



THE THIRD
NATIONAL HEALTH AND MORBIDITY SURVEY
2006
(NHMS III)

SMOKING

INSTITUTE FOR PUBLIC HEALTH
NATIONAL INSTITUTES OF HEALTH
MINISTRY OF HEALTH
MALAYSIA
2008



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JANUARY 2008**

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LIST OF RESEARCH TOPICS

Topic 1	Health Expenditure
Topic 2	Oral Health
Topic 3	Load of Illness
Topic 4	Health Utilization
Topic 5	Injury and Risk Reduction Practice
Topic 6	Physical Disability
Topic 7	Asthma
Topic 8	Dengue Prevention Practice
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Topic 16	Women's Health
Topic 17	Sexual Behaviour
Topic 18	Psychiatric Morbidity

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SMOKING

Chapter I :
Smoking (Adolescent)

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Instittute for Public Health,
Ministry of Health Malaysia.*

MESSAGE FROM THE DIRECTOR GENERAL OF HEALTH MALAYSIA

Since independence, Malaysia has achieved remarkable progress economically and socially, notably in the health sector, through a well planned and comprehensive health care delivery system. However, Malaysia's health care system still has to grapple with many challenges, particularly the rising costs of health care and the increasing demands and expectations for quality care by our consumers. In this respect, the Ministry of Health formed the 'National Institutes of Health' to spearhead health research that will provide the body of evidence to help formulate health policies and create new tools to measure health impacts arising from the series of interventions made in the provision of health care. This will lead to an environment of better governance.

The first National Health & Morbidity Survey (NHMS) was conducted in 1986 by the Institute for Public Health (IPH) which is currently one of the research organizations under the umbrella of the National Institutes of Health (NIH). IPH was also given the task of conducting the second NHMS II in 1996 and the current NHMS III in 2006. Data and information gathered by these surveys are consistently and extensively been used by the Ministry of Health in formulating the Malaysian Health Plans and evaluating the intervention programmes.

The publication of the current NHMS III report would generate much interest amongst of all health care stakeholders in the country as well as international health organizations. It is my sincere wish that the data and information generated by NHMS III be fully distributed, discussed and utilized to enhance further the provision of health care in this country. The data generated on the national health and health - related prevalence would be useful in assessing the national health burden as well as allowing for international comparison of health systems achievements.

I would like to take this opportunity to congratulate all those directly involved in the conduct of the survey, namely members of the National Steering Committee, the Advisory Committee, Research Groups and the Working Committee for their untiring efforts in the planning and conduct of the survey as well as publication of the reports. I would like to specially place on record the Ministry's appreciation of the excellent work done by the Principal Investigator and his team and for their dedication and tenacious efforts in spearheading this project to fruition. The Ministry of Health is committed to conduct these National Health and Morbidity Surveys on a regular basis and hope that IPH will continue to provide the leadership in conducting future National Health and Morbidity Surveys in this country.

Thank you.



Tan Sri Datuk Dr Hj. Mohd Ismail Merican
Director General of Health, Malaysia.

MESSAGE FROM THE DEPUTY DIRECTOR GENERAL OF HEALTH (RESEARCH AND TECHNICAL SUPPORT)

The Research and Technical Support Programme of the Ministry of Health emphasizes the need for research in supporting decision making and planning the activities in the Ministry. Only then can we ensure that every decision made either in planning resources or providing services to the people is supported by evidence based information and ensuring better results and outcome. We would certainly prefer local expertise rather than depend on foreign experts to carry out local research.

Under the umbrella of the National Institutes of Health, the Institute for Public Health has actively been involved in conducting research in public health and the National Health and Morbidity Survey is one of the major research conducted by IKU. This is the third time IKU has been given the responsibility to conduct such a mammoth task. I am very pleased that a lot of improvement have been made in the way this survey was conducted based on the experience learnt during the first and second surveys. However, due to the nature of the community survey, not all diseases and health issues were able to be covered in this survey. The research teams had to conduct an extensive literature reviews for relevant and up to date information on the health status of the Malaysian population.

I believe that the information in these reports are extremely valuable to all decision makers at the National State and district levels as well as those interested in the health of the Malaysian population. It can be a tool in providing guidance in developing and implementing strategies for the disease prevention and control programme in Malaysia.

I would like to take this opportunity to congratulate the research team members who have successfully undertaken and completed this survey. I would also like to thank all individuals and agencies who directly or indirectly made the completion of this survey possible.

The Institute for Public Health again gained a feather in its cap by successfully completing the Third National Health and Morbidity Survey.



Datuk Ir. Dr. M. S. Pillay,
Deputy Director General of Health (Research and Technical Support).

MESSAGE FROM THE DIRECTOR OF INSTITUTE FOR PUBLIC HEALTH

This is the third time the Institute for Public Health (IPH) was given the task to conduct the National Health and Morbidity Survey. The frequency of the study is every 10 years and I am proud that the Institute is able to conduct the surveys successfully since it was first initiated in 1986.

I would like to take this opportunity to thank the Director-General of Health Malaysia, Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, and the Deputy-Director General of Health (Research and Technical Support), Datuk Ir Dr. M.S. Pillay, whose invaluable support and guidance were instrumental in the successful completion of the third National Health and Morbidity Survey (NHMS III). Our appreciations are also extended to all members of the Steering Committee and the Advisory Committee of NHMS III.

I would like also to take this opportunity to congratulate the Principal Investigator and his Project Team Members in completing the NHMS III study and the publication of its report. The NHMS III was made possible through the collaboration of all agencies. The meetings, workshops and conferences that were organised, met their intended objectives and the hard work put up by the field staffs, ensured the three months data collection productive and successful.

My sincere gratitude also goes to Dr. Nirmal Singh, the former Director of the Institute for Public Health, Chairman of the Advisory Committee for his continuous support and guidance which contributed towards the successful completion of the study.

I hope the documentation of this report will be beneficial for future reference.

Finally, I would like to thank all those involved in the survey for a job well done, in making the NHMS III a success and finally producing the national report of this survey.



Dr. Yahya Baba,
Director, Institute for Public Health.

MESSAGE FROM THE PRINCIPAL INVESTIGATOR NHMS III

It is indeed a challenging task when the responsibility was given to me to conduct this survey. I learned the hard way and gained a lot of valuable experience in leading the survey. The survey also taught me lots of new techniques and how it should be addressed which is not available in the textbook. In doing so, I also learned the meaning of friendship and honesty, how to manage people involved and manage properly the given budget.

I would like to take this golden opportunity to thank the Director General of Health Malaysia, Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, Chairman of the Steering Committee for giving me the confidence, valuable support and guidance for the success of this survey.

I would also like to thank the Deputy Director General of Health Malaysia (Research & Technical Support), Datuk Ir. Dr. M.S. Pillay as Co-chairman of the Steering Committee for his patience in seeing through the survey until its completion the production of the national report.

My sincere appreciation to current Director of Institute for Public Health (IPH), Dr. Yahya Baba and former Directors of IPH, Dr. Nirmal Singh, Dr. Sivashamugam and Dr. Sulaiman Che Rus for their trust in me to carried out this survey. Their support for the survey has resulted the smooth conduct and success of the survey.

Special thanks to all State Directors, State Liaison Officers, Field supervisors, Scouts, Data Collection Team members for their full cooperation and efforts to ensure the success of the data collection. My appreciation is also extended to the Assistant Principal Investigator, Dr. Mohd Azahadi Omar, Main Research Group members, members of the Working Committee, Data Management group members, Statistics Consultant, Research group members, Research Officers and Research Assistants for their patience and tolerance of my behaviour to ensure the success of the study. Nevertheless I acknowledge a lot more can be done in strengthening the study.

I believe this report will serve as a useful reference for future surveys and helps in improving the local data sources and also add new valuable information for the Ministry of Health to use in the planning process. I also would like to encourage all research members to participate in further analysis of the data and publish the findings in peer review journals.

Thanks to everyone.



**Dr. Hj. Ahmad Faudzi Hj. Yusoff,
Principal Investigator, The Third National Health and Morbidity Survey,
Institute for Public Health.**

*A*UTHOR'S STATEMENT

Effective tobacco control depends on up-to-date information about the nature and magnitude of the problem. The chapter on tobacco use of this report provides up-to-date information on the current prevalence of smoking among adults as well as among adolescents which is critically important for tobacco control advocates to evaluate the existing tobacco control activities that had been carried out thus far.

The report builds on the approaches used in the NHMS II whereby reports on adults and adolescents are made separately. It is important to remember that the reports are made separately for the practical reason that two subgroups were preparing them.

We were indeed very glad that we can complete the reports on time and share the results with others. For many of us who had been involved in tobacco control for many years the results of NHMS III is very important because it will provide good evidence to indicate the smoking trend in Malaysia since the last three decades. After all the tobacco control efforts that had been carried out so far we would definitely want to see the smoking trend decline regardless whether the decline is minimal or otherwise.

Lastly we recognize that there were some limitations in our survey methods. The important thing is to recognize them and take them into account when making interpretations of the results.

*A*CKNOWLEDGEMENT

We would like to extend our utmost appreciation to the principal investigator, Dr. Ahmad Faudzi Yusoff for being a pillar of strength, giving his full support throughout the study, to the Director of the Institute For Public Health, Dr Nirmal Singh for keeping us constantly motivated, the Steering Committee, The Advisory Group and the Main Research Group for their assistance, support and guidance throughout the Third National Health and Morbidity Survey 2006 (NHMS III).

We also wish to thank the Data Management Group, Research Officer. Ms. Pazilah Abdul Rani, the kind respondents, persevering data collectors, and everyone else who had contributed to make this report a reality.

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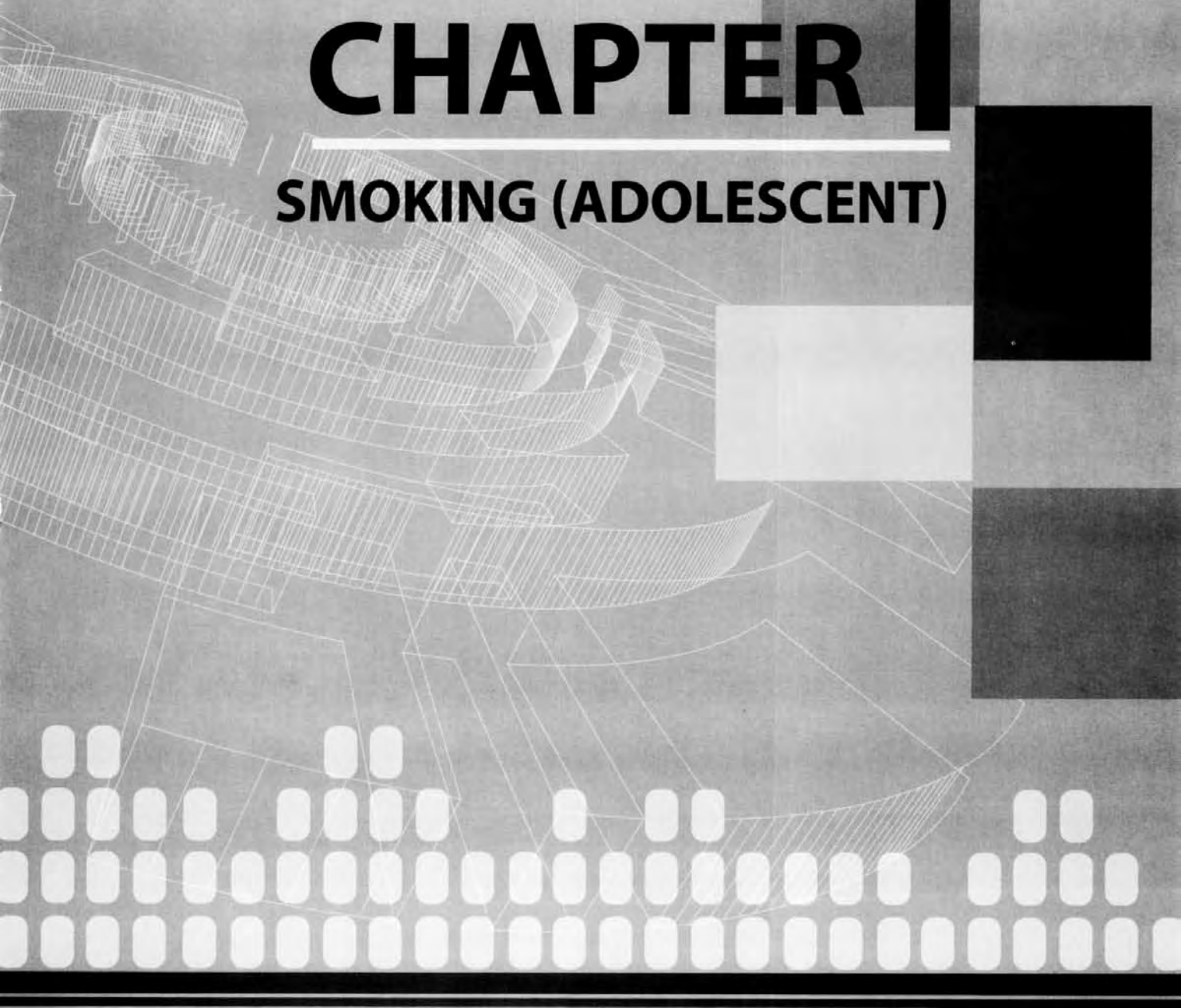
ABBREVIATIONS

ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers
CDC	Centers for Disease Control & Prevention, USA
CI	Confidence Interval
CTPR	Control of Tobacco Products Regulations
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Years
DE	Design Effect
EB	Enumeration Blocks
eg	Example
EPA	Environmental Protection Agency
EQA1Y	Ever Quit Attempts for Past One Year
ETS	Environmental Tobacco Smoke
FCTC	Framework Convention on Tobacco Control
GYTS	Global Youth Tobacco Survey
IARC	International Agency for Research on Cancer
IQ6M	Intentions to Quit Within Next Six Month
LQ	Living Quarters
MIA	Mean Initiation Age
MNC	Mean Number of Cigarettes
MNQA	Mean Number of Quit Attempts

MOF	Ministry of Finance
MOH	Ministry of Health
MyNCDS-1	NCD Risk Factors in Malaysia
ng/ml	Nanogram per Milliliter
NHMS I	First National Health and Morbidity Survey
NHMS II	Second National Health and Morbidity Survey
NHMS III	Third National Health and Morbidity Survey
NRT	Nicotine Replacement Therapy
PPS	Probability Proportionate to Size
RR	Response Rate
SEATCA	Southeast Asia Tobacco Control Alliance
SHS	Second Hand Smoke
SIDS	Sudden Infant Death Syndrome
TFI	Tobacco Free Initiative, WHO
U.K.	United Kingdom
U.S.	United States of America
vs	Versus
WHO	World Health Organisation
YLD	Years Lived with Disability
YLL	Years Life Lost

CHAPTER |

SMOKING (ADOLESCENT)



ABSTRACT

Section on adolescence smoking is a part of the overall of the NHMS III module on smoking. However, unlike the survey method use for adults, subjects in this group, consisting of people aged 13 to <18 years old, were required to answer self-administered questionnaire where confidentiality was maintained. Response rate for this section was only 61.7% out of 5383 eligible respondents. National prevalence of ever smokers was 14.7% with higher rate in rural (18.4%) compared to urban (12.3%). Adolescent ever smokers were significantly higher amongst males (26.2%) than in females (3.0%). As many as 8.7% of Malaysian youths were current smokers, more in the rural (11.5%) than urban (6.9%) and mainly among boys (16.6%) rather than girls (0.7%). Between ethnic, prevalence was high among Malays (10.9%) and other Bumiputra (10.5%) and the rates increased with age, from 3.5% in 13 years to 15.5% in 17 years old. There was 3.3 % frequent/ established adolescent smokers in this country, and similar to the patterns for ever and current smokers, there were more in rural (4.9%) than in urban (2.3%), mainly in Malays (4.3%) and other Bumiputra (4.8%) and mostly among boys (6.4%) compared with girls (0.2%). Smoking rates increased with age, from 1.1% in 13 years to 6.9% in 17 years old. Prevalence of experimental smokers was 1.1%, more in rural (1.2%) than urban (0.9%), and mainly among other Bumiputra (1.4%) and Malays (1.1%). More boys (1.9%) experimented smoking compared with 0.2% of girls. Highest prevalence of experimental smokers were among 15 years old (1.6%) and lowest in 13 years old (0.6%). In this study 5.2% of adolescents had tried smoking but stopped after only one cigarette. Triers were higher in rural (5.7%) compared with urban (4.9%), mostly among boys (8.3%) than girls (0.2%) and more in other Bumiputra (8.1%) and Malays (5.8%). Amongst current and frequent smokers the mean initiation age (MIA) was 13.6 years, and it was similar between urban and rural respondents. Boys started smoking earlier (13.6 years) compared to girls (14.1) for current and (14.4 years) for frequent smokers. However, MIA of experimental smokers was 12.9 years, earlier among rural (12.8 years) than urban (13.1 years) youths. Boys started smoking even earlier (12.8 years) than girls (14.3 years). The national prevalence of passive smoking among adolescents was 26.8%, where higher rate was in rural (28.5%) than urban (25.6%). 30.3% Malays, 29.3% Other Bumiputra, 18.4% Chinese and 12.7% Indian. 24.7% males vs. 29.0% females were passive smokers while 28.9% were 15 years old and lowest among 13 years old (24.6%). Based on the survey results above there is a marked decline in the prevalence of current smokers among those age 13 years to 18 years compared to NHMS II finding (8.7% vs 16.0%). The same trend was also true for boys as well as girls. The markedly reduced smoking prevalence among adolescent observed in this survey could be due to gross under reporting.

1. INTRODUCTION

Approximately 80,000 to 100,000 young people around the world started to smoke every day (Gajalakshmi et al. 2000). If current trend seen in developed countries continues, 250 million children and young people alive today, mostly in developing countries, will die from tobacco-related disease (Peto et al. 1994). Kessler (1995) regarded tobacco use among young people as a "paediatric disease" while Perry (1994) referred it as a "paediatric epidemic" due to the increasing level of use and the dire public health consequences.

Teenage smoking prevalence is around 26% in the UK and USA and approximately 15% in developing countries (with wide variation from country to country). In the USA, 4,000 young people between the ages of 12 and 17 years initiate cigarette smoking, and an estimated 1,140 young people become daily cigarette smokers. In many developed countries, majority of smokers began using tobacco products well before the age of 18 years (US Department of Health and Human Services 1994; Secretary of State for Health and Scotland 1999).

Foong (2005) reported that on average, every day about 50 teenagers below the age of 18 years start smoking in Malaysia and currently about one in five teenagers smoke. Smoking prevalence among teenage boys aged 12-18 years is 30% while smoking among girls has doubled from 4.8% in 1996 to 8% in 1999. More alarming was the 67% increase in the number of teenage smokers between 1986 (NHMS I) and 1996 (NHMS II).

It has been shown that smoking is an addictive behavior that is typically established during adolescence. The first symptoms of nicotine dependence can appear within days to weeks of the onset of occasional use, often before the onset of daily smoking. (DiFranza et al. 2000). Most adolescent daily smokers report symptoms of nicotine withdrawal (McNeill et al. 1986; Colby et al. 2000), and nearly half report that they would like to give up smoking (Higgins 2000).

Results from the global youth tobacco survey (GYTS) conducted in 131 countries between 1999 and 2005 as reported by Warren et al. (2006) suggest that the anticipated effect of tobacco use on doubling the worldwide death toll to 10 million per year could be a conservative estimate. It has been shown that the difference in current cigarette smoking between boys and girls was smaller than the difference between men and women. Furthermore, use of other tobacco products by students was as high as, or higher than, cigarette smoking in all regions of the world except the region of the Americas and the European region. Moreover, almost one in five never-smokers reported that they were susceptible to smoking in the next year, and student exposure to secondhand smoke was high, at least 30% at home and more than 45% in public places.

Data from GYTS in Thailand (2004) revealed that 31.6% of students had ever smoked cigarettes (boys = 42.9%, girls = 18.4%). 19.3% currently use any tobacco product (boys = 27.7%, girls = 10.5%), 13.8% currently smoke cigarettes (boys = 22.0%, girls = 5.2%) and 10.1% currently use other tobacco products (boys = 13.4%, girls = 6.8%). 9.0% of never smokers were likely to initiate smoking in the next year.

Data from GYTS in Singapore (2000) found 26.0% of students had ever smoked cigarettes (boys = 29.5%, girls = 21.9%). 11.3% currently smoke cigarettes (boys = 13.4%, girls = 8.8%). 9.0% of never smokers were likely to initiate smoking next year.

Data from GYTS in the Philippines (2000) demonstrated that 42.8% of students had ever smoked cigarettes (boys = 57.0%, girls = 32.0%). 27.1% currently use any tobacco product (boys = 37.3%, girls = 18.4%). 21.6% currently smoke cigarettes (boys = 32.6%, girls = 12.9%). 13.6% currently use other tobacco products (boys = 18.3%, girls = 9.5%). 26.5% of never smokers are likely to initiate smoking next year. SHS exposure is very high, 6 in 10 students live in homes where others who smoke; over 7 in 10 are exposed to smoke in public places; almost 6 in 10 have parents who smoke. The Malaysian GYTS conducted in 2003 among school-based adolescents aged 13-15 years old is shown below (Table 1). About 90% of girls and 79% of the boys had expressed their desire to stop smoking.

Factors associated with youth tobacco use include low socioeconomic status, use and approval of tobacco use by peers or siblings, smoking by parents or guardians, accessibility, availability and price of tobacco products, a perception that tobacco use is normative, lack of parental support or involvement, low levels of academic achievement, lack of skills to resist influences to tobacco use, lower self-image or self-esteem, belief in functional benefits of tobacco use, and lack of self-efficacy to refuse offers of tobacco.

Table 1.1: Malaysia global youth tobacco survey (gyts) 2003

Category	Ever smoked (%)	Current Use (%)	Susceptible to initiate smoking (%)
Total	32.6 (±3.8)	19.9 (±3.5)	15.6 (±2.4)
Boys	53.6 (±5.8)	35.5 (±5.5)	21.9 (±4.4)
Girls	11.4 (±2.2)	4.3 (±1.4)	12.3 (±2.4)

The Ministry of Health Malaysia has launched the "Tak Nak" (Say No) campaign in 2004 to develop an effective communication campaign that will eventually result in creating a nation of no cigarette smokers, get people to stop smoking and prevent youths from starting the habit. The first phase used the media strategy to galvanize the entire nation on a national crusade against cigarette smoking and develop the better informed generation that does not smoke.

The Control of Tobacco Products Regulations (CTPR) 2004 prohibits the sale of tobacco product to a minor (any person who is under the age of 18 years), smoking, chewing, buying or has in his/her possession any tobacco product. In addition, any person who sells tobacco product shall at all time display conspicuously a sign with regards to the prohibition of sale of tobacco products to minor at the counter where the tobacco product is displayed or offered for sale.

The WHO Framework Convention on Tobacco Control (FCTC) which Malaysia ratified on 16 September 2005 recognizes that price and tax measures are an effective and important means of reducing tobacco consumption by various segments of the population, in particular young persons. The World Bank recommends that where comprehensive programs used, tax is at least 2/3 (65%) to

4/5 (80%) of retail price. The current tax for cigarettes in Malaysia is about 40%. Price increases through taxation on tobacco products are among the most effective interventions in reducing demand, especially among youth and persons with low incomes. According to the World Bank, sustaining a high tax rate on tobacco products over the long term reduces teen use, with a lasting impact on consumption.

This Third National Health Morbidity Survey has been conducted to determine the current prevalence and pattern of tobacco use among adolescent group between age of 13 to below 18 years and the relationship between tobacco use and other socio-demographic factors.

2. LITERATURE REVIEW

2.1. Smoking among Adolescent

Smoking is a habit that usually started during adolescence, if smoking does not start during adolescence, it is unlikely ever to occur (USDHHS 1994) and on data indicating that the probability of cessation among adults is inversely related to age at initiation (Coombs et al. 1992; Breslau & Peterson 1996) Even infrequent experimental smoking in adolescence significantly increases the risk of adult smoking. (Chassin et al. 1990) Once smoking has begun, cessation is difficult and smoking is likely to be a long-term addiction. For example, it has been estimated that the median cessation age, for those born from 1975 through 1979 who begin smoking in adolescence, is 33 years for men and 37 years for women (Pierce & Gilpin 1996). Based on a median initiation age of 16 to 17 years, the predicted duration of smoking is 16 and 20 years for 50% of the males and females respectively. Prevention of the onset of adolescent smoking is thus an essential component of efforts to reduce the overall prevalence of smoking and its attendant morbidity and mortality.

Initiation and prevalence of smoking among adolescents typically rise with increasing age and grade (Wan et al. 1988; Botvin 1992). Adolescents who began smoking at a younger age were more likely to become regular smokers (Escabedo 1993) and less likely to quit smoking.

Although historically the prevalence of smoking was higher among men than women (USDHHS 1994) , data collected for the past 10 years have revealed that the rates of current smoking and initiation to smoking were approximately equal for the two groups, at least in North America. For adolescents, however, reported smoking rates among girls were higher than for boys in some studies from the 1980s, with conflicting accounts in other reports of no gender differences or higher rates among boys. The results of the studies initially appear inconsistent, but further examination reveals a geographical / cultural pattern of gender differences. Reports of equal or higher levels of smoking by females were primarily found in studies with subjects from countries with a Western cultural orientation: England, New Zealand and the United States,(Botvin et al. 1992; Mcneiet et al. 1988; Tuakli et al. 1990; Johnson & Gilbert 1991; Oakley et al. 1992; Mcgee & Stanton 1993; Stanton et al. 1994) rather than an "Eastern" one with higher smoking levels among males: China, Japan, and Sri Lanka (Ogawa et al. 1988; Hu et al. 1990; Mendis 1990; Chen et al. 1992; Zhu et al. 1996).

The reasons for the recent increase in smoking rates for girls in the West are diverse and probably include such factors as focused advertising and concerns about weight control. Reasons for smoking are likely to be different for males and females and have been discussed in Pederson 1986, Pederson & Lefcoe (1986), Koval & Pederson (1996), and in the section below, on personal factors. Despite the potential differences in mechanisms, however, smoking rates among boys and girls were often similar, with many studies reporting non-significant gender difference.

The rates of smoking for North American aboriginal peoples are consistently the highest of any ethnic group studied (Bachman et al. 1991; Gfelhan 1994). It is well documented, however, that blacks show significantly lower levels of initiation and current smoking than whites or Hispanics (Koval & Pederson, 1996; Mcdermott et al. 1992; Kann et al. 1993). The reasons for this difference are not clear, particularly given that many of the variables associated with smoking, such as low SES, poverty, dysfunctional families, and low educational aspirations, tend to cluster in some "black" geographical areas. Among blacks who do smoke, the mechanisms may be different from those for whites; smoking may serve more of a social function for white adolescents because they are more strongly influenced by peer smoking (Headen et al. 1991). Smoking levels appear to be relatively high among Hispanic youth; they have variously been reported as higher than for white adolescents (Mcdermott et al. 1992) lower (Kann et al. 1993; Headen et al. 1991; Vega et al. 1993a), and higher and lower, depending on the level of acculturation (Landrine et al. 1991).

It might be expected that the degree to which individuals from various ethnic backgrounds identify with, or have been assimilated into, mainstream society would be related to the adoption of certain behaviours, including smoking. In the United States, Landrine and colleagues (1991) found that acculturated Latinos showed smoking rates similar to those of whites; less acculturated Latinos showed significantly lower smoking rates similar to those of blacks and Asians. Vega et al. (1993b) did not find an effect of acculturation among Hispanic groups and Wiecha (1996) reported an inverse association of acculturation and smoking for Vietnamese adolescents. The influence of acculturation is thus not clear; some possible explanations for the discrepancies may be differences in the smoking rates across subjects' countries of origin, analytic differences (acculturation was assessed using univariate analyses in Wiecha (1996)), and age differences (in the study by Vega et al. (1993b) subjects were several years younger than those in either of the other two studies and had relatively low levels of smoking).

Variables related to family structure have been examined in many studies. Overwhelmingly, the evidence leads to the conclusion that intact, two-parent families are protective against smoking (Isohanni et al. 1991; Convey & Tam 1990; Turner et al. 1991; Botvin et al. 1993). This association has persisted over the past decade and across countries.

The effect of household size on risk of smoking is unclear: studies have noted larger families to be associated with lower (Boyle et al. 1993) or higher levels (Isohanni et al. 1991) of smoking, or have reported no significant relationship (Stanton et al. 1992). The inconsistent results might reflect differences in whether analyses controlled for associated variables such as parental income, parental education, and smoking by siblings and other household members. In large households, there is a greater chance that at least one member will smoke and that there will be a higher number of smokers; if no household member smokes, then there is no increase in risk associated with household size or, in fact, the additional non-smoking models may decrease the risk of adolescent smoking.

Higher levels of parental socioeconomic variables, such as education and social class, have often been found to be inversely related to smoking status in adolescents (Stanton et al. 1992; Zhu et al. 1996; Isohanni et al. 1991). The effect of SES may explain some of the inconsistent results for maternal and paternal education. Several studies that have reported non-significant effects of parental education on adolescent smoking have examined maternal education only (Wan et al. 1990; Gfelhan 1994) or have found paternal but not maternal education to be significant (Chan et al. 1992). Traditionally, however, paternal education has been a stronger determinant of household SES than maternal education, whereas maternal educational level has been associated with the health behaviours in a household.

2.2 Environmental Factors

Factors in the environment that potentially influence initiation and maintenance of smoking by adolescents have been the focus of many investigations since early studies demonstrated the importance of peer and parental smoking as risk factors. (Cresswell et al. 1970) The broad categories that have been studied are: smoking among parents, siblings and peers; attitudes and norms about smoking (including parental reactions to smoking by their children); family environment; and attachment to family and friends. Availability and ease of acquiring cigarettes are also environmental factors that can have an impact on smoking among adolescents. Interpretation of these studies was complicated by inconsistencies in the outcome variable (smoking status, intentions, initiation, and attitudes); the different combinations of predictor variables; the range of methods and populations; and the variety of analytical approaches that have been used.

The impact of parental smoking has been studied in a wide range of contexts in a large number of studies with a variety of outcomes. Approximately twice as many of the reviewed studies have found a significantly increased risk of adolescent smoking with parental smoking (Isohanni et al. 1991; Bauman et al. 1990; Biglan et al. 1995), than have noted a non-significant association. (Mendis 1990; Krohn et al. 1996) Studies examining the effect of paternal and maternal smoking separately have reported both to be significant, (Tuakli et al. 1990) non-significant, (Jensen & Overgaard 1993) or each one significant while the other was not. (Hover & Gaffney 1988; Hops et al 1990) Some of the inconsistencies may reflect gender-specific differences: parental smoking may be more important for girls than boys because several studies reported a significant effect only for girls (Pedersen & Latvik 1991; Charlton & Blair 1989; Swam et al. 1990) whereas none found the reverse.

Parental attitudes toward smoking and, in particular, toward their own children's smoking have been shown to be related to adolescent smoking. For example, Newman and Ward (1985) found that parental indifference to their child's smoking increased the likelihood of smoking in American 13-14 year olds. Similar results were found by Dusenbury & colleagues (1992) for current and experimental smoking in the United States and by Wang & colleagues (1988) for weekly or daily smoking among adolescents in China. Botvin et al. (1992) found parental attitudes to be related to smoking in Black students in bivariate but not multivariate analyses, as did McNeill and colleagues (1998) for English adolescents starting to smoke. Adult smoking norms were not related to either smoking behaviour or intentions in grade 7 inner-city youth (12-13 year olds) (Botvin et al. 1994).

The weight of the summarised studies supports the influence of sibling smoking on adolescent smoking (Quine & Stephenson 1990; Minagawa et al. 1993). Some of the studies reporting non-significant results did find a significant effect of sibling smoking before controlling for other variables in multivariate analyses (Tuakli et al. 1990; Stanton & Silva 1991). In some studies, the influence of smoking by siblings was stronger than that of smoking by parents (Botvin et al. 1992; Hu et al. 1988). Sibling but not parental smoking was also associated with less negative attitudes towards smoking (Meier 1991). Given the influence of parental and sibling smoking, it is not surprising that some adolescents attributed their own initiation to smoking to the fact that one or more of their family members smoked (Emmanuel et al. 1991).

Aspects of the family environment which have been examined with regard to adolescent smoking include parental supervision, attachment, support, and parenting style. The amount of time in self care (Richardson et al. 1989; Ferrellet et al. 1992), lack of knowledge about their children's friends (Krohn et al. 1988) and inadequate monitoring (Biglan et al. 1995) were associated with increased smoking, although other studies on parental supervision did not observe a significant relationship (Krohn et al. 1986; Cohen et al. 1994).

The most important component of parental attachment may be attachment to the mother: it has been related to smoking in studies where attachment to the father was not significant (Krohn et al. 1998; Foshee & Bauman 1994). A poor relationship between mother and child was associated with a higher prevalence of smoking for boys and girls; a poor father/child relationship significantly influenced smoking only for girls (Oaklet et al. 1992).

Parental attachment and support may interact with parental smoking to influence smoking among adolescents. Parental and other adult support was protective against adolescent smoking mainly at low levels of parental smoking (Will & Vaughan 1989). Adolescents modelled their parents' smoking status more closely as attachment to their parents increased (Foshee & Bauman 1992).

An authoritative, positive parenting style has been associated with lower levels of adolescent smoking (Melby et al. 1993). Some aspects of child rearing, however, may have differential effects for males and females. Low parental concern increased the risk of boys taking up regular smoking (Swam et al. 1990) whereas poor communication with parents and restrictions on going out raised the prevalence of smoking in girls (Oaklet et al. 1992). A permissive, distracted family environment was also related to illicit drug use in girls (Block et al. 1988).

Findings with regard to peer smoking were more consistent than those for parental smoking. "Peers" have been variously defined as classmates, friends, best friends, opposite or same sex friends, and boyfriends or girlfriends. The influence of best friends has been noted to be greater than that of other good friends which, in turn, was greater than that of peers of the same age (Morgan & Grube 1991). Regardless of the definition used, however, peer smoking was consistently found to be related to adolescent smoking initiation, maintenance and intentions (Hirschman et al. 1984; Spears & Akers 1988). Some of the inconsistency in the reported influence of parental smoking on adolescent smoking may reflect whether peer smoking was also examined, because the effect of parental smoking may become non-significant after controlling for peer smoking (Stanton & Silva 1991). It is less the existence of a causal relationship between peer and individual smoking than the direction of that association that has been a matter of debate (Ennett & Bauman 1993; Bauman & Ennett

1996). It is unclear whether peer influence leads to smoking or whether individuals who smoke tend to seek out other smokers.

Peer influence may be modified by group membership: smoking by best friends was found to be related to adolescent smoking for group outsiders but not for group members (Aloise et al. 1994). This result was supported by the observation of Ennett & Bauman 1993 that social isolates were more likely to become smokers.

The final variable to be discussed in this section is the accessibility of tobacco. Tobacco is generally available to adolescents. Despite legislation that prohibits sales to minors, they are able to acquire cigarettes and other tobacco products through direct purchase themselves (DiFranza et al. 1996), through older friends and family members, or by stealing from parents and other adults who smoke. Although accessibility is important, it has been shown to be less so than other reasons cited for smoking (Mcgee & Stanton 1993).

2.3 Behavioural Factors

There were three major categories of behavioural variables. First were those factors related to school, primarily academic performance and aspirations. A second category contained risk-taking or deviant factors such as violence and gang membership. A final related grouping included lifestyle factors such as diet, exercise, sleep, and dental care. Behaviours related to sexual activity, seatbelt use, and alcohol and other drug use are indicators of lifestyle, but also can be described as risk-taking.

Smoking status has been found to be consistently related to school performance (Hover & Gaffney 1988; Hops et al. 1990) and has also been associated with educational aspirations, (Wang et al. 1994; Ogawa et al. 1988) and commitment to school (Spears & Akers 1988). Those students who do well in school, have high academic aspirations and are committed to school are less likely to smoke than those who do not possess these characteristics. The protective effect of academic performance, aspirations, and commitment on adolescent smoking may reflect beliefs necessary for academic success. A longitudinal study of American 12-14 year olds found that belief in conventional rules was associated with lower levels of smoking (Foshee & Bauman 1992).

Risk taking and deviance encompass a pattern of problem-prone behaviours that frequently tend to coincide. For example, measures of deviance and risk-taking were related to trying to smoke (Hiroshima et al. 1984), current smoking, (Sussman et al.1990) and to associating with smoking friends (Krohn et al. 1986). As well, certain risky behaviours such as having a history of trouble with the police (Farrell et al. 1992) and, for some ethnic groups, carrying a weapon (Wiecha 1996) were also associated with smoking. Although not all studies have shown this relationship (Camp et al. 1993), overall results tended to support this pattern.

Lifestyle behaviours tend to occur together in adults, so that individuals who adopt a healthy lifestyle with regard to one aspect of their lives tend to do so in others as well (McDonough et al.1993). This pattern also appears to occur in adolescents. For example, problem behaviours such as smoking and other drug use, sexual activity, riding with a drinking driver, carrying a weapon, and physical

fighting have been associated with lower levels of health-enhancing behaviours such as seatbelt use, positive eating behaviour, and adequate sleep (Hawkins 1992). Alcohol and other drug use increased the risk of smoking among adolescents (McDermott et al. 1992; Lo et al. 1993) whereas participation in sports or other physical exercise consistently protected against smoking (Isohanni et al. 1991).

Not following a healthy lifestyle can be considered a form of risk taking if the individual has knowledge of its health implications. Although this knowledge was not assessed in some of the studies reviewed, it is unlikely that young people are unaware of the health risks of unprotected sexual activity or the use of tobacco, alcohol, and other drugs. Hence, adoption of behaviours such as these can be considered to be risk taking in most adolescents. Research results supported the conclusion that these unhealthy practices were related to smoking initiation and maintenance in a wide range of settings (Mcneil et al. 1998; Farrell et al. 1992).

2.4 Personal Factors

Research on psychosocial correlates of smoking and other drug use, specifically investigations of personality characteristics, motivational factors such as stress, and personal resources such as coping, has arisen from attempts to delineate the mechanisms explaining initiation to smoking among some population subgroups defined by their sociodemographic characteristics (Chassin et al. 1984a; Chassin et al. 1984b). These studies are summarised in this section. Research on smoking knowledge and attitudes, sex roles, socialisation, and religiosity has also been included in this section because of their interrelationships and their functions as proximal determinants of smoking.

Stress and associated distress or depressions are important factors in the initiation to smoking. It has long been recognised that life change or life stress may have a substantial negative impact on emotional wellbeing. It is the unsuccessful adjustment to this life change that is postulated to lead to psychological distress. Indeed, in adult and adolescent samples, stress has been shown to be positively correlated with levels of psychological distress (Will & Shiffman 1985; McAlpine & Pederson 1989). It has been repeatedly demonstrated that stress, measured in a variety of ways, is associated with initiation to smoking and with maintenance of the behaviour (Bonaguro & Bonaguro 1995; Reppucci et al. 1991) For those studies that do not include a direct measure of stress, the impact can be implied through associations with its outcome depression/distress (Prokhorov & Alexanderov 1992; Wan et al. 1993).

Other factors that have been consistently associated with smoking are self-esteem, whether overall or with regard to specific contexts such as home or school (Bonaguro & Bonaguro 1989; Young & Werch 1990), adult and scholastic competence (Wil et al. 1992), locus of control (Dielman et al. 1987), socialisation, (Bush & Iannatti 1992) susceptibility to peer influence (Swam et al. 1990; Dielman et al. 1987), and risk-taking (Simon et al. 1995). The first four factors appear to be protective against smoking whereas the last two are risk factors.

2.5 Smoking Cessation

Heavier smokers are less likely to quit than lighter smokers, and those who have smoked for a relatively long period are less likely to quit than those with a briefer experience (Pallonen 1987; Ary & Biglan 1988; U.S. DHHS 1982). Furthermore, even controlling for self-reports of degree of tobacco dependence, those who begin smoking at a younger age are less likely to quit than those who started later (Breslau and Peterson 1996). Among adolescents, a greater number of quit attempts is associated with higher quit rates (US DHHS 1982; Green 1979), but this correlation with higher quit rates (US DHHS 1982; Green 1979), but this correlation was not found in several studies of self initiation cessation among adults (Cohen 1989). Not surprisingly, intention to smoke in the future has been found to be inversely related to quitting (Ary & Biglan 1988). Reports of relatively pleasant physiological reactions to tobacco, which predict escalation in use, also may be related to a smaller likelihood of cessation (Barker 1994; Hann et al. 1990).

Variables that have been studied in relation to quit rates among adolescents include age of initiation, gender, ethnicity socioeconomic status, and alcohol consumption. Generally, if a wide range of ages (e.g., 12 to 20 years) is included, then younger age of initiation generally is associated with lower quit rates (Pallonen 1987). Female gender has been associated with lower smoking quit rates in some studies (Pallonen 1987; Brownson et al. 1990) but not in others (Breslau & Peterson 1996; Green 1979). Lower socioeconomic status has been associated with lower quit rates (Cohen 1989a). A study on drug use found that quitters are more likely than those who do not quit to report not drinking alcohol in the past month (Cohen 1989b). However, another study failed to find any relationship between use of drugs other than nicotine and quit status (Ary & Biglan 1988). One may conjecture that persons who are less reliant on drug use for functioning will be more likely to quit smoking; however, those who quit use of other drugs also may be relatively likely to remain a smoker in recovery—perhaps considering it an immediately more safe alternative (Sussman et al. 1995).

Frequency of cigarette offers, perceived use among friends, peer approval if one smokes, enforcement of peer norms, estimates of the prevalence of peer smoking, and endorsement of smoking-related social images (e.g., smoking to show one is a sensation seeker) have all been examined for their effects on quit rates. It appears that direct social influence may vary by age as a predictor of smoking considering that greater motivation to comply with peer requests as peers negatively related to quitting among middle school youth, as might be expected, but it is positively related to quitting among high school youth (Chassin et al. 1984). Perhaps fewer peers make direct offers of cigarettes in high school, or more youth may verbally discourage use. It is known that those youth who report receiving a relatively greater number of cigarette offers are less likely to quit (Bonaguro, JA & Bonaguro, EW 1987). Quit rates are lower among adolescents who report use among friends (Ary & Biglan 1988; US DHHS 1982; Cohen 1989), with one exception in the literature (Chassin et al. 1991).

Correspondingly, peer approval of smoking is related to lower quit rates for middle school youth (Chassin et al. 1984); the effect on quit rate for high school youth remains to be determined. The perception that friends are relatively less strict about standards of behavior has been found to be marginally predictive of quitting (Chassin et al. 1984), which may seem counterintuitive. Overestimates of smoking among one's peers have been hypothesized to be inversely related to quitting, but this hypothesis has not been confirmed (Chassin et al. 1991). Finally, higher quit rates

or decreases in smoking have been found in some studies for those holding less favourable smoking-related social images (Green 1979), but not in others (Hansen et al. Pedersen & Lefcoe 1986).

Family use, family disapproval of use and family social support have all been studied as correlates of cessation. Family use is associated with lower quit rates among young adult smokers [26,29,38], and, when father's use only was considered, among experimental adolescent smokers [36] parental smoking was associated with greater quitting among adolescent experimental smokers in the 1982 Surgeon General's report (US DHHS 1982). Parental disapproval of smoking predicts quitting especially among younger smokers (Chassin et al. 1984). Finally, perceived parental social support has been found to predict quitting among middle school youth, a finding that still held at 7-year follow-up (Chassin et al. 1984; Chassin et al. 1991). Attachment to father and greater parental supervision are associated with higher quit rates (Skinner et al. 1985), and greater perceived parental expectation for one's academic success predicts quitting (Chassin et al. 1991).

Because cigarette smokers often describe the habit as a stress reducer, the relationship of adolescents stress management skills, to their smoking behavior is an important area for investigation. Unfortunately, most of the research on coping with stress and smoking cessation has been conducted adults. Among young people, researchers have found that lower levels of emotional distress and greater coping and social skills are related to higher quit rates (Burton & Wohl 1979; Stein et al. 1996). Correspondingly, levels of self-esteem are related to quitting among adolescents (Cohen 1989).

Risk-taking, not believing in obeying the law, and lack of religiosity all consistently predict who becomes and remains a long-term smoker (Skinner et al. 1985; Stewart & Livson 1996). In addition, failure to participate in organized activities at school or elsewhere in the community has been found to be associated with lower quit rates later in life (Cohen 1989).

Researchers have examined the impact of attitudes about the morality of smoking, the importance that adolescents place on health as a value, and knowledge and beliefs about consequences of smoking. One prospective study found that smokers who agreed that society has the right to do something about smoking (e.g., "teachers should set a good example by not smoking cigarettes") were more likely to quit (Hansen et al. 1985). Another study found that adolescents whose beliefs changed relatively more over time in the direction of thinking that cigarette and alcohol use were wrong had higher quit rates (Skinner et al. 1985). A third study found that disapproval of cigarette advertising was associated with greater quit rates (Cohen 1989). Finally, other researchers have found that youth who self-identify as members of high-risk groups (in which 50% or more are regular smokers) are less likely to smoke, themselves, if they place importance on health as a value (Sussman et al. 1993).

Health knowledge does not predict quitting (Cohen 1989; Sussman et al. 1995), even though quitters hold more negative beliefs than current smokers about the psychological and health consequences of smoking (Chassin 1991). In summary, in the few studies that have been completed, attitudes unfavorable to continued smoking, and negative beliefs about the health effects of smoking, appear as consistent predictors of quitting among adolescents.

2.6 Passive Smoking

Passive smoking, also known as secondhand smoking is the involuntary inhalation of environmental tobacco smoke (ETS) tobacco smoke by non smokers. ETS is generated by the combustion of tobacco products; a complex mixtures of over 4000 compounds. These included more than 60 carcinogens. The evidence on ETS and lung cancer has been assessed by many health organizations, all of which concluded that exposure to ETS increases the risk of lung cancer.

The US Environmental Protection Agency (EPA) declared ETS to be a known lung carcinogen based on the total weight of evidence, i.e., similarities in chemical composition between ETS including over 60 known or suspected human carcinogens, the known lung carcinogenicity of ETS with clear exposure -response relationships down to low levels and no threshold, supporting evidence from animal bioassay and genotoxicity tests, measured exposure to and bodily uptake of, ETS constituents and the consistent exposure-related increases in risk seen in so many epidemiological studies from different countries using different designs.(US Environmental Protection Agency 1992; National Research Council 1986).

Surveys and other studies can provide data on the prevalence of ETS exposure in various environments. In the United States, where an estimated 2% of men and 23% of women were current smoker in 1990, (Centres for Disease control 1992a) two national surveys in 1988 revealed that roughly 40% of employed adults worked in locations where smoking was allowed (Centres for Disease control 1992a) and about 42% of children aged 5 years and under lived in households with current smokers (Overpeck and Moss 1991). Countries with higher smoking prevalence and fewer smoking restrictions are likely to have a greater proportion of the population exposed and high level of ETS exposure. Cook et al. (1994) reported that 53% of the children they studied in England and Wales were exposed to ETS, while Forastiere et al. (1992) reported that 70-73% of children aged 7-11 were exposed to parental smoking in their Italy study.

A review by Tredaniel et al. (1993) evaluated the limited epidemiological evidence from studies of ETS and sinonasal, bladder and uterine cervix cancer in adults, and a few other sites for which the evidence is very sparse. They concluded that there was suggestive evidence of an association with sinonasal cancer, no evidence of an association with bladder cancer, and equivocal evidences of association with breast and cervical cancer. Wells (1991) reviewed data from two epidemiological studies suggesting that that may be an association between ETS exposure and breast cancer in non-smoker. Two other studies have also found evidence of an association (Smith 1994; Marabia et al. 1994), with Relative Risk (RR) estimates ranging from about 1.3 to 2.4, but no consistent association between active smoking and breast cancer has been established.

At least 150 epidemiological studies on ETS and non cancer respiratory health effect in children have been published in the last 25 years. Several review (Environmental Protection Agency 1992; US Department of health and human services 1986; Spitzer et al. 1990) have already assessed the database, and there is strong consensus that ETS affects the developing respiratory and causes an increased risk of lower respiratory tract infections (eg. Bronchitis) in infants and young children, chronic middle ear effusion in young children, increased frequency and severity of asthma attacks in asthmatic children, irritation of the upper respiratory tract and reduced lung function.

A number of studies have shown that pregnant non smokers exposed to ETS also have increased risk of delivering babies with low birth weights; some noteworthy studies include the large prospective studies by Haddow et al. (1988), Eskenazi et al. (1995) and Rebagliato et al. (1995). These studies of pregnant non smokers used biomarker measurements to categorize ETS exposure and validate smoking status and all three studies adjusted for a variety of potential confounders. Haddow et al. (1988) (N= 1231) observes a significant 108 g deficit in mean birth weight associated with a serum cotinine level of 1.0-9.9 ng/ml compared to 0.5 ng/ml; Eskenazi et al. (1995) (N=2243) reported a mean birth weight reduction of 45 g for a serum cotinine level of 2-10 ng/ml compared to < 2 ng/ml; and Rebagliato et al. (1995) (N=710) observed a significant decrease in mean weight of 87 g for the highest salivary cotinine quintile (>1.7 ng/ml) compared to the lowest quintile (<0.5 ng/ml).

Evidence suggest that ETS exposure is a risk factors for Sudden Infant death syndrome (SIDS), Klonooff-cohen et al (1995) observed that the risk of maternal smoking after pregnancy (OR = 2.3), paternal smoking (OR = 3.5) and smoking by other household members (OR=2.2), all adjusted for maternal smoking during pregnancy, breast feeding and various others potential comfounders. These authors also reported exposure-response relationships for ETS exposure to the infant, similarly adjusted for maternal smoking during pregnancy and other factors. In other studies, infant bed sharing was reported associated with an increased risk of SIDS when the mother was a smoker (Scragg et al. 1993) and 70% of 24 consecutive cases were found to have high level of cotinine in pericardial fluid (Milerad et al. 1994).

3. OBJECTIVES

3.1. General Objective

To determine the prevalence and pattern of smoking among adolescents aged 13 years to below 18 years.

3.2. Specific Objectives

- 3.2.1 To determine prevalence of lifetime cigarette smoker
- 3.2.2 To determine prevalence of current smoker (CDC & NHMS II definition)
- 3.2.3 To determine prevalence of frequent smoker/ establish smoker
- 3.2.4 To determine prevalence of experimental smoker
- 3.2.5 To determine prevalence of trier
- 3.2.6 To determine prevalence of passive Smoker

- 3.2.7 To determine average smoking initiation age among established and experimental smoker
- 3.2.8 To determine average number of cigarettes smoked per day among establish/frequent smoker
- 3.2.9 To determine the proportion of light, moderate and heavy smokers among establish smokers
- 3.2.10 To determine the proportion of type of cigarette most smoked among establish smoker for past one month
- 3.2.11 To determine proportion (%) of those ever attempted to quit among frequent/established smokers
- 3.2.12 To determine mean quit attempts among established smokers for past 1 year
- 3.2.13 To determine proportion (%) established smokers who intend to quit smoking within next 6 months
- 3.2.14 To determine proportion (%) of respondents who are aware of the availability of Quit Smoking Clinic provided by MOH
- 3.2.15 To determine proportion (%) of passive smokers in living quarters (LQ) with smokers
- 3.2.16 To determine proportion (%) of frequent/established smokers in LQ with adult current smokers
- 3.2.17 To determine proportion (%) of experimental smokers in LQ with adult current smokers

4. METHODOLOGY

4.1 Scope of The Study

Research problems, scopes and main issues to be included in NHMS III were obtained from discussions and feedbacks from Ministry of Health state health managers, as well as experts from the local universities and individuals. The main research team members of the NHMS III reviewed and studied closely the feasibility and practicality of the suggested research topics for this community-based household survey. Extensive literature review was initiated. Technical and research experts in the field related to the identified research areas were consulted for further advise and comments. The main research group used the following criteria in considering the suggested scopes for this survey:

- a) The issue/problem is current or has potential of high prevalence
- b) The issue/problem is focused on disease/disorders associated with affluence, lifestyle, environment and demographic changes
- c) The issue/problem is causing physical, mental or social disability
- d) The issue/problem has important economic implications
- e) It is feasible to implement interventions to reduce the problem
- f) The information related to the issue/problem is not available through the routine monitoring system or other sources
- g) The information is more appropriately obtained through a nation-wide community survey, and
- h) It is feasible to obtain through a nation-wide community-based survey.

The short-listed research topics were then presented to the Advisory Group Members for further deliberation and decisions. These topics were later refined by the research team members based on the decisions made at the Advisory Committee meeting. It was tabled to the Steering Committee and 18 research topics were approved to be included in the NHMS III.

4.2 Sampling Designs and Sample Size

In calculating the sample size, stratification and sampling design, the Methodology Division Department of Statistics Malaysia as well as several other biostatistics consultants was roped in for advice.

4.2.1 Sample frame

The sampling frame for this survey is an updated 2004 version; an effort undertaken prior to the implementation of Labour Force Survey (LFS) 2004. In general, each selected Enumeration Blocks (EB) comprised of 8 sampled Living Quarters (LQ). The EBs was geographically contiguous areas of land with identifiable boundaries. Each contains about 80-120 LQs with about 600 persons. Generally, all EBs are formed within gazetted boundaries.

The EBs in the sampling frame was also classified into urban and rural areas. The classification into these categories was in terms of population of gazetted and built-up areas as follows:

Stratum	Population of gazetted areas and built-up
Metropolitan	75,000 and above
Urban large	10,000 to 74,999
Urban small	1,000 to 9,999
Rural	The rest of the country

For sampling purposes, the above broad classification was found to be adequate for all states in Peninsular Malaysia and the Federal Territories of Kuala Lumpur and Labuan. However, for Sabah and Sarawak, due to problems of accessibility, the rural stratum had to be further sub-stratified based on the time taken to reach the area from the nearest urban centre.

For the purpose of urban and rural analysis, Metropolitan and Urban Large strata are combined together thus referred to as 'urban' stratum, while for Urban Small and the various sub-divisions of the rural areas they are combined together to form to a 'rural' stratum.

4.2.2 Sampling design

A two stage stratified sampling design with proportionate allocation was adopted in this survey. The first stage sampling unit was the EB and within each sampled EB, the LQs were selected as second stage unit. One LQ is estimated to comprise of 4.4 individuals. All household and persons within a selected LQ would be studied.

4.2.3 Sampling size

The sample size was determined based on 95% Confidence interval and the following factors were taken into consideration:

a) Expected prevalence rate

The prevalence rate of the health problems for Malaysia obtained from the National Health and Morbidity Survey 2 (NHMS II) were used to estimate the overall sample size. Using the previous finding of 10% prevalence rate, the initial sample size at the state level was calculated in order to come up with overall sample size. The size was further apportioned for each state using the probability proportionate to size (PPS) method.

b) Response rate of the NHMS II

The response rates, which ranged from 83 to 97% for the NHMS II of each state, were taken into consideration in the course of the determination of sample size.

c) Margin of error and design effect

As the factors of precision and efficient of the survey are paramount, the decision reached for the targeted margin of error is 1.2 and the design effect valued at 2. These values were used at the initial stages of the calculation of the sample size of each state.

The survey findings addressing the specific objectives of this survey are expected to be used for state level programmed planning. Thus, the calculation for the sample size has taken into consideration data to be analyzed at the state level.

In addition to the major factors mentioned earlier, the availability of resources, namely, financial and human resources, and the time taken to conduct this survey also becomes part of the process of the determination of sample size.

4.3 Preparation of Field Areas and Logistic Support

A number of state liaison officers were recruited in preparation for the survey proper. Strong networking with state liaison officers and District Health Officers (MOH and local authorities) from the areas sampled for the survey was established. Field scouts were mobilized from these areas to identify and tag the LQ's selected for the survey, as well as to inform the community and related government agencies of the importance and schedule of the planned survey. State liaison officers were also assisting Field Supervisors in the arrangement of transportation, accommodation and other logistics for the survey teams.

4.4 Method of Data Collections

4.4.1 The questionnaire

A cross-sectional community household survey was conducted throughout Malaysia during April to July 2006. A bi-lingual (Bahasa Malaysia and English) pre-coded questionnaire was designed, pre-tested and piloted prior to the survey.

All research topics for the questionnaire were arranged into modules ranging from A to Z. Certain topics that cover a similar area were arranged into sub-modules under a particular module. Questions comprise of both close ended and open ended. The questions in each module are tailored for the target age group.

Respondents were given a self administered questionnaire according to respondent's age booklet for age group 13 - ≤ 16 years (green) or > 16 years (peach). Respondents were required to fill in the questionnaires themselves and submit the completed questionnaires back to the data enumerators in an envelope as it is deemed to be confidential. For respondents aged less than 16 years old, the parent or guardian was required to answer the questionnaire on behalf of the respondent. Additional copies purely in vernacular language such as Mandarin and Tamil were also made available. Translation into these languages was done by qualified teachers proficient in the language. In addition, a list of selected words / terminologies from the questionnaires was also made available in Mandarin and Tamil to assist the enumerators during their interviews with the respondents.

4.4.2 The interview

As far as possible, all adult members who qualify from the selected LQ's were interviewed by the data collection team members. Interviews commenced early in the morning and lasted till late in the evening. Where an interview had been unsuccessful due to the absence of the respondent at the selected LQ, repeat visits were conducted after leaving messages with neighbours or by other means for an appointment at a later date. A household member can only be classified as a non-responded after 3 unsuccessful visits.

4.5 Field Preparations

Two main survey implementation groups were formed: the Central Coordinating Team (CCT) and the field team. The CCT's main role was to monitor and coordinate the progress of implementation and provide administrative support in terms of financial and logistic arrangement for the field survey. The Field Teams were responsible to oversee and manage the field data collection process as well as undertake quality control.

The field data collection was conducted throughout Malaysia simultaneously, spanning a continuous period of 4 months starting from April 2006. Teams were organized to move into 5 regions in Peninsular Malaysia, 2 regions in Sabah and 4 regions in Sarawak for data collection.

4.5.1 Pilot study

A pilot study was conducted on a sample of EB's (not included in the NHMS III) about 2 months prior to the nationwide survey. It was conducted in three different areas in and around the Klang Valley, namely Sepang, Klang and Bangsar. The population in these locations comprised of three distinct socio-demographic strata that are rural, semi-urban and urban respectively. The pilot study focused on the following aspects of the survey such as testing of the questionnaire, testing of the field logistic preparation, testing of the scouting activities and testing of the central monitoring and logistic support.

4.5.2 Training of data collection teams

A two weeks training course was held for field supervisors, team leaders, nurses and interviewers was to familiarize them with the questionnaire, develop their interpersonal communication skills and appreciate the need for good teamwork. Briefing on the questionnaire, mock interview in the classroom and individual practice under supervision was conducted during the training.

4.6 Quality Control

Quality control procedures were done in two stages, field and central. Detail description of quality control process has been described in NHMS III protocol.

4.7 Data Management

4.7.1 Data screening

The following data editing exercises were conducted at field and central levels prior to data entry:

- a) Field data screened by each interviewers at the end of his/her interview
- b) Field data screened for each question by peer interviewers through exchanging questionnaire booklets

- c) Field data screened by team leaders and field supervisors
- d) Central data screening of the questionnaire by the quality control team

4.7.2 Data entry

The data entry system was developed to record the information collected during the data collection phase. It is a web based system that allows multiple simultaneous accesses to the database. The NHMS III used a double manual data entry method and any discrepancy between both entries was verified by the supervisors. The data entry started simultaneously with data collection (first week of April 2006) and was completed at the end of January 2007. The data entered was stored in the database according to the module. The databases were designed using Structured Query Language (SQL) which is a standard language for relational database management system.

4.7.3 Data analysis

Data analysis was done by exporting the data into other analytical tools such as Microsoft Excel, SPSS and STATA. The data in database (text form) was exported to the Microsoft Excel form then to the SPSS and STATA. The raw data was cleaned and analysed according to the terms, working definition and dummy table prepared by the research groups. All the analytical process were monitored and advised by the NHMS III Statistics Consultant.

4.8 Definition of Terms / Variables

4.8.1 Lifetime cigarette smoker

Young people who have ever smoked a cigarette (even one puff).

4.8.2 Current smoker (CDC definition)

Young people who smoke on at least one day in the last 30 days preceding the survey.

4.8.3 Frequent / established smoker

Young people who have smoked on at least 20 of the 30 days preceding the survey.

4.8.4 Experimental smoker

Young people who have smoked less than 20 days for the past 30 days AND have not smoked for the last 7 days.

4.8.5 Trier

Young people who ever tried to smoke but stopped after only one (1) cigarette or after a few puffs.

4.8.6 Light smoker

Current smoker who smoked less than 10 sticks of cigarettes per day.

4.8.7 Moderate smoker

Current smoker who smoked between 10 and 20 sticks of cigarettes per day.

4.8.8 Heavy smoker

Current smoker who smoked more than 20 sticks of cigarettes per day.

4.8.9 Passive smoker

Non smoker who was exposed to someone else cigarette smoke for at least 15 minutes each exposure for at least 3 days in the last week.

5. FINDINGS

Based on 3321 responses (61.7%) of 5383 eligible respondents:

5.1 Ever Smokers

Of estimated 180328, [14.7% (CI: 13.4 - 16.1)] most were in Sarawak [22.2% (CI: 14.7 - 29.8)], Melaka [19.6% (CI: 10.0 - 29.2)] and Sabah [18.5% (CI: 13.1 - 23.9)] and least in Penang 6.1% (CI: 2.7 - 9.5). More in rural [18.4% (CI: 16.2 - 20.6)] vs. urban [12.3% (CI: 10.7 - 14.0)], mostly were others [20.4% (CI: 9.0 - 31.8)], Other Bumiputra [18.6% (CI: 12.7 - 24.5)] and Malays [18.6% (CI: 16.0 - 19.4)]. 26.2% (CI: 23.8 - 28.5) males vs. females [3.0% (CI: 2.1 - 3.8)]. Prevalence increased with age, from 7.0% (CI: 5.1 - 8.9) in 13 years old to 22.5% (CI: 19.1 - 25.8) in 17 years old.

5.2 Current Smokers (CDC definition)

Of estimated 107154, [8.7% (CI: 7.7 - 9.8)] most were in Sarawak [13.0% (CI: 6.9 - 19.1)], Pahang [12.9% (CI: 7.7 - 18.2)] and Johor [12.1% (CI: 7.2 - 17.0)] and least in Penang 2.3% (CI: 0.1 - 4.4). More in rural [11.5% (CI: 9.7 - 13.3)] vs. urban [6.9% (CI: 5.6 - 8.2)], mainly among Malays [10.9% (CI: 9.5 - 12.3)] and Other Bumiputra [10.5% (CI: 6.0 - 14.9)]. 16.6% (CI: 14.6 - 18.5) males vs. 0.7% (CI: 0.3 - 1.0) females. Prevalence increased with age, from 3.5% (CI: 2.2 - 4.8) in 13 years old to 15.5% (CI: 12.5 - 18.5) in 17 years old.

5.3 Current Smokers (NHMS II definition)

Of estimated 94731, [7.8% (CI: 6.8 - 8.8)] most were in Sarawak [11.5% (CI: 6.1 - 16.9)], Pahang [12.1% (CI: 7.0 - 17.2)] and Johor [10.4% (CI: 5.5 - 15.3)] and least in Penang 1.7% (CI: -0.2 - 3.6). More in rural [10.5% (CI: 8.8 - 12.3)] vs. urban [6.0% (CI: 4.9 - 7.2)], mainly among Malays [9.9% (CI: 8.6 - 11.3)] and Other Bumiputra [9.0% (CI: 5.1 - 13.0)]. 15.0% (CI: 13.1 - 16.8) males vs. 1.0%

(CI: 0.2 - 0.9) females. Prevalence increased with age, from 3.0% (CI: 1.7 - 4.2) in 13 years old to 15.0% (CI: 12.0 - 17.9) in 17 years old.

5.4 Frequent / Established smokers

Of 40172, [3.3% (CI: 2.7 - 4.0)] most were in Pahang [5.3% (CI: 1.9 - 8.7)], Johor [5.3% (CI: 1.9 - 8.7)], and Sarawak [5.1% (CI: 1.4 - 8.9)]. More in rural [4.9% (CI: 3.7 - 6.2)] vs. urban [2.3% (CI: 1.5 - 3.0)], mainly among Malays [4.3% (CI: 3.4 - 5.2)] and Other Bumiputra [4.8% (CI: 1.8 - 7.7)], 6.4% (CI: 5.1 - 7.6) males vs. 0.2% (CI: 0 - 0.4) females (n=3). Prevalence increased with age, from 1.1% (CI: 0.3 - 1.8) in 13 years old to 6.9% (CI: 4.8 - 8.9) in 17 years old.

5.5 Experimental Smokers

Of 12780, [1.1% (CI: 0.7 - 1.4)] more in rural [1.2% (CI: 0.6 - 1.8)] vs. urban [0.9% (CI: 0.5 - 1.4)], and mainly among Other Bumiputra [1.4% (CI: 0.1 - 2.8)] and Malays [1.1% (CI: 0.7 - 1.6)]. 1.9% (CI: 1.2 - 2.6) males and 0.2% (CI: 0 - 0.4) of females. Highest prevalence among 15 years old [1.6% (CI: 0.5 - 2.6)] and lowest among 13 years old [0.6% (CI: 0.1 - 1.1)].

5.6 Triers

Of 62782, [5.2% (CI: 4.4 - 6.0)] mostly were in WP Labuan [12.5% (CI: 0.9 - 24.1)], Sarawak 8.1% (CI: 3.8 - 12.4) and Sabah 7.2% (CI: 3.8 - 10.6). In the Peninsular, the highest was from Terengganu [7.0% (CI: 3.7 - 10.2)] and Kelantan [6.4% (CI: 3.7 - 9.1)]. 5.7% (CI: 4.4 - 6.9) triers in rural vs. 4.9% (CI: 3.9 - 5.9) urban, mostly were Other Bumiputra 8.1% (CI: 4.8 - 11.4) and Malays 5.8% (CI: 4.8 - 6.8). 8.3% (CI: 6.9 - 9.6) males vs. 0.2% (CI: 1.3 - 2.7) females, higher among 14 and 15 years old 6.6% (CI: 4.7 - 8.4) and 6.3% (CI: 4.5 - 8.0) respectively, and lowest among 13 years old [3.4% (CI: 2.1 - 4.7)].

5.7 Passive Smokers

Of 305932, [26.8% (CI: 25.1 - 28.4)] most were in Terengganu [34.0% (CI: 27.5 - 40.5)], Perlis 34% (CI: 22.1 - 45.7) and WP Labuan 32.9% (CI: 13.8 - 51.8), higher in rural [28.5% (CI: 26.0 - 31.0)] than urban [25.6% (CI: 23.4 - 27.9)]. 30.3% (CI: 28.2 - 32.4) Malays, 29.3% (CI: 23.1 - 35.5) Other Bumiputra, 18.4% (CI: 14.5 - 22.3) Chinese and 12.7% (CI: 8.1 - 17.3) Indian. 24.7% (CI: 22.5 - 26.9) males vs. [29% (CI: 26.6 - 31.3)] females. 28.9% (CI: 25.4 - 32.3) were 15 years old and lowest among 13 years old [24.6% (CI: 21.3 - 27.9)].

5.8 Mean Initiation Age (MIA)

Mean initiation age (MIA) among current and frequent smokers was 13.6 years, similar between

urban and rural respondents. Males started smoking earlier (13.6 years) vs. females (14.1 for current vs. 14.4 years for frequent smokers). However, MIA of experimental smokers was 12.9 years, earlier among rural (12.8 years) vs. urban (13.1 years) respondents. Males started smoking even earlier (12.8 years) than females (14.3 years).

5.9 Mean Number Of Cigarettes (MNC)

Mean number of cigarettes (MNC) smoked per day among frequent smokers was 10.1 (CI: 7.9 - 12.3) sticks, highest in Wilayah Persekutuan Kuala Lumpur [18.3 (CI: 6.4 - 30.3)] sticks followed by Penang [16.7 (CI: 12.5 - 20.9)] and Kelantan [16.1 (CI: 6.1 - 26.2)]. Higher MNC in rural 10.3 (CI: 7.3 - 13.3) sticks vs. urban 9.8 (CI: 6.7 - 12.9) sticks, 10.0 (CI: 7.8 - 12.2) for males vs. [12.9 (CI: 5.8 - 20.0)] sticks for females (n=3). Higher MNC among Malays [10.0 (CI: 7.7 - 12.3)] vs. Other Bumiputra [8.2 (CI: 4.2 - 12.2)] sticks. Higher MNC among 15 years old [11.5 (CI: 6.4 - 16.5)] and 17 years old [11.1 (CI: 7.2 - 14.9)] sticks. Among frequent smokers, 74.3% (CI: 66.1 - 82.5) were in light, 18.1% (CI: 10.8 - 25.3) heavy and 7.7% (CI: 2.7 - 12.7) moderate category. 74.2% (CI: 65.3 - 83.1) respondents smoked white cigarettes, 7.0% (CI: 2.3 - 11.8) self-rolled and 6.7% (CI: 1.9 - 11.6) light cigarettes. Among white cigarette smokers, 75.9% (CI: 65.2 - 86.6) were in rural vs. 71.7% (CI: 56.5 - 86.8) urban, 85.0% (CI: 68.5 - 101.5) of 15 years old, 79.0% (CI: 65.6 - 92.3) of 17 years old and 72.8% (CI: 51.7 - 93.7) of 14 years old vs. only 35.8% (CI: 2.4 - 69.3) of 13 years old. 75.5% (CI: 66.2 - 84.9) Malays, vs. 75.8% (CI: 33.7 - 118.0) Chinese (n=4) consumed white cigarettes.

5.10 Mean Number of Quit Attempts (MNQA)

Mean number of quit attempts (MNQA) among frequent smokers was 3.6 (CI: 2.9 - 4.2) times. Higher quit attempts were in Terengganu [5.9 (CI: 3.2 - 8.6)], Perak [4.6 (CI: 1.4 - 7.7)] and Kelantan [4.4 (CI: 1.8 - 7.0)] times. MNQA was 3.8 (CI: 2.9 - 4.7) for rural vs. 3.2 (CI: 2.2 - 4.2) times for urban respondents and 3.6 (CI: 3.0 - 4.3) times among males. Higher MNQA among Malays [3.8 (CI: 3.1 - 4.5)] vs. Other Bumiputra [2.3 (CI: 1.4 - 3.2)] and Chinese [1.3 (CI: 0.8 - 1.8)] times, mainly among 17 years old 4.4 (CI: 3.0 - 5.7) and 14 years old 4.1 (CI: 2.4 - 5.8) times.

5.11 Intentions to Quit Within Next Six Months (IQ6M)

80.3% (CI: 72.2 - 88.4) of frequent smokers reported IQ6M, mostly in Perak 100%, Kedah 92.9% (CI: 78.8 - 106.9) and Sarawak 88.7% (CI: 67.0 - 110.4), with 80.9% (CI: 70.6 - 91.1) rural vs. 79.4% (CI: 66.3 - 92.6) urban, 80.6% (CI: 72.4 - 88.8) male frequent smokers reported IQ6M vs. 69.5% (CI: 18.0 - 121.0) for females (n=2). 83.2% (CI: 63.5 - 103.0) Other Bumiputra reported IQ6M, 81.2% (CI: 72.4 - 90.0) Malays and 52.6% (CI: 3.4 - 101.8) Chinese (n=2). IQ6M were more than 70% among all the 13 to 17 years old, and higher among 14 years old 94.7% (CI: 84.3 - 105.0), 17 years old 83.2% (CI: 70.3 - 96.0) and 13 years old 75.6% (CI: 45.6 - 105.7).

5.12 Ever Quit Attempts for Past One Year (EQA1Y)

79.4% (CI: 71.6 - 87.1) frequent smokers reported EQA1Y, mostly were in Kedah [92.2%(CI: 77.0 - 107.4)] Selangor and Johor [90.6% (CI: 76.1 - 105.0)]. EQA1Y were 81.2% (CI: 72.3 - 90.1) for rural vs. 76.6% (CI: 62.6 - 90.6) urban, 79.7% (CI: 71.9 - 87.5) among male vs. 69.5% (CI: 18.0 - 121.0) (n=2) female frequent smokers, and 79.9% (CI: 71.6 - 88.1) among Malays vs. 76.8% (CI: 51.5 - 102.0) Other Bumiputra (n=10) and 75.8% (CI: 33.6 - 118.0) Chinese (n=3). EQA1Y were mostly among 14 (100%) and 16 years old 82.3% (CI: 66.2 - 98.4), and lowest 61.2% (CI: 26.2 - 96.2) among 13 years old (n=5).

5.13 Awareness of Quit Smoking Clinic Availability

Of only 29 respondents, [28.6% (CI: 19.2 - 38.0)] were aware, 29.4% (CI: 13.7 - 45.1) urban vs. 28.1% (CI: 16.4 - 39.8) rural. 28.6% (CI: 19.0 - 38.1) male smokers were aware of quit smoking clinic availability, 30.6% (CI: 20.2 - 40.9) were Malays, mostly among 15 years old [31.6% (CI: 9.8 - 53.4)], 17 years old [30.6% (CI: 15.5 - 45.7)] and 16 years old [29.8% (CI: 9.3 - 50.3)].

6. DISCUSSION

The 8.7% prevalence rate of self reported current smoking among Malaysian adolescents aged 15 to less than 18 years was fairly comparable to those reported by other countries. The GYTS among Malaysian adolescents 13 to 15 years old in 2003 found a prevalence of 19.9% current smoking, with 35.5% in boys and 4.3% in girls. The prevalence of current smoking among adolescents 13 to 15 years old in this survey was 6.1%, with 11.7% in boys and 0.53% in girls.

The observed lower prevalence of current smoking found in this survey especially among girls may be due to underreporting since tobacco smoking is still regarded as a socially unacceptable behaviour in Malaysia. This is in spite of this survey method which was designed, to the maximum extent possible, to ensure anonymity and confidentiality. Early research literature in the area of social desirability has typically pointed to the finding that people tend to over report socially desirable behaviors such as exercise and underreport socially undesirable behaviors such as substance use (Hyman 1944; Parry & Crossley 1950; Phillips & Clancy 1970). Fendrich et al. (2005) showed that self-report sensitivity estimates were still well below the 90% level suggested in prior reviews. Most studies which assessed the reliability of adolescents' self reports of smoking were based on populations with high smoking prevalence and the less negative social norms towards tobacco than they are nowadays (Post et al. 2005).

In addition, there was no biochemical validation for smoking conducted in this survey. There was no assessment of breath carbon monoxide, thiocyanate or cotinine, a major metabolite of nicotine, which has been shown to be the "gold standard" for measuring nicotine intake (Benowitz et al. 1983).

However, Eppel et al. (2006) reported the reliability of self-reports of cigarette use in novice smokers while Kentala et al. (2004) suggested that biochemical verification was needless since the reports in questionnaires used provided a sensitivity and specificity of 81-96% and 77-95%, respectively.

From this survey, prevalence of current smoking among male adolescent far outnumbers the female adolescents. As shown in Appendix : Table 2, the higher prevalence of current smoking among boys than girls is observed in all regions where GYTS was conducted, except for the Americas, where it is almost equal. Interestingly, current cigarette smoking is lowest in the Southeast Asia region while Western Pacific region has the lowest reported current any tobacco use. In the Southeast Asia and Western Pacific regions, there is about 3 times more current smoking among boys than girls. The huge disparity observed between genders from this survey warrants further research, and should consider applying bogus pipe-line method and/or biochemical validation of smoking status reporting.

In contrast to the findings of this survey, prevalence of cigarette smoking in female adolescents is reported on the rise worldwide (Warren et al. 2006). As in NHMS II (1996), impact of modernization, changes in the female role in society, social interest and smokers' perception and experience regarding the maintenance of lower body weight through smoking, should still be considered in future studies on adolescent smokers in Malaysia.

Previous research has shown that the general health values and religious beliefs a youth possesses predict his or her engagement in health compromising behaviors (Brown et al. 2001; Heath et al. 1999; Miller & Gur 2002; Rosengard et al. 2001). Thambypillai (1995) reported that social and cultural factors discourage smoking among female and parents give more emphasis on female adolescents in Malaysia. However, these factors alone may not explain the lower than expected prevalence of smoking among female adolescents seen from this survey. As reported by Resnick et al. (1997) and Reininger et al. (2005), the assets that are predictive of not engaging in the three risk behaviors (smoking, drinking and sex) of the aggregate risk score measured supportive, protective, caring relationships. Leatherdale et al. (2005) demonstrated that students are at increased risk for smoking if they have smoking friends, smoking family members and attend a school with a relatively high senior-student smoking rate. Thus, additional research to predict Malaysian adolescent risk behaviors based on an ecological framework and assets is warranted especially to provide evidence for future youth tobacco use prevention and cessation programmes.

Nearly every cigarette smoker began as a teenager (U.S. Department of Health and Human Services 1994). Various studies throughout the world report the majority of smokers began smoking by the age of 19 years, in some cases; majority of smokers had adopted the habits by 12 years of age (The World Health Report 1998). Kessler et al. (1997) concluded that cigarette smoking is an addiction that begins in childhood and adolescence.

It was well established that those who start smoking early in life have greater difficulty in stopping, more likely to be heavy smokers, and were at a higher risk for developing smoking related diseases. Peer influence, family factors, personal characteristics and environmental factors such as advertisement either direct or indirect had been identified as factors influence adolescents to start smoking. Since cigarettes have an addictive nature, it is easier to persuade people not to take up the habit than to help them kick/lose it. Ye et al. (1997) reported that the age of smoking onset of

most students in China was before 15 years. Current survey found this to be true for Malaysian adolescents who were current and frequent smokers. Alarming, the mean initiation age of 13.6 years for male current smokers and 14.1 years for girls is lower than the previous finding from NHMS II (19.9 years). However readers are cautioned on the different age group inclusion between the two surveys. NHMSII included only adult households members (aged 18 years and above), while NHMS III had expanded the scope to include the adolescent group age 13-18 years old. The earlier onset of smoking for the experimental smokers requires urgent attention so that appropriate action can be taken to prevent them from becoming frequent or established smokers. Continuous holistic effort needs to be given to prevent non smokers from taking up smoking, particular the minors. Policy and environmental interventions were cornerstones of smoking prevention. They included the fully enforcement of the Control of Tobacco Product Regulations 2004. Health education programmes aimed at influencing the smoking pattern among the adolescents must also be started well ahead of time before the children even get initiated to smoking. Ideally such programmes should be started in the upper primary school so that the full message of the anti smoking health education programme reaches the adolescent even before he/she start experimenting with cigarettes.

7. CONCLUSION

The lower prevalence of current smoking among Malaysian adolescents, in particular girls may be due to underreporting. Thus, the findings must be interpreted with caution. Most adolescent smokers experimented with cigarettes before the age of 15 years, even earlier among boys. Majority of adolescent are light smokers, among Other Bumiputra and Malays and in the rural areas. There was a high exposure to secondhand smoke among the adolescents. White cigarette was the tobacco product used the most with 10.1 sticks on average per day. Although the number of reported quit attempts was high, most were unaware of quit smoking clinic availability.

8. RECOMMENDATIONS

Despite limitations of this current survey, the findings have important implications for youth smoking prevention programming. Thus, prevention programs by building assets across ecological levels can impact smoking and also multiple risk behaviors. Steps must be taken to increase possession of certain youth assets and future research continues to offer evidence of the need for ecological youth prevention programming with a focus on individual youth, their peers, parents, other adults, and the school environment.

Future research to include the use of biochemical methods and/or bogus pipeline approach to validate self reporting.

Prices of cigarettes must be increased so that the tax amount would be at least 65%, in line with the recommendation of WHO FCTC.

Strict enforcement of the laws and regulations pertaining to tobacco in minors, including ban on sales of loose/single sticks and packs containing less than 20 sticks, ban on smoking in public places, vehicles and even homes with young people.

Improve services offered at primary and secondary health care facilities to include tobacco prevention and cessation activities specific to the adolescents.

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APPENDIX



APPENDIX

Table 1: Smoking adolescence (ever smoker-CDC definition)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	502	180,328	14.7	13.4	16.1
State					
Johor	34	12,249	15.4	9.7	21.0
Kedah	68	24,132	18.2	14.1	22.2
Kelantan	71	23,636	17.1	13.1	21.1
Malacca	17	7,004	19.6	10.0	29.2
N. Sembilan	15	5,340	11.9	6.3	17.6
Pahang	41	15,442	17.3	11.8	22.7
Penang	11	3,805	6.1	2.7	9.5
Perak	31	12,957	10.1	6.2	14.0
Perlis	9	3,535	16.5	6.9	26.0
Selangor	58	21,998	10.8	7.9	13.8
Terengganu	46	15,386	18.0	13.2	22.8
Sabah	49	15,152	18.5	13.1	23.9
Sarawak	35	13,455	22.2	14.7	29.8
W.P. Kuala Lumpur	11	4,329	9.2	4.0	14.3
W.P. Labuan	6	1,907	15.1	2.9	27.2
Residence					
Urban	227	91,185	12.3	10.7	14.0
Rural	275	89,143	18.4	16.2	20.6
Gender					
Male	454	162,438	26.2	23.8	28.5
Female	48	17,891	3.0	2.1	3.8
Age					
13	52	18,596	7.0	5.1	8.9
14	101	36,245	13.1	10.7	15.6
15	113	40,271	15.6	12.8	18.5
16	103	37,227	17.6	14.4	20.7
17	133	47,998	22.5	19.1	25.8
Race					
Malay	399	143,240	17.7	16.0	19.4
Chinese	27	10,496	5.1	3.2	7.1
Indian	15	6,161	6.1	3.1	9.0
Other Bumis	49	16,167	18.6	12.7	24.5
Others	12	4,264	20.4	9.0	31.8
Religion					
Islam	430	153,212	17.5	15.9	19.1
Christian	35	12,582	16.0	9.8	22.2
Hindu	13	5,262	6.2	3.0	9.4
Buddhist	21	8,239	4.7	2.6	6.7
Others	3	1,033	13.7	1.8	29.1
Unclassified	0	0	0.0	0.0	0.0

Table 1: Smoking adolescence (ever smoker-CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	500	179,713	14.8	13.4	16.1
Non-Malaysian	2	615	9.0	2.3	20.2
Unclassified	0	0	0.0	0.0	0.0
Education					
None	3	1,019	48.0	7.4	88.5
Primary	217	77,355	11.4	9.9	13.0
Secondary	278	100,427	18.7	16.6	20.8
Non Classified	4	1,528	19.5	1.0	38.0
Marital Status					
Not married	499	179,010	14.8	13.5	16.1
married	3	1,318	10.4	0.7	21.5
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	41	14,099	18.9	13.4	24.4
RM 400 - RM 699	92	31,132	16.5	13.3	19.7
RM 700 - RM 999	86	31,024	19.2	15.4	23.0
RM 1000 - RM 1999	126	45,599	13.0	10.7	15.3
RM 2000 - RM 2999	84	31,214	17.0	13.2	20.7
RM 3000 - RM 3999	28	10,457	11.4	7.1	15.6
RM 4000 - RM 4999	12	4,618	11.8	5.2	18.5
RM 5000 & above	15	5,642	5.8	2.7	8.9
Unclassified	18	6,543	18.8	9.8	27.8
Occupation					
Senior Official & Manager	1	323	100.0	-	-
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	1	338	21.1	16.6	58.7
Clerical Workers	1	434	16.1	12.6	44.7
Service Workers & Shop	19	7,055	31.3	19.8	42.8
Skilled Agricultural & Fishery	5	1,805	36.9	11.0	62.8
Craft & Related Trade					
Workers	11	3,480	42.8	23.6	62.0
Plant & Machine Operator &					
Assembler	7	2,466	64.3	35.8	92.9
Elementary Occupations	11	3,760	62.5	39.7	85.3
Housewife	3	1,226	40.7	5.9	75.5
Unemployed	51	17,799	23.1	17.5	28.7
Unclassified	392	141,642	13.0	11.6	14.3

Table 2: Smoking adolescence (current smoker-CDC definition)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	299	107,154	8.7	7.7	9.8
State					
Johor	27	9,673	12.1	7.2	17.0
Kedah	41	14,638	11.0	7.7	14.2
Kelantan	40	13,255	9.6	6.6	12.5
Malacca	10	3,789	10.2	3.0	17.5
N. Sembilan	6	2,112	4.7	0.9	8.5
Pahang	31	11,616	12.9	7.7	18.2
Penang	4	1,413	2.3	0.1	4.4
Perak	17	7,176	5.6	2.5	8.7
Perlis	5	1,888	8.8	2.4	15.2
Selangor	34	13,024	6.4	4.0	8.8
Terengganu	25	8,232	9.6	5.6	13.5
Sabah	29	8,968	11.0	7.1	14.8
Sarawak	21	7,896	13.0	6.9	19.1
W.P. Kuala Lumpur	8	3,149	6.7	2.0	11.4
W.P. Labuan	1	323	2.6	-2.4	7.5
Residence					
Urban	127	51,257	6.9	5.6	8.2
Rural	172	55,897	11.5	9.7	13.3
Gender					
Male	288	103,240	16.6	14.6	18.5
Female	11	3,914	0.6	0.3	1.0
Age					
13	26	9,326	3.5	2.2	4.8
14	48	16,632	6.0	4.3	7.7
15	62	22,526	8.7	6.4	11.0
16	72	25,634	12.0	9.3	14.8
17	91	33,035	15.5	12.5	18.5
Race					
Malay	246	88,553	10.9	9.5	12.3
Chinese	13	4,987	2.4	1.1	3.8
Indian	7	2,809	2.7	0.8	4.7
Other Bumis	28	9,110	10.5	6.0	14.9
Others	5	1,695	8.1	1.4	14.8
Religion					
Islam	262	93,783	10.7	9.3	12.0
Christian	22	7,534	9.6	4.9	14.3
Hindu	6	2,375	2.8	0.6	4.9
Buddhist	8	3,113	1.8	0.5	3.0
Others	1	348	4.6	-4.3	13.4
Unclassified	0	0	0.0	0.0	0.0

Table 2: Smoking adolescence (current smoker-CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	297	106,538	8.7	7.7	9.8
Non-Malaysian	2	615	9.0	-2.2	20.2
Unclassified	0	0	0.0	0.0	0.0
Education					
None	3	1,019	48.0	7.4	88.5
Primary	115	40,587	6.0	4.8	7.1
Secondary	178	64,342	12.0	10.2	13.7
Non Classified	3	1,205	15.4	1.0	29.8
Marital Status					
Not married	299	107,154	8.8	7.8	9.9
married	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	26	9,107	12.1	7.8	16.5
RM 400 - RM 699	61	20,877	11.0	8.4	13.6
RM 700 - RM 999	44	15,940	9.8	6.9	12.7
RM 1000 - RM 1999	81	29,174	8.3	6.3	10.2
RM 2000 - RM 2999	46	16,712	9.0	6.4	11.6
RM 3000 - RM 3999	15	5,366	5.8	2.8	8.9
RM 4000 - RM 4999	8	3,088	7.9	2.1	13.7
RM 5000 & above	9	3,379	3.5	0.9	6.0
Unclassified	9	3,511	10.1	2.7	17.5
Occupation					
Senior Official & Manager	1	323	100.0	-	-
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	1	338	21.1	-16.6	58.7
Clerical Workers	1	434	16.1	-12.6	44.7
Service Workers & Shop	15	5,569	24.7	14.0	35.4
Skilled Agricultural & Fishery	5	1,805	36.9	11.0	62.7
Craft & Related Trade Workers	9	2,855	35.1	16.7	53.5
Plant & Machine	7	2,466	64.3	35.8	92.9
Operator & Assembler					
Elementary Occupations	8	2,731	45.4	22.4	68.3
Housewife	0	0	0.0	0.0	0.0
Unemployed	30	10,620	13.8	9.1	18.5
Unclassified	222	80,013	7.3	6.3	8.3

Table 3: Smoking adolescence (current smoker-NHMS II definition)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	265.0	94731.5	7.8	6.8	8.8
State					
Johor	23	8,274	10.4	5.5	15.2
Kedah	38	13,634	10.4	7.2	13.6
Kelantan	38	12,610	9.2	6.2	12.2
Malacca	9	3,298	9.6	2.0	17.3
N. Sembilan	5	1,780	4.0	0.9	7.2
Pahang	29	10,837	12.1	7.0	17.2
Penang	3	1,044	1.7	-0.2	3.5
Perak	15	6,246	4.9	2.2	7.6
Perlis	4	1,353	6.3	0.8	11.8
Selangor	29	10,999	5.4	3.5	7.4
Terengganu	22	7,241	8.6	4.9	12.3
Sabah	24	7,415	9.1	5.3	12.8
Sarawak	18	6,852	11.4	6.1	16.8
W.P. Kuala Lumpur	8	3,149	6.7	2.0	11.4
W.P. Labuan	0	0	0.0	0.0	0.0
Residence					
Urban	110	44,335	6.0	4.8	7.2
Rural	155	50,397	10.5	8.7	12.3
Gender					
Male	257	91,734	15.0	13.1	16.8
Female	8	2,998	0.5	0.2	0.8
Age					
13	21	7,758	2.9	1.7	4.2
14	42	14,631	5.3	3.8	6.9
15	51	18,224	7.1	5.1	9.2
16	64	22,869	10.9	8.2	13.5
17	87	31,250	14.9	12.0	17.9
Race					
Malay	222	79,738	9.9	8.6	11.3
Chinese	10	3,857	1.9	0.7	3.1
Indian	6	2,344	2.3	0.5	4.2
Other Bumis	24	7,854	9.0	5.1	12.9
Others	3	938	4.6	-0.5	9.7
Religion					
Islam	235	83,889	9.7	8.4	11.0
Christian	19	6,602	8.4	4.3	12.5
Hindu	5	1,910	2.3	0.3	4.3
Buddhist	6	2,331	1.3	0.3	2.4
Others	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0

Table 3: Smoking adolescence (current smoker-NHMS II definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	263	94,116	7.8	6.8	8.8
Non-Malaysian	2	615	9.0	-2.2	20.2
Unclassified	0	0	0.0	0.0	0.0
Education					
None	3	1,019	48.0	7.4	88.5
Primary	97	34,321	5.1	4.0	6.1
Secondary	163	58,623	11.1	9.3	12.8
Non Classified	2	769	9.8	-1.9	21.5
Marital Status					
Not married	265	94,731	7.9	6.9	8.9
married	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	24	8,338	11.3	7.0	15.5
RM 400 - RM 699	55	18,960	10.1	7.5	12.7
RM 700 - RM 999	39	14,255	9.0	6.2	11.8
RM 1000 - RM 1999	69	24,806	7.1	5.3	8.9
RM 2000 - RM 2999	41	14,941	8.2	5.7	10.8
RM 3000 - RM 3999	15	5,270	5.8	2.8	8.9
RM 4000 - RM 4999	7	2,622	6.7	1.4	12.0
RM 5000 & above	7	2,519	2.6	0.7	4.5
Unclassified	8	3,020	8.8	1.6	15.9
Occupation					
Senior Official & Manager	1	323	100.0	-	-
Profesionals	0	0	0.0	0.0	0.0
Technical & Associate	1	338	21.1	-16.6	58.7
Clerical Workers	1	434	16.1	-12.6	44.7
Service Workers & Shop	15	5,569	24.7	14.0	35.4
Skilled Agricultural & Fishery	5	1,805	36.9	11.0	62.7
Craft & Related Trade Workers	9	2,855	36.4	17.5	55.3
Plant & Machine	7	2,466	64.3	35.8	92.9
Operator & Assembler					
Elementary Occupations	8	2,731	54.7	29.4	80.1
Housewife	1	354	11.8	-10.0	33.5
Unemployed	25	8,723	11.5	7.1	15.9
Unclassified	192	69,134	6.4	5.4	7.3

Table 4: Smoking adolescence (frequent / established smoker)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	114	40,172	3.3	2.7	4.0
State					
Johor	12	4,198	5.3	1.9	8.7
Kedah	14	5,078	3.9	1.6	6.1
Kelantan	15	4,956	3.6	1.9	5.4
Malacca	3	799	2.3	-0.3	4.9
N. Sembilan	4	1,388	3.1	0.2	6.1
Pahang	13	4,745	5.3	1.9	8.7
Penang	2	674	1.1	-0.4	2.6
Perak	7	2,943	2.3	0.5	4.1
Perlis	0	0	0.0	0.0	0.0
Selangor	12	4,631	2.3	1.0	3.6
Terengganu	10	3,132	3.7	1.4	6.0
Sabah	11	3,369	4.1	1.5	6.8
Sarawak	8	3,078	5.1	1.4	8.9
W.P. Kuala Lumpur	3	1,181	2.5	-0.2	5.2
W.P. Labuan	0	0	0.0	0.0	0.0
Residence					
Urban	41	16,545	2.3	1.5	3.0
Rural	73	23,627	4.9	3.7	6.2
Gender					
Male	111	39,083	6.4	5.1	7.6
Female	3	1,089	0.2	0.0	0.4
Age					
13	8	2,827	1.1	0.3	1.8
14	18	6,384	2.3	1.3	3.4
15	22	7,792	3.0	1.6	4.5
16	25	8,855	4.2	2.6	5.8
17	41	14,314	6.9	4.8	8.9
Race					
Malay	96	34,295	4.3	3.4	5.2
Chinese	4	1,439	0.7	0.0	1.4
Indian	0	0	0.0	0.0	0.0
Other Bumis	13	4,145	4.8	1.8	7.7
Others	1	292	1.4	-1.4	4.3
Religion					
Islam	102	36,110	4.2	3.3	5.0
Christian	8	2,622	3.3	0.8	5.9
Hindu	0	0	0.0	0.0	0.0
Buddhist	4	1,439	0.8	0.0	1.6
Others	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0

Table 4: Smoking adolescence (frequent / established smoker) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	114	40,172	3.3	2.7	4.0
Non-Malaysian	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Education					
None	1	434	20.4	-14.6	55.5
Primary	42	14,537	2.2	1.5	2.8
Secondary	70	24,755	4.7	3.5	5.8
Non Classified	1	446	5.7	-4.5	15.9
Marital Status					
Not married	114	40,172	3.3	2.7	4.0
married	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	9	3,240	4.4	1.5	7.2
RM 400 - RM 699	19	6,594	3.5	1.9	5.1
RM 700 - RM 999	20	7,075	4.4	2.5	6.4
RM 1000 - RM 1999	31	10,785	3.1	1.9	4.3
RM 2000 - RM 2999	18	6,523	3.6	1.8	5.4
RM 3000 - RM 3999	5	1,586	1.8	0.2	3.3
RM 4000 - RM 4999	3	1,096	2.8	-0.4	6.0
RM 5000 & above	3	1,008	1.0	-0.1	2.2
Unclassified	6	2,263	6.6	0.9	12.3
Occupation					
Senior Official & Manager	1	323	100.0	-	-
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	0	0	0.0	0.0	0.0
Clerical Workers	0	0	0.0	0.0	0.0
Service Workers & Shop	9	3,341	14.8	5.9	23.8
Skilled Agricultural & Fishery	1	335	6.8	-6.2	19.8
Craft & Related Trade Workers	6	1,875	23.9	6.7	41.1
Plant & Machine	4	1,442	37.6	8.5	66.7
Operator & Assembler					
Elementary Occupations	1	306	6.1	-5.6	17.9
Housewife	0	0	0.0	0.0	0.0
Unemployed	12	4,088	5.4	2.4	8.4
Unclassified	80	28,462	2.6	2.0	3.2

Table 5: Smoking adolescence (experimental smoker)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	35	12,780	1.1	0.7	1.4
State					
Johor	4	1,399	1.8	-0.2	3.8
Kedah	2	669	0.5	-0.2	1.2
Kelantan	2	645	0.5	-0.2	1.1
Malacca	1	491	1.4	-1.3	4.1
N. Sembilan	1	332	0.8	-0.7	2.2
Pahang	3	1,133	1.3	-0.1	2.7
Penang	1	370	0.6	-0.6	1.8
Perak	2	931	0.7	-0.2	1.7
Perlis	2	873	4.1	-1.1	9.2
Selangor	5	2,025	1.0	-0.1	2.1
Terengganu	3	991	1.2	-0.1	2.5
Sabah	5	1,554	1.9	0.3	3.6
Sarawak	3	1,044	1.7	-0.1	3.6
W.P. Kuala Lumpur	0	0	0.0	0.0	0.0
W.P. Labuan	1	323	2.6	-2.4	7.5
Residence					
Urban	17	6,922	0.9	0.5	1.4
Rural	18	5,858	1.2	0.6	1.8
Gender					
Male	31	11,510	1.9	1.2	2.6
Female	4	1,270	0.2	0.0	0.4
Age					
13	5	1,568	0.6	0.1	1.1
14	6	2,002	0.7	0.1	1.3
15	10	3,968	1.6	0.5	2.6
16	8	2,765	1.3	0.4	2.2
17	6	2,477	1.2	0.2	2.1
Race					
Malay	25	9,172	1.1	0.7	1.6
Chinese	3	1,130	0.6	-0.1	1.2
Indian	1	465	0.5	-0.4	1.4
Other Bumis	4	1,256	1.4	0.1	2.8
Others	2	757	3.7	-1.4	8.8
Religion					
Islam	28	10,252	1.2	0.7	1.6
Christian	3	933	1.2	-0.1	2.5
Hindu	1	465	0.6	-0.5	1.6
Buddhist	2	782	0.4	-0.2	1.1
Others	1	348	4.6	-4.3	13.4
Unclassified	0	0	0.0	0.0	0.0

Table 5: Smoking adolescence (experimental smoker) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	35	12,780	1.1	0.7	1.4
Non-Malaysian	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Education					
None	0	0	0.0	0.0	0.0
Primary	18	6,267	0.9	0.5	1.4
Secondary	16	6,077	1.1	0.6	1.7
Non Classified	1	436	5.6	-5.1	16.2
Marital Status					
Not married	35	12,780	1.1	0.7	1.4
married	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	2	768	1.0	-0.4	2.5
RM 400 - RM 699	6	1,937	1.0	0.2	1.9
RM 700 - RM 999	5	1,686	1.1	0.1	2.0
RM 1000 - RM 1999	12	4,368	1.2	0.5	2.0
RM 2000 - RM 2999	5	1,771	1.0	0.1	1.8
RM 3000 - RM 3999	1	434	0.5	-0.5	1.4
RM 4000 - RM 4999	1	465	1.2	-1.1	3.5
RM 5000 & above	2	859	0.9	-0.3	2.1
Unclassified	1	491	1.4	-1.3	4.2
Occupation					
Senior Official & Manager	0	0	0.0	0.0	0.0
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	0	0	0.0	0.0	0.0
Clerical Workers	0	0	0.0	0.0	0.0
Service Workers & Shop	0	0	0.0	0.0	0.0
Skilled Agricultural & Fishery	0	0	0.0	0.0	0.0
Craft & Related Trade Workers	0	0	0.0	0.0	0.0
Plant & Machine	0	0	0.0	0.0	0.0
Operator & Assembler	0	0	0.0	0.0	0.0
Elementary Occupations	0	0	0.0	0.0	0.0
Housewife	0	0	0.0	0.0	0.0
Unemployed	5	1,897	2.5	0.3	4.7
Unclassified	30	10,883	1.0	0.6	1.4

Table 6: Smoking adolescence (tries smoker)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	174	62782	5.2	4.4	6.0
State					
Johor	7	2,576	3.2	0.7	5.7
Kedah	22	7,624	5.8	3.2	8.5
Kelantan	26	8,739	6.4	3.7	9.1
Malacca	4	1,741	5.1	0.4	9.8
N. Sembilan	7	2,564	5.8	1.8	9.8
Pahang	9	3,472	3.9	1.5	6.3
Penang	7	2,392	3.9	1.1	6.6
Perak	12	5,060	4.0	1.8	6.1
Perlis	3	1,309	6.2	-0.3	12.7
Selangor	21	7,960	3.9	2.3	5.6
Terengganu	17	5,857	6.9	3.7	10.2
Sabah	19	5,861	7.2	3.8	10.6
Sarawak	12	4,863	8.1	3.8	12.4
W.P. Kuala Lumpur	3	1,181	2.5	-0.2	5.2
W.P. Labuan	5	1,584	12.5	0.9	24.1
Residence					
Urban	90	35,766	4.9	3.9	5.9
Rural	84	27,016	5.6	4.4	6.9
Gender					
Male	142	50,511	8.2	6.9	9.6
Female	32	12,271	2.0	1.3	2.7
Age					
13	25	8,948	3.4	2.1	4.7
14	49	17,965	6.5	4.7	8.4
15	46	16,025	6.3	4.5	8.0
16	26	9,823	4.7	2.9	6.4
17	28	10,022	4.8	3.1	6.5
Race					
Malay	130	46,625	5.8	4.8	6.8
Chinese	12	4,728	2.3	1.0	3.6
Indian	6	2,460	2.4	0.5	4.4
Other Bumis	21	7,057	8.1	4.8	11.4
Others	5	1,911	9.4	-0.1	19.0
Religion					
Islam	144	51,043	5.9	4.9	6.9
Christian	13	5,048	6.4	2.9	10.0
Hindu	5	1,995	2.4	0.3	4.4
Buddhist	10	4,010	2.3	0.9	3.7
Others	2	685	9.0	-3.7	21.8
Unclassified	0	0	0.0	0.0	0.0

Table 6: Smoking adolescence (tries smoker) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	174	62,782	5.2	4.4	6.0
Non-Malaysian	0	0	0.0	0.0	0.0
Unclassified	0	0	0.0	0.0	0.0
Education					
None	0	0	0.0	0.0	0.0
Primary	95	34,114	5.1	4.0	6.1
Secondary	78	28,345	5.4	4.2	6.5
Non Classified	1	323	4.1	-3.5	11.8
Marital Status					
Not married	171	61,463	5.1	4.3	5.9
married	3	1,318	10.4	-0.7	21.5
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	13	4,351	5.9	2.6	9.2
RM 400 - RM 699	27	8,940	4.8	2.9	6.6
RM 700 - RM 999	36	13,009	8.2	5.4	10.9
RM 1000 - RM 1999	40	14,556	4.2	2.9	5.4
RM 2000 - RM 2999	32	12,188	6.7	4.4	9.0
RM 3000 - RM 3999	8	3,247	3.6	1.1	6.1
RM 4000 - RM 4999	4	1,531	3.9	0.2	7.6
RM 5000 & above	6	2,263	2.3	0.5	4.2
Unclassified	8	2,697	7.8	2.8	12.8
Occupation					
Senior Official & Manager	0	0	0.0	0.0	0.0
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	0	0	0.0	0.0	0.0
Clerical Workers	0	0	0.0	0.0	0.0
Service Workers & Shop	4	1,486	6.6	0.3	12.9
Skilled Agricultural & Fishery	0	0	0.0	0.0	0.0
Craft & Related Trade Workers	1	335	4.3	-3.9	12.5
Plant & Machine	0	0	0.0	0.0	0.0
Operator & Assembler					
Elementary Occupations	0	0	0.0	0.0	0.0
Housewife	2	872	32.8	-3.4	69.1
Unemployed	17	5,913	7.8	4.2	11.4
Unclassified	150	54,176	5.0	4.2	5.8

Table 7: Smoking adolescence (passive smoker)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	834	305,932	26.8	25.1	28.4
State					
Johor	53	20,648	26.5	20.1	33.0
Kedah	88	31,349	25.4	20.9	30.0
Kelantan	101	33,373	25.9	21.0	30.7
Malacca	23	9,053	27.0	16.6	37.5
N. Sembilan	32	11,585	29.1	20.7	37.5
Pahang	65	24,795	30.5	24.0	37.1
Penang	38	13,329	22.1	15.4	28.9
Perak	64	27,578	22.4	17.6	27.3
Perlis	18	6,678	33.9	22.1	45.7
Selangor	138	54,692	29.0	24.4	33.5
Terengganu	79	27,159	34.0	27.5	40.5
Sabah	70	21,567	28.2	21.7	34.6
Sarawak	28	10,921	20.0	13.4	26.6
W.P. Kuala Lumpur	23	9,053	21.3	14.3	28.3
W.P. Labuan	14	4,154	32.8	13.9	51.8
Residence					
Urban	436	177,960	25.6	23.4	27.9
Rural	398	127,972	28.5	26.0	31.0
Gender					
Male	390	144,001	24.7	22.5	26.9
Female	444	161,931	29.0	26.6	31.3
Age					
13	166	61,418	24.6	21.3	27.9
14	181	65,973	25.7	22.5	29.0
15	194	70,776	28.9	25.4	32.3
16	145	53,184	27.3	23.4	31.2
17	148	54,582	27.7	23.8	31.6
Race					
Malay	629	229,452	30.3	28.2	32.4
Chinese	87	35,129	18.4	14.6	22.3
Indian	30	12,101	12.7	8.1	17.3
Other Bumis	75	24,142	29.3	23.1	35.5
Others	13	5,109	27.8	16.4	39.6
Religion					
Islam	680	245,800	30.1	28.1	32.1
Christian	43	15,121	20.3	14.1	26.5
Hindu	26	10,634	13.5	8.1	18.8
Buddhist	79	32,218	19.6	15.4	23.8
Others	6	2,159	28.5	10.0	47.1
Unclassified	0	0	0.0	0.0	0.0

Table 7: Smoking adolescence (passive smoker) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Citizenship					
Malaysian	832	305,305	26.9	25.2	28.5
Non-Malaysian	2	627	10.5	-3.7	24.7
Unclassified	0	0	0.0	0.0	0.0
Education					
None	1	434	24.4	-16.2	65.1
Primary	448	164,148	25.7	23.6	27.8
Secondary	380	139,514	28.1	25.5	30.7
Non Classified	5	1,837	26.2	7.8	44.7
Marital Status					
Not married	822	301,471	26.7	25.0	28.3
married	11	4,156	38.2	19.0	57.5
Unclassified	0	0	0.0	0.0	0.0
Income					
Less than RM 400	55	18,512	26.5	19.9	33.0
RM 400 - RM 699	148	50,522	29.1	25.0	33.2
RM 700 - RM 999	117	41,803	27.5	23.1	31.9
RM 1000 - RM 1999	236	87,357	26.8	23.6	30.0
RM 2000 - RM 2999	116	44,618	25.6	21.2	30.0
RM 3000 - RM 3999	66	26,180	29.7	23.6	35.7
RM 4000 - RM 4999	32	12,788	35.3	25.0	45.7
RM 5000 & above	45	17,789	19.7	14.0	25.4
Unclassified	19	6,364	19.6	11.2	28.1
Occupation					
Senior Official & Manager	0	0	0.0	0.0	0.0
Professionals	0	0	0.0	0.0	0.0
Technical & Associate	0	0	0.0	0.0	0.0
Clerical Workers	1	434	16.1	-12.6	44.7
Service Workers & Shop	19	7,102	32.5	20.1	44.9
Skilled Agricultural & Fishery	4	1,498	30.6	5.7	55.5
Craft & Related Trade Workers	5	1,681	21.5	5.2	37.8
Plant & Machine Operator & Assembler	0	0	0.0	0.0	0.0
Elementary Occupations	1	292	5.9	-5.4	17.2
Housewife	3	1,166	51.6	11.3	92.0
Unemployed	61	21,860	30.8	24.5	37.0
Unclassified	740	271,900	26.6	24.9	28.4

CHAPTER II

SMOKING (ADULT)

ABSTRACT

Module on adult smoking had been one of the customary components of all three National Health & Morbidity Surveys where prevalence and smoking patterns by different categories were determined, and this to a certain extent provided opportunities to track secular trends over the decades. Selected household subjects aged 18 years and above were interviewed using a standardized questionnaire where subsequently data collected was sorted out to match pre-set definitions that were designed for purposes of comparison by time and location. The overall response rate for this module was 99.3%, i.e. a total of 34,305 adults, where 59.3% were from urban areas. Amongst all the respondents, 27.0% had ever smoked, 21.5% were current smokers and 5.4% had quit smoking. Ever smoker included those who had experimented, former smokers, occasional smokers as well as current smokers. Prevalence of ever smoker was higher in rural areas (32.3%) compared to urban (24.1%). The proportion of male ever smokers was significantly higher (57.6%) in contrast to that of females (2.5%), while between ethnic groups, prevalence of ever smokers among Malays and Other Bumiputra were highest i.e. 30.1% and 30.8% respectively. The trend of adult ever smokers had increased since the last national survey in 1996. The national prevalence of current smoker was 21.5%, where similar to ex-smokers rate, urban areas recorded lower rate (18.9%) compared to rural areas (26.2%), also male smoking rate was many fold higher (46.4%) than female (1.6%). The pattern of current smoker prevalence between various ethnic groups is similar to that of ever smokers, i.e. highest in Malays (24.0%) and Other Bumiputra (24.8%). Current smoking rates were also noted to be highest among respondents who were in their twenties and early thirties. There has been a 2% reduction in national adult current smoking rate between the present survey and the NHMS II done in 1996. This study showed national ex-smoker prevalence of only 5.4% and there was minimal difference between rural (6.0%) and urban (5.0%). Whilst ex-smokers were predominantly seen among the older age groups, i.e. 14.1% for ≥ 75 years, it is lowest among 18 - 19 years old (1.3%). Over 2.7 million (21.5%) of the national population were passive smokers, where prevalence was highest amongst urban residents (22.4%) than rural. There were more female passive smokers (23.8%) compared to males (18.7%). National mean initiation age had reduced from 19.9 years in NHMS II to 18.6 years in NHMS III. Currently on average males start to smoke at 18.3 years whereas 10 years ago, they began smoking at 19.5 years old. Amongst females, mean age of initiation is also reduced from 24.7 years in NHMS II to 22.6 years in NHMS III.

1. INTRODUCTION

There is no doubt that the use of tobacco products bring about health hazards that subsequently lead to social and economic vulnerabilities. Extensive documentation of tobacco impact on health began following the publication of historic reports in the 1950s (Wynder & Graham 1950; Doll & Hill 1954; Doll & Hill 1956).

The World Health Organisation (WHO) - the lead agency for global health has affirmed that tobacco is the world's second major cause of death. It is currently responsible for the death of one in 10 adults worldwide (about 5 million deaths each year). If current smoking patterns continue, it will cause some 10 million deaths each year by 2020. Half the people that smoke today, i.e. about 650 million people - will eventually be killed by tobacco (WHO 2007).

1.1 Tobacco Control in Malaysia

This horrendous fact about tobacco and the burden attributed to it has also been realized by the Malaysian Government and its population. Numerous tobacco control activities had been implemented in this country since the past 2 decades, with the enactment of the Control of Tobacco Products Regulations (CTPR) in 1993 as one of most significant milestones.

1.1.1 Legislation

The CTPR 1993 was subsequently revamped in 2004 to strengthen legislative control. As a result, (CTPR 2004) was enacted with major amendments made in the provisions for :

- a) Prohibition of tobacco product advertisement and sponsorship
- b) Control of sale of tobacco products
- c) Prohibition of smoking (designation of smoke-free areas)

Under the CTPR 2004, direct and indirect advertising of tobacco products, as well as brand names, and sponsorship using brand names are prohibited. Placement of a tobacco brand name on any object for the purposes of advertising is also prohibited under the regulations (CTPR 1993; CTPR 2004).

The sale of cigarettes in loose form and vending machines for tobacco products were made illegal. Designation of smoke-free areas was expanded to include more public places like institutions for worship, libraries and internet cafes (CTPR 1993; CTPR 2004).

1.1.2 Framework convention on tobacco control (FCTC)

The country's involvement in the WHO Framework Convention on Tobacco Control (FCTC) process beginning year 2000 had become an impetus for rapid advancement for tobacco control in Malaysia. The WHO FCTC is the first global health treaty negotiated under the auspices of the World Health

Organization. This convention is an evidence-based treaty that reaffirms the right of all people to the highest standard of health (WHO 2003). Notable efforts had been carried out by relevant agencies within the Government particularly the Ministry of Health (MOH), Ministry of Finance (MOF), Ministry of Plantations, Industries and Commodity plus a number of others. On 15th of September 2005, Malaysia ratified the FCTC and became a Party. Now the MOH is in the process of enacting the Control of Tobacco Product Act that will be consistent with all the requirements of the FCTC. A local FCTC secretariat was established within the Ministry of Health to oversee compliance by relevant agencies for all provisions of the FCTC.

1.1.3 Anti-tobacco promotion

Other than legislation, the past few years also saw more aggressive tobacco control measures undertaken with the nationwide anti-tobacco media approach to promote health and educate the public about the harm of tobacco. It is colloquially known as the "Tak Nak" (Say No) campaign and icon used was made widely visible to Malaysians in both rural and urban areas, through various mass media channels, i.e. television, newspaper, magazine, radio, cinema, billboards, school advertising panel, giant poster and community boards. A national evaluation done in 2005 (Foong et al. 2005) showed a high level of penetration with at least 93% of respondents from among adult smokers, non-smokers as well as adolescents reported exposure to the campaign messages. All 3 groups were receptive to the fear arousal messages and graphic advertising. It was found that "Tak Nak" had stimulated discussions about smoking and health, among family members and friends. There were evidences that the "Tak Nak" campaign had brought about fear for smoking and had influenced smokers' thoughts about quitting and had reduced the likelihood of smoking uptake among non-smokers, particularly adolescents (Foong et al. 2005).

1.1.4 Smoking cessation services

As of November 2007, there were 294 Quit Smoking Clinics within the Ministry of Health facilities throughout the country that provide smoking cessation service. This heavily subsidised smoking cessation service for the public provides assistance to smokers through counselling and pharmacotherapy, using algorithm set in the Clinical Practice Guidelines (2003). With regards attendance and quit rates of clients, each clinic has variable level of performance and this is determined by numerous factors that include availability of drugs (i.e. nicotine replacement therapy - NRT) and the level of motivation of the staff running the quit smoking services (Abdul Azis 2005).

Establishment of the tobacco 'Infoline' and the 'Quitline' respectively by the Ministry of Health and the National Poison Centre had provided further access to cessation assistance for smokers.

1.1.5 Tobacco taxation

Tobacco taxation is one of the most effective methods to combat tobacco consumption (Jha & Chaloupka 1999). In Malaysia until 2004, taxes were levied according to weight but in 2005 that changed to specific excise tax per stick. Historically there had been fairly steady increase in tobacco tax from 1990 and these had forced the tobacco industry to inevitably raise cigarette prices that in turn caused sales volumes to drop initially (Neilsen 2001).

1.2 Tobacco Industry Assaults in Malaysia

Prior to the promulgation of tighter controls in 2004, Malaysia's major cigarette manufacturers had extensively advertised and promoted their products through the mass media, sponsorship of cultural and sports activities as well as through trade diversification (Assunta & Chapman 2004).

1.2.1 Cigarette promotion

Although under the CTPR 2004 tobacco sponsorship is banned, the industry circumvents the law and continued to promote cigarettes at one of the world's most popular sports, i.e. the Formula 1 race at the Sepang International Circuit. Behind the guise of social corporate responsibility, big tobacco companies still manage to have their product brandnames in the public attention. Special edition cigarette packs and novelty packages were also produced in conjunction with high profile events and significant national celebrations.

With the ban in direct and indirect advertising, the industry has shifted its focus to the point-of-purchase - the principal remaining venue for marketing cigarettes to the population at large, particularly to the crucial teen age bracket. The point-of-purchase bears the main burden of keeping cigarettes in the public eye and of normalizing the product. Since the ban in advertising at point-of-sale, the industry has started to invest heavily on elaborate point-of-purchase displays using colors and symbols. Apart from point-of-purchase the main marketing vehicle the industry is using at present is packing (which reaches virtually all smokers, and many non-smokers).

These shrewd strategies among others had ensured continued promotion of cigarettes to the industry's target subjects.

1.2.2 Cigarette packs

According to the CTPR 2004, cigarette packs are not considered as medium of advertisement. Hence, beginning early 2006, there was intensive promotion for sales of cigarette using pack elements like:

- a) Sleeves (a card or plastic sleeve for a cigarette pack to be slipped within)
- b) Inserts (cards with advertisements placed between the pack and the sleeve or within the cigarette pack)
- c) Printed outer wraps
- d) 14-stick packs
- e) 23-stick packs
- f) Decorative boxes
- g) Twin or multiple packs

1.2.3 Cigarette flavours

There is also an emergence of flavoured tobacco. For example, 'Bliss' was the first local brand that produced slim strawberry flavoured cigarettes. Fortunately it did not catch on because of complains by smokers. Other flavours include 'top leaf', cappuccino, chocolate, pipe tobacco, and lime.

1.3 Monitoring the Tobacco Epidemic in Malaysia

There is great variation in patterns and levels of tobacco use both across countries and between groups within a country. Numerous studies have shown that these differences reflect the influence of environmental factors, e.g. tobacco industry promotional campaigns as well as efforts by authorities and others to counter these actions. Differences in smoking patterns translate eventually into differences in population morbidity and mortality and resultant social and economic costs from tobacco use, especially smoking. Hence it is important that the prevalence of smoking be regularly monitored in order to give profound impact on public policy and finance (Pierce).

To meet this end the MOH had conducted 2 major surveys, i.e. the 1st National Health and Morbidity Survey 1986 (NHMS I) (Public Health Institute 1986-1987) and the 2nd National Health and Morbidity Survey 1996 (NHMS II) (Public Health Institute 1996). In between the 10 yearly surveys, there were other smaller cross-sectional studies done by the MOH and other agencies, e.g. academic institutions, to measure smoking prevalence in the country. Among others are the NCD Risk Factors in Malaysia 2006 (MyNCDS-1 2006), National Survey on the Prevalence and Factors Associated with Smoking in Malaysia 2004 (Rampal et al. 2004) and the Global Youth Tobacco Survey Malaysia, 2003 (Manimaran 2003).

2. LITERATURE REVIEW

2.1 Burden From Tobacco

In a review of epidemiological data by the WHO and the International Agency for Research on Cancer (IARC) is realized that smoking is even more dangerous than previously believed, with conclusive increase risk of cancers amongst passive smokers (Dryer 2002). This fact was then endorsed further in the 2006 US Surgeon General Report (US Department of Health & Human Services 2006).

2.1.1 Health Burden

a) Active smokers

Since the first Surgeon General's Report in 1964, the list of diseases and other adverse effects caused by smoking continues to expand. According to the 2004 Surgeon General's Report there is sufficient evidence that smoking causes the conditions such as cardiovascular and respiratory disease, cancer and infant deaths associated with maternal smoking (US Department of Health & Human Services 2004). Extensive evidence reviewed in this then led to the following conclusions:

- i. Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general.

- ii. Quitting smoking has immediate as well as long-term benefits, reducing risks for diseases caused by smoking and improving health in general.
- iii. Smoking cigarettes with lower machine-measured yields of tar and nicotine provides no clear benefit to health.
- iv. The list of diseases caused by smoking has been expanded to include abdominal aortic aneurysm, acute myeloid leukemia, cataract, cervical cancer, kidney cancer, pancreatic cancer, pneumonia, periodontitis and stomach cancer.

In Malaysia for the year 2006, smoking related diseases remained among the top 10 principal causes of hospitalization and the top causes of deaths in MOH hospitals (Information and Documentation System 2006). Smoking attributed diseases account for at least 15% of hospitalization and about 35% of hospital deaths. These fatal conditions were;

• Heart Diseases & Diseases of Pulmonary Circulation	15.7%
• Malignant Neoplasms	10.6%
• Cerebrovascular Diseases	8.5%

In the Malaysian Burden of Disease and Injury Study in 2003 (Division of Burden of Disease 2004), cardiovascular diseases (CVD) was the leading cause of Years Life Lost (YLL), accounting for almost 1/3 of the total YLL. As with YLL, CVD is also the lead contributor, accounting to almost 1/5 to the total Disability Adjusted Life Years (DALY) in both males as well as in females. Chronic respiratory disease was responsible for 7% of the total DALYs, ranking 5th as the leading cause of burden by disease category, while cancer ranked 6th in the overall burden, contributing 6.5% of the total DALYs. In males, smoking attributed cancers namely trachea, bronchus & lung and mouth & oropharynx accounted for half of the total cancer burden.

b) Passive smokers

The US Surgeon General Report 2006 (US Department of Health & Human Services 2006) concluded that:

- i. Second hand smoke (SHS) causes premature death and disease in children and in adults who do not smoke
- ii. Children exposed to SHS are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma. Smoking by parents causes respiratory symptoms and slows lung growth in their children
- iii. Exposure of adults to SHS has immediate adverse effects on the cardiovascular system and causes coronary heart disease and lung cancer
- iv. The scientific evidence indicates that there is no risk-free level of exposure to SHS
- v. Many millions of Americans, both children and adults, are still exposed to SHS in their homes and workplaces despite substantial progress in tobacco control in the US
- vi. Eliminating smoking in indoor spaces fully protects non-smokers from exposure to SHS. Separating smokers from non-smokers, cleaning the air and ventilating buildings cannot eliminate exposures of non-smokers to SHS.

2.1.2 Economic burden

Smoking would incur heavy load to businesses, and the U.S. CDC puts a price tag of US\$3,391 on each employee for lost productivity and excess medical expenditures (Fellow et al. 2002). There are plenty of intangible costs due to tobacco, but liability from this product i.e. health, social and environment burden may still be analysed in economic terms.

A Malaysian study to estimate the cost of health care incurred for treating three selected smoking-related diseases: cancer of the lung, ischaemic heart disease (IHD) and chronic obstructive pulmonary disease (COPD) found that the annual cost per patient for each disease is as follows: RM7,758 for lung cancer, RM1,362 for IHD and RM12,757 for COPD. The annual provider cost per patient for each disease is as follows: RM34,529 for lung cancer, RM20,134 for IHD and RM32,172 for COPD. Thus the total direct medical cost per year for Malaysia for each disease is: RM116.6 million for lung cancer, RM630.4 million for IHD and RM2,306 million for COPD. The grand total for treatment cost for the 3 smoking related diseases per year is RM 2,924.8 million (Aljunid SM et al. 2006). This amount is equivalent to 0.7% of the Gross Domestic Product (GDP), 16.5% of National Health Expenditure and 26.1% of the MOH budget.

2.2 Trends of Tobacco Consumption

Cigarettes account for the largest share of manufactured tobacco product in the world - 96% of total sales (Mackay, Eriksen & Shafey 2006). In the current era of economic globalization, some forms of tobacco, historically localized to specific regions of the world, e.g. shisha and bidi, have spread far beyond the Middle East and South Asia to every continent (Mackay et al. 2006).

2.2.1 Global

Almost 1 billion men in the world smoke, i.e. about 35% of men in developed countries and 50% of men in developing countries. Trends in both developed and developing countries show that male smoking rates have now peaked and slowly but surely, are declining (Mackay et al. 2006).

Smoking trends of adult males from 1960 - 2004 in developed countries recorded a steady decline. In Japan the very high rate of 81% is now down to 47% in 2004, while the US 52% in 1965 is now 23% in 2004 (Mackay et al. 2006). The current top 10 countries with highest reported smoking rates among men are Yemen (75%), Djibouti (75%), Cambodia and China (67%) and Republic of Korea (65%) (Mackay et al. 2006).

About 250 million women in the world are daily smokers; 22% of women in developed and 9% of women in developing countries. Female cigarette smoking rates are declining in many developed countries notably Australia, Canada, the UK and the US (Mackay et al. 2006).

2.2.2 ASEAN region

Almost 31% (about 125.8 million) of adults within the ASEAN population are current smokers, and this accounts for 10% of the world's 1.25 billion adult smokers (SEATCA 2007). Out of the 10 ASEAN

countries, Singapore has the lowest overall adult smoking rate (12.6%) followed by Brunei (17.5%), Thailand (18.9%), Malaysia (21%), Cambodia (28%), Vietnam (28%), Myanmar (31.1%), Indonesia (34.4%), Philippines (34.8%) and Lao PDR (40%) (SEATCA 2007).

2.2.3 Malaysia

Besides the NHMS III, there were two other national prevalence studies done in 2004 (Rampal L et al. 2004) and 2006 (NCDS-1 2006). Results of the MyNCDS-1, focusing on 25 - 64 years old in December 2006 recorded an overall prevalence of 25.5% (NCDS-1 2006). The study in 2004, focused on 15 years and above reported overall smoking prevalence to be 23.2%, with male smoking rate at 44.6% and female rate at 2.5% (Rampal et al. 2004).

2.3 Strategies to Curb Tobacco Use

Substantial evidence indicates that higher cigarette taxes, clean air laws and media campaigns can significantly reduce adult smoking rates, especially when combined as a comprehensive strategy (Levy, Gitchell & Chaloupka 2004). These policies not only reduce smoking initiation but also lead current smokers to quit, and quitting can halt or even reverse many of the health problems associated with smoking (Taylor et al.2002).

2.3.1 Framework Convention on Tobacco Control (FCTC)

The FCTC was developed in response to the globalization of the tobacco epidemic (WHO 2003). This first public health treaty is negotiated based on evidence and represent a paradigm shift in developing a regulatory strategy to address addictive substance, i.e. tobacco and asserts the importance of demand reduction strategies as well as supply issues. Amongst the novel feature of FCTC is the inclusion of a provision that address liability. As in the case with other parties to the FCTC, Malaysia is determined to give priority to her rights to protect public health.

2.3.2 Legislation & Enforcement

National and local legislation are fundamental elements of effective public health policy and practice. Historically, laws have played a crucial role in some of the greatest achievements in public health. Likewise, legislation is critical to comprehensive tobacco control (WHO 1998). The relevant law should give authority for the following:

- a) Accessibility of tobacco products should reflect the gravity of harm associated with its use, through taxation and sales restriction
- b) There should be full and free consent among users and potential users, through ban on tobacco promotions, misleading messages especially on packages, clear and effective warning labels and full public disclosures
- c) There should be protection for the health, rights and well-being of those who do not use tobacco products, though designation of smoke-free public spaces.

Legislation is only worth if it is effectively implemented. Proper organization, planning and enforcement of good tobacco control laws have been shown to bring about positive changes toward public health.

a) Smoke-free areas

WHO FCTC first guideline (WHO 2007) on Article 8, released in 2007, detailed out solutions for issues of SHS exposure. As there is no safe level of exposure to SHS, the effective protection strategy is to have 100% indoor smoke-free environments. Despite decades of pressure from the tobacco industry, the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHREA) in 2005 stated that the only means of effectively eliminating health risk associated with indoor exposure to SHS is to ban smoking activity.

b) Ban on tobacco advertising & sponsorship

Under Article 13 of the FCTC, 'Parties recognize that a comprehensive ban on advertising, promotion and sponsorship would reduce the consumption of tobacco products.' Thus all parties of the FCTC are required to undertake a comprehensive ban on tobacco advertising, promotion and sponsorship within 5 years of ratifying the treaty (WHO 2003).

c) Packaging & labelling

While many tobacco users generally know that tobacco use is harmful, studies show that most are unaware of the true risks, even in countries in which there has been a great deal of publicity about the health hazards of tobacco (Jha & Chaloupka 1999). Smokers tend to be even less aware of the risks of tobacco smoke to others.

Health warning labels, on cigarette packs and on other tobacco product packages will help inform consumers of the dangers of tobacco use. Article 11 of the WHO FCTC requires health warning labels that cover a minimum, 30% of the principal display areas of tobacco packages.

Prominent health warnings and messages on tobacco product packages have been found to lead to an increase awareness of risks and an increased desire to quit, even among smoking youths.

2.3.3 Smoking cessation

In view of the addictiveness of tobacco products, many tobacco-users will need support in quitting. Support for smoking cessation refers to a range of techniques including motivation, advice and guidance, counseling, telephone and internet support, and appropriate pharmaceutical aids. All this is aimed to encourage and help users stop using and to avoid subsequent relapse. The success of these interventions depends on their synergistic use in a broader context of a comprehensive tobacco control strategy (WHO 2003).

2.3.4 Taxation

For centuries, tobacco has been considered an ideal consumer good for taxation. The World Bank report 1999 (Jha & Chaloupka 1999), reviewed the evidence on how increased taxation affects the demand for cigarettes and other tobacco products. It was found that demand for tobacco, while inelastic, is still strongly affected by its price. On average, a price rise of 10% on a pack of cigarettes would be expected to reduce demand for cigarettes by about 4% in high-income countries and by about 8% in low and middle income countries (Jha & Chaloupka 1999).

In a local study done in 2004, the estimated cigarette price elasticity in Malaysia was 0.38, i.e. 10% increase in cigarette prices will result in 3.8% decline in cigarette consumption (Nabilla et al. 2006). This is a close estimate to the average price elasticity for developed countries which is 0.4. The same study also showed the income elasticity of cigarette demand in Malaysia, and that is estimated to be +1.0, i.e. 10% increase in income will lead to 10% increase in cigarette demand. It can then be expected that the tobacco epidemic in Malaysia will spread with income growth if no stringent tobacco control measures taken.

The World Bank Report recommended that in order for tobacco tax increase to be effective, the tax component of the price of a pack of cigarettes is between 2/3 and 4/5 of the retail cost.

3. OBJECTIVES

3.1. General Objective

To determine the prevalence and pattern of smoking among adults aged 18 years and above

3.2 Specific Objectives

3.2.1 To determine the prevalence of ever smoker, current smoker, ex-smoker and passive smoker by socio-demographic characteristics.

3.2.2 To determine the mean initiation age (MIA) of ever smokers by socio-demographic characteristics.

3.2.3 To establish smoking patterns among current smokers by socio-demographic characteristics.

3.2.4 To identify cessation behaviour of current and ex-smokers by socio-demographic characteristics.

4. METHODOLOGY

4.1 Scope of The Study

Research problems, scopes and main issues to be included in NHMS III were obtained from discussions and feedbacks from Ministry of Health state health managers, as well as experts from the local universities and individuals. The main research team members of the NHMS III reviewed and studied closely the feasibility and practicality of the suggested research topics for this community-based household survey. Extensive literature review was initiated. Technical and research experts in the field related to the identified research areas were consulted for further advice and comments. The main research group used the following criteria in considering the suggested scopes for this survey:

- a) The issue/problem is current or has potential of high prevalence
- b) The issue/problem is focused on disease/disorders associated with affluence, lifestyle, environment and demographic changes.
- c) The issue/problem is causing physical, mental or social disability
- d) The issue/problem has important economic implications
- e) It is feasible to implement interventions to reduce the problem
- f) The information related to the issue/problem is not available through the routine monitoring system or other sources.
- g) The information is more appropriately obtained through a nation-wide community survey, and
- h) It is feasible to obtain through a nation-wide community-based survey.

The short-listed research topics were then presented to the Advisory Group Members for further deliberation and decisions. These topics were later refined by the research team members based on the decisions made at the Advisory Committee meeting. It was tabled to the Steering Committee and 18 research topics were approved to be included in the NHMS III.

4.2 Sampling Designs and Sample Size

In calculating the sample size, stratification and sampling design, the Methodology Division Department of Statistics Malaysia as well as several other biostatistics consultants was roped in for advice.

4.2.1 Sampling frame

The sampling frame for this survey is an updated 2004 version; an effort undertaken prior to the implementation of Labour Force Survey (LFS) 2004. In general, each selected Enumeration Blocks (EB) comprised of 8 sampled Living Quarters (LQ). The EBs was geographically contiguous areas of land with identifiable boundaries. Each contains about 80-120 LQs with about 600 persons. Generally, all EBs are formed within gazetted boundaries.

The EBs in the sampling frame was also classified into urban and rural areas. The classification into these categories was in terms of population of gazetted and built-up areas as follows:

Stratum	Population of gazetted areas and built-up
Metropolitan	75,000 and above
Urban large	10,000 to 74,999
Urban small	1,000 to 9,999
Rural	The rest of the country

For sampling purposes, the above broad classification was found to be adequate for all states in Peninsular Malaysia and the Federal Territories of Kuala Lumpur and Labuan. However, for Sabah and Sarawak, due to problems of accessibility, the rural stratum had to be further sub-stratified based on the time taken to reach the area from the nearest urban centre.

For the purpose of urban and rural analysis, Metropolitan and Urban Large strata are combined together thus referred to as 'urban' stratum, while for Urban Small and the various sub-divisions of the rural areas they are combined together to form to a 'rural' stratum.

4.2.2 Sampling design

A two stage stratified sampling design with proportionate allocation was adopted in this survey. The first stage sampling unit was the EB and within each sampled EB, the LQs were selected as second stage unit. One LQ is estimated to comprise of 4.4 individuals. All household and persons within a selected LQ would be studied.

4.2.3 Sampling size

The sample size was determined based on 95% Confidence interval and the following factors were taken into consideration:

a) Expected prevalence rate

The prevalence rate of the health problems for Malaysia obtained from the National Health and Morbidity Survey 2 (NHMS II) were used to estimate the overall sample size. Using the previous finding of 10% prevalence rate, the initial sample size at the state level was calculated in order to come up with overall sample size. The size was further apportioned for each state using the probability proportionate to size (PPS) method.

b) Response rate of the NHMS II

The response rates, which ranged from 83 to 97% for the NHMS II of each state, were taken into consideration in the course of the determination of sample size.

c) **Margin of error and design effect**

As the factors of precision and efficient of the survey are paramount, the decision reached for the targeted margin of error is 1.2 and the design effect valued at 2. These values were used at the initial stages of the calculation of the sample size of each state.

The survey findings addressing the specific objectives of this survey are expected to be used for state level programmed planning. Thus, the calculation for the sample size has taken into consideration data to be analyzed at the state level.

In addition to the major factors mentioned earlier, the availability of resources, namely, financial and human resources, and the time taken to conduct this survey also becomes part of the process of the determination of sample size.

4.3 Preparation of Field Areas and Logistic Support

A number of state liaison officers were recruited in preparation for the survey proper. Strong networking with state liaison officers and District Health Officers (MOH and local authorities) from the areas sampled for the survey was established. Field scouts were mobilized from these areas to identify and tag the LQ's selected for the survey, as well as to inform the community and related government agencies of the importance and schedule of the planned survey. State liaison officers were also assisting Field Supervisors in the arrangement of transportation, accommodation and other logistics for the survey teams.

4.4 Method of Data Collections

4.4.1 The questionnaire

A bi-lingual (Bahasa Malaysia and English) pre-coded questionnaire was designed, pre-tested and piloted prior to the survey.

Face-to-face interview (FI) questionnaires consisted of 2 subtypes, i.e., the household questionnaire was answered by the head of the household of the LQ selected, and the individual questionnaire, was answered by each member of the household. Four sets of individual FI questionnaires were developed, to cater for different age groups of <2, 2-<13, 13-<18 and \geq 18 years old. For those aged below 13 years old, the child's mother or guardian was responsible for answering on his or her behalf. Those aged 13 years and above were required to answer their respective questionnaires directly through the interview.

Certain terminology and items in the questionnaire were made available in the dialects or languages of the main ethnic groups in Malaysia, such as Hokkien and Cantonese for the Chinese and Tamil for the Indians. All versions were back translated into English by independent reviewers to ensure the accuracy of the translations.

All the FI questionnaires have a consent form to be read and signed by the respondent or parent / guardian of the respondent. The outside cover of all questionnaires has to be filled with a unique individual identification (ID) number by the enumerator. The enumerator will also have to fill his or her ID as well as the code for the outcome of the interview as part of the quality assurance process.

4.4.2 The interview

As far as possible, all adult members who qualify from the selected LQ's were interviewed by the data collection team members. Interviews commenced early in the morning and lasted till late in the evening. Where an interview had been unsuccessful due to the absence of the respondent at the selected LQ, repeat visits were conducted after leaving messages with neighbours or by other means for an appointment at a later date. A household member can only be classified as a non-responded after 3 unsuccessful visits.

4.5 Field Preparations

Two main survey implementation groups were formed: the Central Coordinating Team (CCT) and the field team. The CCT's main role was to monitor and coordinate the progress of implementation and provide administrative support in terms of financial and logistic arrangement for the field survey. The Field Teams were responsible to oversee and manage the field data collection process as well as undertake quality control.

The field data collection was conducted throughout Malaysia simultaneously, spanning a continuous period of 4 months starting from April 2006. Teams were organized to move into 5 regions in Peninsular Malaysia, 2 regions in Sabah and 4 regions in Sarawak for data collection.

4.5.1 Pilot study

A pilot study was conducted on a sample of EB's (not included in the NHMS III) about 2 months prior to the nationwide survey. It was conducted in three different areas in and around the Klang Valley, namely Sepang, Klang and Bangsar. The population in these locations comprised of three distinct socio-demographic strata that are rural, semi-urban and urban respectively. The pilot study focused on the following aspects of the survey such as testing of the questionnaire, testing of the field logistic preparation, testing of the scouting activities and testing of the central monitoring and logistic support

4.5.2 Training of data collection teams

A two weeks training course was held for field supervisors, team leaders, nurses and interviewers was to familiarize them with the questionnaire, develop their interpersonal communication skills and appreciate the need for good teamwork. Briefing on the questionnaire, mock interview in the classroom and individual practice under supervision was conducted during the training.

4.6 Quality Control

Quality control procedures were done in two stages, field and central. Detail description of quality control process has been described in NHMS III protocol.

4.7 Data Management

4.7.1 Data screening

The following data screening exercises were conducted at field and central level prior to data entry:

- a) Field data screened by each interviewers at the end of his/her interview
- b) Field data screened for each question by peer interviewers through exchanging questionnaire booklets
- c) Field data screened by team leaders and field supervisors
- d) Central data screening of the questionnaire by the quality control team

4.7.2 Data entry

The data entry system was developed to record the information collected during the data collection phase. It is a web based system that allows multiple simultaneous accesses to the database. The NHMS III used a double manual data entry method and any discrepancy between both entries was verified by the supervisors. The data entry started simultaneously with data collection (first week of April 2006) and was completed at the end of January 2007. The data entered was stored in the database according to the module. The databases were designed using Structured Query Language (SQL) which is a standard language for relational database management system

4.7.3 Data analysis

Data analysis was done by exporting the data into other analytical tools such as Microsoft Excel, SPSS and STATA. The data in database (text form) was exported to the Microsoft Excel form then to the SPSS and STATA. The raw data was cleaned and analysed according to the terms, working definition and dummy table prepared by the research groups. All the analytical process were monitored and advised by the NHMS III Statistics Consultant.

4.8 Definition of Terms / Variables

In this study 2 definitions of smokers are used; first is the CDC definition for global comparison, secondly the NHMS II for local trending.

The definitions are as follow:

Item	CDC Definition	NHMS II Definition
Ever smoker	Respondent who reported to have smoked 100 or more cigarettes in lifetime	Respondent who reported to have smoked at least once in his/her lifetime.
Current smoker	Respondent who reported to have smoked 100 or more cigarettes in lifetime and smoked daily or some days in the past one month.	Respondent who reported to be smoking at the time of the survey.
Ex-smoker	Respondent who reported to have smoked 100 or more cigarettes in lifetime but not smoking in the past one month preceding the survey.	Respondent who reported to have stopped smoking.
Initiation age	The age at which smoking was first attempted	
Light smoker	Current smoker who smoked less than 10 sticks of cigarettes per day	
Moderate smoker	Current smoker who smoked between 10 and 20 sticks of cigarettes per day	
Heavy smoker	Current smoker who smoked more than 20 sticks of cigarettes per day	
Passive smoker	Non smoker who was exposed to someone else cigarette smoke for atleast 15 minutes each exposure for at least 3 days in the last week.	

5. FINDINGS

The overall response rate for this module was 99.3%. A total of 34,305 adults aged 18 and above responded to this module and provided national estimates for this study. There were 44.8% males and 55.2% females respondents where 59.3% were from urban while 40.7% were from rural areas.

5.1 Smoking Prevalence (Based on CDC definition)

5.1.1 Ever smoker (Appendix : Table 1)

There were 27.0% (CI: 26.4 - 27.5) ever smokers among the total respondents. This included those who had experimented, former smokers, occasional smokers as well as current smokers.

The prevalence of ever smokers was significantly higher in the states of Perlis, [39.1% (CI: 35.0-43.2)], Kelantan, [35.2% (CI: 33.2 - 37.2)], Pahang, [34.7% (CI: 31.8 - 37.7)]. The lowest rate is in Kuala Lumpur, [19.7% (CI: 17.6 - 21.7)].

Prevalence of ever smoker was higher in rural areas, [32.3% (CI: 31.5 - 33.1)] compared to urban, [24.1% (CI: 23.4 - 24.7)].

The proportion of males who have ever smoked was significantly higher, [57.6% (CI: 56.6 - 58.6)] than females, [2.5% (CI: 2.3 - 2.8)].

A comparison of ever smoking rates across ethnic groups showed that Malays, 30.1% (CI: 29.4 - 30.7), Other Bumiputera, 30.8% (CI: 29.3 - 32.3) and Others, 28.4% (CI: 25.6 - 31.3) recorded higher rates than Chinese, 21.1% (CI: 20.0 - 22.2) and Indian, 16.8% (CI: 15.5-18.1).

5.1.2 Current smoker (Appendix : Table 2)

The national prevalence of current smokers was 21.5% (CI: 21.0 - 22.0). The prevalence of current smokers was highest in Perlis, [33.1% (CI: 27.6 - 38.6)] followed by Pahang, [27.4% (CI: 24.3 - 30.5)] and Kelantan, [27.3% (CI: 25.3 - 29.4)]. The lowest rate was in Kuala Lumpur, [15.7% (CI: 13.8 - 17.6)].

Higher prevalence of current smokers was found in the rural areas, [26.2% (CI: 25.4-27.4)] compared with urban, [19.0% (CI: 18.3 - 19.6)] and there was significant difference between the two gender where prevalence among males was 46.4% (CI: 45.5 - 47.4) and that for female was only 1.6% (CI: 1.4 - 1.3).

The pattern of current smoker prevalence between the various ethnic groups is similar to that of ever smokers. Malays, [24.0% (CI: 23.4 - 24.7)], Other Bumiputera, [24.8% (CI: 23.4 - 26.2)] and Others, [23.8% (CI: 21.1 - 26.6)] reported higher smoking rates compared to Chinese, [16.2% (CI: 15.3 - 17.2)] and Indian, [13.7% (CI: 12.4 - 15.0)].

Prevalence of current smoker by age, as illustrated in figure 5.1, showed that it was highest among respondents who were in their twenties and early thirties. Smoking prevalence was also higher among poorer households and among the less educated.

A comparison across various sectors showed that individuals employed in the agriculture and production sector and elementary occupations recorded the highest smoking prevalence compared to those in professional and managerial jobs and white-collared jobs.

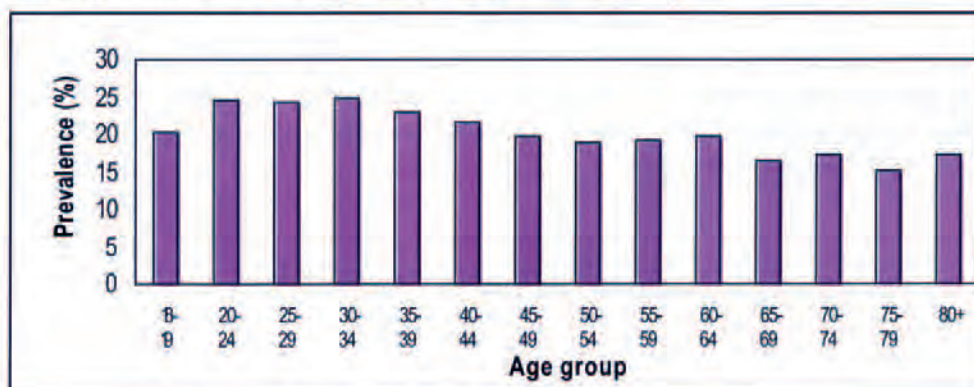


Figure 5.1: Prevalence of current smoker by age

5.1.3 Ex-smoker (Appendix : Table 3)

The national ex - smoker prevalence was 5.4% (CI: 5.1 - 5.6), where there is minimal difference between rural, [6.0% (CI: 5.6 - 6.4)] and urban, [5.0% (CI: 4.7 - 5.4)] areas.

The leading states for ex - smokers were Kelantan, [7.8% (CI: 6.8 - 8.9)] followed by Pahang, [7.3% (CI: 6.1 - 8.4)], Terengganu, [6.6% (CI: 5.4 - 7.8)] and Malacca, [6.6% (CI: 4.9 - 8.3)].

Malays and Other Bumiputras each with ex - smokers prevalence of 6% are ahead of other ethnic groups.

Prevalence of ex - smokers progressively increased with age where the lowest rate was found among the 18 - 19 years, [1.3% (CI: 0.8 - 11.5)] while prevalence for 75 years and above is about 14%.

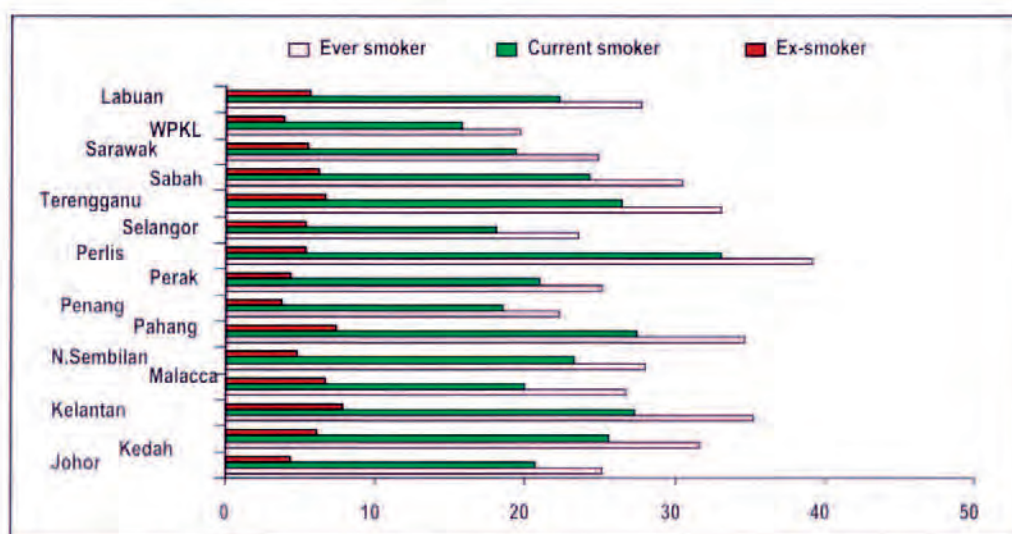


Figure 5.2: National smoking prevalence (ever, current, ex-smoker) by states

5.2 Mean Initiation Age (Appendix : Table 4)

National mean initiation age (MIA) had reduced from 19.9 years in NHMS II to 18.6 years in NHMS III. Currently on average males started to smoke at 18.3 years (NHMS III) whereas in NHMS II mean age of initiation was 19.5. Amongst females, the mean age of initiation also reduced from 24.7 years in NHMS II to 22.6 years in NHMS III.

5.3 Mean Number Of Cigarettes Smoked Per Day (MNC) (Appendix : Table 5)

Current smokers in Malaysia smoked an average of 12.1 (CI: 11.9 - 12.4) sticks of cigarettes per day, with males consuming 12.3 (CI: 12.1 - 12.5) while females smoked less, 8.7 (CI: 7.5 - 9.8). The average number of cigarettes smoked per day in some states exceeded the national daily

consumption with Sarawak being the highest, [14.0 (CI: 13.0 - 15.1)], followed by Kuala Lumpur, [13.4 (CI: 12.2 - 14.6)] and Negri Sembilan, [13.2 (CI: 12.2 - 14.2)]. Urban smokers consumed more than rural smokers with average consumption of 12.4 (CI: 12.2 - 12.6) and 11.9 (CI: 11.5 - 12.2), respectively. Chinese smokers consumed the most cigarettes, i.e., 14.3 sticks per day [(CI: 13.6 - 14.9)]. This was followed by Malay with daily consumption of 12.2 (CI: 11.8 - 12.3) and Indians 11.2, (CI: 10.4 - 12.0).

The amount consumed was found to be associated with level of personal income where the higher the income the higher the amount smoked daily.

5.4 Category of Smoker (Appendix : Table 6)

Most current smokers were light smokers, [56.3% (CI: 55.1 - 57.5)], smoking less than 10 cigarettes daily. About 20.1% (CI: 19.1 - 21.0), smoked moderately between 10 - 20 sticks per day and 23.6% (CI: 22.6 - 24.7) were heavy smokers who smoked more than 20 cigarettes a day.

The proportion of heavy smokers was higher in the urban areas, [24.3% (CI: 22.9 - 25.7)] than rural areas and among Chinese, [35.1% (CI: 32.3-37.8)]. Significantly more males, [24.1% (CI: 23.0 - 25.3)] were heavy smokers compared to females, [14.7% (CI: 10.5 - 18.4)].

Heavy smoking increased with age, with a larger proportion of the older smokers smoking more than 20 sticks daily. Smokers with higher personal income and those with higher household income were also more likely to smoke more cigarettes per day compared to those who earned less. Heavy smoking decreased with increase in educational level.

5.5 Type of Tobacco Product Consumed (Appendix : Table 7)

Majority, 92.0%; (CI: 91.2 - 92.8) of tobacco users smoked white cigarettes in the past one month. Clove flavoured cigarettes were used by 43.3% of tobacco users (CI: 41.8 - 44.8) while 38.2% smoked self-rolled cigarettes (CI: 36.5 - 39.9). Compared to urban smokers, significantly higher percentage of those in the rural areas smoked self-rolled cigarettes, i.e. [51.9% (CI: 49.1 - 54.8)] versus [28.0% (CI: 26.0 - 30.0)]. Cigar smokers made up 9.7% (CI: 8.8-10.5) of current tobacco users in Malaysia.

Among people who ever used tobacco, 6.6% ever tried pipes (CI: 6.0 - 7.2), 3.5% tried bidis (CI: 3.1 - 4.0), 0.7% chewed tobacco (CI: 0.5 - 0.9), 0.6% used snuff (CI: 0.4 - 0.8) and 4.6% ever tried shisha (CI: 4.0 - 5.1).

5.6 Type of Cigarette Most Smoked In Past One Month (Appendix : Table 8)

More than two - thirds, 67.8% (CI: 66.4 - 69.1) of smokers smoked white cigarettes, 11.6% (CI: 10.8 - 12.8) smoked clove flavored cigarettes, 5.2% (CI: 4.6 - 5.9) smoked mentholated cigarettes, 2.8% (CI: 2.4 - 3.2) smoked light cigarettes and 10.5% (CI: 9.6 - 11.4) smoked self - rolled cigarettes. A

significantly larger proportion of Malays, [12.5% (CI: 11.4 - 13.7)] and Other Bumiputra, [13.1% (CI: 10.4 - 15.9)] smoked clove flavored cigarettes compared to Indians, [3.7 % (CI: 1.8 - 5.5)] and Chinese, [2.4% (CI: 1.4 - 3.3)].

A larger proportion of rural smokers, [14.5% (CI: 12.8 - 16.4)] smoked clove flavored cigarettes compared to urban smokers, [9.7% (CI: 8.5 - 10.9)].

A larger proportion of females, [11.6% (CI: 7.7 - 15.4)] smoked mentholated cigarettes compared to males, [5.0% (CI: 4.3 - 5.6)]. Males on the other hand smoked more clove flavored cigarettes. Smokers who earned less and those from poorer households tend to smoked more clove flavored cigarettes.

A larger proportion of rural smokers, [18.3% (CI: 16.5 - 20.1)], Malays, [13.0% (CI: 11.8 - 14.3)], and Other Bumiputra, [14.7% (CI: 11.6 - 17.8%)], females, [27.3% (CI: 21.7 - 32.9)] and those with no education, [35.5% (CI: 30.7 - 40.2)] smoked self - rolled cigarettes compared to urban smokers. Older smokers were also more likely to smoke self - rolled cigarettes.

5.7 Other Non - Cigarette Products Consumed (Appendix : Table 9)

Other than cigarettes and cigars, respondents also reported on the use of other tobacco products, namely pipes, bidis, chewing tobacco, snuff, shisha and others. The national prevalence were as follows: pipes, [6.0% (CI: 5.4 - 6.7)], bidis, [3.3% (CI 2.8 - 3.8)], chewing tobacco, [0.6% (CI: 0.4 - 0.8)], snuff, [0.6% (CI: 0.4 - 0.8)], shisha, [5.3% (CI: 4.6 - 5.9)] and others [0.7% (CI: 0.3 - 1.1)].

There was a predominance of males in the use of pipes, shisha and bidis except for tobacco chewing which is more predominant among females.

Pipe smoking was highest among Malays and in the rural areas. The states of Perlis, Kedah, Malacca, and Terengganu, recorded substantially higher than national prevalence of pipe smokers.

Prevalence of shisha users was higher in urban areas and highest among the Malays. The states that recorded significantly higher rates than national prevalence were Malacca, Selangor, Kedah, Perlis, Kuala Lumpur and Johor.

5.8 Quit Attempts among Current Smokers (Appendix : Table 10)

5.8.1 Ever attempted to quit

A majority, 70.6% (CI: 69.4 - 71.7) of current smokers had ever attempted to quit smoking. There was no difference across regions and states. Chinese smokers reported the lowest rate of ever attempting to quit compared to the other races. The older smokers, those lowest earning persons and households (less than RM 400) and those with no or primary education were less likely to have tried to quit smoking. Rate of ever attempted to quit was lowest among these categories of smokers.

5.8.2 Number of quit attempts in the last one year

Mean number of Quit attempts in past year (MNQA) (**Appendix : Table 11**)

On average smokers had 2.1 (CI: 2.1 - 2.2) times of quit attempts in the past one year. There were no differences between sub-populations.

5.8.3 Intention to quit smoking within next 6 months (**Appendix : Table 12**)

71.1% (CI: 69.9 - 72.3) had intentions to quit smoking in the next 6 months. A larger percentage of rural smokers, [73.6% (CI: 72.0 - 75.3)] had intentions to quit compared to urban smokers, [69.2% (CI: 67.5 - 70.9)]. Significantly lower proportion of Chinese had intentions to quit, [49.9% (CI: 46.8 - 53.1)].

Intention to quit decreased with increased income. Larger proportion of the more educated smokers had intentions to quit compared to those less educated. Similarly, younger smokers were more likely to have intentions to quit smoking compared to the older smokers.

5.8.4 Awareness of availability of quit smoking clinic (**Appendix : Table 13**)

38.0% (CI: 37.2 - 38.7) of smokers knew of the government's quit smoking clinics. A comparison across the states showed that smokers from Wilayah Persekutuan were least aware of these quit smoking clinics. Awareness was higher among rural smokers, those with more education, professionals and younger smokers.

5.9 Changes in Smoking Patterns (Based on NHMS II definitions)

These results reported in this section are that of prevalence for ever smokers based on the NHMS II definitions where current findings are compared with results derived from the second National Health & Morbidity Survey (NHMS II) done in 1996.

5.9.1 Ever smokers (**Appendix : Table 14**)

The National Adult Smoking Prevalence for ever smokers had increased from 30.6% in NHMS II to 33.4% in NHMS III (CDC definition - 27%).

Smoking by urban folks had risen from 26.7% in NHMS II to 30% in NHMS III (CDC definition - 24.1%), while for rural areas the present prevalence is 39.8% (CDC definition - 32.3%) compared with NHMS II i.e. 35.4%.

Male ever smokers had increased to 67.3% (CDC definition - 57.6%) from 59.7% in NHMS II, whereas female prevalence was 6.2% (CDC definition - 2.5%) compared with 5.1% for NHMS II.

Malays still ranked high with 36.6% (CDC definition - 30.1%) ever smokers compared with 34.4% in NHMS II. Chinese prevalence had also increased from 23.4% in NHMS II to 26.6% in NHMS III (CDC definition - 21.1%), while for Indians ever smokers raised from 19.6% in NHMS II to 21.7% in NHMS III (CDC definition - 16.8%). When using the NHMS II definitions it is shown that ever smoking prevalence for all people aged 44 years and less had increased.

5.9.2 Current smokers (Appendix : Table 15)

The National Adult Current Smoking Prevalence for ever smokers had reduced from 24.8% in NHMS II to 22.8% in NHMS III (CDC definition - 21.5%). Smoking by urban folks had dropped from 21.7% in NHMS II to 20.2% in NHMS III (CDC definition - 18.9%), while for rural areas the present prevalence is 27.6% (CDC definition - 26.2%) compared with NHMS II i.e. 28.6%. Male current smokers had decreased to 48.8% (CDC definition - 46.4%) from 49.7% in NHMS II, whereas female prevalence was 1.9% (CDC definition - 1.6%) compared with 3.5% for NHMS II.

Malays still ranked high with 25.4% (CDC definition - 24%) of current smokers compared with 27.9% in NHMS II. Prevalence of current smokers among Chinese had also decreased from 19.2% in NHMS II to 17.4% in NHMS III (CDC definition - 16.2%), while for Indian current smokers there is reduction from 16.2% in NHMS II to 14.5% in NHMS III (CDC definition - 13.7%)

The prevalence of current smokers for people aged 18 - 19 years have increased from 17.6% in 1996 to 22.1% in 2006 (CDC definition - 20.2%). For ages 20 - 24 years the prevalence of current smokers rose from 23% in 1996 to 27.0% in 2006 (CDC definition - 24.7%), while in ages 25 - 29 years, 30 - 34 years and so on the rate of current smokers between the 2 surveys appeared similar or reduced.

5.9.3 Ex - smokers (Appendix :Table 16)

One in ten adults (9.3%, 8.9 - 9.6) claimed to be an ex - smoker. The rate is higher among males (17.2%) compared to females (2.9%). The percentage who reported having quit smoking is significantly higher among those who earned more (RM 5,000 per month) and among the older aged groups.

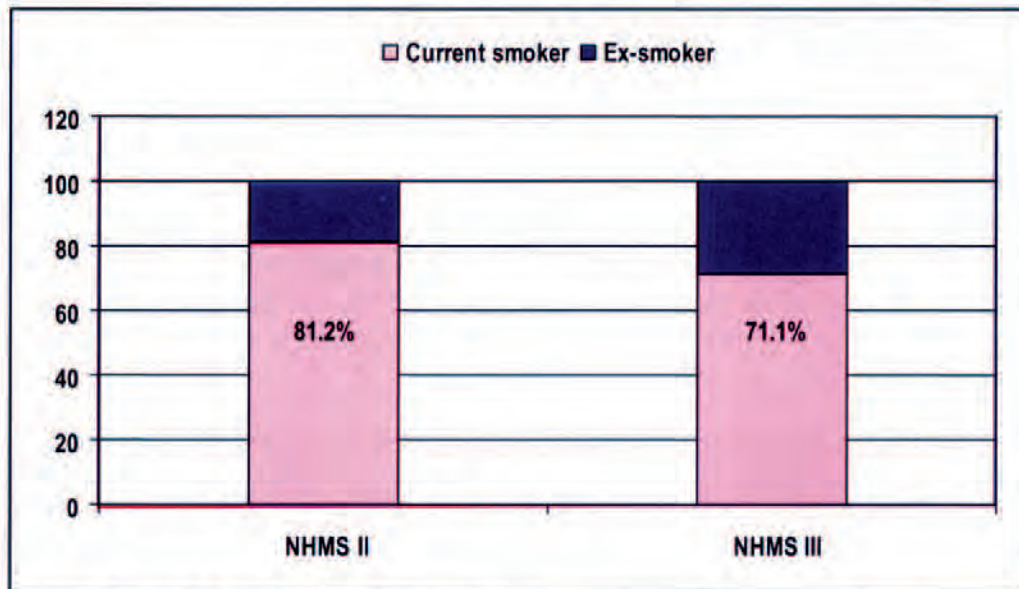


Figure 5.3: Changes in percentage of current and ex-smokers between NHMS II & NHMS III

5.9.4 Passive smoker (Appendix : Table 17)

Over 2.7 million (21.5%) of the national population are passive smokers, where prevalence is higher amongst urban residents, [22.4% (CI: 21.7 - 23.2)] than rural. States with high prevalence were in Perlis, [26.6% (CI: 22.7 - 31.4)], Selangor, [26.4% (CI: 25 - 27.8)] and Kuala Lumpur, [26.3% (CI: 23.7 - 29)].

There are more female passive smokers, [23.8% (CI: 23.1 - 24.6)] compared to males, [18.7% (CI: 17.9 - 19.4)]. Highest prevalence of passive smokers is among people aged 18-19 years, [29.1% (CI: 26.7 - 31.5)] followed by 20 - 24 years old, [27.0%; (CI: 25.5 - 28.6)] and 25-29 years old, [24.8% (CI: 23.4 - 26.3)].

6. DISCUSSION

Based on the NHMS II definition, the national smoking prevalence among Malaysian adults aged 18 and above was 22.8% in 2006, indicating a slight decline of 2% compared to the rate, 24.8% recorded a decade ago. The current rate of established smokers following the CDC definition, i.e. smoking more than 100 cigarettes in lifetime and were smoking in the last month, was 21.5%, constituting about 2.7 million people. This is significantly higher than our two neighbouring countries, Thailand and Singapore, which has smoking prevalence of 18.9% and 12.6%, respectively (SEATCA 2007).

About one in every two (46.4%) adult male smoked in Malaysia. This rate was also much higher compared to that for Thailand (36.9%) and Singapore (21.8%) (SEATCA 2007). Female smoking rate remained low (1.9%) and has declined compared to that of 1996. Since the study relied on self-reported smoking behaviour, there may be under reporting among females since smoking among female is considered a less socially acceptable behaviour in the Malaysian society. This could have prevented some of them from reporting truthfully. There may be reason to believe that smoking among young adult females is higher than what is observed in the current study. A study among females 19- 24 years old found a higher smoking rate of 4.3% (Khor et al. 2005).

The low smoking prevalence among adult females in Malaysia is comparable to some ASEAN countries such as Thailand (2%) and Singapore (3.5%). While the prevalence of smoking in women is reported to be on the rise in several European countries, there is no such trend apparent in Malaysia. The tobacco industry promotes cigarettes to women using false images of sophistication, slimness, maturity, emancipation and sexual appeal. The tobacco industry in Malaysia has produced "women only" brand cigarettes. These 'feminized' cigarettes are long, extra-slim and with low tar, light-coloured or mentholated. It is thus important to continuously monitor smoking patterns among women, especially the younger women through research and gender-based programmes to prevent future increases in female smoking.

There were substantial increases in new male smokers over the last ten years and that the rate of quitting smoking is far from desired. This evidence indicated that the industry has been very successful in recruiting new smokers and that addiction to nicotine has been a major barrier to giving up smoking. This study also showed that new smokers are starting at a younger age.

The average age of smoking uptake declined from 19.9 years in 1996 to 18.6 years of age in the current study. This suggests an earlier smoking initiation, which could be associated with tobacco industry's marketing efforts targeting the youths. More young people, particularly males, are currently smoking compared to a decade ago. Smoking prevalence among the older teenagers (18 -19 years of age) rose from 17.6% in 1996 to 22.1% in 2006. A similar rise in smoking rate was also observed for the young adults (20-24 years of age), from 23% in 1996 to 27.0% in 2006.

Smoking in Malaysia was found to be related to lower socio-economic status. This was indicated by the higher smoking prevalence in the rural areas, among those from lower socio-economic background, a lower level of educational attainment and those in the agricultural sector. Similar to

the trend worldwide the prevalence of smoking in Malaysia is higher among the poor and less educated.

Malaysian smokers smoked an average of 12 cigarettes daily with most smoking less than 10 sticks. This suggests that the dependence on nicotine is likely to be low among most smokers. Low nicotine dependence is one of the predictors of quit attempts and cessation success. It is also encouraging to know that most Malaysian smokers want to quit but have failed in their attempts. Almost three in four smokers had attempted to quit smoking and had made an average of about two quit attempts in the past one year. A great majority of current smokers had also expressed intention to quit smoking in the next 6 months. Intention to quit was associated with origin from rural areas, younger smokers, the more educated and smokers with lower income. Significantly less Chinese had intentions to quit smoking. This could be related to the fact that significantly more Chinese were heavy smokers and thus were less motivated to quit. Older smokers were less interested to quit smoking.

The evidence that most smokers had intentions to quit in the next six months suggests that the Malaysian Government's on-going anti-smoking "Tak Nak" media campaigns may be an important factor in encouraging smokers to quit.

Exposure to second-hand smoke is another important public health problem that requires serious attention. The study found that a similar number of non-smokers, i.e. 2.7 million (or 21.5%) in the Malaysian population are exposed to tobacco smoke. The rate of passive smokers was higher among females. Measures are needed to protect these non-smokers from the harms of tobacco smoke.

The use of new tobacco products such as shisha which is mostly used by the young is observed in recent years. Thus, it is important to constantly monitor the emergence of new products and to regulate that as well. The tobacco industry has also in recent years re-strategised their marketing tactics targeting the young through use of innovative pack designs and new product designs such as flavoured cigarettes, e.g. strawberry & mint to mislead smokers, particularly the young and female smokers to believe that these products are less harmful. It is therefore also necessary to monitor and regulate these industry marketing strategies.

7. CONCLUSION

It is undoubtedly encouraging to see an overall downward trend of smoking prevalence in this 3rd National Health and Morbidity Survey. Nonetheless, the finding is certainly not a cause to be contented with. The reduction of about only 8% over 10 years is rather slow and all parties in the country should garner cohesive effort and work towards a more rapid decline. There is much room for improvement. Besides, a number of concerns are also made apparent in the NHMS III that actually demand for serious attention by the MOH. Among the areas that may indicate potentially negative future outcomes if left unchecked are the high and in some way, increasing trend of smoking in the young adults, younger MIA for both sexes and the use of other tobacco products, for e.g. shisha among the urban young. The severe lack of awareness regarding the availability of smoking cessation clinics need to be corrected soon, so as not to waste the investment put into providing these services to the public.

8. RECOMMENDATIONS

In the long run, the most effective way to eliminate future smoking-related illnesses is to reduce smoking prevalence in all age groups and social categories. This can be attained by preventing people from taking up tobacco use, especially among the young, and for those who already using tobacco, discontinuing use is the best and surest option for reducing health risks.

Substantial evidence shows that higher cigarette taxes, smoke-free laws and media campaigns can significantly reduce adult smoking rates, especially when combined as a comprehensive strategy (Hopkins et al. 2001; US DHHS 2000). These policies not only reduce smoking initiation, but also lead current smokers to quit. Quitting can arrest or even reverse many of the health problems associated with smoking (US DHHS 1994; Taylor et al. 2002).

Tobacco control policies in Malaysia were examined through a computer simulation model (SimSmoke Simulation Model) to project smoking prevalence and its associated future premature mortality, beginning 1996 (Levy & Foong 2007). The effects of each of seven types of policies (taxes, mass media, advertising bans, warning labels, cessation treatment, and youth access policies) independently and as a package on smoking rate and on deaths attributable to smoking were evaluated. Results suggest that the largest potential gains come from implementing a comprehensive tobacco control policy package, but that significant impact to reduce smoking prevalence and premature mortality may be achieved through tax increases. A media campaign along with programmes to publicise and enforce clean air laws, advertising bans and youth access laws as part of a comprehensive strategy would further reduce smoking rates. The smoking prevalence in 2006 is projected to drop by 35% relative to status quo and 9,996 (9,529 male and 468 female) fewer smoking attributable deaths annually are predicted. If the numbers of lives are saved per year is added up for all years, then 86,123 male lives and 5,156 female lives are saved by 2026. Tobacco control policies have the potential to make large dents in smoking rates, which in turn lead to many lives saved.

Thus to significantly reduce the prevalence of smoking in Malaysia and its health related morbidity and mortality, more intensified tobacco control measures should be taken. Implementation of the Framework Convention on Tobacco Control (FCTC) will have tremendous positive impact in reducing smoking prevalence and enhance public health. The key policy provisions of the WHO FCTC are as follows:

- a) Continuously increase tobacco taxes;
- b) Protect citizens from exposure to tobacco smoke in all indoor workplaces, public transport, and other public places, especially those indoor;
- c) Enact comprehensive bans on tobacco advertising, promotion and sponsorship in all channels including the display of tobacco products at points of sale;
- d) Regulate packaging and labelling of tobacco products to prevent the use of misleading and deceptive terms such as 'low tar', 'light' and 'mild'
- e) Regulate the packaging and labelling of tobacco products to ensure appropriate product warnings are communicated to consumers; e.g. obligate rotating pictorial health warnings labels on tobacco packages, covering at least 50% of the total principal display areas;
- f) Ban on the sale of cigarettes packed in less than 20 sticks/ pack;
- g) Implement a system for effective enforcement of tobacco control legislation, e.g. in enforcing the ban for sales cigarettes in loose form, prohibition of smoking in designated smoke-free areas and many others;
- h) Intensify public awareness on tobacco control issues through effective campaigns and health promotion activities as well as ensuring broad access to anti-tobacco educational materials regarding health hazards of tobacco & risk of exposure to second-hand smoke;
- i) Promote and implement effective strategies aimed at promoting tobacco cessation and the use of smoking cessation services provided by the MOH;
- j) Combat smuggling through strategies that will trace and track the movement of tobacco and tobacco products across borders, e.g. by placing final destination markings on packs;
- k) Implement legislation and programmes to prohibit the sale of tobacco products to ad by minors;
- l) Implement policies to support economically viable alternative sources of income for tobacco workers, growers, and individual sellers.

8.1 Specifically the Following Are Recommended

- 8.1.1 There should be further increase in tobacco tax since this is the most effective of all tobacco control policies (Jha & Chaloupka 1999). The current tax of less than 2/3 or 4/5 of retail price is still very much below the level recommended by the World Bank (Jha & Chaloupka 1999). Cigarette price is the most important factor influencing factor affecting short-term tobacco consumption patterns. A 10% increase in the price of cigarettes reduces consumption by about 4% in high-income countries and 8% in low and middle-income countries (Jha & Chaloupka 1999). Youth, and low-income smokers are 2 - 3 times more likely than other smokers to quit or smoke less in response to price increases. Since price is also a strong determinant of smoking uptake among youth, it will significantly change long-term trends in cigarette consumption.

- 8.1.2 Expansion and enforcement of smoke-free policy to include all indoor workplaces and eating places and entertainment venues. This will protect non-smokers from inhaling tobacco smoke and the risk of tobacco-related morbidity and mortality. Such policy would reduce tobacco consumption among smokers or encourage quit smoking as well as denormalise smoking behaviour
- 8.1.3 Communicating the health effects of smoking is a major goal of tobacco control policy. Warning labels on cigarette packs are effective in educating the public, both smokers and non-smokers, about the health risks of smoking. Thus, the government should step-up health warnings by adopting placement of rotating graphic health warnings on tobacco packaging that cover at least 50% or more, of the principal display areas of the pack would serve as an effective educational tool.
- 8.1.4 Continue to promote public awareness to tobacco related health risks through campaigns and public education programmes. The Malaysian Health Promotion Board can play a crucial role in ensuring increased and regular funding and coordination of these important education activities.
- 8.1.5 It is very important that smoking cessation services be further enhanced and expanded to all medical and health practitioners, including doctors, dentists and pharmacists that are serving in all sectors. Involvement of non-government organisations should also be encouraged in order to provide support, assist and guide smokers to quit and to remain abstinent. The existing quit smoking clinics run by the MOH could be expanded and made more effective to deliver quit smoking services to smokers. Providing pharmacotherapy by the quit clinic staff can improve clinic attendance, client retention and even quit rates. At present only 1 in 3 smokers is aware of this facility. Thus, there should be increased publicity of this facility throughout the nation. Medical and health professionals from both public and private sector should play a crucial role in facilitating and supporting smokers to quit.
- 8.1.6 Provide funding for further research on tobacco control that could help advance tobacco control policies that significantly reduce smoking prevalence and that enhance public health.
- 8.1.7 To enhance effectiveness of tobacco control, it is recommended that the Control of Tobacco Products Act be enacted as soon as possible.

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APPENDIX



APPENDIX

Table 1: Prevalence of ever smokers by socio-demographic characteristics (CDC definition)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	9,303	3,420,323	27.0	26.4	27.5
State					
Johor	957	369,482	25.2	23.7	26.7
Kedah	813	288,115	31.7	29.8	33.5
Kelantan	702	232,142	35.2	33.2	37.2
Malacca	237	96,892	26.8	23.5	30.1
N. Sembilan	364	131,120	28.1	26.0	30.2
Pahang	644	244,253	34.7	31.8	37.7
Penang	483	170,910	22.3	20.4	24.2
Perak	675	277,088	25.2	23.3	27.0
Perlis	120	43,734	39.1	35.0	43.2
Selangor	1,379	565,630	23.6	22.4	24.7
Terengganu	464	155,955	33.1	31.2	35.0
Sabah	1,185	361,750	30.5	28.9	32.2
Sarawak	751	287,433	24.8	23.0	26.7
W.P. Kuala Lumpur	380	149,564	19.6	17.6	21.7
W.P. Labuan	149	46,256	27.8	24.0	31.7
Urban					
Johor	581	247,500	24.6	22.7	26.5
Kedah	245	98,056	26.1	23.1	29.0
Kelantan	194	68,267	31.1	28.1	34.2
Malacca	150	73,712	26.7	22.6	30.8
N. Sembilan	171	67,044	25.6	22.9	28.3
Pahang	228	96,993	29.5	24.7	34.2
Penang	366	135,281	21.4	19.2	23.6
Perak	322	149,817	22.2	19.9	24.6
Perlis	32	13,964	37.6	31.2	44.1
Selangor	1,152	499,818	23.2	22.0	24.4
Terengganu	192	72,739	29.8	27.3	32.2
Sabah	500	161,490	27.4	24.9	30.0
Sarawak	266	118,692	20.7	18.4	23.1
W.P. Kuala Lumpur	380	149,564	19.6	17.6	21.7
W.P. Labuan	88	28,422	27.3	22.4	32.2
Rural					
Johor	376	121,982	26.4	24.1	28.8
Kedah	568	190,058	35.6	33.6	37.6
Kelantan	508	163,876	37.2	34.8	39.6
Malacca	87	23,180	27.1	22.7	31.5
N. Sembilan	193	64,076	31.3	28.2	34.4
Pahang	416	147,260	39.4	35.9	42.9
Penang	117	35,629	26.5	23.1	30.0
Perak	353	127,271	29.8	27.2	32.3

Table 1: Prevalence of ever smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Perlis	88	29,770	39.8	34.5	45.1
Selangor	227	65,812	26.5	23.4	29.5
Terengganu	272	83,216	36.7	34.2	39.2
Sabah	685	200,260	33.6	31.6	35.6
Sarawak	485	168,741	28.9	26.2	31.5
W.P Labuan	61	17,833	28.6	22.4	34.9
Residence					
Urban	4,867	1,981,359	24.1	23.4	24.7
Rural	4,436	1,438,964	32.3	31.5	33.1
Ethnicity					
Malay	5,690	2,080,835	30.1	29.4	30.7
Chinese	1,461	582,638	21.1	20.0	22.2
Indian	474	187,167	16.8	15.5	18.1
Other Bumis	1,190	396,447	30.8	29.3	32.3
Others	488	173,236	28.4	25.6	31.3
Religion					
Islam	6,689	2,413,503	30.0	29.4	30.7
Christian	759	271,721	23.9	22.1	25.7
Buddhist	1,316	525,240	22.1	20.9	23.2
Hindu	381	150,365	16.2	14.8	17.7
Others	146	54,898	28.1	24.0	32.3
Unclassified	12	4,597	29.3	14.2	44.4
Citizenship					
Malaysian	8,692	3,207,613	26.9	26.4	27.5
Non-Malaysian	604	209,934	27.2	24.7	29.8
Unclassified	7	2,776	34.0	13.4	54.6
Gender					
Male	8,813	3,243,285	57.6	56.6	58.6
Female	490	177,039	2.5	2.3	2.8
Household Income					
Less than RM 400	860	294,274	28.9	27.2	30.6
RM 400 - RM 699	1,597	552,637	32.0	30.7	33.2
RM 700 - RM 999	1,114	402,124	28.8	27.4	30.2
RM 1000 - RM 1999	2,576	951,097	28.6	27.7	29.5
RM 2000 - RM 2999	1,337	506,828	25.4	24.2	26.6
RM 3000 - RM 3999	616	242,613	23.7	22.0	25.4
RM 4000 - RM 4999	303	119,481	23.2	20.9	25.4
RM 5000 & above	588	233,793	20.0	18.3	21.6
Unclassified	312	117,476	22.7	20.5	24.9

Table 1: Prevalence of ever smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Personal Income					
Less than RM 400	1,264	427,324	31.6	30.0	33.2
RM 400 - RM 699	1,624	571,068	39.0	37.3	40.8
RM 700 - RM 999	1,426	526,460	41.0	39.2	42.9
RM 1000 - RM 1999	2,318	885,496	39.2	37.9	40.5
RM 2000 - RM 2999	755	293,254	34.0	31.9	36.1
RM 3000 - RM 3999	261	103,689	33.4	30.1	36.8
RM 4000 - RM 4999	100	40,355	34.5	29.2	39.8
RM 5000 & above	171	68,477	30.6	26.9	34.2
Education					
None	786	271,613	21.6	20.2	23.0
Primary	3,202	1,159,579	28.5	27.7	29.4
Secondary	4,573	1,702,612	28.6	27.9	29.4
Tertiary	664	259,438	19.6	18.3	21.0
Non Classified	78	27,080	28.1	22.4	33.8
Housing area					
Housing area	3,317	1,340,692	22.5	21.7	23.2
Village	4,505	1,554,791	30.8	30.0	31.6
New village	174	70,090	26.6	23.2	30.0
Squatters	111	40,487	28.1	24.2	32.0
Estate	367	117,661	37.3	33.0	41.7
Land development	367	122,241	36.2	33.3	39.1
Others	436	164,647	28.7	26.4	30.9
House Type					
Single house	4,919	1,706,730	30.1	29.4	30.9
Semi_D house	432	161,467	29.4	26.9	31.8
Single storey terrace house	1,486	593,184	24.3	23.2	25.4
DS or town house	778	323,887	20.6	19.0	22.1
Condo / apartment	260	102,966	20.2	16.4	24.0
Flats	645	259,531	25.0	23.3	26.8
Long house	105	38,425	27.7	23.6	31.7
Boat house	2	868	28.6	11.6	45.6
Traditional house	154	51,205	33.6	28.9	38.3
Shop house	192	69,469	23.4	19.7	27.2
Worker's colony	221	73,581	38.3	33.2	43.4
Others	72	25,429	31.5	26.1	36.8
Occupation					
Senior Official & Manager	216	85,724	34.1	30.4	37.8
Professionals	502	195,477	22.1	20.4	23.9
Technical & Associate	991	375,801	37.3	35.2	39.4
Clerical Workers	368	137,099	19.5	17.7	21.3
Service Workers & Shop	1,808	679,903	32.4	31.0	33.7
Skilled Agricultural & Fishery	1,390	470,708	53.0	50.9	55.1
Craft & Related Trade Workers	670	252,078	33.2	30.8	35.6

Appendix 1: Prevalence of ever smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Plant & Machine Operator & Assembler	1,112	414,016	60.0	57.5	62.4
Elementary Occupations	831	293,357	53.3	50.6	56.0
Housewife	193	69,001	2.3	2.0	2.6
Unemployed	916	330,898	26.6	25.0	28.1
Unclassified	306	116,263	18.8	16.6	20.9
Marital Status					
Not married	2,120	781,414	29.1	27.8	30.4
married	6,761	2,485,444	27.6	27.1	28.2
Divorcee	161	59,539	21.4	18.3	24.6
Widow/widower	224	79,795	11.8	10.2	13.3
Unclassified	37	14,132	29.7	21.3	38.1
Age Group					
15-19	376	134,216	21.6	19.2	23.9
20-24	1,025	377,633	26.4	24.9	27.9
25-29	1,005	375,937	26.9	25.4	28.5
30-34	1,033	381,025	28.9	27.4	30.3
35-39	959	352,652	26.2	24.8	27.7
40-44	1,023	375,677	26.3	24.9	27.6
45-49	921	340,780	26.0	24.5	27.5
50-54	807	298,903	26.1	24.6	27.7
55-59	681	251,777	27.0	25.2	28.8
60-64	510	184,448	30.4	28.2	32.6
65-69	418	150,710	28.9	26.5	31.4
70-74	282	101,614	31.3	28.2	34.3
75-79	145	51,983	30.1	26.1	34.1
80+	118	42,967	31.9	27.1	36.7

Table 2: Prevalence of current smokers by socio-demographic characteristics (CDC definition)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	7,427	2,726,624	21.5	21.0	22.0
State					
Johor	788	304,193	20.7	19.3	22.2
Kedah	659	233,238	25.6	23.8	27.5
Kelantan	546	180,353	27.3	25.3	29.4
Malacca	175	72,049	20.0	16.7	23.3
N. Sembilan	304	108,677	23.3	21.0	25.5
Pahang	508	192,611	27.4	24.3	30.5
Penang	401	141,643	18.5	16.6	20.3
Perak	563	230,109	20.9	19.3	22.5
Perlis	100	36,674	33.1	27.6	38.6
Selangor	1,066	435,155	18.1	17.1	19.2
Terengganu	371	124,732	26.5	24.6	28.4
Sabah	942	287,370	24.3	22.6	25.9
Sarawak	582	223,720	19.3	17.7	21.0
W.P. Kuala Lumpur	303	119,258	15.7	13.8	17.5
W.P. Labuan	119	36,842	22.2	18.6	25.7
Urban					
Johor	478	203,623	20.2	18.4	22.0
Kedah	194	77,645	20.7	17.8	23.5
Kelantan	144	50,672	23.1	20.3	26.0
Malacca	113	55,529	20.2	16.1	24.4
N. Sembilan	129	50,577	19.3	16.4	22.2
Pahang	179	76,148	23.1	18.2	28.0
Penang	300	110,886	17.5	15.5	19.6
Perak	259	120,505	17.9	15.9	19.9
Perlis	29	12,654	34.1	26.9	41.4
Selangor	876	380,070	17.7	16.6	18.8
Terengganu	154	58,343	23.9	22.0	25.8
Sabah	391	126,285	21.4	18.9	24.0
Sarawak	216	96,381	16.8	14.6	19.1
W.P. Kuala Lumpur	303	119,258	15.7	13.8	17.5
W.P. Labuan	67	21,640	20.8	16.4	25.3
Rural					
Johor	310	100,570	21.9	19.4	24.3
Kedah	465	155,594	29.1	27.0	31.3
Kelantan	402	129,681	29.5	26.9	32.0
Malacca	62	16,519	19.3	14.9	23.7
N. Sembilan	175	58,100	28.4	25.5	31.3
Pahang	329	116,463	31.2	27.3	35.1
Penang	101	30,757	22.9	19.6	26.2
Perak	304	109,604	25.6	23.1	28.2
Perlis	71	24,019	32.6	25.2	39.9
Selangor	190	55,085	22.1	19.3	25.0
Terengganu	217	66,389	29.2	26.1	32.4

Table 2: Prevalence of current smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	551	161,085	27.0	25.0	29.1
Sarawak	366	127,339	21.8	19.4	24.2
W.P Labuan	52	15,202	24.4	19.0	29.9
Residence					
Urban	3,832	1,560,217	19.0	18.3	19.6
Rural	3,595	1,166,407	26.2	25.4	27.0
Ethnicity					
Malay	4,543	1,661,387	24.0	23.4	24.7
Chinese	1,128	448,342	16.2	15.3	17.2
Indian	388	153,083	13.7	12.4	15.0
Other Bumis	960	318,883	24.8	23.4	26.2
Others	408	144,928	23.8	21.1	26.6
Religion					
Islam	5,375	1,938,328	24.1	23.5	24.7
Christian	580	207,169	18.2	16.6	19.8
Buddhist	1,024	407,223	17.1	16.1	18.1
Hindu	326	128,147	13.8	12.4	15.2
Others	113	42,377	21.7	18.1	25.3
Unclassified	9	3,379	21.6	9.3	33.9
Citizenship					
Malaysian	6,911	2,547,264	21.4	20.9	21.9
Non-Malaysian	511	177,443	23.0	20.5	25.5
Unclassified	5	1,917	23.5	5.2	41.7
Gender					
Male	7,113	2,611,891	46.4	45.5	47.4
Female	314	114,733	1.6	1.4	1.8
Household Income					
Less than RM 400	653	222,534	21.9	20.2	23.5
RM 400 - RM 699	1,293	447,866	25.9	24.6	27.2
RM 700 - RM 999	923	332,237	23.8	22.4	25.2
RM 1000 - RM 1999	2,086	768,551	23.1	22.2	24.0
RM 2000 - RM 2999	1,076	408,467	20.5	19.3	21.6
RM 3000 - RM 3999	503	197,842	19.3	17.7	20.9
RM 4000 - RM 4999	218	85,640	16.6	14.4	18.8
RM 5000 & above	436	174,139	14.9	13.4	16.4
Unclassified	239	89,348	17.3	15.2	19.3
Personal Income					
Less than RM 400	1,011	340,639	25.2	23.7	26.7
RM 400 - RM 699	1,356	475,178	32.5	30.8	34.2
RM 700 - RM 999	1,223	451,601	35.2	33.5	37.0
RM 1000 - RM 1999	1,899	724,853	32.1	30.9	33.4
RM 2000 - RM 2999	599	233,608	27.1	25.1	29.1

Table 2: Prevalence of current smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	196	78,245	25.2	22.1	28.4
RM 4000 - RM 4999	61	24,675	21.1	16.7	25.5
RM 5000 & above	116	46,286	20.7	17.5	23.8
Education					
None	558	192,928	15.3	14.1	16.6
Primary	2,465	890,150	21.9	21.1	22.7
Secondary	3,863	1,434,754	24.1	23.4	24.8
Tertiary	479	187,147	14.2	13.0	15.4
Non Classified	62	21,645	22.6	17.5	27.6
Housing area					
Housing area	2,580	1,043,307	17.5	16.8	18.2
Village	3,621	1,248,840	24.8	24.0	25.5
New village	135	54,398	20.7	17.8	23.5
Squatters	92	34,021	23.6	19.6	27.6
Estate	319	102,735	32.6	28.1	37.1
Land development	295	98,121	29.1	25.7	32.4
Others	363	137,154	23.9	21.7	26.2
House Type					
Single house	3,928	1,361,700	24.1	23.4	24.7
Semi_D house	349	130,047	23.7	21.1	26.2
Single storey terrace house	1,192	476,111	19.5	18.4	20.6
DS or town house	562	233,855	14.8	13.5	16.2
Condo / apartment	216	85,687	16.8	13.2	20.4
Flats	528	212,806	20.5	18.8	22.2
Long house	78	28,632	20.6	17.3	23.9
Boat house	2	868	28.6	11.6	45.6
Traditional house	126	41,814	27.6	23.3	31.9
Shop house	160	58,286	19.7	16.1	23.3
Worker's colony	194	64,306	33.5	28.0	39.1
Others	61	21,365	26.4	20.5	32.3
Occupation					
Senior Official & Manager	149	59,076	23.5	20.3	26.7
Professionals	360	140,246	15.9	14.3	17.5
Technical & Associate	753	285,585	28.4	26.4	30.3
Clerical Workers	291	108,848	15.5	13.9	17.1
Service Workers & Shop	1,495	562,879	26.8	25.5	28.1
Skilled Agricultural & Fishery	1,133	382,648	43.1	41.0	45.3
Craft & Related Trade Workers	595	223,094	29.4	27.2	31.6
Plant & Machine Operator & Assembler	929	345,766	50.1	47.7	52.6
Elementary Occupations	720	254,251	46.2	43.5	48.8
Housewife	123	44,700	1.5	1.2	1.8
Unemployed	645	231,663	18.6	17.2	20.0
Unclassified	234	87,868	14.2	12.3	16.1

Table 2: Prevalence of current smokers by socio-demographic characteristics (CDC definition) (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	1,952	718,248	26.7	25.5	28.0
married	5,199	1,907,480	21.2	20.7	21.7
Divorcee	121	44,887	16.2	13.3	19.0
Widow/widower	123	43,870	6.5	5.3	7.6
Unclassified	32	12,139	25.7	17.6	33.7
Age Group					
15-19	353	126,100	20.2	17.9	22.6
20-24	957	352,169	24.7	23.2	26.1
25-29	904	337,490	24.2	22.7	25.6
30-34	895	329,700	25.0	23.6	26.4
35-39	838	308,302	22.9	21.6	24.3
40-44	840	308,207	21.6	20.3	22.8
45-49	700	259,261	19.8	18.4	21.1
50-54	583	214,684	18.8	17.4	20.1
55-59	487	179,494	19.2	17.7	20.8
60-64	334	120,081	19.8	17.9	21.7
65-69	238	85,463	16.4	14.4	18.4
70-74	159	56,062	17.3	14.7	19.8
75-79	74	26,240	15.2	12.0	18.4
80+	65	23,371	17.4	13.4	21.3

Table 3: Prevalence of ex-smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	1,861	688,152	5.4	5.1	5.6
State					
Johor	165	63,991	4.3	3.6	5.0
Kedah	153	54,476	6.0	5.1	6.8
Kelantan	156	51,789	7.8	6.7	8.9
Malacca	60	23,860	6.6	4.9	8.3
N. Sembilan	60	22,443	4.8	3.7	5.9
Pahang	135	51,288	7.3	6.1	8.4
Penang	82	29,267	3.8	3.0	4.6
Perak	112	46,978	4.3	3.4	5.1
Perlis	17	6,045	5.3	2.6	8.0
Selangor	312	130,041	5.3	4.7	6.0
Terengganu	93	31,223	6.6	5.4	7.8
Sabah	242	74,057	6.2	5.4	6.9
Sarawak	168	63,365	5.5	4.5	6.4
W.P. Kuala Lumpur	76	29,913	3.9	3.1	4.7
W.P. Labuan	30	9,414	5.6	3.5	7.6
Urban					
Johor	103	43,877	4.3	3.4	5.2
Kedah	50	20,011	5.3	4.1	6.5
Kelantan	50	17,594	8.0	6.1	9.9
Malacca	35	17,199	6.2	4.2	8.3
N. Sembilan	42	16,467	6.3	4.6	7.9
Pahang	49	20,845	6.3	4.7	7.8
Penang	66	24,395	3.9	2.9	4.8
Perak	63	29,312	4.3	3.2	5.5
Perlis	3	1,309	3.5	0.5	6.4
Selangor	275	119,314	5.5	4.8	6.2
Terengganu	38	14,396	5.8	4.2	7.5
Sabah	108	34,882	5.8	4.6	7.0
Sarawak	50	22,310	3.9	2.8	4.9
W.P. Kuala Lumpur	76	29,913	3.9	3.1	4.7
W.P. Labuan	21	6,783	6.5	3.5	9.4
Rural					
Johor	62	20,114	4.3	3.2	5.3
Kedah	103	34,465	6.4	5.2	7.6
Kelantan	106	34,195	7.8	6.4	9.1
Malacca	25	6,661	7.7	4.7	10.8
N. Sembilan	18	5,976	2.9	1.7	4.2
Pahang	86	30,443	8.1	6.4	9.9
Penang	16	4,872	3.6	2.0	5.3
Perak	49	17,666	4.1	3.0	5.3
Perlis	14	4,736	6.2	2.6	9.9
Selangor	37	10,727	4.2	2.7	5.8
Terengganu	55	16,827	7.4	5.8	9.0

Table 3: Prevalence of ex-smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	134	39,175	6.5	5.6	7.5
Sarawak	118	41,055	7.0	5.4	8.6
W.P Labuan	9	2,631	4.1	1.8	6.3
Residence					
Urban	1,029	418,609	5.0	4.7	5.4
Rural	832	269,543	6.0	5.6	6.4
Ethnicity					
Malay	1,137	415,756	6.0	5.6	6.3
Chinese	329	132,930	4.8	4.3	5.3
Indian	86	34,084	3.0	2.4	3.6
Other Bumis	230	77,564	6.0	5.1	6.8
Others	79	27,817	4.5	3.5	5.5
Religion					
Islam	1,303	470,992	5.8	5.5	6.1
Christian	179	64,552	5.6	4.7	6.5
Buddhist	288	116,651	4.9	4.3	5.4
Hindu	55	22,218	2.4	1.8	3.0
Others	33	12,521	6.4	4.2	8.5
Unclassified	3	1,218	7.6	-0.4	15.7
Citizenship					
Malaysian	1,766	654,801	5.5	5.2	5.7
Non-Malaysian	93	32,491	4.2	3.3	5.0
Unclassified	2	859	10.1	-3.1	23.4
Gender					
Male	1,689	627,226	11.0	10.4	11.5
Female	172	60,925	0.9	0.7	1.0
Household Income					
Less than RM 400	206	71,415	7.0	6.0	7.9
RM 400 - RM 699	302	104,012	5.9	5.3	6.6
RM 700 - RM 999	191	69,887	5.0	4.3	5.7
RM 1000 - RM 1999	481	179,145	5.4	4.9	5.8
RM 2000 - RM 2999	260	98,014	4.9	4.3	5.5
RM 3000 - RM 3999	113	44,771	4.3	3.5	5.2
RM 4000 - RM 4999	85	33,841	6.5	5.2	7.9
RM 5000 & above	151	59,261	5.0	4.3	5.8
Unclassified	72	27,805	5.3	4.0	6.6
Personal Income					
Less than RM 400	252	86,361	6.3	5.5	7.1
RM 400 - RM 699	265	94,889	6.4	5.7	7.2
RM 700 - RM 999	201	74,071	5.7	5.0	6.5
RM 1000 - RM 1999	414	158,613	7.0	6.3	7.6
RM 2000 - RM 2999	155	59,298	6.8	5.8	7.9

Table 3: Prevalence of ex-smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	65	25,444	8.1	6.2	10.0
RM 4000 - RM 4999	39	15,680	13.3	9.3	17.2
RM 5000 & above	55	22,191	9.7	7.4	12.1
Education					
None	224	77,240	6.1	5.3	6.9
Primary	733	268,042	6.5	6.1	7.0
Secondary	704	265,536	4.4	4.1	4.8
Tertiary	185	72,292	5.4	4.7	6.2
Non Classified	15	5,042	5.2	2.5	7.9
Housing area					
Housing area	734	296,314	4.9	4.6	5.3
Village	873	301,966	5.9	5.5	6.3
New village	39	15,692	5.9	4.0	7.7
Squatters	19	6,466	4.4	2.1	6.7
Estate	48	14,925	4.7	3.4	5.9
Land development	72	24,120	7.1	5.4	8.7
Others	72	27,002	4.7	3.6	5.8
House Type					
Single house	984	342,529	6.0	5.6	6.4
Semi_D house	82	31,020	5.6	4.5	6.7
Single storey terrace house	293	116,749	4.8	4.2	5.3
DS or town house	215	89,638	5.6	4.9	6.4
Condo / apartment	43	16,788	3.3	2.3	4.2
Flats	116	46,371	4.4	3.6	5.3
Long house	27	9,793	7.0	3.8	10.3
Boat house	0	0	0.0	0.0	0.0
Traditional house	26	8,742	5.7	3.4	8.0
Shop house	32	11,183	3.8	2.5	5.0
Worker's colony	26	8,840	4.5	2.8	6.3
Others	11	4,064	4.9	2.3	7.5
Occupation					
Senior Official & Manager	67	26,648	10.5	8.0	13.0
Professionals	142	55,231	6.2	5.2	7.3
Technical & Associate	237	89,724	8.8	7.7	9.9
Clerical Workers	77	28,251	4.0	3.1	4.9
Service Workers & Shop	307	114,937	5.4	4.8	6.0
Skilled Agricultural & Fishery	256	87,736	9.8	8.6	11.0
Craft & Related Trade Workers	75	28,984	3.8	2.9	4.7
Plant & Machine Operator & Assembler	181	67,587	9.6	8.2	11.0
Elementary Occupations	111	39,106	7.0	5.8	8.2
Housewife	70	24,301	0.8	0.6	1.0
Unemployed	268	98,178	7.8	6.8	8.7
Unclassified	70	27,470	4.4	3.4	5.4

Table 3: Prevalence of ex-smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	167	62,827	2.3	2.0	2.7
married	1,550	573,472	6.3	6.0	6.6
Divorcee	40	14,652	5.2	3.7	6.8
Widow/widower	100	35,532	5.2	4.2	6.3
Unclassified	4	1,668	3.5	0.1	7.0
Age Group					
15-19	23	8,116	1.3	0.8	1.8
20-24	66	24,802	1.7	1.3	2.1
25-29	100	37,956	2.7	2.2	3.2
30-34	136	50,648	3.8	3.2	4.4
35-39	120	43,859	3.2	2.7	3.8
40-44	181	66,806	4.6	4.0	5.3
45-49	219	80,795	6.1	5.3	6.9
50-54	223	83,785	7.3	6.4	8.2
55-59	194	72,283	7.7	6.7	8.7
60-64	174	63,626	10.4	8.9	11.9
65-69	179	64,909	12.4	10.6	14.1
70-74	122	45,228	13.8	11.4	16.1
75-79	71	25,743	14.5	11.4	17.6
80+	53	19,596	14.1	10.6	17.7

Table 4: Mean initiation age of ever smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Mean initiation age	95% CI	
				Lower	Upper
National	9,196	3,382,460	18.5	18.4	18.7
State					
Johor	951	367,332	18.1	17.7	18.4
Kedah	810	286,980	18.6	18.2	19.0
Kelantan	687	227,245	19.4	18.9	19.8
Malacca	237	96,892	18.1	17.3	18.8
N. Sembilan	362	130,396	18.0	17.5	18.5
Pahang	634	240,499	17.9	17.5	18.4
Penang	482	170,540	18.9	18.3	19.4
Perak	673	276,157	19.1	18.6	19.5
Perlis	118	42,959	17.8	16.6	19.0
Selangor	1,365	559,556	18.0	17.8	18.3
Terengganu	460	154,658	18.0	17.5	18.4
Sabah	1,157	353,380	19.2	18.9	19.5
Sarawak	734	281,125	19.3	18.9	19.8
W.P. Kuala Lumpur	378	148,777	18.4	17.9	18.9
W.P. Labuan	148	45,963			
Urban					
Johor	579	246,648	17.9	17.5	18.2
Kedah	243	97,256	18.5	17.9	19.0
Kelantan	192	67,563	19.6	18.5	20.7
Malacca	150	73,712	18.2	17.3	19.2
N. Sembilan	170	66,652	17.9	17.2	18.7
Pahang	225	95,717	18.0	17.2	18.8
Penang	365	134,911	18.9	18.2	19.6
Perak	320	148,886	19.5	18.9	20.0
Perlis	31	13,527	18.4	15.8	20.9
Selangor	1,138	493,744	18.1	17.8	18.4
Terengganu	191	72,360	17.7	17.0	18.3
Sabah	494	159,552	19.3	18.8	19.8
Sarawak	262	116,907	18.7	18.1	19.4
W.P. Kuala Lumpur	378	148,777	18.4	17.9	18.9
W.P. Labuan	88	28,422	19.4	18.2	20.6
Rural					
Johor	372	120,684	18.4	17.9	19.0
Kedah	567	189,724	18.6	18.1	19.2
Kelantan	495	159,682	19.3	18.8	19.7
Malacca	87	23,180	17.6	16.7	18.4
N. Sembilan	192	63,744	18.1	17.5	18.7
Pahang	409	144,782	17.9	17.5	18.4
Penang	117	35,629	18.8	18.0	19.6
Perak	353	127,271	18.6	18.0	19.1
Perlis	87	29,432	17.6	16.3	18.8
Selangor	227	65,812	17.6	16.8	18.4
Terengganu	269	82,298	18.2	17.5	18.9

Table 4: Mean initiation age of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean initiation age	95% CI	
				Lower	Upper
Sabah	663	193,828	19.1	18.8	19.5
Sarawak	472	164,218	19.7	19.1	20.4
W.P Labuan	60	17,541	18.4	17.6	19.1
Residence					
Urban	4,826	1,964,635	18.5	18.3	18.6
Rural	4,370	1,417,825	18.7	18.5	18.8
Ethnicity					
Malay	5,642	2,064,071	18.2	18.0	18.3
Chinese	1,444	575,714	19.4	19.1	19.7
Indian	471	186,017	18.9	18.4	19.4
Other Bumis	1,160	386,636	19.2	18.8	19.5
Others	479	170,023	18.6	18.2	19.1
Religion					
Islam	6,621	2,390,359	18.2	18.1	18.4
Christian	742	265,857	19.3	18.9	19.8
Buddhist	1,299	518,328	19.3	19.0	19.7
Hindu	378	149,215	18.7	18.1	19.2
Others	144	54,104	19.8	18.6	21.0
Unclassified	12	4,597	20.8	17.9	23.8
Citizenship					
Malaysian	8,595	3,173,114	18.5	18.4	18.7
Non-Malaysian	594	206,569	18.8	18.4	19.2
Unclassified	7	2,776	20.6	17.3	24.0
Gender					
Male	8,732	3,214,297	18.3	18.2	18.4
Female	464	168,163	22.6	21.8	23.5
Household Income					
Less than RM 400	832	284,817	19.6	19.1	20.1
RM 400 - RM 699	1,576	545,618	18.5	18.3	18.8
RM 700 - RM 999	1,102	397,934	18.5	18.2	18.8
RM 1000 - RM 1999	2,559	945,085	18.4	18.2	18.6
RM 2000 - RM 2999	1,331	504,448	18.5	18.3	18.8
RM 3000 - RM 3999	609	239,804	18.6	18.2	18.9
RM 4000 - RM 4999	302	119,133	18.3	17.7	18.8
RM 5000 & above	580	230,514	18.3	17.9	18.7
Unclassified	305	115,107	18.3	17.7	18.9
Personal Income					
Less than RM 400	1,249	422,647	19.1	18.8	19.5
RM 400 - RM 699	1,616	567,941	18.2	18.0	18.5
RM 700 - RM 999	1,415	522,759	17.9	17.7	18.2
RM 1000 - RM 1999	2,299	878,127	18.4	18.2	18.6
RM 2000 - RM 2999	749	290,746	18.8	18.4	19.1

Table 4: Mean initiation age of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean initiation age	95% CI	
				Lower	Upper
RM 3000 - RM 3999	261	103,689	19.1	18.6	19.7
RM 4000 - RM 4999	99	39,921	18.2	17.4	19.0
RM 5000 & above	171	68,477	18.5	17.9	19.1
Education					
None	745	258,228	20.4	19.8	21.0
Primary	3,168	1,147,093	18.8	18.6	19.1
Secondary	4,546	1,692,601	18.0	17.9	18.2
Tertiary	661	258,145	18.7	18.3	19.0
Non Classified	76	26,394	19.2	18.2	20.2
Housing area					
Housing area	3,295	1,331,697	18.4	18.2	18.6
Village	4,442	1,533,374	18.8	18.6	19.0
New village	169	68,123	18.5	17.9	19.1
Squatters	109	39,841	19.2	18.1	20.3
Estate	360	115,553	18.4	17.9	19.0
Land development	363	120,951	17.3	16.8	17.7
Others	432	163,209	18.6	18.2	19.0
House Type					
Single house	4,852	1,684,028	18.6	18.5	18.8
Semi_D house	425	158,921	18.6	18.1	19.0
Single storey terrace house	1,476	589,074	18.3	18.0	18.6
DS or town house	773	321,786	18.6	18.3	19.0
Condo / apartment	259	102,540	18.3	17.5	19.2
Flats	642	258,229	18.3	17.9	18.7
Long house	103	37,729	20.1	18.4	21.8
Boat house	2	868	18.0	15.2	20.8
Traditional house	149	49,589	18.4	17.5	19.3
Shop house	189	68,336	19.7	18.8	20.6
Worker's colony	217	72,350	17.7	17.2	18.3
Others	72	25,429	17.9	17.1	18.7
Occupation					
Senior Official & Manager	215	85,290	18.8	18.1	19.4
Profesionals	500	194,830	18.5	18.1	19.0
Technical & Associate	986	374,024	18.7	18.5	19.0
Clerical Workers	366	136,484	18.2	17.8	18.7
Service Workers & Shop	1,797	675,617	18.6	18.4	18.9
Skilled Agricultural & Fishery	1,371	464,541	18.9	18.6	19.2
Craft & Related Trade Workers	666	250,414	17.7	17.4	18.0
Plant & Machine Operator & Assembler	1,104	410,627	18.1	17.8	18.4
Elementary Occupations	821	289,823	18.1	17.7	18.4
Housewife	181	64,923	24.4	23.0	25.8
Unemployed	885	320,382	18.4	18.0	18.8
Unclassified	304	115,505	18.1	17.5	18.7

Table 4: Mean initiation age of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean initiation age	95% CI	
				Lower	Upper
Marital Status					
Not married	2,103	775,032	16.7	16.6	16.9
married	6,693	2,461,363	19.0	18.9	19.1
Divorcee	155	57,693	19.6	18.5	20.6
Widow/widower	210	75,101	21.9	20.7	23.2
Unclassified	35	13,272	18.7	17.3	20.0
Age Group					
15-19	374	133,569	15.1	14.9	15.3
20-24	1,018	375,184	16.1	15.9	16.2
25-29	995	371,661	17.3	17.1	17.5
30-34	1,022	377,329	18.1	17.9	18.4
35-39	950	349,512	18.6	18.4	18.9
40-44	1,019	374,165	19.1	18.9	19.4
45-49	915	338,602	19.2	18.8	19.5
50-54	803	297,632	19.7	19.3	20.2
55-59	673	249,046	19.7	19.2	20.2
60-64	497	179,913	19.9	19.2	20.6
65-69	411	148,330	20.7	19.9	21.5
70-74	272	98,107	20.0	19.1	20.8
75-79	140	50,350	20.0	18.7	21.3
80+	107	39,062	21.8	20.0	23.5

Table 5: Mean number of cigarettes smoked per day among current smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Mean Cigarettes Sticks / Day	95% CI	
				Lower	Upper
National	7,193	2,640,641	12.1	11.9	12.4
State					
Johor	762	294,133	12.4	11.8	13.1
Kedah	644	227,891	12.6	11.7	13.4
Kelantan	533	176,130	10.7	10.1	11.3
Malacca	168	69,284	12.9	11.8	14.0
N. Sembilan	292	104,573	13.2	12.2	14.2
Pahang	494	187,512	12.1	11.3	12.9
Penang	377	132,967	12.0	11.1	12.8
Perak	548	224,177	12.5	11.8	13.3
Perlis	98	35,997	11.9	10.2	13.5
Selangor	1,037	423,292	12.4	11.9	12.9
Terengganu	364	122,444	11.4	10.6	12.2
Sabah	927	282,770	9.7	9.2	10.2
Sarawak	552	212,693	14.0	13.0	15.1
W.P. Kuala Lumpur	284	111,780	13.4	12.2	14.6
W.P. Labuan	113	34,996	12.0	10.2	13.9
Urban					
Johor	462	196,807	12.3	11.6	13.1
Kedah	189	75,643	12.8	11.4	14.3
Kelantan	143	50,320	12.2	11.1	13.3
Malacca	109	53,564	13.4	12.1	14.7
N. Sembilan	127	49,793	12.8	11.1	14.5
Pahang	177	75,298	11.9	10.5	13.4
Penang	279	103,124	12.0	11.0	12.9
Perak	254	118,179	12.6	11.5	13.7
Perlis	29	12,654	11.3	9.5	13.1
Selangor	852	369,657	12.5	11.9	13.0
Terengganu	152	57,585	11.5	10.5	12.5
Sabah	384	124,024	10.6	9.9	11.4
Sarawak	210	93,704	13.3	12.1	14.5
W.P. Kuala Lumpur	284	111,780	13.4	12.2	14.6
W.P. Labuan	64	20,671	10.4	8.8	12.0
Rural					
Johor	300	97,326	12.6	11.6	13.7
Kedah	455	152,248	12.4	11.4	13.4
Kelantan	390	125,810	10.1	9.4	10.8
Malacca	59	15,720	11.3	9.7	12.8
N. Sembilan	165	54,780	13.5	12.4	14.6
Pahang	317	112,215	12.2	11.3	13.2
Penang	98	29,843	12.0	10.5	13.4
Perak	294	105,999	12.4	11.3	13.6
Perlis	69	23,343	12.1	9.8	14.5
Selangor	185	53,635	12.0	10.8	13.2
Terengganu	212	64,859	11.3	10.1	12.5

Table 5: Mean number of cigarettes smoked per day among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean Cigarettes Sticks / Day	95% CI	
				Lower	Upper
Sabah					
Sabah	543	158,746	8.9	8.3	9.6
Sarawak					
Sarawak	342	118,989	14.6	13.0	16.2
W.P Labuan					
W.P Labuan	49	14,325	14.4	10.7	18.1
Residence					
Urban	3,715	1,512,803	12.4	12.1	12.6
Rural	3,478	1,127,837	11.9	11.5	12.2
Ethnicity					
Malay	4,413	1,613,921	12.1	11.8	12.3
Chinese	1,089	433,304	14.3	13.6	14.9
Indian	375	147,939	11.2	10.4	12.0
Other Bumis	927	307,673	10.9	10.3	11.6
Others	389	137,803	10.1	9.2	11.0
Religion					
Islam	5,214	1,880,082	11.8	11.6	12.1
Christian	560	199,788	12.0	11.0	13.0
Buddhist	991	394,356	14.1	13.4	14.7
Hindu	315	123,796	10.8	9.9	11.7
Others	104	39,239	12.4	10.8	14.1
Unclassified	9	3,379	12.3	7.6	17.0
Citizenship					
Malaysian	6,695	2,468,108	12.3	12.1	12.5
Non-Malaysian	494	170,970	10.1	9.4	10.7
Unclassified	4	1,563	10.0	-	-
Gender					
Male	6,904	2,535,250	12.3	12.1	12.5
Female	289	105,391	8.7	7.5	9.8
Household Income					
Less than RM 400	625	212,774	10.3	9.7	11.0
RM 400 - RM 699	1,266	438,316	11.3	10.8	11.8
RM 700 - RM 999	905	325,399	11.3	10.8	11.8
RM 1000 - RM 1999	2,013	741,701	12.8	12.4	13.2
RM 2000 - RM 2999	1,041	395,714	12.7	12.2	13.3
RM 3000 - RM 3999	483	190,192	12.6	11.9	13.4
RM 4000 - RM 4999	213	83,640	13.7	12.6	14.9
RM 5000 & above	420	167,944	13.5	12.6	14.3
Unclassified	227	84,960	11.1	10.1	12.0
Personal Income					
Less than RM 400	987	332,378	10.8	10.2	11.3
RM 400 - RM 699	1,319	462,207	12.0	11.5	12.5
RM 700 - RM 999	1,189	438,683	11.9	11.4	12.3
RM 1000 - RM 1999	1,827	698,029	13.1	12.7	13.5
RM 2000 - RM 2999	583	227,283	13.5	12.8	14.3

Table 5: Mean number of cigarettes smoked per day among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean Cigarettes Sticks / Day	95% CI	
				Lower	Upper
RM 3000 - RM 3999	192	76,738	14.1	12.8	15.3
RM 4000 - RM 4999	58	23,438	13.2	11.4	15.0
RM 5000 & above	112	44,898	15.1	13.3	17.0
Education					
None	529	182,690	10.0	9.2	10.8
Primary	2,393	864,097	12.8	12.4	13.1
Secondary	3,745	1,390,720	12.1	11.8	12.4
Tertiary	468	182,835	12.1	11.3	12.9
Non Classified	58	20,299	10.0	8.5	11.6
Housing area					
Housing area	2,493	1,008,182	12.5	12.2	12.9
Village	3,515	1,212,581	11.8	11.5	12.1
New village	133	53,603	14.4	12.3	16.5
Squatters	91	33,651	12.4	11.1	13.8
Estate	311	99,980	10.3	9.6	11.0
Land development	286	95,096	12.1	11.2	13.0
Others	343	129,823	12.7	11.7	13.7
House Type					
Single house	3,816	1,322,909	12.0	11.7	12.3
Semi_D house	340	126,836	12.0	11.2	12.9
Single storey terrace house	1,160	462,883	12.6	12.1	13.2
DS or town house	545	227,018	13.1	12.4	13.9
Condo / apartment	206	81,675	11.5	10.1	13.0
Flats	500	201,468	11.5	10.9	12.1
Long house	72	26,544	12.3	10.6	14.1
Boat house	2	868	5.5	4.8	6.2
Traditional house	115	38,442	10.7	9.2	12.2
Shop house	157	57,310	13.6	12.4	14.9
Worker's colony	190	62,847	10.5	9.4	11.7
Others	60	21,017	11.2	9.3	13.0
Occupation					
Senior Official & Manager	145	57,542	14.5	12.7	16.3
Professionals	354	137,852	12.6	11.7	13.5
Technical & Associate	727	275,805	12.7	12.1	13.4
Clerical Workers	279	104,733	11.0	10.1	11.9
Service Workers & Shop	1,457	548,376	12.7	12.3	13.2
Skilled Agricultural & Fishery	1,107	373,702	12.2	11.7	12.8
Craft & Related Trade Workers	575	215,714	11.7	11.0	12.3
Plant & Machine Operator & Assembler	896	333,086	12.8	12.2	13.4
Elementary Occupations	698	246,783	12.1	11.5	12.8
Housewife	114	41,354	9.1	7.3	10.9
Unemployed	618	221,786	10.1	9.4	10.8
Unclassified	223	83,907	10.6	9.5	11.6

Table 5: Mean number of cigarettes smoked per day among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean Cigarettes Sticks / Day	95% CI	
				Lower	Upper
Marital Status					
Not married	1,898	698,908	11.2	10.8	11.6
married	5,035	1,846,498	12.5	12.3	12.8
Divorcee	113	42,067	13.5	11.4	15.6
Widow/widower	116	41,335	9.5	7.7	11.3
Unclassified	31	11,833	11.7	8.9	14.5
Age Group					
15-19	343	122,875	9.0	8.2	9.9
20-24	930	342,112	10.4	10.0	10.9
25-29	880	328,153	11.2	10.7	11.7
30-34	869	320,173	11.7	11.2	12.2
35-39	811	297,976	12.7	12.1	13.3
40-44	818	300,084	14.0	13.3	14.6
45-49	684	253,420	14.3	13.6	15.0
50-54	566	208,740	13.9	13.1	14.6
55-59	469	172,748	12.9	12.1	13.7
60-64	319	114,919	12.7	11.4	13.9
65-69	226	81,165	11.2	10.1	12.4
70-74	153	53,959	9.6	8.5	10.8
75-79	70	24,606	7.7	6.6	8.9
80+	55	19,711	8.1	5.4	10.9

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Light		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
National	7,806	2,867,994	56.3	55.1	57.5
State					
Johor	893	342,929	54.4	51.1	57.8
Kedah	664	234,845	58.0	53.8	62.3
Kelantan	555	183,404	65.2	60.8	69.6
Malacca	176	72,766	49.6	41.9	57.3
N. Sembilan	309	110,637	49.8	44.0	55.6
Pahang	524	198,918	55.1	50.1	60.1
Penang	393	138,686	57.4	52.6	62.1
Perak	568	232,540	54.2	49.8	58.6
Perlis	100	36,674	62.0	52.6	71.4
Selangor	1,160	472,916	53.4	50.5	56.2
Terengganu	381	128,156	60.3	55.0	65.6
Sabah	999	304,769	68.4	65.2	71.7
Sarawak	613	236,078	49.0	44.6	53.4
W.P. Kuala Lumpur	345	135,788	48.1	42.7	53.5
W.P. Labuan	126	38,889	58.3	49.6	66.9
Urban					
Johor	466	198,512	53.8	49.6	58.1
Kedah	189	75,643	56.5	48.4	64.5
Kelantan	143	50,320	57.0	49.1	65.0
Malacca	110	54,055	47.8	38.8	56.9
N. Sembilan	127	49,793	53.7	45.1	62.4
Pahang	177	75,298	56.9	48.5	65.4
Penang	284	104,972	56.5	50.9	62.1
Perak	255	118,643	51.7	45.8	57.6
Perlis	29	12,654	62.1	48.2	76.0
Selangor	856	371,392	52.9	49.7	56.1
Terengganu	152	57,585	57.2	49.9	64.6
Sabah	384	124,024	63.1	58.3	68.0
Sarawak	210	93,704	49.6	42.7	56.4
W.P. Kuala Lumpur	286	112,567	48.1	42.7	53.5
W.P. Labuan	65	20,994	64.2	54.5	73.8
Rural					
Johor	302	97,974	55.6	50.2	60.9
Kedah	456	152,583	58.8	53.9	63.7
Kelantan	391	126,133	68.5	63.3	73.6
Malacca	60	15,987	55.7	42.9	68.6
N. Sembilan	167	55,444	46.3	38.5	54.1
Pahang	321	113,630	53.9	47.9	59.8
Penang	98	29,842	60.4	52.7	68.1
Perak	295	106,359	57.1	50.6	63.6
Perlis	69	23,344	62.0	49.6	74.4
Selangor	185	53,636	56.4	49.8	63.0
Terengganu	212	64,860	63.1	55.5	70.6

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	Light	
				95% CI Lower	95% CI Upper
Sabah	546	159,623	72.6	68.5	76.7
Sarawak	356	123,859	48.6	42.7	54.4
W.P Labuan	51	14,910	50.8	36.7	65.0
Residence					
Urban	4,056	1,652,766	54.1	52.5	55.7
Rural	3,750	1,215,227	59.2	57.3	61.0
Ethnicity					
Malay	4,760	1,741,727	55.4	53.9	56.8
Chinese	1,195	475,775	50.4	47.6	53.3
Indian	407	160,252	60.9	56.0	65.8
Other Bumis	993	330,133	63.8	60.3	67.4
Others	451	160,107	63.3	58.3	68.2
Religion					
Islam	5,641	2,035,213	56.5	55.0	57.9
Christian	604	215,928	61.2	56.8	65.7
Buddhist	1,090	434,329	50.8	47.8	53.9
Hindu	346	135,831	62.9	57.6	68.2
Others	116	43,314	57.1	48.4	65.9
Unclassified	9	3,379	43.3	10.7	75.9
Citizenship					
Malaysian	7,231	2,668,027	55.8	54.6	57.0
Non-Malaysian	570	198,078	62.3	57.7	66.9
Unclassified	5	1,887	82.8	51.5	114.1
Gender					
Male	7,459	2,741,647	55.2	53.9	56.4
Female	347	126,347	80.0	75.4	84.7
Household Income					
Less than RM 400	688	234,806	65.4	61.5	69.4
RM 400 - RM 699	1,363	472,691	61.9	59.1	64.7
RM 700 - RM 999	981	352,966	60.5	57.4	63.6
RM 1000 - RM 1999	2,163	796,517	53.3	51.1	55.4
RM 2000 - RM 2999	1,135	431,505	53.5	50.5	56.4
RM 3000 - RM 3999	528	207,805	50.2	45.7	54.6
RM 4000 - RM 4999	232	91,027	48.4	41.4	55.5
RM 5000 & above	464	185,716	50.1	45.8	54.5
Unclassified	252	94,962	60.5	53.8	67.3
Personal Income					
Less than RM 400	1,060	356,773	64.5	61.4	67.5
RM 400 - RM 699	1,427	501,221	56.9	54.2	59.7
RM 700 - RM 999	1,265	466,969	55.4	52.7	58.2

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Light		
			Prevalence %	95% CI Lower	Upper
RM 1000 - RM 1999	1,972	752,927	49.5	47.1	51.8
RM 2000 - RM 2999	630	245,842	48.7	44.9	52.6
RM 3000 - RM 3999	211	84,328	50.2	43.4	56.9
RM 4000 - RM 4999	64	25,896	48.0	35.7	60.3
RM 5000 & above	124	49,858	41.3	32.9	49.7
Education					
None	598	206,784	71.3	67.5	75.1
Primary	2,574	930,115	53.7	51.7	55.8
Secondary	4,059	1,509,012	55.5	53.9	57.1
Tertiary	507	198,164	57.9	53.6	62.2
Non Classified	68	23,919	60.0	48.9	71.2
Housing area					
Housing area	2,741	1,108,391	54.2	52.2	56.1
Village	3,750	1,293,370	58.6	56.8	60.4
New village	152	61,190	49.8	39.9	59.7
Squatters	99	36,332	51.8	42.2	61.4
Estate	349	112,445	60.5	54.6	66.3
Land development	313	104,205	55.3	49.3	61.3
Others	379	143,693	52.6	47.1	58.0
House Type					
Single house	4,084	1,415,534	57.6	55.9	59.2
Semi_D house	376	140,070	55.0	49.8	60.3
Single storey terrace house	1,244	495,948	54.6	51.6	57.5
DS or town house	613	255,521	50.8	46.8	54.8
Condo / apartment	232	92,138	61.5	54.6	68.3
Flats	554	223,232	55.6	51.6	59.5
Long house	87	31,998	44.2	31.2	57.3
Boat house	2	868	100.0	-	-
Traditional house	124	41,395	61.7	52.1	71.3
Shop house	173	63,386	54.2	46.3	62.1
Worker's colony	213	70,757	63.9	56.0	71.8
Others	71	25,387	52.4	39.4	65.5
Occupation					
Senior Official & Manager	156	61,782	48.5	40.7	56.3
Professionals	386	149,936	53.9	48.9	58.9
Technical & Associate	776	294,849	50.5	46.9	54.2
Clerical Workers	298	112,241	62.4	56.6	68.1
Service Workers & Shop	1,571	591,804	52.2	49.6	54.8
Skilled Agricultural & Fishery	1,182	399,454	56.5	53.4	59.5
Craft & Related Trade Workers	613	229,966	58.3	54.2	62.3
Plant & Machine Operator & Assembler	976	363,609	51.5	48.4	54.7
Elementary Occupations	764	269,517	54.3	50.6	58.1

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	Light	
				95% CI Lower	95% CI Upper
Housewife	140	50,774	79.6	72.7	86.6
Unemployed	684	245,884	71.2	67.8	74.7
Unclassified	260	98,177	67.1	61.2	73.1
Marital Status					
Not married	2,096	772,175	61.8	59.6	64.1
married	5,415	1,988,466	53.7	52.3	55.1
Divorcee	126	46,629	52.3	43.2	61.5
Widow/widower	137	48,585	76.2	68.8	83.5
Unclassified	32	12,140	62.0	44.5	79.4
Age Group					
15-19	381	136,546	74.8	70.4	79.2
20-24	1,037	381,957	65.6	62.6	68.5
25-29	950	354,008	59.2	56.0	62.4
30-34	947	349,651	56.1	52.9	59.3
35-39	871	320,265	50.7	47.3	54.2
40-44	871	319,768	46.2	42.8	49.5
45-49	738	273,773	45.0	41.4	48.6
50-54	610	224,740	47.1	43.1	51.1
55-59	503	186,067	53.7	49.4	58.1
60-64	341	122,786	60.2	54.7	65.6
65-69	252	90,379	65.3	59.3	71.3
70-74	167	58,864	73.8	66.7	80.8
75-79	77	27,194	84.4	76.3	92.6
80+	61	21,996	76.0	64.7	87.3

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Moderate				
	Total Respondent	Estimated Population	Prevalence %	95% CI Lower	95% CI Upper
National	7,806	2,867,994	20.1	19.1	21.0
State					
Johor	893	342,929	20.6	17.8	23.4
Kedah	664	234,845	16.7	13.9	19.5
Kelantan	555	183,404	17.3	13.8	20.8
Malacca	176	72,766	24.1	18.0	30.3
N. Sembilan	309	110,637	20.1	15.3	24.8
Pahang	524	198,918	20.6	16.7	24.5
Penang	393	138,686	18.8	15.2	22.3
Perak	568	232,540	21.3	17.8	24.7
Perlis	100	36,674	15.8	9.3	22.3
Selangor	1,160	472,916	23.8	21.2	26.3
Terengganu	381	128,156	21.3	16.5	26.0
Sabah	999	304,769	16.9	14.4	19.5
Sarawak	613	236,078	17.4	14.2	20.7
W.P. Kuala Lumpur	345	135,788	24.6	20.4	28.9
W.P. Labuan	126	38,889	17.4	11.6	23.2
Urban					
Johor	466	198,512	21.2	17.4	24.9
Kedah	189	75,643	18.7	12.9	24.4
Kelantan	143	50,320	16.1	8.6	23.6
Malacca	110	54,055	22.6	15.3	29.9
N. Sembilan	127	49,793	20.1	13.4	26.9
Pahang	177	75,298	15.4	10.2	20.6
Penang	284	104,972	18.5	14.3	22.7
Perak	255	118,643	24.9	19.8	30.0
Perlis	29	12,654	13.8	3.0	24.6
Selangor	856	371,392	24.1	21.3	26.9
Terengganu	152	57,585	23.9	16.3	31.5
Sabah	384	124,024	20.0	15.8	24.2
Sarawak	210	93,704	20.3	14.3	26.2
W.P. Kuala Lumpur	286	112,567	24.6	20.4	28.9
W.P. Labuan	65	20,994	16.4	8.1	24.7
Rural					
Johor	302	97,974	19.5	15.4	23.7
Kedah	456	152,583	15.7	12.7	18.7
Kelantan	391	126,133	17.7	13.8	21.6
Malacca	60	15,987	29.5	18.2	40.8
N. Sembilan	167	55,444	20.0	13.3	26.7
Pahang	321	113,630	24.1	18.9	29.3
Penang	98	29,842	19.8	13.7	25.9
Perak	295	106,359	17.2	12.7	21.6
Perlis	69	23,344	16.9	8.7	25.1
Selangor	185	53,636	21.3	15.6	27.0
Terengganu	212	64,860	18.9	13.0	24.9

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Moderate		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
Sabah	546	159,623	14.6	11.5	17.6
Sarawak	356	123,859	15.2	11.8	18.7
W.P Labuan	51	14,910	18.6	10.9	26.4
Residence					
Urban	4,056	1,652,766	21.6	20.3	22.9
Rural	3,750	1,215,227	18.1	16.8	19.4
Ethnicity					
Malay	4,760	1,741,727	22.6	21.4	23.8
Chinese	1,195	475,775	14.5	12.6	16.4
Indian	407	160,252	19.0	15.1	22.9
Other Bumis	993	330,133	15.5	13.1	17.9
Others	451	160,107	20.3	16.0	24.5
Religion					
Islam	5,641	2,035,213	22.0	20.8	23.1
Christian	604	215,928	15.3	12.4	18.3
Buddhist	1,090	434,329	14.9	12.9	16.9
Hindu	346	135,831	18.5	14.3	22.7
Others	116	43,314	11.5	5.8	17.3
Unclassified	9	3,379	25.8	-4.4	55.9
Citizenship					
Malaysian	7,231	2,668,027	20.0	19.0	20.9
Non-Malaysian	570	198,078	21.9	18.0	25.9
Unclassified	5	1,887	0.0	0.0	0.0
Gender					
Male	7,459	2,741,647	20.8	19.8	21.7
Female	347	126,347	5.5	2.9	8.1
Household Income					
Less than RM 400	688	234,806	15.2	12.2	18.1
RM 400 - RM 699	1,363	472,691	17.3	15.2	19.4
RM 700 - RM 999	981	352,966	19.5	16.9	22.1
RM 1000 - RM 1999	2,163	796,517	21.8	20.0	23.6
RM 2000 - RM 2999	1,135	431,505	21.1	18.7	23.5
RM 3000 - RM 3999	528	207,805	24.1	20.2	27.9
RM 4000 - RM 4999	232	91,027	22.1	16.6	27.6
RM 5000 & above	464	185,716	18.9	15.5	22.3
Unclassified	252	94,962	21.1	15.9	26.4
Personal Income					
Less than RM 400	1,060	356,773	16.2	14.0	18.5
RM 400 - RM 699	1,427	501,221	20.0	17.8	22.2
RM 700 - RM 999	1,265	466,969	23.9	21.6	26.2

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Moderate		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
RM 1000 - RM 1999	1,972	752,927	24.3	22.4	26.2
RM 2000 - RM 2999	630	245,842	20.0	16.7	23.3
RM 3000 - RM 3999	211	84,328	20.4	14.9	25.9
RM 4000 - RM 4999	64	25,896	16.9	7.7	26.1
RM 5000 & above	124	49,858	22.1	14.9	29.2
Education					
None	598	206,784	10.4	7.9	12.8
Primary	2,574	930,115	17.9	16.3	19.4
Secondary	4,059	1,509,012	22.7	21.3	24.0
Tertiary	507	198,164	21.1	17.5	24.6
Non Classified	68	23,919	19.9	11.3	28.6
Housing area					
Housing area	2,741	1,108,391	21.2	19.6	22.9
Village	3,750	1,293,370	18.6	17.3	19.9
New village	152	61,190	16.2	9.3	23.2
Squatters	99	36,332	23.9	16.4	31.3
Estate	349	112,445	26.6	20.8	32.3
Land development	313	104,205	18.8	14.7	23.0
Others	379	143,693	20.8	16.6	24.9
House Type					
Single house	4,084	1,415,534	18.5	17.3	19.8
Semi_D house	376	140,070	22.5	17.8	27.2
Single storey terrace house	1,244	495,948	21.8	19.5	24.2
DS or town house	613	255,521	22.4	18.9	25.8
Condo / apartment	232	92,138	16.9	12.7	21.1
Flats	554	223,232	23.8	20.2	27.3
Long house	87	31,998	21.1	13.8	28.4
Boat house	2	868	0.0	0.0	0.0
Traditional house	124	41,395	17.8	10.8	24.9
Shop house	173	63,386	15.0	9.9	20.2
Worker's colony	213	70,757	21.4	14.1	28.6
Others	71	25,387	25.7	15.4	36.0
Occupation					
Senior Official & Manager	156	61,782	20.8	14.5	27.1
Professionals	386	149,936	22.8	18.5	27.1
Technical & Associate	776	294,849	26.4	23.2	29.5
Clerical Workers	298	112,241	18.7	13.8	23.5
Service Workers & Shop	1,571	591,804	22.0	19.9	24.1
Skilled Agricultural & Fishery	1,182	399,454	17.5	15.3	19.7
Craft & Related Trade Workers	613	229,966	20.6	17.4	23.8
Plant & Machine Operator & Assembler	976	363,609	23.2	20.6	25.9
Elementary Occupations	764	269,517	21.1	18.1	24.2

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Moderate		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
Housewife	140	50,774	4.4	0.9	7.9
Unemployed	684	245,884	10.9	8.5	13.2
Unclassified	260	98,177	13.1	9.2	17.1
Marital Status					
Not married	2,096	772,175	20.3	18.5	22.1
married	5,415	1,988,466	20.5	19.3	21.6
Divorcee	126	46,629	13.0	7.0	19.0
Widow/widower	137	48,585	8.6	3.9	13.2
Unclassified	32	12,140	17.0	3.4	30.6
Age Group					
15-19	381	136,546	13.6	10.2	16.9
20-24	1,037	381,957	20.7	18.2	23.3
25-29	950	354,008	23.1	20.3	25.8
30-34	947	349,651	22.4	19.7	25.1
35-39	871	320,265	25.2	22.2	28.1
40-44	871	319,768	22.9	20.0	25.8
45-49	738	273,773	20.2	17.2	23.2
50-54	610	224,740	18.4	15.3	21.6
55-59	503	186,067	16.1	12.9	19.3
60-64	341	122,786	15.8	11.7	19.9
65-69	252	90,379	11.2	7.2	15.2
70-74	167	58,864	7.9	3.7	12.1
75-79	77	27,194	9.7	2.8	16.6
80+	61	21,996	6.6	0.3	12.9

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Heavy		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
National	7,806	2,867,994	23.6	22.6	24.7
State					
Johor	893	342,929	25.0	22.0	28.0
Kedah	664	234,845	25.3	21.6	28.9
Kelantan	555	183,404	17.5	14.3	20.8
Malacca	176	72,766	26.3	20.2	32.3
N. Sembilan	309	110,637	30.1	25.2	35.1
Pahang	524	198,918	24.3	19.8	28.8
Penang	393	138,686	23.8	19.2	28.5
Perak	568	232,540	24.5	20.5	28.5
Perlis	100	36,674	22.2	14.4	29.9
Selangor	1,160	472,916	22.9	20.3	25.5
Terengganu	381	128,156	18.4	15.0	21.8
Sabah	999	304,769	14.6	12.3	16.9
Sarawak	613	236,078	33.6	29.1	38.0
W.P. Kuala Lumpur	345	135,788	27.2	22.4	32.1
W.P. Labuan	126	38,889	24.3	16.9	31.7
Urban					
Johor	466	198,512	25.0	21.2	28.8
Kedah	189	75,643	24.9	18.7	31.1
Kelantan	143	50,320	26.8	20.0	33.7
Malacca	110	54,055	29.6	22.3	36.8
N. Sembilan	127	49,793	26.1	18.7	33.6
Pahang	177	75,298	27.7	19.1	36.2
Penang	284	104,972	25.0	19.7	30.3
Perak	255	118,643	23.4	17.6	29.2
Perlis	29	12,654	24.1	13.3	35.0
Selangor	856	371,392	23.0	20.2	25.8
Terengganu	152	57,585	18.9	13.9	23.8
Sabah	384	124,024	16.9	13.6	20.1
Sarawak	210	93,704	30.2	23.4	37.0
W.P. Kuala Lumpur	286	112,567	27.2	22.4	32.1
W.P. Labuan	65	20,994	19.4	11.1	27.7
Rural					
Johor	302	97,974	24.9	20.1	29.7
Kedah	456	152,583	25.5	21.0	30.0
Kelantan	391	126,133	13.8	10.4	17.2
Malacca	60	15,987	14.8	5.6	23.9
N. Sembilan	167	55,444	33.7	27.6	39.9
Pahang	321	113,630	22.0	16.9	27.2
Penang	98	29,842	19.8	10.7	28.9
Perak	295	106,359	25.7	20.4	31.0
Perlis	69	23,344	21.1	11.0	31.3
Selangor	185	53,636	22.3	16.0	28.6
Terengganu	212	64,860	18.0	13.3	22.8

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Heavy		
			Prevalence %	95% CI Lower	Upper
Sabah	546	159,623	12.8	9.7	16.0
Sarawak	356	123,859	36.2	30.5	42.0
W.P Labuan	51	14,910	30.5	17.8	43.2
Residence					
Urban	4,056	1,652,766	24.3	22.9	25.7
Rural	3,750	1,215,227	22.8	21.2	24.3
Ethnicity					
Malay	4,760	1,741,727	22.1	20.8	23.3
Chinese	1,195	475,775	35.1	32.3	37.8
Indian	407	160,252	20.1	16.2	23.9
Other Bumis	993	330,133	20.7	17.9	23.6
Others	451	160,107	16.5	12.7	20.2
Religion					
Islam	5,641	2,035,213	21.6	20.4	22.7
Christian	604	215,928	23.4	19.8	27.1
Buddhist	1,090	434,329	34.2	31.4	37.1
Hindu	346	135,831	18.6	14.4	22.8
Others	116	43,314	31.3	22.5	40.1
Unclassified	9	3,379	31.0	0.9	61.0
Citizenship					
Malaysian	7,231	2,668,027	24.2	23.2	25.3
Non-Malaysian	570	198,078	15.8	12.5	19.0
Unclassified	5	1,887	17.2	-14.1	48.5
Gender					
Male	7,459	2,741,647	24.1	23.0	25.1
Female	347	126,347	14.5	10.5	18.4
Household Income					
Less than RM 400	688	234,806	19.4	16.1	22.6
RM 400 - RM 699	1,363	472,691	20.8	18.5	23.1
RM 700 - RM 999	981	352,966	20.0	17.5	22.5
RM 1000 - RM 1999	2,163	796,517	24.9	23.0	26.9
RM 2000 - RM 2999	1,135	431,505	25.4	22.9	28.0
RM 3000 - RM 3999	528	207,805	25.8	21.8	29.8
RM 4000 - RM 4999	232	91,027	29.5	23.7	35.2
RM 5000 & above	464	185,716	31.0	26.6	35.4
Unclassified	252	94,962	18.3	13.4	23.3
Personal Income					
Less than RM 400	1,060	356,773	19.3	16.7	21.9
RM 400 - RM 699	1,427	501,221	23.1	20.8	25.4
RM 700 - RM 999	1,265	466,969	20.7	18.4	23.0

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Heavy		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
RM 1000 - RM 1999	1,972	752,927	26.2	24.2	28.3
RM 2000 - RM 2999	630	245,842	31.3	27.6	35.0
RM 3000 - RM 3999	211	84,328	29.4	23.1	35.7
RM 4000 - RM 4999	64	25,896	35.2	23.3	47.0
RM 5000 & above	124	49,858	36.7	28.0	45.4
Education					
None	598	206,784	18.3	15.1	21.6
Primary	2,574	930,115	28.4	26.5	30.2
Secondary	4,059	1,509,012	21.9	20.5	23.2
Tertiary	507	198,164	21.0	17.3	24.8
Non Classified	68	23,919	20.1	10.0	30.1
Housing area					
Housing area	2,741	1,108,391	24.6	22.9	26.3
Village	3,750	1,293,370	22.8	21.3	24.3
New village	152	61,190	34.0	25.5	42.5
Squatters	99	36,332	24.4	15.0	33.7
Estate	349	112,445	13.0	9.2	16.7
Land development	313	104,205	25.9	21.2	30.5
Others	379	143,693	26.7	21.5	31.8
House Type					
Single house	4,084	1,415,534	23.9	22.5	25.4
Semi_D house	376	140,070	22.5	17.7	27.2
Single storey terrace house	1,244	495,948	23.6	21.2	26.0
DS or town house	613	255,521	26.8	23.3	30.3
Condo / apartment	232	92,138	21.6	14.7	28.6
Flats	554	223,232	20.6	17.2	24.0
Long house	87	31,998	34.6	22.0	47.2
Boat house	2	868	0.0	0.0	0.0
Traditional house	124	41,395	20.5	12.5	28.4
Shop house	173	63,386	30.7	23.8	37.7
Worker's colony	213	70,757	14.8	8.8	20.7
Others	71	25,387	21.9	11.9	31.8
Occupation					
Senior Official & Manager	156	61,782	30.7	23.3	38.1
Professionals	386	149,936	23.3	19.0	27.6
Technical & Associate	776	294,849	23.1	20.0	26.2
Clerical Workers	298	112,241	19.0	14.5	23.4
Service Workers & Shop	1,571	591,804	25.8	23.5	28.1
Skilled Agricultural & Fishery	1,182	399,454	26.1	23.3	28.8
Craft & Related Trade Workers	613	229,966	21.2	17.7	24.6
Plant & Machine Operator & Assembler	976	363,609	25.2	22.4	28.1
Elementary Occupations	764	269,517	24.5	21.2	27.9

Table 6: Proportion of light, moderate and heavy smokers among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Heavy		95% CI	
		Estimated Population	Prevalence %	Lower	Upper
Housewife	140	50,774	15.9	9.6	22.3
Unemployed	684	245,884	17.9	15.0	20.8
Unclassified	260	98,177	19.8	14.8	24.7
Marital Status					
Not married	2,096	772,175	17.9	16.1	19.6
married	5,415	1,988,466	25.9	24.6	27.1
Divorcee	126	46,629	34.7	25.6	43.8
Widow/widower	137	48,585	15.3	8.8	21.7
Unclassified	32	12,140	21.0	6.8	35.3
Age Group					
15-19	381	136,546	11.6	8.3	15.0
20-24	1,037	381,957	13.7	11.5	15.9
25-29	950	354,008	17.7	15.2	20.3
30-34	947	349,651	21.5	18.8	24.2
35-39	871	320,265	24.1	21.2	27.0
40-44	871	319,768	30.9	27.8	34.1
45-49	738	273,773	34.8	31.3	38.3
50-54	610	224,740	34.4	30.6	38.3
55-59	503	186,067	30.2	26.1	34.2
60-64	341	122,786	24.0	19.3	28.8
65-69	252	90,379	23.5	18.3	28.7
70-74	167	58,864	18.4	12.0	24.7
75-79	77	27,194	5.8	0.9	10.8
80+	61	21,996	17.4	7.2	27.6

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics

Sociodemography	Cigarette					Clove				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
National	6,716	2,483,953	92.0	91.2	92.8	3,112	1,122,597	43.3	41.8	44.8
State										
Johor	713	277,018	91.7	89.4	94.0	348	131,587	44.8	40.1	49.5
Kedah	594	210,898	90.9	88.2	93.7	348	123,597	54.2	49.7	58.7
Kelantan	498	164,517	91.4	88.9	93.9	261	86,159	48.4	43.4	53.4
Malacca	166	68,976	96.1	93.6	98.6	117	47,821	66.9	59.2	74.6
N. Sembilan	282	100,892	93.2	89.3	97.1	139	49,512	46.7	40.5	52.9
Pahang	444	169,884	88.9	82.9	94.8	267	100,586	54.5	48.4	60.6
Penang	391	138,337	97.7	96.3	99.0	138	48,013	34.4	28.6	40.2
Perak	503	207,429	90.7	87.9	93.6	119	48,036	21.8	17.5	26.1
Perlis	85	31,305	87.0	81.0	92.9	41	14,949	43.7	35.0	52.4
Selangor	1,027	419,817	96.8	95.7	97.9	429	172,455	40.8	37.2	44.3
Terengganu	345	116,121	93.6	91.1	96.1	222	74,845	61.3	55.7	66.9
Sabah	736	224,910	80.1	76.7	83.6	449	137,330	50.3	45.6	55.0
Sarawak	528	204,146	94.7	92.3	97.1	103	39,472	23.0	17.9	28.1
W.P. Kuala Lumpur	293	115,322	97.3	95.6	99.1	93	36,604	32.4	26.5	38.3
W.P. Labuan	111	34,381	94.8	90.7	99.0	38	11,630	33.3	24.2	42.3
Urban										
Johor	450	191,695	94.5	92.4	96.7	184	78,382	39.8	34.1	45.5
Kedah	185	74,043	95.4	92.4	98.4	109	43,625	56.2	48.7	63.7
Kelantan	132	46,449	92.3	88.3	96.3	67	23,577	47.5	37.7	57.4
Malacca	110	54,055	97.3	94.6	100.0	74	36,364	65.5	56.3	74.7
N. Sembilan	121	47,440	94.5	89.4	99.6	56	21,956	45.2	34.2	56.1
Pahang	178	75,723	99.4	98.3	100.5	85	36,160	50.0	41.6	58.4
Penang	296	109,408	98.7	97.4	99.9	92	34,005	31.2	24.6	37.8
Perak	249	115,852	96.1	93.7	98.6	49	22,798	19.8	13.9	25.6
Perlis	26	11,345	89.7	77.6	101.7	11	4,800	39.3	19.7	58.9
Selangor	848	367,922	97.1	96.0	98.3	334	144,913	39.3	35.4	43.2
Terengganu	145	54,933	94.8	91.2	98.4	95	35,991	62.9	55.4	70.4
Sabah	318	102,708	81.5	76.0	87.1	198	63,950	52.1	45.8	58.4
Sarawak	208	92,812	98.1	95.9	100.4	37	16,510	23.7	16.3	31.1
W.P. Kuala Lumpur	293	115,322	97.3	95.6	99.1	93	36,604	32.4	26.5	38.3
W.P. Labuan	63	20,348	94.0	88.1	99.9	17	5,491	27.0	16.3	37.7
Rural										
Johor	263	85,322	85.9	81.0	90.9	164	53,205	55.0	47.8	62.2
Kedah	409	136,855	88.7	85.0	92.4	239	79,972	53.2	47.6	58.8
Kelantan	366	118,068	91.0	88.0	94.1	194	62,582	48.7	42.9	54.6
Malacca	56	14,921	91.8	86.3	97.3	43	11,457	71.7	58.1	85.3
N. Sembilan	161	53,452	92.0	86.2	97.8	83	27,556	48.0	41.2	54.8
Pahang	266	94,161	81.8	73.2	90.5	182	64,426	57.4	49.1	65.8
Penang	95	28,929	94.1	90.2	97.9	46	14,008	46.0	35.6	56.4
Perak	254	91,577	84.7	79.7	89.6	70	25,238	24.1	17.6	30.5
Perlis	59	19,960	85.5	79.1	91.9	30	10,149	46.2	38.8	53.5
Selangor	179	51,896	94.2	90.9	97.5	95	27,542	50.8	43.6	58.1
Terengganu	200	61,188	92.6	89.1	96.1	127	38,854	59.9	51.7	68.1

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Cigarette					Clove				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
Sabah	418	122,202	79.0	74.7	83.3	251	73,380	48.8	42.2	55.5
Sarawak	320	111,334	92.0	88.3	95.6	66	22,963	22.5	15.6	29.5
W.P Labuan	48	14,033	96.0	90.9	101.1	21	6,139	42.0	26.7	57.3
Residence										
Urban	3,622	1,480,055	95.2	94.4	96.1	1,501	605,125	40.6	38.6	42.6
Rural	3,094	1,003,899	87.6	86.0	89.1	1,611	517,472	46.9	44.5	49.2
Ethnicity										
Malay	4,132	1,519,772	92.2	91.3	93.2	2,291	829,715	51.7	49.9	53.5
Chinese	1,107	440,328	98.5	97.8	99.3	189	75,757	18.1	15.6	20.6
Indian	378	149,633	97.7	96.3	99.2	97	38,588	25.8	21.0	30.6
Other Bumis	806	268,818	86.3	83.6	89.0	293	94,302	33.7	29.7	37.8
Others	293	105,404	74.6	68.3	80.9	242	84,235	59.8	53.2	66.4
Religion										
Islam	4,774	1,734,025	90.4	89.3	91.5	2,709	969,598	51.9	50.2	53.6
Christian	514	184,954	91.3	88.5	94.1	134	46,698	26.0	21.4	30.5
Buddhist	1,004	399,759	98.5	97.8	99.2	162	64,711	16.9	14.3	19.5
Hindu	318	125,278	97.8	96.1	99.4	81	31,993	25.7	20.4	31.0
Others	99	37,351	88.9	82.9	94.9	23	8,519	24.4	14.1	34.6
Unclassified	7	2,589	76.6	48.2	105.0	3	1,079	31.9	1.5	62.4
Citizenship										
Malaysian	6,365	2,358,973	93.3	92.6	94.0	2,775	1,007,671	41.6	40.1	43.2
Non-Malaysian	347	123,418	72.3	66.3	78.3	334	113,815	66.9	61.1	72.8
Unclassified	4	1,563	81.5	48.5	114.6	3	1,110	57.9	14.0	101.9
Gender										
Male	6,491	2,399,573	92.7	91.9	93.5	3,074	1,109,165	44.6	43.0	46.1
Female	225	84,381	75.5	70.1	80.8	38	13,431	12.8	8.8	16.8
Household Income										
Less than RM 400	486	167,178	77.3	73.5	81.2	262	87,828	42.3	37.6	47.0
RM 400 - RM 699	1,102	383,807	87.4	85.0	89.7	599	204,202	48.9	45.5	52.3
RM 700 - RM 999	836	302,926	91.8	89.9	93.7	440	154,632	49.3	45.6	53.0
RM 1000 - RM 1999	1,937	716,532	93.8	92.7	94.9	911	330,716	44.7	42.3	47.2
RM 2000 - RM 2999	1,015	386,675	95.1	93.8	96.4	425	160,279	40.7	37.5	43.9
RM 3000 - RM 3999	485	191,204	97.4	96.1	98.8	180	70,103	37.6	32.8	42.4
RM 4000 - RM 4999	213	83,801	97.9	95.0	100.7	70	27,749	33.3	26.1	40.5
RM 5000 & above	424	169,598	97.6	96.1	99.1	141	56,520	34.0	28.5	39.4
Unclassified	218	82,232	92.6	89.3	96.0	84	30,567	36.0	29.2	42.8
Personal Income										
Less than RM 400	820	277,808	83.4	80.5	86.4	450	149,878	46.7	42.9	50.5
RM 400 - RM 699	1,187	418,560	89.2	87.0	91.3	650	224,251	50.1	47.0	53.3
RM 700 - RM 999	1,135	420,813	94.1	92.8	95.5	577	209,041	48.8	45.7	51.9

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Cigarette					Clove				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
RM 1000 - RM 1999	1,812	692,842	95.9	94.9	96.8	799	302,142	43.3	40.8	45.8
RM 2000 - RM 2999	584	228,076	97.8	96.7	99.0	211	81,874	36.6	32.5	40.8
RM 3000 - RM 3999	192	76,705	98.5	96.7	100.2	55	21,918	29.1	22.5	35.6
RM 4000 - RM 4999	59	23,903	96.9	92.6	101.1	23	9,129	38.2	25.8	50.6
RM 5000 & above	115	45,963	99.3	97.9	100.7	35	14,110	32.5	23.2	41.8
Education										
None	379	133,275	71.5	67.2	75.9	160	52,664	29.3	24.9	33.8
Primary	2,170	789,465	89.9	88.5	91.3	948	337,916	40.2	37.9	42.5
Secondary	3,644	1,358,713	95.2	94.4	95.9	1,785	648,286	47.2	45.4	49.1
Tertiary	471	184,027	98.5	97.5	99.6	188	73,421	40.8	36.3	45.4
Non Classified	52	18,474	85.4	76.0	94.7	31	10,310	49.8	36.6	62.9
Housing area										
Housing area	2,503	1,012,987	97.4	96.8	98.0	946	380,295	38.0	35.7	40.2
Village	3,186	1,101,918	89.3	88.1	90.5	1,568	536,919	45.3	43.1	47.5
New village	128	51,860	95.3	91.3	99.3	41	16,341	31.2	22.8	39.5
Squatters	80	30,142	88.6	78.9	98.3	39	13,733	43.1	30.2	56.1
Estate	202	65,181	67.2	58.1	76.2	217	69,649	72.3	64.7	79.9
Land development	252	83,780	86.2	81.6	90.8	151	49,859	53.2	46.1	60.2
Others	344	130,393	95.6	93.2	98.0	141	52,704	42.4	36.0	48.8
House Type										
Single house	3,472	1,208,406	89.8	88.7	91.0	1,667	569,247	44.0	41.9	46.1
Semi_D house	301	113,853	87.8	82.6	93.0	184	66,429	53.9	47.2	60.6
Single storey terrace house	1,140	456,401	96.4	95.1	97.6	491	194,407	42.3	39.0	45.6
DS or town house	550	228,880	98.0	96.9	99.2	200	83,196	37.1	32.5	41.7
Condo / apartment	211	83,849	97.9	95.3	100.4	77	30,425	37.2	28.2	46.2
Flats	504	203,222	96.0	94.2	97.8	189	76,377	37.7	32.6	42.8
Long house	68	25,054	90.8	84.1	97.5	13	4,773	19.7	8.2	31.2
Boat house	2	868	100.0	-	-	1	434	50.0	-19.4	119.4
Traditional house	106	35,340	85.1	79.2	90.9	71	24,081	59.4	50.2	68.5
Shop house	152	55,361	95.0	91.6	98.4	46	16,516	31.1	23.5	38.6
Worker's colony	125	42,445	70.2	58.2	82.3	131	42,310	74.1	64.3	83.9
Others	55	19,482	91.2	84.2	98.2	30	10,232	50.6	36.6	64.7
Occupation										
Senior Official & Manager	147	58,288	98.7	96.8	100.5	60	23,475	40.9	32.5	49.2
Professionals	349	136,400	97.3	95.6	98.9	134	51,367	38.1	32.9	43.4
Technical & Associate	715	271,920	95.9	94.4	97.4	324	120,462	44.6	40.6	48.5
Clerical Workers	277	103,955	95.8	93.6	98.1	119	44,133	42.0	36.2	47.9
Service Workers & Shop	1,403	530,083	94.7	93.5	95.8	588	219,002	40.5	37.7	43.3
Skilled Agricultural & Fishery	924	312,233	83.1	80.4	85.8	482	161,880	44.3	40.5	48.1
Craft & Related Trade Workers	561	211,284	95.5	93.8	97.2	271	98,883	47.0	42.5	51.6
Plant & Machine Operator & Assembler	885	330,443	95.6	94.2	96.9	447	163,978	49.8	46.3	53.3
Elementary Occupations	609	218,121	88.1	84.9	91.2	361	124,537	52.5	48.2	56.8

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Cigarette					Clove				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
Housewife	81	30,462	71.0	62.3	79.7	12	4,216	10.8	4.6	17.0
Unemployed	551	200,022	87.3	84.6	90.0	231	79,882	36.0	32.2	39.8
Unclassified	214	80,743	93.0	89.6	96.4	83	30,783	37.7	31.0	44.5
Marital Status										
Not married	1,849	683,356	95.9	94.7	97.1	907	325,784	47.4	44.8	50.0
married	4,643	1,717,263	91.0	90.0	91.9	2,126	768,817	42.4	40.7	44.1
Divorcee	108	40,542	90.9	85.9	95.9	43	15,441	37.5	28.3	46.7
Widow/widower	85	30,948	71.7	63.6	79.7	26	8,727	21.5	14.1	28.8
Unclassified	31	11,847	97.6	92.9	102.3	10	3,827	35.9	16.6	55.2
Age Group										
15-19	344	123,227	98.2	96.7	99.7	166	57,799	48.6	42.9	54.4
20-24	903	334,031	95.6	93.9	97.3	459	165,832	49.4	45.9	52.9
25-29	859	322,381	96.2	94.7	97.6	426	155,872	48.6	45.0	52.3
30-34	824	305,939	93.6	91.9	95.3	430	154,534	49.3	45.7	52.9
35-39	756	279,932	91.8	89.7	93.9	383	138,215	47.9	44.3	51.6
40-44	753	278,644	91.0	89.0	92.9	368	132,399	44.9	41.4	48.5
45-49	637	237,837	92.5	90.5	94.4	284	103,293	40.9	37.1	44.7
50-54	524	193,815	91.3	89.0	93.6	207	75,199	36.6	32.4	40.9
55-59	426	157,963	89.6	86.8	92.4	160	58,761	34.8	30.3	39.3
60-64	278	100,993	85.9	82.0	89.7	98	34,850	31.2	25.9	36.5
65-69	193	70,046	82.6	77.9	87.3	57	20,278	25.0	19.2	30.8
70-74	123	44,084	79.1	72.6	85.6	46	15,584	29.1	21.9	36.3
75-79	52	18,890	75.8	65.8	85.7	16	5,575	21.8	12.4	31.3
80+	44	16,174	69.2	57.9	80.5	12	4,405	19.4	9.3	29.4

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95%CI	
				L	U				L	U
National	2,795	990,455	38.2	36.5	39.9	663	247,861	9.7	8.8	10.5
State										
Johor	173	63,742	21.9	18.2	25.7	41	15,942	5.5	3.6	7.5
Kedah	550	193,025	83.4	80.0	86.7	152	53,748	23.6	19.8	27.4
Kelantan	410	135,075	75.2	70.3	80.0	30	10,000	5.6	3.6	7.6
Malacca	63	26,009	36.4	28.3	44.4	27	11,468	16.0	9.7	22.4
N. Sembilan	74	25,829	24.4	18.9	29.8	30	10,681	10.1	6.1	14.1
Pahang	210	78,837	42.3	35.8	48.9	49	19,060	10.4	7.5	13.4
Penang	169	58,364	41.8	34.6	49.1	53	18,548	13.3	9.5	17.0
Perak	161	62,865	28.4	23.4	33.5	25	10,480	4.8	2.8	6.8
Perlis	83	29,746	82.9	73.2	92.5	12	4,354	12.6	8.1	17.1
Selangor	292	114,886	27.2	23.9	30.5	120	49,329	11.7	9.5	14.0
Terengganu	254	84,708	69.3	63.9	74.7	38	13,230	10.9	7.0	14.8
Sabah	204	61,202	22.9	18.4	27.4	36	11,382	4.3	2.8	5.8
Sarawak	92	33,581	19.8	14.6	25.1	22	8,932	5.4	3.0	7.8
W.P. Kuala Lumpur	48	18,892	16.7	11.7	21.6	24	9,446	8.4	5.1	11.6
W.P. Labuan	12	3,692	10.8	5.6	16.0	4	1,261	3.7	0.2	7.2
Urban										
Johor	75	31,949	16.5	12.5	20.5	26	11,076	5.7	3.1	8.3
Kedah	137	54,832	70.6	63.9	77.3	44	17,610	22.7	16.1	29.3
Kelantan	96	33,781	66.7	56.2	77.2	11	3,871	7.8	3.2	12.4
Malacca	41	20,148	36.3	26.7	45.8	19	9,337	16.8	8.9	24.7
N. Sembilan	21	8,233	16.9	8.9	24.9	12	4,705	9.7	4.1	15.2
Pahang	63	26,801	37.1	28.1	46.0	24	10,210	14.0	9.4	18.7
Penang	106	39,180	35.9	27.5	44.4	37	13,676	12.5	8.3	16.8
Perak	46	21,402	18.5	12.8	24.3	14	6,514	5.7	2.5	8.8
Perlis	17	7,418	60.7	42.7	78.7	3	1,309	10.7	2.9	18.6
Selangor	210	91,113	24.8	21.3	28.2	101	43,821	11.9	9.4	14.4
Terengganu	96	36,370	64.0	56.4	71.6	22	8,335	14.7	7.9	21.4
Sabah	51	16,472	13.4	8.8	18.0	28	9,043	7.4	4.5	10.2
Sarawak	16	7,139	10.5	4.4	16.6	13	5,801	8.5	3.8	13.2
W.P. Kuala Lumpur	48	18,892	16.7	11.7	21.6	24	9,446	8.4	5.1	11.6
W.P. Labuan	6	1,938	9.5	2.6	16.4	3	969	4.8	-0.3	10.0
Rural										
Johor	98	31,793	32.8	25.9	39.6	15	4,866	5.1	2.5	7.7
Kedah	413	138,194	89.8	86.6	93.0	108	36,138	24.1	19.5	28.7
Kelantan	314	101,293	78.5	73.5	83.5	19	6,129	4.8	2.6	6.9
Malacca	22	5,862	36.7	22.3	51.0	8	2,132	13.3	7.1	19.5
N. Sembilan	53	17,596	30.6	24.0	37.3	18	5,976	10.5	4.8	16.2
Pahang	147	52,037	45.7	36.5	54.8	25	8,850	8.1	4.6	11.5
Penang	63	19,185	63.0	52.7	73.3	16	4,872	16.0	8.0	24.0
Perak	115	41,462	39.2	31.2	47.3	11	3,966	3.8	1.4	6.2
Perlis	66	22,328	94.3	89.8	98.8	9	3,045	13.6	8.1	19.2
Selangor	82	23,773	43.9	35.5	52.2	19	5,508	10.2	5.8	14.7
Terengganu	158	48,339	73.8	66.4	81.2	16	4,895	7.5	3.5	11.5

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
Sabah	153	44,730	30.9	24.3	37.5	8	2,339	1.6	0.5	2.7
Sarawak	76	26,442	26.0	18.6	33.5	9	3,131	3.2	1.0	5.5
W.P Labuan	6	1,754	12.8	5.2	20.4	1	292	2.1	-2.0	6.3
Residence										
Urban	1,029	415,668	28.0	26.0	30.0	381	155,722	10.5	9.4	11.7
Rural	1,766	574,787	51.9	49.1	54.8	282	92,140	8.5	7.3	9.7
Ethnicity										
Malay	2,236	795,894	49.6	47.4	51.7	474	174,934	11.0	9.9	12.1
Chinese	114	44,120	10.5	8.4	12.6	87	35,521	8.5	6.5	10.4
Indian	77	29,884	20.0	15.8	24.1	47	18,358	12.3	8.8	15.8
Other Bumis	294	94,573	34.0	29.5	38.6	36	12,078	4.4	2.9	6.0
Others	74	25,985	18.8	14.0	23.6	19	6,969	5.1	2.6	7.5
Religion										
Islam	2,423	855,906	45.9	43.9	48.0	501	184,216	10.0	9.0	11.0
Christian	153	51,696	28.7	23.6	33.7	32	11,903	6.7	4.5	9.0
Buddhist	113	43,106	11.2	8.9	13.6	79	31,881	8.3	6.3	10.4
Hindu	63	24,365	19.6	15.1	24.2	42	16,241	13.1	9.1	17.0
Others	39	13,947	39.1	27.6	50.6	9	3,621	10.5	3.6	17.3
Unclassified	4	1,436	42.5	10.0	74.9	0	0	0.0	0.0	0.0
Citizenship										
Malaysian	2,743	972,208	40.1	38.3	41.8	653	244,097	10.2	9.3	11.0
Non-Malaysian	50	17,491	10.7	7.5	13.9	10	3,764	2.3	0.8	3.8
Unclassified	2	756	39.5	-3.7	82.6	0	0	0.0	0.0	0.0
Gender										
Male	2,670	947,303	38.1	36.4	39.9	656	245,344	10.0	9.1	10.8
Female	125	43,152	40.2	34.0	46.5	7	2,518	2.4	0.6	4.2
Household Income										
Less than RM 400	326	110,576	52.8	47.7	57.9	45	15,738	7.7	5.5	9.9
RM 400 - RM 699	624	213,028	51.2	47.3	55.2	84	29,302	7.1	5.6	8.7
RM 700 - RM 999	379	133,565	42.4	38.3	46.4	73	26,552	8.5	6.5	10.5
RM 1000 - RM 1999	791	282,617	38.2	35.7	40.8	204	74,705	10.2	8.7	11.6
RM 2000 - RM 2999	330	120,070	30.5	27.4	33.6	108	41,611	10.7	8.7	12.6
RM 3000 - RM 3999	128	49,205	26.6	22.2	31.0	46	18,018	9.8	7.0	12.6
RM 4000 - RM 4999	49	18,992	22.8	16.4	29.2	23	9,342	11.2	6.6	15.9
RM 5000 & above	97	37,616	22.8	18.2	27.3	66	27,413	16.5	12.4	20.7
Unclassified	71	24,786	29.6	22.5	36.6	14	5,180	6.1	2.9	9.4
Personal Income										
Less than RM 400	502	168,782	52.5	48.4	56.6	70	24,109	7.7	5.8	9.5
RM 400 - RM 699	607	209,401	46.9	43.5	50.4	104	36,665	8.3	6.7	9.9
RM 700 - RM 999	476	171,273	40.0	36.7	43.3	114	42,294	10.0	8.1	11.8

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
RM 1000 - RM 1999	597	220,829	31.8	29.4	34.1	186	70,774	10.2	8.7	11.7
RM 2000 - RM 2999	150	56,002	25.0	21.3	28.6	64	25,270	11.3	8.5	14.1
RM 3000 - RM 3999	35	13,439	17.9	12.3	23.5	23	9,258	12.3	7.4	17.3
RM 4000 - RM 4999	10	3,950	16.5	7.1	26.0	11	4,369	18.3	8.4	28.1
RM 5000 & above	25	10,143	23.6	15.5	31.7	24	10,270	23.7	15.1	32.2
Education										
None	276	92,644	51.3	46.2	56.3	22	7,675	4.4	2.5	6.2
Primary	979	343,158	40.7	38.0	43.3	189	68,803	8.3	7.0	9.5
Secondary	1,387	497,488	36.4	34.4	38.4	369	137,750	10.1	9.0	11.2
Tertiary	132	50,094	28.0	23.9	32.1	83	33,633	18.8	14.9	22.6
Non Classified	21	7,072	33.6	21.4	45.8	0	0	0.0	0.0	0.0
Housing area										
Housing area	642	253,553	25.4	23.2	27.6	282	113,555	11.4	10.0	12.8
Village	1,780	604,937	50.8	48.2	53.5	297	103,735	8.8	7.7	10.0
New village	25	9,709	18.6	11.6	25.6	8	3,281	6.3	2.2	10.4
Squatters	11	4,429	13.9	5.6	22.2	3	1,150	3.6	-0.4	7.6
Estate	47	15,505	17.1	10.8	23.3	10	3,356	3.7	1.5	5.9
Land development	174	58,253	60.4	52.5	68.3	25	8,403	9.1	4.3	13.8
Others	107	41,011	33.2	26.1	40.3	36	13,642	11.0	6.5	15.5
House Type										
Single house	1,840	625,505	48.2	45.6	50.7	321	113,212	8.8	7.7	10.0
Semi_D house	107	40,032	32.7	26.4	39.0	32	11,940	9.7	6.2	13.3
Single storey terrace house	342	132,464	28.9	25.6	32.2	144	57,289	12.5	10.3	14.8
DS or town house	123	51,185	22.8	18.8	26.9	63	26,499	11.8	8.9	14.7
Condo / apartment	53	20,459	24.9	16.5	33.3	28	10,634	13.0	8.5	17.6
Flats	123	49,183	24.5	19.5	29.5	34	13,461	6.7	4.4	9.1
Long house	30	10,740	43.0	30.8	55.3	3	1,135	4.7	0.1	9.4
Boat house	1	434	50.0	-19.4	119.4	1	434	50.0	-19.4	119.4
Traditional house	90	30,414	74.3	65.2	83.5	8	2,713	6.7	2.5	11.0
Shop house	33	11,564	21.5	13.1	29.8	11	4,339	8.1	3.5	12.6
Worker's colony	25	8,554	16.2	10.2	22.2	7	2,343	4.5	1.4	7.6
Others	17	6,214	30.8	15.3	46.2	7	2,373	11.7	3.7	19.8
Occupation										
Senior Official & Manager	45	17,531	30.5	23.1	38.0	30	12,368	21.5	14.7	28.3
Professionals	107	40,133	29.8	24.9	34.7	55	21,591	16.0	11.9	20.1
Technical & Associate	254	93,754	34.8	31.1	38.5	71	27,290	10.2	7.9	12.4
Clerical Workers	104	37,835	35.9	30.0	41.8	30	11,791	11.3	7.4	15.2
Service Workers & Shop	482	173,772	32.2	29.5	34.9	143	53,817	10.0	8.3	11.7
Skilled Agricultural & Fishery Craft & Related Trade	598	200,788	54.3	50.2	58.3	83	28,140	7.8	6.1	9.5
Workers	231	82,364	39.5	35.0	44.0	50	18,495	8.9	6.5	11.4
Plant & Machine Operator & Assembler	315	114,792	34.9	31.6	38.3	81	30,082	9.2	7.2	11.2
Elementary Occupations	249	86,720	37.1	32.8	41.3	48	17,721	7.7	5.5	9.9

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
Housewife	53	18,114	44.0	34.5	53.5	2	669	1.7	-0.6	4.1
Unemployed	267	92,292	41.8	37.5	46.2	45	16,325	7.4	5.3	9.6
Unclassified	90	32,359	39.6	32.2	47.0	25	9,572	11.9	7.3	16.5
Marital Status										
Not married	682	242,581	35.4	32.8	38.0	200	74,497	11.0	9.5	12.5
married	1,988	704,107	38.9	37.0	40.7	446	167,192	9.3	8.4	10.3
Divorcee	45	16,145	38.1	28.8	47.5	11	3,849	9.2	4.0	14.3
Widow/widower	73	25,136	60.3	51.4	69.2	4	1,504	3.7	0.1	7.3
Unclassified	7	2,486	23.3	7.6	38.9	2	819	7.7	-2.6	17.9
Age Group										
15-19	143	50,029	42.3	36.5	48.2	33	11,987	10.2	6.8	13.6
20-24	335	119,446	35.8	32.3	39.3	101	37,551	11.4	9.2	13.5
25-29	286	103,361	32.2	28.8	35.6	98	36,910	11.6	9.3	13.8
30-34	278	99,484	31.9	28.5	35.3	72	27,406	8.8	6.8	10.9
35-39	267	95,620	33.5	29.9	37.0	64	23,925	8.4	6.4	10.5
40-44	263	93,407	31.9	28.4	35.4	59	22,465	7.7	5.8	9.6
45-49	285	102,057	40.6	36.7	44.5	68	26,281	10.5	8.1	12.9
50-54	235	83,027	40.3	36.0	44.6	50	19,127	9.4	6.9	11.8
55-59	234	83,082	48.6	43.7	53.5	36	12,857	7.7	5.2	10.1
60-64	166	57,310	50.0	44.4	55.6	31	11,598	10.4	6.8	14.0
65-69	127	43,835	53.4	46.5	60.3	22	7,591	9.4	5.5	13.2
70-74	90	30,361	55.6	47.4	63.8	21	7,344	13.5	8.1	19.0
75-79	40	13,611	54.0	42.3	65.6	4	1,394	5.6	0.3	10.9
80+	46	15,826	68.6	56.5	80.6	4	1,426	6.3	0.2	12.3

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
RM 1000 - RM 1999	597	220,829	31.8	29.4	34.1	186	70,774	10.2	8.7	11.7
RM 2000 - RM 2999	150	56,002	25.0	21.3	28.6	64	25,270	11.3	8.5	14.1
RM 3000 - RM 3999	35	13,439	17.9	12.3	23.5	23	9,258	12.3	7.4	17.3
RM 4000 - RM 4999	10	3,950	16.5	7.1	26.0	11	4,369	18.3	8.4	28.1
RM 5000 & above	25	10,143	23.6	15.5	31.7	24	10,270	23.7	15.1	32.2
Education										
None	276	92,644	51.3	46.2	56.3	22	7,675	4.4	2.5	6.2
Primary	979	343,158	40.7	38.0	43.3	189	68,803	8.3	7.0	9.5
Secondary	1,387	497,488	36.4	34.4	38.4	369	137,750	10.1	9.0	11.2
Tertiary	132	50,094	28.0	23.9	32.1	83	33,633	18.8	14.9	22.6
Non Classified	21	7,072	33.6	21.4	45.8	0	0	0.0	0.0	0.0
Housing area										
Housing area	642	253,553	25.4	23.2	27.6	282	113,555	11.4	10.0	12.8
Village	1,780	604,937	50.8	48.2	53.5	297	103,735	8.8	7.7	10.0
New village	25	9,709	18.6	11.6	25.6	8	3,281	6.3	2.2	10.4
Squatters	11	4,429	13.9	5.6	22.2	3	1,150	3.6	-0.4	7.6
Estate	47	15,505	17.1	10.8	23.3	10	3,356	3.7	1.5	5.9
Land development	174	58,253	60.4	52.5	68.3	25	8,403	9.1	4.3	13.8
Others	107	41,011	33.2	26.1	40.3	36	13,642	11.0	6.5	15.5
House Type										
Single house	1,840	625,505	48.2	45.6	50.7	321	113,212	8.8	7.7	10.0
Semi_D house	107	40,032	32.7	26.4	39.0	32	11,940	9.7	6.2	13.3
Single storey terrace house	342	132,464	28.9	25.6	32.2	144	57,289	12.5	10.3	14.8
DS or town house	123	51,185	22.8	18.8	26.9	63	26,499	11.8	8.9	14.7
Condo / apartment	53	20,459	24.9	16.5	33.3	28	10,634	13.0	8.5	17.6
Flats	123	49,183	24.5	19.5	29.5	34	13,461	6.7	4.4	9.1
Long house	30	10,740	43.0	30.8	55.3	3	1,135	4.7	0.1	9.4
Boat house	1	434	50.0	-19.4	119.4	1	434	50.0	-19.4	119.4
Traditional house	90	30,414	74.3	65.2	83.5	8	2,713	6.7	2.5	11.0
Shop house	33	11,564	21.5	13.1	29.8	11	4,339	8.1	3.5	12.6
Worker's colony	25	8,554	16.2	10.2	22.2	7	2,343	4.5	1.4	7.6
Others	17	6,214	30.8	15.3	46.2	7	2,373	11.7	3.7	19.8
Occupation										
Senior Official & Manager	45	17,531	30.5	23.1	38.0	30	12,368	21.5	14.7	28.3
Professionals	107	40,133	29.8	24.9	34.7	55	21,591	16.0	11.9	20.1
Technical & Associate	254	93,754	34.8	31.1	38.5	71	27,290	10.2	7.9	12.4
Clerical Workers	104	37,835	35.9	30.0	41.8	30	11,791	11.3	7.4	15.2
Service Workers & Shop	482	173,772	32.2	29.5	34.9	143	53,817	10.0	8.3	11.7
Skilled Agricultural & Fishery Craft & Related Trade	598	200,788	54.3	50.2	58.3	83	28,140	7.8	6.1	9.5
Workers	231	82,364	39.5	35.0	44.0	50	18,495	8.9	6.5	11.4
Plant & Machine Operator & Assembler	315	114,792	34.9	31.6	38.3	81	30,082	9.2	7.2	11.2
Elementary Occupations	249	86,720	37.1	32.8	41.3	48	17,721	7.7	5.5	9.9

Table 7: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	Self-rolled Cigarette					Cigar				
	n	Estimated	%	95% CI		n	Estimated	%	95% CI	
				L	U				L	U
Housewife	53	18,114	44.0	34.5	53.5	2	669	1.7	-0.6	4.1
Unemployed	267	92,292	41.8	37.5	46.2	45	16,325	7.4	5.3	9.6
Unclassified	90	32,359	39.6	32.2	47.0	25	9,572	11.9	7.3	16.5
Marital Status										
Not married	682	242,581	35.4	32.8	38.0	200	74,497	11.0	9.5	12.5
married	1,988	704,107	38.9	37.0	40.7	446	167,192	9.3	8.4	10.3
Divorcee	45	16,145	38.1	28.8	47.5	11	3,849	9.2	4.0	14.3
Widow/widower	73	25,136	60.3	51.4	69.2	4	1,504	3.7	0.1	7.3
Unclassified	7	2,486	23.3	7.6	38.9	2	819	7.7	-2.6	17.9
Age Group										
15-19	143	50,029	42.3	36.5	48.2	33	11,987	10.2	6.8	13.6
20-24	335	119,446	35.8	32.3	39.3	101	37,551	11.4	9.2	13.5
25-29	286	103,361	32.2	28.8	35.6	98	36,910	11.6	9.3	13.8
30-34	278	99,484	31.9	28.5	35.3	72	27,406	8.8	6.8	10.9
35-39	267	95,620	33.5	29.9	37.0	64	23,925	8.4	6.4	10.5
40-44	263	93,407	31.9	28.4	35.4	59	22,465	7.7	5.8	9.6
45-49	285	102,057	40.6	36.7	44.5	68	26,281	10.5	8.1	12.9
50-54	235	83,027	40.3	36.0	44.6	50	19,127	9.4	6.9	11.8
55-59	234	83,082	48.6	43.7	53.5	36	12,857	7.7	5.2	10.1
60-64	166	57,310	50.0	44.4	55.6	31	11,598	10.4	6.8	14.0
65-69	127	43,835	53.4	46.5	60.3	22	7,591	9.4	5.5	13.2
70-74	90	30,361	55.6	47.4	63.8	21	7,344	13.5	8.1	19.0
75-79	40	13,611	54.0	42.3	65.6	4	1,394	5.6	0.3	10.9
80+	46	15,826	68.6	56.5	80.6	4	1,426	6.3	0.2	12.3

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics

Sociodemography	n	Estimated	White Cigarette			Clove Cigarette		
			%	L	U	%	L	U
National	7,315	2,685,879	67.8	66.4	69.1	11.8	10.8	12.8
State								
Johor	774	298,738	74.7	71.2	78.3	14.4	11.7	17.1
Kedah	652	230,700	52.4	47.9	57.0	5.7	3.8	7.5
Kelantan	541	178,711	64.9	60.0	69.9	8.4	5.8	11.0
Malacca	172	71,024	61.9	54.3	69.5	19.1	13.2	25.0
N. Sembilan	294	105,177	70.9	64.5	77.3	12.3	7.2	17.4
Pahang	499	189,425	67.7	60.5	74.9	16.9	10.1	23.7
Penang	385	135,793	78.3	73.6	83.0	2.4	1.0	3.8
Perak	561	229,284	81.4	77.6	85.2	6.0	3.9	8.1
Perlis	99	36,336	45.6	36.5	54.6	4.7	1.3	8.0
Selangor	1,054	430,093	83.1	80.7	85.6	8.1	6.3	9.8
Terengganu	364	122,444	62.7	57.5	68.0	16.3	12.3	20.3
Sabah	931	284,032	53.4	49.4	57.3	29.0	24.4	33.6
Sarawak	572	219,749	47.2	42.4	52.0	7.8	4.9	10.7
W.P. Kuala Lumpur	301	118,471	77.4	72.4	82.5	8.0	5.1	10.8
W.P. Labuan	116	35,903	64.7	57.2	72.3	13.4	6.7	20.1
Urban								
Johor	469	199,790	79.1	75.0	83.2	10.7	7.8	13.5
Kedah	191	76,444	65.4	59.0	71.9	5.2	2.4	8.1
Kelantan	143	50,320	67.1	57.9	76.4	11.9	6.2	17.6
Malacca	112	55,038	62.5	53.3	71.7	17.9	11.0	24.7
N. Sembilan	126	49,401	68.3	58.9	77.6	8.7	0.8	16.7
Pahang	179	76,148	81.0	74.2	87.8	6.7	2.8	10.6
Penang	285	105,342	80.7	75.6	85.8	1.1	-0.1	2.2
Perak	258	120,039	89.9	86.2	93.6	5.4	2.7	8.2
Perlis	29	12,655	58.6	41.8	75.4	0.0	0.0	0.0
Selangor	865	375,297	85.0	82.4	87.5	7.9	6.0	9.7
Terengganu	152	57,585	63.8	57.2	70.4	14.5	9.1	19.9
Sabah	387	124,995	57.6	51.2	64.1	28.4	21.5	35.3
Sarawak	211	94,151	50.2	43.2	57.3	7.1	2.8	11.4
W.P. Kuala Lumpur	301	118,471	77.4	72.4	82.5	8.0	5.1	10.8
W.P. Labuan	65	20,994	66.2	56.9	75.4	6.2	0.5	11.8
Rural								
Johor	305	98,947	65.9	59.7	72.1	22.0	16.6	27.4
Kedah	461	154,254	46.0	40.5	51.5	5.9	3.5	8.2
Kelantan	398	128,391	64.1	58.2	69.9	7.0	4.2	9.8
Malacca	60	15,986	60.0	48.4	71.6	23.3	12.5	34.2
N. Sembilan	168	55,776	73.2	64.6	81.8	15.5	9.0	22.0
Pahang	320	113,277	58.8	50.0	67.5	23.8	13.9	33.6
Penang	100	30,452	70.0	59.9	80.1	7.0	3.2	10.8
Perak	303	109,244	71.9	65.9	78.0	6.6	3.4	9.8
Perlis	70	23,681	38.6	28.5	48.6	7.1	2.6	11.7
Selangor	189	54,795	70.4	62.8	78.0	9.5	5.1	14.0
Terengganu	212	64,859	61.8	53.9	69.7	17.9	12.2	23.7

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	White Cigarette			Clove Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
Sabah	544	159,039	50.0	45.2	54.8	29.4	23.2	35.6
Sarawak	361	125,599	44.9	38.4	51.4	8.3	4.4	12.2
W.P Labuan	51	14,909	62.7	49.7	75.8	23.5	11.7	35.4
Residence								
Urban	3,773	1,536,667	75.0	73.4	76.7	9.7	8.5	10.9
Rural	3,542	1,149,212	58.2	56.0	60.3	14.6	12.8	16.4
Ethnicity								
Malay	4,478	1,637,477	67.0	65.3	68.6	12.5	11.4	13.7
Chinese	1,112	442,322	80.7	78.2	83.2	2.3	1.4	3.3
Indian	381	150,413	86.8	83.4	90.1	3.7	1.8	5.5
Other Bumis	945	313,894	54.0	50.1	57.8	13.1	10.4	15.9
Others	399	141,772	47.4	40.4	54.3	38.4	31.3	45.5
Religion								
Islam	5,290	1,907,843	65.0	63.4	66.6	15.0	13.7	16.3
Christian	571	203,798	57.7	52.9	62.6	7.5	5.2	9.9
Buddhist	1,012	402,592	82.3	79.7	84.8	2.0	1.1	2.8
Hindu	322	126,597	86.6	82.8	90.3	4.1	1.9	6.3
Others	111	41,670	48.6	39.2	58.0	4.9	0.6	9.2
Unclassified	9	3,379	76.6	48.2	105.0	0.0	0.0	0.0
Citizenship								
Malaysian	6,807	2,509,535	69.4	68.0	70.7	9.4	8.6	10.1
Non-Malaysian	504	174,781	45.0	38.6	51.5	46.9	40.4	53.4
Unclassified	4	1,563	100.0	-	-	0.0	0.0	0.0
Gender								
Male	7,014	2,576,231	68.6	67.2	69.9	12.0	11.0	13.1
Female	301	109,647	49.8	43.6	56.0	6.2	3.1	9.3
Household Income								
Less than RM 400	645	219,860	43.3	39.0	47.6	17.7	13.6	21.7
RM 400 - RM 699	1,281	443,807	55.2	52.2	58.3	16.7	14.0	19.3
RM 700 - RM 999	912	327,980	67.0	63.8	70.3	14.4	11.8	17.0
RM 1000 - RM 1999	2,048	754,646	72.2	70.1	74.3	11.1	9.6	12.6
RM 2000 - RM 2999	1,058	401,884	76.1	73.3	78.9	8.7	6.9	10.6
RM 3000 - RM 3999	493	194,296	76.3	72.3	80.2	7.9	5.4	10.4
RM 4000 - RM 4999	215	84,467	79.2	73.6	84.8	3.9	0.5	7.2
RM 5000 & above	429	171,392	77.6	73.5	81.7	6.3	3.8	8.7
Unclassified	234	87,547	70.5	63.8	77.3	9.4	5.4	13.4
Personal Income								
Less than RM 400	1,002	337,469	47.6	44.1	51.0	18.5	15.3	21.7
RM 400 - RM 699	1,336	468,503	60.5	57.5	63.5	16.5	13.9	19.0
RM 700 - RM 999	1,206	444,948	72.5	69.8	75.2	12.3	10.4	14.2

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	White Cigarette			Clove Cigarette		
			95% CI			95% CI		
			%	L	U	%	L	U
RM 1000 - RM 1999	1,867	713,322	76.1	74.1	78.1	9.7	8.3	11.1
RM 2000 - RM 2999	593	231,227	77.3	73.8	80.8	6.9	4.9	8.9
RM 3000 - RM 3999	192	76,762	78.1	72.3	84.0	5.1	2.1	8.2
RM 4000 - RM 4999	59	23,870	80.8	70.9	90.7	3.2	-1.2	7.7
RM 5000 & above	114	45,582	78.2	70.7	85.7	3.7	0.2	7.3
Education								
None	548	189,374	40.8	36.2	45.3	15.7	12.1	19.4
Primary	2,436	879,514	62.5	60.4	64.7	13.2	11.6	14.8
Secondary	3,798	1,411,251	73.6	72.0	75.2	10.9	9.8	12.0
Tertiary	472	184,449	76.9	73.0	80.7	6.4	4.1	8.7
Non Classified	61	21,292	61.5	48.6	74.4	21.4	10.4	32.3
Housing area								
Housing area	2,535	1,025,344	79.4	77.6	81.1	6.6	5.6	7.6
Village	3,570	1,231,721	61.1	59.1	63.0	12.5	11.2	13.8
New village	133	53,603	74.9	67.1	82.6	10.3	4.7	16.0
Squatters	91	33,653	63.2	48.6	77.7	22.4	6.8	38.1
Estate	314	100,994	36.8	29.4	44.2	51.5	42.7	60.3
Land development	292	97,152	58.5	51.7	65.3	16.4	10.9	21.9
Others	358	135,365	69.4	63.6	75.2	9.3	6.3	12.4
House Type								
Single house	3,866	1,340,401	61.7	59.9	63.6	12.0	10.7	13.3
Semi_D house	344	128,267	66.4	59.5	73.2	20.0	14.0	25.9
Single storey terrace house	1,175	469,249	76.4	73.8	79.1	10.2	8.1	12.4
DS or town house	554	230,649	81.6	78.2	85.0	6.0	4.1	8.0
Condo / apartment	211	83,653	84.1	78.1	90.0	2.9	0.2	5.6
Flats	520	209,545	78.6	74.7	82.4	7.1	5.0	9.3
Long house	78	28,631	47.0	33.6	60.3	5.2	0.8	9.6
Boat house	2	868	100.0	-	-	0.0	0.0	0.0
Traditional house	123	40,948	54.5	45.0	63.9	15.0	8.3	21.7
Shop house	157	57,292	76.6	69.7	83.5	7.6	2.9	12.3
Worker's colony	193	63,859	34.7	24.7	44.7	53.5	42.1	64.9
Others	61	21,364	70.1	56.4	83.9	16.8	6.3	27.3
Occupation								
Senior Official & Manager	145	57,653	71.7	64.2	79.1	9.8	5.0	14.6
Professionals	357	139,074	78.7	74.4	83.0	7.2	4.4	10.1
Technical & Associate	740	280,759	75.4	72.2	78.7	9.3	7.2	11.3
Clerical Workers	287	107,503	73.0	67.7	78.3	9.8	6.4	13.3
Service Workers & Shop	1,479	556,807	74.9	72.6	77.2	8.4	6.9	9.8
Skilled Agricultural & Fishery	1,119	378,135	48.9	45.4	52.5	17.6	14.6	20.6
Craft & Related Trade Workers	588	220,705	71.1	67.1	75.0	11.3	8.6	14.0
Plant & Machine Operator & Assembler	908	337,709	73.1	70.1	76.1	12.7	10.5	15.0
Elementary Occupations	713	251,810	59.4	55.2	63.5	20.9	17.0	24.7

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	White Cigarette			Clove Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	121	43,763	48.2	38.9	57.4	7.7	2.7	12.8
Unemployed	629	225,974	62.0	58.0	66.1	9.4	6.9	11.9
Unclassified	229	85,991	73.6	67.5	79.6	7.1	3.6	10.6
Marital Status								
Not married	1,925	709,029	77.7	75.5	80.0	9.5	7.8	11.2
married	5,120	1,878,220	64.8	63.3	66.3	12.8	11.7	14.0
Divorcee	118	43,760	55.7	46.4	65.0	10.4	4.9	15.9
Widow/widower	121	43,035	44.6	35.5	53.7	6.9	2.6	11.2
Unclassified	31	11,834	79.1	65.6	92.5	2.6	-2.4	7.6
Age Group								
15-19	347	124,241	80.1	75.5	84.6	6.5	3.8	9.3
20-24	943	347,100	77.4	74.4	80.4	9.6	7.3	11.9
25-29	891	332,720	75.5	72.5	78.5	11.1	9.0	13.2
30-34	881	324,689	69.5	66.3	72.8	13.0	10.6	15.4
35-39	826	303,914	68.1	64.7	71.4	15.5	13.0	18.1
40-44	830	304,404	66.9	63.7	70.2	13.4	11.1	15.8
45-49	696	257,685	67.0	63.4	70.6	13.8	11.2	16.5
50-54	576	212,230	63.2	59.2	67.2	12.4	9.6	15.2
55-59	474	174,576	59.5	54.9	64.1	12.5	9.4	15.7
60-64	328	118,094	53.0	47.4	58.6	8.7	5.7	11.7
65-69	234	84,076	52.6	45.9	59.4	7.2	3.8	10.5
70-74	156	55,030	46.9	38.9	55.0	9.4	5.0	13.9
75-79	71	24,954	53.7	42.1	65.2	8.2	1.8	14.5
80+	62	22,168	38.0	25.2	50.8	2.0	-1.8	5.8

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Menthol Cigarette			Light Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
National	7,315	2,685,879	5.2	4.6	5.9	2.8	2.4	3.2
State								
Johor	774	298,738	3.6	2.3	5.0	2.2	1.2	3.3
Kedah	652	230,700	1.4	0.2	2.7	1.2	0.3	2.0
Kelantan	541	178,711	0.9	0.1	1.7	1.3	0.2	2.4
Malacca	172	71,024	8.7	3.1	14.4	7.8	4.2	11.4
N. Sembilan	294	105,177	5.7	3.0	8.4	4.6	1.9	7.3
Pahang	499	189,425	1.7	0.5	2.8	2.9	1.3	4.5
Penang	385	135,793	4.4	2.2	6.5	3.9	1.9	6.0
Perak	561	229,284	1.0	0.2	1.8	0.2	-0.2	0.6
Perlis	99	36,336	2.4	-0.8	5.6	0.0	0.0	0.0
Selangor	1,054	430,093	1.6	0.8	2.5	1.3	0.5	2.2
Terengganu	364	122,444	2.4	0.4	4.3	2.1	0.4	3.9
Sabah	931	284,032	4.1	2.8	5.5	3.6	2.2	4.9
Sarawak	572	219,749	31.3	27.0	35.5	5.1	3.3	6.9
W.P. Kuala Lumpur	301	118,471	5.0	2.1	7.8	7.6	4.4	10.9
W.P. Labuan	116	35,903	10.7	4.1	17.3	11.2	6.2	16.2
Urban								
Johor	469	199,790	4.3	2.4	6.1	3.2	1.7	4.7
Kedah	191	76,444	2.6	-0.7	5.9	2.6	0.5	4.8
Kelantan	143	50,320	0.7	-0.7	2.1	1.4	-0.5	3.3
Malacca	112	55,038	9.8	2.6	17.0	7.1	3.1	11.1
N. Sembilan	126	49,401	8.7	3.9	13.5	7.1	2.1	12.2
Pahang	179	76,148	2.8	0.3	5.3	4.5	1.3	7.6
Penang	285	105,342	5.6	2.9	8.3	4.2	1.8	6.7
Perak	258	120,039	0.4	-0.4	1.1	0.4	-0.4	1.1
Perlis	29	12,655	6.9	-1.1	14.9	0.0	0.0	0.0
Selangor	865	375,297	1.5	0.6	2.4	1.5	0.5	2.5
Terengganu	152	57,585	3.9	0.0	7.9	3.9	0.4	7.5
Sabah	387	124,995	5.7	3.1	8.3	4.1	1.7	6.6
Sarawak	211	94,151	36.0	28.9	43.1	3.8	1.2	6.4
W.P. Kuala Lumpur	301	118,471	5.0	2.1	7.8	7.6	4.4	10.9
W.P. Labuan	65	20,994	16.9	7.9	25.9	10.8	4.6	16.9
Rural								
Johor	305	98,947	2.3	0.6	4.0	0.3	-0.3	1.0
Kedah	461	154,254	0.9	0.0	1.7	0.4	-0.2	1.0
Kelantan	398	128,391	1.0	0.1	2.0	1.3	0.0	2.5
Malacca	60	15,986	5.0	0.0	10.0	10.0	1.8	18.2
N. Sembilan	168	55,776	3.0	0.6	5.4	2.4	0.2	4.6
Pahang	320	113,277	0.9	-0.1	2.0	1.9	0.2	3.5
Penang	100	30,452	0.0	0.0	0.0	3.0	-0.2	6.2
Perak	303	109,244	1.7	0.3	3.0	0.0	0.0	0.0
Perlis	70	23,681	0.0	0.0	0.0	0.0	0.0	0.0
Selangor	189	54,795	2.6	0.0	5.3	0.0	0.0	0.0
Terengganu	212	64,859	0.9	-0.3	2.2	0.5	-0.4	1.4

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Menthol Cigarette			Light Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
Sabah	544	159,039	2.9	1.5	4.4	3.1	1.6	4.6
Sarawak	361	125,599	27.7	22.7	32.7	6.1	3.6	8.6
W.P Labuan	51	14,909	2.0	-1.9	5.8	11.8	3.4	20.2
Residence								
Urban	3,773	1,536,667	5.7	4.8	6.7	3.4	2.8	4.1
Rural	3,542	1,149,212	4.5	3.6	5.4	2.0	1.5	2.5
Ethnicity								
Malay	4,478	1,637,477	3.1	2.5	3.7	2.0	1.6	2.4
Chinese	1,112	442,322	9.0	7.2	10.9	5.2	3.8	6.7
Indian	381	150,413	1.3	0.2	2.5	2.9	1.1	4.8
Other Bumis	945	313,894	13.9	10.8	16.9	3.8	2.6	5.1
Others	399	141,772	3.0	1.2	4.8	2.6	1.1	4.2
Religion								
Islam	5,290	1,907,843	3.3	2.7	3.9	2.1	1.7	2.5
Christian	571	203,798	18.0	13.9	22.1	5.8	3.9	7.6
Buddhist	1,012	402,592	7.8	5.9	9.6	4.5	3.1	6.0
Hindu	322	126,597	1.3	0.0	2.5	3.2	1.1	5.3
Others	111	41,670	20.2	12.7	27.7	6.6	2.0	11.2
Unclassified	9	3,379	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship								
Malaysian	6,807	2,509,535	5.4	4.7	6.1	2.9	2.5	3.4
Non-Malaysian	504	174,781	2.6	1.1	4.0	1.5	0.5	2.6
Unclassified	4	1,563	0.0	0.0	0.0	0.0	0.0	0.0
Gender								
Male	7,014	2,576,231	5.0	4.3	5.6	2.8	2.4	3.2
Female	301	109,647	11.5	7.7	15.4	3.6	1.5	5.7
Household Income								
Less than RM 400	645	219,860	7.3	4.8	9.7	0.8	0.1	1.4
RM 400 - RM 699	1,281	443,807	5.2	3.8	6.7	2.1	1.3	2.9
RM 700 - RM 999	912	327,980	5.3	3.7	6.9	1.6	0.7	2.4
RM 1000 - RM 1999	2,048	754,646	5.0	4.0	6.1	2.4	1.7	3.0
RM 2000 - RM 2999	1,058	401,884	4.9	3.6	6.2	3.6	2.4	4.7
RM 3000 - RM 3999	493	194,296	4.6	2.7	6.5	4.5	2.6	6.5
RM 4000 - RM 4999	215	84,467	6.0	2.6	9.4	6.1	2.9	9.2
RM 5000 & above	429	171,392	4.8	2.8	6.9	7.5	4.8	10.2
Unclassified	234	87,547	4.5	1.5	7.4	1.2	-0.5	3.0
Personal Income								
Less than RM 400	1,002	337,469	5.2	3.6	6.7	1.5	0.7	2.2
RM 400 - RM 699	1,336	468,503	5.1	3.7	6.5	2.3	1.5	3.2
RM 700 - RM 999	1,206	444,948	3.8	2.6	5.1	2.4	1.6	3.3

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Menthol Cigarette			Light Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
RM 1000 - RM 1999	1,867	713,322	5.5	4.4	6.6	2.9	2.2	3.7
RM 2000 - RM 2999	593	231,227	6.6	4.5	8.6	4.6	2.9	6.3
RM 3000 - RM 3999	192	76,762	6.3	2.8	9.8	7.8	3.8	11.7
RM 4000 - RM 4999	59	23,870	4.2	-0.5	8.9	8.2	1.3	15.2
RM 5000 & above	114	45,582	2.7	-0.3	5.7	10.5	4.8	16.1
Education								
None	548	189,374	6.0	3.8	8.3	0.5	-0.1	1.1
Primary	2,436	879,514	4.8	3.8	5.7	2.1	1.5	2.7
Secondary	3,798	1,411,251	5.6	4.7	6.5	2.9	2.4	3.5
Tertiary	472	184,449	4.1	2.3	5.9	8.1	5.6	10.5
Non Classified	61	21,292	1.5	-1.4	4.5	2.0	-1.9	5.9
Housing area								
Housing area	2,535	1,025,344	5.1	4.1	6.1	4.2	3.4	5.0
Village	3,570	1,231,721	5.0	4.0	5.9	1.6	1.2	2.1
New village	133	53,603	8.3	2.9	13.7	2.3	-0.3	4.9
Squatters	91	33,653	10.2	1.6	18.7	3.1	-1.0	7.2
Estate	314	100,994	3.0	0.7	5.3	1.5	0.2	2.8
Land development	292	97,152	1.7	0.3	3.1	0.3	-0.3	1.0
Others	358	135,365	9.9	5.9	13.9	6.3	3.7	9.0
House Type								
Single house	3,866	1,340,401	5.2	4.2	6.1	2.0	1.5	2.5
Semi_D house	344	128,267	3.8	1.5	6.0	4.2	2.0	6.4
Single storey terrace house	1,175	469,249	4.3	3.0	5.6	3.6	2.5	4.7
DS or town house	554	230,649	5.1	3.2	7.1	3.8	2.2	5.4
Condo / apartment	211	83,653	5.2	2.0	8.5	6.6	2.6	10.6
Flats	520	209,545	6.3	3.6	9.0	2.8	1.3	4.3
Long house	78	28,631	22.7	11.1	34.3	3.8	-0.1	7.7
Boat house	2	868	0.0	0.0	0.0	0.0	0.0	0.0
Traditional house	123	40,948	0.0	0.0	0.0	2.4	-0.3	5.0
Shop house	157	57,292	6.1	1.7	10.5	4.5	1.1	7.8
Worker's colony	193	63,859	7.1	2.4	11.7	1.4	-0.2	2.9
Others	61	21,364	4.8	-0.7	10.2	5.2	-0.6	10.9
Occupation								
Senior Official & Manager	145	57,653	6.7	2.6	10.7	6.1	1.9	10.2
Professionals	357	139,074	4.2	2.1	6.2	5.2	2.9	7.5
Technical & Associate	740	280,759	6.2	4.1	8.3	3.6	2.2	5.0
Clerical Workers	287	107,503	8.2	4.8	11.6	1.3	0.0	2.7
Service Workers & Shop	1,479	556,807	4.6	3.5	5.8	3.6	2.6	4.6
Skilled Agricultural & Fishery	1,119	378,135	3.0	1.8	4.1	1.4	0.6	2.1
Craft & Related Trade Workers	588	220,705	4.7	2.8	6.7	3.0	1.6	4.4
Plant & Machine Operator & Assembler	908	337,709	6.2	4.5	7.8	2.8	1.7	3.9
Elementary Occupations	713	251,810	5.7	3.8	7.6	2.6	1.4	3.8

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Menthol Cigarette			Light Cigarette		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	121	43,763	5.7	1.2	10.2	4.1	0.5	7.6
Unemployed	629	225,974	6.3	4.3	8.3	1.0	0.3	1.8
Unclassified	229	85,991	5.8	2.7	8.8	2.4	0.3	4.5
Marital Status								
Not married	1,925	709,029	4.7	3.6	5.7	3.4	2.6	4.2
married	5,120	1,878,220	5.4	4.6	6.1	2.7	2.2	3.1
Divorcee	118	43,760	7.6	2.8	12.4	2.6	-0.3	5.6
Widow/widower	121	43,035	6.5	2.1	10.9	0.8	-0.8	2.4
Unclassified	31	11,834	5.9	-2.1	13.8	3.7	-3.4	10.7
Age Group								
15-19	347	124,241	5.7	2.8	8.7	1.6	0.3	2.8
20-24	943	347,100	4.7	3.2	6.1	3.5	2.4	4.7
25-29	891	332,720	5.8	4.1	7.4	3.9	2.6	5.2
30-34	881	324,689	6.3	4.6	8.1	4.3	2.9	5.7
35-39	826	303,914	5.9	4.2	7.5	3.0	1.8	4.1
40-44	830	304,404	7.3	5.4	9.2	2.9	1.7	4.1
45-49	696	257,685	3.5	2.1	4.9	2.5	1.3	3.6
50-54	576	212,230	5.7	3.7	7.7	1.9	0.8	3.0
55-59	474	174,576	3.6	1.9	5.2	1.9	0.7	3.2
60-64	328	118,094	3.7	1.5	5.8	2.1	0.6	3.7
65-69	234	84,076	3.9	1.2	6.5	0.9	-0.3	2.2
70-74	156	55,030	3.7	0.8	6.6	0.0	0.0	0.0
75-79	71	24,954	1.3	-1.2	3.8	0.0	0.0	0.0
80+	62	22,168	0.0	0.0	0.0	0.0	0.0	0.0

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Self-Rolled Cigarette			Others		
			%	95% CI L	95% CI U	%	95% CI L	95% CI U
National	7,315	2,685,879	10.5	9.6	11.4	1.8	1.5	2.2
State								
Johor	774	298,738	3.8	2.5	5.1	1.2	0.5	1.9
Kedah	652	230,700	37.5	33.3	41.6	1.9	0.8	2.9
Kelantan	541	178,711	20.4	16.6	24.2	4.1	2.0	6.1
Malacca	172	71,024	1.8	-0.3	3.8	0.7	-0.7	2.0
N. Sembilan	294	105,177	3.8	1.5	6.1	2.8	0.5	5.0
Pahang	499	189,425	6.4	3.6	9.3	4.4	2.2	6.5
Penang	385	135,793	9.8	6.1	13.4	1.3	0.2	2.4
Perak	561	229,284	10.3	7.2	13.4	1.1	-0.1	2.3
Perlis	99	36,336	46.5	37.0	55.9	0.9	-0.8	2.7
Selangor	1,054	430,093	4.3	3.0	5.6	1.6	0.8	2.4
Terengganu	364	122,444	12.1	8.2	16.1	4.4	2.2	6.5
Sabah	931	284,032	9.2	6.4	12.0	0.8	0.1	1.4
Sarawak	572	219,749	7.6	4.6	10.5	1.1	0.2	1.9
W.P. Kuala Lumpur	301	118,471	1.0	-0.1	2.1	1.0	-0.1	2.1
W.P. Labuan	116	35,903	0.0	0.0	0.0	0.0	0.0	0.0
Urban								
Johor	469	199,790	2.1	0.7	3.5	0.6	-0.1	1.4
Kedah	191	76,444	22.0	16.4	27.6	2.1	0.1	4.1
Kelantan	143	50,320	15.4	8.9	21.9	3.5	0.1	6.9
Malacca	112	55,038	1.8	-0.7	4.2	0.9	-0.9	2.6
N. Sembilan	126	49,401	4.0	0.1	7.8	3.2	-0.4	6.8
Pahang	179	76,148	1.1	-0.4	2.6	3.9	0.6	7.3
Penang	285	105,342	7.4	3.5	11.2	1.1	-0.1	2.2
Perak	258	120,039	3.5	0.9	6.1	0.4	-0.4	1.1
Perlis	29	12,655	34.5	15.7	53.3	0.0	0.0	0.0
Selangor	865	375,297	2.9	1.7	4.1	1.3	0.5	2.1
Terengganu	152	57,585	9.9	4.8	14.9	3.9	0.7	7.2
Sabah	387	124,995	3.1	1.2	5.0	1.0	-0.2	2.3
Sarawak	211	94,151	1.4	-0.2	3.0	1.4	-0.2	3.0
W.P. Kuala Lumpur	301	118,471	1.0	-0.1	2.1	1.0	-0.1	2.1
W.P. Labuan	65	20,994	0.0	0.0	0.0	0.0	0.0	0.0
Rural								
Johor	305	98,947	7.2	4.5	9.9	2.3	0.7	3.9
Kedah	461	154,254	45.1	40.3	50.0	1.7	0.6	2.9
Kelantan	398	128,391	22.4	17.8	26.9	4.3	1.7	6.8
Malacca	60	15,986	1.7	-1.6	4.9	0.0	0.0	0.0
N. Sembilan	168	55,776	3.6	0.9	6.3	2.4	-0.3	5.1
Pahang	320	113,277	10.0	5.7	14.3	4.7	1.9	7.5
Penang	100	30,452	18.0	9.5	26.5	2.0	-0.6	4.6
Perak	303	109,244	17.8	12.5	23.1	2.0	-0.4	4.3
Perlis	70	23,681	52.9	42.7	63.0	1.4	-1.1	4.0
Selangor	189	54,795	13.8	7.9	19.6	3.7	1.2	6.2
Terengganu	212	64,859	14.2	8.2	20.1	4.7	1.9	7.6

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Self-Rolled Cigarette			Others		
			95% CI			95% CI		
			%	L	U	%	L	U
Residence								
Sabah	544	159,039	14.0	9.6	18.4	0.6	-0.1	1.2
Sarawak	361	125,599	12.2	7.5	16.9	0.8	-0.1	1.8
W.P Labuan	51	14,909	0.0	0.0	0.0	0.0	0.0	0.0
Urban								
Urban	3,773	1,536,667	4.7	3.9	5.5	1.4	1.0	1.9
Rural								
Rural	3,542	1,149,212	18.3	16.5	20.1	2.4	1.8	3.0
Ethnicity								
Malay	4,478	1,637,477	13.0	11.7	14.3	2.4	1.9	2.9
Chinese	1,112	442,322	1.7	1.0	2.5	0.9	0.4	1.5
Indian	381	150,413	4.2	2.2	6.1	1.2	0.2	2.2
Other Bumis	945	313,894	14.7	11.6	17.9	0.5	0.0	0.9
Others	399	141,772	6.6	3.6	9.6	2.0	0.4	3.7
Religion								
Islam	5,290	1,907,843	12.5	11.3	13.6	2.2	1.8	2.7
Christian	571	203,798	10.3	7.0	13.5	0.7	0.0	1.3
Buddhist	1,012	402,592	2.6	1.5	3.6	0.9	0.3	1.5
Hindu	322	126,597	3.8	1.8	5.8	1.1	0.0	2.3
Others	111	41,670	19.7	12.4	27.0	0.0	0.0	0.0
Unclassified	9	3,379	23.4	-5.0	51.8	0.0	0.0	0.0
Citizenship								
Malaysian	6,807	2,509,535	11.1	10.1	12.0	1.9	1.5	2.2
Non-Malaysian	504	174,781	2.6	1.0	4.2	1.4	0.3	2.5
Unclassified	4	1,563	0.0	0.0	0.0	0.0	0.0	0.0
Gender								
Male	7,014	2,576,231	9.8	8.9	10.7	1.8	1.5	2.2
Female	301	109,647	27.3	21.7	32.9	1.5	0.2	2.9
Household Income								
Less than RM 400	645	219,860	28.3	24.2	32.5	2.7	1.4	3.9
RM 400 - RM 699	1,281	443,807	18.6	16.1	21.0	2.2	1.3	3.1
RM 700 - RM 999	912	327,980	10.4	8.2	12.6	1.3	0.6	2.0
RM 1000 - RM 1999	2,048	754,646	7.8	6.5	9.0	1.5	0.9	2.1
RM 2000 - RM 2999	1,058	401,884	5.3	3.9	6.7	1.5	0.7	2.2
RM 3000 - RM 3999	493	194,296	4.5	2.5	6.4	2.2	0.9	3.5
RM 4000 - RM 4999	215	84,467	3.9	1.4	6.4	1.0	-0.4	2.3
RM 5000 & above	429	171,392	1.4	0.3	2.6	2.3	0.9	3.8
Unclassified	234	87,547	10.6	6.3	14.9	3.8	1.1	6.5
Personal Income								
Less than RM 400	1,002	337,469	24.9	21.7	28.0	2.4	1.4	3.4
RM 400 - RM 699	1,336	468,503	13.4	11.3	15.4	2.2	1.4	3.0
RM 700 - RM 999	1,206	444,948	7.3	5.8	8.9	1.6	0.9	2.3

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Self-Rolled Cigarette			Others		
			95% CI			95% CI		
			%	L	U	%	L	U
RM 1000 - RM 1999	1,867	713,322	4.5	3.6	5.4	1.2	0.7	1.8
RM 2000 - RM 2999	593	231,227	3.8	2.3	5.3	0.8	0.1	1.6
RM 3000 - RM 3999	192	76,762	1.6	-0.2	3.3	1.1	-0.4	2.6
RM 4000 - RM 4999	59	23,870	3.5	-1.3	8.3	0.0	0.0	0.0
RM 5000 & above	114	45,582	0.7	-0.7	2.2	4.2	0.5	7.9
Education								
None	548	189,374	35.5	30.7	40.2	1.5	0.5	2.5
Primary	2,436	879,514	15.1	13.4	16.8	2.3	1.7	3.0
Secondary	3,798	1,411,251	5.4	4.5	6.2	1.5	1.1	2.0
Tertiary	472	184,449	2.6	1.2	4.0	2.0	0.7	3.3
Non Classified	61	21,292	10.7	3.1	18.4	2.9	-1.1	6.8
Housing area								
Housing area	2,535	1,025,344	3.6	2.8	4.4	1.2	0.7	1.6
Village	3,570	1,231,721	17.4	15.8	19.1	2.3	1.8	2.9
New village	133	53,603	2.0	-0.9	4.8	2.2	-0.1	4.5
Squatters	91	33,653	0.0	0.0	0.0	1.2	-1.1	3.4
Estate	314	100,994	5.2	1.9	8.5	2.0	0.2	3.7
Land development	292	97,152	19.3	13.0	25.5	3.8	1.0	6.6
Others	358	135,365	4.1	1.2	7.0	0.9	-0.1	1.9
House Type								
Single house	3,866	1,340,401	16.5	14.9	18.1	2.6	2.0	3.1
Semi_D house	344	128,267	4.4	2.0	6.8	1.3	0.0	2.6
Single storey terrace house	1,175	469,249	4.5	3.3	5.8	0.8	0.3	1.4
DS or town house	554	230,649	1.8	0.7	2.9	1.6	0.5	2.8
Condo / apartment	211	83,653	0.4	-0.4	1.1	0.9	-0.2	1.9
Flats	520	209,545	3.6	2.0	5.3	1.5	0.5	2.6
Long house	78	28,631	21.3	11.4	31.3	0.0	0.0	0.0
Boat house	2	868	0.0	0.0	0.0	0.0	0.0	0.0
Traditional house	123	40,948	24.9	16.9	33.0	3.3	-0.5	7.1
Shop house	157	57,292	5.2	1.6	8.8	0.0	0.0	0.0
Worker's colony	193	63,859	2.8	-0.3	5.9	0.6	-0.5	1.6
Others	61	21,364	3.1	-3.0	9.2	0.0	0.0	0.0
Occupation								
Senior Official & Manager	145	57,653	2.6	0.1	5.1	3.1	0.1	6.2
Professionals	357	139,074	4.1	2.1	6.1	0.5	-0.2	1.3
Technical & Associate	740	280,759	4.6	3.1	6.1	0.9	0.2	1.6
Clerical Workers	287	107,503	5.5	2.9	8.2	2.1	0.4	3.7
Service Workers & Shop	1,479	556,807	6.6	5.3	7.9	1.9	1.2	2.6
Skilled Agricultural & Fishery	1,119	378,135	26.6	23.4	29.8	2.6	1.6	3.5
Craft & Related Trade Workers	588	220,705	7.7	5.5	9.9	2.2	1.0	3.4
Plant & Machine Operator & Assembler	908	337,709	4.2	2.9	5.5	1.0	0.4	1.7
Elementary Occupations	713	251,810	9.5	7.4	11.7	1.9	0.8	3.0

Table 8: Proportion of type of cigarette most smoked by current smokers for past one month by socio-demographic characteristics (continue)

Sociodemography	n	Estimated	Self-Rolled Cigarette			Others		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	121	43,763	32.8	24.0	41.7	1.5	-0.6	3.6
Unemployed	629	225,974	18.0	14.8	21.2	3.2	1.8	4.7
Unclassified	229	85,991	10.1	5.8	14.4	1.0	-0.4	2.4
Marital Status								
Not married	1,925	709,029	2.9	2.1	3.6	1.8	1.2	2.5
married	5,120	1,878,220	12.6	11.5	13.7	1.7	1.4	2.1
Divorcee	118	43,760	19.6	12.5	26.7	4.0	0.5	7.5
Widow/widower	121	43,035	38.7	29.7	47.7	2.5	-0.3	5.4
Unclassified	31	11,834	2.5	-2.3	7.3	6.3	-1.9	14.6
Age Group								
15-19	347	124,241	2.6	0.5	4.7	3.5	1.6	5.4
20-24	943	347,100	2.7	1.6	3.7	2.1	1.2	3.0
25-29	891	332,720	2.8	1.7	3.8	1.0	0.3	1.6
30-34	881	324,689	4.8	3.3	6.2	2.1	1.1	3.1
35-39	826	303,914	6.5	4.8	8.2	1.0	0.4	1.7
40-44	830	304,404	8.3	6.4	10.2	1.1	0.4	1.8
45-49	696	257,685	11.6	9.3	13.9	1.6	0.6	2.5
50-54	576	212,230	15.6	12.6	18.6	1.2	0.3	2.1
55-59	474	174,576	20.0	16.2	23.7	2.5	1.2	3.9
60-64	328	118,094	28.3	23.3	33.4	4.2	1.9	6.5
65-69	234	84,076	32.6	26.3	38.9	2.9	0.8	4.9
70-74	156	55,030	36.5	28.6	44.5	3.4	0.5	6.3
75-79	71	24,954	35.6	24.7	46.5	1.3	-1.2	3.8
80+	62	22,168	57.1	44.3	69.8	3.0	-1.0	7.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic

Sociodemography	n	Estimated	%	Pipes		Bidis		
				95% CI		95% CI		
				L	U	%	L	U
National	7,427	2,726,624	6.0	5.4	6.7	3.3	2.8	3.8
State								
Johor	788	304,193	6.2	4.2	8.1	1.7	0.7	2.7
Kedah	659	233,238	13.6	10.7	16.5	8.9	6.4	11.5
Kelantan	546	180,353	6.0	3.7	8.2	5.2	2.9	7.5
Malacca	175	72,049	12.2	7.4	16.9	12.9	6.9	18.8
N. Sembilan	304	108,677	7.0	4.2	9.9	5.1	2.7	7.5
Pahang	508	192,611	6.7	4.5	9.0	4.2	2.5	5.9
Penang	401	141,643	6.3	4.1	8.5	3.0	1.1	4.9
Perak	563	230,109	2.9	1.4	4.3	1.5	0.5	2.5
Perlis	100	36,674	14.0	9.3	18.7	4.0	0.8	7.1
Selangor	1,066	435,155	5.6	4.2	7.0	2.4	1.4	3.5
Terengganu	371	124,732	10.8	6.7	14.9	4.9	1.8	8.0
Sabah	942	287,370	0.9	0.3	1.6	0.3	0.0	0.7
Sarawak	582	223,720	3.1	1.3	4.9	0.6	-0.1	1.3
W.P. Kuala Lumpur	303	119,258	2.4	0.7	4.2	1.4	0.0	2.7
W.P. Labuan	119	36,842	0.0	0.0	0.0	0.0	0.0	0.0
Urban								
Johor	478	203,623	4.4	2.2	6.6	0.9	-0.2	1.9
Kedah	194	77,645	15.5	10.5	20.5	7.7	4.0	11.4
Kelantan	144	50,672	7.8	3.7	11.9	7.0	2.5	11.6
Malacca	113	55,529	12.4	6.7	18.0	14.2	6.7	21.6
N. Sembilan	129	50,577	5.7	1.8	9.6	4.9	1.2	8.6
Pahang	179	76,148	7.6	3.6	11.6	4.7	1.5	7.9
Penang	300	110,886	6.1	3.7	8.5	2.7	0.5	5.0
Perak	259	120,505	3.3	1.1	5.4	1.6	0.1	3.2
Perlis	29	12,654	13.8	6.7	20.9	0.0	0.0	0.0
Selangor	876	380,070	5.6	4.0	7.2	2.2	1.2	3.3
Terengganu	154	58,343	10.7	4.1	17.3	4.0	1.1	7.0
Sabah	391	126,285	1.6	0.3	2.8	0.3	-0.3	0.8
Sarawak	216	96,381	3.9	0.5	7.4	0.0	0.0	0.0
W.P. Kuala Lumpur	303	119,258	2.4	0.7	4.2	1.4	0.0	2.7
W.P. Labuan	67	21,640	0.0	0.0	0.0	0.0	0.0	0.0
Rural								
Johor	310	100,570	9.8	6.3	13.3	3.4	1.3	5.5
Kedah	465	155,594	12.7	9.1	16.2	9.6	6.2	12.9
Kelantan	402	129,681	5.3	2.6	8.0	4.5	1.9	7.2
Malacca	62	16,519	11.5	3.4	19.6	8.3	2.3	14.4
N. Sembilan	175	58,100	8.2	4.1	12.3	5.3	2.1	8.5
Pahang	329	116,463	6.1	3.6	8.7	3.9	2.0	5.8
Penang	101	30,757	7.0	1.8	12.2	4.0	0.5	7.5
Perak	304	109,604	2.4	0.5	4.4	1.4	0.1	2.7
Perlis	71	24,019	14.1	7.8	20.3	6.2	2.0	10.3
Selangor	190	55,085	5.9	2.9	8.8	3.7	0.7	6.8
Terengganu	217	66,389	10.8	5.9	15.8	5.7	0.6	10.7

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	%	Pipes		Bidis		
				95% CI		95% CI		
				L	U	%	L	U
Sabah	551	161,085	0.4	-0.2	1.0	0.4	-0.2	1.0
Sarawak	366	127,339	2.5	0.7	4.3	1.1	-0.1	2.3
W.P Labuan	52	15,202	0.0	0.0	0.0	0.0	0.0	0.0
Residence								
Urban	3,832	1,560,217	5.8	5.0	6.6	2.8	2.2	3.5
Rural	3,595	1,166,407	6.4	5.4	7.3	4.0	3.2	4.8
Ethnicity								
Malay	4,543	1,661,387	8.4	7.5	9.3	4.3	3.6	5.0
Chinese	1,128	448,342	3.0	2.0	4.1	1.0	0.3	1.7
Indian	388	153,083	2.1	0.7	3.5	5.6	3.3	7.9
Other Bumis	960	318,883	1.5	0.7	2.4	1.0	0.3	1.7
Others	408	144,928	1.3	0.2	2.5	0.8	-0.1	1.7
Religion								
Islam	5,375	1,938,328	7.3	6.5	8.1	3.9	3.3	4.5
Christian	580	207,169	2.2	0.9	3.5	1.7	0.5	2.8
Buddhist	1,024	407,223	2.9	1.8	4.0	1.0	0.3	1.6
Hindu	326	128,147	1.9	0.4	3.4	5.2	2.7	7.7
Others	113	42,377	5.8	0.7	10.8	1.0	-0.9	3.0
Unclassified	9	3,379	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship								
Malaysian	6,911	2,547,264	6.4	5.7	7.0	3.5	3.0	4.0
Non-Malaysian	511	177,443	1.1	0.0	2.1	1.0	0.0	1.9
Unclassified	5	1,917	16.8	-13.9	47.6	0.0	0.0	0.0
Gender								
Male	7,113	2,611,891	6.3	5.6	6.9	3.4	2.9	4.0
Female	314	114,733	0.6	-0.2	1.5	0.7	-0.2	1.5
Household Income								
Less than RM 400	653	222,534	6.5	4.3	8.7	3.8	2.2	5.4
RM 400 - RM 699	1,293	447,866	5.3	3.9	6.6	4.1	2.9	5.4
RM 700 - RM 999	923	332,237	5.6	4.0	7.2	2.5	1.5	3.6
RM 1000 - RM 1999	2,086	768,551	6.1	5.0	7.2	3.9	3.0	4.8
RM 2000 - RM 2999	1,076	408,467	6.4	4.9	8.0	2.8	1.8	3.8
RM 3000 - RM 3999	503	197,842	6.7	4.4	9.1	3.3	1.7	4.9
RM 4000 - RM 4999	218	85,640	3.2	0.9	5.5	0.4	-0.4	1.2
RM 5000 & above	436	174,139	8.5	5.6	11.3	3.7	1.7	5.7
Unclassified	239	89,348	3.9	1.4	6.5	0.9	-0.3	2.1
Personal Income								
Less than RM 400	1,011	340,639	4.9	3.5	6.4	3.3	2.1	4.5
RM 400 - RM 699	1,356	475,178	5.9	4.5	7.2	4.1	2.8	5.4
RM 700 - RM 999	1,223	451,601	6.1	4.7	7.5	3.8	2.7	5.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	%	Pipes		Bidis		
				95% CI		95% CI		
				L	U	%	L	U
RM 1000 - RM 1999	1,899	724,853	6.3	5.1	7.5	3.6	2.7	4.5
RM 2000 - RM 2999	599	233,608	6.5	4.5	8.6	1.9	0.8	3.0
RM 3000 - RM 3999	196	78,245	6.5	3.0	9.9	3.0	0.6	5.4
RM 4000 - RM 4999	61	24,675	3.0	-1.1	7.2	1.4	-1.3	4.1
RM 5000 & above	116	46,286	16.6	9.5	23.6	4.8	0.7	9.0
Education								
None	558	192,928	3.4	1.7	5.0	2.0	0.8	3.2
Primary	2,465	890,150	6.2	5.1	7.2	3.2	2.5	3.9
Secondary	3,863	1,434,754	6.0	5.2	6.8	3.6	3.0	4.3
Tertiary	479	187,147	8.6	6.0	11.1	3.3	1.5	5.2
Non Classified	62	21,645	3.1	-1.2	7.5	0.0	0.0	0.0
Housing area								
Housing area	2,580	1,043,307	5.6	4.6	6.5	3.0	2.3	3.8
Village	3,621	1,248,840	6.9	5.9	7.8	4.0	3.2	4.8
New village	135	54,398	4.0	0.5	7.5	1.6	-0.6	3.8
Squatters	92	34,021	0.0	0.0	0.0	0.0	0.0	0.0
Estate	319	102,735	2.6	0.8	4.4	2.6	0.5	4.7
Land development	295	98,121	8.8	4.5	13.2	3.9	1.9	5.9
Others	363	137,154	4.9	2.6	7.2	1.8	0.4	3.2
House Type								
Single house	3,928	1,361,700	6.8	5.9	7.7	3.7	2.9	4.4
Semi_D house	349	130,047	4.7	2.2	7.2	2.5	0.9	4.2
Single storey terrace house	1,192	476,111	6.7	5.2	8.2	3.8	2.6	5.0
DS or town house	562	233,855	5.6	3.5	7.6	2.7	1.3	4.0
Condo / apartment	216	85,687	4.8	2.1	7.6	2.4	0.5	4.3
Flats	528	212,806	2.6	1.1	4.1	1.6	0.3	2.9
Long house	78	28,632	4.6	0.0	9.2	0.0	0.0	0.0
Boat house	2	868	50.0	-19.4	119.4	50.0	-19.4	119.4
Traditional house	126	41,814	9.0	4.0	14.0	5.1	1.2	8.9
Shop house	160	58,286	2.7	0.1	5.3	2.7	0.1	5.4
Worker's colony	194	64,306	2.5	0.4	4.6	3.4	0.6	6.1
Others	61	21,365	6.9	0.9	12.8	5.1	-0.7	11.0
Occupation								
Senior Official & Manager	149	59,076	10.5	5.4	15.6	4.1	0.8	7.4
Professionals	360	140,246	6.8	4.1	9.5	4.6	2.3	7.0
Technical & Associate	753	285,585	7.2	5.3	9.1	3.3	1.8	4.7
Clerical Workers	291	108,848	5.3	2.6	8.0	3.9	1.5	6.3
Service Workers & Shop	1,495	562,879	6.1	4.9	7.4	2.8	1.9	3.6
Skilled Agricultural & Fishery	1,133	382,648	5.4	4.0	6.9	3.1	1.9	4.2
Craft & Related Trade Workers	595	223,094	6.6	4.5	8.6	4.8	2.9	6.6
Plant & Machine Operator & Assembler	929	345,766	6.3	4.7	8.0	4.5	3.2	5.9
Elementary Occupations	720	254,251	4.7	3.0	6.3	2.4	1.2	3.5

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Pipes			Bidis		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	123	44,700	1.7	-0.6	4.0	0.9	-0.8	2.6
Unemployed	645	231,663	5.4	3.6	7.2	2.6	1.4	3.9
Unclassified	234	87,868	5.7	2.5	8.9	2.4	0.5	4.2
Marital Status								
Not married	1,952	718,248	3.5	2.6	4.3	2.7	1.9	3.4
married	5,199	1,907,480	7.1	6.3	7.9	3.7	3.0	4.3
Divorcee	121	44,887	4.1	0.6	7.6	3.3	0.1	6.6
Widow/widower	123	43,870	4.6	0.7	8.6	0.8	-0.8	2.4
Unclassified	32	12,139	0.0	0.0	0.0	0.0	0.0	0.0
Age Group								
15-19	353	126,100	3.0	1.2	4.9	3.2	1.3	5.1
20-24	957	352,169	4.0	2.7	5.4	2.6	1.6	3.7
25-29	904	337,490	4.5	3.1	5.8	2.6	1.6	3.7
30-34	895	329,700	4.7	3.2	6.3	2.7	1.6	3.7
35-39	838	308,302	4.3	2.8	5.8	2.5	1.3	3.6
40-44	840	308,207	4.6	3.0	6.1	3.6	2.3	4.9
45-49	700	259,261	8.7	6.6	10.9	3.7	2.3	5.2
50-54	583	214,684	7.6	5.4	9.8	5.3	3.3	7.3
55-59	487	179,494	9.6	6.8	12.4	4.7	2.7	6.7
60-64	334	120,081	11.9	8.1	15.6	5.2	2.7	7.7
65-69	238	85,463	9.7	5.7	13.6	2.8	0.6	5.0
70-74	159	56,062	12.0	6.7	17.2	4.4	1.3	7.6
75-79	74	26,240	2.7	-1.0	6.4	1.3	-1.3	4.0
80+	65	23,371	7.9	1.3	14.4	0.0	0.0	0.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Chew			Snuff		
			%	95% CI		%	95% CI	
				L	U		L	U
National	7,427	2,726,624	0.6	0.4	0.8	0.6	0.4	0.8
State								
Johor	788	304,193	0.0	0.0	0.0	0.1	-0.1	0.3
Kedah	659	233,238	0.2	-0.2	0.5	0.2	-0.2	0.5
Kelantan	546	180,353	0.0	0.0	0.0	0.2	-0.2	0.5
Malacca	175	72,049	0.0	0.0	0.0	0.0	0.0	0.0
N. Sembilan	304	108,677	0.0	0.0	0.0	0.0	0.0	0.0
Pahang	508	192,611	1.2	0.3	2.2	1.1	0.2	1.9
Penang	401	141,643	0.3	-0.3	0.8	0.3	-0.3	0.8
Perak	563	230,109	0.8	0.0	1.5	0.6	-0.1	1.3
Perlis	100	36,674	0.0	0.0	0.0	2.3	-0.7	5.3
Selangor	1,066	435,155	1.2	0.5	2.0	1.3	0.6	2.1
Terengganu	371	124,732	0.9	-0.1	1.9	0.3	-0.3	0.9
Sabah	942	287,370	1.1	0.4	1.9	0.5	0.0	0.9
Sarawak	582	223,720	0.8	0.0	1.7	0.7	-0.1	1.5
W.P. Kuala Lumpur	303	119,258	0.7	-0.3	1.7	0.7	-0.3	1.7
W.P. Labuan	119	36,842	0.0	0.0	0.0	0.0	0.0	0.0
Urban								
Johor	478	203,623	0.0	0.0	0.0	0.0	0.0	0.0
Kedah	194	77,645	0.5	-0.5	1.5	0.5	-0.5	1.5
Kelantan	144	50,672	0.0	0.0	0.0	0.0	0.0	0.0
Malacca	113	55,529	0.0	0.0	0.0	0.0	0.0	0.0
N. Sembilan	129	50,577	0.0	0.0	0.0	0.0	0.0	0.0
Pahang	179	76,148	1.2	-0.2	2.6	1.2	-0.2	2.6
Penang	300	110,886	0.3	-0.3	1.0	0.3	-0.3	1.0
Perak	259	120,505	0.8	-0.3	1.9	0.8	-0.3	1.9
Perlis	29	12,654	0.0	0.0	0.0	3.6	-2.7	9.9
Selangor	876	380,070	1.2	0.4	2.0	1.3	0.5	2.1
Terengganu	154	58,343	1.4	-0.5	3.2	0.7	-0.6	2.0
Sabah	391	126,285	0.8	-0.3	1.9	0.3	-0.3	0.8
Sarawak	216	96,381	0.0	0.0	0.0	0.7	-0.6	1.9
W.P. Kuala Lumpur	303	119,258	0.7	-0.3	1.7	0.7	-0.3	1.7
W.P. Labuan	67	21,640	0.0	0.0	0.0	0.0	0.0	0.0
Rural								
Johor	310	100,570	0.0	0.0	0.0	0.3	-0.3	1.0
Kedah	465	155,594	0.0	0.0	0.0	0.0	0.0	0.0
Kelantan	402	129,681	0.0	0.0	0.0	0.3	-0.2	0.7
Malacca	62	16,519	0.0	0.0	0.0	0.0	0.0	0.0
N. Sembilan	175	58,100	0.0	0.0	0.0	0.0	0.0	0.0
Pahang	329	116,463	1.3	0.1	2.5	1.0	-0.1	2.1
Penang	101	30,757	0.0	0.0	0.0	0.0	0.0	0.0
Perak	304	109,604	0.7	-0.2	1.6	0.3	-0.3	1.0
Perlis	71	24,019	0.0	0.0	0.0	1.6	-1.4	4.5
Selangor	190	55,085	1.6	-0.1	3.4	1.6	-0.1	3.3
Terengganu	217	66,389	0.5	-0.4	1.4	0.0	0.0	0.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Chew			Snuff		
			%	95% CI		%	95% CI	
				L	U		L	U
Sabah	551	161,085	1.4	0.4	2.4	0.6	-0.1	1.3
Sarawak	366	127,339	1.4	0.0	2.8	0.7	-0.3	1.7
W.P Labuan	52	15,202	0.0	0.0	0.0	0.0	0.0	0.0
Residence								
Urban	3,832	1,560,217	0.6	0.4	0.9	0.7	0.4	0.9
Rural	3,595	1,166,407	0.6	0.4	0.9	0.4	0.2	0.7
Ethnicity								
Malay	4,543	1,661,387	0.6	0.3	0.8	0.7	0.4	0.9
Chinese	1,128	448,342	0.3	0.0	0.6	0.2	-0.1	0.4
Indian	388	153,083	0.5	-0.2	1.2	0.0	0.0	0.0
Other Bumis	960	318,883	1.5	0.7	2.4	0.9	0.2	1.6
Others	408	144,928	0.5	-0.2	1.2	0.5	-0.2	1.1
Religion								
Islam	5,375	1,938,328	0.6	0.4	0.9	0.6	0.4	0.8
Christian	580	207,169	1.5	0.5	2.5	1.4	0.4	2.5
Buddhist	1,024	407,223	0.2	-0.1	0.5	0.1	-0.1	0.3
Hindu	326	128,147	0.3	-0.3	1.0	0.0	0.0	0.0
Others	113	42,377	2.0	-0.8	4.8	1.0	-0.9	3.0
Unclassified	9	3,379	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship								
Malaysian	6,911	2,547,264	0.6	0.4	0.8	0.5	0.4	0.7
Non-Malaysian	511	177,443	0.8	-0.1	1.6	0.9	0.0	1.8
Unclassified	5	1,917	0.0	0.0	0.0	0.0	0.0	0.0
Gender								
Male	7,113	2,611,891	0.5	0.3	0.7	0.6	0.4	0.8
Female	314	114,733	3.1	1.2	5.0	0.0	0.0	0.0
Household Income								
Less than RM 400	653	222,534	1.4	0.4	2.3	0.7	0.0	1.3
RM 400 - RM 699	1,293	447,866	0.6	0.1	1.0	0.5	0.1	0.9
RM 700 - RM 999	923	332,237	0.5	0.0	1.0	0.6	0.1	1.2
RM 1000 - RM 1999	2,086	768,551	0.6	0.3	0.9	0.4	0.1	0.7
RM 2000 - RM 2999	1,076	408,467	0.6	0.2	1.1	0.5	0.1	0.9
RM 3000 - RM 3999	503	197,842	0.8	0.0	1.6	1.2	0.2	2.2
RM 4000 - RM 4999	218	85,640	0.0	0.0	0.0	0.0	0.0	0.0
RM 5000 & above	436	174,139	0.7	-0.1	1.5	1.2	0.2	2.3
Unclassified	239	89,348	0.0	0.0	0.0	0.0	0.0	0.0
Personal Income								
Less than RM 400	1,011	340,639	1.0	0.3	1.6	0.4	-0.1	0.8
RM 400 - RM 699	1,356	475,178	0.7	0.2	1.2	0.7	0.2	1.2
RM 700 - RM 999	1,223	451,601	0.2	0.0	0.5	0.4	0.0	0.8

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Chew			Snuff		
			%	95% CI		%	95% CI	
				L	U		L	U
RM 1000 - RM 1999	1,899	724,853	0.7	0.2	1.1	0.6	0.2	1.0
RM 2000 - RM 2999	599	233,608	0.0	0.0	0.0	0.0	0.0	0.0
RM 3000 - RM 3999	196	78,245	0.5	-0.5	1.6	1.0	-0.4	2.3
RM 4000 - RM 4999	61	24,675	0.0	0.0	0.0	1.8	-1.7	5.3
RM 5000 & above	116	46,286	2.8	-0.4	5.9	2.7	-0.4	5.7
Education								
None	558	192,928	2.1	0.8	3.3	0.5	-0.2	1.1
Primary	2,465	890,150	0.4	0.2	0.7	0.4	0.1	0.6
Secondary	3,863	1,434,754	0.6	0.3	0.9	0.6	0.4	0.9
Tertiary	479	187,147	0.2	-0.2	0.7	1.1	0.1	2.0
Non Classified	62	21,645	0.0	0.0	0.0	0.0	0.0	0.0
Housing area								
Housing area	2,580	1,043,307	0.6	0.3	1.0	0.7	0.4	1.0
Village	3,621	1,248,840	0.6	0.4	0.9	0.5	0.3	0.8
New village	135	54,398	0.8	-0.8	2.5	0.8	-0.8	2.5
Squatters	92	34,021	0.0	0.0	0.0	0.0	0.0	0.0
Estate	319	102,735	0.7	-0.2	1.7	0.4	-0.4	1.1
Land development	295	98,121	0.7	-0.3	1.7	0.7	-0.3	1.7
Others	363	137,154	0.6	-0.2	1.5	0.0	0.0	0.0
House Type								
Single house	3,928	1,361,700	0.6	0.3	0.8	0.5	0.3	0.7
Semi_D house	349	130,047	0.0	0.0	0.0	0.3	-0.3	0.8
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Condo / apartment	216	85,687	1.4	0.0	2.9	0.5	-0.4	1.4
Flats	528	212,806	0.4	-0.2	1.0	0.2	-0.2	0.6
Long house	78	28,632	1.5	-1.4	4.3	0.0	0.0	0.0
Boat house	2	868	50.0	-19.4	119.4	50.0	-19.4	119.4
Traditional house	126	41,814	0.0	0.0	0.0	0.0	0.0	0.0
Shop house	160	58,286	1.3	-0.5	3.0	0.7	-0.6	2.0
Worker's colony	194	64,306	1.8	-0.1	3.7	1.2	-0.4	2.9
Others	61	21,365	0.0	0.0	0.0	0.0	0.0	0.0
Occupation								
Senior Official & Manager	149	59,076	0.7	-0.7	2.0	1.2	-0.5	2.9
Professionals	360	140,246	0.8	-0.1	1.7	0.9	-0.1	1.8
Technical & Associate	753	285,585	0.3	-0.1	0.7	0.6	0.0	1.2
Clerical Workers	291	108,848	0.8	-0.3	1.9	0.4	-0.3	1.1
Service Workers & Shop	1,495	562,879	0.8	0.3	1.2	0.7	0.3	1.2
Skilled Agricultural & Fishery	1,133	382,648	0.2	0.0	0.5	0.1	-0.1	0.2
Craft & Related Trade Workers	595	223,094	0.6	-0.1	1.3	0.6	-0.1	1.3
Plant & Machine Operator & Assembler	929	345,766	0.9	0.3	1.5	0.7	0.1	1.2
Elementary Occupations	720	254,251	0.5	-0.1	1.0	0.5	-0.1	1.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Chew			Snuff		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	123	44,700	1.7	-0.6	3.9	0.0	0.0	0.0
Unemployed	645	231,663	1.0	0.2	1.8	0.9	0.1	1.6
Unclassified	234	87,868	0.0	0.0	0.0	0.0	0.0	0.0
Marital Status								
Not married	1,952	718,248	0.5	0.2	0.8	0.7	0.3	1.1
married	5,199	1,907,480	0.7	0.4	0.9	0.5	0.3	0.8
Divorcee	121	44,887	0.0	0.0	0.0	0.0	0.0	0.0
Widow/widower	123	43,870	2.6	-0.4	5.6	0.0	0.0	0.0
Unclassified	32	12,139	0.0	0.0	0.0	0.0	0.0	0.0
Age Group								
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20-24	957	352,169	0.5	0.0	0.9	0.6	0.1	1.1
25-29	904	337,490	0.9	0.3	1.5	1.0	0.3	1.6
30-34	895	329,700	0.2	-0.1	0.5	0.6	0.0	1.1
35-39	838	308,302	0.5	0.0	1.1	0.6	0.0	1.1
40-44	840	308,207	0.7	0.1	1.3	0.1	-0.1	0.4
45-49	700	259,261	0.5	0.0	1.1	0.3	-0.1	0.7
50-54	583	214,684	0.5	-0.1	1.1	0.8	0.1	1.6
55-59	487	179,494	0.7	-0.1	1.5	0.3	-0.3	0.8
60-64	334	120,081	1.1	-0.1	2.3	1.1	-0.1	2.3
65-69	238	85,463	0.4	-0.4	1.3	0.0	0.0	0.0
70-74	159	56,062	1.9	-0.2	4.0	1.3	-0.5	3.1
75-79	74	26,240	1.7	-1.6	5.1	0.0	0.0	0.0
80+	65	23,371	1.9	-1.8	5.6	0.0	0.0	0.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Sisha			Others		
			%	95% CI		%	95% CI	
				L	U		L	U
National	7,427	2,726,624	5.3	4.6	5.9	0.7	0.3	1.1
State								
Johor	788	304,193	6.8	4.5	9.1	0.4	-0.4	1.3
Kedah	659	233,238	8.9	6.0	11.8	0.0	0.0	0.0
Kelantan	546	180,353	2.3	0.9	3.7	0.0	0.0	0.0
Malacca	175	72,049	13.6	7.8	19.4	0.0	0.0	0.0
N. Sembilan	304	108,677	6.1	3.1	9.1	0.0	0.0	0.0
Pahang	508	192,611	4.1	2.5	5.7	1.2	-0.3	2.8
Penang	401	141,643	4.7	2.3	7.1	0.7	-0.7	2.1
Perak	563	230,109	1.1	0.2	2.0	0.0	0.0	0.0
Perlis	100	36,674	8.0	1.8	14.2	0.0	0.0	0.0
Selangor	1,066	435,155	10.0	7.7	12.3	1.9	0.6	3.3
Terengganu	371	124,732	2.3	0.6	3.9	0.0	0.0	0.0
Sabah	942	287,370	0.4	0.0	0.9	0.0	0.0	0.0
Sarawak	582	223,720	1.2	0.1	2.3	1.1	-1.1	3.3
W.P. Kuala Lumpur	303	119,258	6.9	4.0	9.9	0.0	0.0	0.0
W.P. Labuan	119	36,842	0.0	0.0	0.0	0.0	0.0	0.0
Urban								
Johor	478	203,623	7.5	4.4	10.5	0.6	-0.6	1.8
Kedah	194	77,645	10.9	5.0	16.7	0.0	0.0	0.0
Kelantan	144	50,672	4.9	1.3	8.6	0.0	0.0	0.0
Malacca	113	55,529	16.1	8.9	23.3	0.0	0.0	0.0
N. Sembilan	129	50,577	4.9	0.7	9.1	0.0	0.0	0.0
Pahang	179	76,148	4.8	1.9	7.6	1.8	-1.2	4.7
Penang	300	110,886	3.7	1.4	6.1	0.9	-0.8	2.5
Perak	259	120,505	1.2	-0.2	2.6	0.0	0.0	0.0
Perlis	29	12,654	0.0	0.0	0.0	0.0	0.0	0.0
Selangor	876	380,070	9.6	7.1	12.1	1.3	0.0	2.6
Terengganu	154	58,343	2.7	0.3	5.1	0.0	0.0	0.0
Sabah	391	126,285	0.0	0.0	0.0	0.0	0.0	0.0
Sarawak	216	96,381	2.0	-0.3	4.2	0.0	0.0	0.0
W.P. Kuala Lumpur	303	119,258	6.9	4.0	9.9	0.0	0.0	0.0
W.P. Labuan	67	21,640	0.0	0.0	0.0	0.0	0.0	0.0
Rural								
Johor	310	100,570	5.4	2.6	8.2	0.0	0.0	0.0
Kedah	465	155,594	7.8	4.7	11.0	0.0	0.0	0.0
Kelantan	402	129,681	1.3	0.0	2.5	0.0	0.0	0.0
Malacca	62	16,519	5.0	0.4	9.6	0.0	0.0	0.0
N. Sembilan	175	58,100	7.1	2.8	11.4	0.0	0.0	0.0
Pahang	329	116,463	3.6	1.7	5.5	0.9	-0.8	2.6
Penang	101	30,757	8.0	1.3	14.7	0.0	0.0	0.0
Perak	304	109,604	1.0	-0.1	2.2	0.0	0.0	0.0
Perlis	71	24,019	12.5	4.5	20.5	0.0	0.0	0.0
Selangor	190	55,085	12.8	7.8	17.8	7.7	1.2	14.2
Terengganu	217	66,389	1.9	-0.3	4.1	0.0	0.0	0.0

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Sisha			Others		
			%	95% CI		%	95% CI	
				L	U		L	U
Sabah	551	161,085	0.8	0.0	1.6	0.0	0.0	0.0
Sarawak	366	127,339	0.7	-0.3	1.7	1.8	-1.7	5.2
W.P Labuan	52	15,202	0.0	0.0	0.0	0.0	0.0	0.0
Residence								
Urban	3,832	1,560,217	6.2	5.2	7.2	0.7	0.2	1.2
Rural	3,595	1,166,407	4.0	3.2	4.8	0.8	0.2	1.5
Ethnicity								
Malay	4,543	1,661,387	7.8	6.8	8.8	1.1	0.5	1.7
Chinese	1,128	448,342	0.8	0.2	1.3	0.0	0.0	0.0
Indian	388	153,083	1.4	0.2	2.6	0.0	0.0	0.0
Other Bumis	960	318,883	1.1	0.4	1.8	0.8	-0.8	2.5
Others	408	144,928	2.2	0.6	3.9	0.0	0.0	0.0
Religion								
Islam	5,375	1,938,328	6.9	6.0	7.8	0.9	0.4	1.5
Christian	580	207,169	1.5	0.4	2.6	0.0	0.0	0.0
Buddhist	1,024	407,223	0.8	0.2	1.3	0.0	0.0	0.0
Hindu	326	128,147	1.4	0.0	2.7	0.0	0.0	0.0
Others	113	42,377	1.0	-0.9	3.0	6.5	-5.8	18.8
Unclassified	9	3,379	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship								
Malaysian	6,911	2,547,264	5.5	4.8	6.2	0.7	0.3	1.1
Non-Malaysian	511	177,443	1.4	0.2	2.6	0.8	-0.8	2.4
Unclassified	5	1,917	0.0	0.0	0.0	0.0	0.0	0.0
Gender								
Male	7,113	2,611,891	5.4	4.7	6.1	0.7	0.3	1.1
Female	314	114,733	2.3	0.5	4.1	1.1	-1.0	3.2
Household Income								
Less than RM 400	653	222,534	1.6	0.2	3.0	1.2	-1.1	3.5
RM 400 - RM 699	1,293	447,866	4.3	2.9	5.7	0.5	-0.2	1.2
RM 700 - RM 999	923	332,237	4.9	3.4	6.4	1.5	0.0	3.1
RM 1000 - RM 1999	2,086	768,551	5.2	4.0	6.3	0.7	0.0	1.4
RM 2000 - RM 2999	1,076	408,467	5.4	3.7	7.1	0.9	-0.1	1.9
RM 3000 - RM 3999	503	197,842	9.0	6.1	11.8	0.7	-0.6	2.0
RM 4000 - RM 4999	218	85,640	8.1	4.0	12.2	0.0	0.0	0.0
RM 5000 & above	436	174,139	7.7	4.6	10.8	0.0	0.0	0.0
Unclassified	239	89,348	4.6	1.4	7.8	0.0	0.0	0.0
Personal Income								
Less than RM 400	1,011	340,639	1.6	0.8	2.5	0.0	0.0	0.0
RM 400 - RM 699	1,356	475,178	5.1	3.7	6.4	0.5	-0.2	1.2
RM 700 - RM 999	1,223	451,601	6.9	5.2	8.5	0.6	-0.2	1.4

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Sisha			Others		
			%	95% CI		%	95% CI	
				L	U		L	U
RM 1000 - RM 1999	1,899	724,853	5.7	4.5	6.8	1.2	0.2	2.2
RM 2000 - RM 2999	599	233,608	4.1	2.2	6.1	0.9	-0.4	2.3
RM 3000 - RM 3999	196	78,245	2.8	0.4	5.1	0.0	0.0	0.0
RM 4000 - RM 4999	61	24,675	3.6	-1.3	8.6	0.0	0.0	0.0
RM 5000 & above	116	46,286	4.8	0.7	9.0	0.0	0.0	0.0
Education								
None	558	192,928	0.5	-0.2	1.1	1.8	-0.9	4.4
Primary	2,465	890,150	1.7	1.2	2.3	0.6	0.0	1.2
Secondary	3,863	1,434,754	7.4	6.4	8.5	0.7	0.1	1.3
Tertiary	479	187,147	10.3	7.2	13.4	0.6	-0.6	1.9
Non Classified	62	21,645	2.1	-2.0	6.3	0.0	0.0	0.0
Housing area								
Housing area	2,580	1,043,307	6.8	5.5	8.1	0.8	0.2	1.4
Village	3,621	1,248,840	4.5	3.7	5.3	0.6	0.1	1.1
New village	135	54,398	3.1	0.2	5.9	0.0	0.0	0.0
Squatters	92	34,021	2.7	-2.5	8.0	0.0	0.0	0.0
Estate	319	102,735	0.8	-0.2	1.8	0.0	0.0	0.0
Land development	295	98,121	4.0	1.4	6.6	1.1	-1.1	3.3
Others	363	137,154	6.3	2.9	9.7	2.1	-2.0	6.2
House Type								
Single house	3,928	1,361,700	4.3	3.5	5.1	0.6	0.2	1.1
Semi_D house	349	130,047	4.0	1.7	6.3	0.0	0.0	0.0
Single storey terrace house	1,192	476,111	6.6	4.8	8.4	0.5	-0.2	1.2
DS or town house	562	233,855	8.8	5.8	11.9	1.0	-0.4	2.4
Condo / apartment	216	85,687	4.4	1.8	7.0	1.2	-0.9	3.2
Flats	528	212,806	7.3	4.5	10.1	0.6	-0.5	1.7
Long house	78	28,632	1.6	-1.4	4.7	5.7	-5.3	16.7
Boat house	2	868	50.0	-19.4	119.4	50.0	-19.4	119.4
Traditional house	126	41,814	7.0	0.6	13.4	0.0	0.0	0.0
Shop house	160	58,286	2.3	-0.3	4.9	0.0	0.0	0.0
Worker's colony	194	64,306	2.1	-0.2	4.3	0.0	0.0	0.0
Others	61	21,365	5.2	0.1	10.4	0.0	0.0	0.0
Occupation								
Senior Official & Manager	149	59,076	7.1	2.8	11.4	0.0	0.0	0.0
Professionals	360	140,246	7.8	5.0	10.7	1.3	-0.5	3.2
Technical & Associate	753	285,585	4.9	3.2	6.5	0.5	-0.5	1.6
Clerical Workers	291	108,848	6.3	3.2	9.4	0.0	0.0	0.0
Service Workers & Shop	1,495	562,879	5.6	4.3	6.9	1.2	0.2	2.2
Skilled Agricultural & Fishery	1,133	382,648	1.4	0.6	2.1	0.3	-0.3	0.9
Craft & Related Trade Workers	595	223,094	6.5	4.4	8.7	1.2	-0.5	3.0
Plant & Machine Operator & Assembler	929	345,766	5.7	4.0	7.4	0.2	-0.2	0.7
Elementary Occupations	720	254,251	2.9	1.4	4.3	0.5	-0.5	1.5

Table 9: Proportion of consumers of tobacco product (non-cigarette) by socio-demographic characteristic (continue)

Sociodemography	n	Estimated	Sisha			Others		
			%	95% CI		%	95% CI	
				L	U		L	U
Housewife	123	44,700	0.0	0.0	0.0	3.5	-3.3	10.4
Unemployed	645	231,663	5.2	3.4	7.1	0.9	-0.4	2.2
Unclassified	234	87,868	19.1	12.4	25.9	0.0	0.0	0.0
Marital Status								
Not married	1,952	718,248	13.6	11.7	15.5	0.5	-0.1	1.0
married	5,199	1,907,480	2.3	1.8	2.7	0.8	0.3	1.3
Divorcee	121	44,887	2.7	-0.4	5.7	0.0	0.0	0.0
Widow/widower	123	43,870	0.9	-0.8	2.5	2.7	-2.5	8.0
Unclassified	32	12,139	6.7	-2.4	15.8	0.0	0.0	0.0
Age Group								
15-19	353	126,100	20.4	14.9	26.0	3.1	-0.3	6.5
20-24	957	352,169	17.1	14.4	19.8	0.0	0.0	0.0
25-29	904	337,490	7.4	5.5	9.2	0.7	-0.3	1.6
30-34	895	329,700	3.7	2.3	5.1	1.2	-0.2	2.5
35-39	838	308,302	2.4	1.3	3.5	0.5	-0.4	1.4
40-44	840	308,207	1.2	0.4	1.9	0.0	0.0	0.0
45-49	700	259,261	1.8	0.7	2.8	0.3	-0.3	1.0
50-54	583	214,684	0.8	0.0	1.5	1.7	-0.2	3.6
55-59	487	179,494	0.5	-0.2	1.1	0.0	0.0	0.0
60-64	334	120,081	1.4	0.0	2.7	2.3	-0.9	5.5
65-69	238	85,463	0.0	0.0	0.0	1.6	-1.5	4.6
70-74	159	56,062	1.3	-0.5	3.1	0.0	0.0	0.0
75-79	74	26,240	0.0	0.0	0.0	0.0	0.0	0.0
80+	65	23,371	0.0	0.0	0.0	0.0	0.0	0.0

Table 10: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	5,189	1,898,386	70.5	69.4	71.7
State					
Johor	592	227,606	76.3	72.6	79.9
Kedah	449	158,705	68.8	65.1	72.5
Kelantan	375	123,872	69.2	64.9	73.5
Malacca	133	54,784	77.1	71.3	83.0
N. Sembilan	218	77,902	73.6	68.6	78.5
Pahang	380	144,586	75.9	72.0	79.8
Penang	232	81,000	59.6	53.9	65.4
Perak	348	141,492	61.7	57.4	66.0
Perlis	84	30,673	84.4	77.3	91.5
Selangor	714	290,494	67.5	64.4	70.6
Terengganu	287	96,700	78.7	75.0	82.5
Sabah	680	208,232	73.1	69.7	76.4
Sarawak	402	154,509	69.9	65.6	74.3
W.P. Kuala Lumpur	196	77,144	65.1	59.2	71.1
W.P. Labuan	99	30,689	84.7	78.7	90.7
Urban					
Johor	119	149,097	74.6	69.9	79.4
Kedah	62	51,630	67.5	61.5	73.6
Kelantan	44	34,837	69.2	59.9	78.6
Malacca	26	42,261	76.8	69.7	83.9
N. Sembilan	35	36,070	72.4	64.3	80.5
Pahang	38	59,983	78.8	73.6	83.9
Penang	126	58,770	55.8	49.6	62.0
Perak	105	71,186	59.3	53.2	65.4
Perlis	6	10,036	79.3	66.7	91.9
Selangor	286	251,645	67.0	63.6	70.4
Terengganu	31	46,220	79.7	74.2	85.2
Sabah	81	99,478	79.2	74.3	84.1
Sarawak	63	66,485	70.3	63.6	76.9
W.P. Kuala Lumpur	105	77,144	65.1	59.2	71.1
W.P. Labuan	9	18,410	86.4	77.7	95.1
Rural					
Johor	62	78,510	79.6	74.4	84.8
Kedah	141	107,075	69.4	64.8	74.1
Kelantan	123	89,035	69.2	64.5	73.9
Malacca	13	12,523	78.3	69.7	87.0
N. Sembilan	43	41,832	74.6	68.7	80.4
Pahang	84	84,604	74.0	68.5	79.5
Penang	27	22,230	73.0	61.1	84.9
Perak	108	70,305	64.4	58.4	70.4
Perlis	9	20,636	87.1	79.4	94.9
Selangor	55	38,849	70.9	64.1	77.7
Terengganu	47	50,480	77.8	72.8	82.8

Table 10: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	173	108,754	68.3	63.9	72.6
Sarawak	110	88,024	69.7	64.0	75.4
W.P Labuan	9	12,279	82.4	74.5	90.2
Residence					
Urban	2,644	1,073,251	69.7	68.1	71.4
Rural	2,545	825,136	71.7	70.0	73.3
Ethnicity					
Malay	3,359	1,228,915	74.9	73.5	76.3
Chinese	621	244,928	55.4	52.2	58.5
Indian	260	103,149	68.6	63.9	73.3
Other Bumis	690	230,036	72.9	69.7	76.1
Others	259	91,358	64.3	59.4	69.1
Religion					
Islam	3,940	1,422,504	74.4	73.1	75.7
Christian	409	145,497	71.1	67.0	75.3
Buddhist	551	217,314	54.0	50.7	57.3
Hindu	208	82,346	65.0	59.7	70.4
Others	76	28,859	68.7	59.9	77.4
Unclassified	5	1,867	55.2	22.4	88.1
Citizenship					
Malaysian	4,869	1,788,855	71.2	70.0	72.4
Non-Malaysian	318	108,762	61.8	57.2	66.5
Unclassified	2	769	49.2	-0.3	98.6
Gender					
Male	4,988	1,824,336	70.7	69.5	71.9
Female	201	74,050	66.7	61.1	72.2
Household Income					
Less than RM 400	404	137,726	62.6	58.7	66.4
RM 400 - RM 699	908	314,230	70.7	68.0	73.4
RM 700 - RM 999	668	240,402	73.1	70.2	76.0
RM 1000 - RM 1999	1,482	543,107	71.9	69.8	73.9
RM 2000 - RM 2999	759	286,488	71.2	68.2	74.2
RM 3000 - RM 3999	353	137,324	70.6	66.2	75.0
RM 4000 - RM 4999	156	61,417	72.7	66.5	78.9
RM 5000 & above	296	117,505	68.2	63.5	72.9
Unclassified	163	60,189	68.5	62.1	74.9
Personal Income					
Less than RM 400	659	222,035	65.7	62.8	68.6
RM 400 - RM 699	978	341,613	72.6	70.1	75.1
RM 700 - RM 999	921	338,960	76.0	73.4	78.6
RM 1000 - RM 1999	1,346	510,144	71.5	69.4	73.7
RM 2000 - RM 2999	407	158,287	68.2	64.4	72.0

Table 10: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	137	54,188	70.7	63.9	77.5
RM 4000 - RM 4999	45	18,165	76.1	65.1	87.1
RM 5000 & above	77	30,663	67.3	58.9	75.7
Education					
None	299	102,642	53.9	49.6	58.3
Primary	1,608	576,718	65.5	63.5	67.5
Secondary	2,896	1,071,684	75.8	74.3	77.3
Tertiary	346	133,640	72.4	68.3	76.5
Non Classified	40	13,702	64.4	52.8	75.9
Housing area					
Housing area	1,750	706,148	68.8	66.9	70.8
Village	2,558	880,592	71.3	69.6	73.0
New village	82	32,840	60.8	51.7	69.8
Squatters	72	26,516	78.8	70.7	86.9
Estate	221	70,645	69.7	64.3	75.1
Land development	225	75,050	77.0	72.1	81.8
Others	268	101,774	74.7	69.9	79.6
House Type					
Single house	2,768	956,721	71.2	69.5	72.8
Semi_D house	254	95,128	74.2	69.3	79.0
Single storey terrace house	841	334,623	71.2	68.4	73.9
DS or town house	380	157,515	68.4	64.1	72.8
Condo / apartment	138	54,756	65.5	58.8	72.1
Flats	366	147,231	70.3	65.6	74.9
Long house	53	19,396	67.7	56.2	79.2
Boat house	2	868	100.0	-	-
Traditional house	90	30,136	74.2	66.2	82.2
Shop house	102	36,537	63.4	55.5	71.3
Worker's colony	125	40,900	63.6	55.4	71.8
Others	50	17,405	81.5	71.6	91.3
Occupation					
Senior Official & Manager	97	38,024	65.6	57.9	73.3
Professionals	259	100,328	72.1	67.2	77.0
Technical & Associate	576	218,833	77.9	74.9	81.0
Clerical Workers	215	79,505	74.3	69.2	79.4
Service Workers & Shop	1,047	391,991	70.2	67.7	72.7
Skilled Agricultural & Fishery	765	257,788	68.0	65.3	70.7
Craft & Related Trade Workers	427	158,190	71.7	67.7	75.6
Plant & Machine Operator & Assembler	648	240,363	70.9	67.9	74.0
Elementary Occupations	503	177,521	70.4	66.7	74.1
Housewife	79	28,552	65.2	56.8	73.7
Unemployed	396	141,208	62.2	58.2	66.2
Unclassified	177	66,086	76.9	71.4	82.3

Table 10: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	1,428	522,780	73.5	71.4	75.6
married	3,599	1,316,584	70.0	68.6	71.4
Divorcee	78	28,652	64.8	56.1	73.5
Widow/widower	62	22,108	51.7	43.1	60.4
Unclassified	22	8,263	69.8	53.1	86.6
Age Group					
15-19	259	92,769	74.5	69.5	79.5
20-24	717	262,353	75.2	72.3	78.1
25-29	690	256,632	76.8	73.9	79.7
30-34	638	234,616	72.4	69.3	75.4
35-39	613	224,574	73.9	70.8	77.0
40-44	581	211,826	69.5	66.3	72.7
45-49	473	174,208	67.6	64.1	71.1
50-54	404	148,181	69.8	66.0	73.7
55-59	333	121,534	69.1	65.0	73.3
60-64	202	72,837	61.5	56.2	66.8
65-69	136	48,956	58.0	51.5	64.6
70-74	77	27,106	49.3	41.6	57.0
75-79	40	13,623	54.6	42.7	66.5
80+	26	9,172	41.9	28.9	54.9

Table 11: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Mean no. of quit attempts	95% CI	
				Lower	Upper
National	4,845	1,773,266	2.1	2.1	2.2
State					
Johor	544	209,292	2.1	1.9	2.2
Kedah	401	141,922	1.8	1.7	2.0
Kelantan	348	114,957	1.8	1.6	2.0
Malacca	130	53,760	1.8	1.5	2.0
N. Sembilan	212	75,730	2.1	1.9	2.4
Pahang	354	134,740	2.3	2.0	2.6
Penang	219	76,260	2.0	1.8	2.2
Perak	330	134,374	2.3	2.0	2.6
Perlis	73	26,657	2.3	2.0	2.7
Selangor	670	272,843	2.3	2.1	2.4
Terengganu	270	90,988	2.1	1.8	2.4
Sabah	647	198,125	2.1	1.9	2.2
Sarawak	363	139,662	2.2	2.0	2.3
W.P. Kuala Lumpur	191	75,176	2.4	2.1	2.8
W.P. Labuan	93	28,781	2.5	2.1	2.9
Urban					
Johor	323	137,595	2.0	1.8	2.2
Kedah	118	47,227	2.1	1.7	2.4
Kelantan	92	32,374	2.0	1.6	2.4
Malacca	85	41,770	1.8	1.6	2.1
N. Sembilan	89	34,894	2.0	1.6	2.4
Pahang	132	56,154	2.3	1.8	2.7
Penang	147	54,334	2.0	1.8	2.2
Perak	147	68,395	2.6	2.0	3.1
Perlis	20	8,727	2.3	2.1	2.5
Selangor	546	236,893	2.3	2.1	2.5
Terengganu	115	43,568	2.3	1.8	2.8
Sabah	293	94,633	2.2	2.0	2.5
Sarawak	136	60,685	2.1	1.8	2.4
W.P. Kuala Lumpur	191	75,176	2.4	2.1	2.8
W.P. Labuan	52	16,795	2.6	2.0	3.2
Rural					
Johor	221	71,697	2.2	1.9	2.5
Kedah	283	94,695	1.7	1.6	1.9
Kelantan	256	82,583	1.8	1.5	2.0
Malacca	45	11,990	1.6	1.3	1.8
N. Sembilan	123	40,836	2.2	1.9	2.6
Pahang	222	78,586	2.3	1.8	2.7
Penang	72	21,925	2.0	1.7	2.2
Perak	183	65,979	2.1	1.9	2.3
Perlis	53	17,930	2.4	1.8	2.9
Selangor	124	35,950	2.1	1.8	2.4
Terengganu	155	47,421	1.9	1.6	2.1

Table 11: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean no. of quit attempts	95% CI	
				Lower	Upper
Sabah	354	103,492	2.0	1.8	2.1
Sarawak	227	78,978	2.2	2.0	2.4
W.P Labuan	41	11,986	2.3	1.9	2.7
Residence					
Urban	2,486	1,009,219	2.2	2.1	2.3
Rural	2,359	764,047	2.0	2.0	2.1
Ethnicity					
Malay	3,141	1,150,550	2.1	2.0	2.2
Chinese	569	224,697	2.0	1.9	2.2
Indian	243	96,289	2.5	2.2	2.9
Other Bumis	645	214,881	2.2	2.1	2.4
Others	247	86,849	2.4	2.1	2.7
Religion					
Islam	3,694	1,334,656	2.1	2.0	2.2
Christian	374	132,780	2.3	2.1	2.5
Buddhist	509	201,096	2.0	1.9	2.1
Hindu	194	76,744	2.6	2.2	3.0
Others	69	26,122	2.2	1.5	2.9
Unclassified	5	1,867	2.7	0.0	5.5
Citizenship					
Malaysian	4,543	1,670,184	2.1	2.1	2.2
Non-Malaysian	300	102,313	2.3	2.1	2.5
Unclassified	2	769	2.6	1.9	3.3
Gender					
Male	4,659	1,704,758	2.1	2.1	2.2
Female	186	68,508	2.4	2.0	2.7
Household Income					
Less than RM 400	356	121,101	2.0	1.9	2.2
RM 400 - RM 699	858	296,796	2.1	1.9	2.2
RM 700 - RM 999	629	225,935	2.2	2.0	2.4
RM 1000 - RM 1999	1,383	507,227	2.1	2.0	2.2
RM 2000 - RM 2999	723	273,287	2.3	2.1	2.4
RM 3000 - RM 3999	328	127,424	2.2	1.9	2.5
RM 4000 - RM 4999	146	57,682	2.1	1.8	2.4
RM 5000 & above	272	108,277	2.0	1.8	2.3
Unclassified	150	55,538	2.4	2.0	2.8
Personal Income					
Less than RM 400	612	206,298	2.0	1.9	2.1
RM 400 - RM 699	929	324,632	2.2	2.1	2.4
RM 700 - RM 999	861	316,449	2.1	2.0	2.3
RM 1000 - RM 1999	1,248	474,299	2.1	2.0	2.2
RM 2000 - RM 2999	376	146,395	2.0	1.8	2.2

Table 11: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean no. of quit attempts	95% CI	
				Lower	Upper
RM 3000 - RM 3999	130	51,496	2.3	1.7	3.0
RM 4000 - RM 4999	42	17,061	2.2	1.6	2.8
RM 5000 & above	70	27,827	2.1	1.6	2.5
Education					
None	266	91,025	2.1	1.9	2.3
Primary	1,494	536,039	2.0	1.9	2.1
Secondary	2,726	1,008,951	2.2	2.1	2.3
Tertiary	322	124,599	2.2	1.9	2.4
Non Classified	37	12,653	2.7	1.8	3.5
Housing area					
Housing area	1,636	660,612	2.3	2.1	2.4
Village	2,376	818,528	2.1	2.0	2.1
New village	77	30,929	1.8	1.5	2.0
Squatters	70	25,798	2.1	1.6	2.6
Estate	210	67,149	2.1	1.9	2.4
Land development	216	72,064	2.1	1.8	2.4
Others	247	93,364	2.0	1.9	2.2
House Type					
Single house	2,577	890,870	2.1	2.0	2.2
Semi_D house	231	86,371	2.0	1.8	2.2
Single storey terrace house	789	314,636	2.3	2.1	2.4
DS or town house	360	149,173	2.3	2.1	2.6
Condo / apartment	132	52,400	2.4	2.0	2.8
Flats	335	134,472	2.0	1.9	2.2
Long house	46	16,843	2.2	1.7	2.6
Boat house	2	868	2.0	0.6	3.4
Traditional house	86	28,878	1.8	1.4	2.2
Shop house	98	35,210	2.2	1.8	2.6
Worker's colony	120	39,315	2.4	2.1	2.8
Others	49	17,057	2.0	1.6	2.4
Occupation					
Senior Official & Manager	90	35,202	2.2	1.7	2.7
Professionals	245	94,985	2.5	2.0	2.9
Technical & Associate	538	204,699	2.1	1.9	2.3
Clerical Workers	196	72,641	2.2	1.9	2.4
Service Workers & Shop	992	371,852	2.1	2.0	2.2
Skilled Agricultural & Fishery	701	235,783	2.0	1.9	2.2
Craft & Related Trade Workers	405	150,196	2.2	2.0	2.4
Plant & Machine Operator & Assembler	602	223,077	2.1	2.0	2.3
Elementary Occupations	467	164,750	2.0	1.9	2.2
Housewife	72	25,988	2.3	1.8	2.8
Unemployed	370	131,784	2.1	1.9	2.4
Unclassified	167	62,309	2.2	1.9	2.5

Table 11: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Mean no. of quit attempts	95% CI	
				Lower	Upper
Marital Status					
Not married	1,369	501,524	2.2	2.1	2.4
married	3,333	1,219,743	2.1	2.0	2.2
Divorcee	68	24,902	2.5	1.7	3.2
Widow/widower	55	19,685	1.9	1.3	2.5
Unclassified	20	7,412	2.0	1.6	2.5
Age Group					
15-19	254	90,660	2.4	2.1	2.8
20-24	685	250,878	2.3	2.1	2.4
25-29	657	243,988	2.1	1.9	2.3
30-34	593	218,694	2.2	2.0	2.3
35-39	577	211,563	2.1	1.9	2.3
40-44	536	195,590	1.9	1.8	2.0
45-49	443	163,175	2.1	1.9	2.3
50-54	367	134,745	2.1	1.8	2.4
55-59	300	109,774	2.3	2.0	2.6
60-64	183	65,690	1.9	1.7	2.1
65-69	125	44,911	2.3	1.9	2.7
70-74	69	24,286	1.9	1.5	2.2
75-79	34	11,595	2.0	1.6	2.5
80+	22	7,716	2.7	1.5	3.9

Table 12: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
National	4,882	1,782,444	71.1	69.9	72.3
State					
Johor	524	201,889	74.0	70.1	77.8
Kedah	456	161,310	74.5	70.7	78.2
Kelantan	420	138,564	81.6	78.2	85.0
Malacca	105	43,499	65.4	57.9	72.9
N. Sembilan	173	61,881	62.4	56.3	68.4
Pahang	352	133,318	73.5	69.4	77.7
Penang	216	75,606	58.2	52.5	63.9
Perak	342	138,805	64.2	60.0	68.4
Perlis	64	23,710	73.4	63.4	83.3
Selangor	675	275,588	69.3	66.1	72.4
Terengganu	275	92,154	79.5	75.2	83.8
Sabah	653	199,144	76.0	72.8	79.2
Sarawak	374	143,490	69.5	65.3	73.6
W.P. Kuala Lumpur	178	70,059	65.7	59.2	72.1
W.P. Labuan	75	23,427	71.3	63.5	79.1
Urban					
Johor	314	133,761	73.2	68.0	78.4
Kedah	133	53,231	73.5	66.7	80.3
Kelantan	105	36,948	76.6	70.1	83.2
Malacca	69	33,907	65.7	56.7	74.7
N. Sembilan	74	29,013	61.2	51.1	71.3
Pahang	122	51,900	72.2	65.3	79.1
Penang	151	55,813	54.9	48.8	61.1
Perak	148	68,860	60.7	54.5	66.8
Perlis	21	9,164	80.8	66.3	95.2
Selangor	555	240,798	69.5	66.0	72.9
Terengganu	110	41,673	77.5	70.5	84.5
Sabah	269	86,882	75.8	70.7	80.9
Sarawak	136	60,685	70.1	63.8	76.4
W.P. Kuala Lumpur	178	70,059	65.7	59.2	72.1
W.P. Labuan	49	15,826	80.3	72.2	88.5
Rural					
Johor	210	68,128	75.5	70.5	80.5
Kedah	323	108,079	74.9	70.5	79.4
Kelantan	315	101,616	83.6	79.6	87.5
Malacca	36	9,592	64.3	51.8	76.8
N. Sembilan	99	32,868	63.5	56.6	70.3
Pahang	230	81,418	74.4	69.2	79.7
Penang	65	19,794	69.9	57.7	82.1
Perak	194	69,945	68.1	62.5	73.7
Perlis	43	14,547	69.4	56.4	82.3
Selangor	120	34,790	67.8	60.1	75.5
Terengganu	165	50,480	81.3	76.0	86.5

Table 12: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
Sabah	384	112,262	76.2	72.1	80.3
Sarawak	238	82,805	69.0	63.5	74.5
W.P Labuan	26	7,601	57.8	46.3	69.2
Residence					
Urban	2,434	988,519	69.2	67.5	70.9
Rural	2,448	793,925	73.6	72.0	75.3
Ethnicity					
Malay	3,192	1,166,220	76.1	74.8	77.5
Chinese	516	204,282	49.9	46.8	53.1
Indian	251	99,754	71.4	66.1	76.6
Other Bumis	671	223,294	76.2	73.3	79.2
Others	252	88,894	66.6	61.7	71.6
Religion					
Islam	3,749	1,350,978	75.7	74.4	77.0
Christian	389	138,185	73.0	68.7	77.3
Buddhist	461	182,336	49.0	45.7	52.2
Hindu	208	82,653	69.7	64.1	75.4
Others	69	26,144	66.8	56.8	76.7
Unclassified	6	2,148	63.6	31.3	95.9
Citizenship					
Malaysian	4,561	1,671,899	71.4	70.1	72.6
Non-Malaysian	320	110,111	67.3	62.7	71.9
Unclassified	1	434	54.6	-14.1	123.4
Gender					
Male	4,687	1,711,573	71.1	69.9	72.4
Female	195	70,871	70.0	64.6	75.5
Household Income					
Less than RM 400	432	146,768	71.3	67.4	75.3
RM 400 - RM 699	877	302,586	73.3	70.5	76.0
RM 700 - RM 999	631	227,270	74.0	70.8	77.1
RM 1000 - RM 1999	1,398	512,170	73.1	71.0	75.3
RM 2000 - RM 2999	700	265,538	70.3	67.3	73.3
RM 3000 - RM 3999	324	125,593	68.4	63.9	72.8
RM 4000 - RM 4999	132	51,963	65.8	58.9	72.7
RM 5000 & above	248	98,591	61.8	56.4	67.2
Unclassified	140	51,966	64.5	58.1	70.9
Personal Income					
Less than RM 400	660	221,780	71.1	68.1	74.1
RM 400 - RM 699	915	317,697	73.1	70.4	75.7
RM 700 - RM 999	878	322,663	76.3	73.7	78.9
RM 1000 - RM 1999	1,255	478,995	71.9	69.6	74.2
RM 2000 - RM 2999	354	137,866	63.8	59.7	67.9

Table 12: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	116	45,886	64.0	57.0	71.1
RM 4000 - RM 4999	32	12,833	59.0	45.8	72.2
RM 5000 & above	64	25,424	60.2	50.9	69.5
Education					
None	301	102,349	58.6	54.3	63.0
Primary	1,524	544,775	66.5	64.4	68.6
Secondary	2,701	999,166	76.0	74.5	77.5
Tertiary	318	122,865	69.2	64.9	73.5
Non Classified	38	13,289	65.5	54.0	77.0
Housing area					
Housing area	1,610	650,603	68.4	66.4	70.5
Village	2,448	841,110	72.7	71.0	74.3
New village	75	29,866	60.0	51.7	68.4
Squatters	64	23,661	75.3	65.7	84.9
Estate	204	65,175	69.7	64.1	75.4
Land development	214	71,261	80.1	75.1	85.2
Others	257	97,050	76.2	71.0	81.3
House Type					
Single house	2,643	910,054	72.7	71.1	74.3
Semi_D house	239	89,172	73.5	68.3	78.7
Single storey terrace house	755	301,949	68.9	65.9	71.9
DS or town house	363	151,010	69.4	65.4	73.4
Condo / apartment	126	49,935	64.7	56.4	72.9
Flats	341	137,652	71.7	67.2	76.3
Long house	49	17,612	65.3	53.9	76.6
Boat house	2	868	100.0	-	-
Traditional house	85	28,331	74.5	66.5	82.6
Shop house	89	31,630	60.4	50.3	70.5
Worker's colony	131	43,120	72.1	64.5	79.6
Others	44	15,651	77.8	67.8	87.8
Occupation					
Senior Official & Manager	86	33,857	60.4	52.2	68.6
Professionals	236	91,654	69.9	64.8	75.1
Technical & Associate	550	209,074	79.1	76.0	82.3
Clerical Workers	193	71,966	71.6	66.3	77.0
Service Workers & Shop	961	358,549	69.2	66.6	71.7
Skilled Agricultural & Fishery	728	245,280	69.6	66.7	72.5
Craft & Related Trade Workers	401	149,212	73.1	69.0	77.2
Plant & Machine Operator & Assembler	611	225,917	71.8	68.5	75.1
Elementary Occupations	485	169,906	72.1	68.4	75.7
Housewife	79	28,280	71.3	62.7	79.8
Unemployed	391	138,404	65.7	61.7	69.8
Unclassified	161	60,346	75.8	69.7	81.9

Table 12: Proportion of those ever attempted to quit among current smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
Marital Status					
Not married	1,344	490,086	74.2	72.1	76.4
married	3,384	1,236,386	70.5	69.1	71.9
Divorcee	65	24,294	58.3	48.9	67.8
Widow/widower	67	23,442	57.8	48.4	67.2
Unclassified	22	8,236	77.2	61.0	93.4
Age Group					
15-19	264	93,769	81.2	76.6	85.9
20-24	674	246,496	76.1	73.2	79.0
25-29	642	238,686	77.1	74.3	79.9
30-34	586	216,701	71.4	68.2	74.5
35-39	554	202,398	70.9	67.7	74.1
40-44	552	201,257	71.2	68.0	74.4
45-49	445	163,778	67.6	63.9	71.2
50-54	375	136,273	68.8	64.8	72.7
55-59	314	114,528	68.5	64.1	73.0
60-64	193	68,399	63.1	57.5	68.7
65-69	147	52,732	67.8	61.5	74.2
70-74	72	25,049	50.3	42.2	58.4
75-79	36	12,389	56.9	44.3	69.6
80+	28	9,988	47.4	35.0	59.8

Table 13: Proportion of respondents who are aware of the availability of quit smoking clinic provided by MOH by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
National	12,878	4,805,412	38.0	37.2	38.7
State					
Johor	1,601	620,154	42.3	40.0	44.5
Kedah	1,082	388,558	42.5	40.4	44.6
Kelantan	1,051	347,861	52.7	50.0	55.4
Malacca	408	166,975	47.3	43.6	51.1
N. Sembilan	537	195,464	42.2	39.0	45.4
Pahang	854	327,876	47.3	44.2	50.4
Penang	777	275,802	36.1	33.7	38.6
Perak	988	415,072	37.8	35.1	40.5
Perlis	124	44,989	40.1	34.0	46.2
Selangor	1,891	781,150	32.5	30.6	34.3
Terengganu	591	201,152	43.0	39.8	46.1
Sabah	1,249	383,676	31.7	29.7	33.7
Sarawak	986	383,545	34.3	31.7	36.8
W.P. Kuala Lumpur	527	207,422	27.3	24.8	29.7
W.P. Labuan	212	65,715	38.7	32.3	45.2
Urban					
Johor	992	422,582	42.0	39.0	44.9
Kedah	404	161,693	42.9	39.6	46.3
Kelantan	301	105,919	48.3	44.4	52.2
Malacca	259	127,275	47.2	42.7	51.6
N. Sembilan	286	112,132	43.3	39.1	47.4
Pahang	358	152,297	47.1	42.2	52.0
Penang	602	222,511	35.4	32.6	38.2
Perak	562	261,482	38.8	35.1	42.6
Perlis	31	13,527	36.5	24.6	48.3
Selangor	1,618	702,002	32.6	30.6	34.5
Terengganu	279	105,699	43.3	38.3	48.4
Sabah	605	195,403	32.7	29.8	35.6
Sarawak	412	183,839	33.1	29.7	36.5
W.P. Kuala Lumpur	527	207,422	27.3	24.8	29.7
W.P. Labuan	122	39,404	37.4	28.6	46.2
Rural					
Johor	609	197,572	42.9	39.9	45.9
Kedah	678	226,866	42.1	39.4	44.9
Kelantan	750	241,942	54.9	51.5	58.3
Malacca	149	39,700	47.9	41.0	54.8
N. Sembilan	251	83,332	40.8	35.9	45.7
Pahang	496	175,579	47.6	43.6	51.5
Penang	175	53,291	39.7	34.8	44.6
Perak	426	153,590	36.2	32.6	39.7
Perlis	93	31,462	41.9	35.1	48.7
Selangor	273	79,148	31.5	25.9	37.0
Terengganu	312	95,453	42.6	38.8	46.3

Table 13: Proportion of respondents who are aware of the availability of quit smoking clinic provided by MOH by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
Sabah					
Sabah	644	188,273	30.8	28.0	33.5
Sarawak					
Sarawak	574	199,706	35.4	31.6	39.3
W.P Labuan					
W.P Labuan	90	26,311	40.9	32.4	49.4
Residence					
Urban	7,358	3,013,186	36.7	35.7	37.7
Rural	5,520	1,792,226	40.3	39.1	41.5
Ethnicity					
Malay	7,864	2,913,644	42.2	41.2	43.2
Chinese	2,154	860,898	31.5	30.1	32.8
Indian	1,040	415,287	37.4	35.1	39.6
Other Bumis	1,364	454,244	35.2	33.2	37.2
Others	456	161,339	26.4	23.6	29.1
Religion					
Islam	8,934	3,272,570	40.7	39.8	41.7
Christian	1,128	413,638	36.6	34.5	38.7
Buddhist	1,793	714,297	30.2	28.8	31.6
Hindu	843	336,844	36.5	34.1	39.0
Others	171	64,853	34.4	29.4	39.5
Unclassified	9	3,209	20.6	8.3	33.0
Citizenship					
Malaysian	12,383	4,628,288	39.0	38.2	39.7
Non-Malaysian	490	175,297	22.7	20.5	25.0
Unclassified	5	1,827	22.7	4.8	40.6
Gender					
Male	6,047	2,257,899	39.8	38.8	40.8
Female	6,831	2,547,512	36.5	35.6	37.4
Household Income					
Less than RM 400	892	314,265	31.0	29.0	33.0
RM 400 - RM 699	1,896	661,872	38.1	36.4	39.8
RM 700 - RM 999	1,464	531,481	38.3	36.5	40.0
RM 1000 - RM 1999	3,462	1,292,035	39.0	37.7	40.2
RM 2000 - RM 2999	2,014	774,329	39.0	37.4	40.5
RM 3000 - RM 3999	1,068	419,081	41.1	38.9	43.2
RM 4000 - RM 4999	549	213,966	41.8	38.9	44.7
RM 5000 & above	1,120	441,202	37.9	35.7	40.0
Unclassified	413	157,180	30.4	27.6	33.2
Personal Income					
Less than RM 400	1,365	473,217	35.1	33.3	36.9
RM 400 - RM 699	1,545	560,730	38.2	36.5	39.9
RM 700 - RM 999	1,355	509,697	39.8	38.0	41.7
RM 1000 - RM 1999	2,545	977,792	43.2	41.7	44.7
RM 2000 - RM 2999	968	379,294	43.8	41.6	46.0

Table 13: Proportion of respondents who are aware of the availability of quit smoking clinic provided by MOH by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	342	136,271	43.8	40.1	47.5
RM 4000 - RM 4999	118	46,570	39.4	33.9	44.9
RM 5000 & above	257	103,265	45.6	40.9	50.4
Education					
None	785	273,712	21.7	20.2	23.2
Primary	3,976	1,452,955	35.9	34.8	37.0
Secondary	6,561	2,472,539	41.7	40.7	42.6
Tertiary	1,476	577,163	43.7	41.7	45.7
Non Classified	80	29,044	30.0	24.2	35.9
Housing area					
Housing area	5,455	2,202,714	37.0	35.9	38.1
Village	5,658	1,960,600	38.9	37.8	40.0
New village	229	91,306	34.8	30.0	39.7
Squatters	96	35,977	24.8	17.8	31.8
Estate	269	88,390	27.9	23.4	32.4
Land development	459	154,395	45.7	41.5	49.8
Others	677	258,330	45.7	42.3	49.1
House Type					
Single house	6,300	2,204,683	39.0	37.9	40.0
Semi_D house	587	220,701	40.2	36.9	43.5
Single storey terrace house	2,436	976,425	40.2	38.5	41.9
DS or town house	1,282	533,633	33.9	31.9	36.0
Condo / apartment	449	177,630	35.0	31.8	38.2
Flats	979	391,986	37.8	35.4	40.1
Long house	118	42,859	31.9	25.2	38.6
Boat house	2	868	28.6	-28.0	85.2
Traditional house	191	63,836	42.8	37.5	48.2
Shop house	275	100,545	34.3	30.1	38.6
Worker's colony	127	43,376	22.4	17.1	27.7
Others	86	30,641	37.4	29.3	45.5
Occupation					
Senior Official & Manager	272	106,763	42.1	37.9	46.4
Professionals	1,075	416,635	47.2	45.0	49.4
Technical & Associate	1,245	478,271	47.2	45.1	49.3
Clerical Workers	758	290,276	41.6	39.3	43.9
Service Workers & Shop	2,092	788,575	37.6	36.1	39.1
Skilled Agricultural & Fishery	1,002	340,511	38.1	35.9	40.4
Craft & Related Trade Workers	724	275,243	36.5	34.0	38.9
Plant & Machine Operator & Assembler	706	266,392	38.2	35.8	40.6
Elementary Occupations	549	194,801	35.1	32.3	37.9
Housewife	2,912	1,073,788	36.3	35.1	37.6
Unemployed	930	336,689	27.0	25.4	28.6
Unclassified	613	237,467	38.7	36.1	41.3

Table 13: Proportion of respondents who are aware of the availability of quit smoking clinic provided by MOH by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Proportion %	95% CI	
				Lower	Upper
Marital Status					
Not married	2,493	933,789	34.9	33.6	36.2
married	9,666	3,606,202	40.2	39.3	41.0
Divorcee	235	88,225	31.8	28.4	35.3
Widow/widower	449	164,365	24.3	22.2	26.3
Unclassified	35	12,830	28.2	20.1	36.2
Age Group					
15-19	604	222,576	36.0	33.6	38.3
20-24	1,354	505,760	35.5	33.8	37.3
25-29	1,421	535,407	38.5	36.7	40.2
30-34	1,453	542,067	41.2	39.4	42.9
35-39	1,435	536,883	40.1	38.3	41.9
40-44	1,552	578,965	40.4	38.8	42.0
45-49	1,489	559,718	42.9	41.1	44.8
50-54	1,232	459,500	40.4	38.5	42.3
55-59	982	367,462	39.6	37.4	41.7
60-64	600	220,053	36.3	33.9	38.8
65-69	404	147,146	28.1	25.6	30.6
70-74	203	74,586	23.1	20.2	25.9
75-79	101	37,570	21.2	17.4	25.0
80+	48	17,719	13.0	9.4	16.6

Table 14: Prevalence of ever smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	11,704	4,291,894	33.4	32.9	34.0
State					
Johor	1,247	479,409	32.2	30.6	33.8
Kedah	968	343,392	37.4	35.3	39.4
Kelantan	858	284,049	42.8	40.8	44.7
Malacca	293	118,786	32.7	29.2	36.1
N. Sembilan	450	162,195	34.5	32.2	36.8
Pahang	802	305,040	43.1	40.2	46.0
Penang	545	192,980	25.1	23.2	27.0
Perak	747	306,503	27.8	25.8	29.7
Perlis	138	49,921	43.5	39.3	47.8
Selangor	1,779	726,942	29.8	28.5	31.1
Terengganu	592	199,709	42.1	39.8	44.4
Sabah	1,641	500,452	41.0	39.0	43.1
Sarawak	946	363,829	31.2	29.2	33.3
W.P. Kuala Lumpur	506	199,157	26.1	24.0	28.2
W.P. Labuan	192	59,531	34.9	30.6	39.2
Urban					
Johor	737	704,161	30.8	28.8	32.9
Kedah	297	259,749	31.4	28.0	34.7
Kelantan	248	133,718	39.5	36.6	42.4
Malacca	181	188,701	32.0	27.7	36.3
N. Sembilan	213	179,176	31.8	29.0	34.6
Pahang	296	205,898	37.9	32.9	43.0
Penang	415	480,506	24.2	22.1	26.3
Perak	355	509,936	24.5	22.0	26.9
Perlis	33	23,127	38.4	31.3	45.4
Selangor	1,467	1,546,747	29.2	27.8	30.5
Terengganu	255	150,403	39.1	36.1	42.1
Sabah	676	383,054	36.3	33.5	39.1
Sarawak	353	419,437	27.3	24.5	30.1
W.P. Kuala Lumpur	506	563,621	26.1	24.0	28.2
W.P. Labuan	111	69,764	33.9	28.5	39.4
Rural					
Johor	510	306,577	35.1	32.7	37.4
Kedah	671	315,872	41.5	39.4	43.7
Kelantan	610	246,136	44.4	42.0	46.9
Malacca	112	56,219	34.7	29.9	39.4
N. Sembilan	237	128,484	38.0	34.4	41.6
Pahang	506	196,818	47.6	44.5	50.8
Penang	130	95,010	29.4	25.3	33.5
Perak	392	288,071	32.9	30.2	35.6
Perlis	105	41,611	46.1	41.2	50.9
Selangor	312	164,964	35.4	32.6	38.2
Terengganu	337	124,518	45.3	42.1	48.4

Table 14: Prevalence of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah					
Sabah	965	335,910	45.6	43.0	48.3
Sarawak					
Sarawak	593	381,668	35.1	32.3	37.9
W.P Labuan					
W.P Labuan	81	41,221	36.5	29.6	43.4
Residence					
Urban	6,143	2,495,380	30.0	29.3	30.8
Rural	5,561	1,796,514	39.7	38.8	40.7
Ethnicity					
Malay	6,986	2,554,526	36.6	35.9	37.2
Chinese	1,858	740,768	26.6	25.5	27.8
Indian	624	243,903	21.7	20.2	23.2
Other Bumis	1,612	531,339	40.3	38.4	42.3
Others	624	221,359	35.7	32.7	38.7
Religion					
Islam	8,310	2,992,737	36.8	36.1	37.5
Christian	1,035	367,205	31.8	29.9	33.8
Buddhist	1,657	660,612	27.5	26.3	28.7
Hindu	507	198,067	21.3	19.6	22.9
Others	180	67,568	34.3	29.7	39.0
Unclassified	15	5,706	35.7	20.2	51.2
Citizenship					
Malaysian	10,917	4,017,042	33.4	32.8	33.9
Non-Malaysian	779	271,751	34.7	32.0	37.4
Unclassified	8	3,101	34.9	15.1	54.6
Gender					
Male	10,453	3,852,319	67.3	66.3	68.2
Female	1,251	439,575	6.2	5.7	6.6
Household Income					
Less than RM 400	1,126	384,457	37.1	35.2	39.0
RM 400 - RM 699	1,959	677,426	38.5	37.2	39.9
RM 700 - RM 999	1,410	506,052	35.9	34.3	37.5
RM 1000 - RM 1999	3,160	1,162,761	34.6	33.7	35.6
RM 2000 - RM 2999	1,675	633,885	31.5	30.2	32.8
RM 3000 - RM 3999	781	305,954	29.6	27.9	31.4
RM 4000 - RM 4999	392	154,024	29.7	27.2	32.2
RM 5000 & above	792	313,178	26.5	24.8	28.3
Unclassified	409	154,157	29.2	26.5	31.9
Personal Income					
Less than RM 400	1,553	524,065	38.3	36.6	40.0
RM 400 - RM 699	1,919	676,024	45.6	43.8	47.4
RM 700 - RM 999	1,676	619,572	47.8	45.9	49.7
RM 1000 - RM 1999	2,782	1,060,454	46.4	45.0	47.8
RM 2000 - RM 2999	944	366,232	42.1	39.9	44.2

Table 14: Prevalence of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	335	132,946	42.2	38.7	45.6
RM 4000 - RM 4999	121	48,463	40.7	35.2	46.2
RM 5000 & above	227	91,517	40.1	36.1	44.1
Education					
None	1,154	392,090	30.3	28.6	32.1
Primary	3,930	1,421,623	34.6	33.7	35.5
Secondary	5,611	2,088,978	34.8	34.0	35.6
Tertiary	912	355,177	26.7	25.1	28.2
Non Classified	97	34,026	35.1	28.9	41.2
Housing area					
Housing area	4,204	1,695,676	28.2	27.3	29.0
Village	5,637	1,936,928	37.9	37.0	38.7
New village	228	91,678	34.2	30.0	38.4
Squatters	137	49,711	34.0	29.4	38.6
Estate	472	150,840	46.9	42.9	50.9
Land development	454	151,776	44.2	41.5	46.9
Others	538	202,560	34.9	32.5	37.4
House Type					
Single house	6,163	2,128,329	37.1	36.3	37.9
Semi_D house	545	202,489	36.4	33.8	38.9
Single storey terrace house	1,829	729,232	29.7	28.5	30.9
DS or town house	1,032	428,275	26.9	25.2	28.5
Condo / apartment	330	130,579	25.5	21.2	29.9
Flats	811	325,457	31.0	29.2	32.8
Long house	129	47,265	33.8	28.8	38.9
Boat house	2	868	28.6	11.6	45.6
Traditional house	190	63,448	41.4	36.8	46.1
Shop house	245	89,204	29.9	26.2	33.7
Worker's colony	278	92,695	47.0	41.8	52.1
Others	103	36,885	44.7	39.5	49.8
Occupation					
Senior Official & Manager	271	106,743	41.8	38.1	45.6
Professionals	663	257,942	29.0	27.1	31.0
Technical & Associate	1,206	456,589	44.8	42.7	46.8
Clerical Workers	477	178,829	25.3	23.3	27.4
Service Workers & Shop	2,198	825,425	38.8	37.4	40.3
Skilled Agricultural & Fishery	1,669	564,338	62.3	60.2	64.3
Craft & Related Trade Workers	774	291,110	38.1	35.6	40.6
Plant & Machine Operator & Assembler	1,303	487,095	69.3	67.0	71.6
Elementary Occupations	963	338,451	60.4	57.9	62.9
Housewife	495	172,898	5.7	5.2	6.3
Unemployed	1,245	444,904	35.0	33.3	36.7
Unclassified	440	167,570	26.8	24.4	29.2

Table 14: Prevalence of ever smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	2,717	1,001,536	36.9	35.5	38.4
married	8,377	3,073,806	33.8	33.2	34.3
Divorcee	202	73,808	26.4	23.0	29.7
Widow/widower	364	126,457	18.4	16.5	20.2
Unclassified	44	16,287	34.0	25.4	42.6
Age Group					
15-19	533	191,694	30.6	27.9	33.3
20-24	1,324	487,888	33.8	32.2	35.5
25-29	1,222	456,584	32.4	30.9	34.0
30-34	1,252	461,830	34.6	33.1	36.1
35-39	1,177	432,329	31.9	30.4	33.4
40-44	1,269	465,364	32.1	30.7	33.5
45-49	1,123	414,319	31.4	29.9	32.9
50-54	1,016	373,814	32.3	30.7	34.0
55-59	850	314,174	33.3	31.4	35.1
60-64	652	234,889	38.1	35.8	40.5
65-69	548	195,428	36.9	34.4	39.5
70-74	373	133,593	40.3	37.1	43.5
75-79	204	72,032	40.0	35.7	44.3
80+	161	57,955	41.6	36.6	46.6

**Table 15: Prevalence of current smokers by socio-demographic characteristics
NHMS II Definition**

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	7,934	2,914,945	22.8	22.3	23.3
State					
Johor	903	346,682	23.3	21.8	24.8
Kedah	672	237,719	26.0	24.1	27.9
Kelantan	565	186,629	28.2	26.1	30.2
Malacca	180	74,281	20.5	17.2	23.7
N. Sembilan	314	112,357	23.9	21.6	26.3
Pahang	530	201,184	28.5	25.4	31.6
Penang	396	139,664	18.2	16.4	20.0
Perak	582	238,111	21.6	19.9	23.3
Perlis	103	37,689	33.2	27.9	38.4
Selangor	1,179	480,296	19.7	18.6	20.9
Terengganu	383	128,841	27.2	25.2	29.2
Sabah	1,009	307,846	25.6	23.9	27.3
Sarawak	627	241,441	20.8	19.1	22.5
W.P. Kuala Lumpur	361	142,086	18.6	16.6	20.7
W.P. Labuan	130	40,119	23.6	19.8	27.4
Urban					
Johor	478	203,623	22.1	20.3	24.0
Kedah	194	77,645	20.8	18.0	23.7
Kelantan	144	50,672	23.8	21.0	26.6
Malacca	113	55,529	20.8	16.7	24.8
N. Sembilan	129	50,577	20.1	17.1	23.2
Pahang	179	76,148	24.4	19.3	29.5
Penang	300	110,886	17.1	15.1	19.2
Perak	259	120,505	18.6	16.6	20.7
Perlis	29	12,654	33.7	26.7	40.8
Selangor	876	380,070	19.2	18.0	20.3
Terengganu	154	58,343	24.6	22.4	26.8
Sabah	391	126,285	22.7	20.1	25.2
Sarawak	216	96,381	18.4	16.1	20.7
W.P. Kuala Lumpur	303	119,258	18.6	16.6	20.7
W.P. Labuan	67	21,640	21.2	16.4	26.0
Rural					
Johor	310	100,570	25.8	23.3	28.2
Kedah	465	155,594	29.7	27.5	31.9
Kelantan	402	129,681	30.3	27.8	32.9
Malacca	62	16,519	19.5	15.5	23.5
N. Sembilan	175	58,100	28.8	25.9	31.7
Pahang	329	116,463	32.1	28.3	35.9
Penang	101	30,757	23.4	19.8	26.9
Perak	304	109,604	26.3	23.7	28.9
Perlis	71	24,019	32.9	25.8	40.0
Selangor	190	55,085	24.8	21.9	27.7
Terengganu	217	66,389	30.0	26.9	33.1

**Table 15: Prevalence of current smokers by socio-demographic characteristics
NHMS II Definition (continue)**

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	551	161,085	28.6	26.5	30.7
Sarawak	366	127,339	23.2	20.9	25.4
W.P Labuan	52	15,202	27.5	22.1	32.9
Residence					
Urban	4,117	1,677,828	20.2	19.6	20.9
Rural	3,817	1,237,117	27.6	26.7	28.4
Ethnicity					
Malay	4,837	1,769,443	25.4	24.7	26.0
Chinese	1,213	482,979	17.4	16.4	18.3
Indian	414	163,008	14.5	13.2	15.9
Other Bumis	1,012	336,502	25.9	24.5	27.4
Others	458	163,013	26.3	23.5	29.2
Religion					
Islam	5,729	2,066,785	25.5	24.9	26.1
Christian	617	220,705	19.3	17.7	20.8
Buddhist	1,106	440,776	18.4	17.4	19.4
Hindu	353	138,591	14.9	13.5	16.4
Others	119	44,275	22.6	18.9	26.3
Unclassified	10	3,813	23.9	11.2	36.6
Citizenship					
Malaysian	7,347	2,710,325	22.6	22.1	23.1
Non-Malaysian	582	202,732	26.0	23.4	28.5
Unclassified	5	1,888	22.2	4.8	39.7
Gender					
Male	7,573	2,783,669	48.8	47.8	49.7
Female	361	131,275	1.9	1.6	2.1
Household Income					
Less than RM 400	705	240,757	23.4	21.8	25.1
RM 400 - RM 699	1,383	479,572	27.4	26.1	28.7
RM 700 - RM 999	989	356,018	25.4	24.0	26.8
RM 1000 - RM 1999	2,202	811,306	24.2	23.3	25.1
RM 2000 - RM 2999	1,151	437,190	21.8	20.6	23.0
RM 3000 - RM 3999	537	211,337	20.5	18.9	22.1
RM 4000 - RM 4999	234	91,854	17.8	15.5	20.0
RM 5000 & above	472	188,714	16.0	14.5	17.6
Unclassified	261	98,198	18.7	16.4	21.1
Personal Income					
Less than RM 400	1,011	340,639	26.5	25.0	28.0
RM 400 - RM 699	1,356	475,178	34.3	32.7	36.0
RM 700 - RM 999	1,223	451,601	36.6	34.8	38.4
RM 1000 - RM 1999	1,899	724,853	33.7	32.5	35.0
RM 2000 - RM 2999	599	233,608	28.8	26.8	30.9

**Table 15: Prevalence of current smokers by socio-demographic characteristics
NHMS II Definition (continue)**

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	196	78,245	26.8	23.6	29.9
RM 4000 - RM 4999	61	24,675	21.9	17.5	26.3
RM 5000 & above	116	46,286	22.1	18.7	25.4
Education					
None	617	213,088	16.7	15.4	18.0
Primary	2,617	945,692	23.1	22.3	23.9
Secondary	4,118	1,531,533	25.6	24.8	26.3
Tertiary	512	200,074	15.1	13.8	16.3
Non Classified	70	24,557	25.4	19.8	31.0
Housing area					
Housing area	2,580	1,043,307	18.7	18.0	19.5
Village	3,621	1,248,840	25.9	25.2	26.6
New village	135	54,398	23.2	20.1	26.3
Squatters	92	34,021	25.2	20.9	29.5
Estate	319	102,735	35.5	31.1	40.0
Land development	295	98,121	30.8	27.6	34.0
Others	363	137,154	25.4	23.2	27.6
House Type					
Single house	3,928	1,361,700	25.2	24.5	25.9
Semi_D house	349	130,047	25.5	23.0	27.9
Single storey terrace house	1,192	476,111	20.5	19.4	21.6
DS or town house	562	233,855	16.2	14.7	17.7
Condo / apartment	216	85,687	18.5	14.6	22.3
Flats	528	212,806	22.0	20.3	23.7
Long house	78	28,632	22.9	19.4	26.4
Boat house	2	868	28.6	11.6	45.6
Traditional house	126	41,814	29.1	24.9	33.4
Shop house	160	58,286	21.4	17.8	24.9
Worker's colony	194	64,306	37.1	31.4	42.8
Others	61	21,365	30.7	25.6	35.9
Occupation					
Senior Official & Manager	156	61,782	24.3	21.1	27.5
Professionals	390	151,603	17.1	15.5	18.7
Technical & Associate	792	300,696	29.6	27.7	31.5
Clerical Workers	306	115,169	16.3	14.7	18.0
Service Workers & Shop	1,588	598,582	28.3	27.0	29.6
Skilled Agricultural & Fishery	1,200	405,838	45.1	43.0	47.3
Craft & Related Trade Workers	623	233,778	30.6	28.4	32.9
Plant & Machine Operator & Assembler	989	368,653	52.6	50.1	55.1
Elementary Occupations	774	272,810	48.8	46.2	51.4
Housewife	146	52,881	1.8	1.5	2.1
Unemployed	704	252,788	20.0	18.6	21.4
Unclassified	266	100,364	16.1	14.1	18.1

**Table 15: Prevalence of current smokers by socio-demographic characteristics
NHMS II Definition (continue)**

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	2,123	782,183	28.9	27.6	30.3
married	5,509	2,022,915	22.3	21.8	22.8
Divorcee	130	48,116	17.2	14.4	20.1
Widow/widower	140	49,591	7.3	6.1	8.5
Unclassified	32	12,139	25.7	17.6	33.8
Age Group					
15-19	387	138,463	22.1	19.8	24.5
20-24	1,054	388,400	27.0	25.5	28.6
25-29	962	358,670	25.5	24.0	27.0
30-34	957	353,248	26.6	25.1	28.0
35-39	883	325,079	24.0	22.6	25.4
40-44	885	325,101	22.5	21.2	23.8
45-49	745	276,370	21.0	19.6	22.4
50-54	619	227,862	19.8	18.4	21.2
55-59	511	189,064	20.1	18.5	21.7
60-64	352	126,643	20.7	18.7	22.6
65-69	261	93,426	17.8	15.8	19.8
70-74	171	60,323	18.4	15.8	21.0
75-79	79	27,831	15.7	12.5	18.9
80+	68	24,466	17.7	13.8	21.6

Table 16: Prevalence of ex-smokers by socio-demographic characteristics NHMS II Definition

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	3,214	1,186,746	9.3	8.9	9.6
State					
Johor	306	118,571	8.0	6.9	9.0
Kedah	242	86,750	9.5	8.3	10.7
Kelantan	279	92,815	14.0	12.6	15.4
Malacca	104	40,533	11.2	8.6	13.8
N. Sembilan	121	44,617	9.5	7.9	11.2
Pahang	248	94,932	13.4	11.8	15.0
Penang	115	41,009	5.3	4.4	6.2
Perak	146	60,913	5.5	4.6	6.5
Perlis	30	10,541	9.3	5.8	12.8
Selangor	536	221,902	9.1	8.3	10.0
Terengganu	195	66,074	13.9	11.8	16.0
Sabah	425	131,049	10.9	9.8	12.0
Sarawak	280	107,935	9.3	7.9	10.6
W.P. Kuala Lumpur	132	51,954	6.8	5.8	7.8
W.P. Labuan	55	17,151	10.1	7.3	12.9
Urban					
Johor	190	80,938	8.0	6.6	9.3
Kedah	88	35,220	9.3	7.5	11.2
Kelantan	96	33,781	15.3	12.6	17.9
Malacca	57	28,010	10.1	7.1	13.2
N. Sembilan	74	29,013	11.0	8.8	13.3
Pahang	100	42,541	12.8	10.9	14.7
Penang	92	34,005	5.4	4.4	6.4
Perak	79	36,756	5.4	4.2	6.7
Perlis	4	1,745	4.7	0.4	8.9
Selangor	462	200,448	9.2	8.3	10.1
Terengganu	88	33,339	13.5	10.5	16.6
Sabah	222	71,702	12.0	10.3	13.7
Sarawak	107	47,744	8.3	6.3	10.3
W.P. Kuala Lumpur	132	51,954	6.8	5.8	7.8
W.P. Labuan	35	11,304	10.8	6.9	14.7
Rural					
Johor	116	37,633	8.0	6.5	9.5
Kedah	154	51,530	9.6	8.1	11.1
Kelantan	183	59,034	13.3	11.8	14.9
Malacca	47	12,523	14.6	10.3	18.8
N. Sembilan	47	15,604	7.6	5.3	9.8
Pahang	148	52,391	14.0	11.5	16.4
Penang	23	7,004	5.2	3.4	7.1
Perak	67	24,156	5.6	4.3	7.0
Perlis	26	8,796	11.6	7.3	15.8
Selangor	74	21,454	8.5	6.0	10.9
Terengganu	107	32,736	14.4	11.5	17.3

Table 16: Prevalence of ex-smokers by socio-demographic characteristics NHMS II Definition (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	203	59,347	9.9	8.5	11.2
Sarawak	173	60,190	10.3	8.5	12.1
W.P Labuan	20	5,847	9.0	5.6	12.4
Residence					
Urban	1,826	738,502	8.9	8.4	9.3
Rural	1,388	448,244	10.0	9.4	10.6
Ethnicity					
Malay	1,942	709,988	10.2	9.7	10.7
Chinese	592	236,903	8.5	7.8	9.3
Indian	150	59,557	5.3	4.5	6.1
Other Bumis	381	128,168	9.9	8.8	10.9
Others	149	52,130	8.4	7.1	9.8
Religion					
Islam	2,237	808,514	10.0	9.5	10.4
Christian	310	112,509	9.8	8.7	11.0
Buddhist	503	200,775	8.4	7.6	9.1
Hindu	107	42,917	4.6	3.8	5.5
Others	52	20,137	10.3	7.3	13.2
Unclassified	5	1,893	11.8	2.3	21.4
Citizenship					
Malaysian	3,038	1,125,130	9.4	9.0	9.7
Non-Malaysian	174	60,757	7.8	6.6	9.0
Unclassified	2	859	10.1	-3.1	23.4
Gender					
Male	2,642	981,708	17.2	16.5	17.9
Female	572	205,038	2.9	2.6	3.2
Household Income					
Less than RM 400	317	110,431	10.8	9.6	11.9
RM 400 - RM 699	476	164,669	9.4	8.6	10.2
RM 700 - RM 999	362	131,003	9.3	8.4	10.3
RM 1000 - RM 1999	826	305,255	9.1	8.5	9.8
RM 2000 - RM 2999	455	171,683	8.6	7.8	9.3
RM 3000 - RM 3999	224	87,394	8.5	7.4	9.6
RM 4000 - RM 4999	143	56,258	10.9	9.0	12.7
RM 5000 & above	288	112,605	9.6	8.4	10.7
Unclassified	123	47,448	9.1	7.4	10.7
Personal Income					
Less than RM 400	377	129,493	9.5	8.5	10.5
RM 400 - RM 699	419	150,003	10.1	9.2	11.1
RM 700 - RM 999	355	131,789	10.2	9.2	11.2
RM 1000 - RM 1999	693	264,149	11.6	10.7	12.4
RM 2000 - RM 2999	282	107,741	12.4	11.0	13.8

Table 16: Prevalence of ex-smokers by socio-demographic characteristics NHMS II Definition (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	118	46,285	14.7	12.2	17.2
RM 4000 - RM 4999	52	20,524	17.2	12.9	21.6
RM 5000 & above	93	37,796	16.6	13.5	19.7
Education					
None	347	118,340	9.3	8.3	10.3
Primary	1,154	421,538	10.3	9.7	10.9
Secondary	1,323	496,346	8.3	7.8	8.7
Tertiary	368	142,816	10.7	9.6	11.8
Non Classified	22	7,706	8.0	4.6	11.4
Housing area					
Housing area	1,283	515,605	8.6	8.1	9.1
Village	1,469	507,530	10.0	9.4	10.5
New village	68	27,377	10.2	7.5	12.9
Squatters	34	11,948	8.2	5.1	11.3
Estate	93	29,062	9.1	7.3	10.9
Land development	125	42,228	12.3	10.1	14.6
Others	135	50,198	8.7	7.1	10.2
House Type					
Single house	1,638	568,510	10.0	9.4	10.5
Semi_D house	145	54,352	9.8	8.3	11.3
Single storey terrace house	522	207,876	8.5	7.7	9.2
DS or town house	379	156,524	9.8	8.8	10.9
Condo / apartment	76	29,635	5.8	4.5	7.1
Flats	209	83,358	8.0	6.8	9.1
Long house	40	14,584	10.4	6.7	14.2
Boat house	0	0	0.0	0.0	0.0
Traditional house	50	16,774	11.0	8.2	13.9
Shop house	64	22,966	7.7	5.8	9.6
Worker's colony	49	16,676	8.5	6.2	10.9
Others	31	11,164	13.5	8.6	18.5
Occupation					
Senior Official & Manager	105	41,037	16.1	13.2	19.1
Profesionals	252	98,310	11.1	9.7	12.5
Technical & Associate	379	142,798	14.0	12.7	15.3
Clerical Workers	158	59,005	8.4	7.1	9.7
Service Workers & Shop	529	198,374	9.4	8.6	10.2
Skilled Agricultural & Fishery	385	131,650	14.6	13.2	16.1
Craft & Related Trade Workers	138	52,793	6.9	5.7	8.1
Plant & Machine Operator & Assembler	278	104,969	15.0	13.2	16.7
Elementary Occupations	164	57,368	10.3	8.7	11.8
Housewife	231	81,663	2.7	2.4	3.1
Unemployed	438	158,148	12.5	11.4	13.7
Unclassified	157	60,632	9.7	8.3	11.2

**Table 16: Prevalence of ex-smokers by socio-demographic characteristics NHMS II Definition
(continue)**

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	503	187,460	6.9	6.3	7.6
married	2,490	920,889	10.1	9.7	10.6
Divorcee	61	22,057	7.9	5.9	9.8
Widow/widower	152	53,451	7.8	6.6	9.1
Unclassified	8	2,888	6.1	1.9	10.3
Age Group					
15-19	126	45,879	7.3	6.1	8.6
20-24	234	86,547	6.0	5.3	6.8
25-29	234	88,219	6.3	5.5	7.1
30-34	254	94,442	7.1	6.2	8.0
35-39	244	89,988	6.6	5.8	7.5
40-44	324	120,493	8.3	7.5	9.2
45-49	331	122,209	9.3	8.3	10.3
50-54	339	125,946	10.9	9.9	12.0
55-59	299	111,627	11.9	10.6	13.1
60-64	260	94,725	15.5	13.7	17.2
65-69	237	85,359	16.2	14.3	18.2
70-74	160	59,130	18.0	15.4	20.6
75-79	97	34,867	19.6	16.1	23.1
80+	75	27,314	19.7	15.7	23.7

Table 17: Prevalence of passive smokers by socio-demographic characteristics

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
National	7,240	2,742,066	21.5	20.9	22.1
State					
Johor	478	185,950	12.5	11.2	13.8
Kedah	359	128,393	14.1	12.7	15.4
Kelantan	424	141,730	21.4	18.9	23.9
Malacca	200	80,509	22.2	18.8	25.6
N. Sembilan	299	108,158	23.1	20.3	26.0
Pahang	447	173,160	24.7	22.1	27.2
Penang	373	133,441	17.4	15.4	19.4
Perak	662	278,161	25.3	23.3	27.2
Perlis	81	29,756	26.5	21.7	31.4
Selangor	1,536	640,801	26.4	25.0	27.8
Terengganu	298	102,034	21.6	18.8	24.4
Sabah	775	237,904	19.8	18.3	21.3
Sarawak	695	269,326	23.6	21.9	25.3
W.P. Kuala Lumpur	510	200,731	26.3	23.7	29.0
W.P. Labuan	103	32,011	18.8	15.2	22.5
Urban					
Johor	304	129,501	12.8	11.1	14.4
Kedah	126	50,429	13.4	11.3	15.5
Kelantan	169	59,469	27.0	23.2	30.9
Malacca	121	59,461	21.5	17.3	25.8
N. Sembilan	148	58,026	22.3	18.9	25.6
Pahang	209	88,911	27.1	23.3	30.9
Penang	305	112,734	17.8	15.6	20.1
Perak	377	175,407	26.0	23.3	28.8
Perlis	24	10,473	28.6	20.3	36.8
Selangor	1,358	589,195	27.1	25.6	28.6
Terengganu	149	56,449	23.0	18.8	27.1
Sabah	370	119,503	19.9	17.8	22.1
Sarawak	280	124,939	22.1	19.6	24.6
W.P. Kuala Lumpur	510	200,731	26.3	23.7	29.0
W.P. Labuan	62	20,025	19.0	14.4	23.7
Rural					
Johor	174	56,449	12.0	10.1	13.9
Kedah	233	77,964	14.5	12.8	16.3
Kelantan	255	82,260	18.6	15.7	21.5
Malacca	79	21,049	24.5	20.0	28.9
N. Sembilan	151	50,132	24.3	19.5	29.1
Pahang	238	84,250	22.6	19.2	25.9
Penang	68	20,707	15.5	11.9	19.0
Perak	285	102,754	24.1	21.4	26.7
Perlis	57	19,283	25.6	19.6	31.5
Selangor	178	51,606	20.4	17.3	23.5
Terengganu	149	45,585	20.1	16.3	23.9

Table 17: Prevalence of passive smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Sabah	405	118,402	19.6	17.5	21.7
Sarawak	415	144,387	25.0	22.8	27.3
W.P Labuan	41	11,986	18.5	12.6	24.4
Residence					
Urban	4,512	1,855,252	22.4	21.7	23.2
Rural	2,728	886,814	19.8	19.0	20.7
Ethnicity					
Malay	4,142	1,558,156	22.4	21.7	23.1
Chinese	1,374	556,764	20.2	19.0	21.3
Indian	500	202,095	18.1	16.5	19.7
Other Bumis	893	305,400	23.6	22.0	25.2
Others	333	120,478	19.5	17.2	21.8
Religion					
Islam	4,812	1,786,127	22.1	21.4	22.8
Christian	757	282,200	24.8	23.1	26.5
Buddhist	1,165	472,148	19.8	18.6	21.0
Hindu	385	155,447	16.8	15.2	18.4
Others	118	44,847	23.2	19.6	26.9
Unclassified	3	1,297	8.1	-0.4	16.7
Citizenship					
Malaysian	6,841	2,598,687	21.7	21.1	22.3
Non-Malaysian	393	141,026	18.1	16.2	20.0
Unclassified	6	2,353	27.7	8.6	46.8
Gender					
Male	2,786	1,064,351	18.7	17.9	19.4
Female	4,454	1,677,715	23.8	23.1	24.6
Household Income					
Less than RM 400	517	181,840	17.8	16.3	19.4
RM 400 - RM 699	979	343,583	19.7	18.5	20.9
RM 700 - RM 999	801	295,049	21.1	19.7	22.4
RM 1000 - RM 1999	1,901	719,453	21.6	20.6	22.5
RM 2000 - RM 2999	1,169	456,965	22.8	21.6	24.1
RM 3000 - RM 3999	564	224,024	21.8	20.1	23.5
RM 4000 - RM 4999	327	130,256	25.2	22.9	27.6
RM 5000 & above	718	288,095	24.5	22.7	26.3
Unclassified	264	102,800	19.7	17.0	22.4
Personal Income					
Less than RM 400	733	256,399	18.9	17.6	20.2
RM 400 - RM 699	796	295,662	20.0	18.7	21.4
RM 700 - RM 999	680	259,688	20.1	18.7	21.6
RM 1000 - RM 1999	1,362	534,441	23.5	22.3	24.8
RM 2000 - RM 2999	528	207,856	24.0	22.1	25.9

Table 17: Prevalence of passive smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
RM 3000 - RM 3999	187	74,998	23.9	20.8	27.0
RM 4000 - RM 4999	79	32,350	27.3	22.3	32.3
RM 5000 & above	159	65,993	28.7	24.5	32.9
Education					
None	518	183,519	14.4	13.2	15.7
Primary	2,088	772,075	18.9	18.1	19.7
Secondary	3,633	1,387,980	23.3	22.5	24.0
Tertiary	958	382,255	28.8	27.0	30.6
Non Classified	43	16,237	16.8	12.2	21.3
Housing area					
Housing area	3,260	1,331,135	22.2	21.3	23.1
Village	2,978	1,045,548	20.6	19.8	21.4
New village	146	59,042	22.2	18.7	25.8
Squatters	100	37,753	26.0	20.1	31.9
Estate	176	55,797	17.5	14.8	20.3
Land development	218	73,112	21.4	18.1	24.7
Others	344	132,605	23.2	20.8	25.7
House Type					
Single house	3,280	1,159,967	20.4	19.6	21.2
Semi_D house	299	114,397	20.7	18.3	23.1
Single storey terrace house	1,228	495,419	20.3	19.1	21.4
DS or town house	931	389,575	24.6	22.8	26.4
Condo / apartment	325	131,832	25.9	22.7	29.0
Flats	635	256,565	24.5	22.4	26.7
Long house	102	37,398	27.2	21.9	32.4
Boat house	1	434	14.3	-14.0	42.6
Traditional house	89	30,013	19.8	16.1	23.4
Shop house	155	57,539	19.6	16.6	22.5
Worker's colony	112	37,855	19.4	16.3	22.6
Others	60	21,861	26.8	20.9	32.7
Occupation					
Senior Official & Manager	181	72,130	28.3	24.8	31.9
Professionals	608	240,291	27.1	25.1	29.1
Technical & Associate	606	234,707	23.1	21.4	24.8
Clerical Workers	507	196,337	28.0	25.8	30.2
Service Workers & Shop	1,127	429,364	20.3	19.2	21.5
Skilled Agricultural & Fishery	422	145,631	16.2	14.6	17.9
Craft & Related Trade Workers	420	163,155	21.4	19.4	23.4
Plant & Machine Operator & Assembler	337	129,205	18.5	16.6	20.4
Elementary Occupations	263	95,416	17.1	15.1	19.0
Housewife	1,768	658,995	22.1	21.0	23.1
Unemployed	529	193,402	15.4	14.1	16.7
Unclassified	472	183,432	29.6	27.2	32.0

Table 17: Prevalence of passive smokers by socio-demographic characteristics (continue)

Sociodemography	Total Respondent	Estimated Population	Prevalence %	95% CI	
				Lower	Upper
Marital Status					
Not married	1,763	670,710	24.9	23.7	26.1
married	5,140	1,944,544	21.5	20.9	22.1
Divorcee	116	44,323	16.0	13.1	18.9
Widow/widower	194	72,432	10.6	9.2	12.1
Unclassified	27	10,058	21.3	14.3	28.3
Age Group					
15-19	485	181,169	29.1	26.7	31.5
20-24	1,028	388,036	27.0	25.5	28.6
25-29	909	348,147	24.8	23.4	26.3
30-34	773	292,952	22.1	20.7	23.5
35-39	858	323,784	24.0	22.6	25.5
40-44	890	338,779	23.6	22.2	25.0
45-49	747	282,517	21.5	20.1	23.0
50-54	577	220,210	19.2	17.7	20.7
55-59	406	155,146	16.5	15.0	18.0
60-64	251	93,078	15.2	13.4	17.0
65-69	159	60,007	11.5	9.7	13.2
70-74	89	33,094	10.1	8.1	12.1
75-79	39	14,741	8.4	5.9	10.9
80+	29	10,406	7.6	4.8	10.3