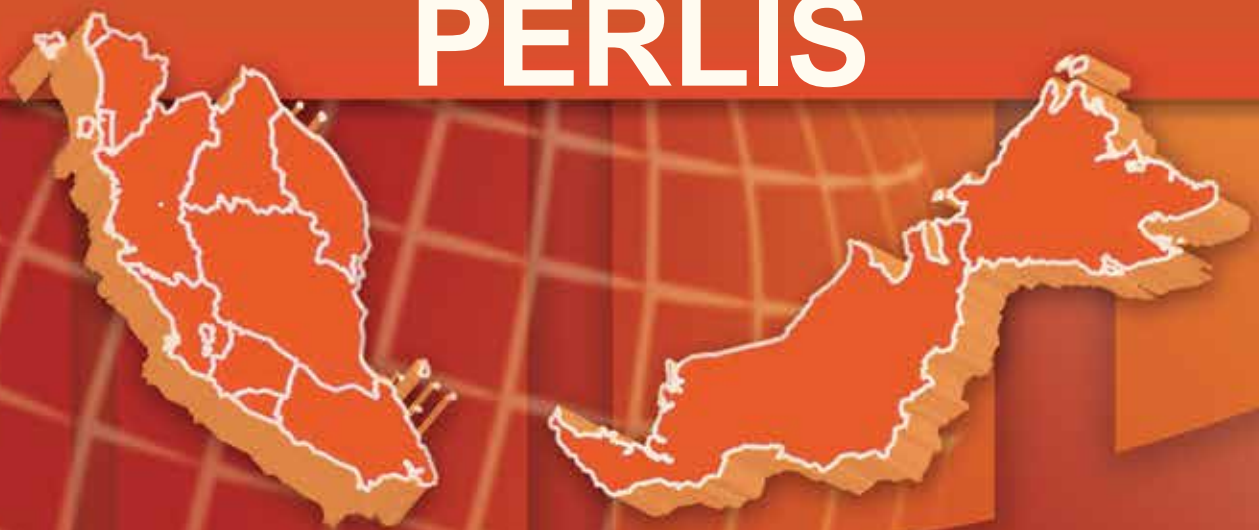


NATIONAL HEALTH AND MORBIDITY SURVEY 2017

ADOLESCENT HEALTH SURVEY 2017

PERLIS



**NATIONAL HEALTH AND MORBIDITY
SURVEY 2017**

(NMRR-16-698-30042)

ADOLESCENT HEALTH SURVEY 2017

PERLIS

Contributors

The following persons had contributed in the interpretation of findings, discussions on implications, conclusions and/or drawing recommendations for this report.

(In alphabetical order)

Abdul Aiman Abd Ghani, Amal Shamsudin, Azli Baharudin @Shaharuddin, Azriman Rosman, Chan Ying Ying, Chandrika A/p Jeevananthan, Cheong Siew Man, Faizah Paiwai, Fazila Haryati Ahmad, Fazly Azry Abdul Aziz, Halizah Mat Rifin, Hamizatul Akmal Abd Hamid, Hasimah Ismail, Jane Ling Miaw Yn, Lim Kuang Kuay, Maisarah Omar, Mohamad Aznuddin Abd Razak, Mohamad Fuad Mohamad Anuar, Mohamad Hasnan Ahmad, Mohd Azahadi Omar, Mohd Hatta Mutalip, Mohd Hazrin Hasim@Hashim, Muhammad Fadhli Mohd Yusoff, Muhammad Suhaimi Mohamad Idrus, Muslimah Yusof, Natifah Che Salleh, Nazirah Alias, Nik Rubiah Nik Abdul Rashid, Nizam Baharom, Noor Aliza Lodz, Noor Ani Ahmad, Noraida Mohamad Kasim, Noraryana Hassan, Norazizah Ibrahim Wong, Norharlina Bahar, Norli Abdul Jabbar, Norlida Zulkafly, Normala Ibrahim, Norzawati Yoep, Nur Azna Mahmud, Nur Hazwani Mohd Hasri, Nur Liana Abdul Majid, Nurashikin Ibrahim, Nurrul Ashikin Abdullah, Rajini Sooryanarayana, Rashidah Ambak, Rasidah Jamaluddin, Rimah Melati Abd. Ghani, Rozanim Kamaruddin, Ruhaya Salleh, Rushidi Ramly, Rusidah Selamat, S Maria Awaluddin, Saidatul Norbaya Buang, Sayan a/l Pan, Shahibul Bariah Mat Ghani, Shubash Shander Ganapathy, Siti Noafika Anwar, Syafinaz Mohd Sallehuddin, Tania Gayle Robert, Tan Lee Ann, Tee Guat Hiong, Thamil Arasu Saminathan, Ting Teck Pei, Wan Salwina Wan Ismail, Wan Shakira Rodzlan Hasani, Yaw Siew Lian.

Editorial Reviewers

Chan Ying Ying, Jane Ling Miaw Yn, Norzawati Yoep, Noor Aliza Lodz, Rajini Sooryanarayana
Tania Gayle A/P Robert, Tan Lee Ann

Editors

S Maria Awaluddin, Muhammad Fadhli Mohd Yusoff, Tahir Aris

© 2017, Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia, Kuala Lumpur.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

National Health and Morbidity Survey 2017 (NMRR-16-698-30042)

Perlis Adolescent Health Survey 2017

ISBN: 978-983-2387-68-8

MOH/S/IKU/100.18(RR)

Suggested citation:

Institute for Public Health (IPH) 2017. National Health and Morbidity Survey (NHMS) 2017: Adolescent Health Survey 2017, Perlis.

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.

Produced and Distributed by:

National Health and Morbidity Survey 2017: Adolescent Health Survey 2017

Institute for Public Health

National Institutes of Health

Ministry of Health Malaysia

Jalan Bangsar, 50590 Kuala Lumpur

Federal Territories of Kuala Lumpur, Malaysia

Tel: +603-2297-9400

Fax: +603-2282-3114

Any enquiries or comments on this report should be directed to:

Principal Investigator

National Health and Morbidity Survey 2017: Adolescent Health Survey 2017

Institute for Public Health

National Institutes of Health

Ministry of Health Malaysia

Jalan Bangsar, 50590 Kuala Lumpur

Federal Territories of Kuala Lumpur, Malaysia

Tel: +603-2297-9400

Fax: +603-2282-3114

Published by Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia.

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 members would like to express their gratitude to the Director General of Education, Ministry of Education Malaysia, as well as the Director of Family Health Development Division and Director of Nutrition Division, Ministry of Health Malaysia. Our appreciation is also extended towards the various State Education Departments, District Education Offices, School Principals and the selected school officers who assisted in this study successfully. And last but not least, all students from 212 schools whom have participated in this study.

LIST OF ABBREVIATIONS

AHS	Adolescent Health Survey
CDC	Centre Disease Control
GSHS	Global School-based Student Health survey
IAT	Internet Addiction Test
MVIAT	Malay Version Internet Addiction Test
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
YRBSS	Youth Risk Behavior Surveillance System

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Research in Adolescent Health in Malaysian Context.....	1
1.2	Objectives.....	5
1.2.1	General Objectives	5
1.2.2	Specific Objectives.....	5
1.2.3	The NHMS 2017 Organisation Team	5
2.0	METHODOLOGY AND SAMPLING DESIGN	8
2.1	Target Population.....	8
2.2	Sampling Frame	8
2.3	Sample Size Determination	8
2.4	Sampling Design	10
2.5	Ethical Approval and Consent Forms	10
2.6	Survey Instruments	10
2.7	Data Collection	11
2.8	Data Management.....	11
2.8.1	Data Operation Centre	12
2.8.2	Data Analysis	14
3.0	FINDINGS.....	15
3.1	General Findings.....	15
3.2	Alcohol Consumption	18
3.2.1	Introduction	18
3.2.2	Objectives	18
3.2.3	Variable definitions.....	19
3.2.4	Findings.....	19
3.2.5	Discussion/ Conclusion	20
3.2.6	Recommendations.....	20
3.2.7	References	21
3.3	Dietary Behaviours	25
3.3.1	Introduction	25
3.3.2	Objectives	25
3.3.3	Variable Definitions	26
3.3.4	Findings.....	26
3.3.5	Discussion/ Conclusion	28
3.3.6	Recommendations.....	29

3.3.7	References	29
3.4	Drug Use	34
3.4.1	Introduction	34
3.4.2	Objectives	35
3.4.3	Variable Definitions	35
3.4.4	Findings.....	36
3.4.5	Discussion/Conclusion	36
3.4.6	Recommendations.....	37
3.4.7	References	37
3.5	Hygiene (Including Oral Health)	42
3.5.1	Introduction	42
3.5.2	Objectives	42
3.5.3	Variable Definitions	43
3.5.4	Findings.....	43
3.5.5	Discussion/Conclusion	45
3.5.6	Recommendations.....	46
3.5.7	References	46
3.6	Internet Use and Addiction	56
3.6.1	Introduction	56
3.6.2	Objectives	57
3.6.3	Variable Definitions	57
3.6.4	Findings.....	57
3.6.5	Discussion/ Conclusion	58
3.6.6	Recommendations.....	58
3.6.7	References	59
3.7	Mental Health Problems	62
3.7.1	Introduction	62
3.7.2	Objectives	62
3.7.3	Variable definitions.....	62
3.7.4	Findings.....	63
3.7.5	Discussion/ Conclusion	63
3.7.6	Recommendations.....	63
3.7.7	References	63
3.8	Physical Activity.....	68
3.8.1	Introduction	68
3.8.2	Objectives	68

3.8.3	Variable Definitions	68
3.8.4	Findings.....	68
3.8.5	Discussion/ Conclusion	69
3.8.6	Recommendations.....	69
3.8.7	References	70
3.9.	Protective Factors.....	72
3.9.1	Introduction	72
3.9.2	Objectives	72
3.9.3	Variable Definitions	72
3.9.4	Findings.....	73
3.9.5	Discussions/ Conclusion	74
3.9.6	Recommendations.....	74
3.9.7	References	74
3.10	Sexual Behaviours that contribute to HIV Infection, Other STIs and Unintended Pregnancy.....	79
3.10.1	Introduction	79
3.10.2	Objectives.....	79
3.10.3	Variable Definitions.....	79
3.10.4	Findings	80
3.10.5	Discussion/ Conclusion	80
3.10.6	Recommendations	80
3.10.7	References	81
3.11	Tobacco Use	85
3.11.1	Introduction	85
3.11.2	Objectives.....	85
3.11.3	Variable Definitions.....	86
3.11.4	Findings	86
3.11.5	Discussion/Conclusion	88
3.11.6	Recommendations	88
3.11.7	References	89
3.12	Violence and Unintentional Injury	97
3.12.1	Introduction	97
3.12.2	Objectives.....	97
3.12.3	Variable Definitions.....	98
3.12.4	Findings	99
3.12.5	Discussion / Conclusion.....	100

3.12.6	Recommendations	101
3.12.7	References	102
APPENDICES	106

LIST OF TABLES

METHODOLOGY AND SAMPLING DESIGN

Table 2.1 Distribution of secondary schools sampled by state, NHMS 2017

GENERAL FINDINGS

Table 3.1.1 Response rate at student level by state, NHMS 2017

Table 3.1.2 Comparison between NHMS 2017 sample and total enrolment of students in Malaysia 2017

ALCOHOL CONSUMPTION

Table 3.2.1 Prevalence of ever alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

Table 3.2.2 Prevalence of current alcohol drinkers among Form 1 to Form 5 students Perlis, 2017

Table 3.2.3 Percentage of drunkenness among ever alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

Table 3.2.4 Initiation age of alcohol drinking among ever alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

Table 3.2.5 Sources of obtaining alcohol among current alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

Table 3.2.6 Prevalence of social problems (got into trouble with family or friends, missed school, or got into fights) as a result of drinking alcohol among Form 1 to Form 5 students in Perlis, 2017

DIETARY BEHAVIOURS

Table 3.3.1 Prevalence of students who had gone hungry most of the time or always because there was not enough food among Form 1 to Form 5 students in Perlis, 2017

- Table 3.3.2** Prevalence of fruits intake of at least twice daily in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.3** Prevalence of vegetables intake of at least three times daily in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.4** Prevalence of fruits and vegetables intake at least five times daily in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.5** Prevalence of carbonated soft drinks consumption at least once a day in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.6** Prevalence of plain water intake 5 times or more per day in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.7** Prevalence of milk or milk products intake of at least two servings per day in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.3.8** Prevalence of consuming food from fast food restaurants of at least three days in the past seven days among Form 1 to Form 5 students in Perlis, 2017

DRUG USE

- Table 3.4.1** Prevalence of ever used drugs in a lifetime among Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.2** Prevalence of current drug use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.3** Prevalence of ever used marijuana in their lifetime among Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.4** Prevalence of current marijuana use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.5** Prevalence of ever used amphetamines/metaphetamines in their lifetime among Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.6** Source of getting drugs in the past 30 days among current drug users, Form 1 to Form 5 students in Perlis, 2017
- Table 3.4.7** Age of initiation of first use of drugs amongst ever drug users among Form 1 to Form 5 students in Perlis, 2017

HYGIENE (INCLUDING ORAL HEALTH)

- Table 3.5.1** Prevalence of teeth brushing in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.2** Prevalence of use of fluoridated toothpaste among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.3** Prevalence of use of dental floss among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.4** Timing of last dental visit among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.4.1** Prevalence of last dental visit within the last 24 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.5** Prevalence of having missed class due to toothache in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.6** Prevalence of avoidance of smiling or laughing due to the appearance of their teeth among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.7** Prevalence of use of soap during hand washing in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.8** Prevalence of handwashing before eating in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.5.9** Prevalence of handwashing after using the toilet in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

INTERNET USE AND ADDICTION

- Table 3.6.1** Prevalence of internet use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.6.2** Prevalence of positive Malay Version Internet Addiction Test (MVIAT) among Form 1 to Form 5 students in Perlis, 2017
- Table 3.6.3** Percentage of reported devices used by internet users among Form 1 to Form 5 students in Perlis, 2017
- Table 3.6.4** Percentage of reported devices used by internet addicts among Form 1 to Form 5 students in Perlis, 2017

MENTAL HEALTH PROBLEMS

- Table 3.7.1** Prevalence of loneliness "most of the time or always" in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.7.2** Prevalence of inability to sleep "most of the time or always" due to worry in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.7.3** Prevalence of suicidal ideation in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.7.4** Prevalence of suicidal plan in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.7.5** Prevalence of suicidal attempt "at least once" in the past 12 months among Form 1 to Form 5 students in Perlis, 2017
- Table 3.7.6** Prevalence of not having any close friend among Form 1 to Form 5 students in Perlis, 2017

PHYSICAL ACTIVITY

- Table 3.8.1** Prevalence of being physically active (60 minutes daily) for a total of at least 5 days or more among Form 1 to Form 5 students in Perlis, 2017
- Table 3.8.2** Prevalence of spending at least 3 hours in sitting activities among Form 1 to Form 5 students in Perlis, 2017

PROTECTIVE FACTORS

- Table 3.9.1** Prevalence of truancy in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.9.2** Prevalence of having peer support in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.9.3** Prevalence of having parental or guardian supervision in the past 30 days among Form 1 to Form 5 students Perlis, 2017
- Table 3.9.4** Prevalence of having parental or guardian connectedness in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Table 3.9.5 Prevalence of having parental or guardian bonding in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Table 3.9.6 Prevalence of having parental or guardian respect for privacy in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

SEXUAL BEHAVIOURS

Table 3.10.1 Prevalence of ever had sexual intercourse among Form 1 to Form 5 students in Perlis, 2017

Table 3.10.2 Prevalence of current sexual intercourse in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Table 3.10.3 Percentage of first sexual intercourse before the age of 14 years among those who ever had sex among Form 1 to Form 5 students in Perlis, 2017

Table 3.10.4 Percentage of having at least two sexual partners among students who ever had sex among Form 1 to Form 5 students in Perlis, 2017

Table 3.10.5 Percentage of reported condom use during the last sexual intercourse among students who ever had sex among Form 1 to Form 5 students in Perlis, 2017

Table 3.10.6 Percentage of reported using "other birth control methods" during the last sexual intercourse among students who ever had sex among Form 1 to Form 5 students in Perlis, 2017

TOBACCO USE

Table 3.11.1 Prevalence of current smokers among Form 1 to Form 5 students in Perlis, 2017

Table 3.11.2 Prevalence of current cigarette smokers among Form 1 to Form 5 students in Perlis, 2017

Table 3.11.3 Prevalence of current any tobacco products use among Form 1 to Form 5 students in Perlis, 2017

Table 3.11.4 Prevalence of current E-cigarettes/ Vape use among Form 1 to Form 5 students in Perlis, 2017

- Table 3.11.5** Prevalence of current smoke and smokeless tobacco products use by types (except manufactured cigarette and E-cigarette/Vape) among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.6** Prevalence of having tried a cigarette before the age of 14 years among ever smokers among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.7** Prevalence of having tried E-cigarette/ Vape before the age of 14 years among ever E-cigarette/ Vape users among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.8** Prevalence of quit smoking attempts in the past 12 months among those who ever smoked among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.9** Prevalence of quit E-cigarette/ Vape attempts in the past 12 months among those who ever used E-Cigarette/ Vape among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.10** Prevalence of being exposed to people smoking in their presence for at least one day in the past 7 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.11** Prevalence of having father or mother or guardian who used any form of tobacco products among Form 1 to Form 5 students in Perlis, 2017
- Table 3.11.12** Prevalence of having father or mother or guardian who used E-cigarette/ Vape among Form 1 to Form 5 students in Perlis, 2017

VIOLENCE AND UNINTENTIONAL INJURY

- Table 3.12.1** Prevalence of involvement in violence at least once in the past 12 months among Form 1 to Form 5 students Perlis, 2017
- Table 3.12.2** Prevalence of being bullied at least once in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.12.3** Most common ways of being bullied in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.12.4** Prevalence of being abused at least once in the past 30 days among Form 1 to Form 5 students in Perlis, 2017
- Table 3.12.5** Prevalence of having had serious injury at least once in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Table 3.12.6 Types of the most serious injury sustained in the past 12 months among students who were injured among Form 1 to Form 5 students in Perlis, 2017

Table 3.12.7 Major cause of the most serious injury sustained in the past 12 months among students who were injured among Form 1 to Form 5 students in Perlis, 2017

LIST OF APPENDICES

- Appendix 1 Members of Steering Committee NHMS 2015-2018
- Appendix 2 Terms of Reference for NHMS 2017 Steering Committee
- Appendix 3 List of members of Central Coordinating Committee
- Appendix 4 Terms of Reference for NHMS 2017 Central Coordinating Team
- Appendix 5 List of Research Team Members, NHMS 2017
- Appendix 6 List of Liaison Officer and Data Collection Teams
- Appendix 7 Questionnaire & OMR form

Executive Summary

The Adolescent Health Survey 2017 is aimed at assessing the prevalence of health risk behaviours and protective factors amongst secondary school students in Malaysia using self-administered anonymous questionnaires adapted from the Malaysian Global School-based Student Health Survey (GSHS) 2012. This study was conducted among secondary school-going adolescents between 26th March and 3rd May 2017. In order to ensure national representativeness, this study was implemented using a two-stage cluster sampling design. Out of 2738 secondary schools from the Ministry of Education and Ministry of Rural and Regional Development, 212 schools were selected and more than 30,000 students were eligible to participate in this survey. The overall response rate was 89.0% and 27,497 school-going adolescents completed the survey. A total of 14 secondary schools were randomly selected in Perlis, of which 1,667 students completed the survey out of 1,992 eligible respondents with response rate of 83.7%.

Perlis Key Findings

The study observed that the prevalence of current cigarette smokers in Perlis school-going adolescents was 16.0%. Amongst those who ever smoked cigarettes, 74.7% had tried cigarettes before the of age 14 years and 72.7% had attempted to quit smoking in the past 12 months. The prevalence of current e-cigarette/vape use in Perlis school-going adolescents was 9.2% . Among those who ever smoked e-cigarette/vape, 46.1% had first tried e-cigarette/vape before age 14 years and 53.0% had tried to stop using e-cigarette/vape in the past 12 months. Overall, 14.9% of students reported having parents or guardians who used e-cigarette/vape, 47.9% of students reported having parents or guardians who used any form of tobacco products and 45.1% of students reported having been exposed to people who smoked in their presence in the past seven days. Prevalence of current alcohol drinkers among school-going adolescents in Perlis was 7.7%. Among students who had ever consumed alcohol (12.2%), 44.6% reported ever drunkenness in their lifetime. With regards to drug use, 5.8% of students in Perlis reported had ever used drugs and the prevalence of current drug users was 5.0%. Prevalence of ever using marijuana in their lifetime was 3.9% and current use of marijuana was 3.5%, while 3.6% of students reported had ever used amphetamines or methamphetamines during their lifetime.

The study found that prevalence of ever having sex among school-going adolescents in Perlis was 8.4% and the prevalence of having had sex in the past 30 days was 5.4% . Of those who ever had sex, 45.7% of them had their first sexual experience before age 14 years, and 18.5% had at least two sexual partners. It was found that 13.7% of students reported they, or their partners had used condoms whilst 12.0% used other birth control methods. A total of 34.1% students had been seriously injured in the past 12 months. Among the respondents, 23.0% claimed to have been physically attacked in the past 12 months, while 23.5% of adolescents claimed to have been involved in physical fights. With regards to bullying, 15.8% reported to have ever been bullied in the past 30 days. Physical abuse at home was reported by 11.2% of students while 37.6% of reported verbal abuse at home in the past 30 days.

The overall prevalence of internet use among school-going adolescents in Perlis was 85.4% and the prevalence of internet addiction was 26.2%. Smartphones were the most prevalent device used. A total of 7.7% school-going adolescents in Perlis reported feeling lonely and 3.8% reported that they had no close friend. A total of 6.3% reported being unable to sleep “most of the time or always” due to worry in the 12 months prior to the survey. Prevalence of suicidal ideation, plan and attempt were 8.8%, 5.2%, and 6.2% respectively. Prevalence of truancy amongst students in the past 30 days was 35.1% while only 40.5% claimed to have peer support. Students who reported having parental or guardian supervision, parental or guardian connectedness, parental or guardian bonding and parental or guardian respect for privacy were 16.9%, 36.7%, 41.3% and 70.3% respectively.

Overall, 89.0% of students reported having cleaned or brushed their teeth at least twice daily while 1.4% of students reported that they had never cleaned or brushed their teeth in the past 30 days. A total of 61.4% students reported use of fluoridated toothpaste, while only 21.2% used dental floss. In the past 30 days, 9.2% never or rarely used soap when washing their hands, 5.1% never or rarely washed their hands before eating and 6.2% reported that they had never or rarely washed their hands after using the toilet. In relation to dietary behaviours, 4.5% reported being hungry most of the time or always in the past 30 days because there was not enough food at home. The consumption of fruits at least twice daily was 57.8% and consumption of vegetables at least thrice daily was 38.8% in the past 30 days. Only 29.0% of students reported fruits and vegetables consumption at least five times daily in the past 30

days. Consumption of carbonated soft drinks of at least once daily in the past 30 days was reported at 41.8% and 15.3% consumed food from fast food restaurants for at least three days in the past seven days. Milk/milk products consumption of at least two servings per day was reported at 37.0% while 63.5% drank plain water five times or more per day in the past 30 days. Prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days was 21.2% whereas 44.9% of students had spent at least three hours in a typical or usual day in sitting activities.

Malaysia Key Findings

The study observed that the prevalence of current cigarette smokers in school-going adolescents was 13.8%. Amongst those who ever smoked cigarettes, 68.4% had tried cigarettes before the age of 14 years and 71.0% had attempted to quit smoking in the past 12 months. The prevalence of current e-cigarette/vape use in school-going adolescents was 9.8%. Among those who ever smoked e-cigarette/vape, 42.2% had first tried e-cigarette/vape before age 14 years and 60.9% had tried to stop using e-cigarette/vape in the past 12 months. Overall, 13.7% of students reported having parents or guardians who used e-cigarette/vape, 42.2% of students reported having parents or guardians who used any form of tobacco products and 42.0% of students reported having been exposed to people who smoked in their presence in the past 7 days. Prevalence of current alcohol drinkers among school-going adolescents was 10.2% in which alcohol sources were mainly from their own family or bought from stores. Among students who had ever consumed alcohol (19.3%), three quarter had their first alcoholic beverage before age 14 years and 31.9% reported ever drunkenness in their lifetime. With regards to drug use, 4.3% of students reported had ever used drugs and the prevalence of current drug users was 3.4%. Prevalence of ever using marijuana in their lifetime was 2.8% and current use of marijuana was 2.5%, while 2.4% of students reported had ever used amphetamines or methamphetamines during their lifetime.

The study found that prevalence of ever having sex among school-going adolescents was 7.3% and the prevalence of having had sex in the past 30 days was 5.4%. Of those who ever had sex, 31.9% of them had their first sexual experience before age 14 years, and 16.6% had at least two sexual partners. It was found that 12.7% of students reported they, or their partners had used condoms whilst 10.3% used other birth control methods. A total of 29.9% students

had been seriously injured in the past 12 months with two most common causes of injury being falls and motor vehicle accidents. Among respondents, 25.3% claimed to have been physically attacked in the past 12 months, while 24.9% of adolescents claimed to have been involved in physical fights. With regards to bullying, 16.2% reported to have ever been bullied in the past 30 days. The two most common forms of bullying were 'being made fun of because of how their body or face looks' and 'made fun of with sexual jokes, comments or gestures'. Physical abuse at home was reported by 11.8% of students while 43.2% reported verbal abuse at home in the past 30 days.

The overall prevalence of internet use among school-going adolescents was 85.6% and the prevalence of internet addiction was 29.0%. Smartphones were the most prevalent device used. A total of 9.3% secondary school students in Malaysia reported feeling lonely and 3.6% reported that they had no close friend. A total of 7.1% reported being unable to sleep "most of the time or always" due to worry in the 12 months prior to the survey. Prevalence of suicidal ideation, plan and attempt were 10.0%, 7.3%, and 6.9% respectively. Prevalence of truancy amongst students in the past 30 days was 29.4% and only 44.2% claimed to have peer support. Students who reported having parental or guardian supervision, parental or guardian connectedness, parental or guardian bonding and parental or guardian respect for privacy were 13.2%, 32.0%, 42.6%, and 74.4% respectively.

Overall, 87.1% of students reported having cleaned or brushed their teeth at least twice daily while 1.2% of students reported they had never cleaned or brushed their teeth in the past 30 days. A total of 58.3% students reported use of fluoridated toothpaste, while only 19.3% used dental floss. In the past 30 days, 11.6% never or rarely used soap when washing their hands, 6.1% never or rarely washed their hands before eating and 4.8% reported that they had never or rarely washed their hands after using the toilet. In relation to dietary behaviours, 3.9% reported being hungry most of the time or always in the past 30 days because there was not enough food at home. The consumption of fruits at least twice daily was 46.8% and consumption of vegetables at least thrice daily was 36.0% in the past 30 days. Only 23.5% reported fruits and vegetables consumption at least five times daily in the past 30 days. Consumption of carbonated soft drinks of at least once daily in the past 30 days was reported at 36.9% while 11.1% consumed food from fast food restaurants for at least three days in the

past seven days. Milk/milk products consumption of at least two servings per day was reported at 31.0% while 60.4% drank plain water five times or more per day in the past 30 days. Prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days was 19.8% whereas 50.1% of students had spent at least three hours in a typical or usual day in sitting activities.

Recommendations:

In view of the above findings, the following recommendations are suggested:

- To strengthen awareness, knowledge and practice of positive health-related behaviours through home, school and community settings.
- To develop and disseminate more health education materials on health risk behaviours, its consequences and preventive measures.
- To enhance resilience and coping skills among students through school and community programs and activities such as, Doktor Muda, Minda Sihat, cadets and volunteerism.
- To strengthen protective factors against risky behaviours through intersectoral collaboration with more emphasis on spiritual values and parenting skills.
- Intersectoral collaboration to tackle the social determinants contributing to the adolescent health morbidities and mortalities.
- To evaluate the effectiveness of adolescent health programs provided by various agencies at a regular interval.

1.0 INTRODUCTION

The World Health Organization (WHO) has defined adolescents as a group of population between the ages of 10 to 19 years.¹ Adolescence sub-categories used in Malaysia consists of early adolescence (10-14 years), middle adolescence (15-17 years) and late adolescence (18-19 years).² Total population of adolescents in Malaysia is around 18% out of 31 million population.³ Adolescents are the most valuable asset in the country as they will become future leaders who will continue to sustain our national agendas.

By definition, adolescence is a period of transition from childhood to adulthood where significant changes occur in the form of physical appearance as well as emotional well-being. Rapid biological maturity precedes psychosocial maturity, thus having an impact on health consequences.⁴ Generally, they are perceived as the healthiest population and often overlooked until now. However previous studies had observed multiple morbidities among adolescents resulting from unintentional injuries, risky behaviours such as smoking, use of alcohol and drugs and also involvement in sexual activity.⁵ The current trend of the cyber era, in which more adolescents spend too much time “on line” and have become addicted to the internet, results in detachment from the real world and difficulties adapting with real world communication, which is later associated with mental health problems among adolescents.⁶ Physical inactivity and unhealthy dietary behaviors are associated with obesity and these behaviours may continue until adulthood. The practice of good personal hygiene care and dietary behaviours are equally important aspects that should not be put aside in assessing adolescent health.⁵ Their interaction with the environment also shapes adolescent growth through psychosocial experiences where peer and parental support play an important role. Adolescents are at-risk of premature morbidity and mortality if no preventive measures are taken.⁷ This population should enjoy the highest attainable standards of health with a supportive environment.

1.1 Research in Adolescent Health in Malaysian Context

In Malaysia, the Adolescent Health Unit has been established in 1995 under the Family Health Development Division, Ministry of Health, Malaysia.³ In terms of research activities, a nationwide health risk behavior study among adolescents was conducted in 1996 with four

main scopes namely smoking, alcohol consumption, drug use and sexual activity practices.⁸ Following that, the Global Youth Tobacco Surveys were conducted in 2003 and 2009 to identify tobacco consumption among youth.^{9,10} In 2010, the Institute for Health Behavioural Research had initiated The Youth Behaviour Risk Factor Surveillance (YBRFS), however the respondents only consisted of students from Forms 1, Form 2 and Form 4.¹¹ In realizing that the national data on health risks and behaviours are very much important in developing policy and programs for adolescents, the Ministry of Health, Malaysia took a step forward in collaborating with the World Health Organization (WHO) in conducting the Global School-based Student Health Survey (GSHS) Malaysia in 2012. The survey used a self-administered questionnaire assessing 10 main scopes of adolescent health risk behaviours primarily among students aged 13 to 17 years. The GSHS questionnaire was developed by WHO and the Center for Disease Control and Prevention (CDC) in collaboration with UNICEF, UNESCO, and UNAIDS in 2001. It has been used as a standard tool by more than 100 countries in the world. Local adaption and validation of the questionnaire was done before running the actual nationwide survey.¹²

The purpose of the GSHS was to provide accurate data on health behaviours and protective factors among students to:

- Help countries develop priorities, establish programmes, and advocate for resources for school health and youth health programmes and policies;
- Establish trends in the prevalence of health behaviours and protective factors for use in evaluation of school health and youth health promotion; and
- Allow countries, international agencies, and others to make comparisons across countries and within countries regarding the prevalence of health risk behaviours and protective factors.

The 10 main scopes were:

- Alcohol use
- Dietary behaviours
- Drug use
- Hygiene (including oral health)
- Mental health problems

- Physical activity
- Protective factors
- Sexual behaviours that contribute to HIV infection, other STI, and unintended pregnancy
- Tobacco use
- Violence and unintentional injury

With regards to the importance of serial data in measuring the trends of health risk behaviours among adolescents in Malaysia, the Ministry of Health has listed the Adolescent Health Survey as one of the main scopes in the National Health and Morbidity Survey (NHMS) cycle. The current Adolescent Health Survey used a similar methodology and validated Malaysian GSHS questionnaire in 2012 with the addition of the Malay Version Internet Addiction Test (MVIAT).¹³

References

1. WHO | Adolescent health [Internet]. WHO. [cited 2013 Sep 27]. Available from: http://www.who.int/topics/adolescent_health/en/index.html
2. Ministry of Health Malaysia. Engaging The Adolescent Module using HEADSS Framework. Kuala Lumpur, Malaysia; 2009.
3. Ministry of Health Malaysia. National Adolescent Health Plan of Action [Internet]. Ministry of Health Malaysia; 2015 [cited 2017 Oct 30]. Available from: <http://fh.moh.gov.my/v3/index.php/component/jdownloads/send/21-sektor-kesihatan-remaja/345-nahpoa-2015-2020>
4. WHO | Adolescent development [Internet]. WHO. [cited 2017 Jun 30]. Available from: http://www.who.int/maternal_child_adolescent/topics/adolescence/development/en/
5. WHO | Adolescents: health risks and solutions [Internet]. [cited 2016 Oct 23]. Available from: <http://www.who.int/mediacentre/factsheets/fs345/en/>
6. Gholamian B, Shahnazi H, Hassanzadeh A. The Prevalence of Internet Addiction and its Association with Depression, Anxiety, and Stress, among High-School Students. *Int J Pediatr.* 2017;5(4):4763–4770.
7. Sawyer SM, Afifi RA, Bearinger LH, Blakemore S-J, Dick B, Ezeh AC, et al. Adolescence: a foundation for future health. *The Lancet.* 2012;379(9826):1630–1640.

8. Institute for Public Health. National Health and Morbidity Survey 1996. Vol 2: General Findings. Kuala Lumpur: Ministry of Health Malaysia; 1997.
9. Ministry of Health Malaysia. Report of the Global Tobacco Survey, Malaysia. Kuala Lumpur, Malaysia: Ministry of Health Malaysia; 2009.
10. Manimaran K. Report of the Global Youth Tobacco Survey, Malaysia. Kuala Lumpur, Malaysia: Ministry of Health Malaysia; 2003.
11. Institute For Health Behavioural Research (IHBR). The Youth Behaviour Risk Factor Surveillance (YBRFSS) 2010. Kuala Lumpur: Ministry of Health Malaysia; 2011.
12. Institute for Public Health (IPH). The National Health and Morbidity Survey: Malaysia Global School-based Student Health Survey 2012. Kuala Lumpur: Ministry of Health Malaysia; 2012.
13. Chong Guan N, Isa SM, Hashim AH, Pillai SK, Harbajan Singh MK. Validity of the Malay Version of the Internet Addiction Test: A Study on a Group of Medical Students in Malaysia. *Asia Pac J Public Health*. 2012;27(2):NP2210-NP2219.

1.2 Objectives

1.2.1 General Objectives

To assess the prevalence of health risk behaviours among adolescents in Malaysia in order to review health priorities, program strategies and activities and planning for allocation of resources for adolescent health.

1.2.2 Specific Objectives

1.2.2.1 To identify the prevalence of alcohol use

1.2.2.2 To identify the dietary behaviors

1.2.2.3 To identify the prevalence of drug use

1.2.2.4 To identify the practice of hygiene including oral health

1.2.2.5 To identify the prevalence of internet use and addiction

1.2.2.6 To identify the prevalence of mental health problems

1.2.2.7 To identify the practice of physical activity

1.2.2.8 To identify the prevalence of protective factors

1.2.2.9 To identify the prevalence of sexual behaviours

1.2.2.10 To identify the prevalence of tobacco use

1.2.2.11 To identify the prevalence of violence and unintentional injury

1.2.3 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.

1.2.3.1 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 2**.

1.2.3.2 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 4**. Figure 1 detailed the organisation chart at the Institute for Public Health level. Adolescent Health Survey was part of NHMS 2017 using the sample from secondary schools only.

1.2.3.3 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. 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**.

1.2.3.4 State Liason Officers and Data Collection Team.

A State Liaison Officer 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**.

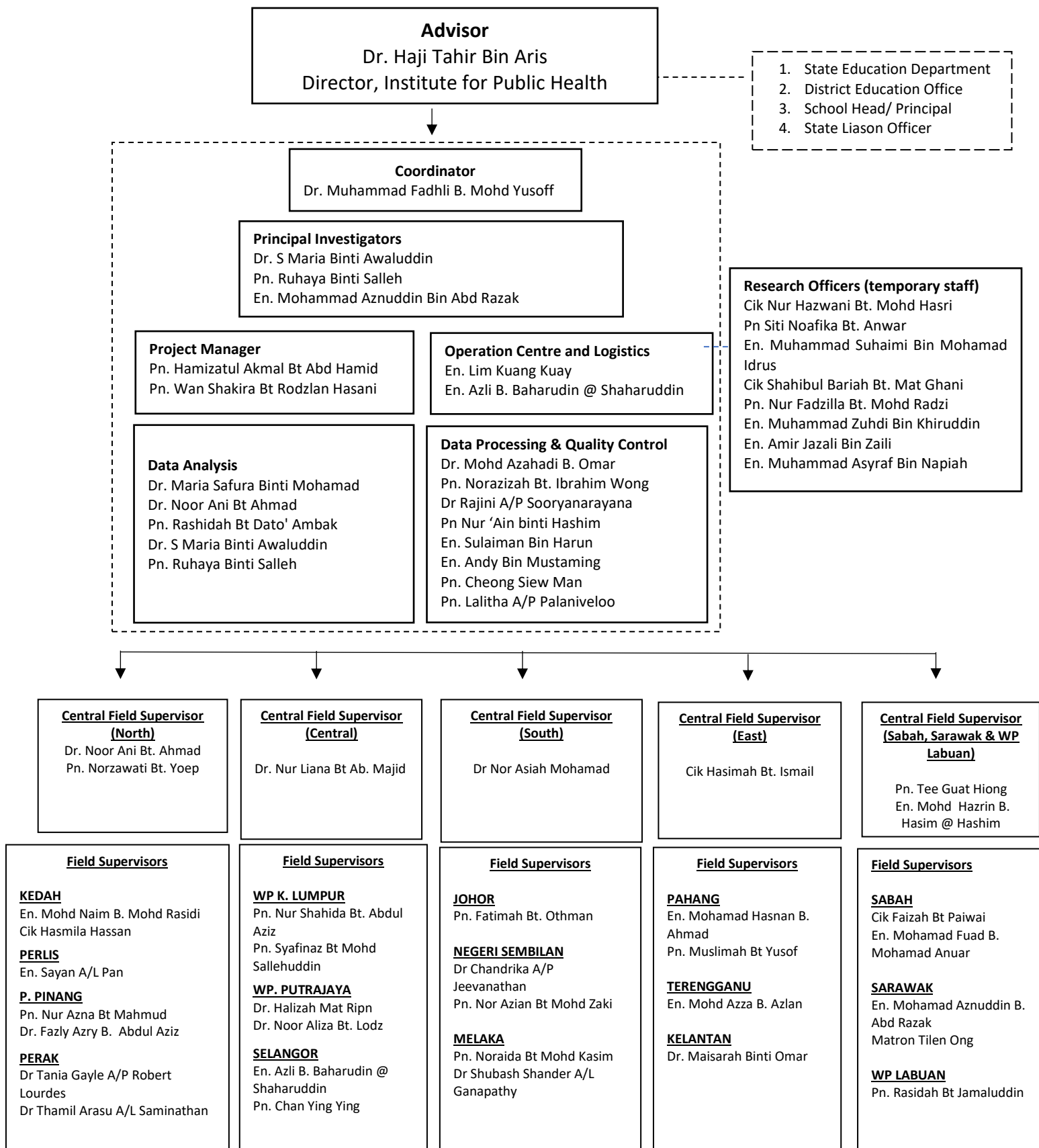


Figure 1: Organisation chart for data collection teams NHMS 2017

2.0 METHODOLOGY AND SAMPLING DESIGN

2.1 Target Population

The target population for the Adolescent Health Survey 2017 was school-going adolescents aged between 13 to 17 years in Malaysia. An equal sampling proportion was calculated from 13 States and three Federal Territories to represent adolescents in each State / Federal Territories.

2.2 Sampling Frame

The sampling frame used in this survey was the list of secondary schools from the Ministry of Education and Ministry of Rural and Regional Development. Students' enrolment data of Form 1 to Form 5 from 2,738 secondary schools in 2016 were used.

2.3 Sample Size Determination

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

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

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

To obtain an optimum sample size, a few adjustments were made to the sample size calculation as follows:

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

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

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

4. The sample size was adjusted according to the needs of analysis; at the national or state level.

Based on the requirements to achieve the objectives of the survey and above mention considerations, the optimum sample size required was 30, 496 respondents (**Table 2.1**).

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

No.	State / Federal Territories	Total Number of Schools	Number of Schools Sampled	Number of students sampled
1	Johor	306	14	1,906
2	Kedah	219	14	1,906
3	Kelantan	193	14	1,906
4	Melaka	87	14	1,906
5	Negeri Sembilan	139	14	1,906
6	Pahang	209	14	1,906
7	Pulau Pinang	141	14	1,906
8	Perak	275	14	1,906
9	Perlis	33	14	1,906
10	Selangor	345	14	1,906
11	Terengganu	162	14	1,906
12	Sabah	246	14	1,906
13	Sarawak	220	14	1,906
14	WP Kuala Lumpur	133	14	1,906
15	WP Labuan	19	8	1,906
16	WP Putrajaya	11	8	1,906
Total		2,738	212	30,496

2.4 Sampling Design

This survey utilised a two-stage stratified cluster sampling design to ensure representativeness of students from Form 1 to Form 5 (13-17 years). Malaysia was stratified into 16 states/ Federal Territories. The first stage of sampling was selection of secondary schools (schools with students from Forms 1 to Form 5). Schools were selected randomly with probability proportionate to school enrolment size. A total of 212 secondary 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 minimum of four to maximum of 10 classes from each selected school to meet the required sample for each school in 13 states and WP Kuala Lumpur, WP Putrajaya and WP Labuan; 137 and 239 respondents respectively. All students in selected classes were eligible to participate in the survey.

2.5 Ethical Approval and Consent Forms

This study had obtained approvals from the Medical Research and Ethics Committee of the Ministry of Health and Ministry of Education. We obtained permission to carry out the survey from relevant offices of the Ministry of Education at state and district levels as well as from schools selected. Prior to the survey, several meetings with relevant Ministry of Education officers and persons in-charge at selected schools were conducted to ensure readiness in logistic preparation. Teachers were briefed on the parent's consent form, who then distributed it to parents a week prior to the survey. During the actual day of the survey, student's consent was obtained from eligible respondents before survey was conducted. Students who did not receive parental consent or they themselves refused to participate were considered as non-response of eligible participants in this survey.

2.6 Survey Instruments

A validated self-administered bilingual questionnaire adopted from the Malaysian GSHS 2012 with computer-scan-able answer sheets was used. Answer sheets were anonymous to ensure student confidentiality. Majority of the students completed the survey within two teaching periods. The Adolescent Health Questionnaires contained 77 questions addressing the following topics:

- Alcohol use
- Dietary behaviours
- Drug use
- Hygiene (including oral health)
- Internet Use and Addiction
- Mental health
- Physical activity
- Protective factors
- Sexual behaviours that contribute to HIV infection, other STIs, and unintended pregnancy
- Tobacco use
- Violence and unintentional injury

2.7 Data Collection

There were 36 teams to collect data; 4 teams each for Sabah and Sarawak and 2 teams per state in the Peninsular Malaysia and Federal Territories. Each team consisted of a field supervisor, research assistants and a driver. The field supervisor was a permanent staff in the Ministry of Health.

A pilot study was carried out on 6 February 2017. Data collection training was conducted in Kuala Lumpur and Kuching, Sarawak for data collection teams in Peninsular Malaysia, and for Sabah, Sarawak and WP Labuan respectively. The training module comprised of questionnaires and role-plays in handling the survey in classrooms or in a school hall. Data collection was from 26 March to 3 May 2017.

2.8 Data Management

Quality check on data was conducted throughout the survey based on specific identification (ID) numbers; from the state ID until individual student ID (generated for the study). Upon completing the survey, each student placed his / her answer sheet in an envelope. All answer sheets from the same school were wrapped together to make a bundle. These bundles were

collected by assigned drivers for schools in Peninsular Malaysia or using tracked postage for schools in Sabah, Sarawak and WP Labuan.

2.8.1 Data Operation Centre

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

Station 1: Respondent ID checking

Station 2: Scanning

Station 3: Verification

Station 4: Storage

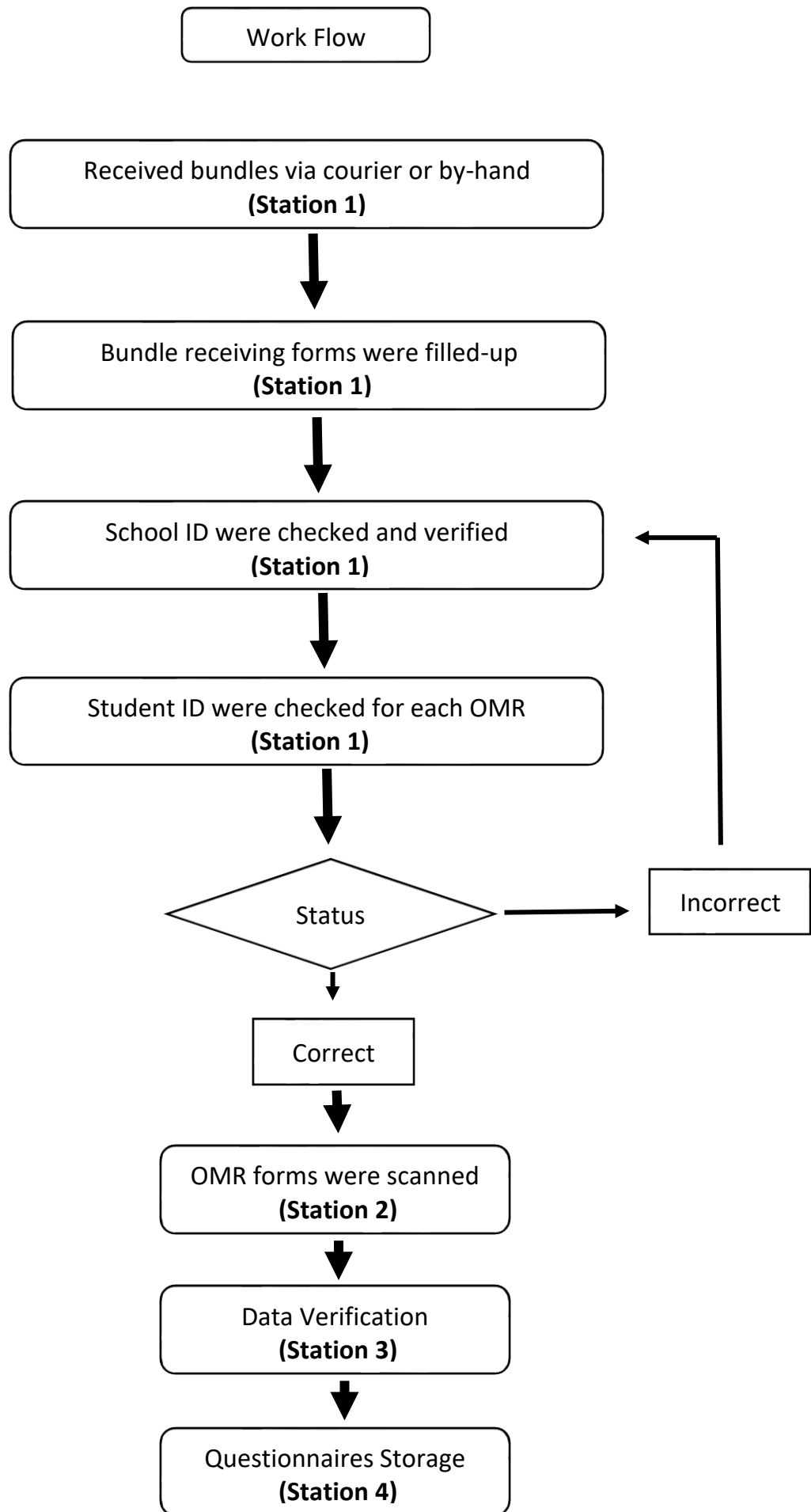


Figure 2 : Work Flow of NHMS 2017

2.8.2 Data Analysis

Analysis was prepared according to objectives of the survey, working definitions and dummy tables. IBM SPSS Statistics for Windows, Version 21.0. (Armonk, NY: IBM Corp.) was used to import raw datasets in Excel form. Data set was checked and cleaned for any inconsistencies. The final data analysis was conducted by using complex sampling design and 95% confidence interval.

A weighting factor was applied to each student record to adjust for non-response and for varying probabilities of selection. Weight estimation was calculated by the following formula:

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

Where;

W1 = the inverse of probability of selecting the school

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

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

The weighted results were used to make important inferences on the health risk behaviours and protective factors of all students from Form 1 to Form 5. Variable definitions used in this survey were derived from the Malaysian GSHS 2012 and was discussed in detail for each scope.

3.0 FINDINGS

3.1 General Findings

A total of 27,497 OMR forms were received from 212 selected schools. The overall response rate was 89.2%. The response rates for schools and classes were 100% each, while the response rate for students was 89.2%. (**Table 3.1.1**).

Table 3.1.1: Response Rate at Student Level by State, NHMS 2017

State	Selected Schools	Eligible students	Completed OMR forms	Response rate (%)
Johor	14	1,915	1,731	90.4
Kedah	14	1,930	1,691	87.6
Kelantan	14	1,900	1,631	85.8
Melaka	14	1,986	1,872	94.3
Negeri Sembilan	14	1,930	1,718	89.0
Pahang	14	1,948	1,784	91.6
Pulau Pinang	14	1,974	1,749	88.6
Perak	14	1,931	1,754	90.8
Perlis	14	1,992	1,667	83.7
Selangor	14	1,840	1,671	90.8
Terengganu	14	1,880	1,669	88.8
Sabah	14	1,965	1,686	85.8
Sarawak	14	1,919	1,779	92.7
WP Kuala Lumpur	14	1,937	1,721	88.8
WP Labuan	8	1,907	1,712	89.8
WP Putrajaya	8	1,869	1,662	88.9
Total	212	30,823	27,497	89.2

Comparison of total estimated population (weighted) with the national secondary school enrolment is shown in **Table 3.1.2** Geographic information system (GIS) on the mapping of selected secondary schools is shown in **Figure 3**. The socio-demographic characteristics of the sample by gender consist of 43.7% (728) males and 56.3% (939) females in Perlis. In terms of school locality; 21.9% (365) and 78.1% (1,302) were students studying in school located in urban areas and rural areas respectively.

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

State	NHMS 2017			National Enrolment 2017	
	Unweighted count	Estimated Enrolment (weighted)	Prevalence (%)	Secondary School Students	Prevalence (%)
Malaysia	27,497	2,146,447	100.0	2,146,509	100.0
State					
Johor	1,731	275,711	12.8	275,700	12.8
Kedah	1,691	154,645	7.2	154,643	7.2
Kelantan	1,631	121,684	5.7	121,683	5.7
Melaka	1,872	67,234	3.1	67,235	3.1
Negeri Sembilan	1,718	88,430	4.1	88,429	4.1
Pahang	1,784	103,630	4.8	103,644	4.8
Pulau Pinang	1,749	112,980	5.3	112,981	5.3
Perak	1,754	181,681	8.5	181,724	8.5
Perlis	1,667	27,012	1.3	27,014	1.3
Selangor	1,671	391,634	18.2	391,623	18.2
Terengganu	1,669	98,667	4.6	98,664	4.6
Sabah	1,686	198,960	9.3	199,006	9.3
Sarawak	1,779	197,888	9.2	197,876	9.2
WP Kuala Lumpur	1,721	112,376	5.2	112,370	5.2
WP Labuan	1,712	5,539	0.3	5,539	0.3
WP Putrajaya	1,662	8,376	0.4	8,378	0.4
Sex					
Male	13,135	1,064,954	49.6	1,064,988	49.6
Female	14,362	1,081,493	50.4	1,081,521	50.4
Form					
Form 1	5,704	451,017	21.0	451,024	21.0
Form 2	5,501	426,924	19.9	426,908	19.9
Form 3	5,837	431,050	20.1	431,043	20.1
Form 4	5,532	414,604	19.3	414,653	19.3
Form 5	4,923	422,852	19.7	422,881	19.7

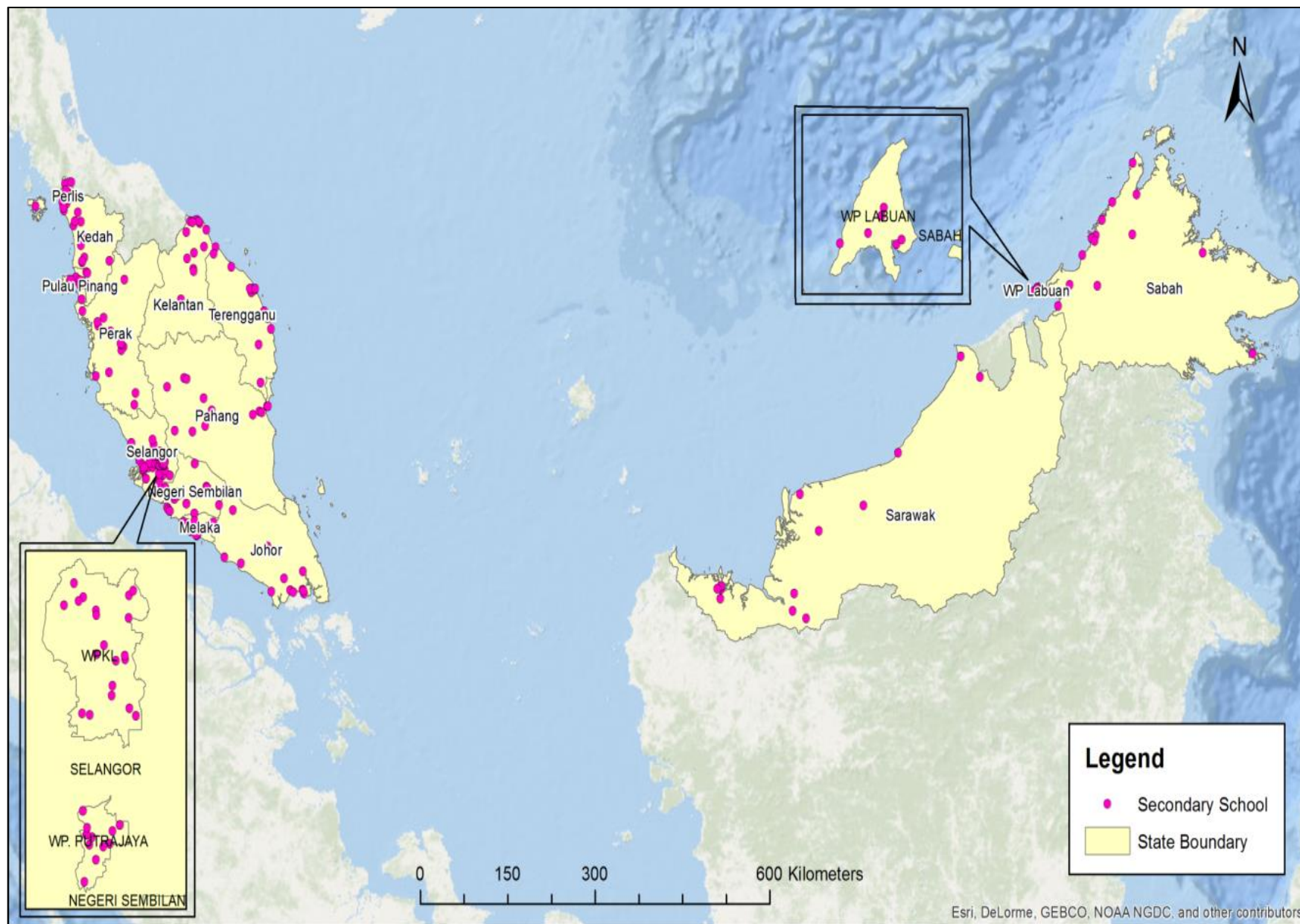


Figure 3: GIS mapping of the selected secondary schools

3.2 Alcohol Consumption

Contributors: Tania Gayle Robert, Hamizatul Akmal Abd Hamid, Halizah Mat Rifin, Mohd Hatta Mutalip, Norli Abdul Jabbar, Rozanim Kamaruddin, Muhammad Fadhli Mohd Yusoff, Thamil Arasu Saminathan, Jane Ling Miaw Yn, Wan Shakira Rodzlan Hasani, Hasimah Ismail, Nur Liana Abdul Majid

3.2.1 Introduction

Globally, there are about 3.3 million deaths attributable to harmful use of alcohol annually.¹ The South East Asian region contributed to 4.6% of alcohol-attributable deaths and 4.0% burden of disease and injury.¹ People consuming alcohol are prone to more than 200 diseases and injuries as well as social consequences due to its harmful effects.¹ The Centre for Disease Control (CDC) estimates on average in the United States from 2006 to 2010, there were 4,358 alcohol-attributable deaths due to excessive alcohol use for those under 21; 1,580 deaths from motor vehicle crashes, 1,269 as a result of homicides, 492 from suicide, as well as 245 from other injuries such as falls, burns, and drowning.² Alarmingly, about 33% of teens (by age 15) have had at least 1 drink of an alcoholic beverage.³ Evidently, individuals who started drinking before the age of 15 are five times more likely to have alcohol-related problems later in life.⁴ The consequence of early alcohol drinking could lead to memory impairment, thus causing low educational achievement and high absenteeism rates.^{5,6}

3.2.2 Objectives

- i. To determine the prevalence of ever and current drinkers among students from Form 1 to Form 5.
- ii. To describe the socio-demographic characteristics of ever and current drinkers among students from Form 1 to Form 5.
- iii. To identify the age of alcohol drinking initiation among students from Form 1 to Form 5
- iv. To identify the sources of obtaining alcoholic beverages among students from Form 1 to Form 5.
- v. To identify the prevalence of drunkenness among students from Form 1 to Form 5 who consume alcohol.

- vi. To determine the frequency of social problems related to alcohol consumption among students from Form 1 to Form 5.

3.2.3 Variable definitions

- **Drinking alcohol:** A “drink” is a glass of wine, tuak, lihing, bahar, ijuk or toddy; a can of beer, a small glass of liquor’ or mixed drink. Drinking alcohol does not include drinking a few sips of wine for religious purposes.
- **Ever drinkers:** Those who had a history of alcohol consumption in their lifetime.
- **Current drinkers:** Those who had at least a “drink” of alcohol in the past 30 days.
- **Drunkeness:** When someone demonstrates signs such as staggering when walking, not being able to speak right and throwing up after consuming alcohol in a lifetime.
- **Social problems:** Having trouble with family or friends, missed school or got into fights as a result of drinking alcohol in a lifetime.

3.2.4 Findings

The prevalence of ever alcohol drinkers among students from Form 1 to Form 5 in Perlis was 12.2% (95% CI: 8.04, 17.98) (**Table 3.2.1**). The prevalence of current alcohol drinkers among students from Form 1 to Form 5 was 7.7% (95% CI: 4.87, 11.95). Males (11.6%, 95% CI: 7.08, 18.40) had significantly higher prevalence of current alcohol drinkers compared to females (3.9%, 95% CI: 2.34, 6.46) (**Table 3.2.2**). Among ever alcohol drinkers, 44.6% (95% CI: 32.52, 57.30) reported drunkeness and it was significantly higher among males (55.1%, 95% CI: 41.03, 68.43) compared to among females (22.0%, 95% CI: 12.63, 35.57) (**Table 3.2.3**). Among students who ever consumed alcohol, most of the students had their first alcoholic beverage at the age of 12 or 13 years old (23.8%, 95% CI: 13.23, 38.89) (**Table 3.2.4**). Among current alcohol drinkers, most of the students obtained alcoholic beverages by buying from stores (31.5%, 95% CI: 21.59, 43.40); from their families (23.6%, 95% CI: 9.85, 46.69) and from their friends (20.1% CI: 14.08, 27.78) (**Table 3.2.5**). Overall, 6.1% (95% CI: 3.91, 9.39) of students got into trouble with their family and friends, missed school or got into fights one or more times as a result of drinking alcohol (**Table 3.2.6**).

3.2.5 Discussion/ Conclusion

For current alcohol drinkers, the prevalence among students from Form 1 to Form 5 in Perlis was 7.7% (95% CI: 4.87, 11.95), whereas the national prevalence was 10.2% (95% CI: 9.00, 11.60). Among current alcohol drinkers, most of the students obtained the alcoholic beverages by buying them from stores, whereas the national data showed that families were the main source of obtaining these alcoholic beverages. The prevalence of current drinkers among males was higher compared to females in Perlis (11.6%, 95% CI: 7.08, 18.40). This finding was similar to the national prevalence (12.8%, 95% CI: 11.30, 14.50) where males had higher prevalence of current drinkers compared to females. Similarly, for drunkenness among ever drinkers, males reported higher percentage compared to females in Perlis (55.1%, 95% CI: 41.03, 68.43 and also in the national data (37.2%, 95% CI: 33.30, 41.20).

3.2.6 Recommendations

Addressing alcohol drinking among adolescents in Malaysia is vital to prevent social and other harmful effects of alcohol on the health of adolescents. Mapping of localities with high alcohol drinking and drunkenness prevalence is highly recommended, since alcohol use is not rampant and localised in specific populations and locations.

By doing this, interventions can be focused on the identified groups. Among the interventions that can be implemented are:

1. To instill awareness about the danger of underage drinking to the adolescents as early as possible.
2. Family-based prevention programmes: Educating parents on the negative effects of alcohol especially on long-term memory and learning skills, health effects and its social repercussions on adolescent behaviour and subsequent dependence and abuse if not controlled. Parents should play an important role as the firsthand educators on the harmful effects of alcohol to their children and prohibiting children to initiate early alcohol drinking.
3. School-based prevention programmes: Empower counselors and teachers to screen their students for alcohol use and to start intervention for these students as soon as possible.

3.2.7 References

1. World Health Organization, Global status report on alcohol and health 2014. Geneva: World Health Organization
2. National Institute on Alcohol Abuse and Alcoholism (NIAAA), Underage Drinking. February 2017.
https://pubs.niaaa.nih.gov/publications/underagedrinking/Underage_Fact.pdf
3. National Institute on Alcohol Abuse and Alcoholism (NIAAA). Underage Drinking: Why Do Adolescents Drink, What are the Risks, and How Can Underage Drinking Be Prevented?. November 2006. Alcohol Alert. Number 67.
4. World Health Organization, Evidence for the Effectiveness and Cost-Effectiveness of Interventions to Reduce Alcohol-Related Harm, Copenhagen, Regional Office for Europe. 2009
5. Carson A. Alcohol and the developing adolescent brain: evidence review. J R Coll Physicians Edinb. 2015 Mar;45(1):12-4. doi: 10.4997/JRCPE.2015.103.
6. Mohd Ramlan Mohd Arshad, Munirah Omar, and Nurul Afiqah Shahdan, "Alcoholism among Youth: A Case Study in Kuala Lumpur, Malaysia," International Journal of Culture and History vol. 1, no. 1, pp. 21-28, 2015.

Table 3.2.1: Prevalence of ever alcohol use among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	191	3,286	12.2	8.04	17.98
Locality of school					
Urban	67	1,052	18.5	10.00	31.74
Rural	124	2,234	10.5	6.46	16.54
Sex					
Male	121	2,239	16.8	10.93	24.94
Female	70	1,047	7.7	4.68	12.27
Form					
Form 1	67	1,072	19.8	11.84	31.31
Form 2	32	627	11.1	5.96	19.79
Form 3	32	576	10.4	6.21	16.97
Form 4	32	577	10.8	4.00	26.03
Form 5	28	434	8.5	4.96	14.23

Table 3.2.2: Prevalence of current drinker in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	119	2,080	7.7	4.87	11.95
Locality of school					
Urban	39	610	10.7	5.58	19.69
Rural	80	1,469	6.9	3.92	11.82
Sex					
Male	83	1,545	11.6	7.08	18.40
Female	36	534	3.9	2.34	6.46
Form					
Form 1	54	875	16.2	8.15	29.59
Form 2	19	375	6.6	3.63	11.86
Form 3	18	341	6.2	3.24	11.41
Form 4	14	266	5.0	1.54	14.96
Form 5	14	223	4.4	2.47	7.63

Table 3.2.3: Percentage of drunkenness among ever alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	82	1,465	44.6	32.52	57.30
Locality of school					
Urban	24	390	37.1	13.56	68.89
Rural	58	1,074	48.1	39.11	57.22
Sex					
Male	67	1,234	55.1	41.03	68.43
Female	15	231	22.0	12.63	35.57
Form					
Form 1	39	661	61.7	37.12	81.43
Form 2	15	312	49.8	29.21	70.45
Form 3	11	218	37.8	17.81	63.09
Form 4	4	66	11.5	2.80	36.83
Form 5	13	207	47.7	34.32	61.48

Table 3.2.4: Initiation age of alcohol drinking among ever alcohol drinkers among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
7 years old or younger	21	364	11.1	7.46	16.32
8 or 9 years old	21	361	11.1	6.28	18.72
10 or 11 years old	24	391	12.0	9.66	14.74
12 or 13 years old	44	776	23.8	13.23	38.89
14 or 15 years old	24	419	12.8	8.21	19.47
16 years old or older	-	-	-	-	-
Unknown	56	957	29.3	18.10	43.64

Table 3.2.5: Source of getting alcohol among current drinker among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
I bought in a store	32	539	31.5	21.59	43.40
I gave someone money to buy	15	254	14.8	7.79	26.34
I got it from my friends	17	344	20.1	14.08	27.78
I got it from my family	24	405	23.6	9.85	46.69
I stole it	2	37	2.2	0.59	7.76
I got it some other way	8	134	7.8	3.84	15.31

Table 3.2.6: Prevalence of social problems (got into trouble with family or friends, missed school, or got into fights) as a result of drinking alcohol among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	94	1648	6.1	3.91	9.39
Strata					
Urban	22	369	6.5	2.70	14.80
Rural	72	1279	6.0	3.58	9.87
Sex					
Male	66	1231	9.2	5.50	15.10
Female	28	417	3.0	2.07	4.46

3.3. Dietary Behaviours

Contributors: Rashidah Ambak, Syafinaz Mohd Sallehuddin, Norlida Zulkafly, Ruhaya Salleh, Cheong Siew Man, Mohamad Hasnan Ahmad, S. Maria Awaluddin, Rusidah Selamat

3.3.1 Introduction

Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances important for adolescent's good health. Dietary patterns that include higher intakes of fruits and vegetables are associated with several health benefits, including a decreased risk for some types of cancer.

3.3.2 Objectives

To describe the prevalence of:

- i. Students who had gone hungry most of the time or always in the past 30 days.
- ii. Fruits intake of at least twice daily in the past 30 days.
- iii. Vegetables intake of at least three times daily in the past 30 days.
- iv. Fruits and vegetables intake of at least five times daily in the past 30 days.
- v. Carbonated drinks consumption of at least once daily in the past 30 days.
- vi. Plain water intake of five times or more daily in the past 30 days.
- vii. Milk or milk products intake of at least two times daily in the past 30 days.
- viii. Food consumption from fast food restaurant of at least three days in the past seven days

3.3.3 Variable Definitions

- **Gone hungry:** students who had gone hungry most of the time or always because there was not enough food at home for the past 30 days or living without financial means to access enough food for active and healthy living.
- **Fruits intake:** fruits intake of at least twice daily in the past 30 days, inclusive of various types of local fruit, seasonal fruit and imported fruit.
- **Vegetables intake:** vegetables intake of at least three times daily in the past 30 days, either eaten raw or cooked.
- **Plain water intake:** Includes mineral water, boiled water, or tap water
- **Carbonated drinks intake:** carbonated drinks consumption of at least once daily in the past 30 days (except mentioned as diet soft drinks).
- **Dairy products intake:** milk or milk products intake at least two times daily in the past 30 days.
- **Fast food intake:** consuming food from fast food restaurants at least three days in the past seven days

3.3.4 Findings

Hunger

The overall prevalence of students who reported being hungry most of the time or always in the past 30 days was 4.5% (95% CI: 3.30, 6.19), with an estimated projection to 1,222 school-going adolescents. There was no significant difference in the prevalence of reported being hungry by school locality and sex. Those in Form 1 showed the highest prevalence of being hungry 6.6% (95% CI: 4.00, 10.59). **(Table 3.3.1).**

Fruits intake

The overall prevalence of consuming fruits at least twice daily in the past 30 days was 57.8% (95% CI: 54.34, 61.09), with an estimated projection to 15,580 school-going adolescents. Urban school-going adolescents reported lower fruit intake frequency 52.0% (95% CI: 51.45, 52.63) as compared to the students in the rural areas 59.3% (95% CI: 55.55, 62.90). There were 54.1% (95% CI: 50.41, 57.68) male students and 61.3% (95% CI: 56.66, 65.82) female students reported consuming fruits at least twice daily **(Table 3.3.2).**

Vegetables intake

The overall prevalence of consuming vegetables at least three times daily in the past 30 days was 38.8% (95%CI: 35.67, 42.04), with an estimated projection to 10,477 school-going adolescents. There was no significant difference in consuming vegetables at least three times daily by school locality and sex. Form 2 students showed the lowest frequency in consuming vegetables 33.0% (95%CI: 24.86, 42.28). **(Table 3.3.3).**

Fruits and vegetables intake at least five time daily

The overall prevalence of consuming fruits and vegetables at least five times daily in the past 30 days was 29.0% (95% CI: 26.52, 31.70) with an estimated projection to 7,834 school-going adolescents. There was no difference in fruits and vegetables intake at least five times daily by school locality, sex and forms. **(Table 3.3.4).**

Carbonated soft drinks intake

The overall prevalence of consuming carbonated drinks at least once daily in the past 30 days was 41.8% (95%CI: 37.02, 46.64), with an estimated projection to 11,279 school-going adolescents. Rural school-going adolescents reported carbonated drink consumption at least once daily at 42.3% (95% CI: 36.96, 47.84) as compared to the students in the urban areas at 39.7% (95% CI: 30.46, 49.70). Form 1 and Form 2 students reported the highest prevalence of [46.3% (95% CI: 40.20, 52.46)] and [46.6% (95% CI: 37.89, 55.57)] respectively in consuming carbonated drinks at least once daily in the past 30 days **(Table 3.3.5).**

Plain water intake

The overall prevalence of drinking plain water five times or more daily in the past 30 days was 63.5% (95%CI: 57.81, 68.84) with an estimated projection to 17,109 school-going adolescents **(Table 3.3.6).**

Milk and milk products intake

The overall prevalence of milk or milk products intake at least two times daily in the past 30 days was 37.0% (95%CI: 33.93, 40.20) with an estimated projection to 9,987 school-going adolescents. There was no significant difference in taking milk or milk products by sex,

location and forms. There was no significant difference in intake by school locality, sex and forms (**Table 3.3.7**).

Fast food intake

The overall prevalence of consuming food from a fast food restaurants of at least three days in the past seven days was 15.3% (95%CI: 12.82, 18.23) with an estimated projection to 4,116 school-going adolescents. In terms of school locality, the prevalence of consuming food from fast food restaurants was 19.3% (95% CI: 15.16, 24.22) among urban school-going adolescents and 14.3% (95% CI: 11.68, 17.33) in the rural areas. There was no significant difference in the prevalence by sex and forms. (**Table 3.3.8**).

3.3.5 Discussion/ Conclusion

The prevalence of being hungry most of the time or always during the past 30 days in Perlis was 4.5% (95% CI: 3.30, 6.19) which showed no significant difference with the national prevalence [3.9% (95% CI: 3.53, 4.24)] but decreased from the previous Perlis GSHS 2012¹ [4.1% (95% CI: 2.90, 5.92)]. Students in Perlis reported higher prevalence of consuming fruits at least twice daily in 2017 [57.8% (95% CI: 54.34, 61.09)] compared to Perlis GSHS 2012¹ [47.3% (95% CI: 40.69, 54.07)], however higher to national prevalence [46.8% (95% CI: 45.09, 48.53)] in 2017. For vegetables intake at least three times per day, the prevalence was significantly higher [38.8% (95% CI: 35.67, 42.04)] than Perlis GSHS 2012¹ [29.5% (95% CI: 25.52, 33.91)] and the 2017 national prevalence [36.0% (95% CI: 34.45, 37.52)]. For consumption of carbonated drinks once daily, it was significantly increased from the prevalence of Perlis GSHS 2012¹ [31.1% (95% CI: 26.56, 36.12)] to prevalence of Perlis 2017 [41.8% (95% CI: 37.02, 46.64)], which also significantly higher when compared to the national prevalence [36.9% (95% CI: 35.04, 38.79)]. There were no significant changes for drinking plain water five times or more daily in the past 30 days. As for consumption of food from fast food restaurants of at least three days in the past seven days, the prevalence for Perlis GSHS 2012¹ [5.3% (95% CI: 3.31, 8.40)] was significantly lower than in the year of 2017 [15.3% (95% CI: 12.82, 18.23)] however, it was significantly higher when compared to the national prevalence [11.1% (95% CI: 10.24, 12.01)].

3.3.6 Recommendations

In view of the findings highlighted above, Malaysian students need more attention towards a healthy eating habit. Parents play an important role to ensure that healthy and nutritious food such as fruits, yogurt, and high fibre snacks are available on shelves and in fridges at home. Appropriate nutrition education program with creative and innovative approaches should be carried out in promoting healthy diet, specifically eating more fruits and vegetables, drinking more plain water, consuming more milk/milk products and reducing fast food intake and carbonated soft drinks intake. Further research should be conducted to identify underlying causes of food insecurity and unhealthy eating habits among students in Malaysia.

3.3.7 References

1. Institute for Public Health (IPH). 2012. National Health and Morbidity Survey, NHMS 2012: Malaysia Global School-based Student Health Survey 2012. Kuala Lumpur Ministry of Health Malaysia.

Table 3.3.1: Prevalence of students who had gone hungry *(most of the time or always) because there was not enough food in his/her home, in the past 30 days, among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	*Most of the time or always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	77	1,222	4.5	3.30	6.19
Locality of school					
Urban	13	195	3.4	2.91	4.08
Rural	64	1,027	4.8	3.35	6.90
Sex					
Male	33	609	4.6	2.93	7.11
Female	44	612	4.5	2.99	6.68
School level					
Lower secondary	50	810	4.9	3.07	7.76
Upper secondary	27	412	3.9	2.46	6.27
Form					
Form 1	24	355	6.6	4.00	10.59
Form 2	7	134	2.4	1.24	4.59
Form 3	19	322	5.8	3.05	10.79
Form 4	13	222	4.2	2.55	6.69
Form 5	14	190	3.7	1.96	6.97

Table 3.3.2: Prevalence of fruit intake of at least twice daily in the past 30 days, among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Yes (at least twice daily)				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	966	15,580	57.8	54.34	61.09
Locality of school					
Urban	193	2,956	52.0	51.45	52.63
Rural	773	12,624	59.3	55.55	62.90
Sex					
Male	390	7,195	54.1	50.41	57.68
Female	576	8,385	61.3	56.66	65.82
School level					
Lower secondary	590	9,496	57.4	53.52	61.20
Upper secondary	376	6,084	58.3	52.62	63.79
Form					
Form 1	214	3,031	56.2	47.82	64.25
Form 2	185	3,424	60.9	51.73	69.40
Form 3	191	3,041	55.0	48.88	60.96
Form 4	182	3,207	60.0	54.09	65.69
Form 5	194	2,877	56.5	48.13	64.51

Table 3.3.3: Prevalence of vegetable intake of at least three times daily in the past 30 days, among Form 1 to Form 5 students in Johor, 2017

Socio-demographic characteristics	Yes (at least three times daily)				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	643	10,477	38.8	35.67	42.04
Locality of school					
Urban	139	2,152	37.9	33.80	42.15
Rural	1,301	21,320	39.0	35.27	42.97
Sex					
Male	287	5,276	39.6	35.99	43.29
Female	356	5,201	38.0	34.37	41.86
School level					
Lower secondary	384	6,288	38.0	33.58	42.54
Upper secondary	259	4,188	40.1	37.43	42.91
Form					
Form 1	142	2,077	38.4	32.60	44.60
Form 2	98	1,861	33.0	24.86	42.28
Form 3	144	2,350	42.6	34.50	51.09
Form 4	125	2,188	41.0	36.69	45.36
Form 5	134	2,001	39.3	33.27	45.65

Table 3.3.4: Prevalence of fruits and vegetables intake at least five times daily in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	482	7,834	29.0	26.52	31.70
Locality of school					
Urban	95	1,439	25.3	24.81	25.88
Rural	387	6,395	30.0	27.19	33.03
Sex					
Male	206	3,781	28.4	24.36	32.85
Female	276	4,054	29.7	26.57	32.93
School level					
Lower secondary	285	4,641	28.1	24.39	32.03
Upper secondary	197	3,193	30.6	28.06	33.27
Form					
Form 1	99	1,434	26.6	21.63	32.24
Form 2	78	1,461	26.0	18.90	34.62
Form 3	108	1,746	31.6	25.35	38.53
Form 4	99	1,726	32.3	26.98	38.14
Form 5	98	1,467	28.8	23.84	34.35

Table 3.3.5: Prevalence of at least once a day consumption of carbonated soft drinks in the past 30 days, among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Yes (at least once a day)				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
PERLIS	688	11,279	41.8	37.02	46.64
Locality of school					
Urban	146	2,254	39.7	30.46	49.70
Rural	542	9,025	42.3	36.96	47.84
Sex					
Male	319	5,846	43.9	39.00	48.84
Female	369	5,433	39.7	2.83	33.78
School level					
Lower secondary	438	7,243	43.7	37.97	49.58
Upper secondary	250	4,036	38.7	33.88	43.72
Form					
Form 1	169	2,501	46.3	40.20	52.46
Form 2	138	2,630	46.6	37.89	55.57
Form 3	131	2,111	38.2	30.49	46.49
Form 4	118	2,089	39.1	31.97	46.74
Form 5	132	1,947	38.2	31.58	45.38

Table 3.3.6: Prevalence of plain water intake 5 times or more per day in the past 30 days, among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Yes (at least 5 times daily)				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
PERLIS	1,065	17,109	63.5	57.81	68.84
Locality of school					
Urban	236	3,659	64.4	53.19	74.27
Rural	829	13,450	63.3	56.67	69.39
Sex					
Male	449	8,122	61.0	53.84	67.79
Female	616	8,987	65.9	60.35	71.06
School level					
Lower secondary	626	10,087	60.9	53.23	68.09
Upper secondary	439	7,022	67.6	62.04	72.78
Form					
Form 1	218	3,111	57.6	47.49	67.03
Form 2	189	3,460	61.5	52.41	69.88
Form 3	219	3,516	63.6	54.18	72.04
Form 4	201	3,518	66.4	59.03	72.99
Form 5	238	3,504	69.0	62.22	75.01

Table 3.3.7: Prevalence of milk or milk products intake at least two servings per day in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Unweighted Count	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
PERLIS	620	9,987	37.0	33.93	40.20
Locality of school					
Urban	142	2,193	38.6	33.10	44.44
Rural	478	7,794	36.6	33.02	40.29
Sex					
Male	257	4,684	35.1	31.65	38.80
Female	363	5,303	38.8	35.14	42.66
School level					
Lower secondary	387	6,237	37.7	33.14	42.39
Upper secondary	233	3,750	36.0	32.90	39.19
Form					
Form 1	154	2,204	40.9	33.19	49.03
Form 2	112	2,116	37.5	30.56	45.03
Form 3	121	1,917	34.7	27.77	42.25
Form 4	107	1,887	35.3	29.60	41.51
Form 5	126	1,863	36.7	32.09	41.54

Table 3.3.8: Prevalence of consuming food from a fast food restaurant of at least three days in the past 7 days, among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Yes (at least three days)				
	Unweighted Count	Estimated Population	Prevalence (%)	Lower	Upper
PERLIS	251	4,116	15.3	12.82	18.23
Locality of school					
Urban	70	1,093	19.3	15.16	24.22
Rural	181	3,023	14.3	11.68	17.33
Sex					
Male	118	2,154	16.3	13.40	19.70
Female	133	1,962	14.4	10.82	18.88
School level					
Lower secondary	155	2,579	15.7	12.31	19.70
Upper secondary	96	1,537	14.8	11.88	18.32
Form					
Form 1	61	929	17.3	11.42	25.37
Form 2	46	869	15.5	10.39	22.55
Form 3	48	782	14.2	10.61	18.71
Form 4	43	748	14.2	10.70	18.52
Form 5	53	789	15.5	11.53	20.49

3.4 Drug Use

Contributors: Muhammad Fadhli Mohd Yusoff, Rushidi Ramly, Wan Shakira Rodzlan Hasani, Hasimah Ismail, Hamizatul Akmal Abd Hamid, Norli Abdul Jabbar, Jane Ling Miaw Yn, Halizah Mat Rifin, Tania Gayle Robert, Thamil Arasu Saminathan, Nur Liana Ab. Majid.

3.4.1 Introduction

According to the World Drug Report 2017, an estimated quarter of a billion people, or around five per cent of the global adult population, used drugs at least once in 2015. Even more worrisome is the fact that about 29.5 million of those drug users, or 0.6 percent of the global adult population, suffer from drug use disorders.¹ This means that their drug use is harmful to the point that they may experience drug dependence and require treatment.

Marijuana or cannabis remains the world's most widely used drug, with an annual prevalence of 3.8 per cent of the adult population, or an estimated 183 million people (range 128 million to 238 million), having used marijuana in the past year.² Amphetamines remain the second most commonly used drug worldwide, with an estimated 35 million past-year users (range 13 million to 58 million), and the use of amphetamines, particularly methamphetamine, is perceived to be increasing in many regions, including most parts of Asia.

This drug menace contributes to various social and medical ill health implications particularly among adolescents. The broad range of problems reported by young people include deteriorating family relations, truancy, poorer performance in school, mental disorders such as depression and anxiety, drug induced psychosis particularly with the New Psychoactive Substances (NPS), unwanted and unprotected sexual activity, accidents, violence and increased risk of blood-borne viral diseases such as HIV and Hepatitis C for those injecting drug users (IDU). Some youth engaging in heavy substance use will continue to do so into adulthood and will experience various longer-term health and social problems.

3.4.2 Objectives

- i. To determine the prevalence of ever and current drug use among Form 1 to Form 5 students
- ii. To describe the socio-demographic characteristics of ever and current drug use among Form 1 to Form 5 students
- iii. To determine the prevalence of ever and current marijuana use among Form 1 to Form 5 students
- iv. To describe the socio-demographic characteristics of ever and current marijuana use among Form 1 to Form 5 students
- v. To determine the prevalence and socio-demographic characteristics of ever amphetamines or methamphetamines use among Form 1 to Form 5 students
- vi. To identify the age of initiation and the sources of obtaining drugs among Form 1 to Form 5 students

3.4.3 Variable Definitions

- **Drug use:** taking of heroin, morphine, glue, amphetamine or methamphetamines (ecstasy, syabu, ice), marijuana/*ganja* (except prescribed medicine).
- **Ever drug use:** students who had history of drug use in their lifetime
- **Current drug use:** students who used drugs in the past 30 days
- **Ever Marijuana use:** students who had history of marijuana use in their lifetime
- **Current Marijuana use:** students who used marijuana in the past 30 days
- **Ever Amphetamine or Methamphetamines use:** students who had history of amphetamine or methamphetamines use in their lifetime.

3.4.4 Findings

Overall, the prevalence of ever drug use among students from Form 1 to Form 5 in Perlis was 5.8% (95% CI: 3.61, 9.14) with an estimated population to 1,561 students. The prevalence of ever drug use was significantly higher among males [9.9% (95% CI: 6.08, 15.75)] as compared to females [1.8% (95% CI: 0.92, 3.31)] (**Table 3.4.1**). The prevalence of current drug use in the past 30 days among Form 1 to Form 5 students in Perlis was 5.0% (95% CI: 2.91, 8.46) with significantly higher prevalence among males [8.7% (95% CI: 4.95, 14.79)]. The current drug user was not significantly different in term of locality of school and forms (**Table 3.4.2**). The prevalence of ever used marijuana in lifetime was 3.9% (95% CI: 2.32, 6.55) among Form 1 to form 5 students in Perlis (**Table 3.4.3**) with 3.5% (95% CI: 2.02, 5.96) of the students were current marijuana users in the past 30 days (**Table 3.4.4**). The prevalence was significantly higher in males for both ever marijuana use [6.8% (95% CI: 4.03, 11.38)] and current marijuana use [6.0% (95% CI: 3.53, 10.14)]. About 3.6% (95% CI: 2.16, 6.09) of students reported that they had ever used amphetamines or methamphetamines during lifetime (**Table 3.4.5**). The prevalence was significantly higher in males and Form 1 students with the prevalence 6.5% (95% CI: 3.87, 10.72) and 12.0% (95% CI: 6.17, 22.08) respectively.

Among current drug users, most of the students obtained their drug by stealing them or got it without permission [22.9% (95% CI: 13.81, 35.42)]. Other than that, they also obtained the drugs by giving someone else money to buy the drugs [20.6% (95%CI: 13.80, 29.69)] and got the drugs from someone [20.3% (95% CI: 13.57, 29.17)] (**Table 3.4.6**). Among ever drug users, about 19.4% (95% CI: 11.57, 30.79) had initiated drug use at the age of seven years or younger with percentage of rural areas was 1.3% (95% CI: 0.61, 2.74) and urban areas was 0.5% (95% CI: 0.08, 3.01) (**Table 3.4.7**).

3.4.5 Discussion/Conclusion

The prevalence of ever drug use and current drug use in Perlis did not significantly different from the national prevalence. There was no significant change in the prevalence between this survey and GSHS in the year 2012. However, the prevalence was significantly higher in male students for this survey. As for ever marijuana use, current marijuana use and ever use of

amphetamines or methamphetamine, there were no difference in the prevalence figures, however male students was observed as having higher prevalence than females. Among those who were ever used drugs, majority of the students admitted that they had been using drugs at the age of seven years or younger. Most of those were current drug users had obtained their drugs by stealing them or got it without permission.

3.4.6 Recommendations

Prevention and control measures of drug use among adolescents in Malaysia needs to be strengthened and started early from the primary school level. New strategies and approaches must be developed to address this issue. Health education and the dangers of drug abuse should be emphasized. Early detection and intervention also needs to be given priority.

3.4.7 References

1. World Drug Report 2017: Executive Summary Conclusions and Policy Implications. (ISBN:978-92-1-148291-1, eISBN: 978-92-1-060623-3, United Nations publication, Sales No. E.17.XI.6).
2. United Nations Office on Drugs and Crime, *World Drug Report 2017: Global Overview*. (ISBN: 978-92-1-148291-1, eISBN: 978-92-1-060623-3, United Nations publication, Sales No. E.17.XI.6).

Table 3.4.1 : Prevalence of ever used drugs in a lifetime among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	88	1,561	5.8	3.61	9.14
Locality of school					
Urban	18	290	5.1	1.18	19.48
Rural	70	1,271	6.0	3.71	9.44
Sex					
Male	72	1,321	9.9	6.08	15.75
Female	16	240	1.8	0.92	3.31
Form					
Form 1	49	813	15.0	7.41	28.12
Form 2	14	298	5.3	2.67	10.19
Form 3	8	156	2.8	0.74	10.16
Form 4	7	132	2.5	1.20	4.98
Form 5	10	162	3.2	1.60	6.27

Table 3.4.2 : Prevalence of current drug use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	76	1,351	5.0	2.91	8.46
Locality of school					
Urban	17	275	4.8	1.00	20.41
Rural	59	1,076	5.0	2.91	8.60
Sex					
Male	63	1,157	8.7	4.95	14.79
Female	13	194	1.4	0.69	2.91
Form					
Form 1	45	752	13.9	6.68	26.75
Form 2	11	236	4.2	2.12	8.08
Form 3	7	138	2.5	0.68	8.76
Form 4	6	113	2.1	0.91	4.84
Form 5	7	112	2.2	0.89	5.34

Table 3.4.3 : Prevalence of ever used marijuana in a lifetime among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	61	1,059	3.9	2.32	6.55
Locality of school					
Urban	13	201	3.5	0.82	13.92
Rural	48	858	4.0	2.32	6.89
Sex					
Male	51	910	6.8	4.03	11.38
Female	10	149	1.1	0.50	2.34
Form					
Form 1	39	651	12.1	5.74	23.63
Form 2	6	131	2.3	1.02	5.21
Form 3	5	97	1.7	0.44	6.68
Form 4	2	32	0.6	0.08	4.70
Form 5	9	148	2.9	1.48	5.66

Table 3.4.4 : Prevalence of current marijuana use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	54	940	3.5	2.02	5.96
Locality of school					
Urban	11	172	3.0	0.60	13.88
Rural	43	768	3.6	2.05	6.25
Sex					
Male	45	803	6.0	3.53	10.14
Female	9	137	1.0	0.44	2.24
Form					
Form 1	35	582	10.8	5.28	20.89
Form 2	6	124	2.2	0.87	5.43
Form 3	4	81	1.5	0.41	5.07
Form 4	2	41	0.8	0.18	3.26
Form 5	7	112	2.2	0.89	5.35

Table 3.4.5 : Prevalence of ever amphetamines/metaphetamines use in a life time among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	57	985	3.6	2.16	6.09
Locality of school					
Urban	11	182	3.2	0.78	12.29
Rural	46	803	3.8	2.16	6.48
Sex					
Male	49	866	6.5	3.87	10.72
Female	8	119	0.9	0.42	1.78
Form					
Form 1	39	649	12.0	6.17	22.08
Form 2	3	61	1.1	0.33	3.48
Form 3	6	117	2.1	0.58	7.43
Form 4	3	56	1.1	0.25	4.33
Form 5	6	102	2.0	0.86	4.55

Table 3.4.6 : Source of getting drugs in the past 30 days among current drug user in among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
I bought them from someone	14	271	20.3	13.57	29.17
I gave someone else money to buy it for me	15	275	20.6	13.80	29.69
I stole it or got it without permission	17	305	22.9	13.81	35.42
I got it from my friend	9	144	10.8	4.99	21.79
I got it from my family	1	17	1.3	0.17	8.73
I got it some other ways	6	109	8.1	3.45	18.00

Table 3.4.7 : Age of initiation of first used drugs among ever drug user in Form 1 to Form 5 students in Perlis, 2017

	Total					Urban				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
7 years old or younger	16	303	19.4	11.57	30.79	2	27	0.5	0.08	3.01
8 or 9 years old	10	186	11.9	6.97	19.71	2	30	0.5	0.08	3.29
10 or 11 years old	8	143	9.2	3.75	20.78	3	50	0.9	0.14	5.48
12 or 13 years old	5	84	5.4	1.81	14.91	1	15	0.3	0.04	1.61
14 or 15 years old	6	102	6.5	2.45	16.24	3	50	0.9	0.30	2.58
16 years old or older	11	184	11.8	6.66	19.96	2	31	0.5	0.09	3.41

Table 3.4.7 : Age of initiation of first used drugs among ever drug user in students Form 1 to Form 5, Perlis 2017

	Rural				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
7 years old or younger	14	276	1.3	0.61	2.74
8 or 9 years old	8	157	0.7	0.32	1.69
10 or 11 years old	5	93	0.4	0.10	1.95
12 or 13 years old	4	69	0.3	0.11	0.99
14 or 15 years old	3	51	0.2	0.05	1.19
16 years old or older	9	153	0.7	0.39	1.32

3.5 Hygiene (Including Oral Health)

Contributors: Yaw Siew Lian, Natifah Che Salleh, Nurrul Ashikin Abdullah, Ting Teck Pei, Mohamad Fuad Mohamad Anuar, Sayan a/I Pan, Norazizah Ibrahim Wong.

3.5.1 Introduction

Dental caries has substantial impact to children, families, and health systems, including dental and medical consequences, loss of working time on the part of caregivers and increased expenditures. It is a multi-factorial infectious disease that leads to pain and infection, consequently affecting the quality of life, general health, productivity and educational performance of the child.¹ Daily tooth brushing with a fluoridated toothpaste and regular dental check-up at least once a year can help prevent dental caries and periodontal disease.

Clean hands can stop spread of parasites from one person to another. These parasites consume nutrients from children they infect, causing abdominal pain and can impair learning by slowing cognitive development. Hand washing is one of the most effective ways to prevent the spread of parasites, especially during these key times: before, during and after preparing food, before eating and after using the toilet.^{2,3}

3.5.2 Objectives

To describe the prevalence of:

- i. Tooth brushing frequency in the past 30 days
- ii. Fluoridated toothpaste usage
- iii. Dental floss usage
- iv. Timing of last visit to a dentist or dental nurse
- v. Having missed class due to toothache in the past 12 months
- vi. Avoidance of smiling or laughing due to the appearance of their teeth
- vii. Using soap during hand washing in the past 30 days
- viii. Hand washing before eating in the past 30 days
- ix. Hand washing after using the toilet in the past 30 days

3.5.3 Variable Definitions

- **Clean or brush teeth:** Regular tooth brushing using toothbrush and toothpaste to keep the mouth, teeth and gums clean and healthy
- **Last saw a dentist or dental nurse:** Seen a dentist or dental nurse for a check-up, scaling or other dental treatment

3.5.4 Findings

Cleaning or brushing teeth during the past 30 days

Overall, 1.4% (95%CI: 1.01, 2.06) of students reported they had never cleaned or brushed their teeth during the past 30 days. About 3.1% (95%CI: 1.85, 5.18) reported they had cleaned or brushed their teeth less than once daily and 6.5% (95%CI: 5.19, 8.10) once daily and 89.0% (95%CI: 85.81, 91.47) at least twice daily (**Table 3.5.1**).

Use of fluoridated toothpaste

Overall, 61.4% (95%CI: 57.18, 65.46) of students reported use of fluoridated toothpaste and 10.3% (95%CI: 8.37, 12.51) claimed that they were not using fluoridated toothpaste. About 28.3% (95%CI: 24.86, 32.10) of students reported not knowing whether their toothpaste contained fluoride (**Table 3.5.2**).

Use of dental floss for cleaning teeth

Overall, only 21.2% (95%CI: 18.92, 23.62) of students reported that they use dental floss for cleaning their teeth while 78.8% (95%CI: 76.38, 81.08) claimed that they did not use dental floss to clean their teeth (**Table 3.5.3**). A significantly higher proportion of students who did not use dental floss was seen in Form 5 [82.6% (95%CI: 78.06, 86.30)] as compared to students in Form 1 [71.2% (95%CI: 65.98, 75.92)].

Last dental visit

Overall, only 44.0% (95%CI: 37.29, 50.87) of students reported that they had their last dental visit (inclusive of both dental treatment and dental check-up) in the past 12 months. The prevalence of students who had their last dental visit between 12-24 months was 9.0%

(95%CI: 7.09, 11.34) while those with last dental visit more than 24 months was 4.9% (95%CI: 3.66, 6.40). About 7.8% (95%CI: 5.61, 10.64) of students had never ever had a dental visit while 34.4% (95%CI: 30.70, 38.38) did not know when was their last dental visit (**Table 3.5.4**).

Missing class or school due to toothache

Overall, 11.7% (95%CI: 8.65, 15.55) of students had missed class or school due to toothache in the past 12 months (**Table 3.5.5**).

Avoid smiling or laughing due to the appearance of their teeth

Overall, 18.8% (95%CI: 16.32, 21.63) of students reported that they had avoided smiling or laughing due to the appearance of their teeth (**Table 3.5.6**).

Use of soap when washing hands during the past 30 days

Overall in the past 30 days, about 9.2% (95%CI: 7.08, 11.97) of students never or rarely used soap when washing their hands, 22.7% (95%CI: 19.98, 25.57) reported they had only used soap sometimes when washing their hands while a fairly high proportion of 68.1% (95%CI: 64.32, 71.66) had always used soap when washing their hands (**Table 3.5.7**).

Washing hand before eating during the past 30 days

Overall in the past 30 days, about 5.1% (95%CI: 3.54, 7.27) of students had never or rarely washed their hands before eating, 6.7% (95%CI: 4.87, 9.10) reported they had sometimes washed their hands before eating while a fairly high proportion of 88.2% (95%CI: 84.40, 91.22) had always washed their hands before eating (**Table 3.5.8**).

Washing hand after using the toilet or latrine during the past 30 days

Overall in the last 30 days, about 6.2% (95%CI: 4.26, 9.00) of students reported they had never or rarely washed their hands after using the toilet, 7.9% (95%CI: 6.80, 9.05) reported they had only washed their hands sometimes after using the toilet while 85.9% (95%CI: 83.26, 88.23) of students claimed that they had always or most of the times washed their hands after using the toilet (**Table 3.5.9**).

3.5.5 Discussion/Conclusion

The above findings related to the hand hygiene and oral hygiene practices in the age group of 13-17 years in Perlis. Overall, the prevalence of students who had cleaned or brushed their teeth less than once per day (3.1%) was higher than the national prevalence (2.4%). This survey found that the prevalence of students who used fluoridated toothpaste (61.4%) was slightly higher than the national prevalence (58.3%) but lower than the findings in Perlis GSHS 2012 (72.2%)⁴. The prevalence of students who did not know whether their toothpaste was fluoridated (28.3%) was slightly lower than the national prevalence (31.8%) but higher than the findings in Perlis GSHS 2012 (17.9%)⁴. The survey findings showed that the prevalence of students who use dental floss (21.2%) was slightly higher than the national prevalence (19.3%). The use of dental floss was not studied in the first Malaysian GSHS in 2012.

Our findings on the proportion of students who never or rarely use soap when washing their hands during the past 30 days (9.2%) was slightly lower than the national prevalence (11.6%) and Perlis GSHS in 2012 (10.4%)⁴. This study also found that the prevalence of students who never or rarely washed their hands before eating (5.1%) was slightly lower than the national prevalence (6.1%) but higher than the findings in Perlis GSHS 2012 (3.5%)⁴. The prevalence of students who had never or rarely washed their hands after going to the toilet in this survey (6.2%) was slightly higher than the national prevalence (4.8%) and Perlis GSHS in 2012 (4.2%)⁴.

Overall, the findings in relation to hand hygiene and oral hygiene practises of students in the age group of 13-17 years showed that there is still room for further improvement. In terms of oral hygiene, about 3 in 100 students had cleaned/brushed their teeth less than one time per day during the past 30 days, higher than the national level (2 in 100 students). Other areas of concern were the low proportion of students (about 6 in 10 students) reported using fluoridated toothpaste and the low proportion (about 2 in 10) of students who reported use of dental floss to clean their teeth. In terms of hand hygiene, about 9 in 100 students reported that they had never or rarely used soap when washing their hands, and 5 in 100 students reported they had never or rarely washed their hands before eating. In addition, the proportion of students who never or rarely washed their hands after going to the toilet was about 6 in 100.

3.5.6 Recommendations

Taking cognizance of these findings, there is a need to emphasis on promoting hygiene among school-going adolescents through attitude and behavioural changes in maintenance of personal hygiene. Thus, the following recommendations are made:

1. More effort is needed to strengthen health education on oral and hand hygiene habits in schools and at home.
2. There is a need to further promote toothpaste literacy in our oral health promotion efforts.
3. Surveillance of hygiene habits and practices among adolescents need to be continued at regular intervals.
4. Further studies are recommended to study the factors contributing to poor hygiene habits among adolescents.

3.5.7 References

1. Mathur V.P. & Dhillon J.K. Dental Caries: A Disease Which Needs Attention. Indian J Pediatr (2017). <https://doi.org/10.1007/s12098-017-2381-6>. DOI<https://doi.org/10.1007/s12098-017-2381-6>. Publisher: Springer India
2. When & How to Wash Your Hands. Centers for Disease Control and Prevention. <https://www.cdc.gov/handwashing/when-how-handwashing.html>. Retrieve 7 August 2017
3. Borchgrevink CP, Cha JM, Kim SH. Hand washing practices in a College Town Environment. J of Environmental Health, Volume 75, No. 8, April 2013.
4. Institute for Public Health (IPH) 2012. The National Health and Morbidity Survey: Perlis Global School-based Student Health Survey 2012. Kuala Lumpur: Ministry of Health Malaysia.

Table 3.5.1: Prevalence of brushing teeth in the past 30 days among Form 1 to Form 5 students in Perlis 2017 (cont.)

Socio-demographic characteristics	Did not brush or clean					Less than 1 day				
	Unweighted Count	Estimated Populatio	Prevalence (%)	95% CI		Unweighted Count	Estimated Populatio	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	22	391	1.4	1.01	2.06	48	839	3.1	1.85	5.18
Locality of school										
Urban	5	80	1.4	0.44	4.37	11	166	2.9	0.98	8.39
Rural	17	311	1.5	1.04	2.04	37	673	3.2	1.75	5.63
Sex										
Male	18	335	2.5	1.77	3.56	36	665	5.0	2.80	8.72
Female	4	56	0.4	0.17	0.96	12	174	1.3	0.57	2.84
Form										
Form 1	8	128	2.4	1.04	5.27	24	387	7.2	3.46	14.24
Form 2	3	65	1.2	0.42	3.11	9	180	3.2	1.30	7.59
Form 3	3	58	1.0	0.35	3.05	6	122	2.2	0.98	4.88
Form 4	4	75	1.4	0.59	3.27	5	91	1.7	0.72	4.01
Form 5	4	65	1.3	0.62	2.63	4	59	1.2	0.59	2.28

Table 3.5.1: Prevalence of brushing teeth in the past 30 days among Form 1 to Form 5 students in Perlis 2017.

Socio-demographic characteristics	Once per day					2 times or more per day				
	Unweighted Count	Estimated Populatio	Prevalence (%)	95% CI		Unweighted Count	Estimated Populatio	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	100	1,755	6.5	5.19	8.10	1,497	24,027	89.0	85.81	91.47
Locality of school										
Urban	16	268	4.7	3.65	6.09	333	5,166	91.0	84.27	94.97
Rural	84	1,487	7.0	5.46	8.86	1,164	18,861	88.4	84.81	91.26
Sex										
Male	72	1,336	10.0	7.94	12.58	602	10,994	82.5	77.34	86.65
Female	28	419	3.1	2.04	4.58	895	13,033	95.3	93.48	96.57
Form										
Form 1	25	386	7.1	4.79	10.50	316	4,505	83.3	74.42	89.58
Form 2	16	325	5.8	3.62	9.05	274	5,072	89.9	84.60	93.51
Form 3	21	393	7.1	4.27	11.62	313	4,957	89.6	83.54	93.65
Form 4	16	309	5.8	3.28	10.02	278	4,867	91.1	85.90	94.51
Form 5	22	342	6.7	3.82	11.52	316	4,626	90.8	86.34	93.98

Table 3.5.2: Prevalence of use of fluoridated toothpaste among Form 1 to Form 5 students in Perlis, 2017 (cont.)

Socio-demographic characteristics	Yes					No				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	1,028	16,568	61.4	57.18	65.46	167	2,767	10.3	8.37	12.51
Locality of school										
Urban	212	3,233	57.1	46.35	67.14	33	532	9.4	7.10	12.31
Rural	816	13,335	62.6	58.31	66.63	134	2,235	10.5	8.23	13.26
Sex										
Male	418	7,658	57.5	52.70	62.20	85	1,551	11.7	8.90	15.12
Female	610	8,910	65.2	60.65	69.47	82	1,216	8.9	7.13	11.05
Form										
Form 1	194	2,760	51.2	41.17	61.16	56	859	15.9	11.10	22.37
Form 2	188	3,504	62.1	53.38	70.12	30	566	10.0	6.58	15.02
Form 3	215	3,452	62.6	53.08	71.21	35	566	10.3	6.93	14.91
Form 4	189	3,345	62.6	56.51	68.34	26	456	8.5	5.73	12.51
Form 5	242	3,507	68.9	59.36	77.00	20	320	6.3	3.76	10.32

Table 3.5.2: Prevalence of use of fluoridated toothpaste among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Don't Know				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	470	7,647	28.3	24.86	32.10
Locality of school					
Urban	119	1,901	33.6	25.94	42.14
Rural	351	5,745	27.0	23.49	30.72
Sex					
Male	224	4,104	30.8	27.07	34.85
Female	246	3,543	25.9	21.60	30.77
Form					
Form 1	122	1,770	32.8	24.70	42.17
Form 2	84	1,571	27.9	19.79	37.65
Form 3	92	1,498	27.2	19.67	36.22
Form 4	88	1,542	28.9	23.89	34.39
Form 5	84	1,266	24.9	18.46	32.58

Table 3.5.3: Prevalence of use of dental floss among Form 1 to Form 5 students in Perlis, 2017.

Socio-demographic characteristics	Yes					No				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	346	5,687	21.2	18.92	23.62	1,312	21,176	78.8	76.38	81.08
Locality of school										
Urban	91	1,391	24.6	22.94	26.28	273	4,272	75.4	73.72	77.06
Rural	255	4,295	20.3	17.72	23.06	1,039	16,904	79.7	76.94	82.28
Sex										
Male	166	3,081	23.3	20.53	26.33	556	10,137	76.7	73.67	79.47
Female	180	2,606	19.1	14.98	24.04	756	11,038	80.9	75.96	85.02
Form										
Form 1	105	1,531	28.8	24.08	34.02	263	3,786	71.2	65.98	75.92
Form 2	67	1,313	23.3	18.75	28.50	235	4,329	76.7	71.50	81.25
Form 3	64	1,083	19.7	14.75	25.88	276	4,405	80.3	74.12	85.25
Form 4	50	875	16.4	10.77	24.13	253	4,467	83.6	75.87	89.23
Form 5	60	885	17.4	13.70	21.94	285	4,189	82.6	78.06	86.30

Table 3.5.4: Timing of last dental visit among Form 1 to Form 5 students in Perlis, 2017 (cont.)

Socio-demographic characteristics	During past 12 months					Between 12-24 months ago				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	748	11,862	44.0	37.29	50.87	146	2,425	9.0	7.09	11.34
Locality of school										
Urban	171	2,630	46.4	30.13	63.49	34	529	9.3	4.32	19.06
Rural	577	9,232	43.3	36.25	50.66	112	1,896	8.9	7.15	11.01
Sex										
Male	291	5,296	39.8	34.50	45.31	84	1,517	11.4	9.24	13.97
Female	457	6,566	48.0	39.31	56.88	62	908	6.6	4.38	9.95
Form										
Form 1	145	2,078	38.6	28.42	49.82	36	558	10.4	6.54	16.03
Form 2	123	2,273	40.3	31.94	49.24	24	472	8.4	6.19	11.24
Form 3	157	2,457	44.4	33.42	56.01	30	495	9.0	5.23	14.93
Form 4	127	2,218	41.5	36.16	47.09	25	443	8.3	5.11	13.18
Form 5	196	2,835	55.8	44.81	66.29	31	456	9.0	6.51	12.27

Table 3.5.4: Timing of last dental visit among Form 1 to Form 5 students in Perlis, 2017.

Socio-demographic characteristics	More than 24 months ago					Never				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	79	1,310	4.9	3.66	6.40	123	2,092	7.8	5.61	10.64
Locality of school										
Urban	18	282	5.0	2.07	11.46	24	395	7.0	4.09	11.61
Rural	61	1,028	4.8	3.69	6.28	99	1,698	8.0	5.45	11.50
Sex										
Male	49	862	6.5	4.98	8.37	57	1,107	8.3	6.46	10.65
Female	30	448	3.3	1.90	5.59	66	985	7.2	4.50	11.34
Form										
Form 1	25	389	7.2	4.71	10.90	38	577	10.7	7.10	15.81
Form 2	13	262	4.6	2.70	7.88	23	436	7.7	4.52	12.88
Form 3	10	162	2.9	1.39	6.06	32	561	10.1	6.64	15.19
Form 4	12	218	4.1	2.00	8.12	20	359	6.7	4.04	10.97
Form 5	19	279	5.5	3.26	9.12	10	160	3.2	1.52	6.43

Table 3.5.4: Timing of last dental visit among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

Socio-demographic characteristics	Don't know				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	569	9,293	34.4	30.70	38.38
Locality of school					
Urban	117	1,831	32.3	28.92	35.91
Rural	452	7,462	35.0	30.44	39.86
Sex					
Male	246	4,531	34.0	30.94	37.28
Female	323	4,761	34.8	28.97	41.19
Form					
Form 1	128	1,787	33.2	25.16	42.25
Form 2	119	2,198	39.0	33.08	45.19
Form 3	114	1,855	33.5	27.37	40.33
Form 4	119	2,105	39.4	31.77	47.58
Form 5	89	1,349	26.6	18.47	36.59

Table 3.5.4.1: Prevalence of last dental visit within the last 24 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	0-24 months				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	894	873	53.0	46.82	58.99
Locality of school					
Urban	205	3,159	55.7	45.30	65.71
Rural	689	11,128	52.2	45.05	59.28
Sex					
Male	424	44,516	49.3	43.97	54.62
Female	403	36,560	46.1	41.60	50.64
Form					
Form 1	181	2,637	48.9	40.63	57.29
Form 2	147	2,745	48.7	39.46	57.96
Form 3	187	2,953	53.4	43.30	63.21
Form 4	152	2,661	49.8	43.47	56.16
Form 5	227	3,291	64.8	53.99	74.28

Table 3.5.5: Prevalence of having missed class due to toothache in the past 12 months among Form 1 to Form 5 students in Perlis, 2017.

Socio-demographic characteristics	Yes					No				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	184	3,148	11.7	8.65	15.55	1,482	23,849	88.3	84.45	91.35
Locality of school										
Urban	28	433	7.6	3.25	16.81	337	5,247	92.4	83.19	96.75
Rural	156	2,716	12.7	9.47	16.92	1,145	18,602	87.3	83.08	90.53
Sex										
Male	107	1,995	15.0	11.34	19.50	621	11,335	85.0	80.50	88.66
Female	77	1,153	8.4	5.63	12.47	861	12,514	91.6	87.53	94.37
Form										
Form 1	55	836	15.5	10.14	22.90	318	4,569	84.5	77.10	89.86
Form 2	34	691	12.3	7.69	19.07	267	4,936	87.7	80.93	92.31
Form 3	37	636	11.5	7.14	18.01	306	4,894	88.5	81.99	92.86
Form 4	30	552	10.3	6.91	15.19	273	4,790	89.7	84.81	93.09
Form 5	28	432	8.5	4.97	14.10	318	4,661	91.5	85.90	95.03

Table 3.5.6: Prevalence of avoidance of smiling or laughing due to the appearance of their teeth among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Yes					No				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	312	5,071	18.8	16.32	21.63	1,350	21,852	81.2	78.37	83.68
Locality of school										
Urban	71	1,100	19.4	15.92	23.50	293	4,563	80.6	76.50	84.08
Rural	241	3,970	18.7	15.68	22.09	1,057	17,290	81.3	77.91	84.32
Sex										
Male	125	2,319	17.5	13.23	22.72	600	10,953	82.5	77.28	86.77
Female	187	2,752	20.2	18.42	22.02	750	10,899	79.8	77.98	81.58
Form										
Form 1	83	1,237	23.0	17.13	30.17	288	4,139	77.0	69.83	82.87
Form 2	56	1,036	18.4	13.72	24.14	246	4,606	81.6	75.86	86.28
Form 3	56	913	16.6	12.13	22.40	285	4,576	83.4	77.60	87.87
Form 4	63	1,092	20.4	16.36	25.24	240	4,250	79.6	74.76	83.64
Form 5	54	793	15.6	12.61	19.19	291	4,282	84.4	80.81	87.39

Table 3.5.7: Prevalence of use of soap during hand washing in the past 30 days among Form 1 to Form 5 in Perlis, 2017

Socio-demographic characteristics	Never or rarely use soap during hand washing					Sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	150	2,495	9.2	7.08	11.97	372	6,116	22.7	19.98	25.57
Locality of school										
Urban	20	317	5.6	2.96	10.31	79	1,271	22.4	17.61	28.14
Rural	130	2,178	10.2	7.85	13.18	293	4,845	22.7	19.63	26.12
Sex										
Male	87	1,581	11.9	8.59	16.15	177	3,307	24.8	21.29	28.69
Female	63	914	6.7	5.03	8.84	195	2,810	20.6	17.82	23.59
Form										
Form 1	53	814	15.1	9.89	22.39	80	1,137	21.1	15.83	27.52
Form 2	26	490	8.7	4.53	16.02	71	1,340	23.8	20.06	27.89
Form 3	23	357	6.5	3.79	10.79	78	1,278	23.1	17.73	29.54
Form 4	23	443	8.3	4.56	14.59	77	1,373	25.7	20.07	32.28
Form 5	25	390	7.7	4.91	11.78	66	988	19.4	16.23	23.02

Table 3.5.7: Prevalence of use of soap during hand washing in the past 30 days among Form 1 to Form 5 in Perlis, 2017 (cont.)

Socio-demographic characteristics	Most of the times and Always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	1,144	18,387	68.1	64.32	71.66
Locality of school					
Urban	265	4,078	72.0	63.00	79.47
Rural	879	14,309	67.1	63.10	70.83
Sex					
Male	464	8,441	63.3	57.29	68.98
Female	680	9,945	72.8	69.12	76.11
Form					
Form 1	239	9,945	63.8	54.54	72.16
Form 2	205	3,441	67.6	60.02	74.29
Form 3	242	3,894	70.4	62.84	77.03
Form 4	203	3,526	66.0	59.25	72.17
Form 5	255	3,714	72.9	66.73	78.36

Table 3.5.8: Prevalence of handwashing before eating in the past 30 days among Form 1 to Form 5 students in Perlis, 2017 (cont.)

Socio-demographic characteristics	Never or rarely wash hands before eating					Sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	78	1,374	5.1	3.54	7.27	106	1,802	6.7	4.87	9.10
Locality of school										
Urban	21	350	6.2	2.73	13.34	17	268	4.7	2.34	9.31
Rural	57	1,024	4.8	3.24	7.07	89	1,534	7.2	5.14	10.00
Sex										
Male	57	1,061	8.0	5.42	11.57	62	1,163	8.7	5.84	12.87
Female	21	313	2.3	1.45	3.59	44	640	4.7	3.32	6.54
Form										
Form 1	29	466	8.6	5.00	14.56	30	468	8.7	5.27	13.99
Form 2	14	290	5.1	3.49	7.52	16	317	5.6	2.54	11.99
Form 3	14	255	4.6	2.08	9.90	17	305	5.5	3.36	8.91
Form 4	13	238	4.5	1.74	10.94	21	382	7.1	4.08	12.21
Form 5	8	125	2.5	1.17	5.08	22	331	6.5	4.68	8.96

Table 3.5.8: Prevalence of handwashing before eating in the past 30 days among Form 1 to Form 5 students in Perlis, 2017.

Socio-demographic characteristics	Most of the time and Always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	1,482	23,818	88.2	84.40	91.22
Locality of school					
Urban	327	5,061	89.1	78.32	94.88
Rural	1,155	18,757	88.0	83.74	91.26
Sex					
Male	608	11,089	83.3	77.07	88.09
Female	874	12,729	93.0	91.00	94.64
Form					
Form 1	313	4,454	82.7	73.63	89.06
Form 2	272	5,034	89.2	82.45	93.60
Form 3	312	4,970	89.9	83.00	94.18
Form 4	269	4,722	88.4	81.67	92.88
Form 5	316	4,636	91.0	88.26	93.22

Table 3.5.9: Prevalence of handwashing after using the toilet in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Never or rarely wash hands after using the toilet					Sometimes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	97	1,679	6.2	4.26	9.00	125	2,119	7.9	6.80	9.05
Locality of school										
Urban	16	255	4.5	1.87	10.41	19	322	5.7	4.00	7.98
Rural	81	1,424	6.7	4.44	9.94	106	1,797	8.4	7.45	9.54
Sex										
Male	59	1,108	8.3	5.18	13.12	63	1,194	9.0	7.58	10.59
Female	38	571	4.2	2.62	6.60	62	925	6.8	5.46	8.35
Form										
Form 1	31	488	9.1	5.15	15.43	33	485	9.0	6.75	11.91
Form 2	18	363	6.4	3.60	11.26	32	631	11.2	7.85	15.72
Form 3	17	312	5.6	3.28	9.54	22	345	6.2	4.22	9.15
Form 4	19	326	6.1	3.56	10.27	22	407	7.6	4.50	12.61
Form 5	12	190	3.7	2.11	6.53	16	251	4.9	3.01	7.98

Table 3.5.9: Prevalence of handwashing after using the toilet in the past 30 days among Form 1 to Form 5 students in Perlis, 2017.

Socio-demographic characteristics	Most of the times or Always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI Lower	95% CI Upper
PERLIS	1,444	23,191	85.9	83.26	88.23
Locality of school					
Urban	330	5,102	89.8	87.75	91.61
Rural	1,114	18,088	84.9	81.89	87.46
Sex					
Male	605	11,005	82.7	78.49	86.23
Female	839	12,185	89.1	86.50	91.19
Form					
Form 1	308	4,411	81.9	75.38	87.06
Form 2	252	4,646	82.4	76.76	86.86
Form 3	304	4,872	88.1	84.10	91.22
Form 4	262	4,609	86.3	80.41	90.60
Form 5	318	4,651	91.3	86.32	94.62

3.6 Internet Use and Addiction

Contributors: S. Maria Awaluddin, Normala Ibrahim, Chan Ying Ying, Rimah Melati Abd. Ghani, Amal Shamsudin, Wan Salwina Wan Ismail, Norharlina Bahar, Saidatul Norbaya Buang, Nik Rubiah Nik Abd. Rashid.

3.6.1 Introduction

Internet use has grown rapidly in Malaysia parallel with an increasing number of households having computers and mobile gadgets that are linked to internet access. It has been reported that the increase in internet use is more pronounced in urban than in rural areas. Major online activities include information seeking for educational, vocational and socializing purposes. Internet usage affects both adult and adolescent age groups equally compared to older age group.¹ Internet usage could be harmful to adolescents when it is not monitored or supervised by an adult. Uncontrolled use of internet has been linked to psychosocial problems such as addiction to online gaming, pornographic websites and social networking sites, not to mention exposing the adolescents to cyber-bullying environments. Excessive internet use and cyber bullying may in turn further worsen the mental health condition of these adolescents and predisposed them to depression, anxiety and stress.²

The terminology of internet addiction to describe excessive internet use has been debated and various tools have been developed to measure the internet addiction. The most widely used tool was the Internet Addiction Test (IAT) developed by Kimberly S. Young.³ The questionnaire consists of 20 items measured using a 5-point Likert scale (1=rarely, 2=occasionally, 3=frequently, 4=often and 5=always) with the highest possible score of 100. Internet addiction is defined as a person scoring 43 points or above. This questionnaire was validated in Bahasa Malaysia by Chong Guan et al in 2012 and was named Malay Version Internet Addiction Test (MVIAT).⁴ The (MVIAT) showed a good internal consistency (Cronbach's $\alpha = 0.91$, $P < 0.001$), parallel reliability (intra-class coefficient correlation=0.88, $P < 0.001$) and concurrent validity with Compulsive Internet Use Scale (Pearson's correlation= 0.84, $P < 0.00$).

3.6.2 Objectives

- i. To identify the prevalence of internet use among adolescents in the past 30 days
- ii. To identify the prevalence of internet addiction among adolescents
- iii. To identify the type of devices used by internet users and addicts

3.6.3 Variable Definitions

- **Internet Use:** Internet access using any internet connecting devices for the past 30 days.
- **Internet Addiction:** Using a self-administered 20-item Malay Version Internet Addiction Test (MVIAT) questionnaire, respondents with a total score of 43 or above (all items answered) were defined as having internet addiction.

3.6.4 Findings

There were 1,664 secondary school students in Perlis who responded to this module, of which 233 students did not surf the internet for the past 30 days and 1,384 students completed the MVIAT. The overall prevalence of internet use was 85.4% (95% CI: 79.53, 89.82) with an estimated projection to 23,023 school-going adolescents. In terms of school locality, students studying in urban areas (95.0%; 95% CI: 91.52, 97.14) had higher prevalence of internet use compared to students from rural areas (82.8%; 95% CI: 76.90, 87.50). There were 81.7% (95% CI: 74.23, 87.32) male students and 89.0% (95% CI: 83.63, 92.83) female students used internet in the past 30 days in Perlis (**Table 3.6.1**).

The prevalence of internet addiction among school-going adolescents in Perlis was 26.2% (95% CI: 21.37, 31.59). In terms of school locality, there was no significant difference in internet addiction between students studying in urban areas (34.2%; 95% CI: 28.14, 40.75) and students from rural areas (24.0%; 95% CI: 18.99, 29.89). There were 28.4% (95% CI: 22.88, 34.59) male students and 24.0% (95% CI: 18.72, 30.25) female students with positive MVIAT. There was no significant difference in the prevalence of internet addiction between students of different forms in Perlis (**Table 3.6.2**). Smartphone was the most prevalent device used by the internet users and addicts followed by the computer, laptop or notebook group and tablet or iPad group (**Table 3.6.3 & Table 3.6.4**).

3.6.5 Discussion/ Conclusion

The prevalence of internet usage and internet addiction in Perlis did not differ significantly compared to the national prevalence. Students in urban schools were observed as having a higher prevalence of internet usage, however there were no significant differences in terms of sex and form of the respondents. There was also no significant difference in the prevalence of internet addiction by form, school locality and sex of the respondents. Most of the students used smartphones to surf the internet.

3.6.6 Recommendations

1. The internet addiction problems among Malaysian students is considered as new health risk behaviour that needs further in-depth understanding on internet accessibility, usage, difference in type of content viewed by age, gender and ethnicity, psychosocial factors and role of significant adult supervision, peers and environment to assist in designing specific strategies in prevention program.
2. As internet use and addiction increase with age, it is important that adolescents develop self-awareness on sign of internet addiction and develop self-control against excessive internet usage. It is proposed that the component of self-awareness and control against excessive internet usage is to be integrated into the 'Click Wisely Program' which was introduced by the Malaysian Communication Multimedia Commission (MCMC).
3. Parents should be made aware on dangers of excessive internet usage by secondary students and its detrimental effects on students' health and social development. It is proposed that development of health-related information on the internet addiction should be designed specifically for students and parents. To ensure wide circulation of the messages, it is recommended that the Ministry of Health to collaborate with MCMC in disseminating the information through MCMC social network and Malaysian ICT volunteer (MIV) programs.
4. Smart partnerships with various agencies (governments, NGOs and private sectors) need to be enhanced to disseminate greater awareness on dangers of internet addiction and

safe usage of internet to children, adolescents, parents, teachers and the community at large to assist in promotive, preventive and early intervention of internet addiction.

3.6.7 References

1. Malaysian Communications and Multimedia Commission. Internet Users Survey 2016 [Internet]. 2016 [cited 2017 Dec 8]. Available from: <https://www.mcmc.gov.my/resources/statistics/internet-users-survey>
2. Gholamian B, Shahnazi H, Hassanzadeh A. The Prevalence of Internet Addiction and its Association with Depression, Anxiety, and Stress, among High-School Students. *Int J Pediatr.* 2017;5(4):4763–4770.
3. Young KS. Internet addiction: The emergence of a new clinical disorder. *Cyberpsychol Behav.* 1998;1(3):237–44.
4. Chong Guan N, Isa SM, Hashim AH, Pillai SK, Harbajan Singh MK. Validity of the Malay Version of the Internet Addiction Test: A Study on a Group of Medical Students in Malaysia. *Asia Pac J Public Health.* 2012;27(2):NP2210-NP2219.

Table 3.6.1: Prevalence of internet use in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Internet User				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	1,431	23,023	85.4	79.53	89.82
Locality of school					
Urban	347	5,398	95.0	91.52	97.14
Rural	1,084	17,625	82.8	76.90	87.50
Sex					
Male	593	10,839	81.7	74.23	87.32
Female	838	12,184	89.0	83.63	92.83
Form					
Form 1	287	4,100	76.1	64.09	85.00
Form 2	244	4,583	81.5	71.47	88.63
Form 3	315	5,028	90.9	85.57	94.42
Form 4	270	4,722	88.4	78.49	94.08
Form 5	315	4,590	90.5	81.93	95.20

Table 3.6.2: Prevalence of positive Malay Version Internet Addiction Test (MVIAT) among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Positive MVIAT				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	434	7,051	26.2	21.37	31.59
Locality of school					
Urban	124	1,941	34.2	28.14	40.75
Rural	310	5,110	24.0	18.99	29.89
Sex					
Male	208	3,765	28.4	22.88	34.59
Female	226	3,285	24.0	18.72	30.25
Form					
Form 1	77	1,181	21.9	15.75	29.65
Form 2	80	1,484	26.4	18.24	36.60
Form 3	86	1,354	24.5	17.26	33.50
Form 4	80	1,444	27.0	19.18	36.64
Form 5	111	1,587	31.3	24.56	38.89

Table 3.6.3: Percentage of reported devices used by internet user among Form 1 to Form 5 students in Perlis, 2017

Type of Devices	Unweighted Count	Percentage (%)	95% CI	
			Lower	Upper
Smartphone	1,331	93.0	90.81	94.66
Computer, Laptop, Notebook	796	55.7	48.12	63.07
Tablet, Ipad use	334	23.5	19.49	28.09

Table 3.6.4: Percentage of reported devices used by internet addict among Form 1 to Form 5 students in Perlis, 2017

Type of Devices	Unweighted Count	Percentage (%)	95% CI	
			Lower	Upper
Smartphone	405	92.9	86.60	96.34
Computer, Laptop, Notebook	256	59.2	51.40	66.54
Tablet, Ipad use	145	34.1	27.30	41.57

3.7 Mental Health Problems

Contributors: Noor Ani Ahmad, Muslimah Yusof, Mohamad Aznuddin Abd Razak, Noraida Mohamad Kasim, Fazly Azry Abdul Aziz, Rasidah Jamaluddin, Nurashikin Ibrahim.

3.7.1 Introduction

The World Health Organisation (WHO) estimates that one in five adolescents and children suffer from mental health problem and half of all mental illnesses begin by the age of 14.¹ In Malaysia, the National Health and Morbidity Survey (NHMS) 2015 reported prevalence of mental health problems among 16 to 19 years old of 34.7%, while among 10-15 years the prevalence was 11.4%.² In particular, WHO reported that suicide is the second leading cause of death among those youth.³ In 2011, NHMS observed that 2.4% of youth 16-24 years reported suicidal ideation.⁴

3.7.2 Objectives

- i. To identify the prevalence of loneliness in the past 12 months
- ii. To identify the prevalence of inability to sleep due to worry in the past 12 months
- iii. To identify the prevalence of suicidal ideation in the past 12 months
- iv. To identify the prevalence of suicidal plan in the past 12 months
- v. To identify the prevalence of suicidal attempt in the past 12 months
- vi. To identify the prevalence of not having close friend

3.7.3 Variable definitions

- **Lonely “most of the time or always”**: Responded either “most of the time” or “always” for felt lonely during past 12 months prior to the survey.
- **Unable to sleep “most of the time or always” due to worry**: Responded either “most of the time” or “always” for being worried about something that he/she could not sleep at night during past 12 months prior to the survey.
- **Suicidal ideation**: ever seriously considered attempting suicide in the past 12 months prior to the survey.
- **Suicidal plan**: made a plan of attempted suicide in the past 12 months prior to the survey.
- **Suicidal attempt**: attempted suicide at least once in the past 12 months prior to the survey.

- **No close friend:** Do not have any close friend

3.7.4 Findings

Overall, 7.7% (95%CI: 6.54, 9.06) of secondary school students in Perlis reported felt lonely “most of the time or always” (**Table 3.7.1**). A total of 6.3% (95% CI: 4.96, 8.02) reported unable to sleep “most of the time or always” due to worry (**Table 3.7.2**). In the past 12 months prior to the survey, suicidal ideation, plan and attempt, were reported by 8.8% (95% CI: 6.90, 11.19), 5.2% (95% CI: 3.50, 7.54), and 6.2% (95% CI: 4.04, 9.44) of students, respectively. **Table 3.6.6** showed that 3.8% (95% CI: 2.68, 5.47) of the students had no close friend. There was no significant difference in the prevalence by locality, sex or form for all these conditions.

3.7.5 Discussion/ Conclusion

The prevalence of being lonely, inability to sleep due to worry and “has no close friend” among secondary school students in Perlis increased from 7.0%, 5.0% and 2.9%, respectively in Perlis GSHS 2012⁵ to 7.7%, 6.3% and 3.8% in this current survey. Furthermore, this survey noted worsening of suicidal behaviours as compared to the prevalence in Perlis GSHS 2012.⁵ Suicidal ideation, plan and attempts increased from 5.8% to 8.8%, 4.9% to 5.2%, and 4.9% to 6.2%, respectively. The prevalence of suicidal behaviours in 2017 was lower than the national figures.

3.7.6 Recommendations

1. Screening of at-risk students by School Health Teams and referral for further management
2. Holistic intervention programmes targeted to students at risk of suicide
3. Strengthen students coping skills and resilience through interactive health promotion activities

3.7.7 References

1. Mental Health. Child and Adolescent mental health.
http://www.who.int/mental_health/maternal-child/child_adolescent/en/
2. Institute for Public Health (IPH). 2015. National Health and Morbidity Survey, NHMS 2015. Ministry of Health Malaysia

3. WHO Fact Sheet. Suicide. www.who.int/mediacentre/factsheets/fs398/en/. Updated on March 2017.
4. Institute for Public Health (IPH). 2011. National Health and Morbidity Survey, NHMS 2011. Ministry of Health Malaysia
5. Institute for Public Health (IPH). 2012. National Health and Morbidity Survey, NHMS 2012: Perlis Global School-based Student Health Survey 2012. Kuala Lumpur Ministry of Health Malaysia.

Table 3.7.1: Prevalence of loneliness "most of the time or always" in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	134	2,079	7.7	6.54	9.06
Locality of school					
Urban	31	457	8.0	5.44	11.75
Rural	103	1,622	7.6	6.37	9.09
Sex					
Male	50	896	6.7	4.81	9.36
Female	84	1,183	8.7	6.88	10.83
Form					
Form 1	38	571	10.6	6.62	16.61
Form 2	20	371	6.6	4.60	9.33
Form 3	22	326	5.9	2.62	12.73
Form 4	18	304	5.7	3.67	8.74
Form 5	36	507	10.0	6.71	14.61

Table 3.7.2: Prevalence of inability to sleep "most of the time or always" due to worry in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	105	1,706	6.3	4.96	8.02
Locality of school					
Urban	32	496	8.7	6.40	11.83
Rural	73	1,210	5.7	4.33	7.41
Sex					
Male	46	833	6.3	4.39	8.85
Female	59	873	6.4	4.66	8.69
Form					
Form 1	27	398	7.4	5.25	10.21
Form 2	19	344	6.1	4.28	8.61
Form 3	22	393	7.1	4.16	11.89
Form 4	14	237	4.4	2.69	7.23
Form 5	23	335	6.6	4.36	9.85

Table 3.7.3: Prevalence of suicidal ideation in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	141	2,374	8.8	6.90	11.19
Locality of school					
Urban	31	483	8.5	5.56	12.86
Rural	110	1,891	8.9	6.66	11.75
Sex					
Male	69	1,304	9.8	7.65	12.48
Female	72	1,070	7.8	5.44	11.16
Form					
Form 1	38	545	10.1	6.12	16.28
Form 2	25	489	8.7	6.22	12.04
Form 3	33	555	10.0	7.30	13.63
Form 4	20	384	7.2	3.74	13.37
Form 5	25	402	7.9	4.17	14.53

Table 3.7.4: Prevalence of suicidal plan in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	81	1,392	5.2	3.50	7.54
Locality of school					
Urban	20	316	5.6	2.31	12.78
Rural	61	1,076	5.0	3.28	7.69
Sex					
Male	43	797	6.0	3.73	9.46
Female	38	595	4.4	2.56	7.32
Form					
Form 1	24	371	6.9	3.08	14.60
Form 2	15	281	5.0	2.64	9.21
Form 3	13	227	4.1	2.43	6.87
Form 4	12	247	4.6	1.92	10.70
Form 5	17	266	5.2	3.12	8.62

Table 3.7.5: Prevalence of suicidal attempt "at least once" in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	100	1,675	6.2	4.04	9.44
Locality of school					
Urban	25	403	7.1	2.58	18.15
Rural	75	1,272	6.0	3.75	9.39
Sex					
Male	59	1,074	8.1	4.94	12.95
Female	41	601	4.4	2.86	6.70
Form					
Form 1	46	726	13.6	7.64	22.95
Form 2	14	259	4.6	2.19	9.34
Form 3	17	308	5.6	2.31	12.80
Form 4	13	243	4.5	2.57	7.92
Form 5	10	140	2.8	1.60	4.71

Table 3.7.6: Prevalence of not having any close friend among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	unweighted count	Estimated population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	61	1,034	3.8	2.68	5.47
Locality of school					
Urban	12	192	3.4	1.51	7.41
Rural	49	842	4.0	2.65	5.87
Sex					
Male	31	572	4.3	2.90	6.31
Female	30	462	3.4	2.11	5.41
Form					
Form 1	20	311	5.8	3.38	9.76
Form 2	6	122	2.2	1.08	4.29
Form 3	13	216	3.9	2.38	6.41
Form 4	11	216	4.0	1.89	8.48
Form 5	11	169	3.3	1.94	5.59

3.8 Physical Activity

Contributors: Lim Kuang Kuay, Mohd Azahadi Omar, Chan Ying Ying, Chandrika A/p Jeevananthan, Azli Baharudin @Shaharuddin, Nazirah Alias

3.8.1 Introduction

Physical inactivity is a public health problem worldwide and is the fourth leading cause of death worldwide.¹ It is an important contributor to major non-communicable diseases.^{2,3} Sufficient physical activity has substantial health benefits for children and adolescents in terms of improving cardiovascular health⁴, mental health⁵ and academic performance⁶. Despite these established benefits, a substantial proportion of young people fail to meet physical activity guidelines.

3.8.2 Objectives

1. To identify the prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days,
2. To identify the prevalence of spending at least three hours in sitting activities in a typical or usual day

3.8.3 Variable Definitions

- **Physical activity:** any activity that increases the heart rate and makes one breathe hard. Examples of physical activities include sports, playing with friends, walking to school, running, fast walking, biking or dancing.
- **Physically active:** physically active for at least 60 minutes per day, for a minimum of five days per week (sum of all the time spent in any kind of physical activity each day).

3.8.4 Findings

There were 1,661 secondary school students who responded to this module. The prevalence of being physically active for a total of at least 60 minutes daily for five days or more in the past seven days was 21.2% (95% CI: 19.28, 23.26), with an estimated projection to 5,707 school-going adolescents. In terms of school locality, there was no significant difference between urban areas [21.1% (95% CI: 17.17, 25.63)] and rural areas [21.2% (95% CI: 19.06, 23.57)]. By sex, the prevalence

was significantly higher in males [27.0% (95% CI: 23.83, 30.34)] than in females [15.6% (95% CI: 13.42, 18.07)]. Form 5 had the highest prevalence [24.7% (95% CI: 20.46, 29.58)], followed by Form 4 [22.0% (95% CI: 17.66, 27.03)] and Form 3 [21.8% (95% CI: 17.71, 26.61)] (**Table 3.8.1**).

Regarding sitting activities, the prevalence of spending at least three hours in a typical or usual day in sitting activities was 44.9% (95% CI: 42.49, 47.25). In terms of school locality, it was significantly higher in urban areas [52.9% (95% CI: 47.73, 57.95)] compared to rural areas [42.7% (95% CI: 40.05, 45.44)]. By sex, the prevalence among males [41.7% (95% CI: 38.17, 45.28)] was lower than females [48.0% (95% CI: 44.78, 51.14)]. Form 5 had the highest prevalence [53.1% (95% CI: 47.81, 58.37)], followed by Form 3 [50.3% (95% CI: 44.86, 55.69)] and Form 4 [46.2% (95% CI: 40.68, 51.83)] (**Table 3.8.2**).

3.8.5 Discussion/ Conclusion

The prevalence of school-going adolescents being physically active for a total of at least 60 minutes daily for five days or more in the past seven days in Perlis [21.2% (95% CI: 19.28, 23.26)] was higher than the national prevalence [19.8% (95% CI: 19.21, 20.40)] but lower than the previous Perlis GSHS 2012⁷ [22.4% (95% CI: 16.92, 29.15)]. Male students were more active than female students. However, there were no significant differences in terms of locality and form. The prevalence of students who spent at least three hours in sitting activities in a typical or usual day [44.9% (95% CI: 42.49, 47.25)] was lower than the national prevalence [50.1% (95% CI: 49.38, 50.85)] and comparable to the previous Perlis GSHS 2012⁷ [44.7% (95% CI: 34.69, 55.20)]. It was significantly higher in urban areas. However, there were no significant differences in terms of sex and form of the students.

3.8.6 Recommendations

Schools represent an important setting for promoting physical activity as the adolescents spend approximately half of their waking day at school. Development of creative and innovative “school-based interventions” such as engaging social media to promote healthy lifestyles particularly on increasing physical activity need to be explored.

3.8.7 References

1. Cora LC, Estelle VL, Shigeru I, Jasem RA, Grit L, Sonja K. The pandemic of physical inactivity: global action for public health. *The Lancet*. 2012; 380(9838): 294-305.
2. Farid AWG, Mohamed RA, Ayesha AR, Mohd I. The Prevalence of Physical Activity and Sedentary Lifestyle among Adolescents in Palestine. *Can. J. Basic Appl. Sci.* 2013;03 (01):135-144.
3. Sharif R, Chong KH, Zakaria NH, Ong ML, Reilly JJ, Wong JE, Saad HA, Poh BK. Results From Malaysia's 2016 Report Card on Physical Activity for Children and Adolescents. *J Phys Act Health*. 2016; 13(11): S201-S205.
4. Ekelund U, Luan J, Sherar LB, Esliger DW, Griew P, Cooper A. Moderate to vigorous physical activity and sedentary time and cardiometabolic risk factors in children and adolescents. *JAMA*. 2012;307: 704–712.
5. Biddle SJH, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. *Br J Sports Med*. 2011; 45: 886–895.
6. Singh A, Uijtdewilligen L, Twisk JWR, van Mechelen W, Chinapaw MJM. Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment. *Arch Pediatr Adolesc Med*. 2012; 166: 49–55.
7. Institute for Public Health (IPH). *The National Health and Morbidity Survey: Malaysia Global School-based Student Health Survey 2012*. Kuala Lumpur: Ministry of Health Malaysia.

Table 3.8.1 : Prevalence of being physically active (60 minutes daily) for a total of at least 5 days or more among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	Physically Active for at least 5 days or more				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	342	5,707	21.2	19.28	23.26
Locality of school					
Urban	270	1,195	21.1	17.17	25.63
Rural	72	4,512	21.2	19.06	23.57
Sex					
Male	196	3,577	27.0	23.83	30.34
Female	146	2,131	15.6	13.42	18.07
Form					
Form 1	59	864	16.2	12.71	20.39
Form 2	61	1,206	21.4	17.10	26.36
Form 3	73	1,204	21.8	17.71	26.61
Form 4	66	1,175	22.0	17.66	27.03
Form 5	83	1,260	24.7	20.46	29.58

Table 3.8.2: Prevalence of spending at least 3 hours in sitting activities, Form 1 to Form 5 students in Perlis, 2017

Socio-demographic characteristics	spending at least 3 hours on sedentary activities				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	755	12,079	44.9	42.49	47.25
Locality of school					
Urban	194	2,995	52.9	47.73	57.95
Rural	561	9,085	42.7	40.05	45.44
Sex					
Male	306	5,541	41.7	38.17	45.28
Female	449	6,538	48.0	44.78	51.14
Form					
Form 1	133	1,956	36.4	31.60	41.43
Form 2	124	2,185	38.9	33.70	44.34
Form 3	173	2,774	50.3	44.86	55.69
Form 4	141	2,459	46.2	40.68	51.83
Form 5	184	2,705	53.1	47.81	58.37

3.9. Protective Factors

Contributors: Faizah Paiwai, S Maria Awaluddin, Nur Azna Mahmud, Noor Aliza Lodz, Norzawati Yoep

3.9.1 Introduction

According to Centre for Disease Control and Prevention (CDC), protective factors are individual or environmental characteristics, conditions, or behaviours that reduce the effects of stressful life events.¹ Important protective factors such as parental attachment and peer support especially for adolescence could influence their attitude and behaviour. Research has shown that adolescent attachment and relationships with parents and peers as well as schools they attend is a predictor of their psychological well-being.² Protective factor could help avoid unhealthy behaviours such as violence, sexual risk behaviours, tobacco use and drug abuse.³ In order to measure the level of protective factors among school students, truancy is seen as an indicator, which is monitored by lower prevalence, as truancy often acts as the initial behaviour that can lead to other risky behaviour.⁴

3.9.2 Objectives

To identify prevalence of:

- i. Truancy in the past 30 days
- ii. Peer support in the past 30 days
- iii. Parental or guardian supervision in the past 30 days
- iv. Parental or guardian connectedness in the past 30 days
- v. Parental or guardian bonding in the past 30 days,
- vi. Parental or guardian respect for privacy in the past 30 days,

3.9.3 Variable Definitions

- **Truancy:** missed class or school without permission for at least one day in the past 30 days. (This variable is monitored with lower prevalence to define as protective factors)
- **Peer support:** students in their school were kind and helpful most of the time or always during the past 30 days.

- **Parental or guardian supervision:** parents or guardians had always or most of the time, checked to see if their homework was done in the past 30 days.
- **Parental or guardian connectedness:** parents or guardians had always or most of the time, understood their problems and worries in the past 30 days.
- **Parental or guardian bonding:** parents or guardians had always or most of the time, really knew what they were doing with their free time in the past 30 days.
- **Parental or guardian respect for privacy:** parents or guardians had never or rarely gone through their things without their approval in the past 30 days.

3.9.4 Findings

In Perlis, the prevalence of truancy among students in the past 30 days was 35.1% (95% CI: 27.46, 43.69) of which males was 40.3% (95% CI: 32.77, 48.38) and females was 30.1% (95% CI: 20.69, 41.56). Prevalence of truancy according to forms was [34.1% (95% CI: 22.31, 48.27), 38.6% (95% CI: 29.11, 48.97), 27.8% (95% CI: 19.07, 38.68), 38.7% (95% CI: 29.97, 48.32) and 36.6% (95% CI: 25.82, 48.96) from Form 1 to Form 5 respectively. In terms of school locality, prevalence of truancy in rural areas was 35.0% (95% CI: 25.53, 43.73) and urban areas was 35.8% (95% CI: 30.07, 42.07) (**Table 3.9.1**).

Overall, prevalence of having peer support among students in Perlis was 40.5% (95% CI: 34.28, 47.09); of which 32.5% (95% CI: 27.63, 37.68) in males, 48.4% (95% CI: 40.58, 56.25) in females (**Table 3.9.2**). Total prevalence of having parental or guardian supervision was 16.9% (95% CI: 14.26, 19.99) which was 17.2% (95% CI: 14.79, 19.92) in males, 16.7% (95% CI: 12.71, 21.57) in females (**Table 3.9.3**). The overall prevalence of having parental or guardian connectedness was 36.7% (95% CI: 30.96, 42.77) of which 32.6% (95% CI: 27.83, 37.66) in males and 40.7% (95% CI: 33.39, 48.36) in females. In term of school locality, prevalence of having parental or guardian connectedness was 35.2% (95% CI: 24.00, 48.28) in urban areas and 37.1% (95% CI: 30.61, 44.01) in rural areas (**Table 3.9.4**). The overall prevalence of having parental or guardian bonding was 41.3% (95% CI: 36.68, 46.13) which was 37.8% (95% CI: 32.26, 43.66) in males, 44.8% (95% CI: 40.06, 49.57) in females (**Table 3.9.5**). A total of 70.3% (95% CI: 67.52, 72.93) students reported having parental or guardian respect for privacy, 65.0% (95% CI: 61.82, 68.12) in males, 75.4% (95% CI: 71.67, 78.86) in (**Table 3.9.6**).

3.9.5 Discussions/ Conclusion

Prevalence of truancy and protective factors (peer support, parental or guardian supervision, parental or guardian connectedness, parental or guardian bonding and parental or guardian respect for privacy) among student in Perlis within the past 30 days shows no significant difference from the national prevalence. There were also no significant difference in the prevalence of truancy and protective factors reported between the national AHS 2017 and Perlis GSHS 2012.⁵

3.9.6 Recommendations

1. Monitoring attendance closely by participation of schools, parent and local organizations through enforcement of mandatory attendance law allows identification of at risk and truancy behaviour among school students.
2. Positive reinforcement which focuses on the positive points of behavior will encourage children to improve peer support, self-control and respect for others.
3. Establishment of school programs that need parent's supervision will help in improving the parenting skills especially in parental attachment.
4. Development of interventions that strengthen the protective factors among school students is important and more effective in reducing risk in order to improve the outcomes experienced by the students

3.9.7 References

1. Centers for Disease Control and Prevention. School Connectedness: Strategies for Increasing Protective Factors Among Youth. Atlanta, GA: U.S. Department of Health & Human Services; 2009. <https://www.cdc.gov/healthyyouth/protective/>. Accessed on 9 August 2017
2. Oldfield J, Humphrey N, Hebron J. The role of parental and peer attachment relationships and school connectedness in predicting adolescent mental health outcomes. *Child and Adolescent Mental Health*. 2016 Feb 1;21(1):21-9.
3. Ferreira M, Gaspar de Matos M, Diniz JA. The Influenced of Risk and Protective Factors on Tobacco, Alcohol and Drugs in Adolescence. *Risk*. 2013; 6.

4. Rocque M, Jennings WG, Piquero AR, Ozkan T, Farrington DP. The importance of school attendance: Findings from the Cambridge Study in Delinquent Development on the Life-Course Effects of Truancy. *Crime & Delinquency*. 2017 May; 63(5):592-612.
5. Institute for Public Health (IPH) 2012. The National Health and Morbidity Survey: Malaysia Global School-based Student Health Survey 2012. Kuala Lumpur: Ministry of Health Malaysia.

Table 3.9.1 : Prevalence of truancy *(one or more days) in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Truancy				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	573	9,481	35.1	27.46	43.69
Locality of school					
Urban	128	2,030	35.8	30.07	42.07
Rural	445	7,451	35.0	25.53	45.73
Sex					
Male	295	5,362	40.3	32.77	48.38
Female	278	4,119	30.1	20.69	41.56
Form					
Form 1	120	1,844	34.1	22.31	48.27
Form 2	114	2,176	38.6	29.11	48.97
Form 3	93	1,534	27.8	19.07	38.68
Form 4	116	2,063	38.7	29.97	48.32
Form 5	130	1,865	36.6	25.82	48.96

Table 3.9.2 : Prevalence of peer support in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	*Most of the time or always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	696	10,940	40.5	34.28	47.09
Locality of school					
Urban	158	2,351	41.5	31.10	52.75
Rural	538	8,589	40.3	32.96	48.03
Sex					
Male	240	4,320	32.5	27.63	37.68
Female	456	6,619	48.4	40.58	56.25
Form					
Form 1	126	1,776	33.0	26.09	40.64
Form 2	126	2,265	40.2	30.39	50.76
Form 3	146	2,233	40.4	29.33	52.50
Form 4	131	2,272	42.5	34.30	51.19
Form 5	167	2,394	47.0	34.84	59.53

Table 3.9.3 : Prevalence of parental or guardian supervision in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	*Most of the time or always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	278	4,569	16.9	14.26	19.99
Locality of school					
Urban	57	870	15.3	12.01	19.36
Rural	221	3,698	17.4	14.19	21.07
Sex					
Male	125	2,290	17.2	14.79	19.92
Female	153	2,279	16.7	12.71	21.57
Form					
Form 1	82	1,179	21.9	16.17	28.93
Form 2	63	1,171	20.8	14.20	29.45
Form 3	59	1,007	18.2	13.72	23.74
Form 4	33	594	11.1	6.74	17.83
Form 5	41	618	12.1	8.90	16.32

Table 3.9.4 : Prevalence of parental or guardian connectedness in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	*Most of the time or always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	612	9,877	36.7	30.96	42.77
Locality of school					
Urban	130	1,999	35.2	24.00	48.28
Rural	482	7,878	37.1	30.61	44.01
Sex					
Male	234	4,321	32.6	27.83	37.66
Female	378	5,556	40.7	33.39	48.36
Form					
Form 1	138	1,987	37.0	28.09	46.94
Form 2	110	2,044	36.2	27.35	46.17
Form 3	124	1,993	36.0	29.42	43.23
Form 4	117	2,056	38.7	30.70	47.45
Form 5	123	1,797	35.3	29.62	41.40

Table 3.9.5 : Prevalence of parental or guardian bonding in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	*Most of the time or always				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	698	11,136	41.3	36.68	46.13
Locality of school					
Urban	164	2,513	44.2	31.09	58.26
Rural	534	8,623	40.5	36.07	45.19
Sex					
Male	278	5,022	37.8	32.26	43.66
Female	420	6,114	44.8	40.06	49.57
Form					
Form 1	164	2,346	43.9	36.70	51.44
Form 2	130	2,392	42.4	35.47	49.64
Form 3	130	2,112	38.2	30.68	46.33
Form 4	122	2,097	39.2	30.28	49.01
Form 5	152	2,189	43.0	35.69	50.59

Table 3.9.6 : Prevalence of parental or guardian respect for privacy in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Never or rarely				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	1,182	18,871	70.3	67.52	72.93
Locality of school					
Urban	255	3,961	70.5	61.36	78.32
Rural	927	14,910	70.2	67.60	72.74
Sex					
Male	474	8,630	65.0	61.82	68.12
Female	708	10,241	75.4	71.67	78.86
Form					
Form 1	242	3,451	64.7	58.54	70.34
Form 2	202	3,750	66.7	60.16	72.61
Form 3	253	3,961	72.3	67.20	76.83
Form 4	220	3,834	71.8	62.86	79.25
Form 5	265	3,875	76.6	71.44	81.04

3.10 Sexual Behaviours that contribute to HIV Infection, Other STIs and Unintended Pregnancy

Contributors: Maisarah Omar, Noor Aliza Lodz, Noraida Mohamad Kasim, S Maria Awaluddin, Noor Ani Ahmad, Nik Rubiah Nik Abdul Rashid

3.10.1 Introduction

The WHO reported that 10% to 40% of young unmarried girls aged 13 to 19 years to have had an unintended pregnancy.¹ It was also reported that the highest rate of Sexual Transmitted Illness (STI) worldwide are among young people aged 15 to 24 years.² In Malaysia, Ministry of Health revealed that 12,492 teenage pregnancies were recorded in 2016. Therefore, sexual intercourse among school aged students is a public health concern in Malaysia due to the alarming numbers of the teenage unintended pregnancies and Sexual Transmitted Illness (STI) from this age group.^{2,3}

3.10.2 Objectives

To identify prevalence of:

- i. Current sexual intercourse in the past 30 days among Form 1 to Form 5 students in Malaysia.
- ii. Ever having sexual intercourse among Form 1 to Form 5 students in Malaysia.
- iii. First sexual experience before the age 14 years among those who ever had sex.
- iv. Having at least two sexual partners among those who ever had sex.
- v. Condom use during the last sexual intercourse among those who ever had sex.
- vi. Use of "other birth control methods" during the last sexual intercourse among those who ever had sex.

3.10.3 Variable Definitions

- **Sexual intercourse:** sexual acts of penetration of penis into vagina or anus.
- **Safe sexual practice:** sexual contact that doesn't involve the exchange of semen, vaginal fluids or blood between partners.

3.10.4 Findings

Prevalence of ever-had sex among Form 1 to Form 5 students in Perlis was 8.4% (95% CI: 6.65, 10.64). Prevalence of ever-had sex among male students were 11.5% (95% CI: 8.72, 15.11) while female students were at 5.4% (95% CI: 3.96, 7.35). Form 1 students showed the highest prevalence of 13.3% (95% CI: 6.62, 24.76) (**Table 3.10.1**). The prevalence of Form 1 to Form 5 students that were currently having sexual intercourse in Perlis was 5.4% (95% CI: 4.16, 6.97). Form 1 students showed the highest prevalence of 8.9% (95% CI: 4.75, 15.90) compared to other forms (**Table 3.10.2**).

Of those who ever-had sex, 45.7% (95% CI: 35.25, 56.49) of them had sex before the age of 14 years. Form 1 students showed the highest percentage at 65.4% (95% CI: 44.39, 81.69) (**Table 3.10.3**). It was noted that 18.5% (95% CI: 9.77, 32.16) of those who were ever-had sex, had at least two sexual partners in which, male students were 24.6% (95% CI: 11.50, 44.98) and females were 5.9% (95% CI: 1.77, 17.95) (**Table 3.10.4**). Only 13.7% (95% CI: 8.94, 20.35) of those who ever-had sex used condom during their last sexual intercourse while 12.0% (95% CI: 6.59, 20.98) used other birth control methods (**Table 3.10.5 & Table 3.10.6**).

3.10.5 Discussion/ Conclusion

The prevalence of ever-had sexual intercourse in Perlis AHS 2017 (8.4%) was higher as compared to the national prevalence in 2017 (7.3%) and the previous Perlis GSHS in 2012⁴ (7.2%).

3.10.6 Recommendations

1. To strengthen sexual health education especially among students and to educate them regarding the complications of unsafe sex.
2. To conduct more studies especially qualitative studies in exploring the sexual orientation of the students, abortion and unintended pregnancy.
3. To strengthen and actively provide services of our adolescent health screening (BSSK) in schools.

3.10.7 References

1. The Lancet's Maternal Survival and Women Deliver Series 2006/2007: 2005 World Health Report
2. Satterwhite CL, Torrone E, Meites E, Dunne EF, Mahajan R, Ocfemia MC, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. *Sex Transm Dis.* 2013;40(3):187-93.
3. Family Health Development Division, Ministry of Health Malaysia, 2016.
4. Institute for Public Health(IPH) 2012.The National Health and Morbidity Survey: Malaysia Global School Based Student Health Survey 2012.Kuala Lumpur: Ministry of Health Malaysia

Table 3.10.1 : Prevalence of ever had sexual intercourse among students Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	ever had sexual intercourse				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	136	2,275	8.4	6.65	10.64
Locality of school					
Urban	22	349	6.2	2.49	14.42
Rural	114	1,926	9.0	7.12	11.42
Sex					
Male	87	1,536	11.5	8.72	15.11
Female	49	740	5.4	3.96	7.35
Form					
Form 1	47	716	13.3	6.62	24.76
Form 2	23	461	8.2	4.92	13.40
Form 3	21	347	6.3	3.93	9.90
Form 4	19	331	6.2	3.72	10.16
Form 5	26	419	8.3	4.76	13.94

Table 3.10.2 : Prevalence of current sexual intercourse in the past 30 days among students Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	current sexual intercourse				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	89	1,456	5.4	4.16	6.97
Locality of school					
Urban	14	216	3.8	1.78	7.91
Rural	75	1,240	5.8	4.37	7.71
Sex					
Male	51	894	6.7	4.64	9.60
Female	38	563	4.1	2.92	5.78
Form					
Form 1	32	478	8.9	4.75	15.90
Form 2	16	318	5.6	3.79	8.33
Form 3	12	187	3.4	1.43	7.80
Form 4	13	228	4.3	2.52	7.14
Form 5	16	244	4.8	2.87	7.96

Table 3.10.3 : Percentage of first sex before the age of 14 years among those who ever had sex among students Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	Percentage of first sex before the age 14 years among those who ever had sex				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	60	1,019	45.7	35.25	56.49
Locality of school					
Urban	16	253	72.5	42.54	90.33
Rural	44	766	40.1	32.19	48.49
Sex					
Male	46	797	52.4	36.39	67.99
Female	14	221	29.9	15.28	50.29
Form					
Form 1	29	458	65.4	44.39	81.69
Form 2	9	186	40.4	22.82	60.77
Form 3	7	128	36.9	12.96	69.71
Form 4	7	118	35.8	16.67	60.75
Form 5	8	127	30.4	14.35	53.32

Table 3.10.4 : Percentage of having at least two sexual partners among students who ever had sex Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	Percentage of having at least two sexual partners among those who ever had sex				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	24	418	18.5	9.77	32.16
Locality of school					
Urban	9	152	43.5	17.12	74.16
Rural	15	266	13.9	7.50	24.32
Sex					
Male	21	374	24.6	11.50	44.98
Female	3	44	5.9	1.77	17.95
Form					
Form 1	13	208	29.7	14.12	52.01
Form 2	4	90	19.5	4.85	53.38
Form 3	-	-	-	-	-
Form 4	-	-	-	-	-
Form 5	7	120	28.6	11.40	55.39

Table 3.10.5 : Percentage of reported condom use during the last sexual intercourse among students who ever had sex Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	condom use				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	19	309	13.7	8.94	20.35
Locality of school					
Urban	3	43	12.9	6.63	23.49
Rural	16	266	13.8	8.11	22.53
Sex					
Male	15	252	16.6	9.83	26.60
Female	4	57	7.7	2.70	19.98
Form					
Form 1	11	166	23.2	11.85	40.53
Form 2	2	46	9.9	2.08	36.17
Form 3					
Form 4	2	31	9.8	2.45	32.02
Form 5	4	66	15.7	3.47	49.13

Table 3.10.6 : Percentage of reported using "other birth control methods" during the last sexual intercourse among students who ever had sex Form 1 to Form 5, Perlis 2017

Socio-demographic characteristics	other birth control methods				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	16	272	12.0	6.59	20.98
Locality of school					
Urban	2	31	9.2	3.72	21.07
Rural	14	241	12.5	6.36	23.18
Sex					
Male	14	243	16.0	7.82	29.88
Female	2	29	4.0	0.90	15.74
Form					
Form 1	8	128	17.9	8.84	32.77
Form 2	1	22	4.8	0.45	35.78
Form 3	4	74	21.2	5.32	56.21
Form 4	1	15	4.9	0.66	28.39
Form 5	2	33	7.8	1.60	30.77

3.11 Tobacco Use

Contributors: Muhammad Fadhli Bin Mohd Yusoff, Jane Ling Miaw Yn, Tee Guat Hiong, Noraryana Binti Hassan, Nizam Bin Baharom, Wan Shakira Rodzlan Hasani, Tania Gayle Robert, Halizah Mat Rifin, Hamizatul Akmal Abd Hamid, Abdul Aiman Abd Ghani, Hasimah Ismail, Thamil Arasu Saminathan, Nur Liana Ab. Majid.

3.11.1 Introduction

Most smokers experimented and started smoking during their school aged days. For example, in Malaysian Global Adults Tobacco Survey (GATS) 2011, 51.8% of the smokers started smoking daily before the age of 18.¹ Therefore, monitoring tobacco use among Malaysian adolescents is an important process in tobacco control. Malaysia is committed with the implementation of the WHO Framework Convention on Tobacco Control to achieve targeted lower smoking prevalence and creating smokefree Malaysian generations.

3.11.2 Objectives

To identify the prevalence of:

- i. Current smokers
- ii. Current cigarette smokers
- iii. Current E-cigarette/vape users
- iv. Current any tobacco product users
- v. Current smoke and smokeless tobacco product use by types
- vi. Having tried a cigarette before the age of 14 years, among ever cigarette smokers
- vii. Having tried E-cigarettes or vape before the age of 14 years, among ever E-cigarette or vape users
- viii. Quit smoking attempt in the past 12 months among those who ever smoked cigarettes
- ix. Quit E-cigarettes or vape attempt in the past 12 months among those who ever used E-cigarettes or vape
- x. Having been exposed to people smoking in their presence for at least one day in the past seven days
- xi. Having parents or guardians who used any form of tobacco products

- xii. Having parents or guardians who used E-cigarettes or vape

3.11.3 Variable Definitions

- **Current smoker:** Used any smoked tobacco products in the past 30 days (Manufactured cigarette, Roll-your-own cigarette, Traditional hand-rolled cigarette, Shisha, Cigar, or Pipe).
- **Current cigarette smoker:** smoked manufactured cigarette, rolled-your-own, or traditional hand roll cigarette in the past 30 days.
- **Current E-cigarette/Vape user:** Used E-cigarette/Vape in the past 30 days.
- **Current any tobacco product user:** Used any tobacco products in the past 30 days (Manufactured cigarette, Roll-your-own cigarette, Traditional hand-rolled cigarette, Shisha, Cigar, and Pipe, E-cigarette/Vape, Chewing tobacco or Snuff)

3.11.4 Findings

The prevalence of current smokers was 17.9% (95% CI: 13.64, 23.09) (**Table 3.11.1**). The prevalence was significantly higher among males (29.3%; 95% CI: 23.37, 35.93) as compared to females (6.8%; 95% CI 4.56, 10.04). Form 5 students had the highest prevalence of 22.3% (95% CI: 13.77, 33.98) with no significant difference across all forms.

The prevalence of current cigarettes smokers was 16.0% (95% CI: 12.17, 20.66) (**Table 3.11.2**). The prevalence was significantly higher in males (26.6%; 95% CI: 21.28, 32.79) than females (5.6%; 95% CI: 3.45, 8.81). Form 1 students reported highest prevalence (20.4%; 95% CI 12.31, 31.87) but no significant difference compared to the other forms. Among those who ever smoked cigarettes, 74.7% (95%CI: 63.99, 83.03) had first tried a cigarette before the age of 14 years, with no significant difference by gender (**Table 3.11.6**).

Overall, 23.5% (95% CI: 18.40, 29.56) currently use any tobacco products (**Table 3.11.3**). Males (37.0%; 95% CI: 30.78, 43.69) had significantly higher prevalence compared to females (10.4%; 95% CI: 6.75, 15.68). Form 1 students reported highest prevalence (27.4%; 95% CI 16.97, 40.95) compared to the other forms.

The prevalence of using shisha/hookah in the past 30 days was 8.7% (95% CI: 6.60, 11.46) (**Table 3.11.5**). Males (8.7%; 95% CI: 5.53, 13.39) had significantly higher prevalence compared to females (8.7%; 95% CI: 6.26, 12.07). The prevalence of traditional rolled cigarette use was 10.4% (95% CI: 7.72, 13.78) (**Table 3.11.5**). Males (17.0%; 95% CI: 12.79, 22.27) had significantly higher prevalence compared to females (3.9%; 95% CI: 2.80, 5.37). The prevalence of rolled your own was 4.6% (95% CI: 3.64, 5.69) (**Table 3.11.5**). Males (6.1%; 95% CI: 4.44, 8.26) had significantly higher prevalence compared to females (3.1%; 95% CI: 2.19, 4.30). 3.9% (95% CI: 2.84, 5.25) of the students used cigar with no significant difference across gender (**Table 3.11.5**). The prevalence of using pipe was 3.9% (95% CI: 3.06, 4.84) with no significant difference across gender (**Table 3.11.5**).

Among those who smoked cigarettes in the past 12 months, 72.7% (95% CI: 61.26, 81.84) had tried to stop smoking (**Table 3.11.8**). Males (80.5%; 95% CI: 71.28, 87.24) had significantly higher prevalence compared to females (26.1%; 95% CI: 13.51, 44.29). Form 4 students had the highest prevalence (76.8%; 95% CI: 55.38, 89.83) compared to the other forms.

A total of 45.1% (95% CI: 38.27, 52.03) reported having been exposed to people who smoked in their presence in the past 7 days (**Table 3.11.10**). Males (56.3%; 95% CI: 48.20, 64.01) had significantly higher prevalence compared to females (34.1%; 95% CI: 26.80, 42.34). Form 5 students reported highest prevalence (58.2%; 95% CI 49.47, 66.47) compared to other forms.

Overall, 47.9% (95% CI: 42.18, 53.72) of students reported having parents or guardian who used any form of tobacco products with no significant difference across gender (**Table 3.11.11**). Form 1 students had the highest prevalence (50.5%; 95% CI 44.00, 57.01) compared to other forms.

The prevalence of current E-cigarette use was 9.2% (95% CI: 6.27, 13.33) (**Table 3.11.4**). Males reported significantly higher prevalence 16.5% (95% CI: 12.25, 21.94) compared to females 2.1% (95% CI: 0.82, 5.19). Form 1 students had the highest prevalence (12.3%; 95% CI 5.96, 23.72) compared to the other forms. Among those who ever smoked e-cigarette/vape, 46.1% (95%CI: 34.46, 58.18) had first tried e-cigarette/vape before the age of 14 years, with no significant difference by gender (**Table 3.11.7**).

Among those who used e-cigarette/vape in the past 12 months, 53.0% (95% CI: 39.12, 66.37) had tried to stop using e-cigarette/vape (**Table 3.11.9**). There was no significant difference across gender. Form 5 students had the highest prevalence (71.3%; 95% CI 40.18, 90.16) compared to other forms.

Overall, 14.9% (95% CI: 11.85, 18.58) of students reported having parents or guardian who used e-cigarette/vape with no significant difference across gender (**Table 3.11.12**). Form 1 students had the highest prevalence (20.6%; 95% CI 15.14, 27.44) compared to other form.

The prevalence of chewing tobacco was 3.6% (95% CI: 2.65, 4.80) with no significant difference across gender (**Table 3.11.5**). The prevalence of **snuff use** was 8.5% (95% CI: 6.73, 10.64) with no significant difference across gender (**Table 3.11.5**).

3.11.5 Discussion/Conclusion

The prevalence of cigarette smoking in Perlis was not significantly different compared to the national prevalence. Similarly, the prevalence of having tried a cigarette before the age of 14 among ever smokers and the prevalence of having been exposed to people who smoke in their presence in the past seven days showed no significant difference compared to the national prevalence.

3.11.6 Recommendations

All screening, prevention and intervention programmes among adolescents must be strengthened and delivered in synergy by all governmental and non-governmental agencies. Interventions should also be targeted to higher risk groups such as states with high prevalence, males and Form 1 students. The rise of prevalence of smoking among females should also be a concern for additional interventions to halt this increment. Overall national tobacco control programmes have to be amplified to achieve denormalization of public smoking, and to help reduce exposure to cigarette smoke among our youth. These would help to achieve the medium and long-term targets as stipulated in the National Strategic Plan for Tobacco Control.

3.11.7 References

1. Institute for Public Health (IPH). Report of the Global Adult Tobacco Survey (GATS) Malaysia, 2011, Ministry of Health Malaysia, 2012.

Table 3.11.1: Prevalence of current smoker among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Current Smokers				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	277	4830	17.9	13.64	23.09
Locality of the school					
Urban	53	891	15.7	9.20	25.45
Rural	224	3939	18.5	13.57	24.63
Sex					
Male	215	3899	29.3	23.37	35.93
Female	62	931	6.8	4.56	10.04
Form					
Form 1	73	1201	22.2	13.25	34.82
Form 2	41	835	14.8	10.44	20.58
Form 3	41	743	13.4	8.47	20.65
Form 4	50	916	17.2	11.08	25.58
Form 5	72	1135	22.3	13.77	33.98

Table 3.11.2: Prevalence of current cigarette smokers among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Current Cigarette Smokers				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	246	4311	16.0	12.17	20.66
Locality of the school					
Urban	49	833	14.7	8.50	24.15
Rural	197	3477	16.3	11.95	21.84
Sex					
Male	196	3551	26.6	21.28	32.79
Female	50	760	5.6	3.45	8.81
Form					
Form 1	67	1103	20.4	12.31	31.87
Form 2	37	759	13.5	9.35	18.98
Form 3	36	660	11.9	7.13	19.33
Form 4	43	791	14.8	9.18	23.04
Form 5	63	997	19.6	11.72	30.88

Table 3.11.3: Prevalence of current any tobacco product use among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	365	6355	23.5	18.40	29.56
Locality of the school					
Urban	69	1130	19.9	11.06	33.14
Rural	296	5225	24.5	18.76	31.31
Sex					
Male	270	4932	37.0	30.78	43.69
Female	95	1422	10.4	6.75	15.68
Form					
Form 1	91	1479	27.4	16.97	40.95
Form 2	56	1129	20.0	13.55	28.52
Form 3	68	1221	22.1	16.13	29.46
Form 4	64	1194	22.3	15.65	30.86
Form 5	86	1332	26.2	18.49	35.64

Table 3.11.4: Prevalence of current E-cigarettes/Vape use among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Current e-Cigarette Users				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	140	2484	9.2	6.27	13.33
Locality of the school					
Urban	39	647	11.4	5.57	21.86
Rural	101	1837	8.6	5.52	13.23
Sex					
Male	122	2200	16.5	12.25	21.94
Female	18	284	2.1	0.82	5.19
Form					
Form 1	40	662	12.3	5.96	23.72
Form 2	18	381	6.8	3.17	13.84
Form 3	18	336	6.1	3.22	11.15
Form 4	32	608	11.4	6.87	18.27
Form 5	32	497	9.8	6.89	13.65

Table 3.11.5: Prevalence of current smoke and smokeless tobacco product use by types (except manufactured cigarette and E-cigarette/Vape) among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Total					Male				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Shisha Use	138	2354	8.7	6.60	11.46	31	492	8.7	5.53	13.39
Traditional Rolled Cigarette Use	162	2799	10.4	7.72	13.78	126	2267	17.0	12.79	22.27
Roll-Your-Own" With Cigarette Paper Use"	73	1229	4.6	3.64	5.69	44	808	6.1	4.44	8.26
Cigar Use	63	1042	3.9	2.84	5.25	34	612	4.6	3.12	6.71
Pipe Smoking Use	63	1036	3.9	3.06	4.84	37	662	5.0	3.57	6.97
Chewing Tobacco Use	58	964	3.6	2.65	4.80	33	598	4.5	2.99	6.67
Snuff Use	135	2292	8.5	6.73	10.64	77	1439	10.8	7.97	14.47

Table 3.11.5: Prevalence of current smoke and smokeless tobacco product use by types (except manufactured cigarette and E-cigarette/Vape) among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

Socio-Demographic Characteristics	Female				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
Shisha Use	107	1863	8.7	6.26	12.07
Traditional Rolled Cigarette Use	36	532	3.9	2.80	5.37
Roll-Your-Own" With Cigarette Paper Use"	29	420	3.1	2.19	4.30
Cigar Use	29	431	3.2	2.08	4.77
Pipe Smoking Use	26	373	2.7	1.88	3.96
Chewing Tobacco Use	25	366	2.7	1.80	3.94
Snuff Use	58	853	6.2	4.30	8.96

Table 3.11.6: Prevalence of having tried a cigarette before the age of 14 years among ever smokers among Form 1 to Form 5 students in Perlis, 2017

	Total					Male				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Yes	159	2862	74.7	63.99	83.03	141	2608	74.0	62.97	82.66
No	57	971	25.3	16.97	36.01	53	916	26.0	17.34	37.03

Table 3.11.6: Prevalence of having tried a cigarette before the age of 14 years among ever smokers among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

	Female				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
Yes	18	254	82.3	58.76	93.86
No	4	54	17.7	6.14	41.24

Table 3.11.7: Prevalence of having tried a E-cigarette/Vape before the age of 14 years among ever E-cigarette/Vape users among Form 1 to Form 5 students in Perlis, 2017

	Total					Male				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
Yes	72	1336	46.1	34.46	58.18	64	1224	46.2	33.56	59.34
No	92	1562	53.9	41.82	65.54	83	1425	53.8	40.66	66.44

Table 3.11.7: Prevalence of having tried a E-cigarette/Vape before the age of 14 years among ever E-cigarette/Vape users among Form 1 to Form 5 students in Perlis, 2017 (Cont.)

	Female				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
Yes	8	112	45.1	24.19	67.88
No	9	137	54.9	32.12	75.81

Table 3.11.8: Prevalence of quit smoking attempt in the past 12 month among those who ever smoked among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Quit Smoking Attempts In The Past 12 Months Among Those Who Ever Smoked Cigarettes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	142	2543	72.7	61.26	81.84
Locality of the school					
Urban	34	582	71.9	51.68	85.93
Rural	108	1961	73.0	58.98	83.58
Sex					
Male	133	2414	80.5	71.28	87.24
Female	9	129	26.1	13.51	44.29
Form					
Form 1	26	435	70.0	61.65	77.22
Form 2	22	465	70.2	56.63	80.95
Form 3	19	371	68.4	41.20	87.01
Form 4	30	562	76.8	55.38	89.83
Form 5	45	711	75.7	64.37	84.31

Table 3.11.9: Prevalence of quit E-cigarette/ Vape attempt in the past 12 month among those who ever used E-Cigarette/Vape among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Stop Using e-Cigarettes In The Past 12 Months Among Those Who Ever Smoked e-Cigarettes				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	90	1611	53.0	39.12	66.37
Locality of the school					
Urban	27	457	61.5	28.60	86.42
Rural	63	1153	50.2	35.85	64.53
Sex					
Male	83	1487	57.7	43.31	70.89
Female	7	123	26.6	14.31	44.12
Form					
Form 1	16	270	45.2	30.43	60.79
Form 2	15	318	43.4	23.13	66.19
Form 3	8	156	41.9	17.48	71.01
Form 4	27	495	60.6	40.55	77.68
Form 5	24	372	71.3	40.18	90.16

Table 3.11.10: Prevalence of being expose to people smoking in their presence for at least one day in the past 7 days among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Having Been Exposed To People Smoking In Their Presence For At Least One Days In The Past 7 Days				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	737	12171	45.1	38.27	52.03
Locality of the school					
Urban	170	2636	46.4	33.16	60.19
Rural	567	9535	44.7	36.96	52.70
Sex					
Male	414	7500	56.3	48.20	64.01
Female	323	4671	34.1	26.80	42.34
Form					
Form 1	152	2288	42.3	37.02	47.83
Form 2	114	2214	39.2	32.57	46.35
Form 3	133	2187	39.6	29.96	50.03
Form 4	138	2517	47.1	34.24	60.39
Form 5	200	2964	58.2	49.47	66.47

Table 3.11.11: Prevalence of having father or mother or guardian who used any form of tobacco product among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Either Father Or Mother Or Guardian				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	739	11967	47.9	42.18	53.72
Locality of the school					
Urban	151	2309	43.5	37.78	49.50
Rural	588	9659	49.1	42.20	56.04
Sex					
Male	332	6072	49.8	44.58	55.04
Female	407	5895	46.1	38.31	54.13
Form					
Form 1	164	2411	50.5	44.00	57.01
Form 2	127	2359	45.8	41.68	50.05
Form 3	150	2424	47.3	36.87	58.06
Form 4	133	2378	47.2	35.87	58.90
Form 5	165	2394	48.9	40.42	57.43

Table 3.11.12: Prevalence of having father or mother or guardian who used E-cigarette/ Vape among Form 1 to Form 5 students in Perlis, 2017

Socio-Demographic Characteristics	Either Father Or Mother Or Guardian				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	210	3446	14.9	11.85	18.58
Locality of the school					
Urban	47	706	14.1	11.16	17.71
Rural	163	2740	15.1	11.39	19.78
Sex					
Male	95	1758	15.5	12.22	19.42
Female	115	1688	14.3	10.34	19.56
Form					
Form 1	60	916	20.6	15.14	27.44
Form 2	41	781	16.2	12.25	21.18
Form 3	40	619	13.1	8.02	20.54
Form 4	37	660	14.3	8.83	22.23
Form 5	32	470	10.4	7.65	14.07

3.12 Violence and Unintentional Injury

Contributors: Rajini Sooryanarayana, Shubash Shander Ganapathy, Azriman Rosman, Mohd Hazrin Bin Hasim@Hashim, Fazila Haryati Ahmad, Mohamad Fuad Mohamad Anuar, Tan Lee Ann, Thamil Arasu a/l Saminathan, Muhammad Fadhli Mohd Yusoff, S Maria Awaluddin

3.12.1 Introduction

The World Health Assembly through WHA 49.25 had declared violence to be a public health problem globally. Malaysia is committed towards resolving this issue, covering various aspects of interpersonal violence.¹ The prevalence of bullying varies between 9% to 25% in school-going adolescents in Western countries², and 10.8% to 17.6% locally³, differences largely explained by linguistic and cultural factors.

Injuries are inevitable among anyone, including adolescents. Injuries however, may be due to intentional or unintentional causes. Unintentional injuries are caused by various factors and this leads to health problems and disability in an otherwise healthy population. Conflicts happen due to a wide spectrum ranging from physical fights to bullying. These may affect the mental health, well-being and healthy development of the adolescent.

This survey aims to examine the prevalence and distribution of unintentional injuries, physical attacks, physical fights, bullying, as well as physical and verbal abuse experienced by adolescents in Form 1 to Form 5 in Malaysia.

3.12.2 Objectives

To describe the prevalence of:

- i. Having been physically attacked at least once in the past 12 months
- ii. Involvement in a physical fight at least once in the past 12 months
- iii. Having been bullied at least once in the past 30 days
- iv. Physical abuse at home at least once in the past 30 days
- v. Verbal abuse at home at least once in the past 30 days
- vi. Having had a serious injury at least once in the past 12 months

3.12.3 Variable Definitions

- **Physical attack:** when one or more persons hurt another person with or without a weapon such as sticks or knives in the past 12 months. It is NOT a physical attack when two individuals or students of about the same strength or power choose to fight each other.
- **Physical fight:** when two individuals or students of about the same strength or power choose to fight each other in the past 12 months.
- **Bullying:** when a student or group of students say or do bad and unpleasant things to another student, such as teasing a lot in an unpleasant way or leaving out of things on purpose in the past 30 days. It is NOT bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.
- **Physical abuse at home:** when someone is hit so hard that it left a mark OR caused an injury in the past 30 days
- **Verbal abuse at home:** when someone has had hurtful or insulting things said to them in the past 30 days
- **Unintentional injury:** a serious injury which makes the student miss at least one full day of usual activity (such as school, sports or a job) OR requires treatment by a doctor or a medical personnel in the past 12 months

3.12.4 Findings

Among the adolescents, 23.0% (95% CI: 18.88, 27.63) of them had been physically attacked, which was significantly higher in males [30.3% (95% CI: 24.95, 36.31)] compared to females [15.8% (95% CI: 12.62, 19.59)]. There was no significant difference found between urban [27.2% (95% CI: 16.32, 41.67)] and rural [21.8% (95% CI: 18.03, 26.19)] localities. Adolescents from Form 1 had the highest prevalence of being physically attacked; 30.0% (95% CI: 21.88, 39.56) while adolescents from Form 5 had the lowest prevalence at 15.7% (95% CI: 12.75, 19.21) (**Table 3.12.1**).

Similarly, 23.5% (95% CI: 19.37, 28.24) of adolescents claimed to have been involved in physical fight(s), with significantly more males [30.2% (95% CI: 25.58, 35.19)] than females [17.0% (95% CI: 12.88, 22.22)] involved. There was no significant difference observed between urban and rural localities, with a reported prevalence of 23.9% (95% CI: 13.98, 37.90) and 23.4% (95% CI: 19.11, 28.33) respectively. Adolescents from Form 1 reported the highest prevalence at 32.6 % (95% CI: 23.43, 43.42) (**Table 3.12.1**).

With regards to bullying, 15.8% (95% CI: 12.80, 19.43) of adolescents reported to have been bullied and this was higher among males [19.5% (95% CI: 14.37, 25.81)] compared to females [12.3% (95% CI: 10.11, 14.88)]. There was no significant difference found between urban [14.8% (95% CI: 7.31, 27.62)] and rural [16.1% (95% CI: 13.16, 19.59)] localities. Adolescents from Form 1 had the highest prevalence of having been bullied; 25.5% (95% CI: 17.92, 35.04) (**Table 3.12.2**).

The two most common forms of bullying were 'being made fun of because of how body or face looks' [15.6% (95% CI: 10.39, 22.70)] and 'made fun of with sexual jokes, comments or gestures' [14.1% (95% CI: 9.23, 20.95)]. Bullying in the form of 'being left out of activities on purpose or completely ignored' was the least common at 5.6% (95% CI: 2.74, 11.20) (**Table 3.12.3**).

Physical abuse at home was reported by 11.2% (95% CI: 8.25, 15.07) of the adolescents. Urban localities reported a prevalence of 12.9% (95% CI: 6.23, 24.98) with rural at 10.8% (95% CI: 7.75, 14.75). There was a significant difference between males and females with a prevalence of 15.1% (95% CI: 10.51, 21.20) and 7.4% (95% CI: 5.54, 9.92) respectively. Form 5 adolescents reported the lowest prevalence at 4.8% (95% CI: 2.91, 7.67) (**Table 3.12.4**).

It was reported that 37.6% (95% CI: 34.08, 41.34) of adolescents were abused verbally at home. The prevalence of verbal abuse was higher among females [38.4% (95% CI: 34.10, 42.81)] compared to males [36.9% (95% CI: 30.71, 43.53)]. There was no significant difference found between urban [36.5% (95% CI: 29.14, 44.66)] and rural [37.9% (95% CI: 33.94, 42.08)] localities. Adolescents from Form 1 reported the highest prevalence of verbal abuse at home with a prevalence of 43.1% (95% CI: 33.10, 53.65) (**Table 3.12.4**).

It was found that 34.1% of adolescents in Perlis (95% CI: 28.92, 39.77) had been seriously injured in the past 12 months. There was no significant difference found between urban [35.3% (95% CI: 25.26, 46.92)] and rural [33.8% (95% CI: 27.89, 40.30)] localities. Prevalence of serious injury was significantly higher among males [43.8% (95% CI: 39.12, 48.49)] as compared to females [24.7% (95% CI: 19.45, 30.93)]. Adolescents from Form 2 had the highest prevalence of serious injury at 43.1% (95% CI: 34.14, 52.51) meanwhile adolescents from Form 3 had the lowest prevalence at 29.3% (95% CI: 21.08, 39.03) (**Table 3.12.5**). Among those who had been seriously injured, the two most common injuries were 'a cut or stab wound' [27.8% (95% CI: 23.01, 33.22)] and 'a broken bone/dislocated joint' [17.4% (95% CI: 12.46, 23.68)] (**Table 3.12.6**). The two most common causes of serious injury were falls [33.7% (95% CI: 28.85, 38.88)] and motor vehicle accidents [19.0% (95% CI: 15.47, 23.21)] (**Table 3.12.7**).

3.12.5 Discussion / Conclusion

The prevalence of serious injury among school going adolescents in Perlis was higher than the national prevalence found in this study (34.1% vs. 29.9%), but lower than the Perlis prevalence reported in 2012⁴ of 38.1%. The prevalence of having been physically attacked and involved in physical fights among adolescents in Perlis was lower than the national prevalence (23.0% vs 25.3% and 23.5% vs 24.9% respectively) as well as the Perlis prevalence reported in 2012⁴ (25.9% and 26.5% respectively).

The prevalence of bullying among school going adolescents in Perlis is lower than the reported national prevalence (15.8% vs 16.2%) but higher than that reported in Perlis in 2012⁴ (15.3%). The prevalence of physical abuse and verbal abuse at home among adolescents was lower in Perlis compared to national prevalence (11.2% vs 11.8% and 37.6% vs 43.2%) but higher than that reported in 2012⁴ in Perlis (8.8% and 34.6% respectively).

Studies have shown that violence related behaviour is associated with other negative factors such as smoking, drug abuse, truancy and physical and mental health problems⁵. Thus, despite the successes achieved by our current programs, the relatively high prevalence found in this study reminds us that we should continue our efforts in addressing this issue.

3.12.6 Recommendations

1. Multiple factors are associated with the perpetuation and the victimization of bullying, violent behaviour and unintentional injuries among school-going adolescents. Although this study identified the prevalence and types of violent behaviour experienced, further studies may be conducted in these areas to better understand this problem. These should include risk factors such as health and sociocultural factors, help seeking behaviour and short and long term effects of engaging or being exposed to these situations.
2. Written policies and laws by themselves alone are not adequate to tackle the problem of physical attacks, physical fights, bullying, physical and verbal abuse experienced by school-going adolescents. Strategies should be developed with the involvement of parents, family, and the community. Support services for both perpetrator and victim at community and school levels should be developed. Increased efforts need to be directed towards male adolescents in the younger age group and within the Indian community. Helping them with counselling rather than punitive measures, besides early detection of underlying factors would aid better prevention strategies. Innovative measures including use of social media, need to be adapted in line with the problems faced by the current generation such as cyberbullying and online forms of abuse. An integrated, multifactorial and multisectoral approach from the family level to school environment is crucial in addressing this problem.
3. Unintentional injuries should be addressed by stepping up safety awareness programs. This should be targeted towards road and traffic safety, starting from the younger age group. This would help reduce the burden of avoidable and unintentional injuries.

Measures to create a safe environment within the school, home and other areas should be implemented by all parties.

3.12.7 References

1. World Health Organization. Fact Sheet: Violence prevention in the South-East Asia Region. 2015.
2. Menesini E, Salmivalli C. Bullying in schools: the state of knowledge and effective interventions. *Psychology, health & medicine*. 2017;22(sup1):240-53.
3. Sittichai R, Smith PK. Bullying in south-east Asian countries: A review. *Aggression and Violent Behavior*. 2015;23:22-35.
4. Institute for Public Health (IPH). 2012. National Health and Morbidity Survey, NHMS 2012: Malaysia Global School-based Student Health Survey 2012. Kuala Lumpur Ministry of Health Malaysia.
5. Lee L, Chen PC, Lee K, Kaur J. Violence-related behaviours among Malaysian adolescents: a cross sectional survey among secondary school students in Negeri Sembilan. *Annals-Academy of Medicine Singapore*. 2007;36(3):169.

Table 3.12.1: Prevalence of involvement in violence and had serious injury at least once in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Having Been Physically Attacked At Least Once					Involvement In Physical Fight At Least Once				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	365	6,199	23.0	18.88	27.63	378	6,348	23.5	19.37	28.24
Locality of school										
Urban	94	1,544	27.2	16.32	41.67	86	1,360	23.9	13.98	37.90
Rural	271	4,655	21.8	18.03	26.19	292	4,988	23.4	19.11	28.33
Sex										
Male	219	4,038	30.3	24.95	36.31	219	4,016	30.2	25.58	35.19
Female	146	2,161	15.8	12.62	19.59	159	2,332	17.0	12.88	22.22
Form										
Form 1	104	1,616	30.0	21.88	39.56	115	1,765	32.6	23.43	43.42
Form 2	85	1,650	29.3	22.59	36.95	85	1,604	28.4	22.88	34.71
Form 3	74	1,279	23.1	16.29	31.72	69	1,183	21.4	14.95	29.67
Form 4	48	854	16.0	11.29	22.14	51	916	17.1	12.17	23.60
Form 5	54	800	15.7	12.75	19.21	58	880	17.3	13.19	22.48

Table 3.12.2 : Prevalence of being bullied at least once in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Having Been Bullied At Least Once				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	253	4,275	15.8	12.80	19.43
Locality of school					
Urban	51	838	14.8	7.31	27.62
Rural	202	3,438	16.1	13.16	19.59
Sex					
Male	140	2,594	19.5	14.37	25.81
Female	113	1,681	12.3	10.11	14.88
Form					
Form 1	88	1,378	25.5	17.92	35.04
Form 2	55	1,063	18.8	13.00	26.51
Form 3	44	747	13.5	8.99	19.81
Form 4	38	673	12.6	8.89	17.56
Form 5	28	414	8.1	5.88	11.15

Table 3.12.3: Most common ways of being bullied in the past 30 days among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
Hit, kicked, pushed, shoved around or locked indoors	19		8.2	4.76	13.90
Made fun of because of race, nationality or colour	26		11.0	7.06	16.70
Made fun of because of religion	14		5.7	2.68	11.85
Made fun of with sexual jokes, comments or gestures	35		14.1	9.23	20.95
Left out of activities on purpose or completely ignored	13		5.6	2.74	11.20
Made fun of because of how body or face looks	41		15.6	10.39	22.70

Table 3.12.4: Prevalence of being abused at least once in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Physical Abuse At Home At Least Once					Verbal Abuse At Home At Least Once				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI		Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper				Lower	Upper
PERLIS	177	3,028	11.2	8.25	15.07	630	10,127	37.6	34.08	41.34
Locality of school										
Urban	45	733	12.9	6.23	24.98	134	2,062	36.5	29.14	44.66
Rural	132	2,295	10.8	7.75	14.75	496	8,065	37.9	33.94	42.08
Sex										
Male	108	2,011	15.1	10.51	21.20	270	4,890	36.9	30.71	43.53
Female	69	1,017	7.4	5.54	9.92	360	5,236	38.4	34.10	42.81
Form										
Form 1	72	1,120	20.7	12.33	32.69	156	2,321	43.1	33.10	53.65
Form 2	38	747	13.2	8.53	19.99	105	1,923	34.2	26.94	42.23
Form 3	25	437	7.9	4.33	13.99	128	2,041	37.2	30.55	44.27
Form 4	26	482	9.0	5.58	14.32	116	2,045	38.4	31.46	45.86
Form 5	16	242	4.8	2.91	7.67	125	1,797	35.4	29.07	42.33

Table 3.12.5: Prevalence of had serious injury at least once in the past 12 months among Form 1 to Form 5 students in Perlis, 2017

Socio-demographic Characteristics	Having Had Serious Injury At Least Once				
	Unweighted Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
PERLIS	541	9,208	34.1	28.92	39.77
Locality of school					
Urban	125	1,994	35.3	25.26	46.92
Rural	416	7,214	33.8	27.89	40.30
Sex					
Male	313	5,832	43.8	39.12	48.49
Female	228	3,376	24.7	19.45	30.93
Form					
Form 1	136	2,076	38.7	30.02	48.13
Form 2	123	2,431	43.1	34.14	52.51
Form 3	95	1,618	29.3	21.08	39.03
Form 4	87	1,570	29.4	23.36	36.24
Form 5	100	1,513	29.7	23.45	36.83

Table 3.12.6: Types of the most serious injury sustained in the past 12 months among those who were injured among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Prevalence (%)	95% CI	
			Lower	Upper
Broken bone / dislocated Joint	88	17.4	12.46	23.68
A cut or stab wound	151	27.8	23.01	33.22
Concussion / head or neck injury, knocked out or could not breathe	40	7.2	5.27	9.69
Bad burn	16	3.2	1.77	5.76
Poisoned	12	2.2	1.12	4.41

Table 3.12.7: Major cause of the most serious injury sustained in the past 12 months among those who were injured among Form 1 to Form 5 students in Perlis, 2017

	Unweighted Count	Prevalence (%)	95% CI	
			Lower	Upper
In a motor vehicle accident or hit by a motor vehicle	102	19.0	15.47	23.21
Fell	181	33.7	28.85	38.88
Something fell or hit him/her	34	6.2	4.61	8.20
Attacked or abused or fighting with someone	18	3.4	1.92	5.93
In a fire or too near a flame or something hot	6	1.2	0.55	2.79
Inhaled or swallowed something bad	4	0.7	0.26	1.79

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 Programme 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 Yoep, 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 Palanivello, Person in charge for 24Hour Diet Recall
- 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 Food Frequency Questionnaire
- 22.Pn. Nazirah Bt Alias, Data Processing & Quality
- 23.Dr. Fazila Haryati Ahmad, Data Processing &Quality

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

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

		<p>Conduct meeting with State Education Office, School Principals, Teacher in-charged for the selected schools.</p> <p>To ensure adequate logistic support for the data collection and liaise with the District Education Office, District Health Office and other relevant departments to ensure that:</p> <ul style="list-style-type: none"> • Human resources are available: Field Supervisors, Team leaders, Research Assistants and drivers. • Manage transport: Vehicles • Manage survey instruments and relevant form • Manage lodging for data collectors <p><u>During Data Collection</u></p> <p>Gather feedback from the field on the data collection status and problems related to logistics.</p> <p>Visit the field to help data collectors solve the problem if necessary.</p> <p>To ensure all data collection monitoring forms have been received on time.</p> <p>To ensure bundle from field received by the Operation Centre by hand and by post (Sabah, Sarawak, WP Labuan)</p> <p>Updating the monitoring board for state achievement and attending CCT meeting.</p>	<p>Pn. Norzawati Binti Yeop</p> <p>Dr. Noor Ani Binti Ahmad</p> <p>Pn. Hasimah Binti Ismail</p> <p>Pn. Tee Guat Hiong</p> <p>En. Mohd Hazrin Bin Hashim @ Hashim</p>
5	Data Processing and management	<p>Setting up data processing facility</p> <p>Development of directory of variables database</p> <p>Development of quality control (QC) manual for data processing</p>	<p>Dr. Mohd Azahadi bin Omar</p> <p>Dr. Rajini a/p sooryanarayana</p>

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

Appendix 5: List of Research Team Members, NHMS 2017

Alcohol Use

1. Dr. Muhammad Fadhli Mohd Yusoff
2. Dr. Tania Gayle Robert
3. Dr. Halizah Mat Rifin
4. Dr. Norli Abdul Jabbar
5. Dr. Rozanim Kamaruddin
6. Dr. Jane Ling Miaw Yn
7. Ms. Hasimah Ismail
8. Ms. Hamizatul Akmal Binti Abd Hamid
9. Mr. Mohd Hatta Mutalip
10. Ms. Wan Shakira Rodzlan Hasani

Dietary Behaviours

1. Ms. Rashidah Ambak
2. Ms. Ruhaya Salleh
3. Ms. Norlida Zulkafly
4. Dr. S. Maria Awaluddin
5. Ms. Rusidah Selamat
6. Ms. Syafinaz Mohd Sallehuddin
7. Mr. Mohd Hasnan Ahmad
8. Ms. Cheong Siew Man

Drug Use

1. Dr. Muhammad Fadhli Mohd Yusof
2. Dr. Rushidi Ramly
3. Dr. Norli Abdul Jabbar
4. Dr. Jane Ling Miaw Yn
5. Dr. Halizah Mat Rifin
6. Dr. Tania Gayle Robert

7. Dr. Thamil Arasu Saminathan
8. Dr. Nur Liana Ab. Majid
9. Ms. Hasimah Ismail
10. Ms. Hamizatul Akmal Abd Hamid
11. Ms. Wan Shakira Rodzlan Hasani

Hygiene (Including Oral Health)

1. Dr. Yaw Siew Lian
2. Dr. Nurrul Ashikin Abdullah
3. Dr. Natifah Che Salleh
4. Ms. Norazizah Ibrahim Wong
5. Mr. Mohamad Fuad Mohamad Anuar
6. Mr. Sayan a/l Pan

Internet Use and Addiction

1. Dr S. Maria Awaluddin
2. Prof Madya Dr. Normala Ibrahim
3. Ms. Chan Ying Ying
4. Dr. Rimah Melati Abd. Ghani
5. Dr. Amal Shamsuddin
6. Prof Madya Dr. Wan Salwina Wan Ismail
7. Dr. Norharlina Bahar
8. Dr. Saidatul Norbaya Binti Buang
9. Dr. Nik Rubiah Nik Abd. Rashid

Mental Health Problems

1. Dr. Noor Ani Ahmad
2. Prof Dr. Sherina Mohd Sidik
3. Dr. Fazly Azry Abdul Aziz
4. Ms. Noraida Mohamad Kasim

5. Mr. Mohammad Aznuddin Abd Razak
6. Ms. Muslimah Yusof

Physical Activity

1. Mr. Lim Kuang Kuay
2. Dr. Hj. Mohd Azahadi Omar
3. Ms. Chan Ying Ying
4. Dr. Chandrika A/p Jeevananthan
5. Mr. Azli Baharudin @Shaharuddin
6. Ms. Nazirah Alias

Protective Factors

1. Pn Norzawati binti Yoep
2. Ms. Faizah Paiwai
3. Dr. Noor Aliza Lodz
4. Dr. S. Maria Awaluddin
5. Ms. Azna Ahmad
6. Dr. Nik Rubiah Nik Abd Rashid

Sexual Behaviour that contribute to HIV infection, other STI and unintended pregnancy

1. Dr. Maisarah Omar
2. Dr. Noor Aliza Lodz
3. Dr. S.Maria Awaluddin
4. Dr. Noor Ani Ahmad
5. Dr. Nik Rubiah Nik Abdul Rashid
6. Ms. Noraida Mohamad Kasim

Tobacco Use

1. Dr. Noraryana Hassan
2. Dr. Nizam Baharom
3. Dr. Muhammad Fadhli Mohd Yusoff,
4. Dr. Abdul Aiman Abd Ghani

5. Dr. Nur Liana Ab. Majid
6. Dr. Thamil Arasu Saminathan
7. Dr. Jane Ling Miaw Yn
8. Dr. Tania Gayle Robert
9. Dr. Halizah Mat Rifin
10. Ms. Tee Guat Hiong
11. Ms. Hasimah Ismail
12. Ms. Hamizatul Akmal Abd Hamid
13. Ms. Wan Shakira Rodzlan Hasani

Violence and Unintentional Injury

1. Dr. Rajini Sooryanarayana
2. Dr. Shubash Shander Ganapathy
3. Dr. Muhammad Fadhli Mohd Yusoff
4. Dr. S Maria Awaluddin
5. Dr. Thamil Arasu a/l Saminathan
6. Dr. Azriman Rosman
7. Dr. Fazila Haryati Ahmad
8. Mr. Mohamad Fuad Mohamad Anuar
9. Mr. Mohd Hazrin Bin Hasim@Hashim

Appendix 6: List of Liaison Officer and Data Collection Teams

PERLIS

Liaison Officer

Mr. Mohd Khairul Nizam Bin Baharom

Field Supervisor

Mr. Sayan a/I Pan

Nutritionist

1. Ms. Nur Hazwani Binti Roslan
2. Ms. Shazwani Binti Magini

Research Assistants

1. Ms. Nor Asmira Binti Abidin
2. Ms. Afidah Haziani Binti Rodzi
3. Ms. Intan Shamira Binti Tajudin
4. Mr. Mohamad Syazwan bin Abd. Aziz
5. Ms. Siti Hazira Binti Che Halim
6. Mr. Muhd Syamir Bin Sobri
7. Ms. Noraini Binti Abdul Manaf
8. Ms. Nur Faniza Binti Zainol
9. Mr. Muhammad Hanif bin Samsuddin

Appendix 7: Questionnaire & OMR



PENGENALAN

Kementerian Kesihatan Malaysia dengan kerjasama Kementerian Pendidikan Malaysia sedang menjalankan tinjauan yang berkaitan kesihatan remaja. Tinjauan ini adalah berkenaan dengan kesihatan anda dan tindakan yang anda ambil yang memberi kesan kepada kesihatan anda.

Terima kasih kerana bersetuju untuk menyertai tinjauan ini. Tiada jawapan yang **BETUL** atau **SALAH**. Markah peperiksaan anda tidak akan terjejas sekiranya anda menjawab atau tidak menjawab soalan dalam tinjauan ini. Setiap jawapan yang anda berikan boleh membantu memantapkan program kesihatan untuk remaja. Oleh itu, sila jawab dengan ikhlas dan tepat.

Segala maklumat individu yang diberikan adalah RAHSIA kerana TIADA MAKLUMAT PENGENALAN DIRI DIAMBIL dan TIDAK AKAN DIDEBAHKAN. Tiada siapa akan tahu jawapan anda. Sila jawab berdasarkan apa yang anda tahu.

INTRODUCTION

The Ministry of Health Malaysia, with the cooperation of the Ministry of Education Malaysia is conducting a survey on adolescent health. This survey is about your health and the things that you do that may affect your health.

*Thank you for agreeing to participate in this survey. There are no **CORRECT** or **WRONG** answers. None of your grades or marks will be affected whether or not you answer the questions. Each answer that you provide will help in the improvisation of health programs for adolescents. Therefore, please answer as honestly and accurately as possible.*

*All individual information given will be kept **SECRET** because **NO IDENTIFIERS ARE TAKEN** nor **WILL BE EXPOSED**. No one will know your answer. Answer the questions based on the best of your knowledge.*

PANDUAN MENGISI BORANG (SILA BACA DENGAN TELITI)

GUIDE ON FILLING THE QUESTIONNAIRE (PLEASE READ CAREFULLY)

a. **JANGAN** tulis **NAMA ANDA** pada kertas soalan mahupun kertas jawapan.

DO NOT write **YOUR NAME** on the questionnaire or the answer sheet.

b. Sila **BACA PERNYATAAN** untuk soalan yang memberikan pernyataan atau definisi sebelum menjawab soalan.

Please **READ STATEMENT** for questions with a preceding statement or definition before answering.

c. Sila **HITAMKAN** jawapan yang bersamaan jawapan anda pada kertas jawapan yang disediakan. Hanya hitamkan **SATU JAWAPAN** bagi setiap soalan. Sila gunakan pensel 2B yang disediakan. Sekiranya telah selesai, ikut arahan pegawai yang melakukan survei di sekolah/kelas anda.

Please **FILL IN THE CIRCLES** on your answer sheet that matches your answer. There can be **ONLY ONE ANSWER** for each question. Use only the provided 2B pencil. When you are done, follow the instructions of the person conducting the survey in your school/class

BERIKUT ADALAH CONTOH BAGAIMANA MENGISI JAWAPAN

HERE IS AN EXAMPLE OF HOW TO FILL IN THE CIRCLE:

ISIKAN BULATAN SEPERTI INI
 FILL IN THE CIRCLES LIKE THIS



BUKAN SEPERTI INI
 NOT LIKE THIS



ATAU
 OR



TINJAUAN/SURVEY

1. Adakah ikan tinggal dalam air?

Do fish live in the water?

A. Ya

Yes

B. Tidak

No

Borang jawapan
 Answer sheet



BAHAGIAN 1
PART 1

1. Berapakah umur anda?
 How old are you?
 - a. 11 tahun atau ke bawah
11 years old or younger
 - b. 12 tahun
12 years old
 - c. 13 tahun
13 years old
 - d. 14 tahun
14 years old
 - e. 15 tahun
15 years old
 - f. 16 tahun
16 years old
 - g. 17 tahun
17 years old
 - h. 18 tahun atau ke atas
18 years old or older

2. Apakah jantina anda?
 What is your sex?
 - a. Lelaki
Male
 - b. Perempuan
Female

3. Anda belajar di tingkatan/kelas apa?
 In what form/class are you?
 - a. Kelas peralihan
Remove class
 - b. Tingkatan 1
Form 1
 - c. Tingkatan 2
Form 2
 - d. Tingkatan 3
Form 3
 - e. Tingkatan 4
Form 4
 - f. Tingkatan 5
Form 5

4. Apakah etnik anda?
 What is your ethnicity?
 - a. Melayu
Malay
 - b. Cina
Chinese
 - c. India
Indian
 - d. Bumiputera Sabah
Bumiputera Sabah
 - e. Bumiputera Sarawak
Bumiputera Sarawak
 - f. Lain-lain etnik
Some other ethnic

5. Apakah status perkahwinan ibu bapa anda?
 What is the marital status of your parents?
 - a. Berkahwin dan tinggal bersama
Married and living together
 - b. Berkahwin tetapi tidak tinggal bersama atas dasar bekerja di tempat lain
Married but living apart due to working in other place
 - c. Bercerai
Divorced
 - d. Balu (ayah atau ibu telah meninggal)
Widower (my mother or father has died)
 - e. Berpisah (ibu bapa tidak tinggal serumah)
Separated (my parent do not live together)
 - f. Tidak tahu
I do not know

BAHAGIAN 2
PART 2

6. Dalam tempoh 30 hari yang lepas, berapa kerap anda kelaparan kerana tidak cukup makanan di rumah?

During the past 30 days, how often did you go hungry because there was not enough food in your home?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

Enam soalan yang berikutnya adalah berkenaan apa yang anda mungkin makan atau minum.

The next six questions ask about what you might eat and drink.

7. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda **biasanya** makan buah?

*During the past 30 days, how many times per day did you **usually** eat fruits?*

- a. Saya tidak makan buah dalam 30 hari yang lepas
I did not eat fruits during the past 30 days
- b. Kurang dari 1 kali sehari
Less than 1 time per day
- c. 1 kali sehari
1 time per day
- d. 2 kali sehari
2 times per day
- e. 3 kali sehari
3 times per day
- f. 4 kali sehari
4 times per day
- g. 5 kali atau lebih sehari
5 or more times per day

8. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda **biasanya** makan sayur?

*During the past 30 days, how many times per day did you **usually** eat vegetables?*

- a. Saya tidak makan sayur dalam 30 hari yang lepas
I did not eat vegetables during the past 30 days
- b. Kurang dari 1 kali sehari
Less than 1 time per day
- c. 1 kali sehari
1 time per day
- d. 2 kali sehari
2 times per day
- e. 3 kali sehari
3 times per day
- f. 4 kali sehari
4 times per day
- g. 5 kali atau lebih sehari
5 or more times per day

9. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda **biasanya** minum air berkarbonat seperti Coca Cola, Sprite, Pepsi dan lain-lain? (Air berkarbonat diet tidak termasuk dalam kumpulan ini)

*During the past 30 days, how many times per day did you **usually** drink carbonated soft drinks such as Coca Cola, Sprite, and Pepsi? (Do not include diet soft drinks)*

- a. Saya tidak minum air berkarbonat dalam 30 hari yang lepas
I did not drink carbonated soft drink during the past 30 days
- b. Kurang dari 1 kali sehari
Less than 1 time per day
- c. 1 kali sehari
1 time per day
- d. 2 kali sehari
2 times per day
- e. 3 kali sehari
3 times per day
- f. 4 kali sehari
4 times per day
- g. 5 kali atau lebih sehari
5 or more times per day

10. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda **biasanya** minum air kosong seperti air mineral, air masak atau air paip?

*During the past 30 days, how many times per day did you **usually** drink plain water such as mineral water, boiled water, or tap water?*

- a. Saya tidak minum air kosong dalam 30 hari yang lepas
I did not drink plain water during the past 30 days
- b. Kurang dari 1 kali sehari
Less than 1 time per day
- c. 1 kali sehari
1 time per day
- d. 2 kali sehari
2 times per day
- e. 3 kali sehari
3 times per day
- f. 4 kali sehari
4 times per day
- g. 5 kali atau lebih sehari
5 or more times per day

11. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda **biasanya** minum susu atau makan produk tenusu seperti susu, keju, yogurt dan lain-lain? (Ini tidak termasuk susu pekat manis)

*During the past 30 days, how many times per day did you **usually** drink milk or eat milk products, such as milk, cheese, and yogurt? (This does not include sweetened condensed milk)*

- a. Saya tidak minum susu atau makan produk tenusu dalam 30 hari yang lepas

I did not drink milk or eat milks products during the past 30 days

- b. Kurang dari 1 kali sehari
Less than 1 time per day
- c. 1 kali sehari
1 time per day
- d. 2 kali sehari
2 times per day
- e. 3 kali sehari
3 times per day
- f. 4 kali sehari
4 times per day
- g. 5 kali atau lebih sehari
5 or more times per day

12. Dalam tempoh 7 hari yang lepas, berapa hari anda makan makanan segera dari restoran **makanan segera** seperti McDonald, KFC, dan Pizza Hut?

*During the past 7 days, how many days did you eat food from a **fast food** restaurant, such as McDonalds, KFC and Pizza Hut?*

- a. 0 hari
0 day
- b. 1 hari
1 day
- c. 2 hari
2 days
- d. 3 hari
3 days
- e. 4 hari
4 days
- f. 5 hari
5 days
- g. 6 hari
6 days
- h. 7 hari
7 days

BAHAGIAN 3
PART 3

6 soalan seterusnya adalah berkenaan amalan pembersihan gigi, lawatan pergigian anda dan juga bagaimana gigi anda memberi kesan kepada aktiviti-aktiviti anda.

The 6 next question are about the cleaning of your teeth, your dental visits and also how your teeth affect your activities.

13. Dalam tempoh 30 hari yang lepas, berapa kali dalam sehari anda membersihkan atau memberus gigi anda?
During the past 30 days, how many times per day did you usually clean or brush your teeth?
- Saya tidak membersihkan atau memberus gigi dalam 30 hari yang lepas
I did not clean or brush my teeth during the past 30 days
 - Kurang dari 1 kali sehari
Less than 1 time per day
 - 1 kali sehari
1 time per day
 - 2 kali sehari
2 times per day
 - 3 kali sehari
3 times per day
 - 4 kali atau lebih dalam sehari
4 or more times per day
14. Adakah anda menggunakan ubat gigi berflourida?
Do you use toothpaste that contain fluoride?
- Ya
Yes
 - Tidak
No
 - Tidak tahu
I do not know
15. Adakah anda menggunakan flos/benang gigi untuk membersihkan gigi anda?
Do you use dental floss to clean your teeth?
- Ya
Yes
 - Tidak
No
16. Bilakah kali terakhir anda berjumpa doktor gigi atau jururawat pergigian untuk pemeriksaan, pembersihan gigi atau rawatan pergigian yang lain?
When was the last time you saw a dentist or dental nurse for a check-up, teeth cleaning, or other dental treatment?
- Dalam tempoh 12 bulan yang lepas
During the past 12 months
 - Di antara 12 hingga 24 bulan yang lepas
Between 12 and 24 months ago
 - Lebih daripada 24 bulan yang lepas
More than 24 months ago
 - Tidak pernah
Never
 - Tidak tahu
I do not know
17. Dalam tempoh 12 bulan yang lepas, adakah sakit gigi menyebabkan anda tidak hadir ke kelas atau sekolah?
During the past 12 months, did a toothache cause you to miss classes or school?
- Ya
Yes
 - Tidak
No
18. Adakah anda mengelak untuk senyum atau ketawa kerana risau dengan rupa gigi anda?
Do you avoid smiling or laughing because how your teeth look?
- Ya
Yes
 - Tidak
No

**3 soalan seterusnya adalah berkenaan amalan membasuh tangan.
 The next 3 questions are about your hand washing practices.**

19. Dalam tempoh 30 hari yang lepas, berapa kerap anda menggunakan sabun semasa membasuh tangan anda?

During the past 30 days, how often did you use soap when washing your hands?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Setiap kali
Always

20. Dalam tempoh 30 hari yang lepas, berapa kerap anda membasuh tangan sebelum makan?

During the past 30 days, how often did you wash your hands before eating?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Setiap kali
Always

21. Dalam tempoh 30 hari yang lepas, berapa kerap anda membasuh tangan selepas menggunakan tandas?

During the past 30 days, how often did you wash your hands after using the toilet?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Setiap kali
Always

**BAHAGIAN 4
 PART 4**

SILA BACA PERNYATAAN DI BAWAH:

Soalan berikutnya adalah berkenaan serangan fizikal. Serangan fizikal berlaku apabila seseorang atau lebih ramai orang menyerang individu lain dengan anggota badan atau senjata seperti kayu dan pisau. Serangan fizikal tidak diambil kira jika dua individu atau pelajar yang sama saiz atau kekuatan bersetuju untuk bergaduh secara fizikal.

PLEASE READ THE STATEMENT BELOW:
The next question asks about physical attacks. A physical attack occurs when one or more people hurt another person with/without a weapon such as sticks and knife. It is not a physical attack when two individuals or students of about the same strength or power choose to fight each other.

22. Dalam tempoh 12 bulan yang lepas, berapa kali anda telah diserang secara fizikal?

During the past 12 months, how many times were you physically attacked?

- a. 0 kali
0 times
- b. 1 kali
1 time
- c. 2 atau 3 kali
2 or 3 times
- d. 4 atau 5 kali
4 or 5 times
- e. 6 atau 7 kali
6 or 7 times
- f. 8 atau 9 kali
8 or 9 times
- g. 10 atau 11 kali
10 or 11 times
- h. 12 kali atau lebih
12 or more times

SILA BACA PERNYATAAN DI BAWAH:

Soalan seterusnya adalah berkaitan pergaduhan fizikal. Pergaduhan fizikal berlaku apabila dua individu atau pelajar yang sama saiz atau kekuatan bersetuju untuk bergaduh secara fizikal.

PLEASE READ THE STATEMENT BELOW:
The next question asks about physical fights. A physical fight occurs when two individuals or students of about the same strength or power choose to fight each other.

23. Dalam tempoh 12 bulan yang lepas, berapa kali anda terlibat dalam pergaduhan secara fizikal?

During the past 12 months, how many times were you in physical fight?

- a. 0 kali
0 times
- b. 1 kali
1 time
- c. 2 atau 3 kali
2 or 3 times
- d. 4 atau 5 kali
4 or 5 times
- e. 6 atau 7 kali
6 or 7 times
- f. 8 atau 9 kali
8 or 9 times
- g. 10 atau 11 kali
10 or 11 times
- h. 12 kali atau lebih
12 or more times

SILA BACA PERNYATAAN DI BAWAH:

3 soalan seterusnya adalah berkenaan kecederaan serius yang pernah anda alami. Kecederaan serius berlaku apabila anda tidak hadir sekurang-kurangnya satu hari aktiviti yang biasa dilakukan (termasuk sekolah, sukan atau kerja) atau kecederaan yang memerlukan rawatan daripada doktor atau anggota kesihatan.

PLEASE READ THE STATEMENT BELOW:

The next 3 questions ask you about serious injuries that happened to you. An injury is serious when it makes you miss at least one full day of usual activities (such as school, sports or a job) or requires treatment by a doctor or medical personnel.

24. Dalam tempoh 12 bulan yang lepas, berapa kali anda mengalami kecederaan serius?

During the past 12 months, how many times were you seriously injured?

- a. 0 kali
0 times
- b. 1 kali
1 time
- c. 2 atau 3 kali
2 or 3 times
- d. 4 atau 5 kali
4 or 5 times
- e. 6 atau 7 kali
6 or 7 times
- f. 8 atau 9 kali
8 or 9 times
- g. 10 atau 11 kali
10 or 11 times
- h. 12 kali atau lebih
12 or more times

25. Dalam tempoh 12 bulan yang lepas, apakah kecederaan yang **paling serius** yang anda pernah alami?

*During the past 12 months, what was the **most serious** injury that happened to you?*

- a. Saya tidak mengalami kecederaan dalam tempoh 12 bulan yang lepas
I was not seriously injured during the past 12 months
- b. Patah tulang atau sendi terkehel/terkeluar
I had a broken bone or a dislocated joint
- c. Luka atau tikaman
I had a cut or stab wound
- d. Gegaran (konkusi) kepala atau kecederaan leher, pengsan atau tidak boleh bernafas
I had a concussion or other head or neck injury, was knocked out or could not breathe
- e. Kebakaran kulit yang serius
I had a bad burn
- f. Diracun atau mengambil ubat berlebihan
I was poisoned or took too much of a drug
- g. Sesuatu yang lain berlaku kepada saya
Something else happened to me

26. Dalam tempoh 12 bulan yang lepas, apakah penyebab utama terhadap kecederaan serius yang anda alami?

During the past 12 months, what was the major cause of the most serious injury that happened to you?

- a. Saya tidak mengalami kecederaan dalam 12 bulan yang lepas
I was not seriously injured during the past 12 months
- b. Saya terlibat dalam kemalangan melibatkan kenderaan
I was in a motor vehicle accident or hit by a motor vehicle
- c. Saya terjatuh
I fell
- d. Sesuatu telah jatuh atau terkena saya
Something fell on me or hit me
- e. Saya telah diserang atau didera atau bergaduh dengan orang lain
I was attacked or abused or was fighting with someone
- f. Saya terlibat dalam kebakaran atau berada terlalu dekat dengan api atau sesuatu yang panas
I was in the fire or too near a flame or something hot
- g. Saya sedut atau telan sesuatu yang membahayakan saya
I inhaled or swallowed something bad for me
- h. Sesuatu yang lain menyebabkan kecederaan saya
Something else caused my injury

SILA BACA PERNYATAAN BI BAWAH:

2 soalan seterusnya adalah berkenaan buli. Buli berlaku apabila seseorang atau sekumpulan pelajar mengata atau melakukan sesuatu yang tidak menyenangkan pelajar lain. Seseorang juga boleh dikatakan dibuli apabila dia diejek secara berterusan atau dipulaukan dengan sengaja. Buli tidak diambil kira apabila dua pelajar yang sama saiz atau kekuatan bergaduh atau ejekan dilakukan secara bergurau atau berseronok bagi *kedua-dua pihak*.

PLEASE READ THE STATEMENT BELOW:

The next 2 questions ask about bullying. Bullying occurs when a student or group of students say or do bad and unpleasant things to another student. It is also bullying when a student is teased a lot in an unpleasant way or when a student is left out of things on purpose. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.

27. Dalam tempoh 30 hari yang lepas, berapa hari anda telah dibuli?

During the past 30 days, on how many days were you bullied?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 hingga 5 hari
3 to 5 days
- d. 6 hingga 9 hari
6 to 9 days
- e. 10 hingga 19 hari
10 to 19 days
- f. 20 hingga 29 hari
20 to 29 days
- g. Kesemua 30 hari
All 30 days

28. Dalam 30 hari yang lepas, apakah perlakuan buli **paling kerap** anda alami?
*During the past 30 days, how were you bullied **most often**?*
- Saya tidak dibuli dalam 30 hari yang lepas
I was not bullied during the past 30 days
 - Saya telah dipukul, ditendang, ditolak atau dikunci dalam suatu tempat
I was hit, kicked, punched, shoved around, or locked indoors
 - Saya telah diejek kerana bangsa, kerakyatan atau warna kulit saya
I was made fun of because of my race, nationality or colour
 - Saya telah diejek kerana agama saya
I was made fun of because of my religion
 - Saya telah diejek dengan ejekan seksual seperti secara komen, perilaku atau gurauan
I was made fun of with sexual jokes, comments or gestures
 - Saya telah dipulau dari apa-apa aktiviti secara sengaja atau langsung tidak dipedulikan
I was left out of activities on purpose or completely ignored
 - Saya diejek kerana bentuk badan atau paras rupa saya
I was made fun of because of how my body or face looks
 - Saya telah dibuli dengan cara lain
I was bullied in some other way

SILA BACA PERNYATAAN BI BAWAH:
2 soalan berikutnya adalah berkenaan deraan fizikal dan lisan di rumah. Apabila seseorang memukul atau mengatakan ayat yang menyakitkan hati ia diambil kira sebagai deraan fizikal atau lisan.

PLEASE READ THE STATEMENT BELOW:
The next 2 questions ask about physical and verbal abuse at home. When someone hits you or says hurtful or insulting things to you it is called physical abuse or verbal abuse.

29. Dalam tempoh 30 hari yang lepas, adakah anda telah dipukul di rumah sehingga meninggalkan kesan atau mengalami kecederaan?
During the past 30 days, how many times did someone at home hit you so hard that they left a mark or caused an injury?
- 0 kali
0 times
 - 1 kali
1 time
 - 2 atau 3 kali
2 or 3 times
 - 4 atau 5 kali
4 or 5 times
 - 6 atau 7 kali
6 or 7 times
 - 8 atau 9 kali
8 or 9 times
 - 10 atau 11 kali
10 or 11 times
 - 12 kali atau lebih
12 or more times

30. Dalam tempoh 30 hari yang lepas, berapa kali seseorang di rumah menyatakan sesuatu yang menyakitkan hati atau menghina anda?

During the past 30 days, how many times has someone at home said hurtful or insulting things to you?

- a. 0 kali
0 times
- b. 1 kali
1 time
- c. 2 atau 3 kali
2 or 3 times
- d. 4 atau 5 kali
4 or 5 times
- e. 6 atau 7 kali
6 or 7 times
- f. 8 atau 9 kali
8 or 9 times
- g. 10 atau 11 kali
10 or 11 times
- h. 12 kali atau lebih
12 or more times

BAHAGIAN 5
PART 5

6 soalan seterusnya adalah berkenaan perasaan dan persahabatan anda.
The next 6 questions ask about your feelings and friendships.

31. Dalam tempoh 12 bulan yang lepas, berapa kerap anda merasa kesunyian?
During the past 12 months, how often have you felt lonely?
- Tidak pernah
Never
 - Jarang-jarang
Rarely
 - Kadang-kadang
Sometimes
 - Kebanyakan masa
Most of the time
 - Setiap masa
Always
32. Dalam tempoh 12 bulan yang lepas, berapa kerap anda merasa terlalu risau tentang sesuatu perkara sehingga anda tidak dapat tidur di waktu malam?
During the past 12 months, how often have you been so worried about something that you could not sleep at night?
- Tidak pernah
Never
 - Jarang-jarang
Rarely
 - Kadang-kadang
Sometimes
 - Kebanyakan masa
Most of the time
 - Setiap masa
Always
33. Dalam tempoh 12 bulan yang lepas, pernahkah anda terfikir secara serius untuk membunuh diri?
During the past 12 months, did you ever seriously consider attempting suicide?
- Ya
Yes
 - Tidak
No
34. Dalam tempoh 12 bulan yang lepas, adakah anda membuat perancangan untuk membunuh diri?
During the past 12 months, did you make a plan about how you would attempt suicide?
- Ya
Yes
 - Tidak
No
35. Dalam tempoh 12 bulan yang lepas, berapa kali anda telah cuba untuk membunuh diri?
During the past 12 months, how many times did you actually attempt suicide?
- 0 kali
0 times
 - 1 kali
1 time
 - 2 atau 3 kali
2 or 3 times
 - 4 hingga 5 kali
4 to 5 times
 - 6 kali atau lebih
6 or more times
36. Berapa ramai kawan rapat yang anda ada?
How many close friends do you have?
- 0 kawan
0 friends
 - 1 kawan
1 friend
 - 2 kawan
2 friends
 - 3 atau lebih
3 or more

BAHAGIAN 6
PART 6

Rokok dan produk tembakau yang lain.
Cigarettes and other cigarette products.

37. Berapakah umur anda ketika kali pertama menghisap rokok?
How old were you when you first tried a cigarette?

a. Saya tidak pernah merokok
I have never smoked cigarettes

b. tahun/ *years old*

38. Dalam tempoh 30 hari yang lepas, berapa hari anda merokok?
During the past 30 days, on how many days did you smoke cigarettes?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 hingga 5 hari
3 to 5 days
- d. 6 hingga 9 hari
6 to 9 days
- e. 10 hingga 19 hari
10 to 19 days
- f. 20 hingga 29 hari
20 to 29 days
- g. Kesemua 30 hari
All 30 days

39. Dalam tempoh 30 hari yang lepas, adakah anda menggunakan mana-mana produk seperti di bawah?
During the past 30 days, did you use any of the products listed below?

39.1 Shisha/*Shisha*

- a. Ya/*Yes*
- b. Tidak/*No*

39.2 Rokok Daun/*Traditional hand-rolled cigarette*

- a. Ya/*Yes*
- b. Tidak/*No*

39.3 Rokok gulung sendiri dengan kertas rokok/*"Roll-your-own" with cigarette paper*

- a. Ya/*Yes*
- b. Tidak/*No*

39.4 Cerut/*Cigar*

- a. Ya/*Yes*
- b. Tidak/*No*

39.5 Hisap paip/*Pipe smoking*

- a. Ya/*Yes*
- b. Tidak/*No*

39.6 Rokok elektronik atau vape/*E-cigarettes or vape*

- a. Ya/*Yes*
- b. Tidak/*No*

39.7 Mengunyah tembakau (Sentil atau songel)/*Chewing tobacco*

- a. Ya/*Yes*
- b. Tidak/*No*

39.8 Menghidu tembakau/*Snuff*

- a. Ya/*Yes*
- b. Tidak/*No*

40. Dalam tempoh 12 bulan yang lepas, adakah anda cuba untuk berhenti merokok?
During the past 12 months, have you ever tried to stop smoking cigarettes?

- a. Saya tidak pernah merokok
I have never smoked cigarettes
- b. Saya tidak pernah merokok dalam tempoh 12 bulan yang lepas
I did not smoke cigarettes during the past 12 months
- c. Ya
Yes
- d. Tidak
No

41. Dalam tempoh 7 hari yang lepas, berapa hari anda bersama dengan perokok yang sedang merokok?
During the past 7 days, on how many days have people smoked in your presence?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 atau 4 hari
3 or 4 days
- d. 5 atau 6 hari
5 or 6 days
- e. Kesemua 7 hari
All 7 days

42. Siapa antara bapa, ibu atau penjaga yang menggunakan produk tembakau termasuk rokok?
Which of your parents or guardians use any form of tobacco including cigarettes?

- a. Kedua-duanya tidak merokok
Neither
- b. Ayah atau penjaga lelaki
My father or male guardian
- c. Ibu atau penjaga perempuan
My mother or female guardian
- d. Kedua-duanya
Both
- e. Tidak tahu
I do not know

43. Berapakah umur anda ketika mula-mula menggunakan rokok elektronik/vape?
How old were you when you first tried using e-cigarettes/vape?

- a. Saya tidak pernah gunakan rokok elektronik/vape
I have never tried using e-cigarettes/vape
- b. tahun/ years old

44. Dalam tempoh 30 hari yang lepas, berapa hari anda telah menggunakan rokok elektronik/vape?
During the past 30 days, on how many days did you use e-cigarettes/vape?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 hingga 5 hari
3 to 5 days
- d. 6 hingga 9 hari
6 to 9 days
- e. 10 hingga 19 hari
10 to 19 days
- f. 20 hingga 29 hari
20 to 29 days
- g. Kesemua 30 hari
All 30 days

45. Dalam tempoh 12 bulan yang lepas, adakah anda cuba untuk berhenti menggunakan rokok elektronik/vape?

During the past 12 months, did you ever try to stop using e-cigarettes/vape?

a. Saya tidak pernah menggunakan rokok elektronik/ vape

I have never used e-cigarettes/vape

b. Saya tidak pernah menggunakan rokok elektronik/ vape dalam tempoh 12 bulan yang lepas

I don't use e-cigarettes/vape in the past 12 months

c. Ya

Yes

d. Tidak

No

46. Siapakah antara bapa, ibu atau penjaga anda menggunakan rokok elektronik/vape?

Which of your parents or guardians use e-cigarettes/vape?

a. Kedua-duanya tidak merokok

Neither

b. Ayah atau penjaga lelaki

My father or male guardian

c. Ibu atau penjaga perempuan

My mother or female guardian

d. Kedua-duanya

Both

e. Tidak tahu

I do not know

BAHAGIAN 7
PART 7

SILA BACA PERNYATAAN DI BAWAH:

6 soalan berikutnya adalah berkenaan meminum minuman beralkohol. Satu “minuman merujuk kepada satu gelas wain, tuak, lihing, bahar, ijuk atau todi; sebotol bir, segelas kecil arak, langkau, montoku; atau minuman campuran. Minuman beralkohol tidak termasuk beberapa hirup wain untuk tujuan keagamaan.

PLEASE READ THE STATEMENT BELOW:

The next 6 questions ask about drinking alcohol. A “drink’ is a glass of wine, tuak, lihing, bahar, ijuk or toddy; a bottle of beer, a small glass of liquor’ or mixed drink. Drinking alcohol does not include drinking a few sip of wine for religious purposes.

47. Berapakah umur anda ketika kali pertama anda minum minuman beralkohol?

How old were you when you had your first drink of alcohol?

- a. Saya tidak pernah minum minuman beralkohol
I have never had a drink of alcohol
- b. 7 tahun atau ke bawah
7 years old or younger
- c. 8 atau 9 tahun
8 or 9 years old
- d. 10 atau 11 tahun
10 or 11 years old
- e. 12 atau 13 tahun
12 or 13 years old
- f. 14 atau 15 tahun
14 or 15 years old
- g. 16 tahun atau ke atas
16 years old or older

48. Dalam tempoh 30 hari yang lepas, berapa hari anda mengambil sekurang-kurangnya satu minuman mengandungi alkohol?

During the past 30 days, on how many days did you have at least one drink containing alcohol?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 hingga 5 hari
3 to 5 days
- d. 6 hingga 9 hari
6 to 9 days
- e. 10 hingga 19 hari
10 to 19 days
- f. 20 hingga 29 hari
20 to 29 days
- g. Kesemua 30 hari
All 30 days

49. Dalam tempoh 30 hari yang lepas, pada hari anda minum minuman alkohol; berapa banyak minuman yang anda **biasa** ambil dalam sehari?

During the past 30 days, on the day you drank alcohol, how many drinks did you usually drink per day?

- Saya tidak minum minuman beralkohol dalam 30 hari yang lepas
I did not drink alcohol during the past 30 days
- Kurang dari 1 minuman
Less than one drink
- 1 minuman
1 drink
- 2 minuman
2 drinks
- 3 minuman
3 drinks
- 4 minuman
4 drinks
- 5 minuman atau lebih
5 or more drinks

50. Dalam tempoh 30 hari yang lepas, biasanya bagaimana anda mendapatkan minuman beralkohol? **SILA PILIH SATU JAWAPAN SAHAJA**

During the past 30 days, how did you usually get the alcohol you drank? SELECT ONLY ONE RESPONSE

- Saya tidak minum minuman beralkohol dalam 30 hari yang lepas
I did not drink alcohol during the past 30 days
- Saya beli dari kedai atau gerai
I brought it in a store, shop or from a street vendor
- Saya beri duit kepada orang lain untuk membeli
I gave someone else money to buy it for me
- Saya dapat daripada kawan
I got it from my friend
- Saya dapat daripada keluarga saya
I got it from my family
- Saya curi atau ambil tanpa kebenaran
I stole it or got it without permission
- Saya perolehi dari cara lain
I got it some other way

SILA BACA PERNYATAAN DI BAWAH:
 Terhuyung-hayang semasa berjalan, tidak mampu bercakap dengan betul, dan muntah adalah tanda seseorang itu terlalu mabuk.

PLEASE READ THE STATEMENT BELOW?
 Staggering when walking, not being able to speak right, and throwing up are some signs of being really drunk.

51. Sepanjang hidup anda berapa kali anda minum minuman beralkohol berlebihan sehingga betul-betul mabuk?

During your life, how many times did you drink so much alcohol that you were really drunk?

- 0 kali
0 times
- 1 atau 2 kali
1 or 2 times
- 3 hingga 9 kali
3 or 9 times
- 10 kali atau lebih
10 or more times

52. Sepanjang hidup anda, berapa kali anda mendapat masalah dengan ahli keluarga atau kawan, tidak ke sekolah, atau bertumbuk, akibat daripada minum minuman beralkohol?

During your life, how many times have you got into trouble with your family or friends, missed school, or got into fights, as a result of drinking alcohol?

- 0 kali
0 times
- 1 atau 2 kali
1 or 2 times
- 3 hingga 9 kali
3 or 9 times
- 10 kali atau lebih
10 or more times

**BAHAGIAN 8
 PART 8**

SILA BACA PERNYATAAN DI BAWAH:

4 soalan berikutnya adalah berkenaan penggunaan dadah termasuk heroin, morfin, gam, amfitamin, ecstasy, syabu, ice dan ganja. Ini tidak termasuk ubat-ubatan preskripsi.

PLEASE READ THE STATEMENT BELOW:

The next 4 questions ask about drug use. This include heroin, morphine, glue, amphetamine, ecstasy, methamphetamine, ice and marijuana . This does not include prescribed medicine.

53. Berapakah umur anda ketika **pertama kali** anda menggunakan dadah?

*How old were you when you **first** used drugs?*

- a. Saya tidak pernah menggunakan dadah
I have never used drugs
- b. 7 tahun atau ke bawah
7 years old or younger
- c. 8 atau 9 tahun
8 or 9 years old
- d. 10 atau 11 tahun
10 or 11 years old
- e. 12 atau 13 tahun
12 or 13 years old
- f. 14 atau 15 tahun
14 or 15 years old
- g. 16 tahun atau ke atas
16 years old or older

54. Sepanjang hidup anda, berapa kali anda telah menggunakan dadah?

During your life, how many times have you used drugs?

- a. 0 kali
0 times
- b. 1 atau 2 kali
1 or 2 times
- c. 3 hingga 9 kali
3 or 9 times
- d. 10 hingga 19 kali
10 to 19 times
- e. 20 kali atau lebih
20 or more times

55. Dalam tempoh 30 hari yang lepas, berapa kali anda menggunakan dadah?

During the past 30 days, how many times have you used drugs?

- a. 0 kali
0 times
- b. 1 atau 2 kali
1 or 2 times
- c. 3 hingga 9 kali
3 or 9 times
- d. 10 hingga 19 kali
10 to 19 times
- e. 20 kali atau lebih
20 or more times

56. Dalam tempoh 30 hari yang lepas, bagaimana biasanya anda mendapatkan dadah yang anda gunakan? SILA PILIH SATU JAWAPAN SAHAJA

During the past 30 days, how did you usually get the drugs used? SELECT ONLY ONE RESPONSE

- a. Saya tidak menggunakan dadah dalam 30 hari yang lepas
I did not use drugs during the past 30 days
- b. Saya beli dari orang lain
I bought them from someone
- c. Saya beri duit kepada orang lain untuk membeli
I gave someone else money to buy it for me
- d. Saya mencuri atau mengambil tanpa kebenaran
I stole it or got it without permission
- e. Saya mendapatkannya daripada kawan saya
I got it from my friend
- f. Saya mendapatkannya daripada keluarga saya
I got it from my family
- g. Saya memperolehi dari cara lain
I got it some other ways

57. Sepanjang hidup anda, berapa kali anda telah menggunakan ganja?

During your life, how many times have you used marijuana?

- a. 0 kali
0 times
- b. 1 atau 2 kali
1 or 2 times
- c. 3 hingga 9 kali
3 or 9 times
- d. 10 hingga 19 kali
10 to 19 times
- e. 20 kali atau lebih
20 or more times

58. Dalam tempoh 30 hari yang lepas, berapa kali anda menggunakan ganja?

During the past 30 days, how many times have you used marijuana?

- a. 0 kali
0 times
- b. 1 atau 2 kali
1 or 2 times
- c. 3 hingga 9 kali
3 or 9 times
- d. 10 hingga 19 kali
10 to 19 times
- e. 20 kali atau lebih
20 or more times

59. Sepanjang hidup anda, berapa kali anda telah menggunakan amfetamin atau metamfetamin (meth, syabu, ice, chase the dragon)?

During your life, how many times have you used amphetamines or metamphetamines (meth, syabu, ice, chase the dragon)?

- a. 0 kali
0 times
- b. 1 atau 2 kali
1 or 2 times
- c. 3 hingga 9 kali
3 or 9 times
- d. 10 hingga 19 kali
10 to 19 times
- e. 20 kali atau lebih
20 or more times

BAHAGIAN 9
PART 9

SILA BACA PERNYATAAN DI BAWAH:

5 soalan berikutnya adalah berkenaan hubungan seksual. Hubungan seksual adalah perlakuan seks yang melibatkan memasukkan zakar ke dalam faraj atau dubur.

PLEASE READ THE STATEMENT BELOW:

The next 5 questions ask about sexual intercourse. Sexual intercourse is defined as sexual acts of penetration of penis into vagina or anus.

60. Pernahkah anda melakukan hubungan seksual/persetubuhan dalam 30 hari yang lepas ?

Have you ever had sexual intercourse in the past 30 days?

- a. Ya
Yes
- b. No
Tidak

61. Berapa umur anda ketika kali pertama melakukan hubungan seksual/persetubuhan?

How old were you when you had sexual intercourse for the first time?

- a. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
- b. 11 tahun atau ke bawah
11 years old or younger
- c. 12 tahun
12 years old
- d. 13 tahun
13 years old
- e. 14 tahun
14 years old
- f. 15 tahun
15 years old
- g. 16 tahun atau ke atas
16 years old or older

62. Sepanjang hidup anda, berapa ramai orang yang telah anda lakukan hubungan seksual/persetubuhan?

During your life, with how many people have you had sexual intercourse?

- a. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
- b. 1 orang
1 person
- c. 2 orang
2 people
- d. 3 orang
3 people
- e. 4 orang
4 people
- f. 5 orang
5 people
- g. 6 orang atau lebih
6 or more people

63. Kali terakhir anda melakukan hubungan seksual/persetubuhan; adakah anda atau pasangan anda menggunakan kondom?

The last time you had sexual intercourse; did you or your partner use a condom?

- a. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
- b. Ya
Yes
- c. Tidak
No

64. Kali terakhir anda melakukan hubungan seksual/persetubuhan, adakah anda atau pasangan anda menggunakan kaedah pencegahan kehamilan lain seperti teknik pancutan luar, masa selamat, pil pencegah kehamilan, ataupun kaedah lain?

The last time you had sexual intercourse, did you or your partner use any other method of birth control, such as withdrawal, safe time, birth control pills, or any other method to prevent pregnancy?

- a. Saya tidak pernah melakukan hubungan seksual/persetubuhan
I have never had sexual intercourse
- b. Ya
Yes
- c. Tidak
No
- d. Tidak tahu
I do not know

BAHAGIAN 10
PART 10

SILA BACA PERNYATAAN DI BAWAH:

3 soalan seterusnya adalah berkenaan aktiviti fizikal. Aktiviti fizikal adalah apa-apa aktiviti yang meningkatkan kadar denyutan jantung dan menyebabkan kita bernafas dengan kuat. Aktiviti fizikal boleh dilakukan dalam sukan, bermain dengan kawan, atau berjalan ke sekolah. Contoh aktiviti fizikal termasuklah berlari, berjalan pantas, berbasikal, menari, dan bola sepak.

PLEASE READ THE STATEMENT BELOW:

The next 3 questions ask about physical activity. Physical activity is any activity that increases your heart rate and makes you breathe hard. Physical activity can be done in sports, playing with friends, or walking to school. Some examples of physical activity are running, fast walking, biking, dancing, and football.

65. Dalam tempoh 7 hari yang lepas, berapa hari anda melakukan aktiviti fizikal untuk sekurang-kurangnya 60 minit setiap hari? **JUMLAHKAN MASA ANDA MELAKUKAN APA-APA AKTIVITI FIZIKAL SETIAP HARI**

*During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? **ADD UP ALL THE TIME YOU SPENT IN ANY KIND OF PHYSICAL ACTIVITY EACH DAY***

- a. 0 hari
0 days
- b. 1 hari
1 day
- c. 2 hari
2 days
- d. 3 hari
3 days
- e. 4 hari
4 days
- f. 5 hari
5 days
- g. 6 hari
6 days
- h. 7 hari
7 days

66. Dalam tempoh 7 hari yang lepas, berapa hari anda berjalan kaki atau berbasikal ke sekolah atau balik ke rumah?

During the past 7 days, on how many days did you walk or ride a bicycle to or from school?

- a. 0 hari
0 days
- b. 1 hari
1 day
- c. 2 hari
2 days
- d. 3 hari
3 days
- e. 4 hari
4 days
- f. 5 hari
5 days
- g. 6 hari
6 days
- h. 7 hari
7 days

SILA BACA PERNYATAAN DIBAWAH:

Soalan berikutnya adalah berkenaan masa yang anda habiskan dengan duduk semasa tidak di sekolah atau semasa membuat kerja rumah.

PLEASE READ THE STATEMENT BELOW:

The next question asks about the time you spend mostly sitting when you are not in school or doing homework.

67. Biasanya berapa masa yang anda habiskan untuk duduk sama ada untuk menonton televisyen, bermain permainan komputer, berbual dengan kawan atau apa-apa aktiviti yang memerlukan anda duduk?

How much time do you spend during a typical or usual day sitting and watching television, playing computer games, talking with friends, or doing other sitting activities?

- a. Kurang dari 1 jam sehari
Less than 1 hour per day
- b. 1 hingga 2 jam sehari
1 to 2 hours per day
- c. 3 hingga 4 jam sehari
3 to 4 hours per day
- d. 5 hingga 6 jam sehari
5 to 6 hours per day
- e. 7 hingga 8 jam sehari
7 to 8 hours per day
- f. Lebih dari 8 jam sehari
More than 8 hours per day

BAHAGIAN 11
PART 11

6 soalan seterusnya adalah berkenaan pengalaman anda di sekolah dan di rumah.
The next 6 questions ask about your experiences at school and at home.

68. Dalam tempoh 30 hari yang lepas, berapa hari anda tidak hadir ke kelas atau sekolah tanpa kebenaran?

During the past 30 days, on how many days did you miss classes or school without permission?

- a. 0 hari
0 days
- b. 1 atau 2 hari
1 or 2 days
- c. 3 hingga 5 hari
3 to 5 days
- d. 6 hingga 9 hari
6 to 9 days
- e. 10 hari atau lebih
10 or more days

69. Dalam tempoh 30 hari yang lepas, berapa kerap rakan sekolah anda bersikap baik hati dan suka membantu?

During the past 30 days, how often were most of the students in your school kind and helpful?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

70. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda menyemak kerja sekolah anda?

During the past 30 days, how often did your parents or guardians check to see if your homework was done?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

71. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda cuba memahami masalah dan kebimbangan anda?

During the past 30 days, how often did your parents or guardians try to understand your problems and worries?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

72. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda benar-benar tahu apa yang anda lakukan pada masa lapang?

During the past 30 days how often did your parents or guardians really know what you were doing with your free time?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

73. Dalam tempoh 30 hari yang lepas, berapa kerap ibu bapa atau penjaga anda memeriksa barangan anda tanpa kebenaran?

During the past 30 days, how often did your parents or guardians go through your things without your approval?

- a. Tidak pernah
Never
- b. Jarang-jarang
Rarely
- c. Kadang-kadang
Sometimes
- d. Kebanyakan masa
Most of the time
- e. Sentiasa
Always

BAHAGIAN 12
PART 12

Penggunaan internet di kalangan remaja.
The use of internet among adolescents.

74. Adakah anda melayari internet dalam 30 hari yang lepas?
Did you surf the internet in the past 30 days?

- a. Ya
Yes
- b. Tidak (**Terus ke BAHAGIAN 13, soalan No. 78**)
No (Go to PART 13, question No. 78)

75. Apakah alat yang anda gunakan bagi melayari internet?

Which devices that you use for surfing internet?

75.1 Telefon pintar/ *smartphone*

- a. Ya/Yes
- b. Tidak/No

75.2 Komputer, Komputer Riba/
Computer, Laptop, Notebook

- a. Ya/Yes
- b. Tidak/No

75.3 Papan Elektronik Mudah Alih/
Tablet, Ipad

- a. Ya/Yes
- b. Tidak/No

76. Pernahkah anda belajar menggunakan internet dengan bijak dari.....?

Have you ever learned how to use the internet wisely from.....?

76.1 Ibubapa/penjaga/ *parents/guardian*

- a. Ya/Yes
- b. Tidak/No

76.2 Guru/ *teacher*

- a. Ya/Yes
- b. Tidak/No

76.3 Kawan/ *friend*

- a. Ya/Yes
- b. Tidak/No

76.4 Lain-lain sumber (cth: melalui pembelajaran sendiri, kempen/iklan)
Other sources (eg: through self-learning, campaign/advertisement)

- a. Ya/Yes
- b. Tidak/No

77. Ujian saringan penggunaan internet.
Internet usage screening test.

Arahan: Sila nilaikan setiap soalan dengan menggunakan pilihan “a” sehingga “e” daripada skala dibawah untuk menilai ketepatan fakta tersebut bagi diri anda dalam tempoh **30 HARI YANG LALU**. Sila bulatkan jawapan anda untuk semua soalan.

		Tidak pernah	Kadang-kadang	Agak Kerap	Sederhana Kerap	Sangat Kerap
77.1	Berapa kerapkah anda mendapati yang anda melayari internet lebih lama dari masa yang dirancang? <i>How often do you find that you stay on-line longer than you intended?</i>	a	b	c	d	e
77.2	Berapa kerapkah anda mengabaikan tugas pelajaran/ kerja rumah anda untuk menghabiskan lebih banyak masa melayari internet? <i>How often do you neglect household chores to spend more time on-line?</i>	a	b	c	d	e
77.3	Berapa kerapkah anda memilih keseronokan internet berbanding hubungan rapat yang terjalin dengan kawan/pasangan anda? <i>How often do you prefer the excitement of the Internet to intimacy with your partner?</i>	a	b	c	d	e
77.4	Berapa kerapkah anda memulakan hubungan baru dengan pengguna internet yang lain? <i>How often do you form new relationships with fellow on-line users?</i>	a	b	c	d	e
77.5	Berapa kerapkah orang-orang didalam hidup anda mengadu kepada anda mengenai jumlah masa yang anda gunakan untuk melayari internet? <i>How often do others in your life complain to you about the amount of time you spend on-line?</i>	a	b	c	d	e
77.6	Berapa kerapkah pelajaran kamu terjejas (cth. ponteng kelas, menangguhkan kerja, tidak menyiapkan tugas tepat pada masa, dll) disebabkan oleh masa yang anda habiskan untuk melayari internet? <i>How often do your grades or school work suffers because of the amount of time you spend on-line?</i>	a	b	c	d	e
77.7	Berapa kerapkah anda memeriksa email anda sebelum anda melakukan perkara lain? <i>How often do you check your email before something else that you need to do?</i>	a	b	c	d	e
77.8	Berapa kerapkah pencapaian akademik atau produktiviti anda terjejas disebabkan oleh penggunaan internet? <i>How often does your job performance or productivity suffer because of the Internet?</i>	a	b	c	d	e
77.9	Berapa kerapkah anda cuba mempertahankan diri atau berahsia apabila seseorang bertanya mengenai aktiviti anda (apa yang anda lakukan) di internet?	a	b	c	d	e

	<i>How often do you become defensive or secretive when anyone asks you what you do on-line?</i>					
77.10	Berapa kerapkah anda cuba melupakan pemikiran yang mengganggu mengenai kehidupan anda dengan pemikiran yang boleh menenangkan di internet? <i>How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?</i>	a	b	c	d	e
77.11	Berapa kerapkah anda mendapati diri anda tertunggu-tunggu atau mengharapkan untuk segera menggunakan internet lagi apabila anda tidak menggunakannya? <i>How often do you find yourself anticipating when you will go on-line again?</i>	a	b	c	d	e
77.12	Berapa kerapkah anda merasa bimbang apabila memikirkan kehidupan tanpa internet akan menjadi bosan, kosong dan tidak menyeronokkan? <i>How often do you fear that life without the Internet would be boring, empty, and joyless?</i>	a	b	c	d	e
77.13	Berapa kerapkah anda marah, menjerit atau menunjukkan reaksi tidak gembira kepada seseorang yang mengganggu anda ketika anda melayari internet? <i>How often do you snap, yell, or act annoyed if someone bothers you while you are on-line?</i>	a	b	c	d	e
77.14	Berapa kerapkah anda kurang tidur disebabkan melayari internet hingga lewat malam? <i>How often do you lose sleep due to late-night log-ins?</i>	a	b	c	d	e
77.15	Berapa kerapkah anda asyik terfikir tentang internet atau berkhayal melayarinya walaupun anda tidak menggunakan internet pada masa itu? <i>How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line?</i>	a	b	c	d	e
77.16	Berapa kerapkah anda berkata kepada diri sendiri "sekejap lagi/ beberapa minit lagi" apabila anda melayari internet? <i>How often do you find yourself saying "just a few more minutes" when on-line?</i>	a	b	c	d	e
77.17	Berapa kerapkah anda cuba untuk mengurangkan masa anda melayari internet tetapi tidak berjaya? <i>How often do you try to cut down the amount of time you spend on-line and fail?</i>	a	b	c	d	e
77.18	Berapa kerapkah anda cuba menyorokkan daripada orang lain mengenai jumlah masa yang anda gunakan untuk melayari internet? <i>How often do you try to hide how long you've been on-line?</i>	a	b	c	d	e
77.19	Berapa kerapkah anda memilih untuk menghabiskan lebih banyak masa melayari internet berbanding keluar bersosial dengan rakan-rakan anda?	a	b	c	d	e

	<i>How often do you choose to spend more time on-line over going out with others?</i>					
77.20	<p>Berapa kerapkah anda merasa sedih, berperasaan tidak menentu dan gementar apabila tidak melayari internet, di mana semua perasaan ini akan hilang sebaik saja anda menggunakan internet semula?</p> <p><i>How often do you feel depressed, moody or nervous when you are off-line, which goes away once you are back on-line?</i></p>	a	b	c	d	e

BAHAGIAN 13
PART 13

78. Saringan Minda Sihat
Healthy Mind Screening

Sila baca setiap kenyataan di bawah dan **HITAMKAN** jawapan anda pada KERTAS JAWAPAN berdasarkan jawapan **a, b, c,** atau **d** bagi menggambarkan keadaan anda sepanjang minggu yang lalu. Tiada jawapan betul atau salah. Jangan mengambil masa yang terlalu lama untuk menjawab mana-mana kenyataan.

*Please read each statement and **SHADE** numbers **a, b, c,** or **d** which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.*

Skala pemarkahan adalah seperti berikut:
The rating scale is as follow:

- a. **Tidak langsung** menggambarkan keadaan saya
Did not apply to me at all
- b. **Sedikit atau jarang-jarang** menggambarkan keadaan saya
*Applied to me to some **degree** or **some of the time***
- c. **Banyak atau kerap kali** menggambarkan keadaan saya
*Applied to me to a **considerable degree** or a **good part of time***
- d. **Sangat banyak atau sangat kerap** menggambarkan keadaan saya
*Applied to me **very much,** or **most of the time***

78.1	Saya dapati diri saya sukar ditenteramkan <i>I found it hard to wind down</i>	a	b	c	d
78.2	Saya sedar mulut saya terasa kering <i>I was aware of dryness of my mouth</i>	a	b	c	d
78.3	Saya tidak dapat mengalami perasaan positif sama sekali <i>I couldn't seem to experience any positive feeling at all</i>	a	b	c	d
78.4	Saya mengalami kesukaran bernafas (contohnya pernafasan yang laju, tercungap-cungap walaupun tidak melakukan senaman fizikal) <i>I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)</i>	a	b	c	d
78.5	Saya sukar untuk mendapatkan semangat bagi melakukan sesuatu perkara <i>I found it difficult to work up the initiative to do things</i>	a	b	c	d

78.6	Saya cenderung untuk bertindak keterlaluan dalam sesuatu keadaan <i>I tended to over-react to situations</i>	a	b	c	d
78.7	Saya rasa mengeletar (contohnya pada tangan) <i>I experience trembling (e.g. in the hands)</i>	a	b	c	d
78.8	Saya rasa saya menggunakan banyak tenaga dalam keadaan cemas <i>I felt that I was using a lot of nervous energy</i>	a	b	c	d
78.9	Saya bimbang keadaan di mana saya mungkin menjadi panik dan melakukan perkara yang membodohkan diri sendiri <i>I was worried about situation in which I might panic and make a fool of myself</i>	a	b	c	d
78.10	Saya rasa saya tidak mempunyai apa-apa untuk diharapkan <i>I felt that I had nothing to look forward to</i>	a	b	c	d
78.11	Saya mendapati diri saya semakin gelisah <i>I found myself getting agitated</i>	a	b	c	d
78.12	Saya rasa sukar untuk relaks <i>I found it difficult to relax</i>	a	b	c	d
78.13	Saya rasa sedih dan murung <i>I felt down-hearted and blue</i>	a	b	c	d
78.14	Saya tidakdapat menahan sabar dengan perkara yang menghalang saya meneruskan apa yang saya lakukan <i>I was intolerant of anything that kept me from getting on with what I was doing</i>	a	b	c	d
78.15	Saya rasa hampir-hampir menjadi panik/cemas <i>I felt I was close to panic</i>	a	b	c	d
78.16	Saya tidak bersemangat dengan apa jua yang saya lakukan <i>I was unable to become enthusiastic about anything</i>	a	b	c	d
78.17	Saya tidak begitu berharga sebagai seorang individu <i>I felt I wasn't worth much as a person</i>	a	b	c	d

78.18	Saya rasa yang saya mudah tersentuh <i>I felt that I was rather touchy</i>	a	b	c	d
78.19	Saya sedar tindakbalas jantung saya walaupun tidak melakukan aktiviti fizikal (contohnya kadar denyutan jantung bertambah, atau denyutan jantung berkurangan) <i>I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)</i>	a	b	c	d
78.20	Saya berasa takut tanpa sebab yang munasabah <i>I felt scared without any good reason</i>	a	b	c	d
78.21	Saya rasa hidup ini tidak bermakna <i>I felt that life was meaningless</i>	a	b	c	d



INSTITUT KESIHATAN UMUM
KEMENTERIAN KESIHATAN MALAYSIA
Jalan Bangsar
50590 Kuala Lumpur

TINJAUAN KEBANGSAAN KESIHATAN DAN MORBIDITI 2017
KERTAS JAWAPAN TINJAUAN KESIHATAN REMAJA

ID PELAJAR

NEGERI	STRATA	KATEGORI SEKOLAH	KOD SEKOLAH	KELAS	PELAJAR
0 0 1 1 2 3 4 5 6 7 8 9	1 2	1 2	0 0 1 1 2 2 3 4 5 6 7 8 9	0 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9	0 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9

1 A B C D E F G H	34 A B	60 A B
2 A B	35 A B C D E	61 A B C D E F G
3 A B C D E F	36 A B C D	62 A B C D E F G
4 A B C D E F	37 A B <input type="checkbox"/> <input type="checkbox"/>	63 A B C
5 A B C D E F	38 A B C D E F G	64 A B C D
6 A B C D E	39.1 A B	65 A B C D E F G H
7 A B C D E F G	39.2 A B	66 A B C D E F G H
8 A B C D E F G	39.3 A B	67 A B C D E F
9 A B C D E F G	39.4 A B	68 A B C D E
10 A B C D E F G	39.5 A B	69 A B C D E
11 A B C D E F G	39.6 A B	70 A B C D E
12 A B C D E F G H	39.7 A B	71 A B C D E
13 A B C D E F	39.8 A B	72 A B C D E
14 A B C	40 A B C D	73 A B C D E
15 A B	41 A B C D E	74 A B
16 A B C D E	42 A B C D E	75.1 A B
17 A B	43 A B <input type="checkbox"/> <input type="checkbox"/>	75.2 A B
18 A B	44 A B C D E F G	75.3 A B
19 A B C D E	45 A B C D	76.1 A B
20 A B C D E	46 A B C D E	76.2 A B
21 A B C D E	47 A B C D E F G	76.3 A B
22 A B C D E F G H	48 A B C D E F G	76.4 A B
23 A B C D E F G H	49 A B C D E F G	77.1 A B C D E
24 A B C D E F G H	50 A B C D E F G	77.2 A B C D E
25 A B C D E F G	51 A B C D	77.3 A B C D E
26 A B C D E F G H	52 A B C D	77.4 A B C D E
27 A B C D E F G	53 A B C D E F G	77.5 A B C D E
28 A B C D E F G H	54 A B C D E	77.6 A B C D E
29 A B C D E F G H	55 A B C D E	77.7 A B C D E
30 A B C D E F G H	56 A B C D E F G	77.8 A B C D E
31 A B C D E	57 A B C D E	77.9 A B C D E
32 A B C D E	58 A B C D E	77.10 A B C D E
33 A B	59 A B C D E	77.11 A B C D E
		77.12 A B C D E
		77.13 A B C D E
		77.14 A B C D E
		77.15 A B C D E
		77.16 A B C D E
		77.17 A B C D E
		77.18 A B C D E
		77.19 A B C D E
		77.20 A B C D E





Ministry of Health Malaysia



MINISTRY OF
EDUCATION
MALAYSIA

ISBN 978-983-2387-68-8



9 789832 387688