and food supplements was due to parent's advised 39.1% and 29.0% respectively.

Food and nutrition labelling use was assessed among secondary school-going adolescents; 33.2% always reading food and nutrition labelling. Another 54.7% reported as sometimes and only 12.1% 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 23.7% of adolescents answered correctly questions regarding the front of pack labelling and only 6.6% 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 to 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). Rates of undernutrition among Malaysian children have also been declining. Data from the Third National Health and Morbidity Survey (NHMS III) 2006 in Malaysia found that the prevalence of underweight, stunting 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 have generally improved when NHMS 2015 showed that the prevalence of underweight, stunting and thinness have reduced to 13.0%, 13.4% and 7.8% respectively (IPH, 2015). NHMS 2011 reported that the national prevalence of thinness among adolescents specifically was 9.7% (IPH, 2011)

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

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

**References**

1. Bibiloni, M. del M., Pons, A., & Tur, J. A. (2013). Prevalence of overweight and obesity in adolescents: A systematic review. ISRN Obesity, 2013, 392747. https://doi.org/10.1155/2013/392747
2. Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. Journal of Health Economics, 24(2), 365–389. https://doi.org/10.1016/j.jhealeco.2004.09.008
3. Institute for Public Health (IPH) 1996. The second National Health and Morbidity Survey (NHMS II) 1996, Health Related Behaviours. Ministry of Health, Malaysia.
4. Institute for Public Health (IPH) 2008. The third National Health and Morbidity Survey (NHMS III) 2006, Nutritional Status. Ministry of Health, Malaysia.
5. Institute for Public Health (IPH) 2011. The National Health and Morbidity Survey 2011 (NHMS 2011). Non-Communicable Diseases, Risk Factors & Other Health Problems; 2015.
6. Institute for Public Health (IPH) 2015. The National Health and Morbidity Survey 2015 (NHMS 2015). Vol. II. Non-Communicable Diseases, Risk Factors & Other Health Problems; 2015.
7. Onis, M. De, Blossner, M., Borghi, E., Frongillo, E. a, & Morris, R. (2004). Estimates of Global Prevalence of Childhood Underweight in 1990 and 2015. Journal of the American Medical Association, 291(21), 2600–6. https://doi.org/10.1001/jama.291.21.2600
8. Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: causes and consequences. Journal of Family Medicine and Primary Care, 4(2), 187–92. https://doi.org/10.4103/2249-4863.154628
9. Wojcicki, J. M., & Heyman, M. B. (2012). Adolescent nutritional awareness and use of food labels: results from the National Nutrition Health and Examination Survey. BMC Pediatrics, 12(1), 55. https://doi.org/10.1186/1471-2431-12-55
10. World Health Organization. (2006). Adolescent Nutrition: A Review of the Situation in Selected South-East Asian Countries. Regional Office for South-East Asia, New Delhi. New Delhi. https://doi.org/10.3126/hprospect.v10i0.5656

11. World Health Organization. (2014). Recognizing adolescence. Retrieved July, 23, 2017   from http://apps.who.int/adolescent/second-decade/section2/page1/recognizing-adolescence.html

**1.1 Objectives**

**1.1.1 General Objectives**

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

**1.1.2 Specific Objectives**

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

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

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

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

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

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

**1.2 The NHMS 2017 Organisation Team**

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

**1.2.1 NHMS Steering Committee**

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

### 1.2.2 Central Coordinating Team (CCT)

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

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

### 1.2.3 Research Team Members

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

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

### 1.2.4 State Liaison Officers and Data Collection Team

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

**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)**
Cik Nur Hazwani Bt. Mohd Hasri
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)

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

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

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

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

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

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

### 2.4 Sampling Design

This survey implemented a multistage stratified cluster sampling design to ensure a nationally representative sample of Standard 4 to 6 (10-12 years of age) and Form 1 to 5 (13-17 years of age) school-going adolescents in Malaysia. 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 of 36 teams were set up, 4 teams for Sabah and Sarawak and 2 teams for each of the remaining states. Each team 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 were asked to place 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

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


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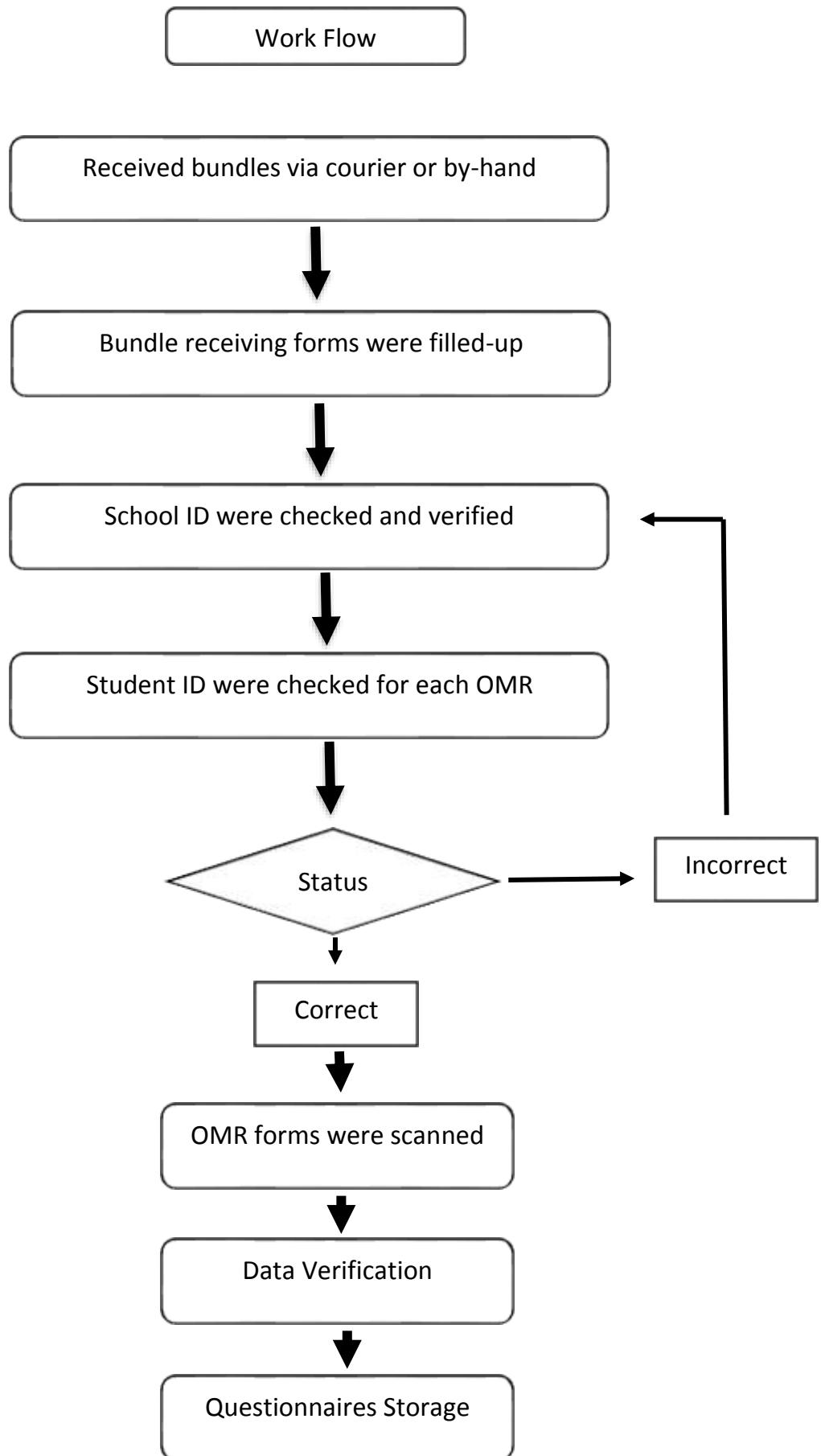
**Figure 2: Work Flow of NHMS 2017**

**2.7.2 Data Analysis**

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

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

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

Where;

W1 = the inverse of the probability of selecting the school

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

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

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

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

**2.8 Survey Instruments**

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

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

**3.0 Findings**

**3.1 General Findings**

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

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

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

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

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

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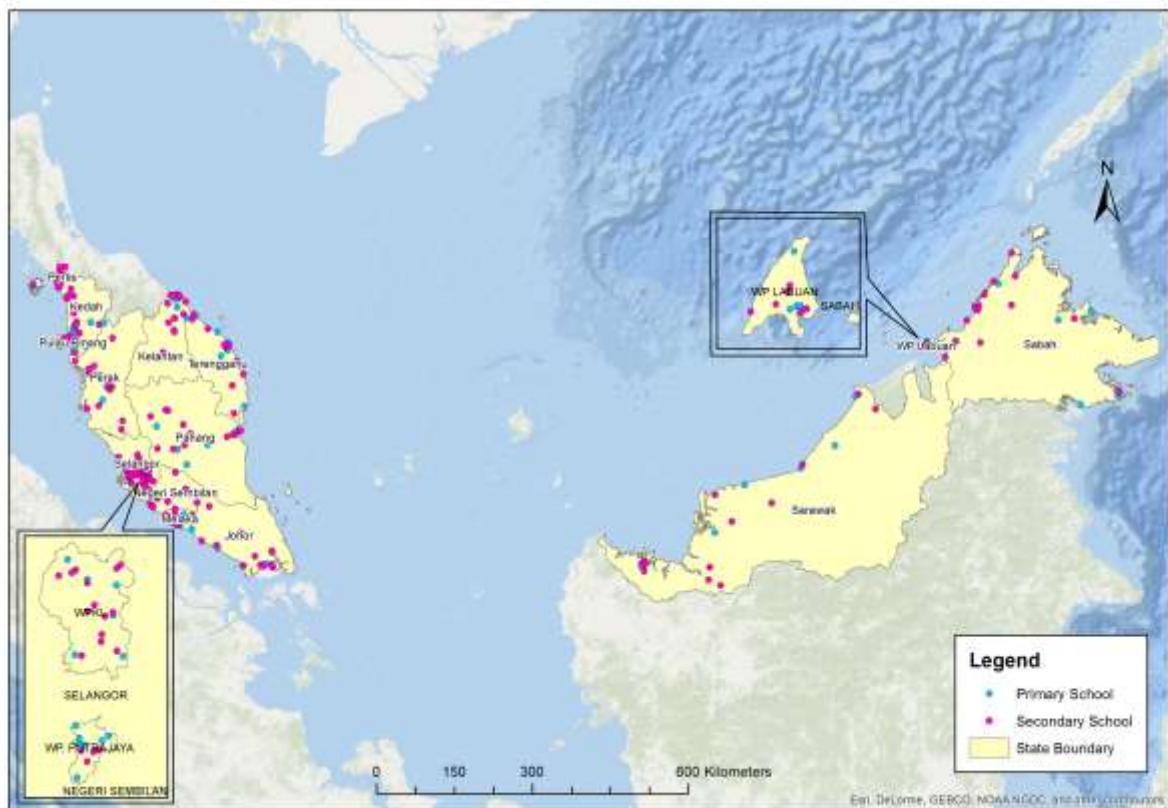
**Figure 3: GIS mapping of the selected primary and secondary schools in Malaysia 2017**

**3.2 Nutritional status among adolescents (Primary 4 to Secondary 5) in Negeri Sembilan**

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

**3.2.1 Introduction**

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

**3.2.2 Objectives**

**General objective:**

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

**Specific objective:**

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

**3.2.3 Variable definition**

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

**3.2.4 Findings**

**3.2.4.1 Height-for-Age z-score**

The finding of the survey showed that 93.4% (95% CI: 91.57-94.91) 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 [10.9% (95% CI: 7.36, 15.85)] compared to urban area [6.1% (95% CI: 4.65, 7.93%)]. In term of sexes, the prevalence of overweight was not much difference between boys [6.5% (95% CI: 4.77, 8.90)] and girls [6.6% (95% CI: 4.88, 8.84)]. Comparing class

category, secondary level had higher percentage of total stunting [7.0% (95% CI: 5.56, 8.85)] compared to primary level [5.8% (95% CI: 3.18, 10.22)].

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

In terms of BMI-for-age status, the findings showed that 62.2% (95% CI: 59.53, 64.88) of the population was in the normal range (≥ -2SD to ≤ +1SD). The prevalence was lower than national level [62.9% (95% CI: 61.84, 64.02). Comparing between strata, rural area had higher percentage of thinness [8.9% (95% CI: 6.16, 12.64)] compared to urban area [6.9% (95% CI: 5.31, 8.85%)]. According to sexes, more boys [8.4% (95% CI: 6.09, 11.47)] were thin than girls [5.7% (95% CI: 4.33, 7.54)]. In term of class category, primary level had slightly higher percentage of thinness [7.2% (95% CI: 5.44, 9.51)] compared to secondary level [7.0% (95% CI: 5.00, 9.67)].

On the other hand, the prevalence of overweight in Negeri Sembilan (BMI-for-age: ≥ +1SD to ≤ +2SD) was 15.1% (95% CI: 13.11, 17.30). 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 [15.6% (95% CI: 13.63-17.82)] than rural strata [10.3% (95% CI: 6.88, 15.26)]. Comparing between sexes, girls had higher prevalence of overweight [17.1% (95% CI: 14.37, 20.21)] than boy [13.1% (95% CI: 10.66, 15.99)]. In term of class category, primary level had higher prevalence of overweight [16.2% (95% CI: 13.19, 19.67) compared with secondary level [14.5% (95% CI: 12.03, 17.31)].

For the prevalence of obesity (BMI-for-age: > +2SD), the state prevalence was 15.6% (95% CI: 13.77, 17.63), which the prevalence was higher than national prevalence [14.8 (95% CI: 14.00, 15.73)]. Between strata, urban strata showed higher prevalence of obesity [15.9% (95% CI: 14.01, 18.06)] than urban strata [12.6% (95% CI: 9.86, 16.01)]. Comparing between sexes, boys had higher prevalence of obesity [18.9% (95% CI: 16.20, 21.85)] than girl [12.3% (95% CI: 10.18-14.84)]. In term of class category, 18.1% (95% CI: 15.01, 21.55) primary level were obese compared to 14.2% (95% CI: 12.31, 16.32) secondary level.

### 3.2.5 Conclusion

The prevalence of stunting for adolescent aged 10 to 17 years in Negeri Sembilan was 6.6%. On the other hand, the prevalence of overweight and obesity among this population were 15.1% and 15.6% respectively. In contrast, 7.1% of the population were found to be thin. High demand of energy and nutrient are very important for physical growth and development at this age. However, the concept of healthy eating and living should be practised at younger age to ensure healthy physical and mental development. In consequences, it is hope reduce the prevalence of stunted, thinness, overweight and obesity.

**3.2.6 Recommendation**

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

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

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

**References**

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

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

| Characteristic | Stunting (<-2SD) | | | | | Normal (≥-2SD) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **NEGERI SEMBILAN** | 179 | 9131 | 6.6 | 5.09 | 8.43 | 2249 | 129990 | 93.4 | 91.57 | 94.91 |
| **Locality of School** | | | | | | | | | | |
| Urban | 150 | 7630 | 6.1 | 4.65 | 7.93 | 2026 | 117725 | 93.9 | 92.07 | 95.35 |
| Rural | 29 | 1501 | 10.9 | 7.36 | 15.85 | 223 | 12265 | 89.1 | 84.15 | 92.64 |
| **Sex** | | | | | | | | | | |
| Boys | 79 | 4573 | 6.5 | 4.77 | 8.90 | 1031 | 65352 | 93.5 | 91.10 | 95.23 |
| Girls | 100 | 4559 | 6.6 | 4.88 | 8.84 | 1218 | 64638 | 93.4 | 91.16 | 95.12 |
| **Class** | | | | | | | | | | |
| Standard 4 | 16 | 926 | 5.4 | 3.20 | 8.84 | 249 | 16347 | 94.6 | 91.16 | 96.80 |
| Standard 5 | 22 | 1080 | 6.5 | 2.22 | 17.54 | 225 | 15535 | 93.5 | 82.46 | 97.78 |
| Standard 6 | 13 | 921 | 5.4 | 3.53 | 8.30 | 200 | 16003 | 94.6 | 91.70 | 96.47 |
| Form 1 | 18 | 1316 | 7.0 | 3.90 | 12.27 | 259 | 17467 | 93.0 | 87.73 | 96.10 |
| Form 2 | 14 | 750 | 4.2 | 2.82 | 6.34 | 304 | 16920 | 95.8 | 93.66 | 97.18 |
| Form 3 | 34 | 1392 | 8.0 | 5.10 | 12.21 | 365 | 16107 | 92.0 | 87.79 | 94.90 |
| Form 4 | 20 | 1074 | 6.4 | 3.84 | 10.41 | 278 | 15779 | 93.6 | 89.59 | 96.16 |
| Form 5 | 42 | 1672 | 9.6 | 6.64 | 13.56 | 369 | 15833 | 90.4 | 86.44 | 93.36 |
| **Class Category** | | | | | | | | | | |
| Primary Level | 51 | 2927 | 5.8 | 3.18 | 10.22 | 674 | 47886 | 94.2 | 89.78 | 96.82 |
| Secondary Level | 128 | 6204 | 7.0 | 5.56 | 8.85 | 1575 | 82104 | 93.0 | 91.15 | 94.44 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 141 | 6980 | 8.4 | 6.67 | 10.53 | 1433 | 76104 | 91.6 | 89.47 | 93.33 |
| Chinese | 22 | 1159 | 3.0 | 1.43 | 6.33 | 530 | 36987 | 97.0 | 93.67 | 98.57 |
| Indian | 13 | 820 | 5.4 | 2.01 | 13.56 | 244 | 14458 | 94.6 | 86.44 | 97.99 |
| Bumiputera Sabah | 1 | 55 | 6.6 | 0.83 | 37.19 | 13 | 783 | 93.4 | 62.81 | 99.17 |
| Bumiputera Sarawak | 2 | 117 | 10.6 | 3.66 | 26.88 | 16 | 986 | 89.4 | 73.12 | 96.34 |
| Others | - | - | - | - | - | 13 | 672 | 100.0 | 0.00 | 100.00 |

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

| Characteristic | Thinness ( <-2SD) | | | | | Normal BMI (≥ -2SD to ≤ +1SD) | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **NEGERI SEMBILAN** | 157 | 9816 | 7.1 | 5.59 | 8.90 | 1516 | 86438 | 62.2 | 59.53 | 64.88 |
| **Locality of School** | | | | | | | | | | |
| Urban | 136 | 8594 | 6.9 | 5.31 | 8.85 | 1345 | 77054 | 61.6 | 58.87 | 64.24 |
| Rural | 21 | 1222 | 8.9 | 6.16 | 12.64 | 171 | 9383 | 68.2 | 64.04 | 72.02 |
| **Sex** | | | | | | | | | | |
| Boys | 88 | 5850 | 8.4 | 6.09 | 11.47 | 662 | 41560 | 59.6 | 56.15 | 63.05 |
| Girls | 69 | 3966 | 5.7 | 4.33 | 7.54 | 854 | 44877 | 64.9 | 61.07 | 68.47 |
| **Class** | | | | | | | | | | |
| Standard 4 | 19 | 1281 | 7.5 | 4.42 | 12.41 | 147 | 9682 | 56.6 | 51.91 | 61.15 |
| Standard 5 | 13 | 1094 | 6.6 | 4.04 | 10.57 | 148 | 9985 | 60.1 | 56.99 | 63.12 |
| Standard 6 | 15 | 1275 | 7.6 | 5.42 | 10.46 | 121 | 9956 | 59.1 | 49.38 | 68.09 |
| Form 1 | 18 | 1274 | 6.8 | 3.93 | 11.46 | 175 | 11846 | 63.1 | 52.52 | 72.50 |
| Form 2 | 23 | 1328 | 7.5 | 5.05 | 10.98 | 210 | 11681 | 65.9 | 59.62 | 71.71 |
| Form 3 | 24 | 1195 | 6.8 | 4.52 | 10.19 | 263 | 11486 | 65.6 | 61.23 | 69.79 |
| Form 4 | 19 | 1219 | 7.3 | 3.87 | 13.21 | 188 | 10483 | 62.4 | 56.46 | 68.06 |
| Form 5 | 26 | 1150 | 6.6 | 4.16 | 10.23 | 264 | 11318 | 64.7 | 57.61 | 71.12 |
| **Class Category** | | | | | | | | | | |
| Primary Level | 47 | 3650 | 7.2 | 5.44 | 9.51 | 416 | 29623 | 58.6 | 54.35 | 62.66 |
| Secondary Level | 110 | 6166 | 7.0 | 5.00 | 9.67 | 1100 | 56815 | 64.3 | 61.52 | 67.08 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 94 | 5361 | 6.5 | 4.90 | 8.48 | 988 | 51561 | 62.2 | 58.87 | 65.43 |
| Chinese | 37 | 2750 | 7.2 | 5.48 | 9.45 | 357 | 24568 | 64.5 | 59.86 | 68.87 |
| Indian | 24 | 1592 | 10.4 | 6.61 | 16.06 | 142 | 8534 | 55.9 | 47.01 | 64.34 |
| Bumiputera Sabah | 1 | 54 | 6.5 | 0.70 | 40.44 | 9 | 580 | 69.2 | 40.62 | 88.04 |
| Bumiputera Sarawak | - | - | - | - | - | 11 | 722 | 65.6 | 49.92 | 78.41 |
| Others | 1 | 59 | 8.7 | 1.51 | 37.23 | 9 | 473 | 70.4 | 41.47 | 88.83 |

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

| Characteristic | Overweight (> +1SD to ≤ +2SD) | | | | | Obese (> +2SD) | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **NEGERI SEMBILAN** | 378 | 20954 | 15.1 | 13.11 | 17.30 | 373 | 21667 | 15.6 | 13.77 | 17.63 |
| **Locality of School** | | | | | | | | | | |
| Urban | 351 | 19530 | 15.6 | 13.63 | 17.82 | 340 | 19931 | 15.9 | 14.01 | 18.06 |
| Rural | 27 | 1424 | 10.3 | 6.88 | 15.26 | 33 | 1736 | 12.6 | 9.86 | 16.01 |
| **Sex** | | | | | | | | | | |
| Boys | 152 | 9125 | 13.1 | 10.66 | 15.99 | 204 | 13143 | 18.9 | 16.20 | 21.85 |
| Girls | 226 | 11829 | 17.1 | 14.37 | 20.21 | 169 | 8524 | 12.3 | 10.18 | 14.84 |
| **Class** | | | | | | | | | | |
| Standard 4 | 44 | 3016 | 17.6 | 15.10 | 20.48 | 52 | 3130 | 18.3 | 13.99 | 23.56 |
| Standard 5 | 42 | 2713 | 16.3 | 13.07 | 20.22 | 44 | 2823 | 17.0 | 13.82 | 20.71 |
| Standard 6 | 33 | 2447 | 14.5 | 8.98 | 22.62 | 43 | 3177 | 18.8 | 15.52 | 22.70 |
| Form 1 | 39 | 2546 | 13.6 | 9.45 | 19.06 | 45 | 3117 | 16.6 | 10.74 | 24.75 |
| Form 2 | 44 | 2396 | 13.5 | 9.80 | 18.36 | 42 | 2314 | 13.1 | 9.38 | 17.89 |
| Form 3 | 65 | 2772 | 15.8 | 11.89 | 20.79 | 47 | 2046 | 11.7 | 8.63 | 15.65 |
| Form 4 | 41 | 2167 | 12.9 | 8.97 | 18.24 | 49 | 2920 | 17.4 | 14.06 | 21.32 |
| Form 5 | 70 | 2896 | 16.5 | 13.15 | 20.60 | 51 | 2141 | 12.2 | 8.80 | 16.76 |
| **Class Category** | | | | | | | | | | |
| Primary Level | 119 | 8177 | 16.2 | 13.19 | 19.67 | 139 | 9130 | 18.1 | 15.01 | 21.55 |
| Secondary Level | 259 | 12777 | 14.5 | 12.03 | 17.31 | 234 | 12537 | 14.2 | 12.31 | 16.32 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 240 | 12423 | 15.0 | 12.78 | 17.50 | 249 | 13545 | 16.3 | 14.21 | 18.72 |
| Chinese | 83 | 5505 | 14.5 | 11.38 | 18.19 | 74 | 5271 | 13.8 | 10.54 | 17.96 |
| Indian | 49 | 2708 | 17.7 | 10.99 | 27.31 | 42 | 2445 | 16.0 | 12.07 | 20.91 |
| Bumiputera Sabah | 2 | 98 | 11.7 | 2.60 | 39.76 | 2 | 106 | 12.6 | 2.75 | 42.49 |
| Bumiputera Sarawak | 2 | 113 | 10.2 | 2.17 | 36.87 | 5 | 267 | 24.2 | 12.25 | 42.28 |
| Others | 2 | 107 | 16.0 | 3.24 | 51.83 | 1 | 33 | 5.0 | 0.55 | 32.92 |

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

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

### 3.3.1 Introduction

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

### 3.3.2 Objective

**General objective:**

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

**Specific Objectives**

I.   To determine body weight perception among adolescents

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

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

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

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

### 3.3.3 Variable definition

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

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

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

- **Misperception**: - a wrong perception

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

### 3.3.4 Findings

Overall, 41.1% (95%CI: 38.00, 44.20) of the adolescents in Negeri Sembilan perceived that they have normal weight. There was no significant different in school locality, however there were significant different in sex which boys was higher in perceived thin 33.0% (95%CI: 28.57, 37.68) as compared than girls, while girls was significant higher in perceived overweight 32.3% (95%CI: 27.45,37.51) compared with boys 20.3% (95% CI: 17.24, 23.69) **(Table 3.3.1)**.

Among the actual normal 52.5% (95% CI: 48.20, 56.81) was correctly perceived their weight to be normal, 29.3% (95% CI: 24.374, 34.84) was underestimated their body weight, perceived to be thin, and 15.9% (95% CI: 11.88, 21.04), 2.2% (95% CI: 1.38, 3.48) were overestimated to be overweight, and obese respectively. However, among the actual overweight 51.7% (95% CI: 41.98, 61.22) was correctly perceived their weight to be overweight, but 16.4% (95% CI: 11.51, 22.82), 26.2% (95% CI: 19.37, 34.32), were underestimated their body weight to be thin or normal respectively **(Table 3.3.2)**.

Among all the adolescents who were actually thin and correctly perceived themselves to be thin, 66.9% (95% CI: 50.42, 80.13) wanted to increase weight while adolescents who perceived normal and have actual normal body weight**,** 29.6% (95% CI: 23.85, 36.02) have no plan to change their weight. There were no significant differece in school locality, sex and school category among adolescents who correctly perceived themselves to be thin and overweight between four categories of action taken. However, there was significant different in sex among adolescents correctly perceived normal which more boys 15.6% (95%CI: 11.34, 21.13) than girls 4.1% (95% CI: 2.39,6.78) wanted to increase their body weight (**Table 3.3.3**).

However, among adolescents who were actually in overweight and obese categories but wrongly perceived themselves to be thin, most of them 54.20% (95% CI: 43.92, 64.07) wanted to lose weight while 24.6% (95% CI: 13.88, 39.71) wanted to increase their weight **(Table 3.3.4)**.

About 64.7% (95% CI: 58.14, 70.76) adolescents chose health purpose as the main factor that motivate them to lose weight followed by increase self-confidence 21.6% (95% CI: 16.52, 27.77). However, beauty purpose become the main factor to lose body weight among girls, 14.0% (95%CI: 9.86,19.47) **(Table 3.3.5).**

In addition, main factor to motivate adolescents to increase body weight was also health purpose 62.2% (95% CI: 56.18, 67.81) followed by increase self-confidence 22.2% (95% CI: 17.69, 27.50). There were no significant different in school locality and school category, however there was significant different based on sex which girls, 70.2% (95% CI: 60.78, 78.14) higher than boys, 57.6% (95%CI: 48.73, 65.96) **(Table 3.3.6)**.

Exercise was the most highest option preferred by adolescent to lose body weight 56.1% (95% CI: 51.40, 60.67). There were higher among boys 65.2% (95%CI: 59.67, 70.27), urban 56.5% (95% CI: 51.47, 61.36) and among primary adolescents 59.4% (95% CI: 51.82, 66.63) **(Table 3.3.7)**.

Increase quantity of food was the highest option preferred by adolescents to increase their body weight, 53.1% (95% CI: 45.19, 60.84). Its higher among girls 56.5% (95% CI: 45.70, 66.78), secondary 57.5% (95% CI: 47.31, 67.02) and among Malay adolescents, 56.3% (95% CI : 45.84, 66.19) **(Table 3.3.8)**.

**3.3.5 Discussion/Conclusion**

Perception of being normal weight among adolescents in Negeri Sembilan was similar with the national prevalence 41.1 % and 41.4% respectively.

Among the adolescents who were actually thin in Negeri Sembilan, 68.3% correctly perceived themselves to be thin, and the prevalence was slightly lower compared to the national prevalence, 69.6%. Among Adolescents with actual normal body weight, 52.5% correctly perceived their weight to be normal and the prevalence was slightly higher than national prevalence 50.2%.

In Negeri Sembilan, the trend of main factors to lose body weight among adolescent are similar with the national trend. Health purpose is the highest 64.7% main factor to lose body weight; followed by to increase self confidence 21.9% , beauty purpose 10.3 % and to have more friends 3.3% .

Health purpose is the highest 62.2 % main factor to increase body weight . But it was higher compared with the national prevalence. Its folllowed by to increase self confidence 22.2% , beauty purpose 10.1% and to have more friends 5.5%.

Adolescents choose to exercise as theire preferred option to lose weight. However its was lower compared with the national prevalence , 56.1% and 62.5% respectively. Followed by reduce comsumption of high fat foods 25.1%, increase intake of fruits and vegetables 6.6 % and reduce intake of high sugar foods 4.7%. This trend are similar with the national trend of prevalence.

53.1% adolescents in Negeri Sembilan chose to increase quantity of food as their preferred option to increase body weight. It was slightly higher than the national prevalence, 52.4%.

**3.3.6 Recommendation**

Body weight perception is a rather complex concept affected by `ideal` as well as `normative` body image. Our adolescents live in a society where increasingly larger proportions of the populations are overweight and obese. They are surrounded by overweight and obese peers,

hence leading to them developing an inaccurate perception of healthy body weight or image. On the other hand, mass media often portray unusually thin models, especially among females, emphasizing` thin` rather than `healthy` body shapes.

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

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

### References

1.  Abbott, R. A., Lee, A. J., Stubbs, C. O., & Davies, P. S. W. (2010). Accuracy of weight status perception in contemporary Australian children and adolescents. Journal of Paediatrics and Child Health, 46, 343–348.
2.  Brener, N. D., Eaton, D. K., Lowry, R., & McManus, T. (2004). The association between weight perception and BMI among high school students. Obesity, 12, 1866–1874.
3.  Edwards, N. M., Pettingell, S., & Borowsky, I. W. (2010). Where perception meets reality: Self-perception of weight in overweight adolescents. Pediatrics, 125, 452–458.
4.  Keel, P. K., Baxter, M. G., Heatherton, T. F., & Joiner, T. E. J. (2007). A 20-year longitudinal study of body weight, dieting and eating disorder symptoms. Journal of Abnormal Psychology, 116, 422–432. Linacre, S. (2007).
5.  Maximova, K., McGrath, J. J., Barnett, T., O'Loughlin, J., Paradis, G., & Lambert, M. (2008). Do you see what I see? Weight status misperception and exposure to obesity among children and adolescents. International Journal of Obesity, 32, 1008–1015.
6.  O'Dea, J. A., & Amy, N. K. (2011). Perceived and desired weight, weight related eating and exercising behaviours, and advice received from parents among thin, overweight, obese or normal weight Australian children and adolescents. International Journal of Behavioral Nutrition and Physical Activity,
7.  Strauss, R. S. (1999). Self-reported weight status and dieting in a cross-sectional sample of young adolescents: National health and nutrition examination survey III. Archives of Pediatric and Adolescent Medicine, 153, 741–747.
8.  Viner, R. M., Haines, M. M., Taylor, S. J. C., Head, J., Booy, R., & Stansfeld, S. (2006). Body mass, weight control behaviours, weight perception and emotional well being in a multiethnic sample of early adolescents. International Journal of Obesity, 30, 1514.

9. Wang, Y., Liang, H., & Chen, X. (2009). Measured body mass index, body weight perception, dissatisfaction and control practices in urban low-income African American adolescents. BMC Public Health, 9, 183–195

10. Xie, B., Liu, C., Chou, C. P., Xia, J., Spruijt-Metz, D., & Gong, J., et al. (2003). Weight perception and psychological factors in Chinese adolescents. Journal of Adolescent Health, 33, 202–210.

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

| Characteristics | Perceived thin | | | | | Perceived Normal | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 639 | 38613 | 27.7 | 23.67 | 32.22 | 964 | 57153 | 41.1 | 38.00 | 44.20 |
| **Locality of School** | | | | | | | | | | |
| Urban | 585 | 35410 | 28.2 | 23.86 | 33.03 | 855 | 51543 | 41.1 | 37.92 | 44.32 |
| Rural | 54 | 3203 | 23.4 | 16.41 | 32.15 | 109 | 5610 | 40.9 | 30.09 | 52.74 |
| **Sex** | | | | | | | | | | |
| Boys | 366 | 23069 | 33.0 | 28.57 | 37.68 | 471 | 30129 | 43.1 | 39.60 | 46.58 |
| Girls | 273 | 15544 | 22.5 | 18.32 | 27.23 | 493 | 27023 | 39.1 | 34.78 | 43.50 |
| **School Category** | | | | | | | | | | |
| Primary | 258 | 17265 | 34.0 | 30.01 | 38.18 | 305 | 22439 | 44.2 | 39.38 | 49.05 |
| Secondary | 381 | 21348 | 24.2 | 19.29 | 29.80 | 659 | 34713 | 39.3 | 35.96 | 42.72 |
| **Class** | | | | | | | | | | |
| Standard 4 | 108 | 7015 | 40.6 | 35.88 | 45.54 | 113 | 7434 | 43.0 | 38.11 | 48.11 |
| Standard 5 | 94 | 6258 | 37.7 | 33.60 | 41.91 | 96 | 6638 | 40.0 | 36.89 | 43.09 |
| Standard 6 | 56 | 3992 | 23.6 | 15.34 | 34.45 | 96 | 8367 | 49.4 | 36.63 | 62.32 |
| Form 1 | 79 | 5589 | 29.8 | 20.54 | 40.99 | 114 | 7689 | 40.9 | 34.69 | 47.48 |
| Form 2 | 84 | 4658 | 26.3 | 20.05 | 33.65 | 125 | 6935 | 39.1 | 32.84 | 45.83 |
| Form 3 | 83 | 3893 | 22.2 | 16.79 | 28.86 | 156 | 6753 | 38.6 | 34.30 | 43.07 |
| Form 4 | 53 | 3292 | 19.6 | 14.45 | 26.04 | 113 | 6610 | 39.4 | 33.58 | 45.46 |
| Form 5 | 82 | 3916 | 22.3 | 16.35 | 29.63 | 151 | 6726 | 38.3 | 31.62 | 45.42 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 422 | 23525 | 28.3 | 22.74 | 34.55 | 633 | 34032 | 40.9 | 37.79 | 44.09 |
| Chinese | 128 | 9118 | 23.9 | 20.47 | 27.72 | 239 | 17690 | 46.4 | 41.36 | 51.47 |
| Indian | 71 | 4841 | 31.8 | 23.69 | 41.20 | 80 | 4796 | 31.5 | 27.85 | 35.43 |
| Bumiputera Sabah | 7 | 409 | 48.8 | 22.09 | 76.22 | 3 | 193 | 23.0 | 5.91 | 58.74 |
| Bumiputera Sarawak | 7 | 477 | 43.3 | 19.89 | 70.13 | 5 | 278 | 25.2 | 10.62 | 48.95 |
| Others | 4 | 243 | 36.2 | 17.11 | 60.86 | 4 | 164 | 24.3 | 9.15 | 50.64 |

**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 |
| **Negeri Sembilan** | 687 | 36524 | 26.2 | 22.47 | 30.40 | 140 | 6885 | 4.9 | 3.66 | 6.66 |
| **Locality of School** | | | | | | | | | | |
| Urban | 619 | 32683 | 26.0 | 21.93 | 30.64 | 120 | 5833 | 4.6 | 3.32 | 6.47 |
| Rural | 68 | 3841 | 28.0 | 25.56 | 30.63 | 20 | 1052 | 7.7 | 6.65 | 8.84 |
| **Sex** | | | | | | | | | | |
| Boys | 230 | 14189 | 20.3 | 17.24 | 23.69 | 44 | 2587 | 3.7 | 2.69 | 5.06 |
| Girls | 457 | 22335 | 32.3 | 27.45 | 37.51 | 96 | 4298 | 6.2 | 4.29 | 8.91 |
| **School Category** | | | | | | | | | | |
| Primary | 136 | 9481 | 18.7 | 15.76 | 21.95 | 26 | 1627 | 3.2 | 1.68 | 6.02 |
| Secondary | 551 | 27043 | 30.6 | 26.88 | 34.60 | 114 | 5258 | 6.0 | 4.47 | 7.88 |
| **Class** | | | | | | | | | | |
| Standard 4 | 37 | 2442 | 14.1 | 10.44 | 18.87 | 7 | 380 | 2.2 | 0.85 | 5.59 |
| Standard 5 | 48 | 3161 | 19.0 | 16.33 | 22.05 | 9 | 558 | 3.4 | 1.66 | 6.66 |
| Standard 6 | 51 | 3878 | 22.9 | 17.78 | 29.01 | 10 | 688 | 4.1 | 2.11 | 7.70 |
| Form 1 | 73 | 4821 | 25.7 | 19.15 | 33.50 | 11 | 683 | 3.6 | 1.81 | 7.18 |
| Form 2 | 95 | 5169 | 29.2 | 22.63 | 36.70 | 15 | 957 | 5.4 | 2.25 | 12.39 |
| Form 3 | 127 | 5458 | 31.2 | 25.59 | 37.40 | 33 | 1395 | 8.0 | 5.79 | 10.87 |
| Form 4 | 105 | 5627 | 33.5 | 26.74 | 41.03 | 26 | 1265 | 7.5 | 3.91 | 14.02 |
| Form 5 | 151 | 5968 | 34.0 | 29.15 | 39.14 | 29 | 959 | 5.5 | 2.98 | 9.80 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 448 | 22411 | 26.9 | 22.68 | 31.67 | 74 | 3230 | 3.9 | 2.52 | 5.94 |
| Chinese | 143 | 8889 | 23.3 | 18.24 | 29.26 | 42 | 2448 | 6.4 | 3.91 | 10.37 |
| Indian | 85 | 4603 | 30.2 | 23.15 | 38.42 | 20 | 979 | 6.4 | 2.56 | 15.27 |
| Bumiputera Sabah | 4 | 236 | 28.2 | 9.38 | 59.77 | - | - | - | - | - |
| Bumiputera Sarawak | 5 | 274 | 24.9 | 10.96 | 47.13 | 1 | 73 | 6.6 | 0.69 | 41.83 |
| Others | 2 | 111 | 16.5 | 3.91 | 49.13 | 3 | 154 | 23.0 | 5.46 | 60.58 |

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

| Perceived | Thin | | | | Normal | | | | Overweight | | | | Obese | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper |
| | | | | | | | | **Actual thin** | | | | | | | | |
| **Negeri Sembilan** | 110 | 68.3 | 59.10 | 76.22 | 40 | 27.4 | 20.74 | 35.21 | 5 | 3.0 | 1.13 | 7.91 | 2 | 1.3 | 0.32 | 5.22 |
| **Locality of school** | | | | | | | | | | | | | | | | |
| Urban | 100 | 71.5 | 62.51 | 79.08 | 32 | 25.8 | 18.75 | 34.31 | 3 | 1.9 | 0.67 | 5.24 | 1 | 0.8 | 0.10 | 6.28 |
| Rural | 10 | 45.4 | 43.27 | 47.62 | 8 | 38.7 | 23.68 | 56.25 | 2 | 11.1 | 4.20 | 26.04 | 1 | 4.8 | 1.87 | 11.76 |
| **Sex** | | | | | | | | | | | | | | | | |
| Boys | 55 | 60.7 | 52.48 | 68.36 | 28 | 34.3 | 27.56 | 41.71 | 3 | 2.8 | 1.08 | 7.16 | 2 | 2.2 | 0.51 | 8.89 |
| Girls | 55 | 79.4 | 64.74 | 89.04 | 12 | 17.2 | 8.15 | 32.69 | 2 | 3.4 | 0.85 | 12.40 | - | - | - | - |
| **School Category** | | | | | | | | | | | | | | | | |
| Primary | 33 | 70.8 | 52.49 | 84.18 | 11 | 24.4 | 12.31 | 42.57 | 2 | 2.9 | 0.73 | 10.77 | 1 | 1.9 | 0.25 | 13.23 |
| Secondary | 77 | 66.8 | 57.17 | 75.16 | 29 | 29.2 | 23.28 | 35.82 | 3 | 3.1 | 0.83 | 11.09 | 1 | 1.0 | 0.13 | 6.45 |

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

| Perceived | Thin | | | | Normal | | | | Overweight | | | | Obese | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper |
| | | | | | | | | **Actual normal** | | | | | | | | |
| **Negeri Sembilan** | 425 | 29.3 | 24.37 | 34.84 | 774 | 52.5 | 48.23 | 56.81 | 278.0 | 15.9 | 11.88 | 21.04 | 38 | 2.2 | 1.38 | 3.48 |
| **Locality of school** | | | | | | | | | | | | | | | | |
| Urban | 384 | 29.7 | 24.23 | 35.81 | 685 | 53.0 | 48.75 | 57.30 | 244.0 | 15.3 | 11.00 | 20.84 | 32 | 2.0 | 1.22 | 3.19 |
| Rural | 41 | 26.3 | 20.58 | 33.00 | 89 | 48.4 | 33.76 | 63.23 | 34.0 | 21.3 | 16.51 | 27.09 | 6 | 4.0 | 1.58 | 9.77 |
| **Sex** | | | | | | | | | | | | | | | | |
| Boys | 235 | 35.4 | 30.27 | 40.94 | 357 | 55.0 | 50.50 | 59.39 | 58.0 | 8.0 | 5.20 | 12.13 | 12 | 1.6 | 0.85 | 2.97 |
| Girls | 190 | 23.7 | 18.60 | 29.65 | 417 | 50.3 | 45.12 | 55.41 | 220.0 | 23.3 | 18.19 | 29.31 | 26 | 2.8 | 1.61 | 4.66 |
| **School Category** | | | | | | | | | | | | | | | | |
| Primary | 169 | 37.7 | 29.94 | 46.25 | 212 | 54.5 | 45.73 | 62.98 | 27.0 | 6.2 | 4.31 | 8.97 | 8 | 1.5 | 0.48 | 4.69 |
| Secondary | 256 | 24.9 | 20.05 | 30.56 | 562 | 51.5 | 47.10 | 55.92 | 251.0 | 21.0 | 17.19 | 25.38 | 30 | 2.5 | 1.61 | 4.02 |

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

| | Actual overweight | | | | | | | | | | | | | | | |
| | Thin | | | | Normal | | | | Overweight | | | | Obese | | | |
| Perceived | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 53 | 16.4 | 11.51 | 22.82 | 93 | 26.2 | 19.37 | 34.32 | 206 | 51.7 | 41.98 | 61.22 | 26 | 5.8 | 3.69 | 8.96 |
| **Locality of school** | | | | | | | | | | | | | | | | |
| Urban | 51 | 16.9 | 11.76 | 23.67 | 84 | 25.6 | 18.43 | 34.39 | 191 | 51.7 | 41.40 | 61.80 | 25 | 5.8 | 3.66 | 9.16 |
| Rural | 2 | 9.5 | 4.06 | 20.52 | 9 | 33.8 | 29.59 | 38.37 | 15 | 51.5 | 31.51 | 71.04 | 1 | 5.2 | 0.92 | 24.48 |
| **Sex** | | | | | | | | | | | | | | | | |
| Boys | 35 | 24.2 | 17.04 | 33.23 | 51 | 31.9 | 23.71 | 41.35 | 61 | 40.8 | 31.51 | 50.78 | 5 | 3.1 | 1.06 | 8.74 |
| Girls | 18 | 10.4 | 6.82 | 15.41 | 42 | 21.7 | 12.97 | 34.12 | 145 | 60.0 | 48.16 | 70.85 | 21 | 7.9 | 4.67 | 12.94 |
| **School Category** | | | | | | | | | | | | | | | | |
| Primary | 30 | 25.0 | 19.91 | 30.83 | 46 | 36.8 | 25.62 | 49.57 | 39 | 35.2 | 24.39 | 47.82 | 4 | 3.0 | 0.93 | 9.37 |
| Secondary | 23 | 10.9 | 6.22 | 18.41 | 47 | 19.4 | 13.71 | 26.61 | 167 | 62.2 | 53.82 | 69.87 | 22 | 7.6 | 4.96 | 11.36 |

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

| | Actual obese | | | | | | | | | | | | | | | |
| | Thin | | | | Normal | | | | Overweight | | | | Obese | | | |
| Perceived | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper | n | % | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 49 | 13.9 | 8.92 | 21.07 | 56 | 16.5 | 11.15 | 23.65 | 195 | 53.0 | 46.63 | 59.29 | 73 | 16.6 | 11.11 | 24.10 |
| **Locality of school** | | | | | | | | | | | | | | | | |
| Urban | 48 | 14.8 | 9.57 | 22.27 | 53 | 17.2 | 11.59 | 24.67 | 178 | 52.7 | 46.07 | 59.21 | 61 | 15.3 | 9.93 | 22.88 |
| Rural | 1 | 3.4 | 0.71 | 14.54 | 3 | 8.5 | 1.75 | 32.51 | 17 | 56.7 | 34.50 | 76.45 | 12 | 31.5 | 18.85 | 47.58 |
| **Sex** | | | | | | | | | | | | | | | | |
| Boys | 39 | 18.7 | 11.79 | 28.43 | 35 | 18.0 | 11.25 | 27.45 | 106 | 52.2 | 42.57 | 61.61 | 24 | 11.1 | 7.17 | 16.91 |
| Girls | 10 | 6.5 | 2.57 | 15.47 | 21 | 14.2 | 8.39 | 22.88 | 89 | 54.3 | 47.75 | 60.69 | 49 | 25.0 | 15.39 | 38.04 |
| **School Category** | | | | | | | | | | | | | | | | |
| Primary | 24 | 14.6 | 8.16 | 24.72 | 36 | 26.3 | 17.94 | 36.74 | 67 | 50.2 | 44.39 | 56.09 | 12 | 8.9 | 4.67 | 16.27 |
| Secondary | 25 | 13.4 | 6.92 | 24.44 | 20 | 9.3 | 6.24 | 13.71 | 128 | 55.0 | 45.00 | 64.64 | 61 | 22.2 | 14.63 | 32.29 |

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

| Characteristic | Perceived thin - actual thin | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Lose weight | | | | | Increase weight | | | | |
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 9 | 559 | 8.3 | 3.98 | 16.68 | 80 | 4486 | 66.9 | 50.42 | 80.13 |
| **Locality of school** | | | | | | | | | | |
| Urban | 7 | 401 | 6.5 | 3.14 | 13.03 | 73 | 4148 | 67.5 | 49.66 | 81.38 |
| Rural | 2 | 159 | 28.6 | 10.47 | 57.78 | 7 | 338 | 60.9 | 26.87 | 86.82 |
| **Sex** | | | | | | | | | | |
| Boys | 6 | 375 | 10.5 | 3.71 | 26.54 | 40 | 2484 | 69.9 | 54.53 | 81.88 |
| Girls | 3 | 185 | 5.9 | 2.02 | 15.83 | 40 | 2003 | 63.6 | 38.34 | 83.03 |
| **School category** | | | | | | | | | | |
| Primary | 2 | 121 | 4.7 | 1.43 | 14.20 | 18 | 1228 | 47.5 | 28.42 | 67.35 |
| Secondary | 7 | 439 | 10.7 | 4.55 | 22.99 | 62 | 3259 | 79.1 | 66.62 | 87.83 |

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

| Characteristic | Perceived thin - actual thin | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No action | | | | | Maintain body weight | | | | |
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 19 | 1515 | 22.6 | 10.03 | 43.35 | 2 | 141 | 2.1 | 0.49 | 8.57 |
| **Locality of school** | | | | | | | | | | |
| Urban | 18 | 1457 | 23.7 | 10.24 | 45.81 | 2 | 141 | 2.3 | 0.53 | 9.28 |
| Rural | 1 | 59 | 10.6 | 4.23 | 23.96 | - | - | - | - | - |
| **Sex** | | | | | | | | | | |
| Boys | 7 | 552 | 15.5 | 7.06 | 30.83 | 2 | 141 | 4.0 | 0.89 | 16.01 |
| Girls | 12 | 963 | 30.6 | 12.60 | 57.35 | - | - | - | - | - |
| **School category** | | | | | | | | | | |
| Primary | 12 | 1166 | 45.1 | 22.37 | 70.12 | 1 | 70 | 2.7 | 0.32 | 19.48 |
| Secondary | 7 | 349 | 8.5 | 4.42 | 15.64 | 1 | 71 | 1.7 | 0.23 | 11.97 |

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

| Characteristic | Perceived normal - actual normal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Lose weight | | | | | Increase weight | | | | |
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 211 | 12047 | 26.6 | 21.29 | 32.65 | 72 | 4472 | 9.9 | 7.58 | 12.74 |
| **Locality of school** | | | | | | | | | | |
| Urban | 190 | 11067 | 27.1 | 21.29 | 33.86 | 60 | 3844 | 9.4 | 7.00 | 12.56 |
| Rural | 21 | 980 | 21.7 | 20.19 | 23.36 | 12 | 628 | 13.9 | 12.04 | 16.08 |
| **Sex** | | | | | | | | | | |
| Boys | 84 | 5541 | 24.3 | 18.96 | 30.60 | 51 | 3559 | 15.6 | 11.34 | 21.13 |
| Girls | 127 | 6507 | 28.9 | 21.34 | 37.81 | 21 | 913 | 4.1 | 2.39 | 6.78 |
| **School category** | | | | | | | | | | |
| Primary | 67 | 4631 | 28.7 | 16.94 | 44.25 | 17 | 1405 | 8.7 | 5.39 | 13.78 |
| Secondary | 144 | 7416 | 25.4 | 21.07 | 30.32 | 55 | 3067 | 10.5 | 7.67 | 14.24 |

**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 |
| **Negeri Sembilan** | 246 | 13402 | 29.6 | 23.85 | 36.02 | 244 | 15399 | 34.0 | 27.73 | 40.84 |
| **Locality of school** | | | | | | | | | | |
| Urban | 217 | 11943 | 29.3 | 23.12 | 36.26 | 217 | 13958 | 34.2 | 27.46 | 41.64 |
| Rural | 29 | 1459 | 32.4 | 21.21 | 45.97 | 27 | 1441 | 32.0 | 20.51 | 46.11 |
| **Sex** | | | | | | | | | | |
| Boys | 102 | 5963 | 26.2 | 18.65 | 35.39 | 119 | 7726 | 33.9 | 27.56 | 40.88 |
| Girls | 144 | 7439 | 33.0 | 27.00 | 39.65 | 125 | 7672 | 34.1 | 25.90 | 43.27 |
| **School category** | | | | | | | | | | |
| Primary | 48 | 3400 | 21.1 | 12.90 | 32.48 | 80 | 6705 | 41.5 | 30.91 | 53.01 |
| Secondary | 198 | 10001 | 34.3 | 28.77 | 40.24 | 164 | 8693 | 29.8 | 24.45 | 35.76 |

**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 |
| **Negeri Sembilan** | 178 | 9414 | 87.7 | 81.12 | 92.17 | 3 | 153 | 1.4 | 0.39 | 5.04 |
| **Locality of school** | | | | | | | | | | |
| Urban | 166 | 8809 | 88.0 | 80.95 | 92.74 | 2 | 103 | 1.0 | 0.21 | 4.77 |
| Rural | 12 | 605 | 82.5 | 77.50 | 86.65 | 1 | 51 | 6.9 | 0.78 | 41.37 |
| **Sex** | | | | | | | | | | |
| Boys | 50 | 3124 | 85.2 | 74.50 | 91.95 | 2 | 103 | 2.8 | 0.60 | 12.02 |
| Girls | 128 | 6290 | 88.9 | 80.20 | 94.10 | 1 | 51 | 0.7 | 0.08 | 6.14 |
| **School category** | | | | | | | | | | |
| Primary | 30 | 2359 | 83.6 | 67.08 | 92.72 | 2 | 103 | 3.6 | 0.71 | 16.64 |
| Secondary | 148 | 7055 | 89.1 | 82.31 | 93.52 | 1 | 51 | 0.6 | 0.07 | 5.47 |

**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 |
| **Negeri Sembilan** | 16 | 802 | 7.5 | 4.30 | 12.66 | 7 | 368 | 3.4 | 1.58 | 7.30 |
| **Locality of school** | | | | | | | | | | |
| Urban | 15 | 776 | 7.8 | 4.39 | 13.35 | 6 | 317 | 3.2 | 1.33 | 7.39 |
| Rural | 1 | 26 | 3.6 | 1.37 | 8.97 | 1 | 51 | 7.0 | 2.63 | 17.11 |
| **Sex** | | | | | | | | | | |
| Boys | 5 | 287 | 7.8 | 2.79 | 20.07 | 3 | 151 | 4.1 | 1.43 | 11.36 |
| Girls | 11 | 515 | 7.3 | 3.75 | 13.67 | 4 | 217 | 3.1 | 0.99 | 9.14 |
| **School category** | | | | | | | | | | |
| Primary | 3 | 199 | 7.0 | 2.65 | 17.42 | 3 | 162 | 5.7 | 1.55 | 19.01 |
| Secondary | 13 | 603 | 7.6 | 3.91 | 14.32 | 4 | 207 | 2.6 | 1.11 | 6.04 |

**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 |
| **Negeri Sembilan** | 56 | 3494 | 54.2 | 43.92 | 64.07 | 24 | 1585 | 24.6 | 13.88 | 39.71 |
| **Locality of school** | | | | | | | | | | |
| Urban | 55 | 3398 | 54.3 | 43.77 | 64.46 | 23 | 1547 | 24.7 | 13.81 | 40.24 |
| Rural | 1 | 96 | 49.8 | 22.85 | 76.86 | 1 | 38 | 19.9 | 1.16 | 84.00 |
| **Sex** | | | | | | | | | | |
| Boys | 37 | 2391 | 51.2 | 41.39 | 60.88 | 18 | 1089 | 23.3 | 13.97 | 36.28 |
| Girls | 19 | 1103 | 62.0 | 37.85 | 81.40 | 6 | 496 | 27.9 | 10.24 | 56.71 |
| **School category** | | | | | | | | | | |
| Primary | 26 | 1507 | 44.7 | 31.07 | 59.12 | 13 | 982 | 29.1 | 12.85 | 53.36 |
| Secondary | 30 | 1987 | 64.6 | 53.67 | 74.15 | 11 | 603 | 19.6 | 9.79 | 35.40 |

**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 |
| **Negeri Sembilan** | 17 | 1045 | 16.2 | 10.49 | 24.17 | 5 | 326 | 5.1 | 2.57 | 9.70 |
| **Locality of school** | | | | | | | | | | |
| Urban | 16 | 986 | 15.8 | 9.99 | 23.98 | 5 | 326 | 5.2 | 2.67 | 9.95 |
| Rural | 1 | 59 | 30.3 | 15.41 | 50.98 | - | - | - | - | - |
| **Sex** | | | | | | | | | | |
| Boys | 15 | 926 | 19.8 | 13.30 | 28.51 | 4 | 265 | 5.7 | 2.48 | 12.48 |
| Girls | 2 | 119 | 6.7 | 2.04 | 19.70 | 1 | 61 | 3.4 | 0.44 | 22.23 |
| **School category** | | | | | | | | | | |
| Primary | 12 | 710 | 21.1 | 13.01 | 32.24 | 3 | 174 | 5.2 | 2.05 | 12.36 |
| Secondary | 5 | 335 | 10.9 | 4.82 | 22.70 | 2 | 152 | 5.0 | 1.80 | 12.89 |

**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 |
| **Negeri Sembilan** | 339 | 17381 | 42.7 | 36.34 | 49.27 | 203 | 11884 | 29.2 | 24.67 | 34.14 |
| **Locality of school** | | | | | | | | | | |
| Urban | 306 | 15626 | 43.5 | 37.09 | 50.17 | 179 | 10333 | 28.8 | 23.83 | 34.29 |
| Rural | 33 | 1755 | 36.4 | 20.05 | 56.74 | 24 | 1551 | 32.2 | 26.91 | 38.00 |
| **Sex** | | | | | | | | | | |
| Boys | 104 | 5891 | 31.5 | 24.87 | 38.95 | 114 | 7089 | 37.9 | 31.93 | 44.25 |
| Girls | 235 | 11491 | 52.2 | 46.14 | 58.18 | 89 | 4795 | 21.8 | 16.67 | 27.94 |
| **School category** | | | | | | | | | | |
| Primary | 79 | 4894 | 37.1 | 24.48 | 51.67 | 64 | 4185 | 31.7 | 24.39 | 39.99 |
| Secondary | 260 | 12487 | 45.4 | 38.64 | 52.30 | 139 | 7699 | 28.0 | 22.46 | 34.27 |

32

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 134 | 7893 | 19.4 | 14.93 | 24.78 | 63 | 3564 | 8.8 | 6.20 | 12.23 |
| **Locality of school** | | | | | | | | | | |
| Urban | 117 | 6855 | 19.1 | 14.23 | 25.12 | 56 | 3094 | 8.6 | 5.87 | 12.47 |
| Rural | 17 | 1038 | 21.6 | 15.08 | 29.86 | 7 | 471 | 9.8 | 5.09 | 17.96 |
| **Sex** | | | | | | | | | | |
| Boys | 60 | 4118 | 22.0 | 15.09 | 30.95 | 27 | 1611 | 8.6 | 5.48 | 13.28 |
| Girls | 74 | 3775 | 17.1 | 12.86 | 22.49 | 36 | 1954 | 8.9 | 6.04 | 12.85 |
| **School category** | | | | | | | | | | |
| Primary | 31 | 2509 | 19.0 | 9.61 | 34.08 | 28 | 1621 | 12.3 | 7.11 | 20.35 |
| Secondary | 103 | 5384 | 19.6 | 15.59 | 24.27 | 35 | 1944 | 7.1 | 4.76 | 10.36 |

**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 |
| **Negeri Sembilan** | 710 | 40272 | 64.7 | 58.14 | 70.76 | 121 | 6435 | 10.3 | 7.11 | 14.79 |
| **Locality of school** | | | | | | | | | | |
| Urban | 650 | 37146 | 64.9 | 57.81 | 71.47 | 112 | 5884 | 10.3 | 6.95 | 14.98 |
| Rural | 60 | 3126 | 62.0 | 61.12 | 62.79 | 9 | 550 | 10.9 | 3.09 | 31.97 |
| **Sex** | | | | | | | | | | |
| Boys | 308 | 19350 | 70.0 | 63.24 | 75.90 | 26 | 1599 | 5.8 | 3.09 | 10.57 |
| Girls | 402 | 20923 | 60.5 | 52.54 | 67.96 | 95 | 4836 | 14.0 | 9.86 | 19.47 |
| **School category** | | | | | | | | | | |
| Primary | 241 | 15963 | 73.4 | 61.78 | 82.50 | 27 | 1971 | 9.1 | 3.81 | 20.03 |
| Secondary | 469 | 24309 | 60.0 | 54.68 | 65.16 | 94 | 4464 | 11.0 | 7.65 | 15.63 |
| **Class** | | | | | | | | | | |
| Standard 4 | 90 | 5714 | 72.7 | 56.97 | 84.27 | 12 | 845 | 10.8 | 3.77 | 27.01 |
| Standard 5 | 73 | 4400 | 73.5 | 59.05 | 84.23 | 7 | 530 | 8.9 | 3.55 | 20.43 |
| Standard 6 | 78 | 5849 | 74.0 | 64.77 | 81.54 | 8 | 596 | 7.5 | 3.56 | 15.28 |
| Form 1 | 88 | 5996 | 69.5 | 62.65 | 75.62 | 12 | 770 | 8.9 | 5.61 | 13.91 |
| Form 2 | 93 | 5137 | 63.4 | 55.97 | 70.26 | 14 | 822 | 10.1 | 6.13 | 16.32 |
| Form 3 | 106 | 4476 | 55.0 | 46.34 | 63.31 | 21 | 881 | 10.8 | 6.36 | 17.82 |
| Form 4 | 88 | 5025 | 59.1 | 48.28 | 69.18 | 21 | 1036 | 12.2 | 7.49 | 19.25 |
| Form 5 | 94 | 3676 | 51.6 | 38.56 | 64.38 | 26 | 955 | 13.4 | 8.19 | 21.16 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 511 | 27860 | 67.1 | 57.85 | 75.15 | 55 | 2530 | 6.1 | 3.54 | 10.29 |
| Chinese | 107 | 7193 | 56.4 | 51.65 | 61.11 | 38 | 2371 | 18.6 | 13.60 | 24.91 |
| Indian | 76 | 4373 | 64.4 | 56.24 | 71.83 | 25 | 1358 | 20.0 | 14.71 | 26.62 |
| Bumiputera Sabah | 3 | 149 | 45.9 | 12.74 | 83.15 | 3 | 175 | 54.1 | 16.85 | 87.26 |
| Bumiputera Sarawak | 8 | 466 | 80.2 | 43.42 | 95.53 | - | - | - | - | - |
| Others | 5 | 231 | 87.4 | 43.69 | 98.41 | - | - | - | - | - |

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

| Characteristics | To increase self-confidence | | | | | To have more friends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 271 | 13457 | 21.6 | 16.52 | 27.77 | 29 | 2074 | 3.3 | 1.89 | 5.81 |
| **Locality of school** | | | | | | | | | | |
| Urban | 244 | 12202 | 21.3 | 15.96 | 27.92 | 27 | 1959 | 3.4 | 1.88 | 6.16 |
| Rural | 27 | 1254 | 24.9 | 14.40 | 39.43 | 2 | 115 | 2.3 | 1.91 | 2.72 |
| **Sex** | | | | | | | | | | |
| Boys | 90 | 5389 | 19.5 | 13.49 | 27.28 | 20 | 1325 | 4.8 | 2.73 | 8.28 |
| Girls | 181 | 8068 | 23.3 | 17.71 | 30.09 | 9 | 750 | 2.2 | 0.95 | 4.87 |
| **School category** | | | | | | | | | | |
| Primary | 39 | 2465 | 11.3 | 7.25 | 17.29 | 17 | 1347 | 6.2 | 3.00 | 12.37 |
| Secondary | 232 | 10991 | 27.1 | 21.71 | 33.36 | 12 | 727 | 1.8 | 0.97 | 3.31 |
| **Class** | | | | | | | | | | |
| Standard 4 | 16 | 892 | 11.4 | 4.94 | 24.00 | 7 | 408 | 5.2 | 2.95 | 8.98 |
| Standard 5 | 10 | 627 | 10.5 | 7.02 | 15.36 | 6 | 428 | 7.2 | 3.28 | 14.89 |
| Standard 6 | 13 | 946 | 12.0 | 8.12 | 17.30 | 4 | 511 | 6.5 | 1.66 | 22.04 |
| Form 1 | 26 | 1664 | 19.3 | 14.47 | 25.25 | 3 | 195 | 2.3 | 0.89 | 5.62 |
| Form 2 | 38 | 2013 | 24.9 | 17.78 | 33.59 | 2 | 129 | 1.6 | 0.38 | 6.46 |
| Form 3 | 59 | 2520 | 31.0 | 22.98 | 40.26 | 5 | 265 | 3.3 | 0.76 | 12.89 |
| Form 4 | 43 | 2297 | 27.0 | 17.79 | 38.80 | 2 | 138 | 1.6 | 0.38 | 6.70 |
| Form 5 | 66 | 2497 | 35.0 | 24.42 | 47.37 | - | - | - | - | - |
| **Ethnicity** | | | | | | | | | | |
| Malay | 219 | 10535 | 25.4 | 18.84 | 33.22 | 10 | 610 | 1.5 | 0.74 | 2.88 |
| Chinese | 32 | 1850 | 14.5 | 7.81 | 25.41 | 17 | 1331 | 10.4 | 6.78 | 15.74 |
| Indian | 18 | 983 | 14.5 | 7.93 | 24.98 | 1 | 74 | 1.1 | 0.13 | 8.51 |
| Bumiputera Sabah | - | - | - | - | - | - | - | - | - | - |
| Bumiputera Sarawak | 1 | 55 | 9.5 | 0.87 | 55.86 | 1 | 60 | 10.3 | 1.55 | 45.48 |
| Others | 1 | 33 | 12.6 | 1.59 | 56.31 | - | - | - | - | - |

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

| Characteristics | Health purpose | | | | | Beauty purpose | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 230 | 13183 | 62.2 | 56.18 | 67.81 | 35 | 2142 | 10.1 | 7.03 | 14.31 |
| **Locality of school** | | | | | | | | | | |
| Urban | 201 | 11697 | 62.4 | 56.69 | 67.86 | 30 | 1740 | 9.3 | 6.91 | 12.39 |
| Rural | 29 | 1486 | 60.1 | 33.98 | 81.53 | 5 | 402 | 16.2 | 4.64 | 43.57 |
| **Sex** | | | | | | | | | | |
| Boys | 125 | 7759 | 57.6 | 48.73 | 65.96 | 19 | 1224 | 9.1 | 5.27 | 15.21 |
| Girls | 105 | 5425 | 70.2 | 60.78 | 78.14 | 16 | 918 | 11.9 | 6.72 | 20.13 |
| **School category** | | | | | | | | | | |
| Primary | 62 | 4301 | 67.8 | 59.87 | 74.79 | 9 | 614 | 9.7 | 5.91 | 15.43 |
| Secondary | 168 | 8882 | 59.8 | 52.60 | 66.55 | 26 | 1528 | 10.3 | 6.43 | 16.05 |
| **Class** | | | | | | | | | | |
| Standard 4 | 19 | 1251 | 61.8 | 45.75 | 75.63 | 3 | 335 | 16.5 | 4.65 | 44.61 |
| Standard 5 | 26 | 1840 | 71.6 | 59.42 | 81.22 | 6 | 279 | 10.9 | 4.26 | 25.00 |
| Standard 6 | 17 | 1210 | 69.1 | 62.45 | 75.13 | - | - | - | - | - |
| Form 1 | 24 | 1628 | 52.2 | 32.84 | 70.90 | 6 | 492 | 15.8 | 6.24 | 34.57 |
| Form 2 | 30 | 1655 | 63.9 | 48.58 | 76.87 | 4 | 236 | 9.1 | 2.06 | 32.20 |
| Form 3 | 48 | 2227 | 68.0 | 57.80 | 76.74 | 3 | 142 | 4.3 | 1.38 | 12.88 |
| Form 4 | 26 | 1586 | 67.6 | 49.40 | 81.70 | 3 | 133 | 5.7 | 1.12 | 24.32 |
| Form 5 | 40 | 1786 | 50.6 | 38.36 | 62.73 | 10 | 525 | 14.9 | 6.25 | 31.36 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 163 | 8813 | 64.4 | 58.92 | 69.52 | 22 | 1219 | 8.9 | 6.23 | 12.58 |
| Chinese | 37 | 2477 | 58.2 | 45.67 | 69.77 | 5 | 379 | 8.9 | 3.82 | 19.44 |
| Indian | 26 | 1663 | 60.6 | 47.52 | 72.30 | 7 | 488 | 17.8 | 6.30 | 41.02 |
| Bumiputera Sabah | 2 | 103 | 40.4 | 7.06 | 85.79 | 1 | 55 | 21.7 | 2.21 | 77.40 |
| Bumiputera Sarawak | 1 | 64 | 31.6 | 3.22 | 86.51 | - | - | - | - | - |
| Others | 1 | 65 | 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 |
| **Negeri Sembilan** | 83 | 4710 | 22.2 | 17.69 | 27.50 | 18 | 1170 | 5.5 | 3.12 | 9.58 |
| **Locality of school** | | | | | | | | | | |
| Urban | 76 | 4342 | 23.2 | 18.35 | 28.83 | 15 | 953 | 5.1 | 2.74 | 9.25 |
| Rural | 7 | 367 | 14.9 | 11.93 | 18.35 | 3 | 217 | 8.8 | 2.64 | 25.52 |
| **Sex** | | | | | | | | | | |
| Boys | 59 | 3618 | 26.8 | 20.11 | 34.85 | 13 | 876 | 6.5 | 3.36 | 12.19 |
| Girls | 24 | 1092 | 14.1 | 9.42 | 20.66 | 5 | 294 | 3.8 | 1.26 | 10.97 |
| **School category** | | | | | | | | | | |
| Primary | 16 | 1033 | 16.3 | 9.36 | 26.78 | 7 | 398 | 6.3 | 2.91 | 13.00 |
| Secondary | 67 | 3677 | 24.7 | 19.83 | 30.42 | 11 | 772 | 5.2 | 2.39 | 10.93 |
| **Class** | | | | | | | | | | |
| Standard 4 | 6 | 331 | 16.4 | 7.26 | 32.85 | 2 | 107 | 5.3 | 1.41 | 17.91 |
| Standard 5 | 4 | 303 | 11.8 | 5.04 | 25.15 | 3 | 149 | 5.8 | 1.90 | 16.42 |
| Standard 6 | 6 | 398 | 22.8 | 10.89 | 41.54 | 2 | 142 | 8.1 | 1.88 | 28.78 |
| Form 1 | 9 | 626 | 20.1 | 11.14 | 33.48 | 5 | 373 | 11.9 | 5.73 | 23.25 |
| Form 2 | 11 | 579 | 22.4 | 9.16 | 45.11 | 2 | 120 | 4.6 | 1.12 | 17.26 |
| Form 3 | 17 | 847 | 25.9 | 16.77 | 37.63 | 1 | 59 | 1.8 | 0.24 | 12.26 |
| Form 4 | 8 | 541 | 23.0 | 11.07 | 41.87 | 1 | 86 | 3.7 | 0.59 | 19.58 |
| Form 5 | 22 | 1085 | 30.7 | 21.07 | 42.45 | 2 | 135 | 3.8 | 0.90 | 14.82 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 62 | 3336 | 24.4 | 19.60 | 29.88 | 5 | 318 | 2.3 | 0.89 | 5.92 |
| Chinese | 15 | 976 | 22.9 | 12.86 | 37.55 | 7 | 422 | 9.9 | 4.45 | 20.67 |
| Indian | 5 | 325 | 11.8 | 3.14 | 35.76 | 4 | 268 | 9.8 | 4.22 | 21.04 |
| Bumiputera Sabah | - | - | - | - | - | 1 | 96 | 37.9 | 4.85 | 87.93 |
| Bumiputera Sarawak | 1 | 73 | 35.9 | 3.88 | 88.60 | 1 | 66 | 32.5 | 3.35 | 87.01 |
| 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 Lower | Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 614 | 35233 | 56.1 | 51.40 | 60.67 | 299 | 15743 | 25.1 | 21.18 | 29.39 |
| **Locality of school** | | | | | | | | | | |
| Urban | 561 | 32494 | 56.5 | 51.47 | 61.36 | 272 | 14490 | 25.2 | 20.99 | 29.90 |
| Rural | 53 | 2739 | 51.9 | 42.56 | 61.02 | 27 | 1253 | 23.7 | 19.32 | 28.78 |
| **Sex** | | | | | | | | | | |
| Boys | 293 | 18255 | 65.2 | 59.67 | 70.27 | 82 | 5095 | 18.2 | 13.70 | 23.74 |
| Girls | 321 | 16977 | 48.8 | 43.16 | 54.45 | 217 | 10647 | 30.6 | 26.51 | 35.01 |
| **School category** | | | | | | | | | | |
| Primary | 197 | 13046 | 59.4 | 51.82 | 66.63 | 63 | 4340 | 19.8 | 13.04 | 28.82 |
| Secondary | 417 | 22186 | 54.3 | 48.72 | 59.76 | 236 | 11403 | 27.9 | 24.31 | 31.80 |
| **Class** | | | | | | | | | | |
| Standard 4 | 85 | 5592 | 71.4 | 55.89 | 83.05 | 17 | 968 | 12.3 | 6.61 | 21.91 |
| Standard 5 | 51 | 2853 | 45.9 | 28.71 | 64.21 | 23 | 1648 | 26.5 | 15.03 | 42.43 |
| Standard 6 | 61 | 4601 | 58.2 | 54.29 | 62.06 | 23 | 1724 | 21.8 | 14.29 | 31.85 |
| Form 1 | 83 | 5688 | 64.7 | 54.68 | 73.63 | 26 | 1603 | 18.2 | 12.12 | 26.51 |
| Form 2 | 90 | 4985 | 60.7 | 53.65 | 67.25 | 38 | 2145 | 26.1 | 20.23 | 32.97 |
| Form 3 | 100 | 4323 | 54.1 | 45.44 | 62.45 | 48 | 2080 | 26.0 | 19.47 | 33.85 |
| Form 4 | 69 | 4012 | 46.6 | 37.53 | 55.88 | 60 | 3225 | 37.4 | 29.27 | 46.41 |
| Form 5 | 75 | 3178 | 43.8 | 31.17 | 57.30 | 64 | 2350 | 32.4 | 27.24 | 38.01 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 427 | 23655 | 56.7 | 50.21 | 62.97 | 220 | 11222 | 26.9 | 22.81 | 31.42 |
| Chinese | 118 | 7530 | 57.6 | 47.93 | 66.73 | 33 | 2205 | 16.9 | 11.28 | 24.46 |
| Indian | 60 | 3576 | 51.7 | 45.08 | 58.35 | 39 | 1966 | 28.4 | 22.16 | 35.68 |
| Bumiputera Sabah | 3 | 168 | 62.8 | 18.97 | 92.41 | 2 | 100 | 37.2 | 7.59 | 81.03 |
| Bumiputera Sarawak | 4 | 223 | 38.4 | 15.22 | 68.33 | 2 | 106 | 18.3 | 7.70 | 37.43 |
| Others | 2 | 81 | 30.5 | 5.92 | 75.39 | 3 | 145 | 54.7 | 28.79 | 78.27 |

**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 Lower | Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 54 | 2925 | 4.7 | 3.30 | 6.53 | 74 | 4142 | 6.6 | 4.88 | 8.85 |
| **Locality of school** | | | | | | | | | | |
| Urban | 51 | 2740 | 4.8 | 3.33 | 6.76 | 62 | 3441 | 6.0 | 4.45 | 7.99 |
| Rural | 3 | 185 | 3.5 | 1.13 | 10.30 | 12 | 701 | 13.3 | 6.44 | 25.41 |
| **Sex** | | | | | | | | | | |
| Boys | 22 | 1534 | 5.5 | 2.87 | 10.20 | 25 | 1484 | 5.3 | 2.86 | 9.60 |
| Girls | 32 | 1391 | 4.0 | 3.03 | 5.25 | 49 | 2658 | 7.6 | 5.44 | 10.63 |
| **School category** | | | | | | | | | | |
| Primary | 22 | 1534 | 7.0 | 4.62 | 10.44 | 31 | 2012 | 9.2 | 7.12 | 11.73 |
| Secondary | 32 | 1391 | 3.4 | 2.16 | 5.32 | 43 | 2130 | 5.2 | 3.34 | 8.04 |
| **Class** | | | | | | | | | | |
| Standard 4 | 10 | 556 | 7.1 | 4.22 | 11.70 | 10 | 563 | 7.2 | 4.35 | 11.63 |
| Standard 5 | 9 | 581 | 9.4 | 5.37 | 15.82 | 9 | 594 | 9.6 | 5.47 | 16.21 |
| Standard 6 | 3 | 396 | 5.0 | 1.15 | 19.24 | 12 | 855 | 10.8 | 5.81 | 19.26 |
| Form 1 | 4 | 287 | 3.3 | 1.13 | 9.07 | 9 | 595 | 6.8 | 2.34 | 18.05 |
| Form 2 | 2 | 118 | 1.4 | 0.37 | 5.36 | 5 | 293 | 3.6 | 1.40 | 8.77 |
| Form 3 | 10 | 408 | 5.1 | 2.58 | 9.85 | 11 | 508 | 6.4 | 3.19 | 12.27 |
| Form 4 | 3 | 140 | 1.6 | 0.35 | 7.30 | 6 | 298 | 3.5 | 1.34 | 8.66 |
| Form 5 | 13 | 437 | 6.0 | 3.58 | 9.97 | 12 | 436 | 6.0 | 3.16 | 11.15 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 36 | 1651 | 4.0 | 2.93 | 5.33 | 43 | 2225 | 5.3 | 3.90 | 7.25 |
| Chinese | 14 | 1015 | 7.8 | 4.28 | 13.67 | 23 | 1453 | 11.1 | 6.18 | 19.19 |
| Indian | 4 | 259 | 3.8 | 1.28 | 10.50 | 5 | 267 | 3.9 | 2.14 | 6.88 |
| Bumiputera Sabah | - | - | - | - | - | - | - | - | - | - |
| Bumiputera Sarawak | - | - | - | - | - | 3 | 197 | 33.9 | 7.46 | 76.50 |
| 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 Lower | 95% CI Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 29 | 1657 | 2.6 | 1.65 | 4.20 | 9 | 454 | 0.7 | 0.37 | 1.40 |
| **Locality of school** | | | | | | | | | | |
| Urban | 25 | 1403 | 2.4 | 1.48 | 4.00 | 7 | 353 | 0.6 | 0.31 | 1.21 |
| Rural | 4 | 254 | 4.8 | 1.60 | 13.61 | 2 | 101 | 1.9 | 0.42 | 8.22 |
| **Sex** | | | | | | | | | | |
| Boys | 11 | 757 | 2.7 | 1.29 | 5.55 | 4 | 209 | 0.7 | 0.28 | 1.96 |
| Girls | 18 | 900 | 2.6 | 1.26 | 5.24 | 5 | 245 | 0.7 | 0.27 | 1.82 |
| **School category** | | | | | | | | | | |
| Primary | 6 | 476 | 2.2 | 0.78 | 5.90 | 4 | 237 | 1.1 | 0.66 | 1.77 |
| Secondary | 23 | 1181 | 2.9 | 1.77 | 4.70 | 5 | 217 | 0.5 | 0.16 | 1.71 |
| **Class** | | | | | | | | | | |
| Standard 4 | - | - | - | - | - | 2 | 109 | 1.4 | 0.36 | 5.15 |
| Standard 5 | 4 | 303 | 4.9 | 1.75 | 12.85 | 1 | 45 | 0.7 | 0.10 | 4.89 |
| Standard 6 | 2 | 173 | 2.2 | 0.24 | 16.97 | 1 | 84 | 1.1 | 0.17 | 6.29 |
| Form 1 | 5 | 350 | 4.0 | 1.82 | 8.47 | - | - | - | - | - |
| Form 2 | 1 | 58 | 0.7 | 0.09 | 5.30 | 1 | 48 | 0.6 | 0.07 | 4.64 |
| Form 3 | 6 | 226 | 2.8 | 1.14 | 6.82 | 1 | 52 | 0.6 | 0.08 | 5.18 |
| Form 4 | 8 | 459 | 5.3 | 2.75 | 10.07 | 1 | 53 | 0.6 | 0.07 | 4.86 |
| Form 5 | 3 | 88 | 1.2 | 0.15 | 9.29 | 2 | 64 | 0.9 | 0.16 | 4.74 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 17 | 768 | 1.8 | 0.98 | 3.45 | 5 | 210 | 0.5 | 0.15 | 1.64 |
| Chinese | 6 | 522 | 4.0 | 2.28 | 6.91 | 1 | 49 | 0.4 | 0.06 | 2.36 |
| Indian | 6 | 366 | 5.3 | 2.73 | 10.04 | 3 | 195 | 2.8 | 0.69 | 10.89 |
| 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 |
| **Negeri Sembilan** | 51 | 2114 | 3.4 | 1.75 | 6.38 | 11 | 549 | 0.9 | 0.39 | 1.92 |
| **Locality of school** | | | | | | | | | | |
| Urban | 50 | 2065 | 3.6 | 1.85 | 6.87 | 11 | 549 | 1.0 | 0.43 | 2.08 |
| Rural | 1 | 48 | 0.9 | 0.20 | 4.02 | - | - | - | - | - |
| **Sex** | | | | | | | | | | |
| Boys | 7 | 335 | 1.2 | 0.48 | 2.96 | 6 | 348 | 1.2 | 0.45 | 3.42 |
| Girls | 44 | 1779 | 5.1 | 2.69 | 9.52 | 5 | 201 | 0.6 | 0.26 | 1.28 |
| **School category** | | | | | | | | | | |
| Primary | 4 | 215 | 1.0 | 0.39 | 2.45 | 2 | 89 | 0.4 | 0.05 | 3.12 |
| Secondary | 47 | 1899 | 4.6 | 2.40 | 8.82 | 9 | 460 | 1.1 | 0.50 | 2.51 |
| **Class** | | | | | | | | | | |
| Standard 4 | - | - | - | - | - | 1 | 49 | 0.6 | 0.08 | 4.73 |
| Standard 5 | 3 | 146 | 2.3 | 0.63 | 8.29 | 1 | 40 | 0.6 | 0.08 | 5.13 |
| Standard 6 | 1 | 69 | 0.9 | 0.11 | 6.63 | - | - | - | - | - |
| Form 1 | 3 | 191 | 2.2 | 0.82 | 5.63 | 1 | 74 | 0.8 | 0.11 | 6.28 |
| Form 2 | 10 | 455 | 5.5 | 1.83 | 15.51 | 2 | 116 | 1.4 | 0.33 | 5.79 |
| Form 3 | 9 | 333 | 4.2 | 2.18 | 7.83 | 2 | 64 | 0.8 | 0.11 | 5.56 |
| Form 4 | 7 | 334 | 3.9 | 1.27 | 11.28 | 2 | 90 | 1.0 | 0.25 | 4.22 |
| Form 5 | 18 | 585 | 8.1 | 2.93 | 20.33 | 2 | 115 | 1.6 | 0.39 | 6.32 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 42 | 1647 | 3.9 | 1.77 | 8.57 | 7 | 342 | 0.8 | 0.30 | 2.21 |
| Chinese | 4 | 209 | 1.6 | 0.65 | 3.88 | 2 | 89 | 0.7 | 0.11 | 4.26 |
| Indian | 3 | 164 | 2.4 | 0.74 | 7.35 | 2 | 118 | 1.7 | 0.41 | 6.78 |
| Bumiputera Sabah | - | - | - | - | - | - | - | - | - | - |
| Bumiputera Sarawak | 1 | 55 | 9.5 | 0.87 | 55.86 | - | - | - | - | - |
| Others | 1 | 39 | 14.8 | 3.14 | 48.16 | - | - | - | - | - |

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

| Characteristics | Increase quantity of food | | | | | Taking supplement | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 212 | 11998 | 53.1 | 45.19 | 60.84 | 97 | 6067 | 26.8 | 21.86 | 32.50 |
| **Locality of school** | | | | | | | | | | |
| Urban | 187 | 10565 | 53.0 | 44.47 | 61.33 | 83 | 5320 | 26.7 | 21.09 | 33.13 |
| Rural | 25 | 1433 | 53.9 | 33.67 | 72.96 | 14 | 747 | 28.1 | 26.72 | 29.57 |
| **Sex** | | | | | | | | | | |
| Boys | 117 | 7342 | 51.1 | 42.41 | 59.76 | 61 | 3843 | 26.8 | 21.19 | 33.18 |
| Girls | 95 | 4656 | 56.5 | 45.70 | 66.78 | 36 | 2224 | 27.0 | 19.52 | 36.06 |
| **School category** | | | | | | | | | | |
| Primary | 47 | 3310 | 44.3 | 34.97 | 53.97 | 32 | 2408 | 32.2 | 24.72 | 40.71 |
| Secondary | 165 | 8688 | 57.5 | 47.31 | 67.02 | 65 | 3659 | 24.2 | 18.52 | 30.96 |
| **Class** | | | | | | | | | | |
| Standard 4 | 12 | 687 | 24.9 | 12.35 | 43.82 | 15 | 1191 | 43.1 | 26.70 | 61.22 |
| Standard 5 | 20 | 1567 | 52.8 | 32.61 | 72.13 | 10 | 738 | 24.9 | 13.49 | 41.26 |
| Standard 6 | 15 | 1055 | 60.3 | 35.13 | 80.99 | 7 | 479 | 27.4 | 13.23 | 48.27 |
| Form 1 | 23 | 1650 | 50.8 | 29.13 | 72.12 | 10 | 701 | 21.6 | 10.44 | 39.30 |
| Form 2 | 26 | 1457 | 55.9 | 35.71 | 74.31 | 14 | 771 | 29.6 | 18.32 | 44.05 |
| Form 3 | 48 | 2226 | 66.5 | 52.53 | 78.07 | 15 | 727 | 21.7 | 12.14 | 35.74 |
| Form 4 | 25 | 1487 | 63.4 | 47.17 | 77.01 | 6 | 434 | 18.5 | 10.19 | 31.24 |
| Form 5 | 43 | 1868 | 52.4 | 41.08 | 63.40 | 20 | 1026 | 28.8 | 18.01 | 42.60 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 154 | 7995 | 56.3 | 45.84 | 66.19 | 63 | 3618 | 25.5 | 20.69 | 30.92 |
| Chinese | 38 | 2797 | 54.9 | 46.89 | 62.65 | 17 | 1228 | 24.1 | 17.55 | 32.12 |
| Indian | 18 | 1087 | 40.2 | 29.12 | 52.43 | 12 | 915 | 33.9 | 17.25 | 55.69 |
| Bumiputera Sabah | 1 | 55 | 16.8 | 1.49 | 73.07 | 3 | 177 | 53.8 | 24.67 | 80.57 |
| Bumiputera Sarawak | 1 | 64 | 31.6 | 3.22 | 86.51 | 1 | 66 | 32.5 | 3.35 | 87.01 |
| Others | - | - | - | - | - | 1 | 65 | 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 |
| **Negeri Sembilan** | 48 | 2781 | 12.3 | 8.83 | 16.91 | 27 | 1752 | 7.8 | 4.85 | 12.16 |
| **Locality of school** | | | | | | | | | | |
| Urban | 43 | 2428 | 12.2 | 8.64 | 16.89 | 25 | 1628 | 8.2 | 4.98 | 13.11 |
| Rural | 5 | 353 | 13.3 | 4.24 | 34.69 | 2 | 124 | 4.6 | 1.55 | 13.11 |
| **Sex** | | | | | | | | | | |
| Boys | 33 | 1959 | 13.6 | 9.86 | 18.58 | 17 | 1218 | 8.5 | 5.04 | 13.91 |
| Girls | 15 | 822 | 10.0 | 5.28 | 18.08 | 10 | 534 | 6.5 | 3.06 | 13.22 |
| **School category** | | | | | | | | | | |
| Primary | 15 | 806 | 10.8 | 4.62 | 23.15 | 15 | 954 | 12.8 | 6.85 | 22.55 |
| Secondary | 33 | 1975 | 13.1 | 9.59 | 17.54 | 12 | 797 | 5.3 | 3.05 | 8.98 |
| **Class** | | | | | | | | | | |
| Standard 4 | 4 | 236 | 8.6 | 1.92 | 30.96 | 9 | 646 | 23.4 | 10.13 | 45.33 |
| Standard 5 | 9 | 424 | 14.3 | 3.95 | 40.33 | 5 | 238 | 8.0 | 2.77 | 21.14 |
| Standard 6 | 2 | 146 | 8.3 | 2.76 | 22.52 | 1 | 70 | 4.0 | 0.50 | 25.47 |
| Form 1 | 6 | 433 | 13.3 | 6.82 | 24.41 | 6 | 466 | 14.3 | 7.47 | 25.81 |
| Form 2 | 6 | 330 | 12.7 | 4.53 | 30.72 | 1 | 48 | 1.8 | 0.21 | 14.19 |
| Form 3 | 7 | 344 | 10.3 | 4.72 | 20.92 | 1 | 51 | 1.5 | 0.20 | 10.61 |
| Form 4 | 7 | 425 | 18.1 | 10.09 | 30.42 | - | - | - | - | - |
| Form 5 | 7 | 442 | 12.4 | 7.65 | 19.43 | 4 | 232 | 6.5 | 2.64 | 15.14 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 33 | 1861 | 13.1 | 9.24 | 18.25 | 12 | 731 | 5.1 | 2.57 | 10.04 |
| Chinese | 6 | 328 | 6.4 | 1.92 | 19.42 | 11 | 743 | 14.6 | 8.33 | 24.30 |
| Indian | 8 | 496 | 18.4 | 9.08 | 33.60 | 3 | 204 | 7.6 | 1.92 | 25.53 |
| Bumiputera Sabah | 1 | 96 | 29.3 | 7.12 | 69.22 | - | - | - | - | - |
| Bumiputera Sarawak | - | - | - | - | - | 1 | 73 | 35.9 | 3.88 | 88.60 |
| Others | - | - | - | - | - | - | - | - | - | - |

**3.4 Meal pattern among adolescents (Primary 4 to Secondary 5) in Negeri Sembilan**

**Contributors:** Mohamad Hasnan Ahmad, Ling Swee Nian, Nur Ili Mohamad Tarmizi, Ainan Nasrina Ismail, Mahenderan Appukutty, Rusidah Selamat, Azli Baharudin, Ruhaya Salleh

### 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 Negeri Sembilan (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

This module was responded by 2,428 respondents that represent 139,055 adolescents aged 10 to 17 years old in Negeri Sembilan. There were about 37.3% (95% CI: 30.82, 44.36), 51.8% (95% CI: 45.53, 58.06) and 58.1% (95% CI: 50.31, 65.55) adolescents who took breakfast, lunch and dinner everyday, respectively. Most of them had their breakfast and dinner from home-prepared meals. It was reported 59.5 % (95% CI: 52.79, 65.79) consumed lunch at home, while 24.6% (95% CI: 19.84, 29.97) consumed lunch from school canteen. No appetite was a major concern why adolescents in Negeri Sembilan skip main meals. More than half of the students reported that they took meal during daily recess time and the main source of the meal was from school canteen (68.5% (95% CI: 62.11, 74.29), while 24.0% (95% CI: 18.50, 30.53) bought foods from home. There was 7.5% (95% CI: 6.38, 8.70) of adolescents who had heavy meal after dinner everyday. Meanwhile, 66.6% (95% CI: 62.19, 70.76) of adolescents in Negeri Sembilan had heavy meal after dinner at least once a week and remaining 25.9% (95% CI: 21.88, 30.44) never took heavy supper.  It was indicated that 81.1% (95% CI: 76.51, 84.96) adolescents consumed fast food at least one time in a week and 1.8% (95% CI: 1.06, 2.91) took fast foods in daily basis. During the school day, 12.5% (95% CI: 9.91, 15.59) and 44.6% (95% CI: 38.67, 50.67) of the adolescents brought foods and drinks to school respectively. The most foods brought to school were bread/ bun/ sandwich (36.5% (95% CI: 27.02, 47.07)), followed by nasi lemak/ fried rice/ mixed rice (35.9% (95% CI: 28.99,43.35)). Meanwhile, plain water was the most commonly consumed drinks brought to school among adolescents. More than half of the students spent their pocket money to buy foods and/ or drinks. In term of eating out frequency, 72.6% (95% CI: 69.24, 75.73) of the adolescents ate out at least one to three times per week, and 3.7% (95% CI: 2.73, 5.04) had eating out seven times or more in a week. About 33.5% (95% CI: 29.20, 38.18) of the adolescents in Negeri Sembilan took bread/ bun/ sandwich as snack and most of them had snack foods one to three times in a week.  On the other hand, 23.6% (95% CI: 18.47, 29.62) and 17.6% (95% CI:13.91, 22.08) of the students bought flavoured/ carbonated drinks and french fries/ nugget/ sausage outside school perimeters at least one time in a week, respectively. The analysis also revealed that 35.5% (95% CI: 30.34, 41.01) and 29.4% (95% CI: 24.86, 34.47) of the adolescents reported that social media and television are the media that influenced their eating habits the most.

### 3.4.5 Discussions/Conclusion

The prevalence of having breakfast among the adolescents in Negeri Sembilan was low and no appetite was commonly reported as a reason for them to skip meal. Therefore, further study should be conducted to understand the behaviour of skipping meals among adolescents. Meanwhile, the prevalence of having meal after dinner and consumption of fast foods was quite alarming among those consuming at least once in a week. The frequency of the students buying foods and drinks outside the school perimeters would be a concern, since the analysis showed that unhealthy foods and drinks such as nugget and carbonated drinks

can be accessed outside the school premise. Social media and television would be the best platform to influence the adolescents in practising healthy eating in their daily life.

### 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 most of the adolescents are school-aged individuals, therefore, more health promotion such as healthy eating habits in house, school and eating out must be addressed systematically. Positive behavioural changes on dietary pattern need a longer time but the support and intervention must be continuous. Ministry of Health and Ministry of Education together with support and cooperation from Parents and Teacher Association and also professional bodies (Nutrition Society of Malaysia, Malaysian Dietitians' Association, Malaysian Association for the Study of Obesity), that are related to diet and lifestyle should work hand-in-hand to educate and empower the adolescent on proper nutrition intakes daily especially on main meals.

### References

1. Leech RM, Worsley A, Timperio A, McNaughton SA. Understanding meal patterns: definitions, methodology and impact on nutrient intake and diet quality. Nutrition research reviews. 2015 Jun;28(1):1-21.
2. Delormier T, Frohlich KL, Potvin L. Food and eating as social practice–understanding eating patterns as social phenomena and implications for public health. Sociology of health & illness. 2009 Mar 1;31(2):215-28.
3. Fitzgerald A, Heary C, Nixon E, Kelly C. Factors influencing the food choices of Irish children and adolescents: a qualitative investigation. Health promotion international. 2010 Apr 10;25(3):289-98.
4. López-Guimerà G, Levine MP, Sánchez-Carracedo D, Fauquet J. Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. Media Psychology. 2010 Nov 30;13(4):387-416.
5. Croezen S, Visscher TL, Ter Bogt NC, Veling ML, Haveman-Nies A: Skipping breakfast, alcohol consumption and physical inactivity as risk factors for overweight and obesity in adolescents: results of the E-MOVO project. Eur J Clin Nutr 2009, 63:405-412.
6. Sjöberg A, L Hallberg L, D Höglund D and L Hulthén L. 2003. Meal pattern, food choice, nutrient intake and lifestyle factors in The Göteborg Adolescence Study. European Journal of Clinical Nutrition 57, 1569–1578. doi:10.1038/sj.ejcn.1601726
7. Maxwell MA, Cole DA. Weight change and appetite disturbance as symptoms of adolescent depression: Toward an integrative biopsychosocial model. Clinical Psychology Review. 2009 Apr 30;29(3):260-73.

8.  Garis Panduan Perlaksanaan Pemakanan Sihat di Sekolah. Bahagian Pemakanan, Kementerian Kesihatan Malaysia.

9.  Powell LM, Nguyen BT. Fast-food and full-service restaurant consumption among children and adolescents: effect on energy, beverage, and nutrient intake. JAMA pediatrics. 2013 Jan 1;167(1):14-20.

10. Dixon, H., Scully, M., Niven, P., Kelly, B., Chapman, K., Donovan, R., Martin, J., Baur, L. A., Crawford, D. and Wakefield, M. (2014), Effects of nutrient content claims, sports celebrity endorsements and premium offers on pre-adolescent children's food preferences: experimental research. Pediatric Obesity, 9: e47–e57. doi:10.1111/j.2047-6310.2013.00169.x

11. Lachat C, Nago E, Verstraeten R, Roberfroid D, Van Camp J, Kolsteren P. Eating out of home and its association with dietary intake: a systematic review of the evidence. Obesity Reviews. 2012 Apr 1;13(4):329-46.

12. Bezerra IN, Curioni C, Sichieri R. Association between eating out of home and body weight. Nutrition reviews. 2012 Feb 1;70(2):65-79.

13. Washi SA, Ageib MB. Poor diet quality and food habits are related to impaired nutritional status in 13-to 18-year-old adolescents in Jeddah. Nutrition Research. 2010 Aug 31;30(8):527-34.

14. Grinberg N, Naaman M, Shaw B, Lotan G. Extracting Diurnal Patterns of Real World Activity from Social Media. InICWSM 2013 Jul 8.

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

| Socio-demographic Characteristics | Breakfast frequency per week | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Daily (7 days) | | | | | 1 to 6 days | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 875 | 51886 | 37.3 | 30.82 | 44.36 | 1308 | 73748 | 53.1 | 46.84 | 59.21 |
| **Locality of school** | | | | | | | | | | |
| Urban | 790 | 47334 | 37.8 | 30.70 | 45.48 | 1173 | 66030 | 52.7 | 46.14 | 59.26 |
| Rural | 85 | 4552 | 33.1 | 25.94 | 41.06 | 135 | 7718 | 56.1 | 39.28 | 71.58 |
| **Sex** | | | | | | | | | | |
| Boys | 401 | 25874 | 37.0 | 30.29 | 44.32 | 603 | 37410 | 53.5 | 47.24 | 59.74 |
| Girls | 474 | 26012 | 37.6 | 30.31 | 45.60 | 705 | 36339 | 52.6 | 45.34 | 59.74 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 477 | 24849 | 30.0 | 25.71 | 34.57 | 928 | 49493 | 59.7 | 54.98 | 64.16 |
| Chinese | 285 | 20457 | 53.7 | 47.07 | 60.20 | 216 | 14435 | 37.9 | 32.73 | 43.34 |
| Indian | 98 | 5763 | 37.7 | 27.81 | 48.77 | 137 | 8215 | 53.8 | 41.26 | 65.83 |
| Bumiputera Sabah | 1 | 74 | 8.8 | 1.31 | 41.43 | 11 | 627 | 74.7 | 46.18 | 91.08 |
| Bumiputera Sarawak | 9 | 529 | 48.0 | 26.75 | 69.93 | 8 | 521 | 47.3 | 27.64 | 67.80 |
| Others | 5 | 215 | 31.9 | 11.01 | 63.94 | 8 | 458 | 68.1 | 36.06 | 88.99 |
| **School level** | | | | | | | | | | |
| Primary school | 300 | 22766 | 45.0 | 32.17 | 58.45 | 377 | 24791 | 49.0 | 35.80 | 62.26 |
| Secondary school | 575 | 29120 | 33.0 | 27.88 | 38.50 | 931 | 48957 | 55.4 | 50.29 | 60.47 |
| **Class** | | | | | | | | | | |
| Standard 4 | 104 | 7049 | 41.1 | 31.27 | 51.69 | 140 | 8884 | 51.8 | 40.26 | 63.14 |
| Standard 5 | 104 | 7546 | 45.6 | 30.95 | 60.96 | 128 | 8015 | 48.4 | 35.00 | 62.00 |
| Standard 6 | 92 | 8171 | 48.3 | 29.19 | 67.88 | 109 | 7892 | 46.6 | 28.07 | 66.18 |
| Form 1 | 90 | 5909 | 31.6 | 21.77 | 43.52 | 155 | 10666 | 57.1 | 47.48 | 66.26 |
| Form 2 | 133 | 7361 | 41.5 | 30.38 | 53.64 | 147 | 8270 | 46.7 | 36.29 | 57.35 |
| Form 3 | 137 | 5845 | 33.4 | 26.41 | 41.21 | 213 | 9516 | 54.4 | 46.91 | 61.65 |
| Form 4 | 73 | 4179 | 24.8 | 18.36 | 32.58 | 181 | 10180 | 60.4 | 52.98 | 67.37 |
| Form 5 | 142 | 5826 | 33.2 | 25.79 | 41.46 | 235 | 10325 | 58.8 | 51.84 | 65.37 |
| **School session** | | | | | | | | | | |
| Morning session | 526 | 33949 | 40.0 | 31.47 | 49.09 | 731 | 42780 | 50.3 | 42.50 | 58.18 |
| Evening session | 12 | 915 | 25.8 | 15.41 | 39.87 | 39 | 2485 | 70.0 | 57.61 | 80.08 |
| Morning and evening session | 337 | 17023 | 33.9 | 29.37 | 38.69 | 535 | 28296 | 56.3 | 51.18 | 61.31 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thiness (<-2sd) | 58 | 3728 | 38.0 | 30.00 | 46.67 | 84 | 5313 | 54.1 | 46.21 | 61.85 |
| Normal (≥-2sd - ≤+1sd) | 550 | 33022 | 38.3 | 30.33 | 46.96 | 818 | 45216 | 52.4 | 44.39 | 60.38 |
| Overweight (>+1sd - ≤+2sd) | 137 | 7621 | 36.5 | 30.40 | 43.01 | 201 | 11238 | 53.8 | 47.89 | 59.56 |
| Obese (>+2sd) | 127 | 7358 | 34.0 | 28.47 | 39.91 | 201 | 11779 | 54.4 | 49.44 | 59.20 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 64 | 3365 | 36.8 | 28.31 | 46.30 | 96 | 4895 | 53.6 | 44.45 | 62.53 |
| Normal (≥-2sd) | 810 | 48489 | 37.4 | 30.65 | 44.65 | 1210 | 68772 | 53.0 | 46.55 | 59.39 |

**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 |
| **Negeri Sembilan** | 243 | 13319 | 9.6 | 7.80 | 11.72 |
| **Locality of school** | | | | | |
| Urban | 211 | 11824 | 9.4 | 7.70 | 11.54 |
| Rural | 32 | 1495 | 10.9 | 4.53 | 23.83 |
| **Sex** | | | | | |
| Boys | 105 | 6579 | 9.4 | 7.62 | 11.58 |
| Girls | 138 | 6740 | 9.8 | 7.30 | 12.93 |
| **Ethnicity** | | | | | |
| Malay | 168 | 8625 | 10.4 | 7.94 | 13.51 |
| Chinese | 50 | 3204 | 8.4 | 6.18 | 11.34 |
| Indian | 22 | 1300 | 8.5 | 5.04 | 14.03 |
| Bumiputera Sabah | 2 | 138 | 16.4 | 3.45 | 51.97 |
| Bumiputera Sarawak | 1 | 52 | 4.8 | 0.49 | 33.64 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 45 | 3085 | 6.1 | 5.00 | 7.40 |
| Secondary school | 198 | 10235 | 11.6 | 9.63 | 13.88 |
| **Class** | | | | | |
| Standard 4 | 19 | 1220 | 7.1 | 4.47 | 11.13 |
| Standard 5 | 14 | 1004 | 6.1 | 3.79 | 9.57 |
| Standard 6 | 12 | 860 | 5.1 | 2.41 | 10.40 |
| Form 1 | 30 | 2097 | 11.2 | 7.28 | 16.92 |
| Form 2 | 39 | 2088 | 11.8 | 8.43 | 16.23 |
| Form 3 | 49 | 2138 | 12.2 | 8.32 | 17.58 |
| Form 4 | 44 | 2495 | 14.8 | 11.05 | 19.55 |
| Form 5 | 36 | 1417 | 8.1 | 5.17 | 12.37 |
| **School session** | | | | | |
| Morning session | 148 | 8237 | 9.7 | 7.59 | 12.30 |
| Evening session | 2 | 148 | 4.2 | 1.13 | 14.23 |
| Morning and evening session | 93 | 4934 | 9.8 | 7.01 | 13.59 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thiness (<-2sd) | 15 | 775 | 7.9 | 4.10 | 14.64 |
| Normal (≥-2sd - ≤+1sd) | 144 | 7976 | 9.3 | 7.39 | 11.52 |
| Overweight (>+1sd - ≤+2sd) | 39 | 2037 | 9.7 | 6.57 | 14.23 |
| Obese (>+2sd) | 45 | 2531 | 11.7 | 9.27 | 14.62 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 19 | 871 | 9.5 | 5.01 | 17.41 |
| Normal (≥-2sd) | 224 | 12448 | 9.6 | 7.91 | 11.60 |

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

| | Prepared at home | | | | | School canteen | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 1474 | 88048 | 70.7 | 63.53 | 77.01 | 371 | 20830 | 16.7 | 13.16 | 21.04 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1331 | 79778 | 71.0 | 63.10 | 77.83 | 332 | 18936 | 16.9 | 12.97 | 21.62 |
| Rural | 143 | 8270 | 68.0 | 57.29 | 77.10 | 39 | 1894 | 15.6 | 11.02 | 21.55 |
| **Sex** | | | | | | | | | | |
| Boys | 692 | 44127 | 70.7 | 65.64 | 75.24 | 181 | 11298 | 18.1 | 14.30 | 22.63 |
| Girls | 782 | 43921 | 70.8 | 58.70 | 80.48 | 190 | 9532 | 15.4 | 11.24 | 20.63 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 897 | 49657 | 67.2 | 56.67 | 76.24 | 245 | 12546 | 17.0 | 12.23 | 23.08 |
| Chinese | 370 | 26255 | 76.3 | 70.35 | 81.43 | 81 | 5566 | 16.2 | 13.15 | 19.76 |
| Indian | 180 | 10587 | 76.5 | 66.49 | 84.16 | 38 | 2326 | 16.8 | 10.07 | 26.69 |
| Bumiputera Sabah | 9 | 534 | 76.2 | 42.84 | 93.18 | 1 | 55 | 7.9 | 1.02 | 41.59 |
| Bumiputera Sarawak | 10 | 585 | 55.8 | 39.01 | 71.28 | 5 | 303 | 28.9 | 14.52 | 49.30 |
| Others | 8 | 431 | 70.1 | 42.51 | 88.18 | 1 | 33 | 5.4 | 0.62 | 34.44 |
| **School level** | | | | | | | | | | |
| Primary school | 486 | 35506 | 75.7 | 66.89 | 82.78 | 133 | 8418 | 18.0 | 12.92 | 24.39 |
| Secondary school | 988 | 52542 | 67.7 | 57.95 | 76.13 | 238 | 12412 | 16.0 | 11.42 | 21.95 |
| **Class** | | | | | | | | | | |
| Standard 4 | 169 | 11316 | 72.3 | 65.03 | 78.62 | 52 | 3301 | 21.1 | 16.46 | 26.64 |
| Standard 5 | 161 | 11225 | 73.0 | 58.61 | 83.73 | 53 | 3162 | 20.6 | 12.26 | 32.39 |
| Standard 6 | 156 | 12965 | 81.7 | 69.78 | 89.60 | 28 | 1955 | 12.3 | 7.46 | 19.67 |
| Form 1 | 164 | 10896 | 66.3 | 56.58 | 74.85 | 49 | 3496 | 21.3 | 12.43 | 33.98 |
| Form 2 | 212 | 11927 | 76.3 | 68.21 | 82.86 | 29 | 1588 | 10.2 | 6.19 | 16.22 |
| Form 3 | 240 | 10501 | 69.5 | 57.37 | 79.43 | 49 | 2232 | 14.8 | 8.86 | 23.62 |
| Form 4 | 165 | 9510 | 66.2 | 47.96 | 80.67 | 35 | 2053 | 14.3 | 8.84 | 22.31 |
| Form 5 | 207 | 9708 | 60.4 | 37.74 | 79.31 | 76 | 3043 | 18.9 | 10.85 | 30.93 |
| **School session** | | | | | | | | | | |
| Morning session | 947 | 59382 | 77.9 | 72.25 | 82.63 | 176 | 10287 | 13.5 | 10.06 | 17.86 |
| Evening session | 28 | 1641 | 49.6 | 23.14 | 76.23 | 15 | 1126 | 34.0 | 19.36 | 52.51 |
| Morning and evening session | 496 | 26837 | 60.0 | 47.10 | 71.61 | 180 | 9417 | 21.0 | 15.20 | 28.39 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 100 | 6596 | 75.5 | 65.26 | 83.50 | 25 | 1362 | 15.6 | 9.02 | 25.62 |
| Normal (≥-2sd - ≤+1sd) | 916 | 54716 | 70.2 | 61.77 | 77.45 | 239 | 13015 | 16.7 | 12.65 | 21.72 |
| Overweight (>+1sd - ≤+2sd) | 238 | 13468 | 72.2 | 64.23 | 78.92 | 44 | 2797 | 15.0 | 9.93 | 21.99 |
| Obese (>+2sd) | 217 | 13104 | 69.5 | 61.21 | 76.71 | 61 | 3542 | 18.8 | 12.74 | 26.83 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 100 | 5310 | 64.8 | 55.01 | 73.54 | 40 | 1927 | 23.5 | 15.08 | 34.77 |
| Normal (≥-2sd) | 1372 | 82657 | 71.1 | 63.79 | 77.51 | 331 | 18903 | 16.3 | 12.81 | 20.44 |

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

| Socio-demographic Characteristics | Restaurant/ kiosk | | | | | Hostel | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 98 | 5603 | 4.5 | 3.28 | 6.15 | 187 | 8206 | 6.6 | 2.77 | 14.86 |
| **Locality of school** | | | | | | | | | | |
| Urban | 79 | 4408 | 3.9 | 2.96 | 5.19 | 172 | 7538 | 6.7 | 2.65 | 15.96 |
| Rural | 19 | 1194 | 9.8 | 6.48 | 14.62 | 15 | 668 | 5.5 | 0.82 | 28.98 |
| **Sex** | | | | | | | | | | |
| Boys | 62 | 3779 | 6.1 | 4.27 | 8.52 | 41 | 2332 | 3.7 | 1.73 | 7.90 |
| Girls | 36 | 1824 | 2.9 | 1.78 | 4.81 | 146 | 5874 | 9.5 | 3.33 | 24.07 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 52 | 2721 | 3.7 | 2.59 | 5.21 | 181 | 7867 | 10.6 | 4.57 | 22.88 |
| Chinese | 31 | 1914 | 5.6 | 3.46 | 8.83 | 2 | 115 | 0.3 | 0.10 | 1.09 |
| Indian | 13 | 843 | 6.1 | 2.87 | 12.44 | | | | | |
| Bumiputera Sabah | 1 | 64 | 9.1 | 0.98 | 50.19 | 1 | 48 | 6.9 | 0.73 | 42.55 |
| Bumiputera Sarawak | | | | | | 1 | 88 | 8.4 | 1.00 | 45.56 |
| Others | 1 | 62 | 10.2 | 1.46 | 46.37 | 2 | 88 | 14.3 | 3.71 | 41.75 |
| **School level** | | | | | | | | | | |
| Primary school | 33 | 2115 | 4.5 | 2.80 | 7.19 | 5 | 277 | 0.6 | 0.20 | 1.75 |
| Secondary school | 65 | 3488 | 4.5 | 2.95 | 6.78 | 182 | 7929 | 10.2 | 4.44 | 21.81 |
| **Class** | | | | | | | | | | |
| Standard 4 | 10 | 580 | 3.7 | 1.97 | 6.88 | 4 | 232 | 1.5 | 0.58 | 3.73 |
| Standard 5 | 10 | 641 | 4.2 | 2.69 | 6.40 | 1 | 45 | 0.3 | 0.04 | 2.20 |
| Standard 6 | 13 | 894 | 5.6 | 2.67 | 11.49 | | | | | |
| Form 1 | 8 | 643 | 3.9 | 1.48 | 9.97 | 20 | 1279 | 7.8 | 3.31 | 17.23 |
| Form 2 | 13 | 772 | 4.9 | 2.08 | 11.29 | 23 | 1160 | 7.4 | 2.46 | 20.33 |
| Form 3 | 18 | 855 | 5.7 | 3.79 | 8.38 | 30 | 1168 | 7.7 | 3.14 | 17.77 |
| Form 4 | 11 | 545 | 3.8 | 1.79 | 7.90 | 37 | 1911 | 13.3 | 3.21 | 41.52 |
| Form 5 | 15 | 671 | 4.2 | 1.92 | 8.85 | 72 | 2411 | 15.0 | 5.02 | 37.04 |
| **School session** | | | | | | | | | | |
| Morning session | 54 | 3041 | 4.0 | 2.49 | 6.33 | 52 | 2550 | 3.3 | 1.59 | 6.90 |
| Evening session | 6 | 492 | 14.9 | 5.44 | 34.59 | | | | | |
| Morning and evening session | 38 | 2070 | 4.6 | 3.06 | 6.93 | 135 | 5656 | 12.6 | 4.59 | 30.33 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 7 | 431 | 4.9 | 2.11 | 11.08 | 2 | 77 | 0.9 | 0.17 | 4.38 |
| Normal (≥-2sd - ≤+1sd) | 58 | 3255 | 4.2 | 2.70 | 6.40 | 125 | 5700 | 7.3 | 3.09 | 16.34 |
| Overweight (>+1sd - ≤+2sd) | 16 | 834 | 4.5 | 2.62 | 7.54 | 32 | 1306 | 7.0 | 2.85 | 16.17 |
| Obese (>+2sd) | 17 | 1083 | 5.7 | 3.12 | 10.34 | 27 | 1090 | 5.8 | 2.19 | 14.41 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 7 | 380 | 4.6 | 1.81 | 11.37 | 10 | 467 | 5.7 | 1.81 | 16.54 |
| Normal (≥-2sd) | 91 | 5223 | 4.5 | 3.20 | 6.27 | 176 | 7707 | 6.6 | 2.76 | 15.08 |

52

**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 |
| **Negeri Sembilan** | 35 | 1814 | 1.5 | 1.02 | 2.08 |
| **Locality of school** | | | | | |
| Urban | 33 | 1679 | 1.5 | 1.03 | 2.17 |
| Rural | 2 | 135 | 1.1 | 0.33 | 3.62 |
| **Sex** | | | | | |
| Boys | 16 | 902 | 1.4 | 0.92 | 2.26 |
| Girls | 19 | 912 | 1.5 | 0.88 | 2.46 |
| **Ethnicity** | | | | | |
| Malay | 22 | 1106 | 1.5 | 0.93 | 2.40 |
| Chinese | 10 | 544 | 1.6 | 0.71 | 3.49 |
| Indian | 2 | 92 | 0.7 | 0.25 | 1.74 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 1 | 73 | 6.9 | 0.71 | 43.49 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 11 | 582 | 1.2 | 0.58 | 2.63 |
| Secondary school | 24 | 1232 | 1.6 | 1.10 | 2.29 |
| **Class** | | | | | |
| Standard 4 | 4 | 213 | 1.4 | 0.53 | 3.47 |
| Standard 5 | 6 | 311 | 2.0 | 0.74 | 5.42 |
| Standard 6 | 1 | 58 | 0.4 | 0.05 | 2.56 |
| Form 1 | 2 | 115 | 0.7 | 0.18 | 2.69 |
| Form 2 | 3 | 183 | 1.2 | 0.29 | 4.61 |
| Form 3 | 8 | 351 | 2.3 | 0.94 | 5.63 |
| Form 4 | 6 | 339 | 2.4 | 0.90 | 6.02 |
| Form 5 | 5 | 244 | 1.5 | 0.65 | 3.50 |
| **School session** | | | | | |
| Morning session | 19 | 995 | 1.3 | 0.73 | 2.33 |
| Evening session | 1 | 52 | 1.6 | 0.15 | 14.85 |
| Morning and evening session | 15 | 767 | 1.7 | 1.02 | 2.87 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 5 | 269 | 3.1 | 1.07 | 8.58 |
| Normal (≥-2sd - ≤+1sd) | 24 | 1257 | 1.6 | 1.05 | 2.47 |
| Overweight (>+1sd - ≤+2sd) | 5 | 256 | 1.4 | 0.61 | 3.07 |
| Obese (>+2sd) | 1 | 32 | 0.2 | 0.02 | 1.43 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 2 | 106 | 1.3 | 0.29 | 5.70 |
| Normal (≥-2sd) | 33 | 1708 | 1.5 | 1.02 | 2.12 |

53

**Table 3.4.3 : Reasons for skipping breakfast 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 | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 122 | 6724 | 8.9 | 7.12 | 11.01 | 566 | 32576 | 43.0 | 38.64 | 47.47 |
| **Locality of school** | | | | | | | | | | |
| Urban | 110 | 6093 | 8.9 | 7.02 | 11.35 | 506 | 29292 | 43.0 | 38.25 | 47.93 |
| Rural | 12 | 631 | 8.2 | 7.84 | 8.61 | 60 | 3285 | 42.7 | 35.48 | 50.33 |
| **Sex** | | | | | | | | | | |
| Boys | 60 | 3642 | 9.5 | 7.15 | 12.49 | 244 | 15326 | 39.9 | 34.90 | 45.23 |
| Girls | 62 | 3082 | 8.2 | 6.03 | 11.17 | 322 | 17250 | 46.1 | 40.70 | 51.64 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 91 | 4839 | 9.0 | 7.07 | 11.43 | 420 | 22764 | 42.4 | 37.17 | 47.85 |
| Chinese | 19 | 1107 | 8.2 | 4.02 | 15.90 | 83 | 6172 | 45.6 | 33.42 | 58.25 |
| Indian | 8 | 516 | 7.5 | 4.56 | 12.02 | 51 | 3015 | 43.6 | 32.07 | 55.93 |
| Bumiputera Sabah | 2 | 131 | 18.6 | 3.65 | 57.86 | 6 | 321 | 45.4 | 21.64 | 71.43 |
| Bumiputera Sarawak | 1 | 55 | 11.4 | 1.28 | 56.20 | 3 | 180 | 37.2 | 10.92 | 74.07 |
| Others | 1 | 74 | 16.1 | 3.66 | 49.34 | 3 | 124 | 27.2 | 5.37 | 71.03 |
| **School level** | | | | | | | | | | |
| Primary school | 27 | 1570 | 6.9 | 4.38 | 10.63 | 169 | 11627 | 50.9 | 44.61 | 57.12 |
| Secondary school | 95 | 5154 | 9.7 | 7.70 | 12.25 | 397 | 20950 | 39.6 | 35.30 | 44.05 |
| **Class** | | | | | | | | | | |
| Standard 4 | 17 | 956 | 11.3 | 6.99 | 17.89 | 57 | 3777 | 44.8 | 38.66 | 51.12 |
| Standard 5 | 5 | 260 | 3.8 | 1.77 | 8.09 | 58 | 3893 | 57.3 | 48.09 | 66.00 |
| Standard 6 | 5 | 354 | 4.6 | 3.56 | 6.04 | 54 | 3957 | 51.9 | 44.60 | 59.09 |
| Form 1 | 17 | 1154 | 10.1 | 5.94 | 16.73 | 66 | 4453 | 39.1 | 31.96 | 46.64 |
| Form 2 | 22 | 1224 | 13.9 | 9.40 | 20.08 | 66 | 3813 | 43.3 | 33.50 | 53.67 |
| Form 3 | 20 | 909 | 8.7 | 6.24 | 11.90 | 96 | 4283 | 40.8 | 33.87 | 48.17 |
| Form 4 | 21 | 1167 | 10.3 | 6.08 | 17.04 | 87 | 4831 | 42.8 | 31.51 | 54.83 |
| Form 5 | 15 | 699 | 6.4 | 3.36 | 11.86 | 82 | 3570 | 32.7 | 25.64 | 40.61 |
| **School session** | | | | | | | | | | |
| Morning session | 63 | 3465 | 8.0 | 6.12 | 10.48 | 334 | 19418 | 45.0 | 41.15 | 48.97 |
| Evening session | 6 | 391 | 16.7 | 5.34 | 41.57 | 17 | 1144 | 48.9 | 31.24 | 66.88 |
| Morning and evening session | 53 | 2869 | 9.5 | 7.23 | 12.41 | 215 | 12014 | 39.8 | 33.31 | 46.72 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 10 | 518 | 10.0 | 5.34 | 18.05 | 34 | 2056 | 39.8 | 29.22 | 51.41 |
| Normal (≥-2sd - ≤+1sd) | 82 | 4533 | 9.9 | 7.76 | 12.48 | 364 | 20732 | 45.1 | 39.64 | 50.76 |
| Overweight (>+1sd - ≤+2sd) | 12 | 662 | 5.6 | 3.16 | 9.72 | 93 | 5275 | 44.6 | 38.16 | 51.18 |
| Obese (>+2sd) | 18 | 1011 | 8.0 | 4.99 | 12.58 | 73 | 4407 | 34.9 | 26.30 | 44.57 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 6 | 277 | 5.2 | 1.92 | 13.32 | 55 | 2903 | 54.4 | 45.07 | 63.49 |
| Normal (≥-2sd) | 115 | 6397 | 9.1 | 7.26 | 11.34 | 511 | 29674 | 42.2 | 37.83 | 46.66 |

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

| Socio-demographic Characteristics | Reasons for skiping breakfast | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No time | | | | | On diet/ control body weight | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 460 | 24988 | 33.0 | 29.72 | 36.41 | 76 | 4232 | 5.6 | 4.21 | 7.37 |
| **Locality of school** | | | | | | | | | | |
| Urban | 419 | 22834 | 33.5 | 30.03 | 37.24 | 66 | 3568 | 5.2 | 3.99 | 6.86 |
| Rural | 41 | 2153 | 28.0 | 24.82 | 31.46 | 10 | 663 | 8.6 | 3.77 | 18.56 |
| **Sex** | | | | | | | | | | |
| Boys | 212 | 12998 | 33.9 | 29.61 | 38.43 | 33 | 2074 | 5.4 | 3.10 | 9.26 |
| Girls | 248 | 11989 | 32.1 | 28.63 | 35.68 | 43 | 2158 | 5.8 | 4.27 | 7.75 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 354 | 18365 | 34.2 | 30.15 | 38.55 | 48 | 2599 | 4.8 | 3.53 | 6.61 |
| Chinese | 63 | 3971 | 29.3 | 20.28 | 40.32 | 12 | 712 | 5.3 | 2.38 | 11.18 |
| Indian | 34 | 2121 | 30.7 | 22.63 | 40.17 | 14 | 783 | 11.3 | 8.09 | 15.67 |
| Bumiputera Sabah | 3 | 159 | 22.4 | 7.79 | 49.77 | | | | | |
| Bumiputera Sarawak | 3 | 177 | 36.4 | 10.60 | 73.47 | 1 | 73 | 15.0 | 1.74 | 63.66 |
| Others | 3 | 195 | 42.6 | 16.12 | 74.12 | 1 | 65 | 14.1 | 1.38 | 65.81 |
| **School level** | | | | | | | | | | |
| Primary school | 99 | 6617 | 29.0 | 25.77 | 32.37 | 24 | 1413 | 6.2 | 3.62 | 10.38 |
| Secondary school | 361 | 18370 | 34.7 | 30.56 | 39.12 | 52 | 2818 | 5.3 | 3.84 | 7.34 |
| **Class** | | | | | | | | | | |
| Standard 4 | 34 | 2261 | 26.8 | 21.07 | 33.47 | 11 | 630 | 7.5 | 3.66 | 14.69 |
| Standard 5 | 26 | 1620 | 23.8 | 18.43 | 30.25 | 8 | 426 | 6.3 | 2.08 | 17.41 |
| Standard 6 | 39 | 2737 | 35.9 | 29.64 | 42.63 | 5 | 357 | 4.7 | 1.22 | 16.39 |
| Form 1 | 57 | 3961 | 34.7 | 27.76 | 42.46 | 12 | 832 | 7.3 | 4.46 | 11.72 |
| Form 2 | 52 | 2649 | 30.1 | 20.44 | 41.86 | 6 | 390 | 4.4 | 2.05 | 9.29 |
| Form 3 | 86 | 3807 | 36.3 | 29.59 | 43.58 | 12 | 550 | 5.2 | 3.06 | 8.86 |
| Form 4 | 60 | 3429 | 30.4 | 23.52 | 38.20 | 10 | 540 | 4.8 | 3.06 | 7.39 |
| Form 5 | 106 | 4524 | 41.4 | 34.38 | 48.83 | 12 | 506 | 4.6 | 2.93 | 7.26 |
| **School session** | | | | | | | | | | |
| Morning session | 244 | 13947 | 32.3 | 29.25 | 35.59 | 45 | 2544 | 5.9 | 4.13 | 8.37 |
| Evening session | 8 | 493 | 21.1 | 11.30 | 35.95 | 4 | 256 | 10.9 | 4.92 | 22.59 |
| Morning and evening session | 207 | 10493 | 34.8 | 29.42 | 40.55 | 26 | 1354 | 4.5 | 3.08 | 6.50 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 29 | 1938 | 37.5 | 26.56 | 49.91 | 3 | 204 | 4.0 | 0.97 | 14.72 |
| Normal (≥-2sd - ≤+1sd) | 277 | 14510 | 31.6 | 26.73 | 36.89 | 34 | 1872 | 4.1 | 2.59 | 6.36 |
| Overweight (>+1sd - ≤+2sd) | 73 | 3991 | 33.7 | 25.77 | 42.74 | 18 | 949 | 8.0 | 4.89 | 12.90 |
| Obese (>+2sd) | 81 | 4549 | 36.0 | 29.39 | 43.21 | 19 | 1110 | 8.8 | 5.65 | 13.42 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 33 | 1550 | 29.1 | 21.17 | 38.49 | 2 | 141 | 2.6 | 0.69 | 9.54 |
| Normal (≥-2sd) | 427 | 23437 | 33.3 | 29.81 | 37.02 | 73 | 4059 | 5.8 | 4.30 | 7.69 |

55

**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 |
| **Negeri Sembilan** | 43 | 2244 | 3.0 | 1.99 | 4.39 | 92 | 5003 | 6.6 | 4.65 | 9.29 |
| **Locality of school** | | | | | | | | | | |
| Urban | 36 | 1814 | 2.7 | 1.69 | 4.19 | 79 | 4481 | 6.6 | 4.60 | 9.32 |
| Rural | 7 | 430 | 5.6 | 4.21 | 7.38 | 13 | 522 | 6.8 | 1.69 | 23.60 |
| **Sex** | | | | | | | | | | |
| Boys | 20 | 1261 | 3.3 | 2.11 | 5.09 | 46 | 3063 | 8.0 | 5.25 | 11.96 |
| Girls | 23 | 982 | 2.6 | 1.17 | 5.77 | 46 | 1940 | 5.2 | 3.26 | 8.16 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 39 | 1961 | 3.7 | 2.44 | 5.44 | 61 | 3131 | 5.8 | 3.94 | 8.56 |
| Chinese | 2 | 91 | 0.7 | 0.09 | 4.56 | 24 | 1495 | 11.0 | 7.49 | 15.97 |
| Indian | 1 | 96 | 1.4 | 0.30 | 6.16 | 7 | 377 | 5.5 | 1.43 | 18.70 |
| Bumiputera Sabah | 1 | 96 | 13.6 | 1.59 | 60.54 | | | | | |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | | | | | | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 11 | 571 | 2.5 | 1.11 | 5.53 | 13 | 1053 | 4.6 | 2.20 | 9.41 |
| Secondary school | 32 | 1672 | 3.2 | 2.01 | 4.95 | 79 | 3950 | 7.5 | 5.18 | 10.64 |
| **Class** | | | | | | | | | | |
| Standard 4 | 6 | 334 | 4.0 | 1.95 | 7.85 | 5 | 471 | 5.6 | 1.97 | 14.86 |
| Standard 5 | 5 | 238 | 3.5 | 1.01 | 11.42 | 5 | 360 | 5.3 | 2.78 | 9.85 |
| Standard 6 | | | | | | 3 | 222 | 2.9 | 0.97 | 8.42 |
| Form 1 | 4 | 359 | 3.1 | 0.91 | 10.27 | 10 | 643 | 5.6 | 2.61 | 11.76 |
| Form 2 | 5 | 270 | 3.1 | 1.24 | 7.35 | 8 | 460 | 5.2 | 2.57 | 10.35 |
| Form 3 | 2 | 93 | 0.9 | 0.12 | 6.46 | 21 | 848 | 8.1 | 3.67 | 16.87 |
| Form 4 | 7 | 392 | 3.5 | 1.20 | 9.65 | 16 | 935 | 8.3 | 5.51 | 12.26 |
| Form 5 | 14 | 559 | 5.1 | 2.64 | 9.71 | 24 | 1064 | 9.7 | 6.51 | 14.33 |
| **School session** | | | | | | | | | | |
| Morning session | 14 | 795 | 1.8 | 1.03 | 3.27 | 48 | 2956 | 6.9 | 4.75 | 9.79 |
| Evening session | 1 | 55 | 2.3 | 0.26 | 18.27 | | | | | |
| Morning and evening session | 28 | 1394 | 4.6 | 2.85 | 7.41 | 44 | 2047 | 6.8 | 4.34 | 10.46 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 4 | 199 | 3.9 | 1.10 | 12.61 | 4 | 251 | 4.9 | 1.66 | 13.37 |
| Normal (≥-2sd - ≤+1sd) | 27 | 1405 | 3.1 | 1.89 | 4.91 | 54 | 2880 | 6.3 | 4.12 | 9.44 |
| Overweight (>+1sd - ≤+2sd) | 3 | 168 | 1.4 | 0.41 | 4.75 | 16 | 788 | 6.7 | 4.10 | 10.63 |
| Obese (>+2sd) | 9 | 472 | 3.7 | 1.89 | 7.24 | 18 | 1084 | 8.6 | 5.50 | 13.14 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 2 | 81 | 1.5 | 0.37 | 5.92 | 9 | 381 | 7.1 | 3.01 | 16.00 |
| Normal (≥-2sd) | 41 | 2163 | 3.1 | 2.08 | 4.52 | 83 | 4622 | 6.6 | 4.63 | 9.24 |

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

| Characteristics | Daily (7 days) | | | | | 1 to 6 days | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 1239 | 72064 | 51.8 | 45.53 | 58.06 | 1120 | 63387 | 45.6 | 39.53 | 51.77 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1100 | 64668 | 51.6 | 44.68 | 58.48 | 1013 | 57388 | 45.8 | 39.14 | 52.62 |
| Rural | 139 | 7396 | 53.7 | 46.17 | 61.13 | 107 | 5999 | 43.6 | 36.53 | 50.89 |
| **Sex** | | | | | | | | | | |
| Boys | 544 | 35164 | 50.3 | 42.78 | 57.83 | 532 | 32810 | 46.9 | 39.59 | 54.43 |
| Girls | 695 | 36900 | 53.4 | 47.43 | 59.18 | 588 | 30577 | 44.2 | 38.52 | 50.05 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 700 | 36509 | 43.9 | 39.19 | 48.69 | 830 | 44392 | 53.4 | 48.55 | 58.11 |
| Chinese | 390 | 27107 | 71.4 | 66.64 | 75.72 | 146 | 10078 | 26.5 | 22.68 | 30.81 |
| Indian | 136 | 7778 | 50.9 | 44.68 | 57.10 | 113 | 7047 | 46.1 | 39.75 | 52.62 |
| Bumiputera Sabah | 1 | 48 | 5.7 | 0.62 | 37.34 | 13 | 790 | 94.3 | 62.66 | 99.38 |
| Bumiputera Sarawak | 7 | 415 | 37.6 | 18.11 | 62.20 | 10 | 615 | 55.8 | 32.93 | 76.42 |
| Others | 5 | 208 | 30.9 | 7.33 | 71.62 | 8 | 465 | 69.1 | 28.38 | 92.67 |
| **School level** | | | | | | | | | | |
| Primary school | 368 | 27336 | 53.9 | 40.05 | 67.18 | 333 | 22115 | 43.6 | 30.67 | 57.48 |
| Secondary school | 871 | 44728 | 50.6 | 44.97 | 56.28 | 787 | 41272 | 46.7 | 41.35 | 52.17 |
| **Class** | | | | | | | | | | |
| Standard 4 | 129 | 8671 | 50.5 | 34.61 | 66.27 | 128 | 8169 | 47.6 | 31.27 | 64.39 |
| Standard 5 | 114 | 8093 | 48.7 | 34.19 | 63.44 | 124 | 8087 | 48.7 | 35.68 | 61.84 |
| Standard 6 | 125 | 10572 | 62.5 | 46.58 | 76.06 | 81 | 5859 | 34.6 | 21.28 | 50.90 |
| Form 1 | 123 | 8090 | 43.3 | 34.48 | 52.48 | 143 | 9908 | 53.0 | 44.73 | 61.07 |
| Form 2 | 161 | 9131 | 51.5 | 39.30 | 63.58 | 150 | 8227 | 46.4 | 35.12 | 58.12 |
| Form 3 | 212 | 9230 | 52.7 | 47.08 | 58.34 | 180 | 7929 | 45.3 | 39.32 | 51.45 |
| Form 4 | 168 | 9528 | 56.5 | 48.93 | 63.84 | 124 | 7020 | 41.7 | 33.63 | 50.14 |
| Form 5 | 207 | 8750 | 49.8 | 38.62 | 61.01 | 190 | 8188 | 46.6 | 35.82 | 57.71 |
| **School session** | | | | | | | | | | |
| Morning session | 738 | 46225 | 54.4 | 47.13 | 61.51 | 633 | 36880 | 43.4 | 36.41 | 50.69 |
| Evening session | 18 | 1256 | 35.4 | 25.49 | 46.74 | 33 | 2179 | 61.4 | 48.72 | 72.70 |
| Morning and evening session | 481 | 24451 | 48.6 | 41.15 | 56.12 | 452 | 24216 | 48.1 | 40.79 | 55.56 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 78 | 4744 | 48.3 | 38.91 | 57.87 | 74 | 4786 | 48.8 | 39.45 | 58.14 |
| Normal (≥-2sd - ≤+1sd) | 797 | 46056 | 53.4 | 46.33 | 60.27 | 683 | 38400 | 44.5 | 38.01 | 51.17 |
| Overweight  (>+1sd - ≤+2sd) | 178 | 10187 | 48.7 | 41.02 | 56.50 | 180 | 9749 | 46.6 | 38.72 | 54.73 |
| Obese (>+2sd) | 184 | 10993 | 50.7 | 43.00 | 58.44 | 178 | 10175 | 47.0 | 38.92 | 55.16 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 81 | 4073 | 44.6 | 35.60 | 53.98 | 87 | 4450 | 48.7 | 41.78 | 55.73 |
| Normal (≥-2sd) | 1157 | 67959 | 52.4 | 46.00 | 58.63 | 1031 | 58855 | 45.3 | 39.13 | 51.70 |

**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 |
| **Negeri Sembilan** | 69 | 3605 | 2.6 | 1.93 | 3.48 |
| **Locality of school** | | | | | |
| Urban | 63 | 3235 | 2.6 | 1.85 | 3.58 |
| Rural | 6 | 370 | 2.7 | 2.40 | 3.02 |
| **Sex** | | | | | |
| Boys | 34 | 1918 | 2.7 | 1.89 | 3.98 |
| Girls | 35 | 1687 | 2.4 | 1.63 | 3.63 |
| **Ethnicity** | | | | | |
| Malay | 47 | 2297 | 2.8 | 1.99 | 3.81 |
| Chinese | 13 | 782 | 2.1 | 0.82 | 5.08 |
| Indian | 8 | 454 | 3.0 | 1.23 | 6.98 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 1 | 73 | 6.6 | 0.69 | 41.83 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 22 | 1264 | 2.5 | 1.34 | 4.58 |
| Secondary school | 47 | 2341 | 2.7 | 1.94 | 3.61 |
| **Class** | | | | | |
| Standard 4 | 6 | 335 | 2.0 | 0.82 | 4.59 |
| Standard 5 | 9 | 436 | 2.6 | 1.06 | 6.35 |
| Standard 6 | 7 | 493 | 2.9 | 1.34 | 6.21 |
| Form 1 | 10 | 704 | 3.8 | 2.27 | 6.17 |
| Form 2 | 8 | 361 | 2.0 | 0.73 | 5.58 |
| Form 3 | 7 | 340 | 1.9 | 0.83 | 4.46 |
| Form 4 | 6 | 306 | 1.8 | 0.84 | 3.87 |
| Form 5 | 16 | 631 | 3.6 | 2.27 | 5.62 |
| **School session** | | | | | |
| Morning session | 34 | 1852 | 2.2 | 1.45 | 3.26 |
| Evening session | 2 | 114 | 3.2 | 1.27 | 7.86 |
| Morning and evening session | 33 | 1639 | 3.3 | 2.21 | 4.78 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 5 | 286 | 2.9 | 1.34 | 6.22 |
| Normal (≥-2sd - ≤+1sd) | 34 | 1851 | 2.1 | 1.45 | 3.16 |
| Overweight  (>+1sd - ≤+2sd) | 19 | 969 | 4.6 | 2.75 | 7.72 |
| Obese (>+2sd) | 11 | 499 | 2.3 | 1.06 | 4.91 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 11 | 608 | 6.7 | 3.30 | 12.98 |
| Normal (≥-2sd) | 58 | 2997 | 2.3 | 1.65 | 3.22 |

**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 | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 1375 | 79904 | 59.5 | 52.79 | 65.79 | 539 | 33003 | 24.6 | 19.84 | 29.97 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1213 | 70847 | 58.5 | 51.33 | 65.37 | 484 | 30182 | 24.9 | 19.79 | 30.90 |
| Rural | 162 | 9057 | 67.9 | 62.82 | 72.61 | 55 | 2821 | 21.1 | 18.82 | 23.68 |
| **Sex** | | | | | | | | | | |
| Boys | 633 | 39572 | 58.9 | 53.09 | 64.48 | 275 | 18094 | 26.9 | 21.64 | 32.97 |
| Girls | 742 | 40332 | 60.0 | 49.93 | 69.31 | 264 | 14909 | 22.2 | 17.57 | 27.61 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 818 | 45420 | 56.6 | 47.35 | 65.34 | 376 | 19673 | 24.5 | 19.61 | 30.15 |
| Chinese | 348 | 22652 | 61.1 | 52.17 | 69.37 | 106 | 9385 | 25.3 | 15.57 | 38.41 |
| Indian | 188 | 10646 | 72.8 | 64.58 | 79.69 | 43 | 3104 | 21.2 | 15.67 | 28.10 |
| Bumiputera Sabah | 5 | 301 | 35.9 | 19.76 | 55.92 | 6 | 371 | 44.2 | 23.48 | 67.24 |
| Bumiputera Sarawak | 8 | 477 | 53.7 | 31.79 | 74.21 | 6 | 357 | 40.1 | 19.43 | 65.06 |
| Others | 8 | 409 | 60.9 | 37.48 | 80.17 | 2 | 113 | 16.8 | 5.48 | 41.34 |
| **School level** | | | | | | | | | | |
| Primary school | 417 | 28632 | 58.4 | 50.72 | 65.64 | 214 | 15922 | 32.5 | 24.74 | 41.27 |
| Secondary school | 958 | 51273 | 60.1 | 50.56 | 68.89 | 325 | 17081 | 20.0 | 16.52 | 24.03 |
| **Class** | | | | | | | | | | |
| Standard 4 | 148 | 9381 | 56.3 | 47.65 | 64.61 | 85 | 5933 | 35.6 | 26.80 | 45.53 |
| Standard 5 | 139 | 9534 | 59.5 | 52.17 | 66.46 | 73 | 4908 | 30.6 | 21.04 | 42.28 |
| Standard 6 | 130 | 9717 | 59.3 | 43.14 | 73.75 | 56 | 5081 | 31.0 | 18.76 | 46.73 |
| Form 1 | 158 | 10524 | 59.6 | 50.20 | 68.35 | 61 | 4272 | 24.2 | 19.42 | 29.70 |
| Form 2 | 177 | 10204 | 59.5 | 49.81 | 68.49 | 73 | 3925 | 22.9 | 15.44 | 32.52 |
| Form 3 | 252 | 11299 | 66.3 | 54.74 | 76.15 | 69 | 2860 | 16.8 | 12.44 | 22.24 |
| Form 4 | 177 | 10040 | 60.7 | 43.33 | 75.69 | 47 | 2981 | 18.0 | 11.25 | 27.58 |
| Form 5 | 194 | 9205 | 54.3 | 31.99 | 75.08 | 75 | 3043 | 18.0 | 10.68 | 28.63 |
| **School session** | | | | | | | | | | |
| Morning session | 904 | 53603 | 65.0 | 60.11 | 69.59 | 268 | 18179 | 22.0 | 16.92 | 28.20 |
| Evening session | 25 | 1516 | 45.3 | 22.17 | 70.65 | 18 | 1293 | 38.6 | 27.35 | 51.27 |
| Morning and evening session | 443 | 24599 | 50.9 | 38.48 | 63.19 | 252 | 13474 | 27.9 | 21.88 | 34.78 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 93 | 5606 | 59.2 | 44.39 | 72.47 | 37 | 2642 | 27.9 | 17.40 | 41.53 |
| Normal (≥-2sd - ≤+1sd) | 866 | 50473 | 60.2 | 53.25 | 66.77 | 333 | 20067 | 23.9 | 19.55 | 28.95 |
| Overweight (>+1sd - ≤+2sd) | 203 | 11487 | 57.9 | 49.84 | 65.51 | 81 | 4643 | 23.4 | 18.38 | 29.28 |
| Obese (>+2sd) | 210 | 12156 | 58.2 | 49.38 | 66.56 | 85 | 5505 | 26.4 | 18.70 | 35.78 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 88 | 4758 | 55.8 | 46.32 | 64.92 | 48 | 2209 | 25.9 | 18.26 | 35.41 |
| Normal (≥-2sd) | 1286 | 75097 | 59.7 | 53.06 | 66.03 | 490 | 30762 | 24.5 | 19.68 | 29.97 |

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 |
| **Negeri Sembilan** | 157 | 8959 | 6.7 | 4.89 | 9.03 | 222 | 9727 | 7.2 | 2.96 | 16.64 |
| **Locality of school** | | | | | | | | | | |
| Urban | 151 | 8596 | 7.1 | 5.23 | 9.58 | 203 | 8806 | 7.3 | 2.72 | 18.06 |
| Rural | 6 | 362 | 2.7 | 0.73 | 9.56 | 19 | 920 | 6.9 | 2.72 | 16.43 |
| **Sex** | | | | | | | | | | |
| Boys | 84 | 5133 | 7.6 | 5.28 | 10.94 | 46 | 2712 | 4.0 | 2.11 | 7.60 |
| Girls | 73 | 3826 | 5.7 | 4.05 | 7.95 | 176 | 7015 | 10.4 | 3.37 | 28.00 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 81 | 4344 | 5.4 | 3.76 | 7.73 | 211 | 9090 | 11.3 | 4.56 | 25.41 |
| Chinese | 64 | 3962 | 10.7 | 6.73 | 16.57 | 3 | 158 | 0.4 | 0.14 | 1.28 |
| Indian | 8 | 416 | 2.8 | 1.10 | 7.16 | 5 | 344 | 2.3 | 1.10 | 4.96 |
| Bumiputera Sabah | 2 | 119 | 14.2 | 3.17 | 45.44 | 1 | 48 | 5.7 | 0.62 | 37.34 |
| Bumiputera Sarawak | 1 | 55 | 6.2 | 0.61 | 41.61 | | | | | |
| Others | 1 | 62 | 9.3 | 1.60 | 39.13 | 2 | 88 | 13.0 | 3.12 | 40.97 |
| **School level** | | | | | | | | | | |
| Primary school | 47 | 3414 | 7.0 | 4.89 | 9.81 | 7 | 382 | 0.8 | 0.33 | 1.83 |
| Secondary school | 110 | 5544 | 6.5 | 4.13 | 10.08 | 215 | 9345 | 10.9 | 4.54 | 24.11 |
| **Class** | | | | | | | | | | |
| Standard 4 | 14 | 942 | 5.7 | 3.71 | 8.53 | 5 | 290 | 1.7 | 0.67 | 4.46 |
| Standard 5 | 16 | 1223 | 7.6 | 4.39 | 12.94 | 2 | 92 | 0.6 | 0.13 | 2.55 |
| Standard 6 | 17 | 1249 | 7.6 | 4.12 | 13.69 | | | | | |
| Form 1 | 13 | 898 | 5.1 | 3.01 | 8.45 | 25 | 1633 | 9.2 | 4.75 | 17.22 |
| Form 2 | 24 | 1320 | 7.7 | 4.27 | 13.47 | 23 | 1172 | 6.8 | 2.47 | 17.53 |
| Form 3 | 28 | 1200 | 7.0 | 4.21 | 11.54 | 31 | 1238 | 7.3 | 3.10 | 16.10 |
| Form 4 | 16 | 848 | 5.1 | 2.16 | 11.66 | 43 | 2217 | 13.4 | 3.07 | 43.06 |
| Form 5 | 29 | 1280 | 7.6 | 3.18 | 16.91 | 93 | 3085 | 18.2 | 5.12 | 47.90 |
| **School session** | | | | | | | | | | |
| Morning session | 105 | 6141 | 7.4 | 5.42 | 10.15 | 55 | 2743 | 3.3 | 1.65 | 6.59 |
| Evening session | 4 | 336 | 10.0 | 2.36 | 34.01 | 1 | 61 | 1.8 | 0.18 | 16.10 |
| Morning and evening session | 48 | 2482 | 5.1 | 3.05 | 8.53 | 166 | 6922 | 14.3 | 4.97 | 34.79 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 8 | 608 | 6.4 | 3.05 | 13.00 | 6 | 232 | 2.5 | 0.55 | 10.17 |
| Normal (≥-2sd - ≤+1sd) | 88 | 4589 | 5.5 | 3.55 | 8.35 | 150 | 6758 | 8.1 | 3.33 | 18.24 |
| Overweight (>+1sd - ≤+2sd) | 31 | 1885 | 9.5 | 5.87 | 15.01 | 36 | 1500 | 7.6 | 3.01 | 17.70 |
| Obese (>+2sd) | 30 | 1877 | 9.0 | 5.98 | 13.29 | 29 | 1204 | 5.8 | 2.10 | 14.83 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 15 | 712 | 8.4 | 4.12 | 16.20 | 14 | 651 | 7.6 | 3.20 | 17.15 |
| Normal (≥-2sd) | 142 | 8247 | 6.6 | 4.87 | 8.77 | 207 | 9043 | 7.2 | 2.89 | 16.78 |

**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 |
| **Negeri Sembilan** | 49 | 2801 | 2.1 | 1.35 | 3.22 |
| **Locality of school** | | | | | |
| Urban | 46 | 2625 | 2.2 | 1.36 | 3.43 |
| Rural | 3 | 176 | 1.3 | 1.07 | 1.63 |
| **Sex** | | | | | |
| Boys | 26 | 1673 | 2.5 | 1.48 | 4.17 |
| Girls | 23 | 1128 | 1.7 | 0.92 | 3.05 |
| **Ethnicity** | | | | | |
| Malay | 34 | 1776 | 2.2 | 1.26 | 3.86 |
| Chinese | 13 | 909 | 2.5 | 1.46 | 4.08 |
| Indian | 2 | 116 | 0.8 | 0.29 | 2.17 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | | | | | |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 9 | 700 | 1.4 | 0.83 | 2.44 |
| Secondary school | 40 | 2101 | 2.5 | 1.44 | 4.17 |
| **Class** | | | | | |
| Standard 4 | 2 | 112 | 0.7 | 0.19 | 2.37 |
| Standard 5 | 5 | 263 | 1.6 | 0.53 | 4.91 |
| Standard 6 | 2 | 326 | 2.0 | 0.40 | 9.38 |
| Form 1 | 5 | 331 | 1.9 | 0.67 | 5.10 |
| Form 2 | 10 | 532 | 3.1 | 1.67 | 5.70 |
| Form 3 | 10 | 451 | 2.6 | 1.19 | 5.78 |
| Form 4 | 9 | 461 | 2.8 | 0.79 | 9.32 |
| Form 5 | 6 | 326 | 1.9 | 0.76 | 4.80 |
| **School session** | | | | | |
| Morning session | 29 | 1800 | 2.2 | 1.26 | 3.75 |
| Evening session | 2 | 141 | 4.2 | 0.67 | 22.21 |
| Morning and evening session | 18 | 860 | 1.8 | 0.86 | 3.64 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 7 | 385 | 4.1 | 1.88 | 8.55 |
| Normal (≥-2sd - ≤+1sd) | 33 | 1945 | 2.3 | 1.43 | 3.75 |
| Overweight (>+1sd - ≤+2sd) | 6 | 332 | 1.7 | 0.78 | 3.55 |
| Obese (>+2sd) | 3 | 140 | 0.7 | 0.20 | 2.21 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 3 | 192 | 2.3 | 0.67 | 7.28 |
| Normal (≥-2sd) | 46 | 2609 | 2.1 | 1.36 | 3.15 |

**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 |
| **Negeri Sembilan** | 122 | 7216 | 12.8 | 10.39 | 15.74 | 433 | 24426 | 43.4 | 39.98 | 46.92 |
| **Locality of school** | | | | | | | | | | |
| Urban | 115 | 6813 | 13.2 | 10.68 | 16.29 | 397 | 22510 | 43.7 | 40.07 | 47.46 |
| Rural | 7 | 403 | 8.4 | 6.04 | 11.62 | 36 | 1916 | 40.1 | 34.01 | 46.43 |
| **Sex** | | | | | | | | | | |
| Boys | 75 | 4850 | 15.8 | 12.32 | 19.98 | 198 | 12164 | 39.6 | 35.67 | 43.61 |
| Girls | 47 | 2366 | 9.3 | 6.49 | 13.08 | 235 | 12263 | 48.0 | 43.19 | 52.94 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 96 | 5380 | 12.9 | 10.43 | 15.83 | 358 | 19617 | 47.0 | 43.08 | 50.94 |
| Chinese | 10 | 652 | 9.1 | 4.36 | 18.20 | 38 | 2733 | 38.3 | 31.79 | 45.32 |
| Indian | 12 | 991 | 17.6 | 8.31 | 33.42 | 25 | 1358 | 24.1 | 13.55 | 39.10 |
| Bumiputera Sabah | 1 | 57 | 7.9 | 0.86 | 45.80 | 5 | 262 | 36.6 | 13.82 | 67.60 |
| Bumiputera Sarawak | 1 | 55 | 9.9 | 1.42 | 45.50 | 5 | 323 | 57.7 | 20.96 | 87.50 |
| Others | 2 | 81 | 17.4 | 2.80 | 60.50 | 2 | 133 | 28.5 | 9.26 | 60.97 |
| **School level** | | | | | | | | | | |
| Primary school | 30 | 2248 | 12.2 | 7.96 | 18.14 | 125 | 8108 | 43.8 | 39.22 | 48.57 |
| Secondary school | 92 | 4968 | 13.2 | 10.37 | 16.55 | 308 | 16318 | 43.2 | 38.67 | 47.87 |
| **Class** | | | | | | | | | | |
| Standard 4 | 13 | 924 | 13.4 | 8.04 | 21.61 | 40 | 2465 | 35.9 | 27.14 | 45.64 |
| Standard 5 | 9 | 705 | 11.5 | 5.90 | 21.24 | 48 | 2989 | 48.8 | 45.03 | 52.51 |
| Standard 6 | 8 | 619 | 11.3 | 5.46 | 21.87 | 37 | 2654 | 48.3 | 33.19 | 63.76 |
| Form 1 | 19 | 1347 | 14.1 | 9.16 | 21.15 | 56 | 3769 | 39.5 | 31.89 | 47.73 |
| Form 2 | 12 | 620 | 8.5 | 4.61 | 15.10 | 65 | 3627 | 49.6 | 40.16 | 59.06 |
| Form 3 | 22 | 1008 | 14.8 | 7.25 | 27.81 | 68 | 3017 | 44.3 | 36.73 | 52.07 |
| Form 4 | 20 | 1171 | 18.8 | 12.90 | 26.66 | 49 | 2850 | 45.8 | 32.19 | 60.14 |
| Form 5 | 19 | 821 | 10.4 | 6.12 | 17.18 | 70 | 3055 | 38.8 | 29.86 | 48.47 |
| **School session** | | | | | | | | | | |
| Morning session | 70 | 4326 | 13.4 | 10.17 | 17.50 | 256 | 14557 | 45.2 | 41.47 | 48.89 |
| Evening session | 3 | 206 | 10.9 | 4.26 | 25.17 | 10 | 609 | 32.1 | 17.20 | 51.93 |
| Morning and evening session | 49 | 2684 | 12.2 | 9.77 | 15.12 | 165 | 9148 | 41.6 | 36.34 | 46.97 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 9 | 674 | 16.4 | 7.94 | 30.73 | 31 | 1714 | 41.6 | 26.32 | 58.74 |
| Normal (≥-2sd - ≤+1sd) | 79 | 4584 | 13.6 | 10.25 | 17.87 | 260 | 14602 | 43.4 | 38.08 | 48.83 |
| Overweight (>+1sd - ≤+2sd) | 11 | 694 | 7.4 | 3.86 | 13.61 | 83 | 4560 | 48.4 | 42.12 | 54.73 |
| Obese (>+2sd) | 23 | 1264 | 14.3 | 8.50 | 23.07 | 56 | 3362 | 38.0 | 28.10 | 49.11 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 7 | 339 | 7.6 | 3.33 | 16.54 | 44 | 2278 | 51.3 | 43.34 | 59.17 |
| Normal (≥-2sd) | 114 | 6828 | 13.2 | 10.61 | 16.30 | 389 | 22149 | 42.8 | 38.95 | 46.76 |

**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 |
| **Negeri Sembilan** | 183 | 10432 | 18.5 | 15.72 | 21.74 | 126 | 6673 | 11.9 | 9.28 | 15.04 |
| **Locality of school** | | | | | | | | | | |
| Urban | 168 | 9499 | 18.5 | 15.77 | 21.47 | 116 | 6169 | 12.0 | 9.24 | 15.42 |
| Rural | 15 | 933 | 19.5 | 7.49 | 42.04 | 10 | 504 | 10.5 | 5.75 | 18.51 |
| **Sex** | | | | | | | | | | |
| Boys | 89 | 5587 | 18.2 | 15.41 | 21.32 | 54 | 3387 | 11.0 | 8.17 | 14.70 |
| Girls | 94 | 4845 | 19.0 | 14.46 | 24.52 | 72 | 3287 | 12.9 | 9.07 | 17.97 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 137 | 7207 | 17.3 | 14.39 | 20.57 | 90 | 4461 | 10.7 | 7.91 | 14.28 |
| Chinese | 26 | 1759 | 24.7 | 20.07 | 29.95 | 12 | 748 | 10.5 | 6.13 | 17.37 |
| Indian | 17 | 1234 | 21.9 | 15.71 | 29.64 | 19 | 1186 | 21.0 | 11.74 | 34.78 |
| Bumiputera Sabah | 1 | 96 | 13.4 | 1.55 | 60.52 | 3 | 163 | 22.8 | 6.67 | 54.93 |
| Bumiputera Sarawak | 1 | 73 | 13.0 | 1.46 | 60.03 | | | | | |
| Others | 1 | 62 | 13.4 | 3.08 | 43.12 | 2 | 115 | 24.8 | 4.16 | 71.41 |
| **School level** | | | | | | | | | | |
| Primary school | 52 | 3500 | 18.9 | 13.60 | 25.72 | 34 | 2163 | 11.7 | 7.70 | 17.38 |
| Secondary school | 131 | 6932 | 18.4 | 15.19 | 22.00 | 92 | 4510 | 11.9 | 8.80 | 16.01 |
| **Class** | | | | | | | | | | |
| Standard 4 | 22 | 1427 | 20.8 | 10.35 | 37.29 | 15 | 994 | 14.5 | 8.18 | 24.31 |
| Standard 5 | 17 | 1160 | 18.9 | 13.03 | 26.65 | 9 | 448 | 7.3 | 3.87 | 13.41 |
| Standard 6 | 13 | 914 | 16.6 | 10.33 | 25.71 | 10 | 720 | 13.1 | 4.40 | 33.09 |
| Form 1 | 24 | 1786 | 18.7 | 13.14 | 25.99 | 17 | 1139 | 11.9 | 6.76 | 20.24 |
| Form 2 | 22 | 1144 | 15.6 | 9.79 | 24.04 | 16 | 837 | 11.4 | 6.15 | 20.30 |
| Form 3 | 31 | 1402 | 20.6 | 13.71 | 29.67 | 21 | 868 | 12.7 | 7.40 | 21.05 |
| Form 4 | 16 | 917 | 14.7 | 8.93 | 23.38 | 13 | 716 | 11.5 | 6.83 | 18.79 |
| Form 5 | 38 | 1684 | 21.4 | 14.18 | 30.86 | 25 | 950 | 12.1 | 6.17 | 22.23 |
| **School session** | | | | | | | | | | |
| Morning session | 100 | 5956 | 18.5 | 15.03 | 22.50 | 70 | 3975 | 12.3 | 9.22 | 16.30 |
| Evening session | 10 | 629 | 33.2 | 21.29 | 47.76 | 3 | 206 | 10.9 | 3.87 | 26.98 |
| Morning and evening session | 73 | 3847 | 17.5 | 13.78 | 21.90 | 53 | 2492 | 11.3 | 8.00 | 15.79 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 15 | 1185 | 28.8 | 15.86 | 46.40 | 1 | 62 | 1.5 | 0.18 | 11.45 |
| Normal (≥-2sd - ≤+1sd) | 108 | 6069 | 18.0 | 15.07 | 21.43 | 70 | 3544 | 10.5 | 7.92 | 13.87 |
| Overweight (>+1sd - ≤+2sd) | 27 | 1461 | 15.5 | 10.08 | 23.10 | 30 | 1557 | 16.5 | 10.11 | 25.85 |
| Obese (>+2sd) | 33 | 1717 | 19.4 | 13.19 | 27.67 | 24 | 1478 | 16.7 | 10.48 | 25.61 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 16 | 915 | 20.6 | 11.93 | 33.21 | 4 | 174 | 3.9 | 1.23 | 11.80 |
| Normal (≥-2sd) | 167 | 9517 | 18.4 | 15.67 | 21.48 | 121 | 6467 | 12.5 | 9.87 | 15.70 |

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

| Characteristics | Reasons for skiping lumch | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No money | | | | | Others | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 76 | 4254 | 7.6 | 5.72 | 9.94 | 61 | 3258 | 5.8 | 4.12 | 8.08 |
| **Locality of school** | | | | | | | | | | |
| Urban | 65 | 3520 | 6.8 | 5.16 | 9.01 | 55 | 2963 | 5.8 | 4.02 | 8.18 |
| Rural | 11 | 734 | 15.3 | 11.56 | 20.06 | 6 | 294 | 6.2 | 2.17 | 16.22 |
| **Sex** | | | | | | | | | | |
| Boys | 50 | 2949 | 9.6 | 7.04 | 12.94 | 30 | 1800 | 5.9 | 3.39 | 9.93 |
| Girls | 26 | 1305 | 5.1 | 3.20 | 8.08 | 31 | 1457 | 5.7 | 4.32 | 7.51 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 53 | 2708 | 6.5 | 4.87 | 8.59 | 45 | 2376 | 5.7 | 3.84 | 8.35 |
| Chinese | 8 | 487 | 6.8 | 2.49 | 17.40 | 14 | 750 | 10.5 | 5.37 | 19.60 |
| Indian | 11 | 812 | 14.4 | 6.62 | 28.52 | 1 | 57 | 1.0 | 0.14 | 6.91 |
| Bumiputera Sabah | 2 | 138 | 19.2 | 4.21 | 56.35 | | | | | |
| Bumiputera Sarawak | 2 | 109 | 19.5 | 4.91 | 53.13 | | | | | |
| Others | | | | | | 1 | 74 | 15.9 | 3.56 | 49.19 |
| **School level** | | | | | | | | | | |
| Primary school | 28 | 1578 | 8.5 | 5.89 | 12.20 | 15 | 898 | 4.9 | 3.13 | 7.45 |
| Secondary school | 48 | 2676 | 7.1 | 4.86 | 10.23 | 46 | 2360 | 6.2 | 4.06 | 9.49 |
| **Class** | | | | | | | | | | |
| Standard 4 | 12 | 710 | 10.3 | 5.29 | 19.19 | 6 | 353 | 5.1 | 2.37 | 10.78 |
| Standard 5 | 12 | 584 | 9.5 | 3.86 | 21.65 | 5 | 243 | 4.0 | 1.64 | 9.27 |
| Standard 6 | 4 | 284 | 5.2 | 1.52 | 16.08 | 4 | 301 | 5.5 | 3.23 | 9.18 |
| Form 1 | 13 | 1053 | 11.0 | 5.00 | 22.67 | 7 | 441 | 4.6 | 2.10 | 9.85 |
| Form 2 | 11 | 535 | 7.3 | 3.96 | 13.15 | 10 | 550 | 7.5 | 3.44 | 15.67 |
| Form 3 | 9 | 379 | 5.6 | 2.52 | 11.87 | 4 | 141 | 2.1 | 0.71 | 5.90 |
| Form 4 | 5 | 255 | 4.1 | 1.24 | 12.75 | 6 | 308 | 4.9 | 2.23 | 10.63 |
| Form 5 | 10 | 453 | 5.7 | 2.51 | 12.64 | 19 | 921 | 11.7 | 7.61 | 17.49 |
| **School session** | | | | | | | | | | |
| Morning session | 30 | 1619 | 5.0 | 3.38 | 7.41 | 33 | 1805 | 5.6 | 3.20 | 9.63 |
| Evening session | 3 | 188 | 9.9 | 4.37 | 21.02 | 1 | 56 | 3.0 | 0.82 | 10.05 |
| Morning and evening session | 43 | 2447 | 11.1 | 8.09 | 15.08 | 27 | 1396 | 6.3 | 4.37 | 9.13 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 6 | 333 | 8.1 | 3.05 | 19.75 | 2 | 150 | 3.6 | 0.99 | 12.45 |
| Normal (≥-2sd - ≤+1sd) | 47 | 2654 | 7.9 | 5.56 | 11.06 | 41 | 2209 | 6.6 | 4.79 | 8.93 |
| Overweight (>+1sd - ≤+2sd) | 14 | 746 | 7.9 | 4.59 | 13.32 | 8 | 403 | 4.3 | 2.32 | 7.75 |
| Obese (>+2sd) | 9 | 521 | 5.9 | 3.02 | 11.18 | 10 | 496 | 5.6 | 2.37 | 12.69 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 9 | 418 | 9.4 | 4.11 | 20.14 | 6 | 317 | 7.1 | 3.83 | 12.89 |
| Normal (≥-2sd) | 67 | 3835 | 7.4 | 5.56 | 9.82 | 55 | 2941 | 5.7 | 4.00 | 8.02 |

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 | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 1371 | 80624 | 58.1 | 50.31 | 65.55 | 979 | 54442 | 39.2 | 32.19 | 46.79 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1243 | 73586 | 58.8 | 50.25 | 66.94 | 868 | 48473 | 38.8 | 31.03 | 47.11 |
| Rural | 128 | 7038 | 51.5 | 50.23 | 52.74 | 111 | 5969 | 43.7 | 42.71 | 44.63 |
| **Sex** | | | | | | | | | | |
| Boys | 648 | 40802 | 58.6 | 51.09 | 65.73 | 430 | 27065 | 38.9 | 31.81 | 46.43 |
| Girls | 723 | 39822 | 57.6 | 48.31 | 66.46 | 549 | 27376 | 39.6 | 31.41 | 48.48 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 753 | 39868 | 48.1 | 43.94 | 52.25 | 764 | 40471 | 48.8 | 44.62 | 53.02 |
| Chinese | 449 | 31068 | 81.6 | 75.49 | 86.49 | 92 | 6427 | 16.9 | 12.41 | 22.56 |
| Indian | 149 | 8540 | 56.5 | 48.24 | 64.36 | 98 | 6078 | 40.2 | 32.50 | 48.40 |
| Bumiputera Sabah | 6 | 371 | 44.2 | 23.45 | 67.20 | 8 | 468 | 55.8 | 32.80 | 76.55 |
| Bumiputera Sarawak | 9 | 531 | 48.2 | 28.07 | 68.94 | 9 | 571 | 51.8 | 31.06 | 71.93 |
| Others | 5 | 246 | 36.5 | 12.35 | 70.18 | 8 | 427 | 63.5 | 29.82 | 87.65 |
| **School level** | | | | | | | | | | |
| Primary school | 422 | 31638 | 62.3 | 45.77 | 76.43 | 285 | 18151 | 35.8 | 22.21 | 52.04 |
| Secondary school | 949 | 48986 | 55.7 | 48.25 | 62.90 | 694 | 36291 | 41.3 | 34.43 | 48.45 |
| **Class** | | | | | | | | | | |
| Standard 4 | 151 | 10370 | 60.0 | 40.46 | 76.86 | 106 | 6441 | 37.3 | 21.31 | 56.62 |
| Standard 5 | 133 | 9968 | 60.2 | 39.93 | 77.43 | 108 | 6354 | 38.4 | 21.78 | 58.16 |
| Standard 6 | 138 | 11301 | 66.8 | 53.54 | 77.80 | 71 | 5356 | 31.6 | 20.58 | 45.28 |
| Form 1 | 128 | 8367 | 45.4 | 38.54 | 52.46 | 134 | 9319 | 50.6 | 43.61 | 57.53 |
| Form 2 | 193 | 10740 | 60.8 | 46.63 | 73.36 | 120 | 6683 | 37.8 | 25.30 | 52.23 |
| Form 3 | 238 | 10512 | 60.1 | 49.12 | 70.10 | 146 | 6357 | 36.3 | 26.96 | 46.87 |
| Form 4 | 159 | 9157 | 54.5 | 46.63 | 62.23 | 128 | 7154 | 42.6 | 35.37 | 50.19 |
| Form 5 | 231 | 10210 | 58.1 | 46.45 | 68.93 | 166 | 6778 | 38.6 | 27.91 | 50.47 |
| **School session** | | | | | | | | | | |
| Morning session | 844 | 52830 | 62.4 | 53.29 | 70.69 | 515 | 29797 | 35.2 | 27.26 | 44.02 |
| Evening session | 27 | 1829 | 51.5 | 41.01 | 61.93 | 24 | 1610 | 45.4 | 33.95 | 57.28 |
| Morning and evening session | 500 | 25965 | 51.7 | 45.05 | 58.26 | 438 | 22926 | 45.6 | 39.07 | 52.35 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 100 | 6530 | 66.5 | 56.56 | 75.20 | 55 | 3165 | 32.2 | 23.33 | 42.66 |
| Normal (≥-2sd - ≤+1sd) | 876 | 51069 | 59.4 | 51.68 | 66.68 | 596 | 33023 | 38.4 | 31.32 | 46.03 |
| Overweight (>+1sd - ≤+2sd) | 202 | 11580 | 55.4 | 45.50 | 64.93 | 154 | 8353 | 40.0 | 31.44 | 49.17 |
| Obese (>+2sd) | 191 | 11363 | 52.4 | 43.03 | 61.68 | 169 | 9625 | 44.4 | 35.84 | 53.35 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 96 | 4957 | 54.3 | 46.49 | 61.88 | 78 | 3922 | 43.0 | 35.04 | 51.24 |
| Normal (≥-2sd) | 1274 | 75635 | 58.4 | 50.32 | 66.09 | 899 | 50439 | 39.0 | 31.71 | 46.73 |

**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 |
|---|---|---|---|---|---|
| **Negeri Sembilan** | 73 | 3645 | 2.6 | 1.99 | 3.46 |
| **Locality of school** | | | | | |
| Urban | 61 | 2982 | 2.4 | 1.78 | 3.19 |
| Rural | 12 | 662 | 4.8 | 4.56 | 5.15 |
| **Sex** | | | | | |
| Boys | 28 | 1762 | 2.5 | 1.55 | 4.11 |
| Girls | 45 | 1883 | 2.7 | 1.80 | 4.10 |
| **Ethnicity** | | | | | |
| Malay | 55 | 2571 | 3.1 | 2.48 | 3.88 |
| Chinese | 10 | 569 | 1.5 | 0.66 | 3.37 |
| Indian | 8 | 505 | 3.3 | 1.75 | 6.26 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | | | | | |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 17 | 975 | 1.9 | 0.97 | 3.78 |
| Secondary school | 56 | 2670 | 3.0 | 2.40 | 3.83 |
| **Class** | | | | | |
| Standard 4 | 8 | 462 | 2.7 | 1.41 | 5.01 |
| Standard 5 | 5 | 246 | 1.5 | 0.55 | 3.93 |
| Standard 6 | 4 | 267 | 1.6 | 0.73 | 3.38 |
| Form 1 | 10 | 739 | 4.0 | 2.00 | 7.89 |
| Form 2 | 5 | 240 | 1.4 | 0.51 | 3.56 |
| Form 3 | 15 | 630 | 3.6 | 2.06 | 6.22 |
| Form 4 | 10 | 478 | 2.8 | 1.14 | 6.94 |
| Form 5 | 16 | 582 | 3.3 | 2.41 | 4.53 |
| **School session** | | | | | |
| Morning session | 42 | 2051 | 2.4 | 1.59 | 3.69 |
| Evening session | 2 | 110 | 3.1 | 0.56 | 15.32 |
| Morning and evening session | 27 | 1348 | 2.7 | 1.96 | 3.66 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 2 | 122 | 1.2 | 0.29 | 5.16 |
| Normal (≥-2sd - ≤+1sd) | 37 | 1881 | 2.2 | 1.39 | 3.43 |
| Overweight (>+1sd - ≤+2sd) | 21 | 962 | 4.6 | 2.83 | 7.40 |
| Obese (>+2sd) | 13 | 680 | 3.1 | 1.69 | 5.77 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 5 | 252 | 2.8 | 1.17 | 6.39 |
| Normal (≥-2sd) | 68 | 3392 | 2.6 | 1.89 | 3.61 |

**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 |
| **Negeri Sembilan** | 1819 | 106270 | 79.5 | 72.73 | 84.95 | 210 | 13175 | 9.9 | 7.70 | 12.54 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1622 | 95527 | 79.0 | 71.56 | 84.96 | 197 | 12451 | 10.3 | 8.03 | 13.13 |
| Rural | 197 | 10743 | 84.0 | 78.98 | 88.03 | 13 | 724 | 5.7 | 4.23 | 7.55 |
| **Sex** | | | | | | | | | | |
| Boys | 852 | 53669 | 79.9 | 75.76 | 83.43 | 127 | 7978 | 11.9 | 9.07 | 15.40 |
| Girls | 967 | 52602 | 79.2 | 66.18 | 88.05 | 83 | 5196 | 7.8 | 4.90 | 12.24 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1099 | 60092 | 75.7 | 65.27 | 83.72 | 141 | 7724 | 9.7 | 7.35 | 12.76 |
| Chinese | 469 | 31662 | 84.9 | 77.68 | 90.04 | 49 | 4105 | 11.0 | 7.07 | 16.73 |
| Indian | 216 | 12483 | 86.8 | 78.69 | 92.11 | 15 | 1029 | 7.2 | 3.15 | 15.43 |
| Bumiputera Sabah | 11 | 686 | 81.8 | 54.95 | 94.30 | 1 | 49 | 5.9 | 0.73 | 34.83 |
| Bumiputera Sarawak | 14 | 836 | 81.2 | 52.97 | 94.34 | 3 | 193 | 18.8 | 5.66 | 47.03 |
| Others | 10 | 511 | 76.0 | 45.85 | 92.20 | 1 | 74 | 11.0 | 1.33 | 53.22 |
| **School level** | | | | | | | | | | |
| Primary school | 588 | 41209 | 84.0 | 78.91 | 88.07 | 77 | 5813 | 11.9 | 8.65 | 16.03 |
| Secondary school | 1231 | 65061 | 76.9 | 66.68 | 84.70 | 133 | 7361 | 8.7 | 6.26 | 11.97 |
| **Class** | | | | | | | | | | |
| Standard 4 | 203 | 12908 | 78.3 | 68.44 | 85.78 | 34 | 2591 | 15.7 | 9.77 | 24.35 |
| Standard 5 | 195 | 13235 | 82.4 | 75.22 | 87.77 | 28 | 1942 | 12.1 | 8.00 | 17.86 |
| Standard 6 | 190 | 15066 | 91.3 | 86.91 | 94.31 | 15 | 1280 | 7.8 | 5.21 | 11.39 |
| Form 1 | 192 | 12812 | 74.1 | 63.16 | 82.68 | 25 | 1872 | 10.8 | 5.91 | 19.00 |
| Form 2 | 248 | 13915 | 80.1 | 72.84 | 85.82 | 28 | 1552 | 8.9 | 6.14 | 12.83 |
| Form 3 | 310 | 13662 | 81.2 | 75.35 | 85.98 | 31 | 1374 | 8.2 | 5.32 | 12.35 |
| Form 4 | 220 | 12668 | 78.2 | 56.50 | 90.82 | 19 | 1131 | 7.0 | 3.80 | 12.47 |
| Form 5 | 261 | 12004 | 70.9 | 44.06 | 88.31 | 30 | 1433 | 8.5 | 5.33 | 13.19 |
| **School session** | | | | | | | | | | |
| Morning session | 1127 | 68247 | 83.4 | 80.12 | 86.16 | 126 | 8580 | 10.5 | 7.76 | 14.01 |
| Evening session | 31 | 2080 | 65.1 | 36.38 | 85.86 | 10 | 747 | 23.4 | 9.80 | 46.14 |
| Morning and evening session | 659 | 35834 | 73.9 | 58.01 | 85.33 | 74 | 3847 | 7.9 | 6.40 | 9.80 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 126 | 7911 | 82.4 | 74.61 | 88.12 | 14 | 1016 | 10.6 | 5.97 | 18.04 |
| Normal (≥-2sd - ≤+1sd) | 1136 | 66357 | 79.9 | 72.10 | 85.88 | 125 | 7351 | 8.8 | 6.94 | 11.21 |
| Overweight (>+1sd - ≤+2sd) | 274 | 15505 | 78.4 | 69.49 | 85.19 | 33 | 2042 | 10.3 | 6.66 | 15.65 |
| Obese (>+2sd) | 278 | 16227 | 78.0 | 69.23 | 84.78 | 38 | 2766 | 13.3 | 7.53 | 22.40 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 127 | 6544 | 75.3 | 66.33 | 82.53 | 21 | 1012 | 11.6 | 5.83 | 21.92 |
| Normal (≥-2sd) | 1691 | 99694 | 79.9 | 73.00 | 85.31 | 188 | 12113 | 9.7 | 7.61 | 12.30 |

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

| Socio-demographic Characteristics | Hostel | | | | | Others | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Percentage (%) | 95% CI | | Count | Estimated Population | Percentage (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 228 | 10233 | 7.7 | 3.35 | 16.54 | 69 | 3976 | 3.0 | 2.22 | 3.98 |
| **Locality of school** | | | | | | | | | | |
| Urban | 208 | 9262 | 7.7 | 3.09 | 17.77 | 63 | 3628 | 3.0 | 2.18 | 4.12 |
| Rural | 20 | 971 | 7.6 | 2.91 | 18.41 | 6 | 348 | 2.7 | 1.93 | 3.83 |
| **Sex** | | | | | | | | | | |
| Boys | 56 | 3250 | 4.8 | 2.84 | 8.11 | 33 | 2302 | 3.4 | 2.24 | 5.21 |
| Girls | 172 | 6982 | 10.5 | 3.45 | 27.85 | 36 | 1674 | 2.5 | 1.56 | 4.05 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 212 | 9189 | 11.6 | 4.82 | 25.26 | 49 | 2415 | 3.0 | 2.11 | 4.37 |
| Chinese | 4 | 258 | 0.7 | 0.22 | 2.11 | 16 | 1283 | 3.4 | 1.89 | 6.17 |
| Indian | 8 | 595 | 4.1 | 1.81 | 9.14 | 4 | 278 | 1.9 | 0.65 | 5.58 |
| Bumiputera Sabah | 2 | 103 | 12.3 | 2.75 | 41.08 | | | | | |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | 2 | 88 | 13.0 | 3.12 | 40.97 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 10 | 578 | 1.2 | 0.42 | 3.26 | 19 | 1448 | 3.0 | 1.57 | 5.49 |
| Secondary school | 218 | 9654 | 11.4 | 5.03 | 23.85 | 50 | 2528 | 3.0 | 2.24 | 3.97 |
| **Class** | | | | | | | | | | |
| Standard 4 | 6 | 350 | 2.1 | 0.91 | 4.86 | 8 | 627 | 3.8 | 2.31 | 6.22 |
| Standard 5 | 3 | 142 | 0.9 | 0.11 | 6.66 | 10 | 751 | 4.7 | 2.53 | 8.48 |
| Standard 6 | 1 | 86 | 0.5 | 0.06 | 4.12 | 1 | 70 | 0.4 | 0.06 | 2.99 |
| Form 1 | 28 | 1862 | 10.8 | 6.10 | 18.31 | 12 | 745 | 4.3 | 2.29 | 7.96 |
| Form 2 | 28 | 1446 | 8.3 | 3.79 | 17.30 | 8 | 456 | 2.6 | 1.34 | 5.08 |
| Form 3 | 30 | 1227 | 7.3 | 3.34 | 15.18 | 12 | 556 | 3.3 | 1.72 | 6.24 |
| Form 4 | 42 | 2169 | 13.4 | 3.13 | 42.49 | 4 | 234 | 1.4 | 0.46 | 4.40 |
| Form 5 | 90 | 2951 | 17.4 | 4.52 | 48.52 | 14 | 538 | 3.2 | 1.26 | 7.80 |
| **School session** | | | | | | | | | | |
| Morning session | 60 | 3060 | 3.7 | 2.05 | 6.73 | 33 | 1985 | 2.4 | 1.74 | 3.37 |
| Evening session | 3 | 199 | 6.2 | 1.27 | 25.63 | 3 | 170 | 5.3 | 1.83 | 14.42 |
| Morning and evening session | 165 | 6974 | 14.4 | 5.17 | 34.12 | 33 | 1821 | 3.8 | 2.09 | 6.66 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 7 | 302 | 3.1 | 1.17 | 8.16 | 7 | 377 | 3.9 | 1.81 | 8.30 |
| Normal (≥-2sd - ≤+1sd) | 153 | 7005 | 8.4 | 3.60 | 18.51 | 41 | 2378 | 2.9 | 1.96 | 4.16 |
| Overweight (>+1sd - ≤+2sd) | 38 | 1602 | 8.1 | 3.54 | 17.47 | 9 | 639 | 3.2 | 1.65 | 6.24 |
| Obese (>+2sd) | 28 | 1235 | 5.9 | 2.38 | 14.04 | 12 | 582 | 2.8 | 1.66 | 4.68 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 17 | 862 | 9.9 | 5.06 | 18.53 | 6 | 271 | 3.1 | 1.16 | 8.11 |
| Normal (≥-2sd) | 210 | 9339 | 7.5 | 3.16 | 16.70 | 63 | 3705 | 3.0 | 2.24 | 3.93 |

**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 | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 111 | 6538 | 13.1 | 10.71 | 15.97 | 460 | 24964 | 50.1 | 44.67 | 55.52 |
| **Locality of school** | | | | | | | | | | |
| Urban | 105 | 6162 | 13.8 | 11.34 | 16.59 | 408 | 22284 | 49.7 | 43.79 | 55.71 |
| Rural | 6 | 377 | 7.5 | 3.50 | 15.24 | 52 | 2680 | 53.2 | 45.61 | 60.55 |
| **Sex** | | | | | | | | | | |
| Boys | 65 | 4082 | 16.3 | 12.79 | 20.55 | 186 | 11275 | 45.0 | 37.49 | 52.81 |
| Girls | 46 | 2456 | 9.9 | 7.21 | 13.47 | 274 | 13689 | 55.2 | 51.11 | 59.23 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 93 | 5262 | 13.7 | 11.04 | 16.84 | 389 | 20607 | 53.6 | 48.51 | 58.57 |
| Chinese | 7 | 535 | 10.4 | 6.55 | 16.11 | 32 | 2040 | 39.6 | 26.22 | 54.85 |
| Indian | 7 | 505 | 10.3 | 5.53 | 18.37 | 28 | 1711 | 34.9 | 21.51 | 51.09 |
| Bumiputera Sabah | | | | | | 3 | 200 | 42.8 | 14.91 | 76.10 |
| Bumiputera Sarawak | 2 | 115 | 26.9 | 3.13 | 80.72 | 3 | 176 | 41.0 | 7.99 | 84.71 |
| Others | 2 | 121 | 28.4 | 5.98 | 71.15 | 5 | 232 | 54.3 | 9.63 | 92.99 |
| **School level** | | | | | | | | | | |
| Primary school | 37 | 2416 | 14.9 | 12.79 | 17.19 | 133 | 8316 | 51.1 | 40.90 | 61.28 |
| Secondary school | 74 | 4122 | 12.3 | 9.18 | 16.23 | 327 | 16649 | 49.6 | 43.39 | 55.80 |
| **Class** | | | | | | | | | | |
| Standard 4 | 13 | 763 | 13.4 | 7.48 | 22.74 | 55 | 3350 | 58.7 | 51.12 | 65.84 |
| Standard 5 | 10 | 647 | 11.4 | 8.84 | 14.71 | 39 | 2122 | 37.5 | 25.03 | 51.97 |
| Standard 6 | 14 | 1006 | 20.5 | 15.73 | 26.31 | 39 | 2843 | 58.0 | 46.36 | 68.86 |
| Form 1 | 15 | 1075 | 13.0 | 5.21 | 28.87 | 60 | 4053 | 49.0 | 33.41 | 64.85 |
| Form 2 | 21 | 1125 | 18.8 | 12.60 | 27.12 | 56 | 3172 | 53.0 | 44.74 | 61.18 |
| Form 3 | 15 | 703 | 12.1 | 6.18 | 22.17 | 76 | 3166 | 54.3 | 44.09 | 64.15 |
| Form 4 | 10 | 655 | 9.5 | 4.69 | 18.12 | 61 | 3293 | 47.5 | 36.53 | 58.81 |
| Form 5 | 13 | 566 | 8.6 | 4.63 | 15.44 | 74 | 2964 | 45.1 | 34.71 | 55.95 |
| **School session** | | | | | | | | | | |
| Morning session | 56 | 3428 | 12.6 | 9.88 | 16.02 | 240 | 13145 | 48.4 | 40.07 | 56.90 |
| Evening session | 3 | 182 | 12.4 | 2.79 | 41.06 | 10 | 752 | 51.2 | 32.36 | 69.69 |
| Morning and evening session | 52 | 2928 | 14.0 | 10.41 | 18.45 | 208 | 10955 | 52.2 | 47.36 | 56.99 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 7 | 393 | 14.4 | 5.50 | 32.58 | 27 | 1431 | 52.2 | 35.00 | 68.97 |
| Normal (≥-2sd - ≤+1sd) | 75 | 4511 | 15.0 | 11.32 | 19.71 | 290 | 15621 | 52.1 | 45.46 | 58.64 |
| Overweight (>+1sd - ≤+2sd) | 10 | 575 | 7.4 | 4.27 | 12.52 | 70 | 3771 | 48.5 | 41.81 | 55.25 |
| Obese (>+2sd) | 18 | 1002 | 11.1 | 6.86 | 17.38 | 71 | 4017 | 44.4 | 35.23 | 53.88 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 10 | 536 | 15.4 | 8.81 | 25.53 | 45 | 2231 | 64.1 | 54.44 | 72.82 |
| Normal (≥-2sd) | 101 | 6003 | 13.0 | 10.57 | 15.82 | 414 | 22684 | 49.0 | 43.13 | 54.93 |

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

| Socio-demographic Characteristics | Reasons for skiping dinner | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No time | | | | | On diet/ control body weight | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 76 | 4022 | 8.1 | 6.08 | 10.64 | 175 | 9037 | 18.1 | 13.90 | 23.31 |
| **Locality of school** | | | | | | | | | | |
| Urban | 68 | 3614 | 8.1 | 5.88 | 10.97 | 154 | 7996 | 17.8 | 13.26 | 23.60 |
| Rural | 8 | 408 | 8.1 | 8.07 | 8.12 | 21 | 1042 | 20.7 | 16.30 | 25.81 |
| **Sex** | | | | | | | | | | |
| Boys | 44 | 2613 | 10.4 | 7.25 | 14.80 | 63 | 4012 | 16.0 | 10.92 | 22.89 |
| Girls | 32 | 1409 | 5.7 | 3.95 | 8.10 | 112 | 5025 | 20.3 | 15.37 | 26.23 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 58 | 2963 | 7.7 | 5.61 | 10.49 | 133 | 6759 | 17.6 | 13.17 | 23.06 |
| Chinese | 10 | 613 | 11.9 | 5.56 | 23.73 | 10 | 543 | 10.6 | 3.63 | 26.98 |
| Indian | 8 | 446 | 9.1 | 5.29 | 15.14 | 29 | 1572 | 32.0 | 23.91 | 41.42 |
| Bumiputera Sabah | | | | | | 3 | 163 | 34.9 | 8.94 | 74.51 |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | | | | | | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 27 | 1495 | 9.2 | 6.67 | 12.54 | 24 | 1332 | 8.2 | 5.21 | 12.65 |
| Secondary school | 49 | 2527 | 7.5 | 5.04 | 11.10 | 151 | 7706 | 23.0 | 19.56 | 26.73 |
| **Class** | | | | | | | | | | |
| Standard 4 | 7 | 408 | 7.1 | 3.17 | 15.33 | 10 | 554 | 9.7 | 5.57 | 16.38 |
| Standard 5 | 15 | 745 | 13.2 | 7.47 | 22.21 | 10 | 488 | 8.6 | 4.59 | 15.66 |
| Standard 6 | 5 | 341 | 7.0 | 2.76 | 16.51 | 4 | 289 | 5.9 | 1.44 | 21.23 |
| Form 1 | 8 | 565 | 6.8 | 3.84 | 11.90 | 23 | 1614 | 19.5 | 10.17 | 34.20 |
| Form 2 | 5 | 257 | 4.3 | 1.91 | 9.39 | 19 | 1030 | 17.2 | 10.52 | 26.92 |
| Form 3 | 8 | 351 | 6.0 | 2.76 | 12.64 | 30 | 1312 | 22.5 | 15.92 | 30.78 |
| Form 4 | 11 | 646 | 9.3 | 3.73 | 21.44 | 38 | 2106 | 30.4 | 24.47 | 37.08 |
| Form 5 | 17 | 707 | 10.8 | 7.64 | 14.96 | 41 | 1644 | 25.0 | 18.66 | 32.68 |
| **School session** | | | | | | | | | | |
| Morning session | 35 | 1991 | 7.3 | 4.96 | 10.72 | 105 | 5623 | 20.7 | 14.79 | 28.25 |
| Evening session | 3 | 181 | 12.4 | 5.57 | 25.18 | 3 | 186 | 12.6 | 2.94 | 40.94 |
| Morning and evening session | 38 | 1850 | 8.8 | 6.78 | 11.38 | 65 | 3096 | 14.8 | 11.01 | 19.49 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 4 | 203 | 7.4 | 2.42 | 20.44 | 4 | 229 | 8.4 | 2.85 | 22.18 |
| Normal (≥-2sd - ≤+1sd) | 48 | 2480 | 8.3 | 5.87 | 11.53 | 84 | 4324 | 14.4 | 10.95 | 18.75 |
| Overweight (>+1sd - ≤+2sd) | 10 | 526 | 6.8 | 3.27 | 13.48 | 43 | 2103 | 27.0 | 19.36 | 36.39 |
| Obese (>+2sd) | 14 | 813 | 9.0 | 5.37 | 14.63 | 42 | 2286 | 25.2 | 17.92 | 34.30 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 7 | 351 | 10.1 | 5.31 | 18.31 | 2 | 84 | 2.4 | 0.59 | 9.30 |
| Normal (≥-2sd) | 69 | 3671 | 7.9 | 5.95 | 10.50 | 172 | 8921 | 19.3 | 14.77 | 24.76 |

**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 |
| **Negeri Sembilan** | 23 | 1505 | 3.0 | 1.83 | 4.94 | 60 | 3771 | 7.6 | 4.45 | 12.57 |
| **Locality of school** | | | | | | | | | | |
| Urban | 22 | 1409 | 3.1 | 1.87 | 5.24 | 51 | 3331 | 7.4 | 4.11 | 13.09 |
| Rural | 1 | 96 | 1.9 | 0.41 | 8.41 | 9 | 440 | 8.7 | 4.46 | 16.34 |
| **Sex** | | | | | | | | | | |
| Boys | 14 | 1022 | 4.1 | 2.33 | 7.06 | 24 | 2036 | 8.1 | 3.03 | 20.02 |
| Girls | 9 | 483 | 1.9 | 0.89 | 4.22 | 36 | 1735 | 7.0 | 5.23 | 9.30 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 14 | 749 | 1.9 | 0.86 | 4.34 | 43 | 2122 | 5.5 | 4.09 | 7.41 |
| Chinese | 2 | 107 | 2.1 | 0.46 | 8.92 | 11 | 1307 | 25.4 | 7.73 | 58.05 |
| Indian | 5 | 511 | 10.4 | 3.85 | 25.21 | 3 | 163 | 3.3 | 1.02 | 10.36 |
| Bumiputera Sabah | | | | | | 2 | 105 | 22.4 | 5.76 | 57.58 |
| Bumiputera Sarawak | 2 | 138 | 32.2 | 5.79 | 78.51 | | | | | |
| Others | | | | | | 1 | 74 | 17.3 | 4.12 | 50.54 |
| **School level** | | | | | | | | | | |
| Primary school | 13 | 836 | 5.1 | 2.89 | 8.98 | 21 | 1868 | 11.5 | 4.12 | 28.15 |
| Secondary school | 10 | 669 | 2.0 | 0.94 | 4.15 | 39 | 1902 | 5.7 | 3.98 | 8.00 |
| **Class** | | | | | | | | | | |
| Standard 4 | 4 | 406 | 7.1 | 1.69 | 25.45 | 4 | 228 | 4.0 | 2.49 | 6.34 |
| Standard 5 | 9 | 430 | 7.6 | 2.68 | 19.78 | 14 | 1220 | 21.6 | 7.41 | 48.63 |
| Standard 6 | | | | | | 3 | 420 | 8.6 | 2.00 | 30.08 |
| Form 1 | 6 | 468 | 5.7 | 2.62 | 11.81 | 8 | 491 | 5.9 | 3.59 | 9.67 |
| Form 2 | 1 | 49 | 0.8 | 0.10 | 6.40 | 6 | 347 | 5.8 | 2.62 | 12.40 |
| Form 3 | | | | | | 7 | 299 | 5.1 | 2.46 | 10.39 |
| Form 4 | 1 | 55 | 0.8 | 0.10 | 6.18 | 4 | 171 | 2.5 | 0.87 | 6.79 |
| Form 5 | 2 | 96 | 1.5 | 0.44 | 4.77 | 14 | 594 | 9.0 | 5.73 | 13.96 |
| **School session** | | | | | | | | | | |
| Morning session | 9 | 688 | 2.5 | 1.07 | 5.90 | 28 | 2260 | 8.3 | 3.40 | 18.99 |
| Evening session | 2 | 108 | 7.4 | 1.30 | 32.45 | 1 | 59 | 4.0 | 0.39 | 31.32 |
| Morning and evening session | 12 | 708 | 3.4 | 2.17 | 5.22 | 31 | 1452 | 6.9 | 4.84 | 9.79 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 2 | 269 | 9.8 | 1.55 | 43.07 | 4 | 213 | 7.8 | 2.88 | 19.38 |
| Normal (≥-2sd - ≤+1sd) | 14 | 858 | 2.9 | 1.62 | 5.00 | 33 | 2197 | 7.3 | 3.23 | 15.79 |
| Overweight (>+1sd - ≤+2sd) | 5 | 269 | 3.5 | 1.32 | 8.78 | 10 | 531 | 6.8 | 3.72 | 12.21 |
| Obese (>+2sd) | 2 | 108 | 1.2 | 0.30 | 4.63 | 13 | 829 | 9.2 | 5.01 | 16.15 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 3 | 137 | 3.9 | 0.90 | 15.50 | 4 | 140 | 4.0 | 1.52 | 10.31 |
| Normal (≥-2sd) | 20 | 1368 | 3.0 | 1.77 | 4.90 | 56 | 3630 | 7.8 | 4.52 | 13.28 |

**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 |
| **Negeri Sembilan** | 1488 | 86889 | 62.5 | 56.35 | 68.30 | 839 | 45706 | 32.9 | 27.28 | 39.02 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1365 | 80204 | 64.0 | 57.76 | 69.83 | 727 | 39706 | 31.7 | 25.87 | 38.15 |
| Rural | 123 | 6685 | 48.8 | 43.24 | 54.34 | 112 | 6000 | 43.8 | 42.05 | 45.53 |
| **Sex** | | | | | | | | | | |
| Boys | 696 | 44467 | 63.7 | 56.02 | 70.67 | 361 | 22219 | 31.8 | 25.97 | 38.28 |
| Girls | 792 | 42421 | 61.4 | 55.28 | 67.10 | 478 | 23488 | 34.0 | 27.61 | 40.97 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 941 | 49620 | 59.7 | 53.98 | 65.23 | 589 | 31019 | 37.3 | 32.69 | 42.23 |
| Chinese | 383 | 27875 | 73.2 | 63.17 | 81.28 | 135 | 7875 | 20.7 | 13.52 | 30.28 |
| Indian | 139 | 8003 | 52.6 | 44.58 | 60.46 | 98 | 5801 | 38.1 | 31.58 | 45.12 |
| Bumiputera Sabah | 6 | 330 | 39.3 | 14.40 | 71.41 | 6 | 357 | 42.6 | 22.90 | 64.97 |
| Bumiputera Sarawak | 14 | 828 | 75.2 | 35.83 | 94.25 | 4 | 274 | 24.8 | 5.75 | 64.17 |
| Others | 5 | 233 | 34.7 | 18.57 | 55.26 | 7 | 381 | 56.6 | 34.66 | 76.24 |
| **School level** | | | | | | | | | | |
| Primary school | 499 | 36408 | 71.8 | 63.64 | 78.77 | 192 | 11781 | 23.2 | 15.37 | 33.53 |
| Secondary school | 989 | 50481 | 57.2 | 51.47 | 62.68 | 647 | 33926 | 38.4 | 34.27 | 42.74 |
| **Class** | | | | | | | | | | |
| Standard 4 | 166 | 10556 | 61.3 | 52.00 | 69.89 | 82 | 5164 | 30.0 | 23.55 | 37.36 |
| Standard 5 | 173 | 12660 | 76.2 | 57.74 | 88.23 | 68 | 3642 | 21.9 | 10.68 | 39.72 |
| Standard 6 | 160 | 13192 | 78.2 | 66.25 | 86.78 | 42 | 2974 | 17.6 | 10.01 | 29.18 |
| Form 1 | 147 | 9506 | 50.6 | 41.28 | 59.90 | 110 | 7816 | 41.6 | 34.27 | 49.35 |
| Form 2 | 187 | 10203 | 57.6 | 47.51 | 67.07 | 121 | 6898 | 38.9 | 30.30 | 48.32 |
| Form 3 | 228 | 9912 | 56.6 | 48.30 | 64.62 | 154 | 6765 | 38.7 | 32.13 | 45.62 |
| Form 4 | 173 | 9773 | 58.4 | 50.89 | 65.57 | 112 | 6358 | 38.0 | 31.87 | 44.55 |
| Form 5 | 254 | 11088 | 63.1 | 57.03 | 68.80 | 150 | 6088 | 34.7 | 28.62 | 41.22 |
| **School session** | | | | | | | | | | |
| Morning session | 875 | 54852 | 64.5 | 56.98 | 71.32 | 468 | 25984 | 30.5 | 23.42 | 38.74 |
| Evening session | 24 | 1643 | 46.3 | 29.99 | 63.47 | 23 | 1513 | 42.6 | 34.47 | 51.21 |
| Morning and evening session | 587 | 30284 | 60.4 | 53.83 | 66.65 | 347 | 18152 | 36.2 | 31.13 | 41.63 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 100 | 6433 | 65.9 | 56.18 | 74.50 | 46 | 2705 | 27.7 | 21.64 | 34.78 |
| Normal (≥-2sd - ≤+1sd) | 937 | 54713 | 63.4 | 56.52 | 69.75 | 523 | 28063 | 32.5 | 25.88 | 39.93 |
| Overweight (>+1sd - ≤+2sd) | 221 | 12050 | 57.7 | 48.19 | 66.62 | 142 | 7902 | 37.8 | 29.15 | 47.34 |
| Obese (>+2sd) | 226 | 13454 | 62.1 | 54.52 | 69.12 | 125 | 6915 | 31.9 | 25.68 | 38.87 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 104 | 5287 | 57.9 | 49.75 | 65.64 | 69 | 3456 | 37.8 | 30.87 | 45.36 |
| Normal (≥-2sd) | 1384 | 81602 | 62.9 | 56.44 | 68.91 | 768 | 42186 | 32.5 | 26.65 | 38.98 |

**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 |
| **Negeri Sembilan** | 100 | 6399 | 4.6 | 3.18 | 6.63 |
| **Locality of school** | | | | | |
| Urban | 84 | 5380 | 4.3 | 2.84 | 6.44 |
| Rural | 16 | 1020 | 7.4 | 4.41 | 12.30 |
| **Sex** | | | | | |
| Boys | 52 | 3167 | 4.5 | 2.67 | 7.59 |
| Girls | 48 | 3233 | 4.7 | 2.73 | 7.90 |
| **Ethnicity** | | | | | |
| Malay | 45 | 2437 | 2.9 | 1.83 | 4.66 |
| Chinese | 33 | 2338 | 6.1 | 3.43 | 10.76 |
| Indian | 19 | 1414 | 9.3 | 6.28 | 13.55 |
| Bumiputera Sabah | 2 | 152 | 18.1 | 4.96 | 48.24 |
| Bumiputera Sarawak | | | | | |
| Others | 1 | 59 | 8.7 | 1.51 | 37.23 |
| **School level** | | | | | |
| Primary school | 32 | 2507 | 4.9 | 2.53 | 9.44 |
| Secondary school | 68 | 3893 | 4.4 | 2.86 | 6.74 |
| **Class** | | | | | |
| Standard 4 | 16 | 1493 | 8.7 | 2.67 | 24.77 |
| Standard 5 | 6 | 314 | 1.9 | 0.44 | 7.81 |
| Standard 6 | 10 | 700 | 4.1 | 1.49 | 11.05 |
| Form 1 | 20 | 1461 | 7.8 | 4.39 | 13.40 |
| Form 2 | 11 | 617 | 3.5 | 1.86 | 6.44 |
| Form 3 | 17 | 822 | 4.7 | 2.45 | 8.82 |
| Form 4 | 11 | 599 | 3.6 | 1.82 | 6.92 |
| Form 5 | 9 | 393 | 2.2 | 1.05 | 4.71 |
| **School session** | | | | | |
| Morning session | 64 | 4240 | 5.0 | 3.36 | 7.33 |
| Evening session | 6 | 392 | 11.1 | 2.36 | 38.95 |
| Morning and evening session | 29 | 1690 | 3.4 | 1.87 | 6.02 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 10 | 618 | 6.3 | 2.94 | 13.10 |
| Normal (≥-2sd - ≤+1sd) | 54 | 3540 | 4.1 | 2.43 | 6.85 |
| Overweight (>+1sd - ≤+2sd) | 14 | 943 | 4.5 | 2.71 | 7.43 |
| Obese (>+2sd) | 22 | 1298 | 6.0 | 3.75 | 9.44 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 6 | 388 | 4.3 | 1.75 | 9.95 |
| Normal (≥-2sd) | 93 | 5962 | 4.6 | 3.20 | 6.55 |

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

| Characteristics | Source of food during recess time | | | | | | | | | |
| | Bring from home | | | | | School canteen | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 520 | 31604 | 24.0 | 18.50 | 30.53 | 1596 | 90217 | 68.5 | 62.11 | 74.29 |
| **Locality of school** | | | | | | | | | | |
| Urban | 486 | 29424 | 24.7 | 18.85 | 31.65 | 1413 | 80766 | 67.8 | 61.10 | 73.82 |
| Rural | 34 | 2179 | 17.4 | 8.07 | 33.61 | 183 | 9450 | 75.5 | 53.43 | 89.20 |
| **Sex** | | | | | | | | | | |
| Boys | 230 | 15109 | 22.9 | 16.85 | 30.30 | 753 | 46927 | 71.1 | 63.63 | 77.54 |
| Girls | 290 | 16494 | 25.1 | 19.19 | 32.16 | 843 | 43290 | 65.9 | 59.61 | 71.77 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 233 | 13177 | 16.4 | 11.44 | 23.04 | 1137 | 60308 | 75.2 | 68.51 | 80.87 |
| Chinese | 204 | 13771 | 38.9 | 33.04 | 45.08 | 281 | 19572 | 55.3 | 50.28 | 60.17 |
| Indian | 73 | 4083 | 29.7 | 23.05 | 37.35 | 149 | 8730 | 63.5 | 55.80 | 70.58 |
| Bumiputera Sabah | 3 | 219 | 31.9 | 9.25 | 68.24 | 9 | 468 | 68.1 | 31.76 | 90.75 |
| Bumiputera Sarawak | 2 | 108 | 10.6 | 2.39 | 36.70 | 14 | 833 | 82.2 | 51.98 | 95.16 |
| Others | 5 | 246 | 40.0 | 15.45 | 70.91 | 6 | 306 | 49.8 | 28.47 | 71.20 |
| **School level** | | | | | | | | | | |
| Primary school | 247 | 17166 | 35.8 | 28.94 | 43.20 | 408 | 28449 | 59.3 | 50.36 | 67.59 |
| Secondary school | 273 | 14437 | 17.3 | 12.77 | 22.91 | 1188 | 61767 | 73.8 | 67.34 | 79.43 |
| **Class** | | | | | | | | | | |
| Standard 4 | 92 | 5710 | 36.6 | 29.00 | 44.96 | 143 | 9111 | 58.4 | 48.89 | 67.36 |
| Standard 5 | 89 | 6796 | 41.8 | 29.16 | 55.69 | 134 | 8186 | 50.4 | 34.80 | 65.90 |
| Standard 6 | 66 | 4660 | 28.8 | 18.00 | 42.77 | 131 | 11152 | 69.0 | 54.19 | 80.70 |
| Form 1 | 56 | 3751 | 21.9 | 15.63 | 29.74 | 174 | 11713 | 68.3 | 56.44 | 78.21 |
| Form 2 | 60 | 3381 | 20.0 | 12.44 | 30.61 | 225 | 12509 | 74.1 | 63.43 | 82.47 |
| Form 3 | 58 | 2543 | 15.4 | 9.73 | 23.41 | 290 | 12780 | 77.2 | 67.63 | 84.55 |
| Form 4 | 35 | 1990 | 12.5 | 7.78 | 19.42 | 213 | 12245 | 76.8 | 64.67 | 85.68 |
| Form 5 | 64 | 2772 | 16.2 | 9.05 | 27.28 | 286 | 12519 | 73.1 | 65.75 | 79.43 |
| **School session** | | | | | | | | | | |
| Morning session | 344 | 21606 | 26.9 | 20.64 | 34.26 | 924 | 54920 | 68.4 | 60.80 | 75.14 |
| Evening session | 7 | 399 | 12.6 | 5.77 | 25.46 | 31 | 2118 | 67.1 | 45.90 | 83.07 |
| Morning and evening session | 169 | 9599 | 20.0 | 14.05 | 27.60 | 638 | 33012 | 68.7 | 62.39 | 74.38 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 39 | 2391 | 26.3 | 18.57 | 35.91 | 98 | 6179 | 68.0 | 57.84 | 76.78 |
| Normal (≥-2sd - ≤+1sd) | 306 | 18868 | 23.0 | 16.87 | 30.43 | 1011 | 56906 | 69.2 | 62.58 | 75.16 |
| Overweight (>+1sd - ≤+2sd) | 91 | 5420 | 27.3 | 21.04 | 34.62 | 236 | 12562 | 63.3 | 53.60 | 71.99 |
| Obese (>+2sd) | 81 | 4742 | 23.5 | 17.60 | 30.69 | 247 | 14392 | 71.4 | 64.49 | 77.39 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 34 | 1916 | 22.4 | 13.89 | 34.12 | 120 | 5894 | 69.0 | 56.80 | 79.00 |
| Normal (≥-2sd) | 486 | 29688 | 24.1 | 18.61 | 30.66 | 1474 | 84258 | 68.5 | 62.12 | 74.20 |

**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 |
| **Negeri Sembilan** | 55 | 3778 | 2.9 | 1.83 | 4.47 | 109 | 4390 | 3.3 | 1.14 | 9.35 |
| **Locality of school** | | | | | | | | | | |
| Urban | 46 | 3197 | 2.7 | 1.66 | 4.31 | 105 | 4231 | 3.6 | 1.17 | 10.30 |
| Rural | 9 | 581 | 4.6 | 1.56 | 13.04 | 4 | 159 | 1.3 | 0.61 | 2.61 |
| **Sex** | | | | | | | | | | |
| Boys | 34 | 2347 | 3.6 | 2.32 | 5.42 | 14 | 670 | 1.0 | 0.35 | 2.92 |
| Girls | 21 | 1431 | 2.2 | 1.04 | 4.52 | 95 | 3719 | 5.7 | 1.85 | 16.08 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 26 | 1517 | 1.9 | 1.25 | 2.84 | 107 | 4276 | 5.3 | 1.83 | 14.53 |
| Chinese | 19 | 1581 | 4.5 | 2.69 | 7.31 | 2 | 114 | 0.3 | 0.08 | 1.24 |
| Indian | 9 | 618 | 4.5 | 2.19 | 8.99 | | | | | |
| Bumiputera Sabah | | | | | | | | | | |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | 1 | 62 | 10.2 | 1.46 | 46.37 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 23 | 1870 | 3.9 | 2.15 | 6.95 | 6 | 307 | 0.6 | 0.22 | 1.86 |
| Secondary school | 32 | 1908 | 2.3 | 1.24 | 4.15 | 103 | 4082 | 4.9 | 1.60 | 13.96 |
| **Class** | | | | | | | | | | |
| Standard 4 | 6 | 510 | 3.3 | 1.48 | 7.04 | 4 | 216 | 1.4 | 0.55 | 3.45 |
| Standard 5 | 12 | 1006 | 6.2 | 3.43 | 10.92 | 2 | 92 | 0.6 | 0.13 | 2.48 |
| Standard 6 | 5 | 355 | 2.2 | 0.60 | 7.68 | | | | | |
| Form 1 | 10 | 762 | 4.4 | 1.93 | 9.89 | 11 | 603 | 3.5 | 1.11 | 10.54 |
| Form 2 | 6 | 368 | 2.2 | 0.50 | 8.90 | 12 | 573 | 3.4 | 1.09 | 10.05 |
| Form 3 | 4 | 185 | 1.1 | 0.33 | 3.67 | 19 | 651 | 3.9 | 0.99 | 14.37 |
| Form 4 | 5 | 248 | 1.6 | 0.63 | 3.78 | 21 | 1024 | 6.4 | 0.90 | 34.09 |
| Form 5 | 7 | 345 | 2.0 | 1.18 | 3.42 | 40 | 1232 | 7.2 | 1.94 | 23.30 |
| **School session** | | | | | | | | | | |
| Morning session | 30 | 2065 | 2.6 | 1.54 | 4.27 | 19 | 800 | 1.0 | 0.43 | 2.29 |
| Evening session | 5 | 401 | 12.7 | 2.82 | 42.15 | 2 | 98 | 3.1 | 0.51 | 16.70 |
| Morning and evening session | 20 | 1313 | 2.7 | 1.47 | 5.03 | 88 | 3492 | 7.3 | 2.42 | 19.85 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 1 | 208 | 2.3 | 0.32 | 14.81 | 3 | 112 | 1.2 | 0.14 | 10.26 |
| Normal (≥-2sd - ≤+1sd) | 38 | 2287 | 2.8 | 1.59 | 4.81 | 75 | 3078 | 3.7 | 1.32 | 10.17 |
| Overweight (>+1sd - ≤+2sd) | 10 | 826 | 4.2 | 1.55 | 10.69 | 20 | 776 | 3.9 | 1.04 | 13.60 |
| Obese (>+2sd) | 6 | 458 | 2.3 | 0.92 | 5.51 | 11 | 423 | 2.1 | 0.65 | 6.54 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 6 | 324 | 3.8 | 1.61 | 8.66 | 6 | 226 | 2.7 | 0.84 | 8.07 |
| Normal (≥-2sd) | 49 | 3454 | 2.8 | 1.75 | 4.48 | 103 | 4163 | 3.4 | 1.14 | 9.60 |

**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 |
| **Negeri Sembilan** | 31 | 1676 | 1.3 | 0.67 | 2.40 |
| **Locality of school** | | | | | |
| Urban | 29 | 1525 | 1.3 | 0.64 | 2.54 |
| Rural | 2 | 150 | 1.2 | 0.31 | 4.51 |
| **Sex** | | | | | |
| Boys | 16 | 967 | 1.5 | 0.61 | 3.46 |
| Girls | 15 | 709 | 1.1 | 0.56 | 2.07 |
| **Ethnicity** | | | | | |
| Malay | 19 | 917 | 1.1 | 0.58 | 2.25 |
| Chinese | 6 | 371 | 1.0 | 0.37 | 2.91 |
| Indian | 5 | 315 | 2.3 | 0.92 | 5.61 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 1 | 73 | 7.2 | 0.74 | 44.34 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 4 | 216 | 0.4 | 0.15 | 1.33 |
| Secondary school | 27 | 1460 | 1.7 | 0.91 | 3.31 |
| **Class** | | | | | |
| Standard 4 | 1 | 51 | 0.3 | 0.04 | 2.40 |
| Standard 5 | 3 | 165 | 1.0 | 0.23 | 4.41 |
| Standard 6 | | | | | |
| Form 1 | 4 | 316 | 1.8 | 0.39 | 8.34 |
| Form 2 | 1 | 57 | 0.3 | 0.04 | 2.73 |
| Form 3 | 9 | 400 | 2.4 | 1.28 | 4.52 |
| Form 4 | 8 | 438 | 2.7 | 1.17 | 6.31 |
| Form 5 | 5 | 248 | 1.5 | 0.59 | 3.54 |
| **School session** | | | | | |
| Morning session | 17 | 896 | 1.1 | 0.52 | 2.39 |
| Evening session | 2 | 141 | 4.5 | 0.65 | 25.01 |
| Morning and evening session | 12 | 639 | 1.3 | 0.67 | 2.60 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 4 | 190 | 2.1 | 0.76 | 5.62 |
| Normal (≥-2sd - ≤+1sd) | 20 | 1067 | 1.3 | 0.70 | 2.40 |
| Overweight  (>+1sd - ≤+2sd) | 4 | 269 | 1.4 | 0.34 | 5.16 |
| Obese (>+2sd) | 3 | 150 | 0.7 | 0.19 | 2.82 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 3 | 184 | 2.2 | 0.64 | 6.97 |
| Normal (≥-2sd) | 28 | 1492 | 1.2 | 0.59 | 2.46 |

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

| Characteristics | Afternoon tea frequency per week | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Daily (7 days) | | | | | 1 to 6 days | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 598 | 34814 | 25.1 | 23.02 | 27.29 | 1431 | 82265 | 59.3 | 55.28 | 63.19 |
| **Locality of school** | | | | | | | | | | |
| Urban | 532 | 31090 | 24.9 | 22.76 | 27.13 | 1298 | 75065 | 60.1 | 55.80 | 64.18 |
| Rural | 66 | 3724 | 27.1 | 20.49 | 34.80 | 133 | 7200 | 52.3 | 50.31 | 54.29 |
| **Sex** | | | | | | | | | | |
| Boys | 276 | 17619 | 25.3 | 22.07 | 28.84 | 673 | 41858 | 60.1 | 55.37 | 64.69 |
| Girls | 322 | 17195 | 24.9 | 21.82 | 28.21 | 758 | 40407 | 58.5 | 53.49 | 63.27 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 354 | 19239 | 23.2 | 20.47 | 26.15 | 995 | 53210 | 64.1 | 60.04 | 68.03 |
| Chinese | 140 | 9440 | 24.9 | 22.19 | 27.88 | 272 | 19176 | 50.6 | 46.55 | 54.70 |
| Indian | 91 | 5362 | 35.1 | 28.76 | 42.00 | 138 | 8402 | 55.0 | 47.18 | 62.57 |
| Bumiputera Sabah | 1 | 74 | 8.8 | 1.31 | 41.43 | 10 | 572 | 68.3 | 40.87 | 87.02 |
| Bumiputera Sarawak | 8 | 477 | 43.3 | 17.26 | 73.63 | 9 | 565 | 51.3 | 26.33 | 75.62 |
| Others | 4 | 221 | 32.9 | 14.81 | 58.04 | 7 | 338 | 50.3 | 24.37 | 76.10 |
| **School level** | | | | | | | | | | |
| Primary school | 195 | 13404 | 26.6 | 24.84 | 28.35 | 447 | 30802 | 61.0 | 54.73 | 66.96 |
| Secondary school | 403 | 21410 | 24.3 | 21.29 | 27.50 | 984 | 51462 | 58.3 | 53.17 | 63.28 |
| **Class** | | | | | | | | | | |
| Standard 4 | 69 | 4095 | 23.8 | 16.29 | 33.37 | 166 | 11168 | 64.9 | 56.52 | 72.42 |
| Standard 5 | 67 | 4843 | 29.6 | 22.94 | 37.35 | 149 | 9109 | 55.7 | 40.39 | 70.07 |
| Standard 6 | 59 | 4466 | 26.4 | 16.69 | 39.08 | 132 | 10525 | 62.2 | 50.08 | 72.95 |
| Form 1 | 69 | 4618 | 24.7 | 20.47 | 29.47 | 176 | 11877 | 63.5 | 57.94 | 68.74 |
| Form 2 | 74 | 4051 | 22.9 | 18.29 | 28.18 | 188 | 10428 | 58.9 | 48.63 | 68.37 |
| Form 3 | 75 | 3286 | 18.8 | 14.32 | 24.37 | 238 | 10466 | 60.0 | 52.24 | 67.27 |
| Form 4 | 81 | 4817 | 28.6 | 20.32 | 38.59 | 163 | 9086 | 53.9 | 47.59 | 60.11 |
| Form 5 | 104 | 4638 | 26.4 | 22.11 | 31.29 | 219 | 9605 | 54.8 | 49.05 | 60.37 |
| **School session** | | | | | | | | | | |
| Morning session | 342 | 21246 | 25.0 | 22.21 | 28.07 | 833 | 49604 | 58.4 | 53.76 | 62.94 |
| Evening session | 11 | 679 | 20.1 | 11.62 | 32.59 | 39 | 2529 | 75.0 | 60.75 | 85.38 |
| Morning and evening session | 244 | 12835 | 25.6 | 22.97 | 28.34 | 557 | 30020 | 59.8 | 54.15 | 65.16 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 43 | 2865 | 29.2 | 22.89 | 36.38 | 95 | 5780 | 58.9 | 49.39 | 67.75 |
| Normal (≥-2sd - ≤+1sd) | 381 | 21985 | 25.5 | 23.15 | 28.03 | 894 | 51537 | 59.8 | 55.53 | 63.95 |
| Overweight (>+1sd - ≤+2sd) | 93 | 5515 | 26.3 | 22.05 | 31.09 | 211 | 11605 | 55.4 | 49.36 | 61.26 |
| Obese (>+2sd) | 79 | 4349 | 20.3 | 15.68 | 25.84 | 226 | 13083 | 61.0 | 54.40 | 67.28 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 47 | 2536 | 27.8 | 23.42 | 32.59 | 106 | 5479 | 60.0 | 52.84 | 66.77 |
| Normal (≥-2sd) | 550 | 32247 | 24.9 | 22.86 | 27.06 | 1323 | 76704 | 59.2 | 55.11 | 63.24 |

**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 |
| **Negeri Sembilan** | 395 | 21656 | 15.6 | 12.42 | 19.43 |
| **Locality of school** | | | | | |
| Urban | 342 | 18815 | 15.1 | 11.68 | 19.19 |
| Rural | 53 | 2841 | 20.6 | 15.93 | 26.32 |
| **Sex** | | | | | |
| Boys | 158 | 10146 | 14.6 | 11.66 | 18.06 |
| Girls | 237 | 11511 | 16.7 | 12.50 | 21.85 |
| **Ethnicity** | | | | | |
| Malay | 224 | 10519 | 12.7 | 9.48 | 16.75 |
| Chinese | 137 | 9259 | 24.4 | 19.85 | 29.71 |
| Indian | 28 | 1514 | 9.9 | 7.12 | 13.63 |
| Bumiputera Sabah | 3 | 192 | 22.9 | 6.32 | 56.68 |
| Bumiputera Sarawak | 1 | 60 | 5.4 | 0.72 | 31.31 |
| Others | 2 | 113 | 16.8 | 6.17 | 38.21 |
| **School level** | | | | | |
| Primary school | 79 | 6272 | 12.4 | 7.13 | 20.77 |
| Secondary school | 316 | 15384 | 17.4 | 14.12 | 21.32 |
| **Class** | | | | | |
| Standard 4 | 29 | 1950 | 11.3 | 6.40 | 19.26 |
| Standard 5 | 28 | 2389 | 14.6 | 7.87 | 25.55 |
| Standard 6 | 22 | 1933 | 11.4 | 6.53 | 19.23 |
| Form 1 | 31 | 2206 | 11.8 | 7.64 | 17.78 |
| Form 2 | 57 | 3240 | 18.3 | 10.36 | 30.23 |
| Form 3 | 85 | 3695 | 21.2 | 14.62 | 29.65 |
| Form 4 | 54 | 2950 | 17.5 | 13.45 | 22.46 |
| Form 5 | 89 | 3294 | 18.8 | 15.31 | 22.83 |
| **School session** | | | | | |
| Morning session | 229 | 14053 | 16.6 | 13.00 | 20.84 |
| Evening session | 2 | 162 | 4.8 | 1.62 | 13.48 |
| Morning and evening session | 163 | 7363 | 14.7 | 10.31 | 20.44 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 19 | 1172 | 11.9 | 7.79 | 17.87 |
| Normal (≥-2sd - ≤+1sd) | 236 | 12646 | 14.7 | 11.63 | 18.36 |
| Overweight (>+1sd - ≤+2sd) | 74 | 3834 | 18.3 | 13.47 | 24.37 |
| Obese (>+2sd) | 66 | 4005 | 18.7 | 12.28 | 27.39 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 26 | 1116 | 12.2 | 7.46 | 19.38 |
| Normal (≥-2sd) | 369 | 20540 | 15.9 | 12.57 | 19.82 |

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

| Characteristics | Source of food for afternoon tea | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Prepared at home | | | | | School canteen | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 1346 | 78806 | 68.1 | 62.15 | 73.49 | 239 | 14076 | 12.2 | 8.28 | 17.53 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1207 | 71006 | 67.7 | 61.23 | 73.56 | 220 | 13077 | 12.5 | 8.26 | 18.40 |
| Rural | 139 | 7800 | 71.8 | 63.94 | 78.57 | 19 | 999 | 9.2 | 8.69 | 9.74 |
| **Sex** | | | | | | | | | | |
| Boys | 621 | 39210 | 66.7 | 61.89 | 71.10 | 132 | 8175 | 13.9 | 9.73 | 19.46 |
| Girls | 725 | 39595 | 69.6 | 59.43 | 78.12 | 107 | 5901 | 10.4 | 6.55 | 16.04 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 851 | 46903 | 65.1 | 56.65 | 72.78 | 175 | 9775 | 13.6 | 8.52 | 20.95 |
| Chinese | 297 | 20395 | 72.5 | 66.70 | 77.66 | 27 | 1873 | 6.7 | 5.29 | 8.36 |
| Indian | 176 | 10283 | 76.4 | 69.75 | 81.97 | 29 | 1939 | 14.4 | 8.44 | 23.51 |
| Bumiputera Sabah | 9 | 543 | 84.0 | 50.66 | 96.42 | | | | | |
| Bumiputera Sarawak | 8 | 452 | 47.4 | 24.14 | 71.90 | 4 | 254 | 26.7 | 9.35 | 56.21 |
| Others | 5 | 229 | 41.0 | 12.19 | 77.68 | 4 | 234 | 41.9 | 14.45 | 75.46 |
| **School level** | | | | | | | | | | |
| Primary school | 420 | 29595 | 68.3 | 61.25 | 74.60 | 115 | 6984 | 16.1 | 8.44 | 28.61 |
| Secondary school | 926 | 49211 | 68.0 | 59.32 | 75.53 | 124 | 7093 | 9.8 | 6.90 | 13.74 |
| **Class** | | | | | | | | | | |
| Standard 4 | 139 | 9066 | 61.0 | 52.80 | 68.64 | 49 | 3021 | 20.3 | 10.93 | 34.65 |
| Standard 5 | 139 | 9240 | 67.7 | 59.77 | 74.72 | 43 | 2334 | 17.1 | 8.09 | 32.57 |
| Standard 6 | 142 | 11289 | 76.2 | 68.24 | 82.63 | 23 | 1629 | 11.0 | 4.54 | 24.28 |
| Form 1 | 149 | 9927 | 60.7 | 50.23 | 70.28 | 43 | 2935 | 17.9 | 10.96 | 27.99 |
| Form 2 | 189 | 10529 | 72.7 | 63.35 | 80.43 | 22 | 1209 | 8.3 | 5.61 | 12.26 |
| Form 3 | 227 | 9947 | 72.5 | 64.36 | 79.44 | 18 | 848 | 6.2 | 3.82 | 9.86 |
| Form 4 | 174 | 10030 | 72.6 | 54.02 | 85.66 | 15 | 925 | 6.7 | 3.18 | 13.53 |
| Form 5 | 187 | 8778 | 62.5 | 38.66 | 81.50 | 26 | 1176 | 8.4 | 3.87 | 17.19 |
| **School session** | | | | | | | | | | |
| Morning session | 854 | 51697 | 73.9 | 70.57 | 77.05 | 104 | 6250 | 8.9 | 6.52 | 12.14 |
| Evening session | 21 | 1289 | 40.2 | 29.70 | 51.65 | 18 | 1118 | 34.8 | 15.67 | 60.59 |
| Morning and evening session | 468 | 25654 | 60.4 | 48.88 | 70.94 | 117 | 6708 | 15.8 | 9.54 | 25.04 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 96 | 6298 | 72.8 | 62.52 | 81.19 | 15 | 851 | 9.8 | 5.44 | 17.17 |
| Normal (≥-2sd - ≤+1sd) | 843 | 49118 | 67.5 | 61.02 | 73.41 | 148 | 8694 | 12.0 | 7.60 | 18.30 |
| Overweight (>+1sd - ≤+2sd) | 208 | 11864 | 70.2 | 63.02 | 76.49 | 36 | 2154 | 12.7 | 8.87 | 17.98 |
| Obese (>+2sd) | 196 | 11363 | 66.5 | 59.27 | 73.04 | 38 | 2264 | 13.3 | 8.86 | 19.37 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 95 | 5101 | 64.2 | 51.85 | 74.98 | 26 | 1381 | 17.4 | 9.00 | 30.97 |
| Normal (≥-2sd) | 1250 | 73673 | 68.4 | 62.52 | 73.77 | 212 | 12646 | 11.7 | 8.03 | 16.87 |

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 |
| **Negeri Sembilan** | 185 | 10647 | 9.2 | 7.58 | 11.12 | 164 | 7714 | 6.7 | 2.90 | 14.60 |
| **Locality of school** | | | | | | | | | | |
| Urban | 172 | 9940 | 9.5 | 7.74 | 11.55 | 144 | 6735 | 6.4 | 2.51 | 15.48 |
| Rural | 13 | 707 | 6.5 | 5.23 | 8.07 | 20 | 979 | 9.0 | 3.13 | 23.30 |
| **Sex** | | | | | | | | | | |
| Boys | 102 | 5982 | 10.2 | 7.62 | 13.46 | 42 | 2731 | 4.6 | 2.65 | 8.00 |
| Girls | 83 | 4664 | 8.2 | 6.73 | 9.94 | 122 | 4983 | 8.8 | 2.65 | 25.31 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 114 | 6085 | 8.5 | 6.79 | 10.47 | 154 | 6867 | 9.5 | 3.85 | 21.75 |
| Chinese | 55 | 3635 | 12.9 | 9.54 | 17.29 | 5 | 519 | 1.8 | 0.60 | 5.55 |
| Indian | 11 | 611 | 4.5 | 3.29 | 6.23 | 3 | 247 | 1.8 | 0.68 | 4.84 |
| Bumiputera Sabah | 1 | 55 | 8.6 | 1.11 | 43.82 | 1 | 48 | 7.4 | 0.77 | 45.21 |
| Bumiputera Sarawak | 3 | 198 | 20.7 | 6.59 | 49.18 | 1 | 49 | 5.2 | 0.79 | 27.13 |
| Others | 1 | 62 | 11.2 | 1.69 | 47.83 | 1 | 33 | 6.0 | 0.70 | 36.30 |
| **School level** | | | | | | | | | | |
| Primary school | 61 | 4124 | 9.5 | 7.03 | 12.76 | 10 | 816 | 1.9 | 0.85 | 4.12 |
| Secondary school | 124 | 6523 | 9.0 | 7.00 | 11.53 | 154 | 6898 | 9.5 | 3.89 | 21.52 |
| **Class** | | | | | | | | | | |
| Standard 4 | 25 | 1585 | 10.7 | 7.16 | 15.61 | 5 | 289 | 1.9 | 0.67 | 5.51 |
| Standard 5 | 17 | 974 | 7.1 | 4.89 | 10.30 | 4 | 446 | 3.3 | 0.95 | 10.64 |
| Standard 6 | 19 | 1564 | 10.6 | 6.46 | 16.78 | 1 | 82 | 0.6 | 0.10 | 3.08 |
| Form 1 | 19 | 1305 | 8.0 | 3.99 | 15.32 | 20 | 1372 | 8.4 | 4.22 | 15.97 |
| Form 2 | 21 | 1171 | 8.1 | 5.12 | 12.55 | 16 | 829 | 5.7 | 2.70 | 11.75 |
| Form 3 | 41 | 1831 | 13.4 | 8.65 | 20.05 | 19 | 743 | 5.4 | 2.34 | 12.05 |
| Form 4 | 16 | 918 | 6.6 | 3.37 | 12.69 | 32 | 1655 | 12.0 | 2.85 | 38.72 |
| Form 5 | 27 | 1299 | 9.2 | 5.81 | 14.42 | 67 | 2299 | 16.4 | 4.18 | 46.79 |
| **School session** | | | | | | | | | | |
| Morning session | 120 | 7192 | 10.3 | 8.60 | 12.27 | 42 | 2333 | 3.3 | 1.70 | 6.43 |
| Evening session | 7 | 412 | 12.8 | 2.91 | 42.01 | 1 | 51 | 1.6 | 0.14 | 15.22 |
| Morning and evening session | 58 | 3042 | 7.2 | 5.14 | 9.91 | 121 | 5330 | 12.6 | 4.42 | 30.83 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 15 | 903 | 10.5 | 6.31 | 16.82 | 5 | 196 | 2.3 | 0.79 | 6.29 |
| Normal (≥-2sd - ≤+1sd) | 116 | 6585 | 9.1 | 7.20 | 11.33 | 107 | 5046 | 6.9 | 2.89 | 15.75 |
| Overweight (>+1sd - ≤+2sd) | 21 | 1114 | 6.6 | 4.07 | 10.49 | 29 | 1428 | 8.4 | 3.92 | 17.28 |
| Obese (>+2sd) | 32 | 1994 | 11.7 | 8.51 | 15.81 | 22 | 1012 | 5.9 | 2.42 | 13.78 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 12 | 600 | 7.6 | 3.69 | 14.87 | 13 | 588 | 7.4 | 3.19 | 16.30 |
| Normal (≥-2sd) | 173 | 10047 | 9.3 | 7.77 | 11.16 | 150 | 7093 | 6.6 | 2.79 | 14.75 |

**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 |
| **Negeri Sembilan** | 70 | 4493 | 3.9 | 2.74 | 5.47 |
| **Locality of school** | | | | | |
| Urban | 64 | 4120 | 3.9 | 2.69 | 5.71 |
| Rural | 6 | 374 | 3.4 | 3.34 | 3.54 |
| **Sex** | | | | | |
| Boys | 41 | 2728 | 4.6 | 3.23 | 6.60 |
| Girls | 29 | 1766 | 3.1 | 1.82 | 5.24 |
| **Ethnicity** | | | | | |
| Malay | 45 | 2364 | 3.3 | 2.22 | 4.83 |
| Chinese | 19 | 1701 | 6.0 | 2.99 | 11.87 |
| Indian | 5 | 378 | 2.8 | 1.25 | 6.19 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 1 | 49 | 5.2 | 0.79 | 27.13 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 21 | 1812 | 4.2 | 1.93 | 8.83 |
| Secondary school | 49 | 2681 | 3.7 | 2.87 | 4.77 |
| **Class** | | | | | |
| Standard 4 | 10 | 900 | 6.1 | 2.56 | 13.66 |
| Standard 5 | 7 | 657 | 4.8 | 2.15 | 10.42 |
| Standard 6 | 4 | 256 | 1.7 | 0.48 | 6.00 |
| Form 1 | 12 | 815 | 5.0 | 2.79 | 8.76 |
| Form 2 | 14 | 742 | 5.1 | 2.83 | 9.08 |
| Form 3 | 7 | 344 | 2.5 | 1.21 | 5.11 |
| Form 4 | 5 | 288 | 2.1 | 0.62 | 6.83 |
| Form 5 | 11 | 492 | 3.5 | 1.97 | 6.18 |
| **School session** | | | | | |
| Morning session | 37 | 2445 | 3.5 | 2.40 | 5.07 |
| Evening session | 3 | 338 | 10.5 | 1.72 | 44.24 |
| Morning and evening session | 30 | 1710 | 4.0 | 2.78 | 5.80 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 7 | 397 | 4.6 | 1.81 | 11.18 |
| Normal (≥-2sd - ≤+1sd) | 47 | 3302 | 4.5 | 2.79 | 7.29 |
| Overweight (>+1sd - ≤+2sd) | 7 | 342 | 2.0 | 0.84 | 4.80 |
| Obese (>+2sd) | 9 | 453 | 2.7 | 1.25 | 5.53 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 5 | 270 | 3.4 | 1.18 | 9.38 |
| Normal (≥-2sd) | 65 | 4224 | 3.9 | 2.71 | 5.65 |

**Table 3.4.14 : Prevalence of heavy meal after 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 |
| **Negeri Sembilan** | 180 | 10372 | 7.5 | 6.38 | 8.70 | 1616 | 92628 | 66.6 | 62.19 | 70.76 |
| **Locality of school** | | | | | | | | | | |
| Urban | 161 | 9387 | 7.5 | 6.42 | 8.73 | 1449 | 83417 | 66.6 | 61.69 | 71.14 |
| Rural | 19 | 984 | 7.2 | 3.47 | 14.17 | 167 | 9211 | 66.9 | 61.95 | 71.53 |
| **Sex** | | | | | | | | | | |
| Boys | 102 | 6193 | 8.9 | 7.20 | 10.88 | 776 | 48674 | 69.7 | 65.99 | 73.13 |
| Girls | 78 | 4179 | 6.0 | 4.45 | 8.14 | 840 | 43954 | 63.5 | 57.41 | 69.22 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 134 | 7415 | 8.9 | 7.79 | 10.21 | 1114 | 59022 | 71.0 | 67.83 | 74.06 |
| Chinese | 34 | 2157 | 5.7 | 3.34 | 9.45 | 295 | 21389 | 56.2 | 47.01 | 64.92 |
| Indian | 10 | 676 | 4.4 | 1.72 | 10.93 | 175 | 10385 | 68.0 | 62.77 | 72.76 |
| Bumiputera Sabah | | | | | | 10 | 610 | 72.8 | 47.57 | 88.78 |
| Bumiputera Sarawak | 2 | 123 | 11.2 | 2.36 | 39.61 | 10 | 587 | 53.2 | 29.26 | 75.78 |
| Others | | | | | | 12 | 635 | 94.5 | 69.57 | 99.22 |
| **School level** | | | | | | | | | | |
| Primary school | 63 | 4088 | 8.1 | 5.99 | 10.79 | 472 | 32972 | 65.1 | 54.06 | 74.76 |
| Secondary school | 117 | 6284 | 7.1 | 6.02 | 8.38 | 1144 | 59656 | 67.5 | 64.38 | 70.41 |
| **Class** | | | | | | | | | | |
| Standard 4 | 30 | 1880 | 11.0 | 8.50 | 14.13 | 177 | 11769 | 68.9 | 54.15 | 80.55 |
| Standard 5 | 15 | 881 | 5.3 | 3.56 | 7.83 | 165 | 11320 | 68.1 | 55.51 | 78.55 |
| Standard 6 | 18 | 1326 | 7.8 | 5.09 | 11.87 | 130 | 9883 | 58.4 | 47.21 | 68.78 |
| Form 1 | 19 | 1490 | 7.9 | 5.64 | 11.05 | 190 | 12738 | 67.8 | 60.83 | 74.09 |
| Form 2 | 26 | 1326 | 7.5 | 4.07 | 13.37 | 210 | 11675 | 65.9 | 54.93 | 75.38 |
| Form 3 | 23 | 984 | 5.6 | 3.48 | 8.96 | 269 | 12010 | 68.6 | 60.79 | 75.54 |
| Form 4 | 21 | 1291 | 7.7 | 5.61 | 10.38 | 197 | 11112 | 65.9 | 60.23 | 71.21 |
| Form 5 | 28 | 1193 | 6.8 | 4.91 | 9.32 | 278 | 12120 | 69.0 | 61.28 | 75.76 |
| **School session** | | | | | | | | | | |
| Morning session | 99 | 5892 | 6.9 | 5.30 | 9.03 | 908 | 54788 | 64.5 | 58.73 | 69.86 |
| Evening session | 3 | 351 | 9.9 | 2.48 | 32.17 | 38 | 2352 | 66.3 | 45.73 | 82.11 |
| Morning and evening session | 78 | 4129 | 8.2 | 6.52 | 10.28 | 667 | 35301 | 70.2 | 65.27 | 74.65 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 19 | 1026 | 10.5 | 6.33 | 16.77 | 101 | 6249 | 63.7 | 57.47 | 69.42 |
| Normal (≥-2sd - ≤+1sd) | 115 | 6917 | 8.0 | 6.83 | 9.38 | 1012 | 57889 | 67.1 | 62.48 | 71.35 |
| Overweight (>+1sd - ≤+2sd) | 25 | 1330 | 6.3 | 4.23 | 9.42 | 242 | 13422 | 64.1 | 56.38 | 71.07 |
| Obese (>+2sd) | 21 | 1100 | 5.1 | 3.49 | 7.36 | 255 | 14742 | 68.2 | 61.06 | 74.61 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 16 | 796 | 8.7 | 5.31 | 13.98 | 121 | 6123 | 67.1 | 60.75 | 72.81 |
| Normal (≥-2sd) | 164 | 9576 | 7.4 | 6.24 | 8.71 | 1493 | 86423 | 66.6 | 61.84 | 71.01 |

**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 |
|---|---|---|---|---|---|
| **Negeri Sembilan** | 632 | 36054 | 25.9 | 21.88 | 30.44 |
| | | | | | |
| **Locality of school** | | | | | |
| Urban | 566 | 32485 | 25.9 | 21.46 | 30.96 |
| Rural | 66 | 3570 | 25.9 | 25.67 | 26.19 |
| **Sex** | | | | | |
| Boys | 231 | 14984 | 21.5 | 18.32 | 24.96 |
| Girls | 401 | 21070 | 30.4 | 24.64 | 36.94 |
| **Ethnicity** | | | | | |
| Malay | 327 | 16643 | 20.0 | 17.09 | 23.34 |
| Chinese | 222 | 14536 | 38.2 | 31.62 | 45.18 |
| Indian | 72 | 4218 | 27.6 | 22.28 | 33.65 |
| Bumiputera Sabah | 4 | 228 | 27.2 | 11.22 | 52.43 |
| Bumiputera Sarawak | 6 | 392 | 35.6 | 21.09 | 53.35 |
| Others | 1 | 37 | 5.5 | 0.78 | 30.43 |
| **School level** | | | | | |
| Primary school | 187 | 13572 | 26.8 | 17.80 | 38.24 |
| Secondary school | 445 | 22482 | 25.4 | 22.34 | 28.78 |
| **Class** | | | | | |
| Standard 4 | 55 | 3442 | 20.1 | 9.98 | 36.45 |
| Standard 5 | 67 | 4414 | 26.6 | 16.55 | 39.75 |
| Standard 6 | 65 | 5715 | 33.8 | 22.88 | 46.70 |
| Form 1 | 68 | 4554 | 24.2 | 19.32 | 29.96 |
| Form 2 | 83 | 4718 | 26.6 | 17.20 | 38.80 |
| Form 3 | 107 | 4504 | 25.7 | 19.06 | 33.79 |
| Form 4 | 80 | 4450 | 26.4 | 21.43 | 32.06 |
| Form 5 | 107 | 4256 | 24.2 | 17.32 | 32.79 |
| **School session** | | | | | |
| Morning session | 398 | 24275 | 28.6 | 23.35 | 34.44 |
| Evening session | 12 | 845 | 23.8 | 16.16 | 33.65 |
| Morning and evening session | 221 | 10877 | 21.6 | 17.74 | 26.09 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 37 | 2542 | 25.9 | 19.89 | 32.96 |
| Normal (≥-2sd - ≤+1sd) | 387 | 21510 | 24.9 | 20.74 | 29.63 |
| Overweight  (>+1sd - ≤+2sd) | 111 | 6202 | 29.6 | 23.33 | 36.75 |
| Obese (>+2sd) | 96 | 5769 | 26.7 | 20.04 | 34.60 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 42 | 2212 | 24.2 | 18.46 | 31.11 |
| Normal (≥-2sd) | 589 | 33810 | 26.0 | 21.79 | 30.81 |

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

| Characteristics | Home | | | | | Restaurant/kiosk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 963 | 57471 | 56.7 | 50.67 | 62.60 | 543 | 31064 | 30.7 | 26.79 | 34.84 |
| **Locality of school** | | | | | | | | | | |
| Urban | 866 | 52030 | 57.0 | 50.41 | 63.42 | 481 | 27738 | 30.4 | 26.17 | 35.01 |
| Rural | 97 | 5441 | 54.0 | 43.41 | 64.25 | 62 | 3327 | 33.0 | 28.03 | 38.43 |
| **Sex** | | | | | | | | | | |
| Boys | 467 | 29471 | 54.7 | 48.96 | 60.29 | 301 | 18549 | 34.4 | 29.60 | 39.58 |
| Girls | 496 | 27999 | 59.1 | 48.32 | 69.01 | 242 | 12516 | 26.4 | 21.48 | 31.99 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 628 | 34246 | 52.3 | 46.19 | 58.33 | 371 | 20500 | 31.3 | 27.13 | 35.81 |
| Chinese | 228 | 16831 | 72.7 | 65.18 | 79.11 | 81 | 5260 | 22.7 | 15.13 | 32.66 |
| Indian | 91 | 5434 | 50.2 | 44.94 | 55.45 | 79 | 4620 | 42.7 | 37.07 | 48.48 |
| Bumiputera Sabah | 3 | 209 | 34.3 | 10.38 | 70.09 | 5 | 298 | 48.8 | 22.38 | 75.95 |
| Bumiputera Sarawak | 8 | 475 | 73.2 | 34.35 | 93.46 | 3 | 174 | 26.8 | 6.54 | 65.65 |
| Others | 5 | 276 | 47.8 | 22.44 | 74.32 | 4 | 214 | 37.0 | 20.84 | 56.79 |
| **School level** | | | | | | | | | | |
| Primary school | 320 | 22965 | 63.8 | 53.77 | 72.84 | 157 | 10434 | 29.0 | 21.90 | 37.32 |
| Secondary school | 643 | 34506 | 52.8 | 46.06 | 59.48 | 386 | 20631 | 31.6 | 27.25 | 36.25 |
| **Class** | | | | | | | | | | |
| Standard 4 | 135 | 8873 | 67.7 | 56.85 | 76.97 | 46 | 2974 | 22.7 | 15.23 | 32.44 |
| Standard 5 | 103 | 7987 | 66.6 | 44.41 | 83.28 | 58 | 3264 | 27.2 | 14.81 | 44.58 |
| Standard 6 | 82 | 6105 | 56.1 | 44.32 | 67.31 | 53 | 4196 | 38.6 | 27.07 | 51.53 |
| Form 1 | 111 | 7511 | 54.0 | 45.00 | 62.77 | 66 | 4484 | 32.2 | 25.88 | 39.34 |
| Form 2 | 140 | 7842 | 61.1 | 52.53 | 69.01 | 61 | 3313 | 25.8 | 20.32 | 32.17 |
| Form 3 | 157 | 7064 | 54.9 | 47.76 | 61.85 | 98 | 4361 | 33.9 | 27.63 | 40.79 |
| Form 4 | 107 | 6124 | 49.4 | 38.52 | 60.29 | 74 | 4286 | 34.6 | 28.07 | 41.68 |
| Form 5 | 128 | 5964 | 44.8 | 30.58 | 59.93 | 87 | 4186 | 31.4 | 19.73 | 46.12 |
| **School session** | | | | | | | | | | |
| Morning session | 578 | 35704 | 60.0 | 53.76 | 65.86 | 317 | 18564 | 31.2 | 26.83 | 35.88 |
| Evening session | 24 | 1672 | 65.1 | 47.03 | 79.68 | 11 | 678 | 26.4 | 16.70 | 39.05 |
| Morning and evening session | 360 | 20040 | 51.4 | 42.38 | 60.31 | 213 | 11691 | 30.0 | 24.50 | 36.10 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 63 | 4170 | 58.7 | 44.13 | 71.84 | 37 | 2118 | 29.8 | 19.63 | 42.46 |
| Normal (≥-2sd - ≤+1sd) | 613 | 36813 | 57.8 | 51.06 | 64.19 | 332 | 18923 | 29.7 | 25.15 | 34.68 |
| Overweight (>+1sd - ≤+2sd) | 141 | 7864 | 53.8 | 45.70 | 61.79 | 82 | 4854 | 33.2 | 28.52 | 38.33 |
| Obese (>+2sd) | 143 | 8449 | 54.4 | 48.65 | 60.06 | 90 | 5049 | 32.5 | 27.94 | 37.45 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 77 | 3852 | 57.5 | 48.46 | 66.01 | 38 | 1960 | 29.2 | 22.24 | 37.39 |
| Normal (≥-2sd) | 886 | 53618 | 56.7 | 50.42 | 62.83 | 504 | 29055 | 30.7 | 26.79 | 35.00 |

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

| Characteristics | Source of food for eating heavy meal after dinner | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hostel | | | | | Others | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 158 | 6970 | 6.9 | 3.15 | 14.39 | 103 | 5790 | 5.7 | 4.24 | 7.67 |
| **Locality of school** | | | | | | | | | | |
| Urban | 140 | 6071 | 6.7 | 2.74 | 15.31 | 96 | 5383 | 5.9 | 4.30 | 8.04 |
| Rural | 18 | 899 | 8.9 | 3.92 | 19.05 | 7 | 407 | 4.0 | 2.60 | 6.22 |
| **Sex** | | | | | | | | | | |
| Boys | 37 | 2143 | 4.0 | 2.47 | 6.35 | 58 | 3728 | 6.9 | 5.48 | 8.70 |
| Girls | 121 | 4827 | 10.2 | 3.68 | 25.15 | 45 | 2062 | 4.3 | 2.06 | 8.93 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 148 | 6334 | 9.7 | 4.23 | 20.63 | 84 | 4403 | 6.7 | 4.94 | 9.09 |
| Chinese | 4 | 243 | 1.1 | 0.31 | 3.49 | 9 | 817 | 3.5 | 1.56 | 7.77 |
| Indian | 4 | 305 | 2.8 | 0.94 | 8.16 | 8 | 466 | 4.3 | 3.04 | 6.06 |
| Bumiputera Sabah | | | | | | 2 | 103 | 16.9 | 4.04 | 49.63 |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | 2 | 88 | 15.2 | 3.53 | 46.70 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 8 | 450 | 1.3 | 0.48 | 3.20 | 31 | 2119 | 5.9 | 4.20 | 8.21 |
| Secondary school | 150 | 6520 | 10.0 | 4.58 | 20.38 | 72 | 3671 | 5.6 | 3.66 | 8.54 |
| **Class** | | | | | | | | | | |
| Standard 4 | 5 | 287 | 2.2 | 0.78 | 5.97 | 11 | 968 | 7.4 | 3.65 | 14.40 |
| Standard 5 | 2 | 95 | 0.8 | 0.19 | 3.24 | 13 | 645 | 5.4 | 1.95 | 14.02 |
| Standard 6 | 1 | 68 | 0.6 | 0.12 | 3.20 | 7 | 505 | 4.6 | 2.31 | 9.14 |
| Form 1 | 18 | 1171 | 8.4 | 4.32 | 15.75 | 10 | 741 | 5.3 | 3.18 | 8.79 |
| Form 2 | 21 | 1069 | 8.3 | 3.81 | 17.22 | 11 | 615 | 4.8 | 2.65 | 8.50 |
| Form 3 | 19 | 760 | 5.9 | 2.69 | 12.49 | 15 | 681 | 5.3 | 2.87 | 9.54 |
| Form 4 | 23 | 1154 | 9.3 | 2.35 | 30.48 | 14 | 839 | 6.8 | 3.09 | 14.14 |
| Form 5 | 69 | 2367 | 17.8 | 5.67 | 43.72 | 22 | 796 | 6.0 | 1.96 | 16.79 |
| **School session** | | | | | | | | | | |
| Morning session | 47 | 2465 | 4.1 | 2.32 | 7.28 | 46 | 2812 | 4.7 | 3.37 | 6.59 |
| Evening session | 2 | 100 | 3.9 | 0.62 | 20.80 | 2 | 118 | 4.6 | 0.85 | 21.34 |
| Morning and evening session | 109 | 4405 | 11.3 | 4.04 | 27.82 | 55 | 2860 | 7.3 | 4.56 | 11.59 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 6 | 223 | 3.1 | 0.67 | 13.49 | 11 | 596 | 8.4 | 5.11 | 13.49 |
| Normal (≥-2sd - ≤+1sd) | 103 | 4700 | 7.4 | 3.41 | 15.22 | 61 | 3295 | 5.2 | 3.46 | 7.66 |
| Overweight (>+1sd - ≤+2sd) | 27 | 1095 | 7.5 | 3.20 | 16.60 | 15 | 790 | 5.4 | 2.93 | 9.76 |
| Obese (>+2sd) | 22 | 952 | 6.1 | 2.62 | 13.68 | 15 | 1077 | 6.9 | 4.05 | 11.63 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 11 | 502 | 7.5 | 3.77 | 14.30 | 7 | 389 | 5.8 | 2.82 | 11.56 |
| Normal (≥-2sd) | 147 | 6468 | 6.8 | 3.04 | 14.70 | 95 | 5369 | 5.7 | 4.21 | 7.63 |

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

| Characteristics | Frequency of fast food consumption per week | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Daily (7 days) | | | | | 1 to 6 days | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 42 | 2447 | 1.8 | 1.06 | 2.91 | 1987 | 112627 | 81.1 | 76.51 | 84.96 |
| **Locality of school** | | | | | | | | | | |
| Urban | 40 | 2357 | 1.9 | 1.13 | 3.11 | 1787 | 101773 | 81.2 | 76.15 | 85.45 |
| Rural | 2 | 90 | 0.7 | 0.12 | 3.68 | 200 | 10854 | 79.8 | 74.13 | 84.44 |
| **Sex** | | | | | | | | | | |
| Boys | 26 | 1520 | 2.2 | 1.29 | 3.67 | 912 | 56831 | 81.4 | 76.92 | 85.26 |
| Girls | 16 | 927 | 1.3 | 0.65 | 2.76 | 1075 | 55796 | 80.7 | 75.11 | 85.33 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 30 | 1710 | 2.1 | 1.25 | 3.37 | 1372 | 72144 | 86.9 | 84.74 | 88.74 |
| Chinese | 9 | 537 | 1.4 | 0.51 | 3.83 | 359 | 25178 | 66.1 | 61.09 | 70.73 |
| Indian | 1 | 53 | 0.4 | 0.05 | 2.68 | 219 | 13189 | 87.2 | 81.77 | 91.23 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 | 12 | 710 | 84.7 | 55.70 | 96.07 |
| Bumiputera Sarawak | 2 | 148 | 13.4 | 3.64 | 38.77 | 14 | 825 | 74.9 | 50.10 | 89.83 |
| Others | | | 0.0 | 0.00 | 0.00 | 11 | 581 | 86.4 | 41.41 | 98.28 |
| **School level** | | | | | | | | | | |
| Primary school | 21 | 1238 | 2.4 | 1.23 | 4.79 | 580 | 39686 | 78.2 | 68.56 | 85.46 |
| Secondary school | 21 | 1209 | 1.4 | 0.68 | 2.75 | 1407 | 72941 | 82.8 | 78.31 | 86.48 |
| **Class** | | | | | | | | | | |
| Standard 4 | 13 | 759 | 4.4 | 2.00 | 9.36 | 214 | 13549 | 78.4 | 67.75 | 86.31 |
| Standard 5 | 5 | 227 | 1.4 | 0.49 | 3.78 | 202 | 13255 | 80.0 | 68.23 | 88.12 |
| Standard 6 | 3 | 252 | 1.5 | 0.64 | 3.45 | 164 | 12882 | 76.1 | 64.41 | 84.88 |
| Form 1 | 6 | 434 | 2.3 | 0.78 | 6.78 | 222 | 15073 | 80.9 | 75.17 | 85.61 |
| Form 2 | 6 | 299 | 1.7 | 0.83 | 3.43 | 260 | 14457 | 81.9 | 71.62 | 89.00 |
| Form 3 | 1 | 30 | 0.2 | 0.02 | 1.23 | 324 | 14297 | 82.0 | 76.39 | 86.44 |
| Form 4 | 5 | 301 | 1.8 | 0.62 | 5.06 | 257 | 14485 | 85.9 | 81.29 | 89.59 |
| Form 5 | 3 | 145 | 0.8 | 0.27 | 2.48 | 344 | 14628 | 83.4 | 75.84 | 88.97 |
| **School session** | | | | | | | | | | |
| Morning session | 29 | 1681 | 2.0 | 1.12 | 3.48 | 1114 | 66729 | 78.5 | 72.37 | 83.58 |
| Evening session | | | 0.0 | 0.00 | 0.00 | 46 | 2990 | 84.3 | 74.14 | 90.90 |
| Morning and evening session | 13 | 767 | 1.5 | 0.83 | 2.81 | 823 | 42665 | 85.2 | 82.10 | 87.81 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 2 | 162 | 1.7 | 0.23 | 10.83 | 129 | 7958 | 81.4 | 73.31 | 87.38 |
| Normal (≥-2sd - ≤+1sd) | 30 | 1735 | 2.0 | 1.15 | 3.48 | 1243 | 70191 | 81.4 | 77.11 | 84.97 |
| Overweight (>+1sd - ≤+2sd) | 5 | 261 | 1.3 | 0.55 | 2.86 | 292 | 16096 | 77.4 | 70.10 | 83.30 |
| Obese (>+2sd) | 5 | 289 | 1.3 | 0.42 | 4.20 | 316 | 18023 | 83.2 | 77.51 | 87.65 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 6 | 364 | 4.0 | 2.10 | 7.44 | 157 | 7830 | 85.8 | 78.62 | 90.78 |
| Normal (≥-2sd) | 36 | 2083 | 1.6 | 0.98 | 2.64 | 1827 | 104684 | 80.7 | 76.17 | 84.63 |

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

| Characteristics | Frequency of fast food consumption per week | | | | |
| --- | --- | --- | --- | --- | --- |
| | Did not ate fast food | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper |
| **Negeri Sembilan** | 396 | 23812 | 17.1 | 13.11 | 22.10 |
| **Locality of school** | | | | | |
| Urban | 348 | 21149 | 16.9 | 12.49 | 22.42 |
| Rural | 48 | 2662 | 19.6 | 15.87 | 23.88 |
| **Sex** | | | | | |
| Boys | 170 | 11424 | 16.4 | 12.37 | 21.36 |
| Girls | 226 | 12388 | 17.9 | 13.22 | 23.85 |
| **Ethnicity** | | | | | |
| Malay | 172 | 9195 | 11.1 | 8.94 | 13.64 |
| Chinese | 183 | 12391 | 32.5 | 28.23 | 37.11 |
| Indian | 35 | 1877 | 12.4 | 8.73 | 17.36 |
| Bumiputera Sabah | 2 | 128 | 15.3 | 3.93 | 44.30 |
| Bumiputera Sarawak | 2 | 130 | 11.8 | 3.76 | 31.21 |
| Others | 2 | 91 | 13.6 | 1.72 | 58.59 |
| **School level** | | | | | |
| Primary school | 123 | 9847 | 19.4 | 11.70 | 30.41 |
| Secondary school | 273 | 13964 | 15.8 | 12.00 | 20.65 |
| **Class** | | | | | |
| Standard 4 | 38 | 2964 | 17.2 | 8.46 | 31.70 |
| Standard 5 | 39 | 3094 | 18.7 | 10.34 | 31.35 |
| Standard 6 | 46 | 3790 | 22.4 | 14.02 | 33.79 |
| Form 1 | 47 | 3117 | 16.7 | 12.31 | 22.35 |
| Form 2 | 52 | 2901 | 16.4 | 9.10 | 27.86 |
| Form 3 | 73 | 3117 | 17.9 | 13.38 | 23.46 |
| Form 4 | 36 | 2067 | 12.3 | 9.19 | 16.19 |
| Form 5 | 65 | 2762 | 15.8 | 10.07 | 23.79 |
| **School session** | | | | | |
| Morning session | 262 | 16598 | 19.5 | 14.25 | 26.16 |
| Evening session | 7 | 559 | 15.7 | 9.10 | 25.86 |
| Morning and evening session | 127 | 6655 | 13.3 | 10.41 | 16.81 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 25 | 1662 | 17.0 | 11.24 | 24.86 |
| Normal (≥-2sd - ≤+1sd) | 240 | 14348 | 16.6 | 12.89 | 21.20 |
| Overweight (>+1sd - ≤+2sd) | 79 | 4446 | 21.4 | 15.46 | 28.77 |
| Obese (>+2sd) | 52 | 3355 | 15.5 | 10.60 | 22.06 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 16 | 937 | 10.3 | 6.27 | 16.36 |
| Normal (≥-2sd) | 380 | 22875 | 17.6 | 13.55 | 22.66 |

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

| Characteristics | Everyday | | | | | Occasionally | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 300 | 17336 | 12.5 | 9.91 | 15.59 | 1219 | 70771 | 50.9 | 45.64 | 56.21 |
| **Locality of school** | | | | | | | | | | |
| Urban | 282 | 16263 | 13.0 | 10.29 | 16.26 | 1115 | 64713 | 51.7 | 46.24 | 57.07 |
| Rural | 18 | 1073 | 7.8 | 3.77 | 15.55 | 104 | 6058 | 44.2 | 27.60 | 62.15 |
| **Sex** | | | | | | | | | | |
| Boys | 133 | 8507 | 12.2 | 9.68 | 15.22 | 506 | 32121 | 46.0 | 39.46 | 52.67 |
| Girls | 167 | 8829 | 12.8 | 9.40 | 17.13 | 713 | 38650 | 55.9 | 50.88 | 60.85 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 147 | 7680 | 9.2 | 7.07 | 11.99 | 750 | 39939 | 48.1 | 40.94 | 55.27 |
| Chinese | 92 | 6150 | 16.1 | 12.63 | 20.35 | 305 | 21115 | 55.4 | 49.04 | 61.50 |
| Indian | 54 | 3074 | 20.4 | 13.97 | 28.72 | 143 | 8535 | 56.6 | 48.92 | 63.90 |
| Bumiputera Sabah | 2 | 129 | 15.4 | 4.49 | 41.40 | 7 | 417 | 49.7 | 27.83 | 71.70 |
| Bumiputera Sarawak | 3 | 200 | 18.1 | 6.06 | 43.25 | 5 | 303 | 27.5 | 11.96 | 51.53 |
| Others | 2 | 104 | 15.4 | 3.12 | 50.76 | 9 | 462 | 68.6 | 44.55 | 85.63 |
| **School level** | | | | | | | | | | |
| Primary school | 123 | 8425 | 16.6 | 12.60 | 21.51 | 438 | 30613 | 60.2 | 55.27 | 65.02 |
| Secondary school | 177 | 8911 | 10.1 | 7.66 | 13.24 | 781 | 40158 | 45.6 | 40.18 | 51.06 |
| **Class** | | | | | | | | | | |
| Standard 4 | 44 | 2942 | 17.0 | 11.48 | 24.52 | 164 | 10657 | 61.7 | 56.84 | 66.33 |
| Standard 5 | 42 | 2800 | 16.9 | 12.94 | 21.66 | 147 | 9780 | 58.9 | 52.73 | 64.73 |
| Standard 6 | 37 | 2683 | 15.9 | 8.68 | 27.18 | 127 | 10176 | 60.1 | 50.08 | 69.39 |
| Form 1 | 29 | 1900 | 10.2 | 6.39 | 15.88 | 132 | 8804 | 47.2 | 37.70 | 56.97 |
| Form 2 | 42 | 2281 | 12.9 | 8.29 | 19.46 | 141 | 8057 | 45.5 | 39.05 | 52.04 |
| Form 3 | 44 | 1978 | 11.3 | 8.40 | 15.05 | 171 | 7350 | 42.0 | 37.40 | 46.75 |
| Form 4 | 20 | 1080 | 6.4 | 3.89 | 10.48 | 147 | 8136 | 48.6 | 39.13 | 58.09 |
| Form 5 | 42 | 1672 | 9.5 | 6.08 | 14.68 | 190 | 7811 | 44.6 | 36.21 | 53.29 |
| **School session** | | | | | | | | | | |
| Morning session | 195 | 11961 | 14.1 | 11.13 | 17.60 | 710 | 43547 | 51.2 | 45.79 | 56.54 |
| Evening session | 9 | 497 | 14.4 | 7.83 | 24.90 | 31 | 2164 | 62.5 | 45.52 | 76.94 |
| Morning and evening session | 96 | 4878 | 9.7 | 7.43 | 12.63 | 477 | 25005 | 49.9 | 41.89 | 57.82 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 17 | 1146 | 11.7 | 7.29 | 18.18 | 78 | 5073 | 51.7 | 40.47 | 62.71 |
| Normal (≥-2sd - ≤+1sd) | 190 | 10884 | 12.6 | 10.07 | 15.67 | 745 | 43095 | 49.9 | 44.88 | 54.95 |
| Overweight (>+1sd - ≤+2sd) | 47 | 2691 | 12.9 | 9.05 | 18.14 | 193 | 10612 | 51.0 | 44.53 | 57.40 |
| Obese (>+2sd) | 46 | 2615 | 12.1 | 8.39 | 17.14 | 197 | 11664 | 54.0 | 45.17 | 62.53 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 19 | 949 | 10.4 | 5.99 | 17.60 | 83 | 4372 | 48.1 | 37.59 | 58.81 |
| Normal (≥-2sd) | 280 | 16337 | 12.6 | 9.96 | 15.79 | 1135 | 66366 | 51.2 | 45.97 | 56.31 |

**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 |
|---|---|---|---|---|---|
| **Negeri Sembilan** | 907 | 50837 | 36.6 | 29.83 | 43.92 |
| | | | | | |
| **Locality of school** | | | | | |
| Urban | 778 | 44253 | 35.3 | 28.51 | 42.82 |
| Rural | 129 | 6584 | 48.0 | 26.41 | 70.38 |
| **Sex** | | | | | |
| Boys | 470 | 29206 | 41.8 | 33.59 | 50.53 |
| Girls | 437 | 21630 | 31.3 | 25.06 | 38.30 |
| **Ethnicity** | | | | | |
| Malay | 678 | 35475 | 42.7 | 34.18 | 51.66 |
| Chinese | 155 | 10881 | 28.5 | 22.09 | 35.97 |
| Indian | 57 | 3482 | 23.1 | 14.02 | 35.55 |
| Bumiputera Sabah | 5 | 292 | 34.9 | 12.30 | 67.16 |
| Bumiputera Sarawak | 10 | 599 | 54.3 | 32.96 | 74.20 |
| Others | 2 | 107 | 16.0 | 4.55 | 43.06 |
| **School level** | | | | | |
| Primary school | 164 | 11775 | 23.2 | 19.24 | 27.64 |
| Secondary school | 743 | 39061 | 44.3 | 37.11 | 51.78 |
| **Class** | | | | | |
| Standard 4 | 57 | 3674 | 21.3 | 14.61 | 29.89 |
| Standard 5 | 58 | 4036 | 24.3 | 19.83 | 29.39 |
| Standard 6 | 49 | 4066 | 24.0 | 17.50 | 32.03 |
| Form 1 | 114 | 7936 | 42.6 | 32.51 | 53.30 |
| Form 2 | 136 | 7381 | 41.7 | 32.49 | 51.44 |
| Form 3 | 184 | 8171 | 46.7 | 40.67 | 52.81 |
| Form 4 | 129 | 7539 | 45.0 | 33.78 | 56.74 |
| Form 5 | 180 | 8034 | 45.9 | 35.50 | 56.60 |
| **School session** | | | | | |
| Morning session | 502 | 29574 | 34.8 | 27.80 | 42.43 |
| Evening session | 12 | 799 | 23.1 | 11.46 | 41.04 |
| Morning and evening session | 390 | 20274 | 40.4 | 31.83 | 49.64 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 62 | 3598 | 36.7 | 23.54 | 52.10 |
| Normal (≥-2sd - ≤+1sd) | 579 | 32361 | 37.5 | 30.96 | 44.49 |
| Overweight (>+1sd - ≤+2sd) | 136 | 7511 | 36.1 | 29.55 | 43.19 |
| Obese (>+2sd) | 129 | 7334 | 33.9 | 24.43 | 44.94 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 76 | 3766 | 41.4 | 29.50 | 54.48 |
| Normal (≥-2sd) | 830 | 47039 | 36.3 | 29.70 | 43.37 |

**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 | | Count | Estimated Population | Percentage (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 535 | 30356 | 35.9 | 28.99 | 43.35 | 238 | 13072 | 15.4 | 12.61 | 18.77 |
| | 100 | | | | | | | | | |
| **Locality of school** | | | | | | | | | | |
| Urban | 488 | 27774 | 35.5 | 28.21 | 43.53 | 219 | 12000 | 15.3 | 12.30 | 18.96 |
| Rural | 47 | 2582 | 40.2 | 26.57 | 55.47 | 19 | 1072 | 16.7 | 16.01 | 17.38 |
| **Sex** | | | | | | | | | | |
| Boys | 263 | 15924 | 40.8 | 32.48 | 49.73 | 96 | 5676 | 14.6 | 10.27 | 20.22 |
| Girls | 272 | 14433 | 31.6 | 25.09 | 38.94 | 142 | 7396 | 16.2 | 13.09 | 19.87 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 390 | 21276 | 46.1 | 40.07 | 52.19 | 157 | 8303 | 18.0 | 14.62 | 21.92 |
| Chinese | 96 | 6206 | 23.8 | 15.95 | 34.05 | 45 | 2855 | 11.0 | 7.52 | 15.72 |
| Indian | 40 | 2316 | 21.2 | 15.37 | 28.60 | 30 | 1560 | 14.3 | 8.81 | 22.38 |
| Bumiputera Sabah | 5 | 329 | 60.3 | 21.68 | 89.26 | 1 | 57 | 10.4 | 1.31 | 50.32 |
| Bumiputera Sarawak | 3 | 183 | 36.3 | 17.36 | 60.65 | 3 | 202 | 40.1 | 13.56 | 74.10 |
| Others | 1 | 47 | 9.4 | 0.97 | 52.09 | 2 | 96 | 18.9 | 3.37 | 60.93 |
| **School level** | | | | | | | | | | |
| Primary school | 210 | 13505 | 36.0 | 23.60 | 50.61 | 84 | 5506 | 14.7 | 10.99 | 19.33 |
| Secondary school | 325 | 16851 | 35.7 | 29.17 | 42.88 | 154 | 7566 | 16.0 | 12.15 | 20.90 |
| **Class** | | | | | | | | | | |
| Standard 4 | 72 | 4171 | 32.8 | 17.99 | 52.09 | 20 | 1282 | 10.1 | 7.75 | 13.03 |
| Standard 5 | 65 | 3929 | 32.2 | 22.34 | 44.06 | 34 | 2056 | 16.9 | 11.06 | 24.89 |
| Standard 6 | 73 | 5405 | 42.8 | 30.86 | 55.73 | 30 | 2168 | 17.2 | 11.79 | 24.35 |
| Form 1 | 58 | 3726 | 37.1 | 28.28 | 46.84 | 23 | 1592 | 15.8 | 10.30 | 23.59 |
| Form 2 | 65 | 3572 | 36.7 | 24.88 | 50.30 | 28 | 1502 | 15.4 | 10.83 | 21.47 |
| Form 3 | 74 | 3138 | 35.2 | 27.44 | 43.89 | 42 | 1812 | 20.3 | 13.89 | 28.78 |
| Form 4 | 55 | 3162 | 35.1 | 25.60 | 46.03 | 28 | 1498 | 16.6 | 10.73 | 24.91 |
| Form 5 | 73 | 3253 | 34.4 | 21.27 | 50.41 | 33 | 1163 | 12.3 | 6.60 | 21.74 |
| **School session** | | | | | | | | | | |
| Morning session | 323 | 19068 | 35.7 | 27.67 | 44.63 | 136 | 7869 | 14.7 | 11.37 | 18.88 |
| Evening session | 15 | 951 | 37.3 | 22.05 | 55.47 | 4 | 271 | 10.6 | 3.35 | 28.97 |
| Morning and evening session | 196 | 10282 | 35.9 | 27.01 | 45.85 | 97 | 4877 | 17.0 | 13.11 | 21.82 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 32 | 1938 | 32.7 | 21.74 | 45.86 | 12 | 779 | 13.1 | 6.44 | 24.89 |
| Normal (≥-2sd - ≤+1sd) | 327 | 18531 | 35.8 | 28.29 | 44.09 | 142 | 7731 | 14.9 | 11.64 | 18.97 |
| Overweight (>+1sd - ≤+2sd) | 81 | 4222 | 33.0 | 23.93 | 43.62 | 42 | 2263 | 17.7 | 13.35 | 23.11 |
| Obese (>+2sd) | 93 | 5546 | 40.0 | 32.59 | 47.81 | 38 | 2079 | 15.0 | 9.78 | 22.27 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 41 | 2070 | 40.8 | 30.33 | 52.09 | 16 | 786 | 15.5 | 9.26 | 24.73 |
| Normal (≥-2sd) | 493 | 28237 | 35.5 | 28.47 | 43.25 | 221 | 12254 | 15.4 | 12.42 | 18.97 |

**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 | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 500 | 30869 | 36.5 | 27.02 | 47.07 | 119 | 6660 | 7.9 | 5.65 | 10.85 |
| **Locality of school** | | | | | | | | | | |
| Urban | 461 | 28568 | 36.5 | 26.43 | 47.94 | 114 | 6402 | 8.2 | 5.86 | 11.32 |
| Rural | 39 | 2301 | 35.8 | 22.31 | 51.97 | 5 | 258 | 4.0 | 1.77 | 8.84 |
| **Sex** | | | | | | | | | | |
| Boys | 182 | 12407 | 31.8 | 23.70 | 41.18 | 44 | 2685 | 6.9 | 4.12 | 11.28 |
| Girls | 318 | 18462 | 40.4 | 28.83 | 53.21 | 75 | 3975 | 8.7 | 6.48 | 11.60 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 205 | 10748 | 23.3 | 18.75 | 28.51 | 92 | 4899 | 10.6 | 7.81 | 14.26 |
| Chinese | 188 | 13785 | 53.0 | 36.60 | 68.70 | 14 | 1005 | 3.9 | 2.49 | 5.94 |
| Indian | 100 | 5998 | 55.0 | 42.95 | 66.52 | 9 | 508 | 4.7 | 2.12 | 9.95 |
| Bumiputera Sabah | 2 | 103 | 18.8 | 4.01 | 56.18 | 1 | 55 | 10.1 | 1.31 | 48.81 |
| Bumiputera Sarawak | | | 0.0 | 0.00 | 0.00 | 2 | 119 | 23.6 | 9.61 | 47.34 |
| Others | 5 | 235 | 46.4 | 22.77 | 71.83 | 1 | 74 | 14.6 | 1.96 | 59.42 |
| **School level** | | | | | | | | | | |
| Primary school | 153 | 13104 | 34.9 | 18.52 | 55.92 | 47 | 2966 | 7.9 | 4.36 | 13.92 |
| Secondary school | 347 | 17764 | 37.7 | 28.75 | 47.51 | 72 | 3693 | 7.8 | 5.46 | 11.12 |
| **Class** | | | | | | | | | | |
| Standard 4 | 41 | 3586 | 28.2 | 11.74 | 53.74 | 16 | 1070 | 8.4 | 5.79 | 12.07 |
| Standard 5 | 60 | 4879 | 40.0 | 23.33 | 59.46 | 15 | 787 | 6.5 | 2.23 | 17.29 |
| Standard 6 | 52 | 4639 | 36.8 | 21.74 | 54.91 | 16 | 1110 | 8.8 | 4.17 | 17.61 |
| Form 1 | 49 | 3188 | 31.7 | 24.44 | 40.05 | 13 | 916 | 9.1 | 5.08 | 15.83 |
| Form 2 | 65 | 3810 | 39.1 | 21.53 | 60.05 | 17 | 934 | 9.6 | 5.85 | 15.31 |
| Form 3 | 91 | 3980 | 44.7 | 33.32 | 56.62 | 17 | 682 | 7.7 | 4.59 | 12.51 |
| Form 4 | 61 | 3301 | 36.7 | 28.68 | 45.50 | 14 | 721 | 8.0 | 5.02 | 12.54 |
| Form 5 | 81 | 3484 | 36.8 | 22.79 | 53.53 | 11 | 441 | 4.7 | 2.21 | 9.55 |
| **School session** | | | | | | | | | | |
| Morning session | 313 | 20854 | 39.0 | 27.33 | 52.18 | 70 | 4044 | 7.6 | 5.14 | 11.02 |
| Evening session | 8 | 487 | 19.1 | 11.41 | 30.15 | 4 | 257 | 10.1 | 5.46 | 17.79 |
| Morning and evening session | 179 | 9527 | 33.3 | 23.23 | 45.07 | 45 | 2359 | 8.2 | 5.26 | 12.67 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 34 | 2770 | 46.7 | 24.77 | 69.95 | 5 | 235 | 4.0 | 1.53 | 9.85 |
| Normal (≥-2sd - ≤+1sd) | 318 | 19067 | 36.8 | 27.95 | 46.74 | 71 | 3990 | 7.7 | 4.91 | 11.90 |
| Overweight (>+1sd - ≤+2sd) | 76 | 4589 | 35.9 | 25.81 | 47.44 | 23 | 1318 | 10.3 | 7.29 | 14.39 |
| Obese (>+2sd) | 72 | 4443 | 32.0 | 23.05 | 42.54 | 20 | 1117 | 8.0 | 4.89 | 12.96 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 24 | 1152 | 22.7 | 15.41 | 32.08 | 13 | 674 | 13.3 | 5.90 | 27.15 |
| Normal (≥-2sd) | 476 | 29717 | 37.4 | 27.69 | 48.20 | 106 | 5986 | 7.5 | 5.56 | 10.11 |

**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 |
| **Negeri Sembilan** | 169 | 9084 | 10.7 | 7.06 | 15.99 | 59 | 3526 | 4.2 | 2.54 | 6.76 |
| **Locality of school** | | | | | | | | | | |
| Urban | 155 | 8242 | 10.5 | 6.65 | 16.28 | 58 | 3467 | 4.4 | 2.72 | 7.15 |
| Rural | 14 | 842 | 13.1 | 10.58 | 16.10 | 1 | 60 | 0.9 | 0.38 | 2.26 |
| **Sex** | | | | | | | | | | |
| Boys | 36 | 2587 | 6.6 | 4.41 | 9.85 | 29 | 1589 | 4.1 | 1.93 | 8.39 |
| Girls | 133 | 6497 | 14.2 | 8.46 | 22.95 | 30 | 1937 | 4.2 | 2.54 | 7.01 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 107 | 4745 | 10.3 | 4.81 | 20.59 | 33 | 1789 | 3.9 | 2.10 | 7.03 |
| Chinese | 43 | 3238 | 12.4 | 8.34 | 18.16 | 22 | 1509 | 5.8 | 3.07 | 10.69 |
| Indian | 18 | 1046 | 9.6 | 5.35 | 16.62 | 4 | 228 | 2.1 | 0.94 | 4.56 |
| Bumiputera Sabah | | | | | | | | | | |
| Bumiputera Sarawak | | | | | | | | | | |
| Others | 1 | 54 | 10.7 | 1.71 | 45.12 | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | | | | | | |
| Primary school | 34 | 2915 | 7.8 | 4.19 | 13.96 | 41 | 2592 | 6.9 | 4.19 | 11.18 |
| Secondary school | 135 | 6169 | 13.1 | 7.70 | 21.34 | 18 | 934 | 2.0 | 1.10 | 3.54 |
| **Class** | | | | | | | | | | |
| Standard 4 | 16 | 1064 | 8.4 | 5.28 | 13.03 | 21 | 1168 | 9.2 | 4.99 | 16.32 |
| Standard 5 | 11 | 1126 | 9.2 | 3.86 | 20.53 | 14 | 1014 | 8.3 | 5.05 | 13.41 |
| Standard 6 | 7 | 724 | 5.7 | 2.23 | 14.00 | 6 | 410 | 3.3 | 1.23 | 8.31 |
| Form 1 | 18 | 1164 | 11.6 | 7.38 | 17.72 | 4 | 262 | 2.6 | 1.11 | 6.02 |
| Form 2 | 17 | 933 | 9.6 | 6.15 | 14.61 | 6 | 328 | 3.4 | 1.23 | 8.88 |
| Form 3 | 10 | 437 | 4.9 | 2.90 | 8.17 | 1 | 45 | 0.5 | 0.07 | 3.47 |
| Form 4 | 26 | 1338 | 14.9 | 5.92 | 32.67 | 4 | 199 | 2.2 | 0.75 | 6.38 |
| Form 5 | 64 | 2297 | 24.3 | 11.20 | 44.92 | 3 | 100 | 1.1 | 0.30 | 3.65 |
| **School session** | | | | | | | | | | |
| Morning session | 81 | 5125 | 9.6 | 7.11 | 12.84 | 33 | 2119 | 4.0 | 2.11 | 7.35 |
| Evening session | 6 | 504 | 19.7 | 8.04 | 40.90 | 3 | 206 | 8.1 | 2.52 | 22.92 |
| Morning and evening session | 82 | 3455 | 12.1 | 4.60 | 28.03 | 23 | 1202 | 4.2 | 1.99 | 8.64 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 7 | 323 | 5.4 | 1.96 | 14.22 | 4 | 246 | 4.1 | 1.21 | 13.19 |
| Normal (≥-2sd - ≤+1sd) | 114 | 6170 | 11.9 | 7.89 | 17.62 | 31 | 1836 | 3.5 | 2.09 | 5.95 |
| Overweight (>+1sd - ≤+2sd) | 24 | 1261 | 9.9 | 6.01 | 15.78 | 11 | 781 | 6.1 | 2.71 | 13.20 |
| Obese (>+2sd) | 24 | 1331 | 9.6 | 4.75 | 18.42 | 13 | 664 | 4.8 | 2.43 | 9.18 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 9 | 440 | 8.7 | 4.13 | 17.32 | 7 | 408 | 8.0 | 2.85 | 20.64 |
| Normal (≥-2sd) | 160 | 8643 | 10.9 | 7.09 | 16.32 | 52 | 3119 | 3.9 | 2.37 | 6.42 |

**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 |
|---|---|---|---|---|---|
| **Negeri Sembilan** | 110 | 7121 | 8.4 | 5.86 | 11.92 |
| **Locality of school** | | | | | |
| Urban | 105 | 6849 | 8.8 | 6.11 | 12.38 |
| Rural | 5 | 272 | 4.2 | 1.43 | 11.88 |
| **Sex** | | | | | |
| Boys | 55 | 3860 | 9.9 | 6.34 | 15.12 |
| Girls | 55 | 3260 | 7.1 | 4.96 | 10.17 |
| **Ethnicity** | | | | | |
| Malay | 55 | 3130 | 6.8 | 4.91 | 9.29 |
| Chinese | 43 | 3342 | 12.8 | 8.48 | 18.97 |
| Indian | 11 | 592 | 5.4 | 2.78 | 10.33 |
| Bumiputera Sabah | 1 | 57 | 10.4 | 1.05 | 55.83 |
| Bumiputera Sarawak | | | 0.0 | 0.00 | 0.00 |
| Others | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | |
| Primary school | 58 | 4506 | 12.0 | 7.98 | 17.68 |
| Secondary school | 52 | 2615 | 5.5 | 3.84 | 7.94 |
| **Class** | | | | | |
| Standard 4 | 26 | 1823 | 14.3 | 11.67 | 17.52 |
| Standard 5 | 16 | 1334 | 10.9 | 5.94 | 19.30 |
| Standard 6 | 16 | 1348 | 10.7 | 5.69 | 19.18 |
| Form 1 | 7 | 482 | 4.8 | 2.14 | 10.40 |
| Form 2 | 9 | 498 | 5.1 | 2.71 | 9.45 |
| Form 3 | 10 | 404 | 4.5 | 2.91 | 7.00 |
| Form 4 | 16 | 874 | 9.7 | 4.85 | 18.50 |
| Form 5 | 10 | 357 | 3.8 | 1.79 | 7.79 |
| **School session** | | | | | |
| Morning session | 65 | 4419 | 8.3 | 5.49 | 12.29 |
| Evening session | 4 | 410 | 16.1 | 5.25 | 39.84 |
| Morning and evening session | 41 | 2292 | 8.0 | 5.56 | 11.37 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 4 | 247 | 4.2 | 1.35 | 12.14 |
| Normal (≥-2sd - ≤+1sd) | 67 | 4335 | 8.4 | 5.13 | 13.38 |
| Overweight  (>+1sd - ≤+2sd) | 15 | 851 | 6.7 | 4.33 | 10.11 |
| Obese (>+2sd) | 23 | 1637 | 11.8 | 6.97 | 19.27 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 10 | 506 | 10.0 | 4.82 | 19.49 |
| Normal (≥-2sd) | 100 | 6614 | 8.3 | 5.72 | 11.94 |

**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 |
| **Negeri Sembilan** | 1124 | 61915 | 44.6 | 38.67 | 50.67 | 739 | 41329 | 29.8 | 24.87 | 35.17 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1018 | 55849 | 44.6 | 38.53 | 50.93 | 674 | 37930 | 30.3 | 25.07 | 36.14 |
| Rural | 106 | 6066 | 44.1 | 24.15 | 66.10 | 65 | 3399 | 24.7 | 16.76 | 34.81 |
| **Sex** | | | | | | | | | | |
| Boys | 402 | 25544 | 36.6 | 31.35 | 42.28 | 357 | 21545 | 30.9 | 25.13 | 37.33 |
| Girls | 722 | 36371 | 52.6 | 44.47 | 60.61 | 382 | 19784 | 28.6 | 23.61 | 34.21 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 660 | 33467 | 40.3 | 34.33 | 46.67 | 557 | 30009 | 36.2 | 32.29 | 40.25 |
| Chinese | 255 | 16662 | 43.7 | 32.11 | 56.07 | 128 | 7906 | 20.7 | 14.18 | 29.32 |
| Indian | 189 | 10682 | 70.3 | 62.30 | 77.26 | 37 | 2412 | 15.9 | 11.78 | 21.07 |
| Bumiputera Sabah | 6 | 373 | 44.5 | 24.18 | 66.76 | 5 | 266 | 31.7 | 13.55 | 57.92 |
| Bumiputera Sarawak | 6 | 336 | 30.5 | 18.54 | 45.85 | 9 | 596 | 54.0 | 39.70 | 67.73 |
| Others | 8 | 395 | 58.8 | 27.57 | 84.26 | 3 | 141 | 20.9 | 4.42 | 60.23 |
| **School level** | | | | | | | | | | |
| Primary school | 296 | 20578 | 40.6 | 33.75 | 47.87 | 262 | 16310 | 32.2 | 21.63 | 44.95 |
| Secondary school | 828 | 41337 | 46.9 | 38.83 | 55.09 | 477 | 25019 | 28.4 | 24.22 | 32.92 |
| **Class** | | | | | | | | | | |
| Standard 4 | 111 | 7056 | 41.0 | 32.64 | 49.89 | 97 | 5526 | 32.1 | 17.36 | 51.54 |
| Standard 5 | 96 | 6576 | 39.8 | 36.03 | 43.66 | 96 | 5862 | 35.5 | 26.31 | 45.81 |
| Standard 6 | 89 | 6946 | 41.0 | 28.80 | 54.50 | 69 | 4923 | 29.1 | 19.36 | 41.20 |
| Form 1 | 137 | 8973 | 48.4 | 40.85 | 55.99 | 78 | 5379 | 29.0 | 22.44 | 36.57 |
| Form 2 | 139 | 7828 | 44.2 | 34.01 | 54.86 | 98 | 5434 | 30.7 | 22.68 | 40.02 |
| Form 3 | 194 | 8485 | 48.5 | 38.27 | 58.84 | 114 | 4899 | 28.0 | 22.99 | 33.61 |
| Form 4 | 150 | 8053 | 47.8 | 35.24 | 60.61 | 80 | 4659 | 27.6 | 20.79 | 35.75 |
| Form 5 | 208 | 7998 | 45.5 | 33.63 | 57.95 | 107 | 4648 | 26.5 | 20.48 | 33.45 |
| **School session** | | | | | | | | | | |
| Morning session | 669 | 38943 | 45.9 | 39.40 | 52.52 | 397 | 23022 | 27.1 | 22.22 | 32.67 |
| Evening session | 29 | 1922 | 54.2 | 32.18 | 74.63 | 12 | 777 | 21.9 | 13.52 | 33.47 |
| Morning and evening session | 425 | 20997 | 54.2 | 32.18 | 74.63 | 329 | 17472 | 21.9 | 13.52 | 33.47 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 65 | 3879 | 39.5 | 29.67 | 50.29 | 52 | 3183 | 32.4 | 23.14 | 43.33 |
| Normal (≥-2sd - ≤+1sd) | 689 | 37795 | 43.9 | 37.22 | 50.78 | 452 | 25250 | 29.3 | 23.81 | 35.52 |
| Overweight (>+1sd - ≤+2sd) | 192 | 10324 | 49.4 | 41.88 | 56.97 | 108 | 5906 | 28.3 | 24.27 | 32.63 |
| Obese (>+2sd) | 176 | 9797 | 45.2 | 38.67 | 51.93 | 124 | 6834 | 31.5 | 24.62 | 39.39 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 71 | 3668 | 40.4 | 30.66 | 50.88 | 56 | 2800 | 30.8 | 24.22 | 38.31 |
| Normal (≥-2sd) | 1052 | 58198 | 44.9 | 38.91 | 51.01 | 682 | 38496 | 29.7 | 24.63 | 35.30 |

**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 |
| **Negeri Sembilan** | 562 | 35611 | 25.6 | 19.70 | 32.65 |
| **Locality of school** | | | | | |
| Urban | 481 | 31311 | 25.0 | 18.66 | 32.70 |
| Rural | 81 | 4300 | 31.2 | 19.68 | 45.73 |
| **Sex** | | | | | |
| Boys | 348 | 22630 | 32.5 | 26.55 | 38.98 |
| Girls | 214 | 12981 | 18.8 | 12.56 | 27.11 |
| **Ethnicity** | | | | | |
| Malay | 356 | 19471 | 23.5 | 17.83 | 30.25 |
| Chinese | 168 | 13538 | 35.5 | 24.43 | 48.43 |
| Indian | 30 | 2096 | 13.8 | 9.99 | 18.75 |
| Bumiputera Sabah | 3 | 200 | 23.8 | 8.20 | 52.28 |
| Bumiputera Sarawak | 3 | 170 | 15.5 | 4.36 | 42.34 |
| Others | 2 | 136 | 20.3 | 3.05 | 67.30 |
| **School level** | | | | | |
| Primary school | 164 | 13781 | 27.2 | 14.68 | 44.80 |
| Secondary school | 398 | 21830 | 24.8 | 20.13 | 30.05 |
| **Class** | | | | | |
| Standard 4 | 56 | 4633 | 26.9 | 12.44 | 48.83 |
| Standard 5 | 53 | 4093 | 24.8 | 15.02 | 38.00 |
| Standard 6 | 55 | 5055 | 29.9 | 15.17 | 50.36 |
| Form 1 | 59 | 4194 | 22.6 | 17.54 | 28.65 |
| Form 2 | 82 | 4456 | 25.1 | 18.01 | 33.95 |
| Form 3 | 91 | 4115 | 23.5 | 16.55 | 32.29 |
| Form 4 | 68 | 4141 | 24.6 | 18.45 | 31.92 |
| Form 5 | 98 | 4923 | 28.0 | 19.01 | 39.25 |
| **School session** | | | | | |
| Morning session | 338 | 22903 | 27.0 | 20.23 | 35.00 |
| Evening session | 12 | 849 | 23.9 | 8.23 | 52.50 |
| Morning and evening session | 210 | 11726 | 23.9 | 8.23 | 52.50 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 40 | 2755 | 28.1 | 20.81 | 36.67 |
| Normal (≥-2sd - ≤+1sd) | 370 | 23071 | 26.8 | 20.80 | 33.77 |
| Overweight (>+1sd - ≤+2sd) | 77 | 4665 | 22.3 | 16.21 | 29.93 |
| Obese (>+2sd) | 73 | 5037 | 23.2 | 15.04 | 34.13 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 51 | 2618 | 28.8 | 20.95 | 38.20 |
| Normal (≥-2sd) | 510 | 32961 | 25.4 | 19.31 | 32.68 |

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

| Characteristics | 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 |
| **Negeri Sembilan** | 1645 | 90010 | 87.3 | 82.54 | 90.87 | 176 | 10501 | 10.2 | 7.69 | 13.37 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1500 | 82243 | 87.7 | 82.71 | 91.45 | 166 | 9889 | 10.5 | 7.88 | 13.99 |
| Rural | 145 | 7767 | 82.7 | 70.48 | 90.54 | 10 | 613 | 6.5 | 4.11 | 10.21 |
| **Sex** | | | | | | | | | | |
| Boys | 640 | 39491 | 83.9 | 79.46 | 87.59 | 76 | 5010 | 10.6 | 8.04 | 13.97 |
| Girls | 1005 | 50519 | 90.1 | 83.92 | 94.04 | 100 | 5492 | 9.8 | 6.40 | 14.70 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1107 | 57233 | 90.2 | 86.75 | 92.77 | 109 | 6139 | 9.7 | 7.34 | 12.65 |
| Chinese | 308 | 19994 | 81.5 | 70.05 | 89.26 | 50 | 3205 | 13.1 | 8.25 | 20.07 |
| Indian | 203 | 11258 | 86.5 | 75.71 | 92.89 | 10 | 780 | 6.0 | 2.66 | 12.91 |
| Bumiputera Sabah | 7 | 422 | 66.1 | 30.80 | 89.51 | 3 | 161 | 25.3 | 9.18 | 53.05 |
| Bumiputera Sarawak | 11 | 652 | 69.9 | 46.64 | 86.11 | 2 | 119 | 12.8 | 4.46 | 31.45 |
| Others | 9 | 452 | 84.3 | 48.23 | 96.89 | 2 | 98 | 18.3 | 3.53 | 57.68 |
| **School level** | | | | | | | | | | |
| Primary school | 449 | 30076 | 81.6 | 73.23 | 87.82 | 89 | 5991 | 16.3 | 12.41 | 21.01 |
| Secondary school | 1196 | 59934 | 90.4 | 85.31 | 93.88 | 87 | 4511 | 6.8 | 5.32 | 8.67 |
| **Class** | | | | | | | | | | |
| Standard 4 | 158 | 9611 | 76.4 | 68.17 | 83.02 | 28 | 1779 | 14.1 | 9.49 | 20.55 |
| Standard 5 | 158 | 10334 | 83.4 | 74.84 | 89.39 | 26 | 1749 | 14.1 | 11.61 | 17.05 |
| Standard 6 | 133 | 10131 | 85.4 | 73.11 | 92.59 | 35 | 2463 | 20.7 | 11.96 | 33.53 |
| Form 1 | 185 | 12053 | 84.4 | 70.23 | 92.55 | 15 | 1082 | 7.6 | 4.08 | 13.63 |
| Form 2 | 208 | 11621 | 87.6 | 79.73 | 92.72 | 24 | 1279 | 9.6 | 6.47 | 14.12 |
| Form 3 | 282 | 12128 | 90.6 | 83.03 | 95.02 | 16 | 727 | 5.4 | 3.27 | 8.88 |
| Form 4 | 218 | 11965 | 94.1 | 90.24 | 96.52 | 12 | 641 | 5.0 | 2.51 | 9.85 |
| Form 5 | 303 | 12167 | 96.2 | 91.40 | 98.38 | 20 | 783 | 6.2 | 3.02 | 12.26 |
| **School session** | | | | | | | | | | |
| Morning session | 933 | 53894 | 87.1 | 81.48 | 91.25 | 102 | 6468 | 10.5 | 7.82 | 13.85 |
| Evening session | 30 | 1993 | 73.9 | 29.27 | 95.07 | 3 | 170 | 6.3 | 0.90 | 33.11 |
| Morning and evening session | 680 | 34011 | 88.4 | 83.39 | 92.06 | 71 | 3863 | 10.0 | 7.35 | 13.57 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 102 | 5965 | 84.5 | 77.15 | 89.76 | 13 | 1117 | 15.8 | 6.04 | 35.43 |
| Normal (≥-2sd - ≤+1sd) | 1003 | 54897 | 87.2 | 81.92 | 91.07 | 115 | 6623 | 10.5 | 7.64 | 14.32 |
| Overweight (>+1sd - ≤+2sd) | 273 | 14474 | 89.4 | 81.72 | 94.08 | 20 | 1197 | 7.4 | 4.40 | 12.17 |
| Obese (>+2sd) | 263 | 14454 | 86.9 | 80.43 | 91.48 | 27 | 1507 | 9.1 | 6.25 | 12.97 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 108 | 5361 | 82.9 | 75.57 | 88.34 | 16 | 873 | 13.5 | 8.05 | 21.74 |
| Normal (≥-2sd) | 1536 | 84617 | 87.6 | 82.88 | 91.18 | 159 | 9579 | 9.9 | 7.51 | 12.99 |

**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 |
| **Negeri Sembilan** | 31 | 1840 | 1.8 | 1.00 | 3.15 | 74 | 4251 | 4.1 | 2.89 | 5.85 |
| **Locality of school** | | | | | | | | | | |
| Urban | 25 | 1417 | 1.5 | 0.82 | 2.75 | 69 | 3940 | 4.2 | 2.87 | 6.11 |
| Rural | 6 | 423 | 4.5 | 1.98 | 9.91 | 5 | 311 | 3.3 | 1.80 | 6.01 |
| **Sex** | | | | | | | | | | |
| Boys | 20 | 1216 | 2.6 | 1.46 | 4.54 | 38 | 2252 | 4.8 | 2.87 | 7.87 |
| Girls | 11 | 624 | 1.1 | 0.54 | 2.30 | 36 | 2000 | 3.6 | 2.51 | 5.05 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 13 | 664 | 1.0 | 0.62 | 1.76 | 38 | 2007 | 3.2 | 2.03 | 4.89 |
| Chinese | 12 | 731 | 3.0 | 1.38 | 6.32 | 25 | 1536 | 6.3 | 4.11 | 9.44 |
| Indian | 5 | 397 | 3.1 | 1.35 | 6.74 | 8 | 530 | 4.1 | 1.62 | 9.83 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 | 1 | 55 | 8.7 | 1.18 | 42.96 |
| Bumiputera Sarawak | | | 0.0 | 0.00 | 0.00 | 1 | 73 | 7.8 | 0.79 | 47.23 |
| Others | 1 | 47 | 8.8 | 0.92 | 50.25 | 1 | 51 | 9.4 | 0.99 | 52.08 |
| **School level** | | | | | | | | | | |
| Primary school | 14 | 774 | 2.1 | 0.86 | 5.05 | 32 | 1926 | 5.2 | 3.12 | 8.64 |
| Secondary school | 17 | 1066 | 1.6 | 0.75 | 3.40 | 42 | 2326 | 3.5 | 2.17 | 5.62 |
| **Class** | | | | | | | | | | |
| Standard 4 | 6 | 310 | 2.5 | 0.64 | 9.01 | 16 | 882 | 7.0 | 3.84 | 12.44 |
| Standard 5 | 4 | 190 | 1.5 | 0.46 | 5.01 | 10 | 645 | 5.2 | 3.20 | 8.35 |
| Standard 6 | 4 | 274 | 2.3 | 0.54 | 9.34 | 6 | 399 | 3.4 | 1.66 | 6.68 |
| Form 1 | 8 | 601 | 4.2 | 1.58 | 10.74 | 8 | 611 | 4.3 | 1.77 | 9.99 |
| Form 2 | 3 | 158 | 1.2 | 0.36 | 3.87 | 11 | 639 | 4.8 | 2.47 | 9.20 |
| Form 3 | 4 | 204 | 1.5 | 0.44 | 5.14 | 8 | 357 | 2.7 | 1.42 | 4.93 |
| Form 4 | 1 | 71 | 0.6 | 0.07 | 4.24 | 6 | 316 | 2.5 | 0.80 | 7.45 |
| Form 5 | 1 | 32 | 0.3 | 0.04 | 1.50 | 9 | 402 | 3.2 | 1.35 | 7.32 |
| **School session** | | | | | | | | | | |
| Morning session | 19 | 1094 | 1.8 | 0.96 | 3.23 | 41 | 2317 | 3.7 | 2.26 | 6.15 |
| Evening session | 5 | 309 | 11.5 | 2.56 | 38.91 | 2 | 112 | 4.2 | 0.63 | 22.75 |
| Morning and evening session | 7 | 436 | 1.1 | 0.44 | 2.90 | 31 | 1822 | 4.7 | 3.09 | 7.20 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 3 | 207 | 2.9 | 0.62 | 12.79 | 2 | 110 | 1.6 | 0.40 | 5.86 |
| Normal (≥-2sd - ≤+1sd) | 21 | 1221 | 1.9 | 1.11 | 3.37 | 43 | 2371 | 3.8 | 2.45 | 5.76 |
| Overweight (>+1sd - ≤+2sd) | 5 | 311 | 1.9 | 0.83 | 4.37 | 11 | 767 | 4.7 | 2.36 | 9.28 |
| Obese (>+2sd) | 2 | 101 | 0.6 | 0.07 | 4.76 | 18 | 1003 | 6.0 | 3.71 | 9.65 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 2 | 146 | 2.3 | 0.50 | 9.60 | 2 | 85 | 1.3 | 0.27 | 6.15 |
| Normal (≥-2sd) | 29 | 1694 | 1.8 | 0.99 | 3.09 | 72 | 4166 | 4.3 | 3.03 | 6.11 |

**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 |
| **Negeri Sembilan** | 32 | 2135 | 2.1 | 1.11 | 3.83 |
| **Locality of school** | | | | | |
| Urban | 26 | 1727 | 1.8 | 0.94 | 3.59 |
| Rural | 6 | 408 | 4.3 | 1.41 | 12.56 |
| **Sex** | | | | | |
| Boys | 19 | 1267 | 2.7 | 1.56 | 4.61 |
| Girls | 13 | 867 | 1.5 | 0.63 | 3.77 |
| **Ethnicity** | | | | | |
| Malay | 9 | 635 | 1.0 | 0.45 | 2.20 |
| Chinese | 20 | 1268 | 5.2 | 2.92 | 8.99 |
| Indian | 2 | 143 | 1.1 | 0.22 | 5.25 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 |
| Bumiputera Sarawak | 1 | 88 | 9.5 | 1.14 | 48.91 |
| Others | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | |
| Primary school | 17 | 1215 | 3.3 | 1.39 | 7.60 |
| Secondary school | 15 | 920 | 1.4 | 0.59 | 3.21 |
| **Class** | | | | | |
| Standard 4 | 9 | 524 | 4.2 | 1.38 | 11.92 |
| Standard 5 | 7 | 633 | 5.1 | 2.09 | 11.93 |
| Standard 6 | 1 | 58 | 0.5 | 0.06 | 3.75 |
| Form 1 | 1 | 88 | 0.6 | 0.08 | 4.52 |
| Form 2 | 6 | 376 | 2.8 | 0.90 | 8.57 |
| Form 3 | 4 | 188 | 1.4 | 0.44 | 4.35 |
| Form 4 | 3 | 189 | 1.5 | 0.47 | 4.59 |
| Form 5 | 1 | 78 | 0.6 | 0.07 | 5.05 |
| **School session** | | | | | |
| Morning session | 26 | 1652 | 2.7 | 1.50 | 4.72 |
| Evening session | | | 0.0 | 0.00 | 0.00 |
| Morning and evening session | 6 | 482 | 1.3 | 0.44 | 3.49 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 1 | 208 | 2.9 | 0.38 | 19.63 |
| Normal (≥-2sd - ≤+1sd) | 18 | 1045 | 1.7 | 0.80 | 3.42 |
| Overweight (>+1sd - ≤+2sd) | 4 | 341 | 2.1 | 0.62 | 6.93 |
| Obese (>+2sd) | 9 | 540 | 3.2 | 1.32 | 7.76 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 2 | 104 | 1.6 | 0.35 | 7.07 |
| Normal (≥-2sd) | 30 | 2031 | 2.1 | 1.13 | 3.89 |

**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 |
| **Negeri Sembilan** | 1436 | 80426 | 59.5 | 53.50 | 65.23 | 79 | 5021 | 3.7 | 2.67 | 5.14 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1287 | 72558 | 59.5 | 52.91 | 65.78 | 75 | 4802 | 3.9 | 2.83 | 5.45 |
| Rural | 149 | 7868 | 59.4 | 50.81 | 67.39 | 4 | 219 | 1.7 | 0.74 | 3.65 |
| **Sex** | | | | | | | | | | |
| Boys | 650 | 40474 | 60.0 | 54.31 | 65.51 | 40 | 2841 | 4.2 | 2.60 | 6.76 |
| Girls | 786 | 39952 | 59.0 | 51.51 | 66.02 | 39 | 2180 | 3.2 | 2.02 | 5.08 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1055 | 55184 | 67.7 | 63.36 | 71.77 | 31 | 1878 | 2.3 | 1.53 | 3.46 |
| Chinese | 232 | 16197 | 44.4 | 37.78 | 51.29 | 34 | 2304 | 6.3 | 4.89 | 8.13 |
| Indian | 121 | 7365 | 50.1 | 42.97 | 57.32 | 13 | 784 | 5.3 | 3.03 | 9.23 |
| Bumiputera Sabah | 8 | 512 | 61.1 | 30.79 | 84.71 | 1 | 55 | 6.6 | 0.83 | 37.19 |
| Bumiputera Sarawak | 13 | 798 | 77.6 | 47.63 | 92.93 | | | 0.0 | 0.00 | 0.00 |
| Others | 7 | 370 | 55.0 | 34.06 | 74.34 | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | | | | | | |
| Primary school | 372 | 25775 | 52.5 | 40.95 | 63.86 | 34 | 2416 | 4.9 | 3.02 | 7.92 |
| Secondary school | 1064 | 54652 | 63.5 | 58.18 | 68.44 | 45 | 2606 | 3.0 | 2.06 | 4.43 |
| **Class** | | | | | | | | | | |
| Standard 4 | 131 | 8387 | 50.5 | 38.89 | 62.07 | 13 | 718 | 4.3 | 2.38 | 7.74 |
| Standard 5 | 130 | 8515 | 53.7 | 42.41 | 64.71 | 13 | 1153 | 7.3 | 3.43 | 14.80 |
| Standard 6 | 111 | 8872 | 53.4 | 39.35 | 66.94 | 8 | 544 | 3.3 | 1.18 | 8.73 |
| Form 1 | 152 | 10409 | 57.6 | 52.75 | 62.39 | 11 | 775 | 4.3 | 2.34 | 7.74 |
| Form 2 | 212 | 11582 | 66.8 | 54.97 | 76.80 | 11 | 654 | 3.8 | 2.01 | 6.97 |
| Form 3 | 237 | 10292 | 60.3 | 51.99 | 68.07 | 11 | 506 | 3.0 | 1.67 | 5.21 |
| Form 4 | 201 | 11281 | 68.3 | 60.73 | 74.94 | 5 | 292 | 1.8 | 0.70 | 4.36 |
| Form 5 | 262 | 11088 | 64.8 | 54.76 | 73.60 | 7 | 379 | 2.2 | 1.04 | 4.65 |
| **School session** | | | | | | | | | | |
| Morning session | 792 | 47275 | 57.4 | 50.35 | 64.11 | 43 | 2627 | 3.2 | 2.12 | 4.77 |
| Evening session | 29 | 1953 | 56.5 | 45.15 | 67.13 | 7 | 529 | 15.3 | 5.67 | 35.12 |
| Morning and evening session | 613 | 31089 | 63.3 | 57.73 | 68.63 | 29 | 1865 | 3.8 | 2.26 | 6.32 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 105 | 6625 | 67.5 | 57.44 | 76.15 | 5 | 433 | 4.4 | 1.78 | 10.49 |
| Normal (≥-2sd - ≤+1sd) | 921 | 50944 | 61.0 | 52.95 | 68.44 | 41 | 2464 | 2.9 | 1.90 | 4.56 |
| Overweight (>+1sd - ≤+2sd) | 205 | 11037 | 53.7 | 46.17 | 61.14 | 13 | 872 | 4.2 | 2.46 | 7.24 |
| Obese (>+2sd) | 201 | 11624 | 55.6 | 48.08 | 62.87 | 20 | 1253 | 6.0 | 3.92 | 9.05 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 109 | 5450 | 62.4 | 50.13 | 73.19 | 8 | 419 | 4.8 | 2.62 | 8.61 |
| Normal (≥-2sd) | 1325 | 74895 | 59.3 | 53.30 | 65.02 | 71 | 4603 | 3.6 | 2.59 | 5.10 |

**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 |
| **Negeri Sembilan** | 726 | 42412 | 31.4 | 26.85 | 36.28 | 127 | 7317 | 5.4 | 4.45 | 6.57 |
| **Locality of school** | | | | | | | | | | |
| Urban | 653 | 38212 | 31.3 | 26.37 | 36.78 | 111 | 6351 | 5.2 | 4.24 | 6.38 |
| Rural | 73 | 4200 | 31.7 | 27.46 | 36.24 | 16 | 966 | 7.3 | 5.05 | 10.41 |
| **Sex** | | | | | | | | | | |
| Boys | 320 | 19861 | 29.5 | 25.09 | 34.25 | 67 | 4238 | 6.3 | 4.81 | 8.17 |
| Girls | 406 | 22551 | 33.3 | 27.77 | 39.28 | 60 | 3080 | 4.5 | 3.49 | 5.89 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 389 | 20821 | 25.5 | 22.41 | 28.96 | 69 | 3617 | 4.4 | 3.36 | 5.84 |
| Chinese | 225 | 15385 | 42.2 | 36.15 | 48.51 | 41 | 2564 | 7.0 | 5.29 | 9.30 |
| Indian | 99 | 5509 | 37.5 | 31.28 | 44.18 | 15 | 1029 | 7.0 | 3.88 | 12.32 |
| Bumiputera Sabah | 5 | 271 | 32.3 | 13.35 | 59.67 | | | 0.0 | 0.00 | 0.00 |
| Bumiputera Sarawak | 2 | 123 | 12.0 | 2.77 | 39.37 | 2 | 108 | 10.5 | 1.89 | 41.44 |
| Others | 6 | 302 | 45.0 | 25.66 | 65.94 | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | | | | | | |
| Primary school | 260 | 18391 | 37.5 | 29.00 | 46.82 | 38 | 2480 | 5.1 | 4.27 | 5.98 |
| Secondary school | 466 | 24021 | 27.9 | 24.00 | 32.15 | 89 | 4838 | 5.6 | 4.25 | 7.38 |
| **Class** | | | | | | | | | | |
| Standard 4 | 95 | 6356 | 38.3 | 27.82 | 49.94 | 17 | 1145 | 6.9 | 5.58 | 8.49 |
| Standard 5 | 83 | 5398 | 34.1 | 25.74 | 43.52 | 13 | 776 | 4.9 | 3.27 | 7.28 |
| Standard 6 | 82 | 6637 | 40.0 | 30.98 | 49.66 | 8 | 559 | 3.4 | 1.46 | 7.55 |
| Form 1 | 88 | 5731 | 31.7 | 26.76 | 37.16 | 16 | 1143 | 6.3 | 4.14 | 9.56 |
| Form 2 | 77 | 4447 | 25.6 | 17.91 | 35.28 | 12 | 659 | 3.8 | 2.07 | 6.88 |
| Form 3 | 120 | 5300 | 31.1 | 24.87 | 38.00 | 21 | 967 | 5.7 | 2.97 | 10.56 |
| Form 4 | 72 | 4042 | 24.5 | 18.52 | 31.54 | 15 | 914 | 5.5 | 2.79 | 10.65 |
| Form 5 | 109 | 4502 | 26.3 | 19.84 | 33.95 | 25 | 1154 | 6.7 | 2.94 | 14.71 |
| **School session** | | | | | | | | | | |
| Morning session | 448 | 27519 | 33.4 | 27.50 | 39.86 | 84 | 4974 | 6.0 | 4.46 | 8.13 |
| Evening session | 16 | 978 | 28.3 | 17.76 | 41.80 | | | 0.0 | 0.00 | 0.00 |
| Morning and evening session | 261 | 13837 | 28.2 | 23.90 | 32.93 | 42 | 2286 | 4.7 | 3.47 | 6.22 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 39 | 2285 | 23.3 | 14.74 | 34.75 | 8 | 473 | 4.8 | 2.34 | 9.68 |
| Normal (≥-2sd - ≤+1sd) | 428 | 25539 | 30.6 | 24.66 | 37.18 | 82 | 4609 | 5.5 | 4.15 | 7.30 |
| Overweight (>+1sd - ≤+2sd) | 132 | 7406 | 36.1 | 30.39 | 42.15 | 20 | 1223 | 6.0 | 3.96 | 8.86 |
| Obese (>+2sd) | 124 | 7018 | 33.6 | 26.82 | 41.06 | 17 | 1012 | 4.8 | 3.04 | 7.63 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 41 | 2268 | 25.9 | 17.86 | 36.09 | 12 | 604 | 6.9 | 3.85 | 12.08 |
| Normal (≥-2sd) | 684 | 40112 | 31.8 | 27.28 | 36.59 | 115 | 6714 | 5.3 | 4.25 | 6.62 |

**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 |
| **Negeri Sembilan** | 80 | 5153 | 3.7 | 2.73 | 5.04 | 284 | 16684 | 12.0 | 9.84 | 14.64 |
| **Locality of school** | | | | | | | | | | |
| Urban | 73 | 4764 | 3.8 | 2.75 | 5.27 | 262 | 15360 | 12.3 | 9.94 | 15.12 |
| Rural | 7 | 388 | 2.8 | 2.17 | 3.66 | 22 | 1324 | 9.6 | 6.09 | 14.88 |
| **Sex** | | | | | | | | | | |
| Boys | 54 | 3444 | 4.9 | 3.62 | 6.73 | 160 | 9904 | 14.2 | 11.26 | 17.81 |
| Girls | 26 | 1709 | 2.5 | 1.42 | 4.29 | 124 | 6780 | 9.8 | 7.63 | 12.56 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 40 | 2221 | 2.7 | 1.62 | 4.41 | 173 | 9559 | 11.5 | 8.64 | 15.26 |
| Chinese | 31 | 2405 | 6.3 | 5.06 | 7.86 | 74 | 4741 | 12.4 | 8.46 | 17.95 |
| Indian | 8 | 467 | 3.1 | 1.56 | 5.92 | 28 | 1861 | 12.2 | 9.25 | 15.94 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 | 2 | 112 | 13.4 | 3.35 | 40.67 |
| Bumiputera Sarawak | 1 | 60 | 5.7 | 0.78 | 32.06 | 5 | 286 | 27.5 | 7.28 | 64.68 |
| Others | | | 0.0 | 0.00 | 0.00 | 2 | 125 | 18.5 | 3.81 | 56.60 |
| **School level** | | | | | | | | | | |
| Primary school | 42 | 2997 | 5.9 | 4.83 | 7.30 | 118 | 7456 | 14.8 | 10.71 | 20.07 |
| Secondary school | 38 | 2156 | 2.4 | 1.67 | 3.56 | 166 | 9227 | 10.5 | 8.40 | 12.95 |
| **Class** | | | | | | | | | | |
| Standard 4 | 24 | 1553 | 9.1 | 6.77 | 12.08 | 47 | 2798 | 16.4 | 10.97 | 23.72 |
| Standard 5 | 10 | 905 | 5.4 | 2.75 | 10.50 | 43 | 2489 | 15.0 | 8.68 | 24.62 |
| Standard 6 | 8 | 539 | 3.2 | 1.36 | 7.48 | 28 | 2169 | 13.0 | 9.94 | 16.77 |
| Form 1 | 7 | 492 | 2.6 | 1.15 | 5.86 | 21 | 1570 | 8.4 | 5.24 | 13.07 |
| Form 2 | 6 | 317 | 1.8 | 0.95 | 3.39 | 40 | 2287 | 13.0 | 10.01 | 16.70 |
| Form 3 | 11 | 519 | 3.0 | 1.66 | 5.29 | 39 | 1863 | 10.7 | 7.56 | 14.90 |
| Form 4 | 4 | 216 | 1.3 | 0.51 | 3.16 | 27 | 1564 | 9.3 | 7.01 | 12.19 |
| Form 5 | 10 | 613 | 3.5 | 1.75 | 6.83 | 39 | 1943 | 11.1 | 7.78 | 15.50 |
| **School session** | | | | | | | | | | |
| Morning session | 54 | 3704 | 4.4 | 3.00 | 6.32 | 171 | 10195 | 12.0 | 9.95 | 14.48 |
| Evening session | 1 | 56 | 1.6 | 0.43 | 5.56 | 10 | 625 | 17.6 | 10.33 | 28.45 |
| Morning and evening session | 25 | 1392 | 2.8 | 1.60 | 4.78 | 103 | 5863 | 11.7 | 8.46 | 15.96 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 5 | 487 | 5.0 | 2.20 | 10.96 | 32 | 2181 | 22.4 | 16.45 | 29.68 |
| Normal (≥-2sd - ≤+1sd) | 51 | 3110 | 3.6 | 2.47 | 5.25 | 177 | 10423 | 12.1 | 9.80 | 14.85 |
| Overweight (>+1sd - ≤+2sd) | 14 | 898 | 4.3 | 2.35 | 7.84 | 38 | 2037 | 9.8 | 6.12 | 15.34 |
| Obese (>+2sd) | 9 | 601 | 2.8 | 1.34 | 5.67 | 36 | 1992 | 9.2 | 6.44 | 13.03 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 7 | 425 | 4.7 | 2.10 | 10.01 | 24 | 1276 | 14.0 | 9.99 | 19.22 |
| Normal (≥-2sd) | 73 | 4728 | 3.7 | 2.66 | 4.99 | 260 | 15408 | 11.9 | 9.67 | 14.57 |

**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 |
| **Negeri Sembilan** | 1755 | 100670 | 72.6 | 69.24 | 75.73 | 302 | 16150 | 11.6 | 8.80 | 15.27 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1583 | 91341 | 73.1 | 69.55 | 76.44 | 251 | 13426 | 10.8 | 8.07 | 14.18 |
| Rural | 172 | 9329 | 67.8 | 60.70 | 74.11 | 51 | 2723 | 19.8 | 10.50 | 34.15 |
| **Sex** | | | | | | | | | | |
| Boys | 772 | 48756 | 70.0 | 64.84 | 74.73 | 119 | 7530 | 10.8 | 8.17 | 14.18 |
| Girls | 983 | 51914 | 75.2 | 71.47 | 78.61 | 183 | 8619 | 12.5 | 8.51 | 17.97 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1166 | 62095 | 75.0 | 71.10 | 78.56 | 191 | 8900 | 10.8 | 7.04 | 16.08 |
| Chinese | 372 | 25953 | 68.1 | 61.53 | 74.09 | 74 | 4989 | 13.1 | 9.35 | 18.06 |
| Indian | 188 | 10970 | 72.0 | 65.73 | 77.48 | 32 | 1943 | 12.7 | 8.66 | 18.37 |
| Bumiputera Sabah | 10 | 589 | 70.2 | 42.07 | 88.44 | 2 | 138 | 16.4 | 3.45 | 51.97 |
| Bumiputera Sarawak | 9 | 553 | 53.1 | 28.98 | 75.82 | 2 | 142 | 13.7 | 3.27 | 42.62 |
| Others | 10 | 511 | 75.9 | 43.50 | 92.82 | 1 | 37 | 5.5 | 0.78 | 30.43 |
| **School level** | | | | | | | | | | |
| Primary school | 495 | 35527 | 70.5 | 65.16 | 75.26 | 64 | 4442 | 8.8 | 5.34 | 14.20 |
| Secondary school | 1260 | 65143 | 73.8 | 69.56 | 77.69 | 238 | 11708 | 13.3 | 9.70 | 17.89 |
| **Class** | | | | | | | | | | |
| Standard 4 | 167 | 11269 | 65.9 | 56.95 | 73.91 | 24 | 1471 | 8.6 | 4.51 | 15.80 |
| Standard 5 | 178 | 12015 | 72.3 | 67.27 | 76.85 | 16 | 1207 | 7.3 | 4.40 | 11.77 |
| Standard 6 | 150 | 12242 | 73.2 | 62.39 | 81.87 | 24 | 1764 | 10.6 | 4.30 | 23.65 |
| Form 1 | 204 | 13674 | 72.8 | 65.60 | 78.99 | 45 | 3046 | 16.2 | 10.67 | 23.87 |
| Form 2 | 241 | 13350 | 75.8 | 70.80 | 80.24 | 30 | 1650 | 9.4 | 5.88 | 14.60 |
| Form 3 | 295 | 12917 | 74.1 | 69.04 | 78.62 | 52 | 2129 | 12.2 | 8.03 | 18.15 |
| Form 4 | 222 | 12644 | 75.0 | 67.45 | 81.32 | 45 | 2429 | 14.4 | 8.29 | 23.89 |
| Form 5 | 298 | 12559 | 71.5 | 65.15 | 77.07 | 66 | 2454 | 14.0 | 8.71 | 21.66 |
| **School session** | | | | | | | | | | |
| Morning session | 1017 | 61810 | 72.9 | 69.31 | 76.28 | 159 | 9038 | 10.7 | 7.76 | 14.49 |
| Evening session | 37 | 2397 | 67.5 | 54.39 | 78.41 | 5 | 470 | 13.2 | 4.88 | 31.24 |
| Morning and evening session | 698 | 36274 | 72.4 | 67.84 | 76.50 | 137 | 6587 | 13.1 | 8.95 | 18.89 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 101 | 6129 | 62.9 | 54.25 | 70.77 | 18 | 949 | 9.7 | 5.76 | 16.00 |
| Normal (≥-2sd - ≤+1sd) | 1096 | 62750 | 72.8 | 68.82 | 76.49 | 187 | 9881 | 11.5 | 8.55 | 15.21 |
| Overweight (>+1sd - ≤+2sd) | 274 | 15113 | 72.7 | 66.95 | 77.85 | 49 | 2729 | 13.1 | 8.86 | 19.04 |
| Obese (>+2sd) | 281 | 16514 | 76.4 | 72.23 | 80.15 | 46 | 2503 | 11.6 | 7.78 | 16.89 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 125 | 6258 | 68.5 | 62.31 | 74.15 | 23 | 1172 | 12.8 | 8.15 | 19.65 |
| Normal (≥-2sd) | 1628 | 94331 | 72.9 | 69.46 | 76.07 | 278 | 14945 | 11.5 | 8.68 | 15.21 |

**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 | Upper | Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 143 | 7346 | 5.3 | 4.24 | 6.59 | 489 | 26060 | 18.8 | 15.45 | 22.63 |
| **Locality of school** | | | | | | | | | | |
| Urban | 128 | 6569 | 5.3 | 4.11 | 6.70 | 450 | 24026 | 19.2 | 15.61 | 23.44 |
| Rural | 15 | 777 | 5.6 | 4.50 | 7.07 | 39 | 2034 | 14.8 | 11.43 | 18.90 |
| **Sex** | | | | | | | | | | |
| Boys | 69 | 3907 | 5.6 | 4.24 | 7.39 | 214 | 13046 | 18.7 | 15.57 | 22.37 |
| Girls | 74 | 3439 | 5.0 | 3.61 | 6.83 | 275 | 13014 | 18.8 | 14.31 | 24.37 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 92 | 4382 | 5.3 | 4.00 | 6.94 | 366 | 19058 | 23.0 | 20.33 | 25.85 |
| Chinese | 35 | 2086 | 5.5 | 3.65 | 8.16 | 69 | 4102 | 10.8 | 7.29 | 15.71 |
| Indian | 12 | 613 | 4.0 | 2.66 | 6.05 | 42 | 2256 | 14.8 | 9.48 | 22.36 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 | 4 | 218 | 26.0 | 9.15 | 54.93 |
| Bumiputera Sarawak | 4 | 265 | 25.4 | 7.84 | 57.75 | 4 | 243 | 23.4 | 8.92 | 48.69 |
| Others | | | 0.0 | 0.00 | 0.00 | 4 | 184 | 27.3 | 17.09 | 40.65 |
| **School level** | | | | | | | | | | |
| Primary school | 41 | 2509 | 5.0 | 3.59 | 6.82 | 121 | 7490 | 14.8 | 9.37 | 22.65 |
| Secondary school | 102 | 4837 | 5.5 | 4.11 | 7.28 | 368 | 18570 | 21.1 | 17.89 | 24.61 |
| **Class** | | | | | | | | | | |
| Standard 4 | 22 | 1285 | 7.5 | 4.58 | 12.08 | 45 | 2576 | 15.1 | 8.34 | 25.69 |
| Standard 5 | 12 | 736 | 4.4 | 3.00 | 6.51 | 43 | 2296 | 13.8 | 6.71 | 26.45 |
| Standard 6 | 7 | 488 | 2.9 | 1.49 | 5.54 | 33 | 2619 | 15.5 | 10.62 | 22.15 |
| Form 1 | 9 | 607 | 3.2 | 1.08 | 9.23 | 48 | 3392 | 18.1 | 13.61 | 23.57 |
| Form 2 | 15 | 777 | 4.4 | 2.14 | 8.82 | 60 | 3275 | 18.5 | 13.79 | 24.45 |
| Form 3 | 37 | 1584 | 9.1 | 6.32 | 12.87 | 77 | 3385 | 19.4 | 14.66 | 25.22 |
| Form 4 | 16 | 839 | 5.0 | 2.80 | 8.76 | 75 | 4047 | 24.1 | 18.50 | 30.79 |
| Form 5 | 25 | 1031 | 5.9 | 3.62 | 9.42 | 108 | 4471 | 25.5 | 19.02 | 33.27 |
| **School session** | | | | | | | | | | |
| Morning session | 78 | 4173 | 4.9 | 3.97 | 6.08 | 269 | 15261 | 18.0 | 14.29 | 22.40 |
| Evening session | 1 | 52 | 1.5 | 0.14 | 14.08 | 7 | 419 | 11.8 | 7.22 | 18.75 |
| Morning and evening session | 64 | 3121 | 6.2 | 4.45 | 8.65 | 212 | 10325 | 20.6 | 15.94 | 26.18 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 16 | 789 | 8.0 | 4.36 | 14.37 | 26 | 1448 | 14.8 | 8.86 | 23.57 |
| Normal (≥-2sd - ≤+1sd) | 83 | 4329 | 5.0 | 3.90 | 6.43 | 327 | 17641 | 20.5 | 16.48 | 25.09 |
| Overweight (>+1sd - ≤+2sd) | 23 | 1153 | 5.5 | 3.20 | 9.44 | 73 | 3612 | 17.4 | 12.77 | 23.17 |
| Obese (>+2sd) | 21 | 1075 | 5.0 | 3.26 | 7.57 | 63 | 3359 | 15.6 | 11.42 | 20.96 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 8 | 387 | 4.2 | 2.12 | 8.29 | 38 | 1940 | 21.2 | 14.56 | 29.92 |
| Normal (≥-2sd) | 135 | 6959 | 5.4 | 4.22 | 6.83 | 451 | 24120 | 18.6 | 15.22 | 22.58 |

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

| Characteristics | Frequency of consuming snack foods per week | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1-3 times | | | 95% CI | | Never | | | 95% CI | |
| | Count | Estimated Population | Prevalence (%) | Lower | Upper | Count | Estimated Population | Prevalence (%) | Lower | Upper |
| **Negeri Sembilan** | 1674 | 97465 | 70.2 | 67.04 | 73.25 | 116 | 7889 | 5.7 | 3.55 | 8.98 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1488 | 87313 | 69.9 | 66.34 | 73.15 | 104 | 7088 | 5.7 | 3.39 | 9.33 |
| Rural | 186 | 10152 | 73.8 | 73.44 | 74.06 | 12 | 801 | 5.8 | 2.29 | 14.01 |
| **Sex** | | | | | | | | | | |
| Boys | 750 | 47813 | 68.7 | 64.70 | 72.36 | 72 | 4875 | 7.0 | 4.63 | 10.45 |
| Girls | 924 | 49652 | 71.8 | 67.60 | 75.72 | 44 | 3014 | 4.4 | 2.31 | 8.09 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1080 | 57479 | 69.3 | 66.43 | 72.00 | 35 | 2045 | 2.5 | 1.79 | 3.38 |
| Chinese | 382 | 27171 | 71.5 | 63.09 | 78.65 | 63 | 4640 | 12.2 | 8.25 | 17.71 |
| Indian | 185 | 11246 | 73.8 | 65.99 | 80.29 | 17 | 1131 | 7.4 | 5.67 | 9.64 |
| Bumiputera Sabah | 9 | 547 | 65.2 | 42.28 | 82.78 | 1 | 74 | 8.8 | 1.31 | 41.43 |
| Bumiputera Sarawak | 9 | 533 | 51.2 | 27.19 | 74.68 | | | 0.0 | 0.00 | 0.00 |
| Others | 9 | 489 | 72.7 | 59.35 | 82.91 | | | 0.0 | 0.00 | 0.00 |
| **School level** | | | | | | | | | | |
| Primary school | 498 | 36042 | 71.3 | 64.00 | 77.65 | 60 | 4504 | 8.9 | 4.50 | 16.87 |
| Secondary school | 1176 | 61423 | 69.6 | 66.78 | 72.34 | 56 | 3386 | 3.8 | 2.64 | 5.54 |
| **Class** | | | | | | | | | | |
| Standard 4 | 171 | 11729 | 68.6 | 55.95 | 78.95 | 24 | 1514 | 8.8 | 4.01 | 18.43 |
| Standard 5 | 172 | 12157 | 73.3 | 64.11 | 80.91 | 19 | 1388 | 8.4 | 3.72 | 17.78 |
| Standard 6 | 155 | 12157 | 72.1 | 63.51 | 79.29 | 17 | 1602 | 9.5 | 4.45 | 19.15 |
| Form 1 | 206 | 13777 | 73.4 | 64.20 | 80.86 | 14 | 1007 | 5.4 | 4.09 | 6.99 |
| Form 2 | 234 | 13079 | 74.0 | 69.81 | 77.83 | 9 | 539 | 3.0 | 1.44 | 6.34 |
| Form 3 | 272 | 11883 | 68.1 | 62.51 | 73.24 | 12 | 594 | 3.4 | 1.90 | 6.05 |
| Form 4 | 197 | 11315 | 67.4 | 59.76 | 74.25 | 9 | 582 | 3.5 | 1.62 | 7.24 |
| Form 5 | 267 | 11370 | 64.8 | 56.47 | 72.38 | 12 | 664 | 3.8 | 2.15 | 6.58 |
| **School session** | | | | | | | | | | |
| Morning session | 972 | 59734 | 70.4 | 66.18 | 74.33 | 83 | 5660 | 6.7 | 3.85 | 11.32 |
| Evening session | 40 | 2635 | 74.3 | 61.42 | 83.95 | 5 | 442 | 12.5 | 4.61 | 29.50 |
| Morning and evening session | 659 | 34906 | 69.6 | 64.10 | 74.63 | 28 | 1787 | 3.6 | 2.26 | 5.58 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 108 | 6946 | 70.8 | 63.22 | 77.32 | 7 | 632 | 6.4 | 2.74 | 14.41 |
| Normal (≥-2sd - ≤+1sd) | 1039 | 60128 | 69.7 | 65.61 | 73.52 | 64 | 4159 | 4.8 | 2.96 | 7.76 |
| Overweight (>+1sd - ≤+2sd) | 253 | 14209 | 68.3 | 61.82 | 74.16 | 26 | 1828 | 8.8 | 4.53 | 16.37 |
| Obese (>+2sd) | 267 | 15822 | 73.5 | 68.11 | 78.28 | 19 | 1270 | 5.9 | 3.88 | 8.87 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 127 | 6438 | 70.5 | 62.97 | 77.06 | 6 | 366 | 4.0 | 1.35 | 11.34 |
| Normal (≥-2sd) | 1544 | 90914 | 70.2 | 66.83 | 73.36 | 110 | 7523 | 5.8 | 3.71 | 8.98 |

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

| Characteristics | Bread/ bun/ sandwich | | | | | French fries | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Percentage (%) | 95% CI Lower | Upper | Count | Estimated Population | Percentage (%) | 95% CI Lower | Upper |
| **Negeri Sembilan** | 843 | 46561 | 33.5 | 29.20 | 38.18 | 365 | 21257 | 15.3 | 13.48 | 17.34 |
| **Locality of school** | | | | | | | | | | |
| Urban | 761 | 42029 | 33.6 | 28.80 | 38.75 | 334 | 19576 | 15.6 | 13.70 | 17.81 |
| Rural | 82 | 4532 | 33.0 | 31.58 | 34.55 | 31 | 1681 | 12.3 | 10.88 | 13.79 |
| **Sex** | | | | | | | | | | |
| Boys | 391 | 24617 | 35.4 | 31.54 | 39.41 | 182 | 11045 | 15.9 | 13.31 | 18.81 |
| Girls | 452 | 21944 | 31.7 | 25.70 | 38.37 | 183 | 10212 | 14.8 | 12.35 | 17.53 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 581 | 30534 | 36.8 | 32.11 | 41.65 | 242 | 13551 | 16.3 | 14.02 | 18.89 |
| Chinese | 148 | 9322 | 24.6 | 17.62 | 33.23 | 83 | 5350 | 14.1 | 11.10 | 17.79 |
| Indian | 97 | 5742 | 37.7 | 27.68 | 48.81 | 34 | 2022 | 13.3 | 8.87 | 19.36 |
| Bumiputera Sabah | 5 | 299 | 35.7 | 17.39 | 59.48 | 2 | 106 | 12.6 | 2.75 | 42.49 |
| Bumiputera Sarawak | 2 | 136 | 12.3 | 3.18 | 37.43 | 4 | 229 | 20.7 | 9.19 | 40.39 |
| Others | 10 | 528 | 78.5 | 58.83 | 90.32 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 185 | 12728 | 25.2 | 20.67 | 30.37 | 133 | 8744 | 17.3 | 13.48 | 21.98 |
| Secondary school | 658 | 33832 | 38.3 | 34.36 | 42.39 | 232 | 12513 | 14.2 | 12.73 | 15.74 |
| **Class** | | | | | | | | | | |
| Standard 4 | 62 | 4351 | 25.2 | 18.80 | 32.88 | 54 | 3407 | 19.7 | 16.07 | 23.97 |
| Standard 5 | 59 | 3610 | 22.1 | 15.92 | 29.74 | 39 | 2494 | 15.2 | 10.58 | 21.48 |
| Standard 6 | 64 | 4767 | 28.3 | 20.98 | 36.95 | 40 | 2844 | 16.9 | 11.48 | 24.11 |
| Form 1 | 89 | 6035 | 32.1 | 25.24 | 39.89 | 37 | 2511 | 13.4 | 8.93 | 19.54 |
| Form 2 | 111 | 6140 | 34.7 | 28.43 | 41.45 | 54 | 2931 | 16.5 | 12.84 | 21.06 |
| Form 3 | 167 | 7163 | 40.9 | 32.13 | 50.35 | 54 | 2489 | 14.2 | 10.65 | 18.75 |
| Form 4 | 129 | 7522 | 44.8 | 35.57 | 54.35 | 37 | 2155 | 12.8 | 9.54 | 17.03 |
| Form 5 | 162 | 6972 | 39.8 | 32.93 | 47.01 | 50 | 2426 | 13.8 | 9.94 | 18.94 |
| **School session** | | | | | | | | | | |
| Morning session | 492 | 28173 | 33.2 | 27.70 | 39.26 | 233 | 14161 | 16.7 | 14.65 | 18.98 |
| Evening session | 22 | 1606 | 45.3 | 30.01 | 61.46 | 12 | 721 | 20.3 | 13.09 | 30.15 |
| Morning and evening session | 328 | 16727 | 33.3 | 29.33 | 37.52 | 120 | 6375 | 12.7 | 9.93 | 16.07 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 53 | 3212 | 33.0 | 24.95 | 42.09 | 20 | 1142 | 11.7 | 7.42 | 18.00 |
| Normal (≥-2sd - ≤+1sd) | 543 | 29881 | 34.7 | 29.77 | 39.93 | 234 | 13723 | 15.9 | 13.99 | 18.07 |
| Overweight (>+1sd - ≤+2sd) | 125 | 6693 | 32.0 | 26.52 | 38.04 | 54 | 3204 | 15.3 | 11.03 | 20.89 |
| Obese (>+2sd) | 119 | 6646 | 30.7 | 25.72 | 36.22 | 56 | 3132 | 14.5 | 11.08 | 18.69 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 52 | 2366 | 25.9 | 16.82 | 37.69 | 27 | 1418 | 15.5 | 10.05 | 23.22 |
| Normal (≥-2sd) | 788 | 44081 | 34.0 | 29.63 | 38.70 | 338 | 19839 | 15.3 | 13.47 | 17.35 |

**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 |
| **Negeri Sembilan** | 526 | 27933 | 20.1 | 16.39 | 24.45 | 478 | 28644 | 20.6 | 15.73 | 26.58 |
| **Locality of school** | | | | | | | | | | |
| Urban | 481 | 25702 | 20.5 | 16.49 | 25.29 | 431 | 26018 | 20.8 | 15.46 | 27.37 |
| Rural | 45 | 2231 | 16.3 | 12.39 | 21.07 | 47 | 2626 | 19.2 | 12.95 | 27.39 |
| **Sex** | | | | | | | | | | |
| Boys | 186 | 11525 | 16.6 | 13.91 | 19.60 | 191 | 11897 | 17.1 | 13.85 | 20.91 |
| Girls | 340 | 16409 | 23.7 | 18.12 | 30.37 | 287 | 16747 | 24.2 | 16.90 | 33.37 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 347 | 16698 | 20.1 | 15.03 | 26.34 | 233 | 12404 | 14.9 | 11.82 | 18.69 |
| Chinese | 126 | 8269 | 21.8 | 15.92 | 29.16 | 193 | 13003 | 34.3 | 23.84 | 46.59 |
| Indian | 43 | 2434 | 16.0 | 11.38 | 21.94 | 48 | 2961 | 19.4 | 15.23 | 24.44 |
| Bumiputera Sabah | 5 | 263 | 31.4 | 12.08 | 60.46 | 1 | 74 | 8.8 | 1.31 | 41.43 |
| Bumiputera Sarawak | 4 | 231 | 21.0 | 7.56 | 46.28 | 3 | 202 | 18.3 | 6.80 | 40.89 |
| Others | 1 | 37 | 5.5 | 0.78 | 30.43 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 106 | 8269 | 16.4 | 12.16 | 21.70 | 220 | 15061 | 29.8 | 20.23 | 41.62 |
| Secondary school | 420 | 19664 | 22.3 | 17.26 | 28.21 | 258 | 13582 | 15.4 | 12.96 | 18.15 |
| **Class** | | | | | | | | | | |
| Standard 4 | 32 | 2330 | 13.5 | 9.29 | 19.19 | 90 | 5783 | 33.5 | 22.73 | 46.27 |
| Standard 5 | 37 | 2702 | 16.5 | 12.76 | 21.12 | 76 | 4978 | 30.4 | 18.33 | 46.03 |
| Standard 6 | 37 | 3237 | 19.2 | 13.24 | 27.02 | 54 | 4300 | 25.5 | 17.41 | 35.76 |
| Form 1 | 49 | 3037 | 16.2 | 11.44 | 22.37 | 55 | 3748 | 20.0 | 15.64 | 25.11 |
| Form 2 | 73 | 3971 | 22.4 | 16.37 | 29.88 | 46 | 2656 | 15.0 | 11.03 | 20.04 |
| Form 3 | 100 | 4288 | 24.5 | 19.63 | 30.13 | 64 | 2674 | 15.3 | 10.95 | 20.93 |
| Form 4 | 60 | 3118 | 18.6 | 10.59 | 30.47 | 37 | 2103 | 12.5 | 9.51 | 16.31 |
| Form 5 | 138 | 5250 | 29.9 | 20.18 | 41.95 | 56 | 2401 | 13.7 | 9.05 | 20.19 |
| **School session** | | | | | | | | | | |
| Morning session | 264 | 15671 | 18.5 | 15.48 | 21.92 | 287 | 18189 | 21.5 | 14.67 | 30.25 |
| Evening session | 7 | 426 | 12.0 | 6.75 | 20.48 | 11 | 775 | 21.8 | 10.44 | 40.11 |
| Morning and evening session | 253 | 11703 | 23.3 | 16.02 | 32.60 | 180 | 9680 | 19.3 | 15.26 | 24.03 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 29 | 1571 | 16.1 | 10.17 | 24.60 | 32 | 2077 | 21.3 | 13.61 | 31.77 |
| Normal (≥-2sd - ≤+1sd) | 342 | 17793 | 20.7 | 16.39 | 25.68 | 285 | 17213 | 20.0 | 15.52 | 25.33 |
| Overweight (>+1sd - ≤+2sd) | 72 | 3935 | 18.8 | 13.23 | 26.05 | 82 | 4767 | 22.8 | 15.47 | 32.25 |
| Obese (>+2sd) | 81 | 4514 | 20.9 | 14.96 | 28.33 | 79 | 4587 | 21.2 | 15.14 | 28.86 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 37 | 1812 | 19.8 | 14.99 | 25.80 | 33 | 1757 | 19.2 | 12.95 | 27.62 |
| Normal (≥-2sd) | 489 | 26121 | 20.2 | 16.29 | 24.67 | 445 | 26886 | 20.7 | 15.79 | 26.78 |

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

| Characteristics | Type of snack foods | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Nuts | | | | | Fish cracker | | | | |
| | Count | Estimated Population | Percentage (%) | 95% CI | | Count | Estimated Population | Percentage (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 62 | 3962 | 2.9 | 2.02 | 4.02 | 366 | 20007 | 14.4 | 11.35 | 18.13 |
| **Locality of school** | | | | | | | | | | |
| Urban | 59 | 3775 | 3.0 | 2.13 | 4.26 | 326 | 17948 | 14.3 | 11.11 | 18.33 |
| Rural | 3 | 187 | 1.4 | 0.38 | 4.82 | 40 | 2059 | 15.0 | 7.76 | 27.06 |
| **Sex** | | | | | | | | | | |
| Boys | 35 | 2182 | 3.1 | 2.01 | 4.86 | 171 | 10549 | 15.2 | 11.67 | 19.46 |
| Girls | 27 | 1780 | 2.6 | 1.30 | 5.02 | 195 | 9457 | 13.7 | 10.38 | 17.78 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 34 | 1797 | 2.2 | 1.38 | 3.38 | 310 | 16479 | 19.8 | 18.12 | 21.67 |
| Chinese | 14 | 1178 | 3.1 | 1.83 | 5.23 | 25 | 1684 | 4.4 | 2.96 | 6.63 |
| Indian | 10 | 704 | 4.6 | 1.64 | 12.29 | 26 | 1603 | 10.5 | 7.98 | 13.74 |
| Bumiputera Sabah | 2 | 144 | 17.1 | 3.75 | 52.36 | | | | | |
| Bumiputera Sarawak | | | | | | 4 | 206 | 18.7 | 6.26 | 44.29 |
| Others | 2 | 138 | 20.6 | 5.76 | 52.38 | 1 | 33 | 5.0 | 0.55 | 32.92 |
| **School level** | | | | | | | | | | |
| Primary school | 17 | 1476 | 2.9 | 1.62 | 5.23 | 75 | 5012 | 9.9 | 5.55 | 17.13 |
| Secondary school | 45 | 2486 | 2.8 | 1.84 | 4.28 | 291 | 14994 | 17.0 | 13.96 | 20.49 |
| **Class** | | | | | | | | | | |
| Standard 4 | 8 | 942 | 5.5 | 1.51 | 17.86 | 13 | 747 | 4.3 | 2.27 | 8.08 |
| Standard 5 | 226 | 14951 | 1.2 | 0.46 | 3.32 | 29 | 1895 | 11.6 | 7.28 | 17.94 |
| Standard 6 | 5 | 330 | 2.0 | 1.06 | 3.60 | 33 | 2370 | 14.1 | 6.47 | 27.92 |
| Form 1 | 10 | 746 | 4.0 | 1.60 | 9.53 | 43 | 2863 | 15.2 | 10.40 | 21.78 |
| Form 2 | 7 | 400 | 2.3 | 1.02 | 4.94 | 54 | 2951 | 16.7 | 11.21 | 24.03 |
| Form 3 | 12 | 498 | 2.8 | 1.48 | 5.41 | 67 | 2901 | 16.6 | 11.74 | 22.89 |
| Form 4 | 8 | 438 | 2.6 | 1.17 | 5.69 | 59 | 3355 | 20.0 | 15.87 | 24.82 |
| Form 5 | 8 | 403 | 2.3 | 0.89 | 5.83 | 68 | 2925 | 16.7 | 12.49 | 21.91 |
| **School session** | | | | | | | | | | |
| Morning session | 43 | 2922 | 3.4 | 2.40 | 4.92 | 201 | 11674 | 13.8 | 10.16 | 18.40 |
| Evening session | 2 | 107 | 3.0 | 0.99 | 8.81 | 2 | 112 | 3.1 | 0.86 | 10.89 |
| Morning and evening session | 17 | 933 | 1.9 | 1.05 | 3.27 | 162 | 8163 | 16.2 | 12.94 | 20.21 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 2 | 105 | 1.1 | 0.24 | 4.74 | 22 | 1230 | 12.6 | 6.87 | 22.03 |
| Normal (≥-2sd - ≤+1sd) | 33 | 2189 | 2.5 | 1.71 | 3.75 | 233 | 12712 | 14.8 | 11.66 | 18.50 |
| Overweight (>+1sd - ≤+2sd) | 9 | 629 | 3.0 | 1.31 | 6.74 | 55 | 2870 | 13.7 | 9.70 | 19.07 |
| Obese (>+2sd) | 18 | 1039 | 4.8 | 3.22 | 7.11 | 56 | 3194 | 14.8 | 9.99 | 21.29 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 2 | 127 | 1.4 | 0.30 | 6.10 | 38 | 1926 | 21.1 | 14.85 | 29.08 |
| Normal (≥-2sd) | 60 | 3835 | 3.0 | 2.11 | 4.14 | 328 | 18080 | 14.0 | 10.93 | 17.65 |

**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 |
| **Negeri Sembilan** | 325 | 18140 | 13.1 | 10.55 | 16.07 |
| **Locality of school** | | | | | |
| Urban | 282 | 15933 | 12.7 | 10.10 | 15.93 |
| Rural | 43 | 2207 | 16.1 | 9.69 | 25.53 |
| **Sex** | | | | | |
| Boys | 127 | 7660 | 11.0 | 8.73 | 13.79 |
| Girls | 198 | 10480 | 15.1 | 11.94 | 19.01 |
| **Ethnicity** | | | | | |
| Malay | 205 | 10734 | 12.9 | 9.77 | 16.90 |
| Chinese | 82 | 5241 | 13.8 | 9.99 | 18.85 |
| Indian | 34 | 1889 | 12.4 | 8.31 | 18.08 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 4 | 275 | 24.9 | 6.62 | 60.86 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 116 | 7623 | 15.1 | 9.98 | 22.20 |
| Secondary school | 209 | 10517 | 11.9 | 9.74 | 14.47 |
| **Class** | | | | | |
| Standard 4 | 46 | 2665 | 15.4 | 8.24 | 27.05 |
| Standard 5 | 38 | 2629 | 16.1 | 10.81 | 23.24 |
| Standard 6 | 32 | 2328 | 13.8 | 8.05 | 22.68 |
| Form 1 | 38 | 2556 | 13.6 | 9.45 | 19.21 |
| Form 2 | 37 | 1976 | 11.2 | 7.24 | 16.79 |
| Form 3 | 50 | 2236 | 12.8 | 9.25 | 17.39 |
| Form 4 | 40 | 2110 | 12.6 | 8.28 | 18.59 |
| Form 5 | 44 | 1639 | 9.3 | 6.94 | 12.49 |
| **School session** | | | | | |
| Morning session | 166 | 9789 | 11.5 | 8.91 | 14.84 |
| Evening session | 4 | 256 | 7.2 | 2.05 | 22.45 |
| Morning and evening session | 154 | 8040 | 16.0 | 12.23 | 20.67 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 26 | 1765 | 18.1 | 11.81 | 26.73 |
| Normal (≥-2sd - ≤+1sd) | 204 | 11404 | 13.2 | 10.18 | 17.03 |
| Overweight (>+1sd - ≤+2sd) | 54 | 2729 | 13.0 | 9.39 | 17.85 |
| Obese (>+2sd) | 41 | 2242 | 10.4 | 6.98 | 15.12 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 27 | 1316 | 14.4 | 9.01 | 22.27 |
| Normal (≥-2sd) | 298 | 16823 | 13.0 | 10.50 | 15.95 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 254 | 14359 | 10.3 | 7.87 | 13.44 | 1482 | 82853 | 59.6 | 51.69 | 67.02 |
| **Locality of school** | | | | | | | | | | |
| Urban | 232 | 13011 | 10.4 | 7.73 | 13.82 | 1343 | 75339 | 60.1 | 51.38 | 68.29 |
| Rural | 22 | 1348 | 9.8 | 5.82 | 16.02 | 139 | 7514 | 54.6 | 51.82 | 57.33 |
| **Sex** | | | | | | | | | | |
| Boys | 147 | 8897 | 12.7 | 9.29 | 17.20 | 694 | 42064 | 60.2 | 51.73 | 68.07 |
| Girls | 107 | 5462 | 7.9 | 5.48 | 11.27 | 788 | 40789 | 59.0 | 50.35 | 67.09 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 178 | 9380 | 11.3 | 7.82 | 16.04 | 1055 | 56109 | 67.6 | 61.07 | 73.43 |
| Chinese | 53 | 3477 | 9.1 | 5.74 | 14.20 | 250 | 16175 | 42.5 | 31.64 | 54.05 |
| Indian | 15 | 1012 | 6.6 | 3.97 | 10.85 | 147 | 8804 | 57.6 | 51.71 | 63.33 |
| Bumiputera Sabah | 3 | 200 | 23.9 | 6.82 | 57.40 | 9 | 526 | 62.8 | 30.98 | 86.39 |
| Bumiputera Sarawak | 5 | 290 | 26.3 | 9.83 | 53.84 | 12 | 743 | 67.4 | 47.55 | 82.49 |
| Others | | | 0.0 | 0.00 | 0.00 | 9 | 496 | 73.7 | 49.89 | 88.76 |
| **School level** | | | | | | | | | | |
| Primary school | 97 | 5925 | 11.7 | 7.25 | 18.25 | 424 | 27896 | 55.0 | 37.40 | 71.35 |
| Secondary school | 157 | 8434 | 9.6 | 6.95 | 12.99 | 1058 | 54957 | 62.3 | 56.29 | 67.87 |
| **Class** | | | | | | | | | | |
| Standard 4 | 39 | 2379 | 13.8 | 9.31 | 19.90 | 146 | 9258 | 53.6 | 38.49 | 68.08 |
| Standard 5 | 37 | 2161 | 13.0 | 7.21 | 22.44 | 143 | 8739 | 52.7 | 35.37 | 69.47 |
| Standard 6 | 21 | 1385 | 8.2 | 3.84 | 16.59 | 135 | 9899 | 58.5 | 35.56 | 78.25 |
| Form 1 | 41 | 2755 | 14.7 | 11.18 | 19.12 | 176 | 12052 | 64.4 | 55.82 | 72.09 |
| Form 2 | 34 | 1812 | 10.3 | 5.41 | 18.59 | 225 | 12419 | 70.3 | 62.54 | 77.02 |
| Form 3 | 46 | 2025 | 11.6 | 7.09 | 18.39 | 266 | 11658 | 66.8 | 60.67 | 72.32 |
| Form 4 | 23 | 1266 | 7.5 | 3.66 | 14.78 | 165 | 9328 | 55.3 | 44.54 | 65.68 |
| Form 5 | 13 | 577 | 3.3 | 1.88 | 5.69 | 226 | 9500 | 54.1 | 43.40 | 64.38 |
| **School session** | | | | | | | | | | |
| Morning session | 144 | 8338 | 9.8 | 7.28 | 13.07 | 851 | 49200 | 57.8 | 47.28 | 67.69 |
| Evening session | 6 | 351 | 9.9 | 4.96 | 18.74 | 37 | 2442 | 68.8 | 58.51 | 77.57 |
| Morning and evening session | 104 | 5670 | 11.3 | 7.50 | 16.70 | 591 | 31044 | 61.9 | 53.72 | 69.43 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 12 | 623 | 6.3 | 3.55 | 11.10 | 95 | 5864 | 59.7 | 47.84 | 70.59 |
| Normal (≥-2sd - ≤+1sd) | 160 | 9196 | 10.6 | 8.15 | 13.79 | 932 | 51819 | 60.0 | 51.98 | 67.53 |
| Overweight (>+1sd - ≤+2sd) | 36 | 1974 | 9.4 | 6.11 | 14.26 | 231 | 12763 | 60.9 | 51.40 | 69.66 |
| Obese (>+2sd) | 46 | 2566 | 11.9 | 7.66 | 18.04 | 218 | 12079 | 56.0 | 45.73 | 65.84 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 23 | 1097 | 12.0 | 7.25 | 19.26 | 112 | 5707 | 62.5 | 51.35 | 72.47 |
| Normal (≥-2sd) | 231 | 13262 | 10.2 | 7.81 | 13.27 | 1368 | 77064 | 59.4 | 51.32 | 66.95 |

109

**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 |
| **Negeri Sembilan** | 691 | 41833 | 30.1 | 21.77 | 39.96 |
| **Locality of school** | | | | | |
| Urban | 600 | 36930 | 29.5 | 20.42 | 40.51 |
| Rural | 91 | 4903 | 35.6 | 33.43 | 37.87 |
| **Sex** | | | | | |
| Boys | 268 | 18929 | 27.1 | 19.08 | 36.92 |
| Girls | 423 | 22904 | 33.1 | 23.85 | 43.91 |
| **Ethnicity** | | | | | |
| Malay | 341 | 17565 | 21.1 | 13.79 | 31.02 |
| Chinese | 248 | 18447 | 48.4 | 35.36 | 61.70 |
| Indian | 95 | 5462 | 35.8 | 30.41 | 41.47 |
| Bumiputera Sabah | 2 | 112 | 13.3 | 2.62 | 46.66 |
| Bumiputera Sarawak | 1 | 70 | 6.3 | 1.01 | 30.90 |
| Others | 4 | 177 | 26.3 | 11.24 | 50.11 |
| **School level** | | | | | |
| Primary school | 203 | 16945 | 33.4 | 16.27 | 56.36 |
| Secondary school | 488 | 24888 | 28.2 | 21.38 | 36.17 |
| **Class** | | | | | |
| Standard 4 | 80 | 5636 | 32.6 | 17.11 | 53.18 |
| Standard 5 | 66 | 5669 | 34.2 | 15.83 | 58.98 |
| Standard 6 | 57 | 5640 | 33.3 | 14.49 | 59.59 |
| Form 1 | 59 | 3916 | 20.9 | 13.68 | 30.63 |
| Form 2 | 59 | 3438 | 19.5 | 11.45 | 31.09 |
| Form 3 | 86 | 3782 | 21.7 | 17.21 | 26.88 |
| Form 4 | 110 | 6259 | 37.1 | 24.76 | 51.47 |
| Form 5 | 174 | 7492 | 42.6 | 32.72 | 53.19 |
| **School session** | | | | | |
| Morning session | 412 | 27551 | 32.4 | 21.68 | 45.30 |
| Evening session | 10 | 755 | 21.3 | 12.29 | 34.28 |
| Morning and evening session | 268 | 13448 | 26.8 | 17.61 | 38.57 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 50 | 3329 | 33.9 | 22.50 | 47.56 |
| Normal (≥-2sd - ≤+1sd) | 422 | 25342 | 29.3 | 21.39 | 38.80 |
| Overweight (>+1sd - ≤+2sd) | 111 | 6216 | 29.7 | 20.47 | 40.87 |
| Obese (>+2sd) | 107 | 6913 | 32.1 | 20.90 | 45.76 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 44 | 2327 | 25.5 | 15.69 | 38.59 |
| Normal (≥-2sd) | 646 | 39474 | 30.4 | 21.99 | 40.39 |

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 | | Count | Estimated Population | Percentage (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 306 | 17836 | 12.8 | 9.85 | 16.54 | 462 | 24511 | 17.6 | 13.91 | 22.08 |
| **Locality of school** | | | | | | | | | | |
| Urban | 271 | 15826 | 12.6 | 9.41 | 16.75 | 438 | 23098 | 18.4 | 14.46 | 23.21 |
| Rural | 35 | 2010 | 14.6 | 10.56 | 19.84 | 24 | 1413 | 10.3 | 6.18 | 16.57 |
| **Sex** | | | | | | | | | | |
| Boys | 144 | 8559 | 12.3 | 9.14 | 16.24 | 185 | 10779 | 15.4 | 12.07 | 19.51 |
| Girls | 162 | 9276 | 13.4 | 9.53 | 18.54 | 277 | 13732 | 19.8 | 15.10 | 25.62 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 193 | 10773 | 13.0 | 8.86 | 18.56 | 316 | 15898 | 19.1 | 14.63 | 24.59 |
| Chinese | 63 | 3897 | 10.2 | 7.25 | 14.29 | 95 | 5802 | 15.3 | 11.11 | 20.59 |
| Indian | 42 | 2731 | 17.9 | 12.45 | 24.99 | 42 | 2278 | 14.9 | 8.01 | 26.05 |
| Bumiputera Sabah | 2 | 111 | 13.2 | 1.52 | 59.97 | 3 | 200 | 23.8 | 8.20 | 52.28 |
| Bumiputera Sarawak | 5 | 291 | 26.4 | 8.64 | 57.60 | 3 | 171 | 15.5 | 3.55 | 47.71 |
| Others | 1 | 33 | 5.0 | 0.55 | 32.92 | 3 | 163 | 24.3 | 10.38 | 47.06 |
| **School level** | | | | | | | | | | |
| Primary school | 128 | 8235 | 16.3 | 10.23 | 24.87 | 104 | 6768 | 13.4 | 8.77 | 19.86 |
| Secondary school | 178 | 9601 | 10.9 | 8.48 | 13.81 | 358 | 17743 | 20.1 | 15.60 | 25.43 |
| **Class** | | | | | | | | | | |
| Standard 4 | 45 | 2729 | 15.9 | 9.39 | 25.69 | 38 | 2479 | 14.5 | 10.41 | 19.74 |
| Standard 5 | 42 | 2297 | 13.8 | 6.48 | 27.07 | 35 | 1982 | 11.9 | 7.62 | 18.19 |
| Standard 6 | 41 | 3209 | 19.0 | 12.32 | 28.21 | 31 | 2307 | 13.7 | 6.93 | 25.20 |
| Form 1 | 31 | 2120 | 11.3 | 7.77 | 16.11 | 64 | 4203 | 22.4 | 17.42 | 28.27 |
| Form 2 | 48 | 2699 | 15.2 | 10.54 | 21.50 | 77 | 4156 | 23.5 | 17.26 | 31.04 |
| Form 3 | 31 | 1439 | 8.2 | 4.81 | 13.72 | 96 | 4043 | 23.1 | 16.18 | 31.87 |
| Form 4 | 29 | 1607 | 9.5 | 6.14 | 14.52 | 46 | 2489 | 14.8 | 8.86 | 23.60 |
| Form 5 | 39 | 1736 | 9.9 | 6.17 | 15.46 | 75 | 2853 | 16.2 | 10.79 | 23.71 |
| **School session** | | | | | | | | | | |
| Morning session | 160 | 9758 | 11.5 | 8.78 | 14.86 | 261 | 14701 | 17.3 | 13.27 | 22.21 |
| Evening session | 5 | 272 | 7.7 | 3.25 | 17.01 | 12 | 785 | 22.1 | 9.21 | 44.30 |
| Morning and evening session | 141 | 7806 | 15.5 | 11.43 | 20.76 | 188 | 8971 | 17.9 | 13.63 | 23.03 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 28 | 1660 | 16.9 | 9.84 | 27.52 | 19 | 933 | 9.5 | 4.95 | 17.48 |
| Normal (≥-2sd - ≤+1sd) | 190 | 10966 | 12.7 | 9.84 | 16.26 | 282 | 15182 | 17.6 | 14.28 | 21.47 |
| Overweight (>+1sd - ≤+2sd) | 38 | 2178 | 10.4 | 7.39 | 14.52 | 76 | 3756 | 18.0 | 13.08 | 24.21 |
| Obese (>+2sd) | 50 | 3031 | 14.0 | 9.49 | 20.15 | 83 | 4526 | 20.9 | 14.72 | 28.77 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 30 | 1589 | 17.4 | 11.49 | 25.47 | 28 | 1260 | 13.8 | 8.64 | 21.32 |
| Normal (≥-2sd) | 275 | 16197 | 12.5 | 9.53 | 16.17 | 434 | 23251 | 17.9 | 14.06 | 22.55 |

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 | Flavoured drink/carbonated drink | | | | | Pickles | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated Population | Percentage (%) | 95% CI Lower | 95% CI Upper | Count | Estimated Population | Percentage (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 593 | 32808 | 23.6 | 18.47 | 29.62 | 56 | 3505 | 2.5 | 1.88 | 3.38 |
| **Locality of school** | | | | | | | | | | |
| Urban | 548 | 30334 | 24.2 | 18.61 | 30.85 | 48 | 3025 | 2.4 | 1.73 | 3.36 |
| Rural | 45 | 2474 | 18.0 | 15.64 | 20.57 | 8 | 480 | 3.5 | 2.59 | 4.67 |
| **Sex** | | | | | | | | | | |
| Boys | 333 | 20146 | 28.8 | 23.79 | 34.48 | 33 | 2056 | 2.9 | 1.99 | 4.34 |
| Girls | 260 | 12662 | 18.3 | 12.77 | 25.51 | 23 | 1449 | 2.1 | 1.14 | 3.82 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 463 | 24883 | 29.9 | 23.95 | 36.68 | 35 | 1845 | 2.2 | 1.49 | 3.28 |
| Chinese | 68 | 4159 | 10.9 | 8.09 | 14.64 | 14 | 1134 | 3.0 | 1.93 | 4.59 |
| Indian | 47 | 2909 | 19.0 | 15.02 | 23.82 | 5 | 392 | 2.6 | 1.51 | 4.33 |
| Bumiputera Sabah | 4 | 229 | 27.3 | 9.39 | 57.76 | | | | | |
| Bumiputera Sarawak | 7 | 403 | 36.5 | 22.41 | 53.46 | 1 | 61 | 5.5 | 0.89 | 27.68 |
| Others | 4 | 225 | 33.5 | 7.74 | 75.09 | 1 | 74 | 11.0 | 1.86 | 44.55 |
| **School level** | | | | | | | | | | |
| Primary school | 127 | 8151 | 16.1 | 10.48 | 23.92 | 25 | 1738 | 3.4 | 2.94 | 4.00 |
| Secondary school | 466 | 24657 | 27.9 | 21.97 | 34.68 | 31 | 1767 | 2.0 | 1.21 | 3.27 |
| **Class** | | | | | | | | | | |
| Standard 4 | 31 | 1943 | 11.3 | 7.29 | 17.19 | 12 | 695 | 4.1 | 1.97 | 8.14 |
| Standard 5 | 48 | 2879 | 17.3 | 11.08 | 26.08 | 8 | 703 | 4.2 | 2.22 | 7.91 |
| Standard 6 | 48 | 3328 | 19.7 | 10.58 | 33.82 | 5 | 340 | 2.0 | 0.88 | 4.55 |
| Form 1 | 63 | 4264 | 22.7 | 17.66 | 28.68 | 9 | 710 | 3.8 | 1.65 | 8.45 |
| Form 2 | 92 | 5033 | 28.4 | 20.08 | 38.53 | 6 | 333 | 1.9 | 0.88 | 3.98 |
| Form 3 | 152 | 6634 | 37.9 | 28.89 | 47.85 | 6 | 265 | 1.5 | 0.59 | 3.82 |
| Form 4 | 91 | 5462 | 32.4 | 23.17 | 43.25 | 3 | 190 | 1.1 | 0.35 | 3.58 |
| Form 5 | 68 | 3264 | 18.6 | 12.84 | 26.11 | 7 | 268 | 1.5 | 0.81 | 2.84 |
| **School session** | | | | | | | | | | |
| Morning session | 344 | 19654 | 23.1 | 16.78 | 30.96 | 35 | 2357 | 2.8 | 1.96 | 3.90 |
| Evening session | 15 | 943 | 26.6 | 17.56 | 38.08 | 2 | 107 | 3.0 | 0.55 | 14.92 |
| Morning and evening session | 232 | 12102 | 24.1 | 18.41 | 30.84 | 19 | 1041 | 2.1 | 1.17 | 3.66 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 41 | 2652 | 27.0 | 18.38 | 37.83 | 10 | 742 | 7.6 | 3.84 | 14.34 |
| Normal (≥-2sd - ≤+1sd) | 369 | 20235 | 23.4 | 18.00 | 29.93 | 35 | 2233 | 2.6 | 1.74 | 3.84 |
| Overweight (>+1sd - ≤+2sd) | 95 | 5026 | 24.1 | 18.07 | 31.26 | 4 | 238 | 1.1 | 0.37 | 3.43 |
| Obese (>+2sd) | 87 | 4832 | 22.3 | 16.71 | 29.11 | 7 | 292 | 1.3 | 0.67 | 2.67 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 41 | 2151 | 23.6 | 17.17 | 31.42 | 6 | 344 | 3.8 | 1.44 | 9.51 |
| Normal (≥-2sd) | 552 | 30657 | 23.6 | 18.34 | 29.85 | 50 | 3161 | 2.4 | 1.77 | 3.35 |

**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 |
| **Negeri Sembilan** | 208 | 11342 | 8.2 | 6.63 | 10.00 | 193 | 10659 | 7.7 | 5.62 | 10.37 |
| **Locality of school** | | | | | | | | | | |
| Urban | 184 | 10083 | 8.0 | 6.39 | 10.10 | 170 | 9611 | 7.7 | 5.52 | 10.57 |
| Rural | 24 | 1258 | 9.1 | 8.72 | 9.58 | 23 | 1048 | 7.6 | 2.95 | 18.28 |
| **Sex** | | | | | | | | | | |
| Boys | 101 | 6047 | 8.7 | 6.54 | 11.38 | 99 | 5896 | 8.4 | 6.27 | 11.27 |
| Girls | 107 | 5295 | 7.7 | 5.81 | 10.02 | 94 | 4763 | 6.9 | 4.77 | 9.84 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 131 | 6977 | 8.4 | 6.84 | 10.25 | 155 | 8295 | 10.0 | 7.69 | 12.86 |
| Chinese | 57 | 3172 | 8.3 | 4.29 | 15.61 | 18 | 1213 | 3.2 | 1.73 | 5.82 |
| Indian | 17 | 1031 | 6.7 | 4.80 | 9.42 | 16 | 934 | 6.1 | 2.62 | 13.60 |
| Bumiputera Sabah | 2 | 102 | 12.2 | 2.41 | 43.86 | 2 | 106 | 12.6 | 2.75 | 42.49 |
| Bumiputera Sarawak | 1 | 59 | 5.4 | 0.87 | 26.90 | 1 | 46 | 4.2 | 0.61 | 23.82 |
| Others | | | | | | 1 | 65 | 9.6 | 0.99 | 53.03 |
| **School level** | | | | | | | | | | |
| Primary school | 56 | 3321 | 6.6 | 4.13 | 10.26 | 64 | 3986 | 7.9 | 4.20 | 14.27 |
| Secondary school | 152 | 8021 | 9.1 | 7.55 | 10.86 | 129 | 6674 | 7.5 | 5.43 | 10.40 |
| **Class** | | | | | | | | | | |
| Standard 4 | 19 | 1064 | 6.2 | 3.47 | 10.83 | 21 | 1183 | 6.9 | 3.44 | 13.34 |
| Standard 5 | 19 | 1038 | 6.2 | 3.79 | 10.13 | 25 | 1521 | 9.2 | 4.34 | 18.29 |
| Standard 6 | 18 | 1219 | 7.2 | 4.13 | 12.35 | 18 | 1282 | 7.6 | 3.08 | 17.56 |
| Form 1 | 28 | 1944 | 10.4 | 7.02 | 15.01 | 27 | 1863 | 9.9 | 5.95 | 16.09 |
| Form 2 | 30 | 1712 | 9.7 | 7.14 | 12.95 | 18 | 888 | 5.0 | 2.57 | 9.53 |
| Form 3 | 29 | 1264 | 7.2 | 5.40 | 9.60 | 33 | 1443 | 8.2 | 5.09 | 13.09 |
| Form 4 | 30 | 1750 | 10.4 | 6.69 | 15.77 | 25 | 1355 | 8.0 | 5.12 | 12.40 |
| Form 5 | 35 | 1351 | 7.7 | 4.93 | 11.80 | 26 | 1125 | 6.4 | 3.89 | 10.38 |
| **School session** | | | | | | | | | | |
| Morning session | 123 | 6921 | 8.1 | 5.98 | 10.99 | 101 | 5709 | 6.7 | 4.51 | 9.90 |
| Evening session | 5 | 289 | 8.1 | 3.63 | 17.21 | 3 | 175 | 4.9 | 2.23 | 10.61 |
| Morning and evening session | 80 | 4132 | 8.2 | 6.69 | 10.07 | 88 | 4717 | 9.4 | 6.60 | 13.19 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 14 | 772 | 7.9 | 4.65 | 13.00 | 6 | 395 | 4.0 | 1.58 | 9.84 |
| Normal (≥-2sd - ≤+1sd) | 144 | 7708 | 8.9 | 6.87 | 11.53 | 129 | 6748 | 7.8 | 5.61 | 10.80 |
| Overweight (>+1sd - ≤+2sd) | 25 | 1427 | 6.8 | 4.91 | 9.42 | 34 | 2111 | 10.1 | 6.50 | 15.39 |
| Obese (>+2sd) | 25 | 1434 | 6.6 | 3.93 | 10.93 | 22 | 1280 | 5.9 | 3.82 | 9.03 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 23 | 1116 | 12.2 | 7.77 | 18.73 | 22 | 1152 | 12.6 | 6.91 | 21.92 |
| Normal (≥-2sd) | 185 | 10225 | 7.9 | 6.26 | 9.87 | 171 | 9507 | 7.3 | 5.35 | 9.95 |

**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 |
| **Negeri Sembilan** | 222 | 12105 | 8.7 | 6.37 | 11.79 |
| **Locality of school** | | | | | |
| Urban | 199 | 11002 | 8.8 | 6.30 | 12.11 |
| Rural | 23 | 1103 | 8.0 | 3.31 | 18.16 |
| **Sex** | | | | | |
| Boys | 77 | 4646 | 6.7 | 4.80 | 9.14 |
| Girls | 145 | 7459 | 10.8 | 7.54 | 15.18 |
| **Ethnicity** | | | | | |
| Malay | 158 | 8036 | 9.7 | 6.89 | 13.40 |
| Chinese | 45 | 2952 | 7.8 | 4.98 | 11.91 |
| Indian | 18 | 1057 | 6.9 | 4.03 | 11.62 |
| Bumiputera Sabah | | | | | |
| Bumiputera Sarawak | 1 | 60 | 5.4 | 0.72 | 31.31 |
| Others | | | | | |
| **School level** | | | | | |
| Primary school | 94 | 6005 | 11.9 | 8.51 | 16.29 |
| Secondary school | 128 | 6100 | 6.9 | 4.34 | 10.79 |
| **Class** | | | | | |
| Standard 4 | 35 | 1999 | 11.7 | 7.39 | 17.91 |
| Standard 5 | 30 | 1968 | 11.8 | 8.42 | 16.40 |
| Standard 6 | 29 | 2038 | 12.1 | 7.36 | 19.21 |
| Form 1 | 15 | 912 | 4.9 | 2.43 | 9.49 |
| Form 2 | 28 | 1525 | 8.6 | 5.86 | 12.46 |
| Form 3 | 37 | 1508 | 8.6 | 5.21 | 13.93 |
| Form 4 | 22 | 1108 | 6.6 | 3.01 | 13.78 |
| Form 5 | 26 | 1047 | 6.0 | 3.38 | 10.31 |
| **School session** | | | | | |
| Morning session | 130 | 7303 | 8.6 | 6.23 | 11.74 |
| Evening session | 5 | 280 | 7.9 | 2.87 | 19.90 |
| Morning and evening session | 87 | 4522 | 9.0 | 6.28 | 12.74 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 14 | 773 | 7.9 | 4.07 | 14.71 |
| Normal (≥-2sd - ≤+1sd) | 138 | 7471 | 8.7 | 5.93 | 12.47 |
| Overweight (>+1sd - ≤+2sd) | 25 | 1366 | 6.5 | 4.21 | 10.02 |
| Obese (>+2sd) | 43 | 2387 | 11.0 | 6.96 | 17.00 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 11 | 468 | 5.1 | 2.06 | 12.16 |
| Normal (≥-2sd) | 211 | 11638 | 9.0 | 6.54 | 12.18 |

114

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

| Characteristics | Sources of media | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Social media | | | | | Television | | | | |
| | Count | Estimated Population | Prevalence (%) | 95% CI | | Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **Negeri Sembilan** | 920 | 49365 | 35.5 | 30.34 | 41.01 | 726 | 40938 | 29.4 | 24.86 | 34.47 |
| **Locality of school** | | | | | | | | | | |
| Urban | 839 | 45366 | 36.2 | 30.63 | 42.12 | 669 | 38129 | 30.4 | 25.83 | 35.41 |
| Rural | 81 | 3999 | 29.2 | 21.00 | 39.03 | 57 | 2808 | 20.5 | 10.19 | 36.98 |
| **Sex** | | | | | | | | | | |
| Boys | 391 | 23944 | 34.2 | 29.41 | 39.41 | 358 | 22231 | 31.8 | 27.66 | 36.22 |
| Girls | 529 | 25421 | 36.8 | 29.39 | 44.83 | 368 | 18706 | 27.1 | 21.47 | 33.47 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 694 | 35438 | 42.6 | 37.76 | 47.66 | 543 | 29129 | 35.0 | 29.94 | 40.53 |
| Chinese | 152 | 9647 | 25.3 | 19.76 | 31.75 | 118 | 8116 | 21.3 | 17.70 | 25.35 |
| Indian | 59 | 3391 | 22.3 | 16.68 | 29.14 | 49 | 2868 | 18.9 | 14.01 | 24.91 |
| Bumiputera Sabah | 6 | 342 | 40.8 | 16.67 | 70.37 | 3 | 147 | 17.5 | 3.66 | 54.38 |
| Bumiputera Sarawak | 5 | 304 | 27.6 | 9.71 | 57.52 | 8 | 462 | 41.9 | 20.75 | 66.50 |
| Others | 4 | 242 | 36.0 | 13.65 | 66.78 | 5 | 215 | 32.0 | 8.57 | 70.25 |
| **School level** | | | | | | | | | | |
| Primary school | 233 | 15484 | 30.5 | 22.16 | 40.30 | 263 | 17311 | 34.1 | 24.29 | 45.42 |
| Secondary school | 687 | 33881 | 38.4 | 32.73 | 44.37 | 463 | 23627 | 26.8 | 23.42 | 30.41 |
| **Class** | | | | | | | | | | |
| Standard 4 | 94 | 5887 | 34.1 | 25.22 | 44.22 | 92 | 5946 | 34.4 | 25.36 | 44.78 |
| Standard 5 | 65 | 4160 | 25.0 | 17.62 | 34.27 | 97 | 5877 | 35.4 | 23.65 | 49.16 |
| Standard 6 | 74 | 5436 | 32.1 | 21.18 | 45.45 | 74 | 5488 | 32.4 | 21.12 | 46.24 |
| Form 1 | 92 | 6037 | 32.3 | 23.85 | 42.02 | 59 | 4128 | 22.1 | 17.11 | 27.97 |
| Form 2 | 113 | 6153 | 34.7 | 27.49 | 42.74 | 91 | 4971 | 28.1 | 19.88 | 37.99 |
| Form 3 | 165 | 7041 | 40.3 | 33.40 | 47.64 | 116 | 5188 | 29.7 | 22.08 | 38.66 |
| Form 4 | 130 | 7022 | 41.8 | 31.48 | 52.86 | 78 | 4299 | 25.6 | 19.30 | 33.07 |
| Form 5 | 187 | 7628 | 43.4 | 36.08 | 51.05 | 119 | 5041 | 28.7 | 25.15 | 32.52 |
| **School session** | | | | | | | | | | |
| Morning session | 495 | 28062 | 33.0 | 27.02 | 39.50 | 399 | 23414 | 27.5 | 23.10 | 32.38 |
| Evening session | 25 | 1733 | 48.8 | 39.08 | 58.70 | 15 | 1087 | 30.6 | 18.26 | 46.63 |
| Morning and evening session | 399 | 19515 | 38.9 | 31.75 | 46.59 | 312 | 16436 | 32.8 | 26.12 | 40.20 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 50 | 2973 | 30.3 | 23.14 | 38.52 | 53 | 3279 | 33.4 | 24.54 | 43.63 |
| Normal (≥-2sd - ≤+1sd) | 571 | 30994 | 35.9 | 30.99 | 41.13 | 461 | 25499 | 29.5 | 24.43 | 35.22 |
| Overweight (>+1sd - ≤+2sd) | 157 | 7840 | 37.5 | 30.39 | 45.19 | 96 | 5310 | 25.4 | 19.73 | 32.05 |
| Obese (>+2sd) | 138 | 7374 | 34.0 | 26.08 | 43.00 | 113 | 6667 | 30.8 | 27.05 | 34.76 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 64 | 3193 | 35.0 | 27.11 | 43.74 | 48 | 2359 | 25.8 | 19.04 | 34.04 |
| Normal (≥-2sd) | 854 | 46108 | 35.5 | 30.25 | 41.15 | 678 | 38578 | 29.7 | 24.99 | 34.91 |

115

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

| Characteristics | Radio | | | | | Printed media | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | 95% CI | | | | | 95% CI | |
| | Count | Estimated Population | Prevalence (%) | Lower | Upper | Count | Estimated Population | Prevalence (%) | Lower | Upper |
| Negeri Sembilan | 84 | 5210 | 3.7 | 2.62 | 5.34 | 174 | 9826 | 7.1 | 5.70 | 8.73 |
| **Locality of school** | | | | | | | | | | |
| Urban | 74 | 4445 | 3.5 | 2.53 | 4.94 | 154 | 8566 | 6.8 | 5.53 | 8.42 |
| Rural | 10 | 765 | 5.6 | 1.48 | 18.89 | 20 | 1260 | 9.2 | 4.45 | 18.05 |
| **Sex** | | | | | | | | | | |
| Boys | 47 | 2841 | 4.1 | 2.61 | 6.26 | 81 | 4821 | 6.9 | 5.12 | 9.22 |
| Girls | 37 | 2370 | 3.4 | 2.27 | 5.14 | 93 | 5005 | 7.2 | 5.71 | 9.14 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 43 | 2433 | 2.9 | 2.02 | 4.22 | 106 | 5929 | 7.1 | 5.40 | 9.37 |
| Chinese | 18 | 1262 | 3.3 | 1.94 | 5.59 | 45 | 2540 | 6.7 | 4.15 | 10.51 |
| Indian | 20 | 1298 | 8.5 | 4.96 | 14.29 | 19 | 1099 | 7.2 | 4.56 | 11.28 |
| Bumiputera Sabah | 1 | 55 | 6.6 | 0.83 | 37.19 | 2 | 152 | 18.1 | 4.96 | 48.24 |
| Bumiputera Sarawak | 1 | 88 | 8.0 | 0.96 | 44.01 | 2 | 107 | 9.7 | 1.32 | 46.27 |
| Others | 1 | 74 | 11.0 | 1.86 | 44.55 | | | | | |
| **School level** | | | | | | | | | | |
| Primary school | 37 | 2205 | 4.3 | 3.09 | 6.06 | 71 | 4419 | 8.7 | 6.29 | 11.90 |
| Secondary school | 47 | 3005 | 3.4 | 1.92 | 5.96 | 103 | 5407 | 6.1 | 4.74 | 7.88 |
| **Class** | | | | | | | | | | |
| Standard 4 | 17 | 953 | 5.5 | 2.75 | 10.75 | 22 | 1218 | 7.1 | 3.66 | 13.16 |
| Standard 5 | 15 | 895 | 5.4 | 3.63 | 7.92 | 28 | 1723 | 10.4 | 7.39 | 14.36 |
| Standard 6 | 5 | 357 | 2.1 | 0.71 | 6.09 | 21 | 1478 | 8.7 | 5.24 | 14.20 |
| Form 1 | 20 | 1472 | 7.9 | 4.20 | 14.26 | 19 | 1294 | 6.9 | 4.36 | 10.81 |
| Form 2 | 9 | 542 | 3.1 | 1.16 | 7.84 | 24 | 1266 | 7.1 | 4.88 | 10.35 |
| Form 3 | 9 | 439 | 2.5 | 0.69 | 8.70 | 18 | 791 | 4.5 | 2.97 | 6.86 |
| Form 4 | 7 | 466 | 2.8 | 1.37 | 5.52 | 22 | 1183 | 7.0 | 4.27 | 11.40 |
| Form 5 | 2 | 85 | 0.5 | 0.06 | 3.82 | 20 | 873 | 5.0 | 3.09 | 7.88 |
| **School session** | | | | | | | | | | |
| Morning session | 56 | 3520 | 4.1 | 2.84 | 5.97 | 92 | 5426 | 6.4 | 4.71 | 8.57 |
| Evening session | 1 | 57 | 1.6 | 0.16 | 13.75 | 5 | 271 | 7.6 | 3.39 | 16.37 |
| Morning and evening session | 27 | 1634 | 3.3 | 1.80 | 5.84 | 77 | 4129 | 8.2 | 6.37 | 10.57 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 3 | 157 | 1.6 | 0.45 | 5.50 | 12 | 687 | 7.0 | 3.15 | 14.84 |
| Normal (≥-2sd - ≤+1sd) | 48 | 2962 | 3.4 | 1.94 | 6.00 | 103 | 5812 | 6.7 | 4.79 | 9.39 |
| Overweight (>+1sd - ≤+2sd) | 10 | 617 | 2.9 | 1.60 | 5.39 | 24 | 1516 | 7.3 | 4.32 | 11.94 |
| Obese (>+2sd) | 23 | 1475 | 6.8 | 4.64 | 9.87 | 34 | 1754 | 8.1 | 5.64 | 11.49 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 6 | 368 | 4.0 | 1.63 | 9.65 | 14 | 747 | 8.2 | 4.61 | 14.10 |
| Normal (≥-2sd) | 77 | 4793 | 3.7 | 2.54 | 5.33 | 160 | 9079 | 7.0 | 5.56 | 8.75 |

116

**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 |
| **Negeri Sembilan** | 797 | 48089 | 34.6 | 27.79 | 42.06 |
| | | | | | |
| **Locality of school** | | | | | |
| Urban | 700 | 42561 | 33.9 | 26.58 | 42.18 |
| Rural | 97 | 5527 | 40.4 | 33.49 | 47.64 |
| **Sex** | | | | | |
| Boys | 349 | 22853 | 32.7 | 26.57 | 39.43 |
| Girls | 448 | 25236 | 36.5 | 28.35 | 45.51 |
| **Ethnicity** | | | | | |
| Malay | 394 | 20486 | 24.6 | 19.86 | 30.15 |
| Chinese | 272 | 19879 | 52.1 | 44.58 | 59.56 |
| Indian | 122 | 7201 | 47.4 | 42.00 | 52.78 |
| Bumiputera Sabah | 3 | 192 | 22.9 | 7.54 | 51.86 |
| Bumiputera Sarawak | 3 | 190 | 17.3 | 6.61 | 38.06 |
| Others | 3 | 141 | 21.0 | 6.36 | 50.88 |
| **School level** | | | | | |
| Primary school | 211 | 17313 | 34.1 | 19.03 | 53.19 |
| Secondary school | 586 | 30776 | 34.9 | 30.12 | 39.94 |
| **Class** | | | | | |
| Standard 4 | 63 | 4750 | 27.5 | 14.05 | 46.82 |
| Standard 5 | 78 | 6191 | 37.3 | 21.63 | 56.11 |
| Standard 6 | 70 | 6372 | 37.7 | 21.27 | 57.44 |
| Form 1 | 101 | 6767 | 36.2 | 31.11 | 41.55 |
| Form 2 | 110 | 6257 | 35.3 | 24.78 | 47.50 |
| Form 3 | 143 | 6225 | 35.6 | 26.60 | 45.83 |
| Form 4 | 92 | 5472 | 32.6 | 23.68 | 42.90 |
| Form 5 | 140 | 6055 | 34.5 | 28.04 | 41.51 |
| **School session** | | | | | |
| Morning session | 507 | 32584 | 38.3 | 29.72 | 47.62 |
| Evening session | 14 | 989 | 27.9 | 19.65 | 37.95 |
| Morning and evening session | 273 | 14325 | 28.6 | 22.55 | 35.45 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 54 | 3437 | 35.0 | 26.17 | 45.03 |
| Normal (≥-2sd - ≤+1sd) | 511 | 30575 | 35.4 | 28.83 | 42.60 |
| Overweight (>+1sd - ≤+2sd) | 128 | 7576 | 36.2 | 28.41 | 44.87 |
| Obese (>+2sd) | 104 | 6500 | 30.0 | 21.36 | 40.34 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 67 | 3408 | 37.3 | 29.15 | 46.28 |
| Normal (≥-2sd) | 730 | 44681 | 34.4 | 27.47 | 42.10 |

117

**3.5 Physical activity among adolescents (Primary 4 to Secondary 5) in Negeri Sembilan**

**Contributors:** Nor Azian Mohd Zaki, Hazizi Abu Saad, Shahrulnaz Norhazli Nazri, Mohd Azahadi Omar

**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 physical activity level for adolescents in Negeri Sembilan was 2.28 (95% CI: 2.18, 2.37) **(Table 3.5.1)**. Overall prevalence of being physically active among adolescents was 43.0% (95% CI: 36.09, 50.19) and the prevalence of being physically inactive was 57.0% (95% CI: 49.81, 63.91). In terms of school locality, there was no significant difference of being physically active between students studying in urban area [(43.4% (95% CI: 35.88, 51.28)] and rural areas [(39.1% (95% CI: 29.18, 50.01)]. Boys showed higher prevalence of being physically active [51.4% (95% CI: 43.52, 59.27) compared to girls, 34.6% (95% CI: 27.69, 42.32). The prevalence of being physically active was 51.3% (95% CI: 35.60, 66.68)] among primary students and 38.4% (95% CI: 33.41, 43.55) among secondary students. In term of BMI-for-age status, there was no significant difference of physical active among those who were categorized as thinness [36.6% (95% CI: 28.97, 44.89)], normal [44.6% (95% CI: 36.24, 53.33], overweight [42.9% (95% CI: 36.84, 49.12)] and obese [39.7% (95% CI: 31.29, 48.68)] **(Table 3.5.2)**.

The most popular spare-time physical activity according to adolescents in Negeri Sembilan was walking for exercise [83.3% (95% CI: 80.09, 86.06)] **(Table 3.5.3)**. About 20.1% (95% CI: 15.68, 25.31)] of adolescents reported that they did not attend/very rarely participated in PE class **(Table 3.5.4)**. A total of 45.5% (95% CI:40.81, 50.30) of the adolescents watched television, used computer and played video games more than 2 hours per day over the weekend and another 29.6% (95% CI:25.93, 33.51) engaged on these screen activities more than 2 hours during school days **(Table 3.5.5** and **Table 3.5.6)**.

### 3.5.5 Discussion

The prevalence of being physically active among adolescents in Negeri Sembilan (43.0%) was slightly lower than national prevalence (44.6%). Boys and primary school students had higher prevalence of being physically active than girls and secondary school students. There were no significant difference in terms of school locality and BMI-for-age status of students. The prevalence of adolescents that engaged on screen activities more than 2 hours during was higher during weekends than school days.

### 3.5.6 Conclusion

Based on the National Health and Morbidity Survey (2017), 57.0% of children and adolescents in Negeri Sembilan were physically inactive. The prevalence of being physically inactive among Malaysian adolescents was slightly decreased as compared to the Malaysian School-Based Nutrition Survey (2012) but remains high. Therefore, more programmes and strategies to increase physical activity should be implemented among children and adolescents in Malaysia.

**3.5.7 Recommendations**

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

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

**References**

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

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

| Characteristic | Mean total scores in PAQ-C | | |
| --- | --- | --- | --- |
| | Mean | 95% CI | |
| | | Lower | Upper |
| **NEGERI SEMBILAN** | 2.28 | 2.18 | 2.37 |
| **Locality of school** | | | |
| Urban | 2.28 | 2.18 | 2.39 |
| Rural | 2.20 | 2.10 | 2.30 |
| **Sex** | | | |
| Boys | 2.40 | 2.29 | 2.51 |
| Girls | 2.15 | 2.05 | 2.26 |
| **Class** | | | |
| Standard 4 | 2.41 | 2.27 | 2.55 |
| Standard 5 | 2.41 | 2.15 | 2.66 |
| Standard 6 | 2.45 | 2.29 | 2.60 |
| Form 1 | 2.32 | 2.22 | 2.42 |
| Form 2 | 2.27 | 2.17 | 2.38 |
| Form 3 | 2.19 | 2.06 | 2.33 |
| Form 4 | 2.14 | 2.04 | 2.23 |
| Form 5 | 2.03 | 1.90 | 2.17 |
| **Ethnicity** | | | |
| Malay | 2.33 | 2.22 | 2.44 |
| Chinese | 2.13 | 1.97 | 2.29 |
| Indian | 2.32 | 2.18 | 2.46 |
| Bumiputera Sabah | 2.33 | 2.02 | 2.63 |
| Bumiputera Sarawak | 2.66 | 2.19 | 3.13 |
| Others | 2.58 | 2.11 | 3.04 |
| **School Category** | | | |
| Primary | 2.42 | 2.25 | 2.59 |
| Secondary | 2.19 | 2.11 | 2.27 |
| **BMI-for-age status (BAZ)** | | | |
| Thinness (<-2sd) | 2.18 | 2.07 | 2.28 |
| Normal (≥-2sd - ≤+1sd) | 2.30 | 2.19 | 2.40 |
| Overweight (>+1sd - ≤+2sd) | 2.29 | 2.20 | 2.38 |
| Obese (>+2sd) | 2.22 | 2.09 | 2.35 |
| **Height-for-age status (HAZ)** | | | |
| Stunting (<-2sd) | 2.30 | 2.14 | 2.46 |
| Normal (≥-2sd) | 2.27 | 2.18 | 2.37 |

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**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Physical activity level | | | | | | | | | |
| Characteristic | Active | | | | | Not active | | | | |
| | Count | Estimated population | Prevalence (%) | 95% CI | | Count | Estimated population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **NEGERI SEMBILAN** | 978 | 56547 | 43.0 | 36.09 | 50.19 | 1323 | 74959 | 57.0 | 49.81 | 63.91 |
| **Locality of School** | | | | | | | | | | |
| Urban | 892 | 51501 | 43.4 | 35.88 | 51.28 | 1171 | 67100 | 56.6 | 48.72 | 64.12 |
| Rural | 86 | 5046 | 39.1 | 29.18 | 50.01 | 152 | 7859 | 60.9 | 49.99 | 70.82 |
| **Sex** | | | | | | | | | | |
| Boys | 556 | 33661 | 51.4 | 43.52 | 59.27 | 482 | 31783 | 48.6 | 40.73 | 56.48 |
| Girls | 422 | 22885 | 34.6 | 27.69 | 42.32 | 841 | 43176 | 65.4 | 57.68 | 72.31 |
| **Class** | | | | | | | | | | |
| Standard 4 | 125 | 7606 | 49.7 | 35.47 | 64.04 | 107 | 7687 | 50.3 | 35.96 | 64.53 |
| Standard 5 | 142 | 8043 | 51.2 | 29.34 | 72.63 | 89 | 7661 | 48.8 | 27.37 | 70.66 |
| Standard 6 | 116 | 8616 | 52.7 | 39.38 | 65.71 | 89 | 7723 | 47.3 | 34.29 | 60.62 |
| Form 1 | 111 | 7647 | 44.2 | 37.39 | 51.27 | 146 | 9648 | 55.8 | 48.73 | 62.61 |
| Form 2 | 133 | 7294 | 42.7 | 34.85 | 50.99 | 174 | 9777 | 57.3 | 49.01 | 65.15 |
| Form 3 | 149 | 6589 | 39.4 | 30.58 | 48.92 | 233 | 10145 | 60.6 | 51.08 | 69.42 |
| Form 4 | 95 | 5754 | 35.8 | 29.08 | 43.02 | 189 | 10340 | 64.2 | 56.98 | 70.92 |
| Form 5 | 107 | 4997 | 29.4 | 21.65 | 38.64 | 296 | 11978 | 70.6 | 61.36 | 78.35 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 686 | 37981 | 47.7 | 40.34 | 55.26 | 825 | 41561 | 52.3 | 44.74 | 59.66 |
| Chinese | 165 | 10822 | 30.0 | 20.12 | 42.26 | 354 | 25203 | 70.0 | 57.74 | 79.88 |
| Indian | 104 | 6313 | 46.5 | 37.67 | 55.58 | 127 | 7258 | 53.5 | 44.42 | 62.33 |
| Bumiputera Sabah | 7 | 443 | 56.1 | 26.14 | 82.20 | 6 | 347 | 43.9 | 17.80 | 73.86 |
| Bumiputera Sarawak | 9 | 577 | 58.5 | 31.65 | 81.16 | 7 | 409 | 41.5 | 18.84 | 68.35 |
| Others | 7 | 410 | 69.3 | 43.76 | 86.75 | 4 | 182 | 30.7 | 13.25 | 56.24 |
| **School Category** | | | | | | | | | | |
| Primary | 383 | 24265 | 51.3 | 35.60 | 66.68 | 285 | 23071 | 48.7 | 33.32 | 64.40 |
| Secondary | 595 | 32282 | 38.4 | 33.41 | 43.55 | 1038 | 51888 | 61.6 | 56.45 | 66.59 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 51 | 3357 | 36.6 | 28.97 | 44.89 | 95 | 5824 | 63.4 | 55.11 | 71.03 |
| Normal (≥-2sd - ≤+1sd) | 633 | 36465 | 44.6 | 36.24 | 53.33 | 806 | 45250 | 55.4 | 46.67 | 63.76 |
| Overweight (>+1sd - ≤+2sd) | 151 | 8571 | 42.9 | 36.84 | 49.12 | 209 | 11421 | 57.1 | 50.88 | 63.16 |
| Obese (>+2sd) | 141 | 8034 | 39.7 | 31.29 | 48.68 | 208 | 12224 | 60.3 | 51.32 | 68.71 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 69 | 3842 | 45.1 | 33.16 | 57.67 | 98 | 4673 | 54.9 | 42.33 | 66.84 |
| Normal (≥-2sd) | 909 | 52705 | 42.9 | 36.09 | 49.98 | 1222 | 70173 | 57.1 | 50.02 | 63.91 |

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 | Upper |
| Walking for exercise | 2016 | 83.3 | 80.09 | 86.06 |
| Jogging/Running | 1793 | 74.6 | 70.36 | 78.49 |
| Tagging | 1647 | 68.4 | 61.65 | 74.50 |
| Badminton | 1527 | 66.1 | 58.31 | 73.07 |
| Cycling | 1323 | 57.5 | 49.64 | 65.00 |

**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 |
| **NEGERI SEMBILAN** | 509 | 27898 | 20.1 | 15.68 | 25.31 | 1339 | 77356 | 55.6 | 52.20 | 59.03 |
| **Locality of school** | | | | | | | | | | |
| Urban | 436 | 23769 | 19.0 | 14.66 | 24.21 | 1212 | 70641 | 56.4 | 53.02 | 59.73 |
| Rural | 73 | 4129 | 30.0 | 19.52 | 43.08 | 127 | 6715 | 48.8 | 39.56 | 58.10 |
| **Sex** | | | | | | | | | | |
| Boys | 224 | 14354 | 20.6 | 15.32 | 27.00 | 578 | 36054 | 51.6 | 47.67 | 55.55 |
| Girls | 285 | 13544 | 19.6 | 14.59 | 25.77 | 761 | 41302 | 59.7 | 54.83 | 64.40 |
| **Class** | | | | | | | | | | |
| Standard 4 | 53 | 3639 | 21.1 | 14.43 | 29.69 | 151 | 9768 | 56.6 | 53.93 | 59.14 |
| Standard 5 | 34 | 2413 | 14.6 | 11.93 | 17.65 | 147 | 9859 | 59.5 | 57.49 | 61.44 |
| Standard 6 | 24 | 1705 | 10.1 | 5.76 | 17.04 | 131 | 10686 | 63.1 | 53.25 | 72.03 |
| Form 1 | 52 | 3831 | 20.5 | 12.03 | 32.69 | 147 | 9722 | 52.0 | 45.48 | 58.47 |
| Form 2 | 50 | 2723 | 15.4 | 9.76 | 23.36 | 184 | 10408 | 58.7 | 52.01 | 65.15 |
| Form 3 | 81 | 3623 | 20.7 | 12.86 | 31.60 | 215 | 9326 | 53.3 | 46.43 | 60.03 |
| Form 4 | 77 | 4412 | 26.3 | 17.80 | 37.08 | 155 | 8785 | 52.4 | 43.23 | 61.43 |
| Form 5 | 138 | 5552 | 31.6 | 18.98 | 47.68 | 209 | 8802 | 50.1 | 39.90 | 60.29 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 310 | 15136 | 18.2 | 14.02 | 23.27 | 897 | 47801 | 57.5 | 53.67 | 61.16 |
| Chinese | 126 | 7932 | 20.8 | 14.43 | 29.06 | 306 | 21877 | 57.4 | 51.75 | 62.89 |
| Indian | 64 | 4258 | 28.1 | 16.98 | 42.77 | 113 | 6414 | 42.3 | 36.92 | 47.97 |
| Bumiputera Sabah | 3 | 225 | 28.5 | 6.07 | 71.14 | 7 | 379 | 47.9 | 22.03 | 74.97 |
| Bumiputera Sarawak | 3 | 204 | 18.5 | 3.78 | 56.85 | 9 | 523 | 47.4 | 26.53 | 69.24 |
| Others | 3 | 143 | 21.2 | 7.49 | 47.18 | 7 | 363 | 53.9 | 28.74 | 77.25 |
| **School level** | | | | | | | | | | |
| Primary | 111 | 7757 | 15.3 | 12.63 | 18.37 | 429 | 30313 | 59.7 | 56.83 | 62.51 |
| Secondary | 398 | 20141 | 22.8 | 16.78 | 30.25 | 910 | 47043 | 53.3 | 48.86 | 57.71 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 40 | 2544 | 25.9 | 18.06 | 35.71 | 89 | 5661 | 57.7 | 50.98 | 64.08 |
| Normal (≥-2sd - ≤+1sd) | 312 | 16770 | 19.4 | 14.62 | 25.38 | 822 | 47124 | 54.6 | 50.45 | 58.75 |
| Overweight (>+1sd - ≤+2sd) | 83 | 4186 | 20.0 | 14.38 | 27.16 | 212 | 12130 | 58.0 | 51.48 | 64.28 |
| Obese (>+2sd) | 70 | 4227 | 19.5 | 14.70 | 25.43 | 213 | 12253 | 56.5 | 48.64 | 64.14 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 47 | 2359 | 25.8 | 17.02 | 37.16 | 102 | 5180 | 56.7 | 47.43 | 65.58 |
| Normal (≥-2sd) | 460 | 25475 | 19.6 | 15.46 | 24.60 | 1236 | 72127 | 55.6 | 52.33 | 58.78 |

**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 |
| **NEGERI SEMBILAN** | 579 | 33760 | 24.3 | 21.19 | 27.67 |
| **Locality of school** | | | | | |
| Urban | 527 | 30839 | 24.6 | 21.26 | 28.33 |
| Rural | 52 | 2921 | 21.2 | 18.77 | 23.90 |
| **Sex** | | | | | |
| Boys | 307 | 19437 | 27.8 | 23.47 | 32.65 |
| Girls | 272 | 14324 | 20.7 | 15.70 | 26.81 |
| **Class** | | | | | |
| Standard 4 | 61 | 3866 | 22.4 | 16.98 | 28.91 |
| Standard 5 | 65 | 4303 | 26.0 | 24.13 | 27.88 |
| Standard 6 | 58 | 4533 | 26.8 | 20.37 | 34.34 |
| Form 1 | 77 | 5140 | 27.5 | 21.44 | 34.51 |
| Form 2 | 85 | 4589 | 25.9 | 20.06 | 32.73 |
| Form 3 | 103 | 4550 | 26.0 | 19.78 | 33.36 |
| Form 4 | 64 | 3565 | 21.3 | 15.00 | 29.25 |
| Form 5 | 66 | 3214 | 18.3 | 12.37 | 26.21 |
| **Ethnicity** | | | | | |
| Malay | 370 | 20260 | 24.4 | 20.63 | 28.50 |
| Chinese | 119 | 8296 | 21.8 | 18.15 | 25.89 |
| Indian | 78 | 4475 | 29.5 | 20.54 | 40.49 |
| Bumiputera Sabah | 3 | 186 | 23.6 | 6.98 | 55.87 |
| Bumiputera Sarawak | 6 | 375 | 34.1 | 14.87 | 60.41 |
| Others | 3 | 167 | 24.9 | 5.30 | 66.21 |
| **School level** | | | | | |
| Primary | 184 | 12702 | 25.0 | 21.22 | 29.25 |
| Secondary | 395 | 21058 | 23.9 | 19.63 | 28.68 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 28 | 1612 | 16.4 | 10.63 | 24.49 |
| Normal (≥-2sd - ≤+1sd) | 379 | 22367 | 25.9 | 22.74 | 29.40 |
| Overweight (>+1sd - ≤+2sd) | 82 | 4594 | 22.0 | 17.58 | 27.10 |
| Obese (>+2sd) | 90 | 5188 | 23.9 | 17.77 | 31.43 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting (<-2sd) | 30 | 1592 | 17.4 | 10.43 | 27.71 |
| Normal (≥-2sd) | 549 | 32168 | 24.8 | 21.61 | 28.26 |

**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 Lower | 95% CI Upper | Unweighted count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **NEGERI SEMBILAN** | 1288 | 75750 | 54.5 | 49.70 | 59.19 | 1139 | 63276 | 45.5 | 40.81 | 50.30 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1143 | 67594 | 54.0 | 48.78 | 59.06 | 145 | 57667 | 46.0 | 40.94 | 51.22 |
| Rural | 1032 | 8157 | 59.3 | 51.46 | 66.61 | 107 | 5609 | 40.7 | 33.39 | 48.54 |
| **Sex** | | | | | | | | | | |
| Boys | 578 | 37183 | 53.2 | 47.57 | 58.80 | 531 | 32679 | 46.8 | 41.20 | 52.43 |
| Girls | 710 | 38568 | 55.8 | 50.49 | 60.91 | 608 | 30597 | 44.2 | 39.09 | 49.51 |
| **Class** | | | | | | | | | | |
| Standard 4 | 172 | 11194 | 65.0 | 58.09 | 71.33 | 92 | 6028 | 35.0 | 28.67 | 41.91 |
| Standard 5 | 169 | 11253 | 68.0 | 61.74 | 73.59 | 77 | 5307 | 32.0 | 26.41 | 38.26 |
| Standard 6 | 120 | 9276 | 54.8 | 44.80 | 64.45 | 93 | 7648 | 45.2 | 35.55 | 55.20 |
| Form 1 | 178 | 11863 | 63.2 | 54.41 | 71.12 | 99 | 6920 | 36.8 | 28.88 | 45.59 |
| Form 2 | 158 | 8825 | 49.8 | 43.26 | 56.36 | 161 | 8894 | 50.2 | 43.64 | 56.74 |
| Form 3 | 162 | 7311 | 41.9 | 32.30 | 52.11 | 236 | 10149 | 58.1 | 47.89 | 67.70 |
| Form 4 | 134 | 7705 | 45.9 | 38.25 | 53.71 | 163 | 9087 | 54.1 | 46.29 | 61.75 |
| Form 5 | 195 | 8323 | 47.4 | 41.87 | 52.95 | 218 | 9246 | 52.6 | 47.05 | 58.13 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 830 | 45042 | 54.2 | 48.00 | 60.35 | 744 | 37998 | 45.8 | 39.65 | 52.00 |
| Chinese | 256 | 18793 | 49.3 | 40.80 | 57.90 | 295 | 19302 | 50.7 | 42.10 | 59.20 |
| Indian | 174 | 10291 | 67.4 | 57.05 | 76.22 | 83 | 4988 | 32.6 | 23.78 | 42.95 |
| Bumiputera Sabah | 8 | 484 | 57.7 | 31.79 | 80.01 | 6 | 354 | 42.3 | 19.99 | 68.21 |
| Bumiputera Sarawak | 12 | 728 | 66.0 | 42.19 | 83.82 | 6 | 374 | 34.0 | 16.18 | 57.81 |
| Others | 8 | 413 | 61.4 | 29.70 | 85.71 | 5 | 259 | 38.6 | 14.29 | 70.30 |
| **School level** | | | | | | | | | | |
| Primary | 461 | 31723 | 62.6 | 56.53 | 68.23 | 262 | 18982 | 37.4 | 31.77 | 43.47 |
| Secondary | 827 | 44027 | 49.8 | 45.10 | 54.60 | 877 | 44294 | 50.2 | 45.40 | 54.90 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 99 | 6092 | 62.4 | 54.60 | 69.70 | 57 | 3663 | 37.6 | 30.30 | 45.40 |
| Normal (≥-2sd - ≤+1sd) | 788 | 46233 | 53.5 | 48.56 | 58.47 | 726 | 40109 | 46.5 | 41.53 | 51.44 |
| Overweight (>+1sd - ≤+2sd) | 196 | 11428 | 54.5 | 46.76 | 62.11 | 182 | 9526 | 45.5 | 37.89 | 53.24 |
| Obese (>+2sd) | 202 | 11846 | 54.8 | 47.90 | 61.52 | 170 | 9771 | 45.2 | 38.48 | 52.10 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 96 | 5102 | 56.3 | 46.40 | 65.64 | 82 | 3968 | 43.7 | 34.36 | 53.60 |
| Normal (≥-2sd) | 1190 | 70567 | 54.3 | 49.55 | 59.07 | 1056 | 59276 | 45.7 | 40.93 | 50.45 |

**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 |
| **NEGERI SEMBILAN** | 1698 | 97861 | 70.4 | 66.49 | 74.07 | 729 | 41104 | 29.6 | 25.93 | 33.51 |
| **Locality of school** | | | | | | | | | | |
| Urban | 1524 | 88464 | 70.7 | 66.30 | 74.67 | 651 | 36736 | 29.3 | 25.33 | 33.70 |
| Rural | 174 | 9398 | 68.3 | 68.08 | 68.46 | 78 | 4368 | 31.7 | 31.54 | 31.92 |
| **Sex** | | | | | | | | | | |
| Boys | 719 | 45880 | 65.7 | 60.83 | 70.25 | 390 | 23957 | 34.3 | 29.75 | 39.17 |
| Girls | 979 | 51981 | 75.2 | 71.00 | 78.96 | 339 | 17147 | 24.8 | 21.04 | 29.00 |
| **Class** | | | | | | | | | | |
| Standard 4 | 184 | 12175 | 70.5 | 64.19 | 76.09 | 81 | 5098 | 29.5 | 23.91 | 35.81 |
| Standard 5 | 181 | 12609 | 75.9 | 69.82 | 81.07 | 66 | 4006 | 24.1 | 18.93 | 30.18 |
| Standard 6 | 159 | 12983 | 77.0 | 70.56 | 82.42 | 53 | 3873 | 23.0 | 17.58 | 29.44 |
| Form 1 | 201 | 13157 | 70.3 | 54.40 | 82.45 | 75 | 5558 | 29.7 | 17.55 | 45.60 |
| Form 2 | 215 | 11974 | 67.8 | 63.18 | 72.15 | 103 | 5679 | 32.2 | 27.85 | 36.82 |
| Form 3 | 264 | 11401 | 65.2 | 58.53 | 71.24 | 135 | 6098 | 34.8 | 28.76 | 41.47 |
| Form 4 | 191 | 10870 | 64.5 | 57.21 | 71.17 | 107 | 5983 | 35.5 | 28.83 | 42.79 |
| Form 5 | 303 | 12691 | 72.5 | 67.42 | 77.10 | 109 | 4809 | 27.5 | 22.90 | 32.58 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 1114 | 58668 | 70.7 | 67.18 | 73.97 | 460 | 24327 | 29.3 | 26.03 | 32.82 |
| Chinese | 356 | 26083 | 68.5 | 57.66 | 77.64 | 195 | 11996 | 31.5 | 22.36 | 42.34 |
| Indian | 197 | 11351 | 74.3 | 68.31 | 79.49 | 60 | 3928 | 25.7 | 20.51 | 31.69 |
| Bumiputera Sabah | 11 | 619 | 73.8 | 30.75 | 94.71 | 3 | 220 | 26.2 | 5.29 | 69.25 |
| Bumiputera Sarawak | 13 | 761 | 69.0 | 45.10 | 85.78 | 5 | 342 | 31.0 | 14.22 | 54.90 |
| Others | 7 | 380 | 56.5 | 26.56 | 82.31 | 6 | 293 | 43.5 | 17.69 | 73.44 |
| **School level** | | | | | | | | | | |
| Primary | 524 | 37767 | 74.4 | 69.09 | 79.12 | 200 | 12977 | 25.6 | 20.88 | 30.91 |
| Secondary | 1174 | 60094 | 68.1 | 63.51 | 72.40 | 529 | 28127 | 31.9 | 27.60 | 36.49 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 112 | 6919 | 70.5 | 63.09 | 76.94 | 45 | 2897 | 29.5 | 23.06 | 36.91 |
| Normal (≥-2sd - ≤+1sd) | 1059 | 60646 | 70.3 | 66.28 | 74.08 | 454 | 25588 | 29.7 | 25.92 | 33.72 |
| Overweight (>+1sd - ≤+2sd) | 259 | 14510 | 69.2 | 62.78 | 75.04 | 119 | 6444 | 30.8 | 24.96 | 37.22 |
| Obese (>+2sd) | 262 | 15458 | 71.6 | 64.80 | 77.47 | 110 | 6144 | 28.4 | 22.53 | 35.20 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 129 | 6646 | 72.8 | 66.19 | 78.50 | 50 | 2485 | 27.2 | 21.50 | 33.81 |
| Normal (≥-2sd) | 1567 | 91134 | 70.3 | 66.13 | 74.07 | 678 | 38587 | 29.7 | 25.93 | 33.87 |

**3.6. Supplements intake among adolescents (Primary 4 to Secondary 5) in Negeri Sembilan**

**Contributors:** Fatimah Othman, Sam Azura Ahmad, Syafinaz Mohd Sallehuddin, Mohamad Ihsan Tahir, Safiah Mohd Yusof, Nur Azna Mahmud

**3.6.1 Introduction**

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

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

**3.6.2 Objectives**

**General objective**

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

**Specific objective**

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

### 3.6.3 Findings

The prevalence of vitamin/minerals and food supplements intake among adolescence in Negeri Sembilan was 40.1% (95% CI: 33.21, 47.50) **(Table 3.6.1)** and 28.3% (95% CI: 22.93, 34.42) **(Table 3.6.5)**. There was no significant difference of vitamin/mineral and food supplement intakes between boys and girls, ethnicity, classes and school localities **(Table 3.6.1)**. In average, the vitamin/mineral and food supplements were consumed everyday by 14.5% (95% CI 11.24, 18.42) and 10.6% (95% CI 8.27, 13.48) of adolescents **(Table 3.6.1** and **Table 3.6.8)**. The most commonly consumed vitamin/minerals and food supplements were Vitamin C, 34.2% (95% CI: 29.06, 39.74 **(Table 3.6.2)** and bee product 13.4% (95% CI: 9.95, 17.92) **(Table 3.6.6)**. The main reason for taking vitamin/minerals and food supplements was due to parent's advice 39.1% (95% CI: 34.0, 44.4) **(Table 3.6.3)** and 29.0% (95% CI: 27.8, 30.3) **(Table 3.6.7)**.

### 3.6.4 Discussions

The prevalence of taking vitamin/minerals and food supplements among adolescence in Negeri Sembilan was slightly lower than national prevalence, which was 44.7% (95% CI: 42.49, 46.91) and 30.6% (95% CI: 28.90, 32.43). The consumption of Vitamin C and Bee Product were significantly higher compared with the other types of vitamin/mineral and food supplement and this result were consistent with the national finding. Finding from the survey showed that parent's advice was the main and significant reason for taking vitamin/mineral and food supplements among adolescents. It suggested the parent's roles as a strong influencer for food supplement and vitamin intake of the children.

### 3.6.5 Conclusions

Overall findings from this survey showed that every four and one of ten adolescents in Negeri Sembilan consumed vitamin/mineral and food supplements. Every four and three of ten parents influenced the children's vitamin/ mineral and food supplements intake. Vitamin C and Bee product remain as the top choices of vitamin and food supplement consumed by Negeri Sembilan adolescents.

### 3.6.6 Recommendation

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

**References**

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

**Table 3.6.1: Prevalence of adolescents taking vitamin/ mineral supplements by socio-demographic 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 |
| **Negeri Sembilan** | 958 | 55834 | 40.1 | 33.21 | 47.50 | 1470 | 83242 | 59.9 | 52.50 | 66.79 |
| **Locality of School** | | | | | | | | | | |
| Urban | 881 | 51605 | 41.2 | 33.68 | 49.12 | 1295 | 73705 | 58.8 | 50.88 | 66.32 |
| Rural | 77 | 4229 | 30.7 | 28.60 | 32.92 | 175 | 9537 | 69.3 | 67.08 | 71.40 |
| **Sex** | | | | | | | | | | |
| Boys | 486 | 30217 | 43.3 | 36.04 | 50.82 | 622 | 39598 | 56.7 | 49.18 | 63.96 |
| Girls | 472 | 25617 | 37.0 | 29.90 | 44.68 | 848 | 43644 | 63.0 | 55.32 | 70.10 |
| **Class** | | | | | | | | | | |
| Standard 4 | 159 | 9762 | 56.9 | 41.71 | 70.86 | 104 | 7400 | 43.1 | 29.14 | 58.29 |
| Standard 5 | 131 | 7891 | 47.6 | 32.40 | 63.31 | 115 | 8676 | 52.4 | 36.69 | 67.60 |
| Standard 6 | 113 | 8411 | 49.7 | 33.72 | 65.73 | 100 | 8513 | 50.3 | 34.27 | 66.28 |
| Remove class | | | | | | | | | | |
| Form 1 | 116 | 7906 | 42.1 | 32.30 | 52.56 | 161 | 10876 | 57.9 | 47.44 | 67.70 |
| Form 2 | 115 | 6412 | 36.2 | 29.30 | 43.69 | 204 | 11307 | 63.8 | 56.31 | 70.70 |
| Form 3 | 123 | 5531 | 31.6 | 25.77 | 38.08 | 276 | 11969 | 68.4 | 61.92 | 74.23 |
| Form 4 | 83 | 4826 | 28.6 | 22.70 | 35.41 | 215 | 12027 | 71.4 | 64.59 | 77.30 |
| Form 5 | 118 | 5096 | 29.0 | 21.98 | 37.21 | 295 | 12473 | 71.0 | 62.79 | 78.02 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 622 | 34738 | 41.8 | 32.04 | 52.26 | 953 | 48351 | 58.2 | 47.74 | 67.96 |
| Chinese | 207 | 13282 | 34.9 | 27.29 | 43.29 | 344 | 24812 | 65.1 | 56.71 | 72.71 |
| Indian | 106 | 6414 | 42.0 | 36.45 | 47.71 | 151 | 8865 | 58.0 | 52.29 | 63.55 |
| Bumiputera Sabah | 7 | 454 | 54.2 | 28.78 | 77.62 | 7 | 384 | 45.8 | 22.38 | 71.22 |
| Bumiputera Sarawak | 11 | 680 | 61.7 | 33.15 | 83.95 | 7 | 422 | 38.3 | 16.05 | 66.85 |
| Others | 5 | 265 | 39.4 | 17.22 | 67.09 | 8 | 407 | 60.6 | 32.91 | 82.78 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 70 | 4281 | 43.6 | 34.37 | 53.32 | 87 | 5535 | 56.4 | 46.68 | 65.63 |
| Normal (≥-2sd - ≤+1sd) | 585 | 34117 | 39.5 | 31.95 | 47.57 | 930 | 52270 | 60.5 | 52.43 | 68.05 |
| Overweight (>+1sd - ≤+2sd) | 153 | 8618 | 41.3 | 34.31 | 48.75 | 223 | 12228 | 58.7 | 51.25 | 65.69 |
| Obese (>+2sd) | 147 | 8636 | 39.9 | 30.79 | 49.68 | 226 | 13032 | 60.1 | 50.32 | 69.21 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 68 | 3548 | 38.9 | 28.00 | 50.93 | 111 | 5583 | 61.1 | 49.07 | 72.00 |
| Normal (≥-2sd) | 889 | 52237 | 40.2 | 33.44 | 47.42 | 1357 | 77594 | 59.8 | 52.58 | 66.56 |

**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 |
| **Negeri Sembilan** | 141 | 7816 | 5.6 | 4.68 | 6.80 | 790 | 47321 | 34.2 | 29.06 | 39.74 |
| **Locality of School** | | | | | | | | | | |
| Urban | 132 | 7247 | 5.8 | 4.85 | 6.96 | 723 | 43644 | 40.9 | 29.52 | 40.93 |
| Rural | 67 | 569 | 26.8 | 22.38 | 31.75 | 67 | 3676 | 26.8 | 22.38 | 31.75 |
| **Sex** | | | | | | | | | | |
| Boys | 79 | 4778 | 6.9 | 5.54 | 8.52 | 392 | 24602 | 35.4 | 30.17 | 41.09 |
| Girls | 62 | 3039 | 4.4 | 3.24 | 5.97 | 398 | 22719 | 33.0 | 27.10 | 39.39 |
| **Class** | | | | | | | | | | |
| Standard 4 | 26 | 1500 | 8.8 | 5.39 | 13.98 | 124 | 8087 | 47.3 | 39.03 | 55.75 |
| Standard 5 | 22 | 1314 | 7.9 | 4.62 | 13.22 | 101 | 6272 | 37.7 | 28.40 | 48.11 |
| Standard 6 | 7 | 473 | 2.8 | 1.08 | 7.06 | 97 | 7277 | 43.2 | 29.29 | 58.19 |
| Remove class | | | | | | | | | | |
| Form 1 | 17 | 1210 | 6.5 | 4.13 | 10.05 | 107 | 7293 | 39.1 | 32.80 | 45.82 |
| Form 2 | 19 | 998 | 5.7 | 3.28 | 9.64 | 110 | 6253 | 35.5 | 29.21 | 42.40 |
| Form 3 | 24 | 1100 | 6.3 | 4.17 | 9.43 | 91 | 3917 | 22.4 | 17.33 | 28.53 |
| Form 4 | 10 | 565 | 3.4 | 1.95 | 5.79 | 75 | 4320 | 25.8 | 19.53 | 33.26 |
| Form 5 | 16 | 656 | 3.8 | 1.88 | 7.45 | 85 | 3901 | 22.5 | 15.38 | 31.62 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 79 | 4147 | 5.0 | 3.87 | 6.48 | 518 | 29524 | 35.7 | 28.52 | 43.63 |
| Chinese | 37 | 2281 | 6.0 | 3.94 | 9.07 | 170 | 11466 | 30.2 | 23.80 | 37.49 |
| Indian | 21 | 1158 | 7.6 | 5.02 | 11.38 | 84 | 5281 | 34.7 | 27.38 | 42.89 |
| Bumiputera Sabah | 2 | 122 | 14.6 | 4.16 | 40.21 | 7 | 454 | 54.2 | 25.99 | 79.90 |
| Bumiputera Sarawak | 1 | 49 | 4.5 | 0.65 | 25.14 | 8 | 445 | 40.4 | 24.29 | 58.87 |
| Others | 1 | 59 | 9.6 | 1.74 | 39.12 | 3 | 150 | 24.7 | 12.29 | 43.36 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 10 | 587 | 6.0 | 3.55 | 10.00 | 58 | 3849 | 39.5 | 31.22 | 48.33 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 81 | 4513 | 5.3 | 4.24 | 6.50 | 494 | 29520 | 34.4 | 28.42 | 40.91 |
| Overweight (> +1sd - ≤+ 2sd ) | 21 | 1121 | 5.4 | 3.67 | 7.84 | 119 | 6945 | 33.3 | 26.56 | 40.89 |
| Obese (> + 2sd ) | 28 | 1527 | 7.1 | 5.13 | 9.67 | 118 | 6950 | 32.2 | 23.87 | 41.77 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 8 | 384 | 4.2 | 2.34 | 7.44 | 56 | 3033 | 33.2 | 25.15 | 42.41 |
| Normal ( ≥-2sd ) | 133 | 7433 | 5.8 | 4.79 | 6.91 | 733 | 44238 | 34.3 | 28.99 | 39.95 |

**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 |
| **Negeri Sembilan** | 136 | 8210 | 5.9 | 4.29 | 8.16 | 120 | 6945 | 5.0 | 3.84 | 6.53 |
| **Locality of School** | | | | | | | | | | |
| Urban | 122 | 7387 | 5.9 | 4.17 | 8.36 | 108 | 6195 | 5.0 | 3.78 | 6.51 |
| Rural | 14 | 823 | 6.0 | 2.85 | 12.21 | 12 | 750 | 5.5 | 2.04 | 13.87 |
| **Sex** | | | | | | | | | | |
| Boys | 87 | 5503 | 7.9 | 5.85 | 10.65 | 65 | 4071 | 5.9 | 4.34 | 7.89 |
| Girls | 49 | 2706 | 3.9 | 2.51 | 6.09 | 55 | 2874 | 4.2 | 2.94 | 5.88 |
| **Class** | | | | | | | | | | |
| Standard 4 | 28 | 1914 | 11.2 | 8.71 | 14.29 | 23 | 1291 | 7.6 | 4.48 | 12.45 |
| Standard 5 | 31 | 1770 | 10.7 | 5.74 | 18.93 | 18 | 1199 | 7.2 | 6.61 | 7.87 |
| Standard 6 | 11 | 789 | 4.7 | 2.09 | 10.15 | 13 | 914 | 5.4 | 2.04 | 13.61 |
| Remove class | | | | | | | | | | |
| Form 1 | 18 | 1331 | 7.1 | 4.20 | 11.89 | 10 | 772 | 4.1 | 2.16 | 7.80 |
| Form 2 | 13 | 685 | 3.9 | 2.10 | 7.10 | 10 | 596 | 3.4 | 1.70 | 6.64 |
| Form 3 | 17 | 835 | 4.8 | 1.93 | 11.36 | 15 | 746 | 4.3 | 2.27 | 7.90 |
| Form 4 | 5 | 315 | 1.9 | 0.77 | 4.56 | 11 | 677 | 4.0 | 2.14 | 7.52 |
| Form 5 | 13 | 571 | 3.3 | 1.66 | 6.41 | 20 | 751 | 4.3 | 3.11 | 5.99 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 94 | 5084 | 6.2 | 4.05 | 9.24 | 65 | 3551 | 4.3 | 2.82 | 6.49 |
| Chinese | 23 | 1751 | 4.6 | 3.32 | 6.38 | 35 | 2136 | 5.6 | 4.36 | 7.23 |
| Indian | 16 | 1174 | 7.7 | 4.30 | 13.48 | 15 | 970 | 6.4 | 4.10 | 9.79 |
| Bumiputera Sabah | | | | | | 1 | 57 | 6.8 | 0.84 | 38.29 |
| Bumiputera Sarawak | 3 | 202 | 18.3 | 4.60 | 50.94 | 1 | 70 | 6.3 | 1.01 | 30.90 |
| Others | | | | | | 3 | 162 | 26.6 | 11.46 | 50.40 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 7 | 380 | 3.9 | 1.86 | 7.99 | 11 | 630 | 6.5 | 3.73 | 10.96 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 84 | 5272 | 6.1 | 4.45 | 8.43 | 69 | 4025 | 4.7 | 3.48 | 6.29 |
| Overweight (> +1sd - ≤+ 2sd) | 24 | 1248 | 6.0 | 3.68 | 9.62 | 24 | 1320 | 6.3 | 4.18 | 9.50 |
| Obese (> + 2sd) | 21 | 1309 | 6.1 | 3.40 | 10.57 | 15 | 914 | 4.2 | 1.94 | 8.97 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 12 | 617 | 6.8 | 3.34 | 13.22 | 14 | 716 | 7.8 | 4.56 | 13.16 |
| Normal ( ≥-2sd ) | 124 | 7592 | 5.9 | 4.33 | 7.94 | 106 | 6229 | 4.8 | 3.70 | 6.27 |

**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 |
| **Negeri Sembilan** | 172 | 9705 | 17.5 | 14.24 | 21.24 | 376 | 21712 | 39.1 | 34.02 | 44.38 |
| **Locality of School** | | | | | | | | | | |
| Urban | 153 | 8529 | 16.6 | 13.81 | 19.80 | 351 | 20385 | 39.6 | 34.26 | 45.31 |
| Rural | 19 | 1176 | 28.3 | 12.34 | 52.53 | 25 | 1327 | 31.9 | 25.05 | 39.72 |
| **Sex** | | | | | | | | | | |
| Boys | 92 | 5565 | 18.5 | 14.01 | 24.06 | 163 | 9959 | 33.1 | 28.20 | 38.46 |
| Girls | 80 | 4139 | 16.2 | 12.79 | 20.37 | 213 | 11754 | 46.1 | 37.50 | 54.90 |
| **Class** | | | | | | | | | | |
| Standard 4 | 34 | 1983 | 20.3 | 13.53 | 29.35 | 57 | 3741 | 38.3 | 28.68 | 48.98 |
| Standard 5 | 23 | 1298 | 16.5 | 9.58 | 26.81 | 45 | 2716 | 34.4 | 29.49 | 39.70 |
| Standard 6 | 14 | 975 | 11.6 | 7.04 | 18.52 | 48 | 3619 | 43.0 | 32.48 | 54.24 |
| Remove class | | | | | | | | | | |
| Form 1 | 20 | 1404 | 18.1 | 10.79 | 28.81 | 43 | 2682 | 34.6 | 25.29 | 45.26 |
| Form 2 | 18 | 955 | 14.9 | 8.88 | 23.90 | 58 | 3330 | 51.9 | 38.75 | 64.86 |
| Form 3 | 24 | 1172 | 21.3 | 11.90 | 35.27 | 51 | 2152 | 39.2 | 26.59 | 53.37 |
| Form 4 | 20 | 1142 | 24.0 | 15.26 | 35.70 | 34 | 1941 | 40.8 | 30.35 | 52.24 |
| Form 5 | 19 | 775 | 15.2 | 9.82 | 22.83 | 40 | 1532 | 30.1 | 19.08 | 43.93 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 114 | 6363 | 18.4 | 15.57 | 21.53 | 248 | 13571 | 39.2 | 33.39 | 45.24 |
| Chinese | 20 | 1160 | 8.7 | 4.71 | 15.65 | 82 | 5395 | 40.6 | 34.08 | 47.51 |
| Indian | 33 | 1862 | 29.9 | 20.60 | 41.19 | 41 | 2483 | 39.9 | 31.32 | 49.05 |
| Bumiputera Sabah | 2 | 152 | 33.3 | 8.50 | 72.92 | 1 | 54 | 11.9 | 1.25 | 59.14 |
| Bumiputera Sarawak | 2 | 109 | 16.0 | 3.46 | 50.48 | 2 | 108 | 15.9 | 3.00 | 53.52 |
| Others | 1 | 59 | 22.1 | 2.28 | 77.54 | 2 | 102 | 38.4 | 10.21 | 77.35 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 237 | 19945 | 17.1 | 14.33 | 20.26 | 574 | 50164 | 43.0 | 39.53 | 46.51 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 1963 | 174456 | 17.7 | 16.50 | 18.90 | 4822 | 429345 | 43.5 | 41.94 | 45.04 |
| Overweight (> +1sd - ≤+ 2sd) | 429 | 36163 | 16.1 | 14.42 | 18.02 | 1118 | 95652 | 42.7 | 40.21 | 45.20 |
| Obese (> + 2sd) | 477 | 40459 | 18.9 | 16.33 | 21.67 | 967 | 87031 | 40.6 | 38.31 | 42.87 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 314 | 26496 | 20.3 | 17.70 | 23.09 | 639 | 56149 | 42.9 | 39.34 | 46.62 |
| Normal ( ≥-2sd ) | 2797 | 244971 | 17.3 | 16.28 | 18.42 | 6848 | 606851 | 42.9 | 41.62 | 44.24 |

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

| Characteristics | Self awareness | | | | | Influences by friends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper | Count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 290 | 16745 | 30.1 | 26.16 | 34.43 | 21 | 1438 | 2.6 | 1.58 | 4.22 |
| **Locality of School** | | | | | | | | | | |
| Urban | 264 | 15423 | 30.0 | 25.75 | 34.61 | 21 | 1438 | 2.8 | 1.74 | 4.47 |
| Rural | 26 | 1322 | 31.8 | 24.57 | 40.05 | | | 0.0 | 0.00 | 0.00 |
| **Sex** | | | | | | | | | | |
| Boys | 158 | 9809 | 32.6 | 28.93 | 36.56 | 17 | 1190 | 4.0 | 2.47 | 6.28 |
| Girls | 132 | 6936 | 27.2 | 21.61 | 33.60 | 4 | 248 | 1.0 | 0.28 | 3.29 |
| **Class** | | | | | | | | | | |
| Standard 4 | 42 | 2400 | 24.6 | 16.99 | 34.18 | 5 | 455 | 4.7 | 1.49 | 13.64 |
| Standard 5 | 40 | 2158 | 27.3 | 18.97 | 37.71 | 7 | 338 | 4.3 | 1.95 | 9.17 |
| Standard 6 | 40 | 3056 | 36.3 | 27.39 | 46.35 | 4 | 263 | 3.1 | 1.17 | 8.10 |
| Remove class | | | | | | | | | | |
| Form 1 | 34 | 2406 | 31.0 | 25.46 | 37.24 | 6 | 463 | 6.0 | 1.60 | 19.86 |
| Form 2 | 29 | 1641 | 25.6 | 16.42 | 37.56 | 8 | 381 | 5.9 | 2.17 | 15.26 |
| Form 3 | 36 | 1622 | 29.5 | 22.18 | 38.12 | 2 | 99 | 1.8 | 0.47 | 6.66 |
| Form 4 | 21 | 1240 | 26.1 | 15.78 | 39.96 | | | 0.0 | 0.00 | 0.00 |
| Form 5 | 48 | 2220 | 43.6 | 30.19 | 57.97 | 1 | 83 | 1.6 | 0.21 | 11.77 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 192 | 10928 | 31.5 | 28.06 | 35.23 | 15 | 928 | 2.7 | 1.70 | 4.20 |
| Chinese | 70 | 4138 | 31.2 | 22.53 | 41.31 | 4 | 219 | 1.6 | 0.60 | 4.45 |
| Indian | 19 | 1118 | 17.9 | 11.61 | 26.69 | 2 | 291 | 4.7 | 0.82 | 22.58 |
| Bumiputera Sabah | 4 | 249 | 54.7 | 20.78 | 84.79 | | | | | |
| Bumiputera Sarawak | 4 | 258 | 37.9 | 10.05 | 77.00 | | | | | |
| Others | 1 | 54 | 20.4 | 3.22 | 66.47 | | | | | |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 363 | 32467 | 27.8 | 24.63 | 31.25 | 33 | 2722 | 2.3 | 1.54 | 3.53 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 3157 | 278618 | 28.2 | 26.85 | 29.63 | 238 | 22409 | 2.3 | 1.92 | 2.68 |
| Overweight (> +1sd - ≤+ 2sd) | 733 | 64223 | 28.7 | 26.67 | 30.74 | 71 | 6093 | 2.7 | 2.05 | 3.59 |
| Obese (> + 2sd) | 687 | 61972 | 28.9 | 26.43 | 31.48 | 57 | 5684 | 2.6 | 1.87 | 3.75 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 378 | 33507 | 25.6 | 22.16 | 29.43 | 33 | 3404 | 2.6 | 1.69 | 3.99 |
| Normal ( ≥-2sd ) | 4564 | 404115 | 28.6 | 27.50 | 29.69 | 367 | 33517 | 2.4 | 2.09 | 2.69 |

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

| Characteristics | Count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
|---|---|---|---|---|---|
| **Negeri Sembilan** | 58 | 3513 | 6.3 | 4.76 | 8.36 |
| **Locality of School** | | | | | |
| Urban | 53 | 3241 | 6.3 | 4.70 | 8.40 |
| Rural | 5 | 272 | 6.5 | 2.02 | 19.26 |
| **Sex** | | | | | |
| Boys | 34 | 2083 | 6.9 | 4.64 | 10.24 |
| Girls | 24 | 1430 | 5.6 | 3.80 | 8.20 |
| **Class** | | | | | |
| Standard 4 | 12 | 692 | 7.1 | 4.50 | 11.00 |
| Standard 5 | 11 | 866 | 11.0 | 5.51 | 20.69 |
| Standard 6 | 7 | 497 | 5.9 | 2.00 | 16.17 |
| Remove class | | | | | |
| Form 1 | 5 | 350 | 4.5 | 2.07 | 9.57 |
| Form 2 | 2 | 105 | 1.6 | 0.40 | 6.42 |
| Form 3 | 5 | 250 | 4.6 | 1.76 | 11.25 |
| Form 4 | 5 | 307 | 6.5 | 2.20 | 17.56 |
| Form 5 | 8 | 403 | 7.9 | 3.45 | 17.10 |
| **Ethnicity** | | | | | |
| Malay | 39 | 2173 | 6.3 | 4.43 | 8.81 |
| Chinese | 12 | 970 | 7.3 | 4.10 | 12.69 |
| Indian | 5 | 262 | 4.2 | 2.03 | 8.53 |
| Bumiputera Sabah | | | 0.0 | 0.00 | 0.00 |
| Bumiputera Sarawak | 1 | 57 | 8.4 | 1.09 | 43.60 |
| Others | 1 | 51 | 19.1 | 1.91 | 74.01 |
| **BMI-for age status (BAZ)** | | | | | |
| Thinness ( <-2sd ) | 75 | 7553 | 6.5 | 5.00 | 8.34 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 690 | 58783 | 6.0 | 5.30 | 6.68 |
| Overweight (> +1sd - ≤+ 2sd) | 169 | 15019 | 6.7 | 5.56 | 8.05 |
| Obese (> + 2sd) | 157 | 13539 | 6.3 | 5.15 | 7.72 |
| **Height-for - age status (HAZ)** | | | | | |
| Stunting ( <-2sd ) | 90 | 7814 | 6.0 | 4.60 | 7.72 |
| Normal ( ≥-2sd ) | 1003 | 87279 | 6.2 | 5.60 | 6.80 |

**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 |
| **Negeri Sembilan** | 353 | 20037 | 14.5 | 11.24 | 18.42 | 182 | 10450 | 7.5 | 5.79 | 9.77 |
| **Locality of School** | | | | | | | | | | |
| Urban | 324 | 18430 | 14.8 | 11.24 | 19.15 | 170 | 9771 | 7.8 | 5.96 | 10.23 |
| Rural | 29 | 1607 | 11.7 | 11.10 | 12.36 | 12 | 678 | 4.9 | 2.50 | 9.57 |
| **Sex** | | | | | | | | | | |
| Boys | 165 | 10283 | 14.8 | 11.46 | 18.93 | 113 | 6812 | 9.8 | 7.66 | 12.48 |
| Girls | 188 | 9754 | 14.1 | 10.46 | 18.77 | 69 | 3638 | 5.3 | 3.66 | 7.51 |
| **Class** | | | | | | | | | | |
| Standard 4 | 57 | 3470 | 20.2 | 13.21 | 29.52 | 40 | 2240 | 13.0 | 7.77 | 20.98 |
| Standard 5 | 44 | 2473 | 14.9 | 8.24 | 25.51 | 30 | 1701 | 10.3 | 6.89 | 15.01 |
| Standard 6 | 40 | 2885 | 17.0 | 8.49 | 31.29 | 15 | 995 | 5.9 | 2.83 | 11.82 |
| Remove class | | | | | | | | | | |
| Form 1 | 44 | 3071 | 16.5 | 11.63 | 22.81 | 26 | 1856 | 10.0 | 4.96 | 18.98 |
| Form 2 | 55 | 3067 | 17.4 | 11.64 | 25.24 | 30 | 1666 | 9.5 | 5.89 | 14.86 |
| Form 3 | 43 | 1971 | 11.3 | 7.36 | 16.93 | 17 | 795 | 4.6 | 2.78 | 7.39 |
| Form 4 | 26 | 1445 | 8.7 | 5.90 | 12.56 | 7 | 411 | 2.5 | 1.06 | 5.61 |
| Form 5 | 44 | 1654 | 9.5 | 6.58 | 13.48 | 17 | 786 | 4.5 | 2.02 | 9.74 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 231 | 12697 | 15.3 | 11.32 | 20.42 | 109 | 6207 | 7.5 | 5.65 | 9.86 |
| Chinese | 64 | 4042 | 10.7 | 7.67 | 14.63 | 51 | 2984 | 7.9 | 4.22 | 14.20 |
| Indian | 51 | 2859 | 18.9 | 15.02 | 23.49 | 14 | 851 | 5.6 | 3.40 | 9.18 |
| Bumiputera Sabah | 1 | 54 | 6.5 | 0.70 | 40.44 | 3 | 54 | 19.1 | 6.05 | 46.48 |
| Bumiputera Sarawak | 4 | 266 | 24.1 | 10.81 | 45.51 | 1 | 266 | 5.0 | 0.52 | 34.89 |
| Others | 2 | 119 | 17.7 | 3.97 | 52.65 | 4 | 119 | 28.5 | 10.34 | 57.94 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 24 | 1324 | 13.5 | 8.60 | 20.52 | 15 | 960 | 9.8 | 4.87 | 18.65 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 217 | 12286 | 14.3 | 11.21 | 18.07 | 105 | 5964 | 6.9 | 5.07 | 9.44 |
| Overweight (> +1sd - ≤+ 2sd) | 57 | 3119 | 14.9 | 9.39 | 22.92 | 28 | 1618 | 7.7 | 4.93 | 11.97 |
| Obese (> + 2sd) | 55 | 3308 | 15.3 | 10.44 | 21.98 | 33 | 1852 | 8.6 | 5.44 | 13.30 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 21 | 1035 | 11.3 | 6.50 | 19.03 | 17 | 890 | 9.7 | 6.16 | 15.09 |
| Normal ( ≥-2sd ) | 332 | 19002 | 14.7 | 11.45 | 18.66 | 164 | 9511 | 7.4 | 5.64 | 9.55 |

**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 |
| **Negeri Sembilan** | 236 | 14878 | 10.7 | 8.43 | 13.58 | 366 | 21633 | 15.6 | 13.33 | 18.21 |
| **Locality of School** | | | | | | | | | | |
| Urban | 218 | 13749 | 11.0 | 8.56 | 14.06 | 328 | 19545 | 15.7 | 13.15 | 18.54 |
| Rural | 18 | 1129 | 8.2 | 4.09 | 15.88 | 38 | 2087 | 15.2 | 13.85 | 16.70 |
| **Sex** | | | | | | | | | | |
| Boys | 147 | 9377 | 13.5 | 10.55 | 17.13 | 172 | 10823 | 15.6 | 12.99 | 18.58 |
| Girls | 89 | 5502 | 8.0 | 5.77 | 10.89 | 194 | 10810 | 15.6 | 12.83 | 18.94 |
| **Class** | | | | | | | | | | |
| Standard 4 | 32 | 2296 | 13.3 | 8.99 | 19.34 | 61 | 3997 | 23.2 | 16.69 | 31.35 |
| Standard 5 | 41 | 2554 | 15.4 | 11.34 | 20.60 | 53 | 3338 | 20.1 | 13.42 | 29.08 |
| Standard 6 | 37 | 2797 | 16.5 | 11.63 | 22.96 | 35 | 2667 | 15.8 | 12.02 | 20.38 |
| Remove class | | | | | | | | | | |
| Form 1 | 28 | 2080 | 11.2 | 8.19 | 15.03 | 43 | 2891 | 15.5 | 11.73 | 20.21 |
| Form 2 | 23 | 1347 | 7.6 | 4.90 | 11.76 | 42 | 2291 | 13.0 | 10.91 | 15.45 |
| Form 3 | 28 | 1282 | 7.3 | 4.27 | 12.33 | 48 | 2032 | 11.6 | 8.18 | 16.30 |
| Form 4 | 22 | 1260 | 7.6 | 4.69 | 11.96 | 42 | 2492 | 15.0 | 9.74 | 22.26 |
| Form 5 | 25 | 1262 | 7.2 | 4.42 | 11.62 | 42 | 1926 | 11.0 | 7.43 | 16.09 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 154 | 8867 | 10.7 | 7.77 | 14.56 | 235 | 13013 | 15.7 | 12.65 | 19.33 |
| Chinese | 52 | 3706 | 9.8 | 6.32 | 14.80 | 84 | 5667 | 14.9 | 12.66 | 17.56 |
| Indian | 26 | 2038 | 13.5 | 7.62 | 22.70 | 38 | 2428 | 16.0 | 11.40 | 22.12 |
| Bumiputera Sabah | 2 | 136 | 16.3 | 3.15 | 53.78 | 1 | 57 | 6.8 | 0.84 | 38.29 |
| Bumiputera Sarawak | 1 | 57 | 5.2 | 0.75 | 28.57 | 7 | 416 | 37.8 | 24.78 | 52.81 |
| Others | 1 | 74 | 11.0 | 1.86 | 44.55 | 1 | 51 | 7.5 | 0.76 | 46.25 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 19 | 1439 | 14.7 | 8.62 | 23.83 | 25 | 1577 | 16.1 | 11.28 | 22.36 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 141 | 8997 | 10.5 | 8.32 | 13.10 | 230 | 13768 | 16.0 | 13.09 | 19.48 |
| Overweight (> +1sd - ≤+ 2sd) | 43 | 2445 | 11.7 | 7.64 | 17.50 | 54 | 2943 | 14.1 | 10.03 | 19.43 |
| Obese (> + 2sd) | 31 | 1873 | 8.7 | 5.13 | 14.34 | 57 | 3345 | 15.5 | 11.03 | 21.38 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 17 | 958 | 10.5 | 5.94 | 17.85 | 26 | 1438 | 15.7 | 10.73 | 22.53 |
| Normal ( ≥-2sd ) | 219 | 13921 | 10.8 | 8.50 | 13.55 | 340 | 20195 | 15.6 | 13.19 | 18.41 |

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

| 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 |
| **Negeri Sembilan** | 665 | 39260 | 28.3 | 22.93 | 34.42 | 1755 | 99354 | 71.7 | 65.58 | 77.07 |
| **Locality of School** | | | | | | | | | | |
| Urban | 615 | 36369 | 29.1 | 23.29 | 35.72 | 1554 | 88528 | 70.9 | 64.28 | 76.71 |
| Rural | 50 | 2891 | 21.1 | 20.37 | 21.80 | 201 | 10826 | 78.9 | 78.20 | 79.63 |
| **Sex** | | | | | | | | | | |
| Boys | 378 | 23236 | 33.4 | 27.64 | 39.72 | 726 | 46319 | 66.6 | 60.28 | 72.36 |
| Girls | 287 | 16025 | 23.2 | 17.77 | 29.70 | 1029 | 53035 | 76.8 | 70.30 | 82.23 |
| **Class** | | | | | | | | | | |
| Standard 4 | 126 | 7589 | 44.3 | 30.90 | 58.68 | 136 | 9523 | 55.7 | 41.32 | 69.10 |
| Standard 5 | 97 | 5953 | 36.0 | 27.38 | 45.66 | 148 | 10575 | 64.0 | 54.34 | 72.62 |
| Standard 6 | 83 | 6095 | 36.0 | 24.74 | 49.08 | 130 | 10829 | 64.0 | 50.92 | 75.26 |
| Remove class | | | | | | | | | | |
| Form 1 | 73 | 5197 | 28.1 | 21.01 | 36.49 | 200 | 13295 | 71.9 | 63.51 | 78.99 |
| Form 2 | 76 | 4243 | 24.0 | 19.58 | 29.08 | 242 | 13427 | 76.0 | 70.92 | 80.42 |
| Form 3 | 86 | 3895 | 22.3 | 17.74 | 27.54 | 313 | 13604 | 77.7 | 72.46 | 82.26 |
| Form 4 | 48 | 2759 | 16.4 | 11.71 | 22.42 | 250 | 14094 | 83.6 | 77.58 | 88.29 |
| Form 5 | 76 | 3529 | 20.1 | 13.26 | 29.34 | 336 | 14007 | 79.9 | 70.66 | 86.74 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 406 | 23043 | 27.9 | 20.45 | 36.74 | 1162 | 59638 | 72.1 | 63.26 | 79.55 |
| Chinese | 176 | 11208 | 29.4 | 23.13 | 36.62 | 375 | 26887 | 70.6 | 63.38 | 76.87 |
| Indian | 69 | 4164 | 27.3 | 21.56 | 34.02 | 187 | 11061 | 72.7 | 65.98 | 78.44 |
| Bumiputera Sabah | 6 | 368 | 43.8 | 16.52 | 75.50 | 8 | 471 | 56.2 | 24.50 | 83.48 |
| Bumiputera Sarawak | 6 | 362 | 32.9 | 19.61 | 49.54 | 12 | 740 | 67.1 | 50.46 | 80.39 |
| Others | 2 | 115 | 17.1 | 3.111 | 57.0528 | 11 | 557 | 82.9 | 42.95 | 96.89 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 46 | 2631 | 26.8 | 18.19 | 37.61 | 111 | 7186 | 73.2 | 62.39 | 81.81 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 397 | 23379 | 27.2 | 21.74 | 33.42 | 1112 | 62619 | 72.8 | 66.58 | 78.26 |
| Overweight (> +1sd - ≤+ 2sd) | 117 | 6984 | 33.6 | 27.23 | 40.53 | 258 | 13830 | 66.4 | 59.47 | 72.77 |
| Obese (> + 2sd) | 103 | 6143 | 28.4 | 21.28 | 36.79 | 269 | 15485 | 71.6 | 63.21 | 78.72 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 51 | 2781 | 30.6 | 21.27 | 41.83 | 127 | 6310 | 69.4 | 58.17 | 78.73 |
| Normal ( ≥-2sd ) | 613 | 36430 | 28.2 | 22.88 | 34.10 | 1626 | 92980 | 71.8 | 65.90 | 77.12 |

**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 |
| **Negeri Sembilan** | 122 | 7351 | 5.3 | 3.94 | 7.16 | 186 | 11087 | 8.0 | 6.25 | 10.28 |
| **Locality of School** | | | | | | | | | | |
| Urban | 110 | 6633 | 5.3 | 3.88 | 7.31 | 170 | 10085 | 8.1 | 6.19 | 10.57 |
| Rural | 12 | 718 | 5.2 | 2.16 | 12.12 | 16 | 1002 | 7.3 | 4.17 | 12.48 |
| **Sex** | | | | | | | | | | |
| Boys | 78 | 4761 | 6.9 | 5.18 | 9.08 | 105 | 6525 | 9.4 | 7.01 | 12.56 |
| Girls | 44 | 2590 | 3.8 | 2.35 | 5.98 | 81 | 4562 | 6.6 | 4.71 | 9.27 |
| **Class** | | | | | | | | | | |
| Standard 4 | 23 | 1610 | 9.4 | 5.99 | 14.50 | 39 | 2537 | 14.8 | 11.19 | 19.41 |
| Standard 5 | 19 | 1068 | 6.4 | 2.73 | 14.40 | 28 | 1368 | 8.2 | 3.44 | 18.44 |
| Standard 6 | 10 | 736 | 4.4 | 2.27 | 8.18 | 16 | 1122 | 6.6 | 4.42 | 9.83 |
| Remove class | | | | | | | | | | |
| Form 1 | 15 | 1141 | 6.1 | 3.50 | 10.52 | 24 | 1814 | 9.8 | 4.84 | 18.67 |
| Form 2 | 17 | 914 | 5.2 | 2.15 | 12.04 | 29 | 1587 | 9.0 | 5.75 | 13.89 |
| Form 3 | 20 | 942 | 5.4 | 2.49 | 11.38 | 21 | 1053 | 6.1 | 3.31 | 10.82 |
| Form 4 | 6 | 374 | 2.3 | 0.89 | 5.71 | 15 | 957 | 5.8 | 3.21 | 10.32 |
| Form 5 | 12 | 567 | 3.3 | 1.46 | 7.22 | 14 | 648 | 3.7 | 1.88 | 7.33 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 75 | 4156 | 5.0 | 3.53 | 7.16 | 91 | 5274 | 6.4 | 4.57 | 8.90 |
| Chinese | 24 | 1744 | 4.6 | 2.79 | 7.59 | 51 | 3162 | 8.4 | 5.61 | 12.37 |
| Indian | 22 | 1396 | 9.1 | 5.31 | 15.28 | 34 | 2069 | 13.5 | 8.96 | 19.95 |
| Bumiputera Sabah | - | - | - | - | - | 5 | 312 | 37.3 | 14.80 | 66.98 |
| Bumiputera Sarawak | 1 | 55 | 5.0 | 0.67 | 29.44 | 3 | 178 | 16.2 | 4.49 | 44.16 |
| Others | - | - | - | - | - | 2 | 92 | 13.7 | 4.09 | 37.07 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 7 | 394 | 4.0 | 1.66 | 9.38 | 15 | 937 | 9.6 | 5.88 | 15.14 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 74 | 4453 | 5.2 | 3.63 | 7.40 | 108 | 6606 | 7.7 | 5.71 | 10.34 |
| Overweight (> +1sd - ≤+ 2sd) | 19 | 1186 | 5.7 | 3.54 | 9.12 | 32 | 1761 | 8.5 | 5.61 | 12.66 |
| Obese (> + 2sd) | 22 | 1318 | 6.2 | 3.83 | 9.76 | 30 | 1714 | 8.0 | 5.28 | 11.97 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 10 | 503 | 5.5 | 1.59 | 17.38 | 11 | 649 | 7.1 | 4.03 | 12.24 |
| Normal ( ≥-2sd ) | 112 | 6848 | 5.3 | 3.97 | 7.09 | 174 | 10389 | 8.1 | 6.28 | 10.32 |

**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 |
| **Negeri Sembilan** | 317 | 18544 | 13.4 | 9.95 | 17.92 | 109 | 7053 | 5.1 | 3.73 | 6.97 |
| **Locality of School** | | | | | | | | | | |
| Urban | 293 | 17231 | 13.9 | 10.09 | 18.76 | 94 | 6029 | 4.9 | 3.43 | 6.82 |
| Rural | 24 | 1314 | 9.6 | 6.89 | 13.15 | 15 | 1025 | 7.5 | 4.33 | 12.57 |
| **Sex** | | | | | | | | | | |
| Boys | 160 | 9598 | 13.9 | 10.18 | 18.61 | 71 | 4823 | 7.0 | 5.01 | 9.61 |
| Girls | 157 | 8947 | 13.0 | 9.30 | 17.91 | 38 | 2230 | 3.2 | 2.06 | 5.07 |
| **Class** | | | | | | | | | | |
| Standard 4 | 57 | 3324 | 19.4 | 9.25 | 36.35 | 19 | 1590 | 9.3 | 4.76 | 17.39 |
| Standard 5 | 52 | 3025 | 18.2 | 11.21 | 28.17 | 21 | 1180 | 7.1 | 4.05 | 12.16 |
| Standard 6 | 40 | 3119 | 18.4 | 10.61 | 30.08 | 13 | 862 | 5.1 | 2.65 | 9.57 |
| Remove class | | | | | | | | | | |
| Form 1 | 38 | 2593 | 13.9 | 9.62 | 19.77 | 17 | 1331 | 7.2 | 3.27 | 14.95 |
| Form 2 | 39 | 2216 | 12.6 | 8.40 | 18.47 | 12 | 692 | 3.9 | 1.80 | 8.36 |
| Form 3 | 33 | 1371 | 7.9 | 5.17 | 11.87 | 9 | 432 | 2.5 | 1.26 | 4.86 |
| Form 4 | 22 | 1175 | 7.1 | 4.01 | 12.41 | 6 | 365 | 2.2 | 1.02 | 4.77 |
| Form 5 | 36 | 1721 | 10.0 | 5.70 | 16.83 | 12 | 600 | 3.5 | 1.33 | 8.73 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 243 | 13672 | 16.6 | 11.68 | 23.03 | 50 | 3072 | 3.7 | 2.48 | 5.56 |
| Chinese | 51 | 3467 | 9.2 | 7.66 | 11.02 | 42 | 2484 | 6.6 | 3.73 | 11.39 |
| Indian | 18 | 1101 | 7.2 | 5.40 | 9.56 | 14 | 1277 | 8.4 | 3.76 | 17.56 |
| Bumiputera Sabah | 2 | 129 | 15.4 | 4.49 | 41.40 | 1 | 96 | 11.5 | 1.64 | 50.17 |
| Bumiputera Sarawak | 2 | 113 | 10.2 | 2.42 | 34.36 | - | - | - | - | - |
| Others | 1 | 62 | 9.3 | 1.60 | 39.13 | 2 | 125 | 18.5 | 5.15 | 48.71 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 22 | 1268 | 12.9 | 6.87 | 22.98 | 8 | 631 | 6.4 | 3.06 | 13.04 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 205 | 12251 | 14.3 | 10.44 | 19.30 | 64 | 4110 | 4.8 | 3.41 | 6.72 |
| Overweight (> +1sd - ≤+ 2sd) | 46 | 2486 | 12.0 | 7.81 | 17.95 | 20 | 1291 | 6.2 | 4.10 | 9.33 |
| Obese (> + 2sd) | 44 | 2540 | 11.9 | 8.25 | 16.79 | 15 | 908 | 4.2 | 1.95 | 8.96 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 28 | 1464 | 16.0 | 10.56 | 23.59 | 14 | 806 | 8.8 | 4.98 | 15.17 |
| Normal ( ≥-2sd ) | 289 | 17080 | 13.3 | 9.79 | 17.74 | 95 | 6247 | 4.9 | 3.54 | 6.62 |

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

| Characteristics | Others | | | | |
| --- | --- | --- | --- | --- | --- |
| | Count | Estimated population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper |
| **Negeri Sembilan** | 205 | 12530 | 9.1 | 7.24 | 11.34 |
| **Locality of School** | | | | | |
| Urban | 190 | 11700 | 9.4 | 7.46 | 11.83 |
| Rural | 15 | 829 | 6.0 | 4.23 | 8.57 |
| **Sex** | | | | | |
| Boys | 117 | 7660 | 11.1 | 8.24 | 14.71 |
| Girls | 88 | 4870 | 7.1 | 5.71 | 8.75 |
| **Class** | | | | | |
| Standard 4 | 38 | 2328 | 13.6 | 10.21 | 17.93 |
| Standard 5 | 31 | 2562 | 15.4 | 9.32 | 24.42 |
| Standard 6 | 23 | 1598 | 9.4 | 5.17 | 16.63 |
| Remove class | | | | | |
| Form 1 | 24 | 1657 | 8.9 | 5.84 | 13.35 |
| Form 2 | 20 | 1061 | 6.0 | 4.34 | 8.31 |
| Form 3 | 33 | 1526 | 8.8 | 5.58 | 13.56 |
| Form 4 | 16 | 962 | 5.9 | 4.38 | 7.78 |
| Form 5 | 20 | 836 | 4.8 | 3.23 | 7.19 |
| **Ethnicity** | | | | | |
| Malay | 119 | 6507 | 7.9 | 5.64 | 10.96 |
| Chinese | 59 | 4424 | 11.7 | 8.83 | 15.46 |
| Indian | 16 | 915 | 6.0 | 3.98 | 8.92 |
| Bumiputera Sabah | 1 | 57 | 6.8 | 0.84 | 38.29 |
| Bumiputera Sarawak | 8 | 508 | 46.1 | 25.18 | 68.46 |
| Others | 2 | 119 | 17.7 | 3.97 | 52.65 |
| **BMI-for age status (BAZ)** | | | | | |
| Thinness ( <-2sd ) | 17 | 1061 | 10.8 | 6.18 | 18.22 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 111 | 6555 | 7.7 | 6.01 | 9.71 |
| Overweight (> +1sd - ≤+ 2sd ) | 33 | 1945 | 9.4 | 6.51 | 13.33 |
| Obese (> + 2sd) | 44 | 2968 | 13.9 | 9.72 | 19.41 |
| **Height-for - age status (HAZ)** | | | | | |
| Stunting ( <-2sd ) | 13 | 729 | 8.0 | 3.86 | 15.81 |
| Normal ( ≥-2sd ) | 192 | 11800 | 9.2 | 7.45 | 11.23 |

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

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

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

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

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

**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 | 95% CI Upper | Count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **Negeri Sembilan** | 244 | 14643 | 10.6 | 8.27 | 13.48 | 156 | 9318 | 6.7 | 5.07 | 8.91 |
| **Locality of School** | | | | | | | | | | |
| Urban | 226 | 13471 | 10.8 | 8.34 | 13.92 | 139 | 8198 | 6.6 | 4.87 | 8.85 |
| Rural | 18 | 1172 | 8.5 | 4.05 | 17.13 | 17 | 1120 | 8.2 | 3.74 | 16.88 |
| **Sex** | | | | | | | | | | |
| Boys | 123 | 7867 | 11.4 | 8.87 | 14.42 | 96 | 5912 | 8.5 | 6.53 | 11.08 |
| Girls | 121 | 6776 | 9.8 | 7.26 | 13.18 | 60 | 3406 | 4.9 | 3.40 | 7.14 |
| **Class** | | | | | | | | | | |
| Standard 4 | 59 | 3891 | 22.7 | 19.85 | 25.79 | 23 | 1288 | 7.5 | 3.34 | 16.01 |
| Standard 5 | 34 | 1987 | 12.0 | 7.34 | 18.89 | 31 | 1791 | 10.8 | 7.08 | 16.08 |
| Standard 6 | 28 | 2010 | 11.9 | 6.35 | 21.28 | 17 | 1183 | 7.0 | 3.70 | 12.92 |
| Remove class | | | | | | | | | | |
| Form 1 | 27 | 1982 | 10.7 | 7.36 | 15.21 | 25 | 1865 | 10.0 | 6.55 | 15.08 |
| Form 2 | 30 | 1721 | 9.7 | 6.77 | 13.84 | 31 | 1735 | 9.8 | 5.17 | 17.88 |
| Form 3 | 26 | 1160 | 6.7 | 4.21 | 10.45 | 15 | 744 | 4.3 | 2.08 | 8.61 |
| Form 4 | 14 | 815 | 4.9 | 2.40 | 9.77 | 6 | 374 | 2.2 | 1.17 | 4.27 |
| Form 5 | 26 | 1076 | 6.2 | 4.41 | 8.67 | 8 | 338 | 1.9 | 1.00 | 3.76 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 143 | 7892 | 9.6 | 6.40 | 14.04 | 90 | 5346 | 6.5 | 4.39 | 9.46 |
| Chinese | 59 | 4249 | 11.2 | 8.73 | 14.35 | 36 | 2104 | 5.6 | 2.98 | 10.15 |
| Indian | 35 | 2025 | 13.3 | 9.03 | 19.21 | 23 | 1511 | 9.9 | 5.45 | 17.45 |
| Bumiputera Sabah | 3 | 234 | 27.9 | 5.72 | 71.13 | 3 | 159 | 19.0 | 3.91 | 57.40 |
| Bumiputera Sarawak | 2 | 125 | 11.4 | 3.64 | 30.30 | 3 | 165 | 15.0 | 3.97 | 42.87 |
| Others | 2 | 119 | 17.7 | 3.97 | 52.65 | 1 | 33 | 5.0 | 0.55 | 32.92 |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 14 | 748 | 7.7 | 4.48 | 12.99 | 12 | 733 | 7.6 | 3.74 | 14.71 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 144 | 8436 | 9.8 | 7.24 | 13.23 | 95 | 5636 | 6.6 | 4.71 | 9.09 |
| Overweight (> +1sd - ≤+ 2sd) | 48 | 2951 | 14.2 | 9.87 | 19.93 | 22 | 1297 | 6.2 | 3.60 | 10.56 |
| Obese (> + 2sd) | 37 | 2451 | 11.4 | 7.52 | 16.87 | 27 | 1651 | 7.7 | 4.08 | 13.95 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 14 | 771 | 8.5 | 3.84 | 17.75 | 11 | 623 | 6.9 | 2.80 | 15.85 |
| Normal ( ≥-2sd ) | 230 | 13872 | 10.8 | 8.53 | 13.46 | 144 | 8646 | 6.7 | 5.10 | 8.76 |

**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 | 95% CI Upper | Count | Estimated population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **Negeri Sembilan** | 171 | 10252 | 7.4 | 6.05 | 9.06 | 316 | 19230 | 13.9 | 11.12 | 17.27 |
| **Locality of School** | | | | | | | | | | |
| Urban | 156 | 9330 | 7.5 | 6.04 | 9.27 | 291 | 17924 | 14.4 | 11.48 | 17.91 |
| Rural | 15 | 922 | 6.7 | 3.88 | 11.38 | 25 | 1305 | 9.5 | 5.34 | 16.39 |
| **Sex** | | | | | | | | | | |
| Boys | 106 | 6633 | 9.6 | 7.57 | 12.04 | 171 | 10799 | 15.6 | 12.92 | 18.69 |
| Girls | 65 | 3618 | 5.2 | 4.01 | 6.85 | 145 | 8431 | 12.2 | 8.92 | 16.55 |
| **Class** | | | | | | | | | | |
| Standard 4 | 22 | 1400 | 8.2 | 6.16 | 10.75 | 63 | 4273 | 24.9 | 19.35 | 31.45 |
| Standard 5 | 29 | 1680 | 10.1 | 6.70 | 14.98 | 48 | 2971 | 17.9 | 13.44 | 23.39 |
| Standard 6 | 21 | 1428 | 8.5 | 5.30 | 13.27 | 37 | 2912 | 17.3 | 10.94 | 26.21 |
| Remove class | | | | | | | | | | |
| Form 1 | 29 | 2093 | 11.3 | 7.29 | 16.99 | 29 | 1990 | 10.7 | 7.03 | 15.99 |
| Form 2 | 11 | 613 | 3.5 | 2.11 | 5.66 | 33 | 1803 | 10.2 | 7.66 | 13.49 |
| Form 3 | 24 | 1074 | 6.2 | 3.79 | 9.94 | 40 | 1794 | 10.3 | 7.63 | 13.84 |
| Form 4 | 14 | 775 | 4.7 | 1.97 | 10.65 | 30 | 1793 | 10.8 | 6.58 | 17.21 |
| Form 5 | 21 | 1190 | 6.9 | 4.00 | 11.50 | 36 | 1692 | 9.8 | 6.06 | 15.33 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 107 | 6081 | 7.4 | 5.54 | 9.73 | 208 | 11892 | 14.4 | 10.56 | 19.34 |
| Chinese | 43 | 2632 | 7.0 | 4.68 | 10.23 | 77 | 5323 | 14.1 | 11.79 | 16.72 |
| Indian | 16 | 1209 | 7.9 | 5.51 | 11.34 | 24 | 1629 | 10.7 | 6.51 | 17.14 |
| Bumiputera Sabah | 1 | 88 | 10.6 | 1.18 | 53.77 | 3 | 161 | 19.2 | 5.44 | 49.64 |
| Bumiputera Sarawak | 2 | 117 | 10.6 | 3.66 | 26.88 | 4 | 225 | 20.4 | 9.68 | 38.08 |
| Others | 2 | 125 | 18.5 | 5.15 | 48.71 | - | - | - | - | - |
| **BMI-for age status (BAZ)** | | | | | | | | | | |
| Thinness ( <-2sd ) | 10 | 551 | 5.7 | 2.93 | 10.76 | 28 | 1834 | 18.9 | 15.28 | 23.19 |
| Normal (≥ - 2sd - ≤+ 1sd ) | 104 | 6432 | 7.5 | 6.04 | 9.27 | 185 | 11377 | 13.3 | 9.85 | 17.63 |
| Overweight (> +1sd - ≤+ 2sd) | 21 | 1151 | 5.5 | 3.25 | 9.23 | 50 | 2988 | 14.3 | 10.21 | 19.80 |
| Obese (> + 2sd) | 35 | 2050 | 9.5 | 6.36 | 14.00 | 52 | 2975 | 13.8 | 9.42 | 19.80 |
| **Height-for - age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 14 | 780 | 8.6 | 4.46 | 15.93 | 30 | 1605 | 17.7 | 11.06 | 27.11 |
| Normal ( ≥-2sd ) | 157 | 9472 | 7.3 | 5.93 | 9.05 | 286 | 17624 | 13.7 | 10.85 | 17.06 |

**3.7 Food and nutrition labeling among adolescents (Secondary 1 to Secondary 5) in Negeri Sembilan**

**Contributors:** Ruhaya Salleh, Ruzita Abd Talib, Lai Wai Kent, Noor ul-Aziha Muhammad, Mohamad Hasnan Ahmad, Lalitha Palaniveloo, Rashidah Ambak, Hazizi Abu Saad, Shubash Shander a/l Ganapathy

### 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.

3. To determine the types of nutrition fact information (energy, carbohydrate/ sugar, fat, protein, sodium, vitamin, mineral and fiber content) that is read from the food label.

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

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

6. To determine the knowledge of the most and least amount of ingredients contained based on the food ingredients list.

**3.7.3 Variable definitions**

There were three classifications used in this study.

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

**Food label**

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

**Front of Pack (FOP) labels**

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

**Nutrition information panel/ Nutrition facts**

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

**Nutrition labelling**

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

**3.7.4 Findings**

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

The results in **Table 3.7.1** showed that 33.2% (95%CI: 30.61, 35.94) of adolescents in Negeri Sembilan always read food labels and only 12.1% (95%CI: 9.43,15.32) never read-food labels when buying or receiving food. The prevalence of never reading food labels was higher among boys [[13.2% (95%CI: 9.90, 17.43)] than girls [10.9% (95%CI: 8.06, 14.68)]. According to height-for-age status (HAZ), adolescents that were stunted [33.9% (95%CI: 23.53, 46.04)] showed higher prevalence of always reading food labels compared to normal adolescents [33.1% (95%CI: 30.43, 35.92)] and prevalence never reading food labels were higher among stunted adolescents [13.8% (95%CI: 8.69, 21.18)].

**3.7.4.2 Reasons for not reading food and nutrition labelling among adolescents in Negeri Sembilan**

Among those who did not read food labels, the findings showed that the main reasons for not reading food labels were the food labels were not interesting [34.4% (95%CI: 21.52 , 50.08)], followed by do not understand food labels [22.6% (95%CI: 17.86 , 28.24] and the size of the printing on food labels was too small [16.1% (95%CI: 10.36 , 24.11)]. The results also revealed that 14.3% (95%CI: 9.65, 20.71) of adolescents did not know the importance of food labels; 14.3% (95%CI: 9.22, 21.42) of adolescents were already aware of the food label information; 10.9% (95%CI: 6.64, 17.30) of adolescents had time constraint on reading food label. By locality of school, both rural [36.6% (95%CI: 21.08, 55.49)] and urban [33.9% (95%CI: 18.90, 52.97)] adolescents reported that not interesting food labels was the main reason for not reading food labels. Similarly, by sex, both girls [39.9% (95%CI: 25.76, 55.94)] and boys [29.8% (95%CI: 16.84, 47.08)] reported that the food labels were not interesting was the highest percentage for not reading food labels **(Table 3.7.2)**.

**3.7.4.3 Types of nutrition fact information (energy, carbohydrate/ sugar, fat, protein, sodium, vitamin, mineral and fiber content) that read from the food labels.**

Among those who read the nutrition fact information, the three most common types of nutritional information being read were fat content [40.2% (95%CI: 35.05, 45.58)], total energy content [37.7% (95%CI: 34.61, 40.95)] and carbohydrate content (including sugar) [35.2% (95%CI: 31.03, 39.59)]. It was followed by protein content [20.2% (95%CI: 17.47 , 23.16)], vitamin content [18.6% (95%CI: 15.67 , 21.92)], fiber [9.6% (95%CI: 7.97 , 11.42)], sodium content [8.9% (95%CI: 7.21, 10.85)] and mineral content [7.2% (95%CI: 5.99 , 8.66)] **(Table 3.7.3a** and **Table 3.7.3b)**

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

Based on types of information (expiry date, dietary declaration (nutrition claim), nutrition facts, halal logo, food ingredients, storage instruction) on the food label, most of the adolescents read the expiry date [78.1% (95%CI: 72.52, 82.80)], followed by halal logo [41.7% (95%CI: 31.57, 52.67)], food ingredients [25.3% (95%CI: 20.97, 30.19)], nutrition fact [21.2% (95%CI: 17.88, 24.86)], storage instruction [17.3% (95%CI: 12.93, 22.68)] and dietary declaration (nutrition claim) [14.2% (95%CI: 11.82, 17.02)] **(Table 3.7.4)**.

**3.7.4.5 Understanding of nutrition facts among adolescents in Johor**

Overall, more than half of the adolescents [56.8% (95%CI: 48.38, 64.83)] and [52.7% (95%CI: 46.85   58.39)] had given a correct response to the question assessing interpretation of the energy content and sugar content based on the nutrition facts given.  While only 42.3% (95%CI: 34.52,50.49)] correct responses for both energy and sugar based on the nutrition facts. (**Table 3.7.5)**.

**3.7.4.6 Understanding of front of pack labelling among adolescents in Negeri Sembilan**

Overall, less than half of the adolescents [38.3% (95%CI: 33.61, 43.15] had given the correct response to question assessing interpretation of the energy content based on the front of pack labelling given and [43.1% (95%CI: 38.49, 47.77)] had given correct response to question assessing interpretation of the percentage of energy content based on the front of pack labelling given. However, the results showed a low level of correct responses [23.7% (95%CI: 20.10, 27.78)] to questions assessing interpretations of both the energy content and the percentage of energy content based on the front of pack labelling given **(Table 3.7.6)**.

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

Overall, slightly more than half of the adolescents [52.6% (95%CI: 46.82, 58.28)] 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 [57.6% (95%CI: 52.00, 62.92)] reported a higher prevalence of interpreting correctly as compared to the boys 47.4% (95%CI: 41.50, 53.40)]. While, 14.7% (95%CI: 11.38, 18.82) 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 correct response [6.6% (95%CI: 5.04, 8.53)] 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 Negeri Sembilan. Adolescents reported a lower prevalence of not reading food label. Continuous education regarding understanding the food and nutrition labelling, not limited to the expiry date, but also the nutritional content and the benefits of front of pack labelling and nutrition information fact is necessary. Boys had a higher prevalence of not reading food 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, low prevalence of the adolescents knows how to determine the highest and lowest ingredients content based on the food ingredient list given.

**References**

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

**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 Lower | Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **NEGERI SEMBILAN** | 555 | 29346 | 33.2 | 30.61 | 35.94 | 953 | 48327 | 54.7 | 50.26 | 59.09 |
| **Locality of School** | | | | | | | | | | |
| Urban | 463 | 24305 | 32.6 | 29.94 | 35.37 | 829 | 41668 | 55.9 | 51.44 | 60.23 |
| Rural | 92 | 5041 | 36.6 | 30.94 | 42.70 | 124 | 6659 | 48.4 | 38.56 | 58.32 |
| **Sex** | | | | | | | | | | |
| Boys | 262 | 15802 | 36.0 | 30.42 | 42.06 | 366 | 22256 | 50.8 | 44.77 | 56.71 |
| Girls | 293 | 13543 | 30.4 | 26.44 | 34.78 | 587 | 26071 | 58.6 | 53.98 | 63.10 |
| **Class** | | | | | | | | | | |
| Form 1 | 92 | 6064 | 32.4 | 22.54 | 44.20 | 151 | 10168 | 54.4 | 42.28 | 66.00 |
| Form 2 | 119 | 6684 | 37.7 | 31.40 | 44.49 | 157 | 8681 | 49.0 | 43.25 | 54.76 |
| Form 3 | 120 | 5323 | 30.4 | 23.57 | 38.26 | 229 | 9873 | 56.4 | 47.42 | 65.01 |
| Form 4 | 98 | 5766 | 34.2 | 27.15 | 42.07 | 165 | 8962 | 53.2 | 45.09 | 61.11 |
| Form 5 | 126 | 5508 | 31.4 | 23.57 | 40.35 | 251 | 10644 | 60.6 | 51.34 | 69.13 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 374 | 19036 | 32.8 | 29.62 | 36.24 | 678 | 33312 | 57.5 | 53.63 | 61.23 |
| Chinese | 65 | 3521 | 23.8 | 17.81 | 31.01 | 150 | 8061 | 54.5 | 49.22 | 59.61 |
| Indian | 108 | 6309 | 45.8 | 42.15 | 49.52 | 107 | 5940 | 43.1 | 36.91 | 49.57 |
| Bumiputera Sabah | - | - | - | - | - | 10 | 621 | 91.8 | 55.01 | 99.04 |
| Bumiputera Sarawak | 5 | 284 | 46.2 | 24.70 | 69.27 | 3 | 170 | 27.6 | 7.71 | 63.42 |
| Others | 3 | 195 | 38.2 | 12.22 | 73.37 | 5 | 223 | 43.8 | 26.42 | 62.87 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 44 | 2487 | 40.9 | 34.63 | 47.54 | 58 | 3176 | 52.3 | 46.27 | 58.19 |
| Normal (≥-2sd - ≤+1sd) | 346 | 18323 | 32.3 | 29.19 | 35.47 | 622 | 31464 | 55.4 | 50.57 | 60.09 |
| Overweight (>+1sd - ≤+2sd) | 89 | 4367 | 34.2 | 29.02 | 39.74 | 139 | 6719 | 52.6 | 47.07 | 58.04 |
| Obese (>+2sd) | 74 | 4073 | 32.5 | 25.49 | 40.36 | 133 | 6936 | 55.3 | 46.53 | 63.79 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting (<-2sd) | 39 | 2102 | 33.9 | 23.53 | 46.04 | 71 | 3247 | 52.3 | 43.70 | 60.83 |
| Normal (≥-2sd) | 514 | 27162 | 33.1 | 30.43 | 35.92 | 881 | 45048 | 54.9 | 50.36 | 59.41 |

**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 |
|---|---|---|---|---|---|
| **NEGERI SEMBILAN** | 197 | 10661 | 12.1 | 9.43 | 15.32 |
| | | | | | |
| **Locality of School** | | | | | |
| Urban | 161 | 8596 | 11.5 | 8.66 | 15.18 |
| Rural | 36 | 2065 | 15.0 | 11.34 | 19.60 |
| **Sex** | | | | | |
| Boys | 93 | 5796 | 13.2 | 9.90 | 17.43 |
| Girls | 104 | 4865 | 10.9 | 8.06 | 14.68 |
| **Class** | | | | | |
| Form 1 | 33 | 2462 | 13.2 | 5.96 | 26.65 |
| Form 2 | 43 | 2355 | 13.3 | 9.89 | 17.62 |
| Form 3 | 50 | 2304 | 13.2 | 9.07 | 18.73 |
| Form 4 | 35 | 2124 | 12.6 | 9.04 | 17.32 |
| Form 5 | 36 | 1417 | 8.1 | 6.27 | 10.31 |
| **Ethnicity** | | | | | |
| Malay | 112 | 5610 | 9.7 | 8.02 | 11.64 |
| Chinese | 55 | 3220 | 21.8 | 15.14 | 30.22 |
| Indian | 25 | 1523 | 11.1 | 7.14 | 16.74 |
| Bumiputera Sabah | 1 | 55 | 8.2 | 0.96 | 44.99 |
| Bumiputera Sarawak | 2 | 161 | 26.2 | 5.47 | 68.54 |
| Others | 2 | 91 | 17.9 | 2.00 | 70.04 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 7 | 414 | 6.8 | 3.37 | 13.29 |
| Normal (≥-2sd - ≤+1sd) | 132 | 7028 | 12.4 | 9.37 | 16.16 |
| Overweight (>+1sd - ≤+2sd) | 31 | 1691 | 13.2 | 8.50 | 20.03 |
| Obese (>+2sd) | 27 | 1529 | 12.2 | 7.93 | 18.29 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting ( <-2sd ) | 18 | 855 | 13.8 | 8.69 | 21.18 |
| Normal ( ≥-2sd ) | 179 | 9806 | 12.0 | 8.96 | 15.78 |

**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 |
| **NEGERI SEMBILAN** | 30 | 1715 | 16.1 | 10.36 | 24.11 | 45 | 2413 | 23 | 17.9 | 28.24 |
| **Locality of School** | | | | | | | | | | |
| Urban | 27 | 1530 | 17.8 | 11.46 | 26.61 | 37 | 1939 | 23 | 17.1 | 29.20 |
| Rural | 3 | 185 | 8.9 | 2.94 | 24.09 | 8 | 474 | 23 | 15.4 | 32.78 |
| **Sex** | | | | | | | | | | |
| Boys | 18 | 1114 | 19.2 | 11.22 | 30.93 | 21 | 1204 | 21 | 15.6 | 27.14 |
| Girls | 12 | 601 | 12.4 | 5.82 | 24.31 | 24 | 1209 | 25 | 16.0 | 36.50 |
| **Class** | | | | | | | | | | |
| Form 1 | 4 | 303 | 12.3 | 3.15 | 37.74 | 9 | 657 | 27 | 15.2 | 42.42 |
| Form 2 | 8 | 479 | 20.3 | 7.98 | 42.89 | 11 | 561 | 24 | 10.6 | 45.21 |
| Form 3 | 9 | 453 | 19.7 | 8.69 | 38.70 | 14 | 658 | 29 | 16.4 | 44.89 |
| Form 4 | 4 | 269 | 12.7 | 3.54 | 36.38 | 5 | 313 | 15 | 7.4 | 27.12 |
| Form 5 | 5 | 211 | 14.9 | 4.76 | 37.87 | 6 | 224 | 16 | 6.1 | 35.33 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 15 | 804 | 14.3 | 6.47 | 28.80 | 31 | 1531 | 27 | 19.7 | 36.45 |
| Chinese | 9 | 539 | 16.7 | 8.07 | 31.53 | 10 | 603 | 19 | 12.9 | 26.41 |
| Indian | 4 | 228 | 15.0 | 9.11 | 23.58 | 4 | 279 | 18 | 6.6 | 41.75 |
| Bumiputera Sabah | 1 | 55 | 100.0 | 100.00 | 100.00 | - | - | - | - | - |
| Bumiputera Sarawak | 1 | 88 | 54.9 | 4.86 | 96.67 | - | - | - | - | - |
| Others | - | - | - | - | - | | | | | |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 1 | 32 | 7.6 | 0.97 | 41.11 | 2 | 124 | 30 | 6.3 | 73.44 |
| Normal (≥-2sd - ≤+1sd) | 22 | 1267 | 18.0 | 11.06 | 28.01 | 26 | 1314 | 19 | 12.4 | 27.28 |
| Overweight (>+1sd - ≤+2sd) | 5 | 296 | 17.5 | 8.75 | 31.90 | 8 | 362 | 21 | 9.6 | 41.22 |
| Obese (>+2sd) | 2 | 120 | 7.9 | 1.89 | 27.38 | 9 | 612 | 40 | 26.7 | 55.10 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 1 | 62 | 7.2 | 0.85 | 41.24 | 6 | 303 | 35 | 12.4 | 68.04 |
| Normal ( ≥-2sd ) | 29 | 1653 | 16.9 | 10.95 | 25.05 | 39 | 2110 | 22 | 17.1 | 26.70 |

**Table 3.7.2: Reasons for not reading food label among adolescents in Negeri Sembilan (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 |
| **NEGERI SEMBILAN** | 69 | 3668 | 34.4 | 21.52 | 50.08 | 28.000 | 1526 | 14.3 | 9.65 | 20.71 |
| **Locality of School** | | | | | | | | | | |
| Urban | 55 | 2912 | 33.9 | 18.90 | 52.97 | 23 | 1262 | 14.7 | 9.64 | 21.74 |
| Rural | 14 | 756 | 36.6 | 21.08 | 55.49 | 5 | 263 | 12.7 | 4.73 | 30.06 |
| **Sex** | | | | | | | | | | |
| Boys | 27 | 1727 | 29.8 | 16.84 | 47.08 | 15 | 945 | 16.3 | 9.87 | 25.75 |
| Girls | 42 | 1941 | 39.9 | 25.76 | 55.94 | 13 | 580 | 11.9 | 5.99 | 22.34 |
| **Class** | | | | | | | | | | |
| Form 1 | 7 | 513 | 20.8 | 6.13 | 51.43 | 5 | 416 | 16.9 | 7.82 | 32.76 |
| Form 2 | 13 | 763 | 32.4 | 9.68 | 68.16 | 6 | 303 | 12.9 | 6.05 | 25.26 |
| Form 3 | 20 | 900 | 39.1 | 18.97 | 63.72 | 10 | 465 | 20.2 | 12.35 | 31.19 |
| Form 4 | 19 | 1111 | 52.3 | 32.30 | 71.55 | 3 | 161 | 7.6 | 1.99 | 24.84 |
| Form 5 | 10 | 382 | 27.0 | 13.08 | 47.53 | 4 | 181 | 12.8 | 5.59 | 26.65 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 34 | 1627 | 29.0 | 17.98 | 43.19 | 17 | 887 | 15.8 | 8.87 | 26.58 |
| Chinese | 28 | 1690 | 52.5 | 32.13 | 72.06 | 9 | 496 | 15.4 | 8.77 | 25.67 |
| Indian | 6 | 314 | 20.6 | 8.06 | 43.45 | 2 | 143 | 9.4 | 2.05 | 33.78 |
| Bumiputera Sabah | - | - | - | - | - | - | - | - | - | - |
| Bumiputera Sarawak | - | - | - | - | - | - | - | - | - | - |
| Others | 1 | 37 | 40.8 | 40.77 | 40.77 | - | - | - | - | - |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 4 | 262 | 63.4 | 17.69 | 93.30 | - | - | - | - | - |
| Normal (≥-2sd - ≤+1sd) | 45 | 2365 | 33.7 | 20.42 | 50.07 | 21 | 1209 | 17.2 | 10.56 | 26.78 |
| Overweight (>+1sd - ≤+2sd) | 11 | 592 | 35.0 | 14.94 | 62.30 | 6 | 285 | 16.8 | 7.67 | 33.02 |
| Obese (>+2sd) | 9 | 448 | 29.3 | 16.46 | 46.62 | 1 | 32 | 2.1 | 0.21 | 18.20 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 7 | 349 | 40.8 | 17.00 | 69.83 | 3 | 128 | 15.0 | 4.43 | 40.17 |
| Normal ( ≥-2sd ) | 62 | 3319 | 33.8 | 20.81 | 49.91 | 25 | 1397 | 14.2 | 9.58 | 20.68 |

**Table 3.7.2: Reasons for not reading food label among adolescents**

| Characteristic | Time constraint | | | | | Already aware of the food label information | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **NEGERI SEMBILAN** | 24.000 | 1159 | 10.9 | 6.64 | 17.30 | 28 | 1521 | 14.3 | 9.22 | 21.42 |
| **Locality of School** | | | | | | | | | | |
| Urban | 20 | 971 | 11.3 | 6.47 | 19.00 | 20 | 1033 | 12.0 | 8.28 | 17.13 |
| Rural | 4 | 188 | 9.1 | 3.68 | 20.75 | 8 | 488 | 23.6 | 12.32 | 40.50 |
| **Sex** | | | | | | | | | | |
| Boys | 9 | 524 | 9.0 | 4.79 | 16.45 | 14 | 912 | 15.7 | 8.99 | 26.10 |
| Girls | 15 | 635 | 13.0 | 6.52 | 24.41 | 14 | 608 | 12.5 | 7.77 | 19.53 |
| **Class** | | | | | | | | | | |
| Form 1 | 3 | 223 | 9.0 | 6.42 | 12.59 | 4 | 326 | 13.3 | 7.03 | 23.61 |
| Form 2 | 3 | 122 | 5.2 | 1.16 | 20.26 | 7 | 394 | 16.7 | 7.19 | 34.23 |
| Form 3 | 4 | 165 | 7.2 | 2.32 | 20.10 | 7 | 334 | 14.5 | 4.23 | 39.46 |
| Form 4 | 7 | 413 | 19.4 | 9.02 | 36.98 | 2 | 101 | 4.7 | 1.05 | 18.96 |
| Form 5 | 7 | 237 | 16.7 | 6.68 | 35.99 | 8 | 366 | 25.8 | 11.90 | 47.33 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 16 | 751 | 13.4 | 7.05 | 23.95 | 15 | 709 | 12.6 | 9.11 | 17.26 |
| Chinese | 4 | 183 | 5.7 | 2.32 | 13.21 | 6 | 336 | 10.4 | 3.36 | 28.16 |
| Indian | 3 | 153 | 10.0 | 2.53 | 32.45 | 7 | 476 | 31.2 | 22.72 | 41.24 |
| Bumiputera Sabah | - | - | - | - | - | | | | | |
| Bumiputera Sarawak | 1 | 73 | 45.1 | 3.33 | 95.14 | | | | | |
| Others | - | - | - | - | - | | | | | |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 1 | 62 | 14.9 | 1.40 | 68.40 | | | | | |
| Normal (≥-2sd - ≤+1sd) | 18 | 840 | 12.0 | 6.63 | 20.60 | 15 | 769 | 10.9 | 6.86 | 16.99 |
| Overweight (>+1sd - ≤+2sd) | 3 | 136 | 8.0 | 2.29 | 24.45 | 6 | 408 | 24.1 | 8.45 | 52.24 |
| Obese (>+2sd) | 2 | 122 | 8.0 | 1.88 | 28.06 | 7 | 344 | 22.5 | 8.23 | 48.53 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 1 | 37 | 4.3 | 0.49 | 28.75 | 4 | 175 | 20.5 | 6.25 | 49.93 |
| Normal ( ≥-2sd ) | 23 | 1123 | 11.4 | 6.75 | 18.77 | 24 | 1346 | 13.7 | 8.41 | 21.59 |

**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 |
| **NEGERI SEMBILAN** | **572** | **29304** | 37.7 | 34.61 | 40.95 | 558 | 27334 | 35.2 | 31.03 | 39.59 |
| **Locality of School** | | | | | | | | | | |
| Urban | 494 | 25235 | 38.3 | 34.89 | 41.73 | 477 | 23107 | 35.0 | 30.38 | 39.97 |
| Rural | 78 | 4069 | 34.8 | 28.97 | 41.09 | 81 | 4228 | 36.1 | 28.05 | 45.08 |
| **Sex** | | | | | | | | | | |
| Boys | 258 | 15271 | 40.1 | 33.96 | 46.62 | 197 | 11600 | 30.5 | 26.26 | 35.05 |
| Girls | 314 | 14034 | 35.4 | 31.61 | 39.44 | 361 | 15735 | 39.7 | 34.61 | 45.06 |
| **Class** | | | | | | | | | | |
| Form 1 | 75 | 4953 | 30.5 | 23.29 | 38.84 | 82 | 5404 | 33.3 | 27.68 | 39.41 |
| Form 2 | 123 | 6777 | 44.1 | 37.49 | 50.95 | 84 | 4607 | 30.0 | 23.51 | 37.38 |
| Form 3 | 122 | 5246 | 34.5 | 29.67 | 39.73 | 143 | 6051 | 39.8 | 31.10 | 49.24 |
| Form 4 | 98 | 5567 | 37.8 | 31.41 | 44.63 | 96 | 5202 | 35.3 | 29.71 | 41.36 |
| Form 5 | 154 | 6762 | 41.9 | 35.77 | 48.21 | 153 | 6070 | 37.6 | 30.03 | 45.79 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 408 | 20486 | 39.1 | 36.09 | 42.26 | 418 | 19750 | 37.7 | 32.98 | 42.72 |
| Chinese | 82 | 4360 | 37.6 | 29.48 | 46.58 | 67 | 3513 | 30.3 | 24.63 | 36.72 |
| Indian | 74 | 4056 | 33.1 | 29.10 | 37.39 | 64 | 3598 | 29.4 | 26.10 | 32.87 |
| Bumiputera Sabah | 4 | 200 | 32.3 | 8.43 | 71.15 | 1 | 43 | 6.9 | 0.65 | 45.84 |
| Bumiputera Sarawak | 3 | 163 | 35.9 | 13.04 | 67.69 | 3 | 187 | 41.2 | 14.46 | 74.43 |
| Others | 1 | 39 | 9.3 | 1.14 | 48.01 | 5 | 243 | 58.1 | 25.07 | 85.15 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 37 | 1959 | 34.6 | 27.43 | 42.52 | 33 | 1757 | 31.0 | 22.12 | 41.60 |
| Normal (≥-2sd - ≤+1sd) | 374 | 19324 | 38.8 | 34.73 | 43.05 | 358 | 17671 | 35.5 | 31.40 | 39.81 |
| Overweight (>+1sd - ≤+2sd) | 77 | 3701 | 33.4 | 27.69 | 39.61 | 80 | 3667 | 33.1 | 26.37 | 40.56 |
| Obese (>+2sd) | 84 | 4321 | 39.3 | 32.35 | 46.61 | 84 | 4112 | 37.3 | 28.99 | 46.54 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 45 | 2174 | 40.6 | 30.04 | 52.18 | 46 | 2125 | 39.7 | 30.97 | 49.20 |
| Normal ( ≥-2sd ) | 527 | 27131 | 37.6 | 34.64 | 40.60 | 510 | 25145 | 34.8 | 30.79 | 39.08 |

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

| Characteristic | Yes, always/ Yes, sometimes | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fat | | | | | Protein | | | | |
| | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
| **NEGERI SEMBILAN** | 650 | 31227 | 40.2 | 35.05 | 45.58 | 304 | 15663 | 20.2 | 17.47 | 23.16 |
| **Locality of School** | | | | | | | | | | |
| Urban | 557 | 26441 | 40.1 | 34.40 | 46.03 | 256 | 13086 | 19.8 | 16.98 | 23.04 |
| Rural | 93 | 4786 | 40.9 | 29.52 | 53.36 | 48 | 2577 | 22.0 | 15.27 | 30.69 |
| **Sex** | | | | | | | | | | |
| Boys | 204 | 12087 | 31.8 | 26.23 | 37.85 | 145 | 8651 | 22.7 | 18.24 | 27.94 |
| Girls | 446 | 19140 | 48.3 | 43.92 | 52.74 | 159 | 7012 | 17.7 | 13.75 | 22.50 |
| **Class** | | | | | | | | | | |
| Form 1 | 67 | 4349 | 26.8 | 18.70 | 36.81 | 42 | 2969 | 18.3 | 14.07 | 23.44 |
| Form 2 | 98 | 5482 | 35.7 | 26.11 | 46.55 | 54 | 2959 | 19.3 | 13.72 | 26.35 |
| Form 3 | 166 | 6951 | 45.7 | 35.89 | 55.95 | 76 | 3282 | 21.6 | 15.87 | 28.69 |
| Form 4 | 129 | 6924 | 47.0 | 40.39 | 53.73 | 48 | 2769 | 18.8 | 15.11 | 23.15 |
| Form 5 | 190 | 7520 | 46.6 | 37.94 | 55.38 | 84 | 3684 | 22.8 | 19.14 | 26.94 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 452 | 21041 | 40.2 | 34.37 | 46.31 | 213 | 10543 | 20.1 | 17.05 | 23.63 |
| Chinese | 100 | 5097 | 44.0 | 35.05 | 53.38 | 45 | 2473 | 21.4 | 16.51 | 27.17 |
| Indian | 92 | 4776 | 39.0 | 27.46 | 51.89 | 39 | 2183 | 17.8 | 13.51 | 23.14 |
| Bumiputera Sabah | 4 | 204 | 32.8 | 9.68 | 69.01 | 4 | 277 | 44.6 | 20.82 | 71.12 |
| Bumiputera Sarawak | 1 | 46 | 10.2 | 2.49 | 33.56 | 2 | 113 | 25.0 | 7.31 | 58.37 |
| Others | 1 | 62 | 14.9 | 3.24 | 47.86 | 1 | 74 | 17.7 | 1.88 | 70.60 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 25 | 1258 | 22.2 | 17.38 | 27.94 | 22 | 1202 | 21.2 | 13.90 | 31.00 |
| Normal (≥-2sd - ≤+1sd) | 413 | 19975 | 40.1 | 35.24 | 45.21 | 209 | 10912 | 21.9 | 19.08 | 25.04 |
| Overweight (>+1sd - ≤+2sd) | 119 | 5380 | 48.5 | 44.05 | 53.04 | 42 | 2001 | 18.0 | 13.38 | 23.89 |
| Obese (>+2sd) | 92 | 4550 | 41.3 | 28.99 | 54.86 | 31 | 1549 | 14.1 | 8.44 | 22.53 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 44 | 1884 | 35.2 | 23.44 | 49.12 | 29 | 1327 | 24.8 | 16.36 | 35.74 |
| Normal ( ≥-2sd ) | 605 | 29294 | 40.6 | 35.43 | 45.92 | 275 | 14336 | 19.9 | 17.11 | 22.91 |

**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 |
| **NEGERI SEMBILAN** | 141 | 6884 | 8.9 | 7.21 | 10.85 | 291 | 14439 | 18.6 | 15.67 | 21.92 |
| **Locality of School** | | | | | | | | | | |
| Urban | 124 | 5977 | 9.1 | 7.17 | 11.39 | 246 | 12264 | 18.6 | 15.76 | 21.79 |
| Rural | 17 | 907 | 7.7 | 7.43 | 8.09 | 45 | 2175 | 18.6 | 9.43 | 33.38 |
| **Sex** | | | | | | | | | | |
| Boys | 48 | 2848 | 7.5 | 5.59 | 9.94 | 109 | 6435 | 16.9 | 13.57 | 20.86 |
| Girls | 93 | 4036 | 10.2 | 7.76 | 13.27 | 182 | 8004 | 20.2 | 17.27 | 23.49 |
| **Class** | | | | | | | | | | |
| Form 1 | 18 | 1278 | 7.9 | 3.54 | 16.60 | 50 | 3188 | 19.6 | 13.70 | 27.34 |
| Form 2 | 20 | 1116 | 7.3 | 3.46 | 14.63 | 44 | 2351 | 15.3 | 9.06 | 24.66 |
| Form 3 | 44 | 1873 | 12.3 | 7.80 | 18.96 | 72 | 3179 | 20.9 | 16.47 | 26.20 |
| Form 4 | 21 | 1113 | 7.6 | 4.51 | 12.40 | 40 | 2219 | 15.1 | 10.20 | 21.70 |
| Form 5 | 38 | 1502 | 9.3 | 7.45 | 11.56 | 85 | 3502 | 21.7 | 17.55 | 26.46 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 101 | 4772 | 9.1 | 6.95 | 11.87 | 194 | 9393 | 17.9 | 14.51 | 21.98 |
| Chinese | 16 | 835 | 7.2 | 3.77 | 13.33 | 62 | 3259 | 28.1 | 24.26 | 32.38 |
| Indian | 21 | 1086 | 8.9 | 6.38 | 12.19 | 31 | 1589 | 13.0 | 7.35 | 21.88 |
| Bumiputera Sabah | 2 | 117 | 18.8 | 4.92 | 50.96 | 2 | 91 | 14.7 | 2.55 | 52.92 |
| Bumiputera Sarawak | - | - | - | - | - | 2 | 107 | 23.5 | 7.11 | 55.23 |
| Others | 1 | 74 | 17.7 | 3.73 | 54.27 | - | - | - | - | - |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 8 | 446 | 7.9 | 3.38 | 17.26 | 22 | 1170 | 20.7 | 13.35 | 30.55 |
| Normal (≥-2sd - ≤+1sd) | 91 | 4441 | 8.9 | 7.18 | 11.03 | 193 | 9453 | 19.0 | 15.80 | 22.64 |
| Overweight (>+1sd - ≤+2sd) | 28 | 1245 | 11.2 | 7.83 | 15.86 | 46 | 2265 | 20.4 | 14.92 | 27.32 |
| Obese (>+2sd) | 14 | 752 | 6.8 | 3.91 | 11.65 | 30 | 1551 | 14.1 | 8.33 | 22.84 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 14 | 616 | 11.5 | 7.07 | 18.19 | 30 | 1302 | 24.3 | 14.59 | 37.74 |
| Normal ( ≥-2sd ) | 127 | 6268 | 8.7 | 6.82 | 10.99 | 261 | 13137 | 18.2 | 15.61 | 21.10 |

**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 |
| **NEGERI SEMBILAN** | 117 | 5602 | 7.2 | 5.99 | 8.66 | 153 | 7423 | 9.6 | 7.97 | 11.42 |
| **Locality of School** | | | | | | | | | | |
| Urban | 100 | 4735 | 7.2 | 6.00 | 8.56 | 137 | 6505 | 9.9 | 8.08 | 11.99 |
| Rural | 17 | 867 | 7.4 | 3.63 | 14.54 | 16 | 918 | 7.8 | 6.57 | 9.34 |
| **Sex** | | | | | | | | | | |
| Boys | 37 | 2170 | 5.7 | 3.79 | 8.48 | 50 | 3071 | 8.1 | 5.97 | 10.82 |
| Girls | 80 | 3432 | 8.7 | 6.84 | 10.92 | 103 | 4351 | 11.0 | 8.94 | 13.43 |
| **Class** | | | | | | | | | | |
| Form 1 | 11 | 745 | 4.6 | 1.59 | 12.49 | 22 | 1558 | 9.6 | 6.43 | 14.09 |
| Form 2 | 20 | 1074 | 7.0 | 3.98 | 12.00 | 27 | 1529 | 9.9 | 5.70 | 16.79 |
| Form 3 | 27 | 1140 | 7.5 | 4.66 | 11.86 | 33 | 1394 | 9.2 | 5.78 | 14.26 |
| Form 4 | 22 | 1221 | 8.3 | 4.68 | 14.29 | 25 | 1408 | 9.6 | 6.16 | 14.54 |
| Form 5 | 37 | 1422 | 8.8 | 6.15 | 12.44 | 46 | 1534 | 9.5 | 5.65 | 15.54 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 76 | 3522 | 6.7 | 4.96 | 9.06 | 106 | 4798 | 9.2 | 6.90 | 12.08 |
| Chinese | 18 | 950 | 8.2 | 4.74 | 13.82 | 21 | 1233 | 10.6 | 6.55 | 16.86 |
| Indian | 20 | 988 | 8.1 | 4.29 | 14.65 | 24 | 1299 | 10.6 | 7.09 | 15.57 |
| Bumiputera Sabah | 3 | 142 | 22.8 | 3.87 | 68.44 | 1 | 43 | 6.9 | 0.65 | 45.84 |
| Bumiputera Sarawak | - | - | - | - | - | 1 | 49 | 10.9 | 2.64 | 35.40 |
| Others | - | - | - | - | - | - | - | - | - | - |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 8 | 456 | 8.0 | 5.16 | 12.35 | 11 | 569 | 10.1 | 5.84 | 16.76 |
| Normal (≥-2sd - ≤+1sd) | 72 | 3406 | 6.8 | 5.22 | 8.93 | 91 | 4414 | 8.9 | 7.70 | 10.19 |
| Overweight (>+1sd - ≤+2sd) | 19 | 826 | 7.5 | 4.51 | 12.07 | 28 | 1285 | 11.6 | 7.44 | 17.62 |
| Obese (>+2sd) | 18 | 914 | 8.3 | 3.99 | 16.48 | 23 | 1154 | 10.5 | 6.61 | 16.22 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 12 | 478 | 8.9 | 5.46 | 14.31 | 14 | 696 | 13.0 | 6.32 | 24.89 |
| Normal ( ≥-2sd ) | 105 | 5124 | 7.1 | 5.83 | 8.61 | 139 | 6727 | 9.3 | 7.86 | 11.00 |

**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 | 95% CI Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
| **NEGERI SEMBILAN** | 1203 | 60654 | 78.1 | 72.52 | 82.80 | 226 | 11047 | 14 | 11.8 | 17.02 |
| **Locality of School** | | | | | | | | | | |
| Urban | 1044 | 52303 | 79.3 | 73.38 | 84.16 | 198 | 9529 | 14 | 11.7 | 17.66 |
| Rural | 159 | 8351 | 71.4 | 61.12 | 79.82 | 28 | 1518 | 13 | 9.7 | 17.10 |
| **Sex** | | | | | | | | | | |
| Boys | 473 | 28154 | 74.0 | 65.45 | 81.01 | 87 | 5054 | 13 | 10.2 | 17.17 |
| Girls | 730 | 32500 | 82.0 | 78.11 | 85.40 | 139 | 5993 | 15 | 12.4 | 18.36 |
| **Class** | | | | | | | | | | |
| Form 1 | 173 | 11248 | 69.3 | 58.50 | 78.32 | 26 | 1696 | 10 | 7.9 | 13.77 |
| Form 2 | 204 | 11344 | 73.8 | 63.60 | 82.01 | 42 | 2369 | 15 | 10.1 | 22.92 |
| Form 3 | 296 | 12725 | 83.7 | 73.01 | 90.75 | 54 | 2236 | 15 | 9.7 | 21.76 |
| Form 4 | 220 | 12259 | 83.2 | 74.29 | 89.51 | 34 | 1761 | 12 | 7.8 | 17.98 |
| Form 5 | 310 | 13077 | 81.0 | 72.92 | 87.04 | 70 | 2986 | 18 | 14.8 | 22.84 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 848 | 41574 | 79.4 | 74.83 | 83.35 | 138 | 6513 | 12 | 10.1 | 15.24 |
| Chinese | 186 | 9871 | 85.2 | 75.60 | 91.49 | 49 | 2449 | 21 | 15.8 | 27.70 |
| Indian | 151 | 8240 | 67.3 | 56.72 | 76.32 | 33 | 1788 | 15 | 10.3 | 20.35 |
| Bumiputera Sabah | 7 | 404 | 65.0 | 32.25 | 87.84 | 3 | 146 | 24 | 5.3 | 62.73 |
| Bumiputera Sarawak | 5 | 283 | 62.3 | 30.02 | 86.43 | 2 | 113 | 25 | 3.6 | 74.73 |
| Others | 6 | 282 | 67.4 | 20.40 | 94.35 | 1 | 39 | 9 | 1.1 | 48.01 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 73 | 3933 | 69.5 | 57.95 | 78.95 | 17 | 834 | 15 | 10.1 | 21.02 |
| Normal (≥-2sd - ≤+1sd) | 789 | 39773 | 79.9 | 74.17 | 84.60 | 136 | 6607 | 13 | 10.6 | 16.51 |
| Overweight (>+1sd - ≤+2sd) | 177 | 8521 | 76.9 | 67.86 | 83.95 | 43 | 2023 | 18 | 13.5 | 24.24 |
| Obese (>+2sd) | 161 | 8298 | 75.4 | 67.55 | 81.82 | 30 | 1584 | 14 | 10.1 | 20.08 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 90 | 4111 | 76.9 | 69.55 | 82.85 | 17 | 804 | 15 | 9.9 | 22.09 |
| Normal ( ≥-2sd ) | 1111 | 56478 | 78.2 | 72.50 | 83.02 | 209 | 10243 | 14 | 11.7 | 17.11 |

**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 | Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **NEGERI SEMBILAN** | 334 | 16435 | 21.2 | 17.88 | 24.86 | 671 | 32421 | 41.7 | 31.57 | 52.67 |
| **Locality of School** | | | | | | | | | | |
| Urban | 286 | 13876 | 21.0 | 17.25 | 25.40 | 584 | 28254 | 42.8 | 32.22 | 54.14 |
| Rural | 48 | 2559 | 21.9 | 19.05 | 24.98 | 87 | 4167 | 35.6 | 12.78 | 67.63 |
| **Sex** | | | | | | | | | | |
| Boys | 114 | 6638 | 17.4 | 13.95 | 21.59 | 246 | 14325 | 37.6 | 27.71 | 48.73 |
| Girls | 220 | 9797 | 24.7 | 21.09 | 28.77 | 425 | 18096 | 45.7 | 33.92 | 57.94 |
| **Class** | | | | | | | | | | |
| Form 1 | 43 | 2781 | 17.1 | 12.45 | 23.11 | 94 | 6097 | 37.6 | 24.12 | 53.24 |
| Form 2 | 58 | 3224 | 21.0 | 14.51 | 29.34 | 102 | 5510 | 35.9 | 23.79 | 50.04 |
| Form 3 | 77 | 3285 | 21.6 | 17.16 | 26.86 | 177 | 7305 | 48.1 | 32.97 | 63.54 |
| Form 4 | 55 | 2871 | 19.5 | 14.86 | 25.15 | 118 | 6332 | 43.0 | 31.54 | 55.24 |
| Form 5 | 101 | 4274 | 26.5 | 20.56 | 33.34 | 180 | 7177 | 44.4 | 29.06 | 60.95 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 216 | 10224 | 19.5 | 15.99 | 23.64 | 619 | 29574 | 56.5 | 50.28 | 62.51 |
| Chinese | 66 | 3390 | 29.3 | 23.18 | 36.20 | 16 | 858 | 7.4 | 4.23 | 12.67 |
| Indian | 47 | 2564 | 20.9 | 15.90 | 27.04 | 30 | 1648 | 13.5 | 11.11 | 16.20 |
| Bumiputera Sabah | 4 | 219 | 35.3 | 13.53 | 65.49 | 2 | 91 | 14.7 | 2.55 | 52.92 |
| Bumiputera Sarawak | - | - | - | - | - | - | - | - | - | - |
| Others | 1 | 39 | 9.3 | 1.14 | 48.01 | 4 | 249 | 59.6 | 24.15 | 87.25 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 17 | 864 | 15.3 | 9.36 | 23.88 | 31 | 1562 | 27.6 | 16.45 | 42.42 |
| Normal (≥-2sd - ≤+1sd) | 209 | 10278 | 20.6 | 17.31 | 24.43 | 452 | 22079 | 44.3 | 33.57 | 55.69 |
| Overweight (>+1sd - ≤+2sd) | 66 | 3098 | 27.9 | 22.41 | 34.24 | 99 | 4445 | 40.1 | 29.18 | 52.10 |
| Obese (>+2sd) | 42 | 2196 | 19.9 | 13.48 | 28.48 | 87 | 4239 | 38.5 | 25.75 | 53.06 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 18 | 750 | 14.0 | 6.71 | 26.99 | 59 | 2536 | 47.4 | 28.26 | 67.37 |
| Normal ( ≥-2sd ) | 316 | 15685 | 21.7 | 18.33 | 25.54 | 610 | 29803 | 41.3 | 31.35 | 51.96 |

**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 |
| **NEGERI SEMBILAN** | 415 | 19654 | 25.3 | 20.97 | 30.19 | 283 | 13413 | 17.3 | 12.93 | 22.68 |
| **Locality of School** | | | | | | | | | | |
| Urban | 359 | 16910 | 25.6 | 20.96 | 30.94 | 239 | 11190 | 17.0 | 12.27 | 22.98 |
| Rural | 56 | 2744 | 23.4 | 14.04 | 36.48 | 44 | 2223 | 19.0 | 9.97 | 33.19 |
| **Sex** | | | | | | | | | | |
| Boys | 134 | 7831 | 20.6 | 16.61 | 25.21 | 95 | 5510 | 14.5 | 9.01 | 22.44 |
| Girls | 281 | 11823 | 29.8 | 25.39 | 34.72 | 188 | 7903 | 20.0 | 16.81 | 23.52 |
| **Class** | | | | | | | | | | |
| Form 1 | 55 | 3603 | 22.2 | 17.16 | 28.21 | 34 | 2164 | 13.3 | 7.72 | 22.04 |
| Form 2 | 56 | 3056 | 19.9 | 12.56 | 30.02 | 40 | 2243 | 14.6 | 10.10 | 20.64 |
| Form 3 | 112 | 4603 | 30.3 | 21.70 | 40.53 | 76 | 3232 | 21.3 | 14.94 | 29.36 |
| Form 4 | 65 | 3432 | 23.3 | 18.18 | 29.35 | 35 | 1779 | 12.1 | 7.80 | 18.24 |
| Form 5 | 127 | 4960 | 30.7 | 24.80 | 37.33 | 98 | 3995 | 24.7 | 17.33 | 34.01 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 305 | 13943 | 26.6 | 21.37 | 32.66 | 177 | 8072 | 15.4 | 11.82 | 19.87 |
| Chinese | 49 | 2552 | 22.0 | 17.46 | 27.41 | 70 | 3519 | 30.4 | 20.43 | 42.60 |
| Indian | 55 | 2872 | 23.4 | 16.20 | 32.66 | 31 | 1605 | 13.1 | 9.24 | 18.24 |
| Bumiputera Sabah | 3 | 181 | 29.1 | 7.38 | 67.89 | 2 | 92 | 14.9 | 3.04 | 49.31 |
| Bumiputera Sarawak | - | - | - | - | - | 1 | 58 | 12.9 | 3.08 | 40.72 |
| Others | 3 | 106 | 25.3 | 4.24 | 72.12 | 2 | 67 | 15.9 | 1.29 | 73.38 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 22 | 1155 | 20.4 | 14.26 | 28.27 | 13 | 746 | 13.2 | 7.16 | 22.99 |
| Normal (≥-2sd - ≤+1sd) | 271 | 12912 | 25.9 | 21.39 | 31.06 | 188 | 8923 | 17.9 | 13.67 | 23.15 |
| Overweight (>+1sd - ≤+2sd) | 72 | 3277 | 29.6 | 22.02 | 38.40 | 51 | 2347 | 21.2 | 14.46 | 29.90 |
| Obese (>+2sd) | 48 | 2215 | 20.1 | 13.10 | 29.61 | 31 | 1397 | 12.7 | 6.39 | 23.63 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 30 | 1344 | 25.1 | 17.88 | 34.11 | 25 | 1135 | 21.2 | 13.44 | 31.86 |
| Normal ( ≥-2sd ) | 384 | 18277 | 25.3 | 20.98 | 30.19 | 258 | 12278 | 17.0 | 12.65 | 22.47 |

**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 | | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI | |
| | | | | Lower | Upper | | | | Lower | Upper |
|---|---|---|---|---|---|---|---|---|---|---|
| **NEGERI SEMBILAN** | 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 | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | 95% CI Upper |
|---|---|---|---|---|---|
| **NEGERI SEMBILAN** | 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 | Upper | Unweighted Count | Estimated Population | Prevalence (%) | 95% CI Lower | Upper |
| **NEGERI SEMBILAN** | 422 | 20980 | 23.7 | 20.10 | 27.78 | 661 | 33837 | 38.3 | 33.6 | 43.15 |
| **Locality of School** | | | | | | | | | | |
| Urban | 362 | 17509 | 23.5 | 19.25 | 28.25 | 563 | 28215 | 37.8 | 32.4 | 43.49 |
| Rural | 60 | 3471 | 25.2 | 23.45 | 27.07 | 98 | 5622 | 40.8 | 37.8 | 43.91 |
| **Sex** | | | | | | | | | | |
| Boys | 173 | 10385 | 23.6 | 19.03 | 28.95 | 271 | 16509 | 37.6 | 33.2 | 42.12 |
| Girls | 249 | 10595 | 23.8 | 19.24 | 29.09 | 390 | 17327 | 39.0 | 32.0 | 46.34 |
| **Class** | | | | | | | | | | |
| Form 1 | 48 | 3272 | 17.4 | 10.97 | 26.53 | 89 | 6203 | 33.0 | 24.7 | 42.60 |
| Form 2 | 64 | 3508 | 19.8 | 13.37 | 28.31 | 122 | 6823 | 38.5 | 27.2 | 51.23 |
| Form 3 | 99 | 4056 | 23.2 | 14.31 | 35.28 | 156 | 6631 | 37.9 | 28.5 | 48.26 |
| Form 4 | 72 | 4036 | 23.9 | 18.27 | 30.72 | 107 | 5919 | 35.1 | 26.5 | 44.82 |
| Form 5 | 139 | 6108 | 34.8 | 26.30 | 44.32 | 187 | 8261 | 47.0 | 36.0 | 58.32 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 289 | 13636 | 23.5 | 19.39 | 28.16 | 425 | 20652 | 35.6 | 31.5 | 39.82 |
| Chinese | 76 | 4059 | 27.4 | 20.38 | 35.81 | 127 | 6748 | 45.6 | 33.5 | 58.24 |
| Indian | 56 | 3245 | 23.6 | 16.63 | 32.26 | 98 | 5787 | 42.0 | 35.5 | 48.86 |
| Bumiputera Sabah | - | - | - | - | - | 4 | 235 | 34.7 | 12.7 | 65.99 |
| Bumiputera Sarawak | - | - | - | - | - | 2 | 161 | 26.2 | 5.5 | 68.54 |
| Others | 1 | 39 | 7.7 | 0.89 | 43.45 | 5 | 253 | 49.6 | 20.1 | 79.31 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 20 | 1160 | 18.8 | 14.19 | 24.49 | 40 | 2245 | 36.4 | 23.4 | 51.82 |
| Normal (≥-2sd - ≤+1sd) | 283 | 14244 | 25.1 | 20.64 | 30.09 | 433 | 22376 | 39.4 | 34.9 | 44.05 |
| Overweight (>+1sd - ≤+2sd) | 66 | 3032 | 23.7 | 17.75 | 30.97 | 103 | 4825 | 37.8 | 29.7 | 46.56 |
| Obese (>+2sd) | 53 | 2543 | 20.3 | 15.13 | 26.65 | 85 | 4391 | 35.0 | 29.0 | 41.56 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 35 | 1576 | 25.4 | 18.56 | 33.70 | 48 | 2289 | 36.9 | 31.1 | 43.05 |
| Normal ( ≥-2sd ) | 386 | 19355 | 23.6 | 19.80 | 27.81 | 612 | 31499 | 38.4 | 33.6 | 43.42 |

**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 |
| **NEGERI SEMBILAN** | 754 | 38081 | 43.1 | 38 | 47.8 |
| **Locality of School** | | | | | |
| Urban | 651 | 32468 | 43.5 | 38 | 49.0 |
| Rural | 103 | 5613 | 40.8 | 39 | 42.3 |
| **Sex** | | | | | |
| Boys | 320 | 19495 | 44.4 | 38 | 50.4 |
| Girls | 434 | 18586 | 41.8 | 36 | 47.4 |
| **Class** | | | | | |
| Form 1 | 104 | 7056 | 37.6 | 31 | 44.7 |
| Form 2 | 126 | 6794 | 38.3 | 32 | 45.6 |
| Form 3 | 169 | 7210 | 41.2 | 33 | 50.1 |
| Form 4 | 142 | 8088 | 48.0 | 40 | 56.6 |
| Form 5 | 213 | 8933 | 50.8 | 42 | 59.6 |
| **Ethnicity** | | | | | |
| Malay | 549 | 26783 | 46.1 | 41 | 51.1 |
| Chinese | 102 | 5519 | 37.3 | 33 | 41.9 |
| Indian | 97 | 5395 | 39.2 | 31 | 47.6 |
| Bumiputera Sabah | 3 | 233 | 34.4 | 11 | 68.6 |
| Bumiputera Sarawak | 2 | 113 | 18.3 | 4 | 55.4 |
| Others | 1 | 39 | 7.7 | 1 | 43.4 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 45 | 2547 | 41.3 | 29 | 54.3 |
| Normal (≥-2sd - ≤+1sd) | 502 | 25266 | 44.5 | 38 | 51.2 |
| Overweight (>+1sd - ≤+2sd) | 109 | 5254 | 41.1 | 35 | 47.3 |
| Obese (>+2sd) | 97 | 4982 | 39.7 | 33 | 47.4 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting ( <-2sd ) | 62 | 2969 | 47.8 | 37 | 59.4 |
| Normal ( ≥-2sd ) | 690 | 35031 | 42.7 | 38 | 47.6 |

**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 |
| **NEGERI SEMBILAN** | 98 | 5107 | 6.6 | 5.04 | 8.53 | 806 | 40844 | 52.6 | 46.82 | 58.28 |
| **Locality of School** | | | | | | | | | | |
| Urban | 81 | 4235 | 6.4 | 4.71 | 8.68 | 706 | 35626 | 54.0 | 48.26 | 59.64 |
| Rural | 17 | 872 | 7.5 | 5.36 | 10.28 | 100 | 5219 | 44.6 | 31.46 | 58.55 |
| **Sex** | | | | | | | | | | |
| Boys | 39 | 2595 | 6.8 | 4.34 | 10.56 | 293 | 18044 | 47.4 | 41.50 | 53.40 |
| Girls | 59 | 2511 | 6.3 | 4.34 | 9.17 | 513 | 22800 | 57.6 | 52.00 | 62.92 |
| **Class** | | | | | | | | | | |
| Form 1 | 21 | 1500 | 9.2 | 6.13 | 13.70 | 120 | 7958 | 49.0 | 41.86 | 56.23 |
| Form 2 | 8 | 435 | 2.8 | 1.37 | 5.78 | 141 | 7797 | 50.7 | 41.93 | 59.52 |
| Form 3 | 21 | 871 | 5.7 | 3.54 | 9.15 | 185 | 7886 | 51.9 | 39.00 | 64.55 |
| Form 4 | 18 | 1119 | 7.6 | 3.31 | 16.48 | 143 | 7976 | 54.2 | 46.20 | 61.90 |
| Form 5 | 30 | 1182 | 7.3 | 4.86 | 10.88 | 217 | 9227 | 57.1 | 50.61 | 63.40 |
| **Ethnicity** | | | | | | | | | | |
| Malay | 53 | 2671 | 5.1 | 3.26 | 7.90 | 561 | 27569 | 52.7 | 46.43 | 58.81 |
| Chinese | 22 | 1162 | 10.0 | 5.89 | 16.60 | 125 | 6564 | 56.7 | 48.71 | 64.31 |
| Indian | 20 | 1086 | 8.9 | 7.08 | 11.06 | 106 | 5965 | 48.7 | 39.88 | 57.60 |
| Bumiputera Sabah | 1 | 64 | 10.2 | 0.99 | 56.59 | 6 | 307 | 49.5 | 14.27 | 85.22 |
| Bumiputera Sarawak | 1 | 49 | 10.9 | 2.64 | 35.40 | 5 | 292 | 64.3 | 18.29 | 93.53 |
| Others | 1 | 74 | 17.7 | 1.88 | 70.60 | 3 | 146 | 35.0 | 4.65 | 85.59 |
| **BMI-for-age status (BAZ)** | | | | | | | | | | |
| Thinness (<-2sd) | 9 | 495 | 8.7 | 3.43 | 20.54 | 57 | 3100 | 54.7 | 43.03 | 65.94 |
| Normal (≥-2sd - ≤+1sd) | 64 | 3224 | 6.5 | 4.61 | 9.03 | 507 | 25609 | 51.4 | 45.91 | 56.93 |
| Overweight (>+1sd - ≤+2sd) | 15 | 844 | 7.6 | 4.35 | 12.98 | 133 | 6452 | 58.2 | 49.27 | 66.62 |
| Obese (>+2sd) | 10 | 543 | 4.9 | 1.73 | 13.28 | 107 | 5588 | 50.8 | 40.79 | 60.67 |
| **Height-for-age status (HAZ)** | | | | | | | | | | |
| Stunting ( <-2sd ) | 9 | 468 | 8.7 | 4.60 | 15.99 | 58 | 2779 | 52.0 | 42.53 | 61.24 |
| Normal ( ≥-2sd ) | 89 | 4639 | 6.4 | 4.95 | 8.30 | 747 | 38033 | 52.7 | 46.63 | 58.64 |

**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 | 95% CI Upper |
| **NEGERI SEMBILAN** | 218 | 11431 | 14.7 | 11.38 | 18.82 |
| | | | | | |
| **Locality of School** | | | | | |
| Urban | 173 | 9010 | 13.7 | 10.44 | 17.67 |
| Rural | 45 | 2420 | 20.7 | 13.61 | 30.16 |
| **Sex** | | | | | |
| Boys | 99 | 6078 | 16.0 | 12.20 | 20.64 |
| Girls | 119 | 5352 | 13.5 | 9.33 | 19.17 |
| **Class** | | | | | |
| Form 1 | 46 | 3199 | 19.7 | 14.11 | 26.83 |
| Form 2 | 31 | 1677 | 10.9 | 7.43 | 15.74 |
| Form 3 | 53 | 2397 | 15.8 | 8.99 | 26.21 |
| Form 4 | 30 | 1769 | 12.0 | 7.56 | 18.55 |
| Form 5 | 58 | 2388 | 14.8 | 10.24 | 20.88 |
| **Ethnicity** | | | | | |
| Malay | 126 | 6301 | 12.0 | 9.24 | 15.53 |
| Chinese | 41 | 2230 | 19.3 | 10.00 | 33.84 |
| Indian | 47 | 2655 | 21.7 | 17.06 | 27.12 |
| Bumiputera Sabah | 1 | 64 | 10.2 | 0.99 | 56.59 |
| Bumiputera Sarawak | 2 | 108 | 23.7 | 5.10 | 64.32 |
| Others | 1 | 74 | 17.7 | 1.88 | 70.60 |
| **BMI-for-age status (BAZ)** | | | | | |
| Thinness (<-2sd) | 18 | 906 | 16.0 | 9.56 | 25.55 |
| Normal (≥-2sd - ≤+1sd) | 141 | 7396 | 14.9 | 10.87 | 19.97 |
| Overweight (>+1sd - ≤+2sd) | 33 | 1686 | 15.2 | 11.33 | 20.11 |
| Obese (>+2sd) | 26 | 1443 | 13.1 | 8.63 | 19.41 |
| **Height-for-age status (HAZ)** | | | | | |
| Stunting ( <-2sd ) | 20 | 979 | 18.3 | 9.06 | 33.52 |
| Normal ( ≥-2sd ) | 198 | 10451 | 14.5 | 11.49 | 18.08 |

**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 | Dr. Muhammad Fadhli bin Mohd Yusoff |
| | | Prepare Questionaires mannual, Data collection manual | Dr. S. Maria Binti Awaluddin Pn. Ruhaya binti Salleh |
| | | Meeting with Liason Officers | Pn. Hamizatul Akmal binti Abd Hamid |
| | | Planning for data collection training | Pn. Wan Shakira binti Rodzlan Hasani |
| | | Prepare security cards/name tags for research team | Cik Nur Hazwani binti Mohd Hasri |
| | | Arrangement for advanced payment for team managers, nurses and drivers | |
| | | Process claims of MOH staff | |
| | | Prepare tickets for travelling | |
| | | Monitor the expenditure/budget | |
| 2 | Survey Research Centre | Calculate the sample size | Dr. Muhammad Fadhli bin Mohd Yusoff |
| | | Determine the sample distribution by state | Pn. Norazizah binti Ibrahim Wong |
| | | | Pn. Wan Shakira binti Rodzlan Hasani |
| 3 | ICT Unit | Maintenance of the scanning machine | Pn. Siti Nor'ain Binti Hashim |
| | | | En. Sulaiman Bin Harun |
| | | Daily back up for databases | En. Yusmirol Bin Yusop |
| | | | En. Andy Bin Mustaming |
| 4 | Central Field Supervisors | **Before Data Collection** | Dr Nor Asiah Binti Muhamad |
| | | Central Field Supervisors are expected to prepare for the initiation of data collection.The preparation tasks include: | 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. | Pn. Hasimah Binti Ismail |
|---|---|---|---|
| | | | Pn. Helen Tee Guat Hiong |
| | | 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: | En. Mohd Hazrin Bin Hasim @ Hashim |
| | | • Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers.<br>• Manage transport: Vehicles<br>• Manage survey intruments and relavant form<br>• 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. | |

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

**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**

## NEGERI SEMBILAN

**Liaison Officer**

Ms. Norliza binti Zainal Abidin

**Field Supervisor**

Dr. Chandrika a/pJeevanathan

Ms. Nor Azian Mohd Zaki

**Nutritionist**

1. Mr. Suhaidi bin Sudin
2. Mr. Mohamad Ihsan bin Tahir
3. Ms. Suriyani binti Mohd Yusop
4. Ms. Siti Nor Aisah binti Muhamad  Fandi
5. Ms. Farah Wahida binti Za'abar

**Drivers**

1. Mr. Mohd Baharuddin Bin Abu Bakar
2. Mr. Hashim Bin Mat Zin

**Research Assistants**

1. Suhainiza binti Samsudin
2. Nur Anas Iylia binti Ishak
3. Sharmilla d/o Bala Subramaniam
4. Sa'dun bin Mohd Yusoff
5. Syarifah Nurul Azirah binti Syed Hassan
6. Nor Aliza binti Hassan @ Hassanudin
7. Mohamad Aimi Iqwan bin Mohd Roslan
8. Kalaiwani a/p Gunasekaran
9. Muhammad Syahir bin Samad
10. Muhamad Mustaqim bin Md lazim

**Appendix 7: Nutrition Questionnaires**

**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 உள்ளமனைநர்களின்உடல் 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 விடையஉ 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<br>மவ்வாறு கருமையாக்கவும் | ● | bukan seperti ini<br>மவ்வாறல்ல | ⊗ | atau<br>அல்லது | ✗ |

4. Hanya satu jawapan bagi setiap soalan **KECUALI** ada arahan lain yang dinyatakan.
   கொடுக்கப்பட்டுள்ள கேள்விகளுக்கு குறிப்பிடப்பட்ட அளவு விடையளிக்க வேண்டும்.

5. Sekiranya anda tidak faham, sila angkat tangan untuk bertanyakan soalan semasa sesi menjawab soalan.
   புரியாவிடில் உங்கள் கரத்தை உயர்த்தி அங்கிருக்கும் ஆசிரியரிடம் கேள்வி கேட்கலாம்.

6. Apabila anda selesai menjawab, tunggu arahan daripada Fasilitator yang menjaga kelas anda.
   விடையளித்து முடித்தப்பின் ஆசிரியர் உங்கள் தால்களை வாங்கும் வரை பொருத்திருங்கள்.

Terima kasih di atas kesudian anda menjawab soal selidik ini.
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 தினை | 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 <br> B. Perempuan பெண் |
|---|---|---|

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

| | | Sekolah Rendah ஆரம்பப்பள்ளி | Sekolah Menengah மடைநிலைப்பள்ளி | |
|---|---|---|---|---|
| A5 | Kelas கிலா | A. Tahun 4 ஆண்டு 4 <br> B. Tahun 5 ஆண்டு 5 <br> C. Tahun 6 ஆண்டு 6 | D. Kelas Peralihan குறைநீக்கல்வகுப்பு <br> E. Tingkatan 1 படிவம் 1 <br> F. Tingkatan 2 படிவம் 2 | G. Tingkatan 3 படிவம் 3 <br> H. Tingkatan 4 படிவம் 4 <br> I. Tingkatan 5 படிவம் 5 |
| A6 | Umur ஆஆஉ | A. 10 tahun 10 வயது <br> B. 11 tahun 11 வயது <br> C. 12 tahun 12 வயது | D. 13 tahun 13 வயது <br> E. 14 tahun 14 வயது <br> F. 15 tahun 15 வயது | G. 16 tahun 16 வயது <br> H. 17 tahun 17 வயது <br> I 18 tahun 18 வயது |

2

**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 டில்லை /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 டில்லை

B   Tiada selera / உண்ண விருப்பமில்லை

C   Tiada masa / நேரம்டில்லை

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 டில்லை/ தினமும் காலை சிற்றுண்டி உட்கொள்வேன்.

3

*Tinjauan Penalitaihi Kbianja*

**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 பெறுவீர்கள்?

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 யில்லை/ 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 பெறுவீர்கள்?

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 யில்லை/ ஓய்வு நேரத்தில் உணவு உட்கொள்வதில்லை

4

182

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

A    Tiada makanan / உணவு டில்லை

B    Tiada selera / உண்ண விருப்பமில்லை

C    Tiada masa / நேரம்டில்லை

D    Berdiet /kawal berat badan / உணவு கட்டுப்பாட்டிலிருத்தல்

E    Tiada duit / பணம் பற்றாகுறை

F    Lain-lain / மற்றது

G    Tidak berkaitan/ambil makan tengahari / தொடர்பு டில்லை/ 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 பரவு உணவு உட்கொள்வீர்கள் (மதிய மணி 6.00-லிருந்துபரவு 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 / பரவு உணவு உட்கொள்வதில்லை

**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

6

184

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 பிராஸ், நகெட் மற்றும் சில.

     A.    1 hari / 1 நாள்

     B    2 hari / 2 நாள்

     C    3 hari / 3 நாள்

     D    4 hari / 4 நாள்

     E    5 hari / 5 நாள்

     F    6 hari / 6 நாள்

     G    7 hari / 7 நாள்

     H    Tidak ambil makanan segera / நான் துரித உணவு உட்கொள்வதில்லை.

B18    Berapa kerap anda membawa bekal makanan ke sekolah?
பொதுவாக எத்தனை முறை 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

7

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

8

**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/ கார்போனேட்பானம்

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

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

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

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

10

*Tinjauan Kesihatan Morbiditi*

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

11

*Tinjauan Penduduk Remaja*

**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 செயல்பட்டிர்கள்? (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 செய்திர்கள்?

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
ஓடிக்கொண்டும்மற்றும் 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 செய்திர்கள்?

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
ஓடிக்கொண்டும்மற்றும் விளையாடிக்கொண்டிருந்தேன்

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

12

190

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

13

191

*Tahfidze Penduduk Remaja*

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 |

14

192

**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 / மல்லை

**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, பிளே சிதேசன், கேம்போய்மற்றும் சில*)?

A Ya / ஆம்

B Tidak / மல்லை

**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 / மல்லை

15

193

*Tinjauan Penyelidikan Kesihatan*

**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

16

*Tinjauan Penulihan Penyakit*

| 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

17

195

*Tingkatan Pendidikan Kendiri*

**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
இனிப்பு 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

18

*Tinjauan Penyelidikan Kesiap*

| 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 ஏதாவது உட்கொள்கிறீர்களா?

  A  Ya / ஆம்

  B  Tidak / இல்லை

(Jika **TIDAK**, sila jawab**TIDAK AMBIL SUPLEMEN** di soalan E2, E3, dan E4)
(இல்லையென்றால், விடமின்உட் கொள்ளவில்லையென்றுE2,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) / இரும்பு 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 / நண்பர்களால்

  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

19

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

20

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

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

F1    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- ல்லருந்து F10 வரை பதிலளிக்கவும்)

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

   C.    Tidak (**sila jawab soalan F2 dan terus ke soalan F5 hingga F8**)
         ல்லை  (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<br>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<br>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<br>உணவுச்சத்து |
| B | Kandungan karbohidrat/gula<br>ஊட்டச்சத்துமற்றும் சர்ச்சரையின்அளவு |
| C | Kandungan lemak<br>கொழுப்பின் அளவு |
| D | Kandungan protein<br>புரதச்சத்து |
| E | Kandungan garam/natrium<br>உப்பின் அளவு |
| F | Kandungan vitamin<br>விடமினின் அளவு |
| G | Kandungan mineral<br>கனிமத்தின் அளவு |
| H | Serat (fiber)<br>-ஃபைபர் |

21

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

Rendah Lemak
Minuman Yogurt

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

*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 கூற்று சரி அல்லது பிழை என்று குறிப்பிடுக.

Satu Hidangan
Mengandungi 250 ml

ஒரு பரிமாறலில் 250 ml உள்ளது

Tenaga
140kcal

7%

Berdasarkan
2000kcal
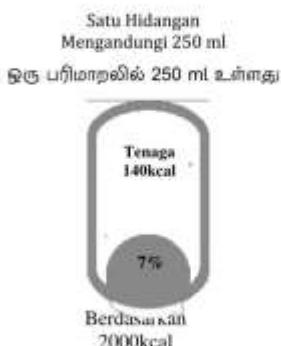
F7 Nilai tenaga untuk dua hidangan makanan ini adalah 140kcal.
2 பரிமாறலில் சத்தின் அளவு 140kcal.

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

24

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

25

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 | Bulan | Tahun |
| நாள் | மாதம் | ஆண்டு |

| G2 | Berat Badan |
| --- | --- |

உடல் எடை

| G2a | Berat 1 | | | . | | kg |
| | எடை 1 | | | | | |

| G2b | Berat 2 | | | . | | kg |
| | எடை 2 | | | | | |

Enggan diukur
அளக்கவில்லை

| G3 | Tinggi |
| --- | --- |

உயரம்

| G3a | Tinggi 1 | | | . | | cm |
| | உயரம் 1 | | | | | |

| G3b | Tinggi 2 | | | . | | cm |
| | உயரம் 2 | | | | | |

Enggan diukur
அளக்கவில்லை

26

**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

1

**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/<br>学生编号 | State<br>州属 | Strata<br>区域 | School<br>Category<br>学校类别 | School<br>code<br>学校编号 | Class<br>班级 | Student<br>学生 |
|---|---|---|---|---|---|---|---|
| A2 | Date of birth/<br>出生日期 | Day/日期 | | Month/月 | | Year/年份 | |

| A3 | Gender/性别 | A. Male/男<br>B. Female/女 |
|---|---|---|
| A4 | Ethnicity/种族 | A. Malay/马来人    D. Sabah indigenous/沙巴土著<br>B. Chinese.华人    E. Sarawak indigenous /沙捞越土著<br>C. Indian/印度人    F. Others/其他 |

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

2

206

| 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

3

**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

4

**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

5

**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

6

210

**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

7

**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

8

212

**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

**MODULE C :    PHYSICAL ACTIVITY**

C 组 :   体能活动

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

指示 : 请在准备好的答案纸上划黑作答

**C1**    Physical activity during leisure time: Are you doing the activities listed below during the last 7 days (last week). If **YES**, how many times?

休闲体能活动: 在过去的7天（上周）你有做出以下列出的哪些活动。如果有，请问多少次？

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

C2     During physical education class in the last 7 days, how often are you in an active condition (playing, running, throwing, jumping)?
在过去的7天，在体育课活动期间，你是否非常活跃（玩耍，奔跑，投球，跳跃）？

     A   I do not attend the physical education class/我不参与体育课
     B   Very rare/级少数
     C   Occasionally/偶尔 (有时候会)
     D   Quite often/经常
     E   Always/常常

C3     What do you usually do **during break time in the school** for the last 7 days?
在过去的7天，你都在**学校休息课**时做些什么？

     A   Sitting down (chatting, reading, doing homework) /坐下(聊天，阅读，做功课)
     B   Standing **or** walking/站立**或**步行
     C   Running **or** playing for a short while/奔跑**或**偶尔玩耍
     D   Running **and** playing for a short while/奔跑**和**偶尔玩耍
     E   Running **and** playing all the time/奔跑**和**经常玩耍

C4     What are the activities that you normally do **during lunch time** for the last 7 days (apart from eating)?
在过去的7天，除了坐下吃午餐外，你都在**吃午餐的时候**做些什么？

     A   Sitting down (chatting, reading, doing homework)/坐下 (聊天，阅读，做功课)
     B   Standing **or** walking/站立**或**步行
     C   Running **or** playing for a short while/奔跑**或**偶尔玩耍
     D   Running **and** playing for a short while/奔跑**和**适量的玩耍
     E   Running **and** playing all the time/奔跑**和**经常玩耍

C5     In the last 7 days, how many days did you spend playing sports, dance or playing **actively immediately after school hours**?
在过去的7天，你有几天是**直接在放学后**运动，跳舞，或非常活跃的玩耍？

     A   Never/没有
     B   1 day/1 天
     C   2 or 3 days/2 或 3天
     D   4 days/4 天
     E   5 days/5 天

C6     In the last 7 days, how many days did you play sports, dance or play **actively in the evening**?
在过去的7天，你有几天是**在下午时间**运动，跳舞，或非常活跃的玩耍？

     A   Never/没有
     B   1 day/1 天
     C   2 or 3 days/2 或 3天
     D   4 or 5 days/4 或 5天
     E   6 or 7 days/6 或 7天

11

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 |

13

217

**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

14

**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**）

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

17

**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/<br>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 |

18

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 |

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<br>Serving per box/每包装所含食用份量: 1 | | |
| | Every 100 ml/<br>每 100 毫升 | Every serving 250 ml/<br>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

20

224

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
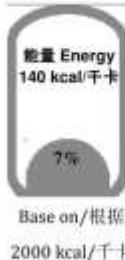
**F7**     Energy for 2 serving of this food is 140 kcal
两份食用份量将提供140千卡的能量

    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

22

226

| 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 | | |

23

227

**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.

1

231

**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              :

2

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

Borang Persetujuan Responden (Bawah 18 Tahun) NHMS 2017

## 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 .......................................

2

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 : ..................................................

3

**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**

KEMENTERIAN
PENDIDIKAN
MALAYSIA