UNIVERSITI PUTRA MALAYSIA

PERCEPTION ON ANTI-SMOKING EFFORTS AMONG SETTLERS OF FELDA RAJA ALIAS, NEGERI SEMBILAN

GROUP 7 MEMBERS:
RAJA AMAN ZAKWAN BIN RAJA RAMLE 158429
TIONG LING RONG 161338

SUPERVISOR:
DR SURIANI BINTI ISMAIL

CO-SUPERVISOR:
DR KULANTHAYAN K.C MANI

lp
FPSK1 2013 7

PERCEPTION ON ANTI-SMOKING EFFORTS AMONG SETTLERS OF FELDA RAJA ALIAS NEGERI SEMBILAN

Raja Aman Zakwan Raja Ramle[1], Tiong Ling Rong[1], Suriani Ismail[2], Kulanthayan K.C. Mani[2]

[1] Second Year Medical Student
[2] Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

ABSTRACT

Background: Perception plays a very important role in influencing the people's awareness towards the hazard of smoking. Anti-smoking efforts have always been key players in promoting public awareness towards non-smoking lifestyle.

Objective: To study the perception towards various anti-smoking efforts in Malaysia among people in Felda Raja Alias, Negeri Sembilan.

Method: A cross-sectional study design was done among 494 adult FELDA settlers by using a questionnaire. The response rate was 100%. The perception towards anti-smoking efforts (warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies and anti-smoking campaign) were assessed in this study by using Likert scale. The associative factors and predictors of perception in relation to socio-demographic and socio-economic factors: age, gender, educational level, occupation and monthly income were investigated.

Results : In general, the positive perception towards anti-smoking effort was only between 14.6-19.0%. Of the socio-demographic and socio-economic characteristics, educational level (p=0.05) had a significant association with perception towards warning label on cigarette box and monthly income (p=0.01) had a significant association with perception towards increment in cigarette price. Educational level (p=0.02) as a significant predictor for perception towards increment in cigarette price and age (p=0.04) as a significant predictor for perception towards smoke free policies.

Conclusion: This study reveals the perception towards anti-smoking efforts in the Felda settlement. The significant associated factors with perception were educational level and monthly income while age and educational level were significant predictors. Preventive measures should be taken to increase the positive perception towards anti-smoking efforts.

Keywords: Perception, anti-smoking efforts, Felda settlers

PERSEPSI TERHADAP USAHA ANTI-MEROKOK DALAM KALANGAN PENEROKA FELDA RAJA ALIAS, NEGERI SEMBILAN

Raja Aman Zakwan Raja Ramle[1], Tiong Ling Rong[1], Suriani Ismail[2], Kulanthayan K.C. Mani[2]

[1] Pelajar Tahun Dua
[2] Jabatan kesihatan komuniti, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia

ABSTRAK

Latar belakang: Persepsi memainkan peranan yang penting dalam mempengaruhi pandangan rang ramai terhadap bahaya aktiviti merokok. Pelbagai usaha anti-merokok telah menjadi faktor penting dalam mempromosikan kesedaran awam kepada cara hidup yang bebas rokok.

Objektif: Mengkaji persepsi terhadap pelbagai usaha anti-merokok di Malaysia dalam kalangan penduduk Felda Raja Alias, Negeri Sembilan.

Cara-cara: Sebuah kajian berbentuk keratan-seksyen telah diadakan terhadap 494 warga FELDA dewasa menggunakan borang soal selidik. Kadar maklum balas adalah 100%. Persepsi terhadap usaha anti-merokok (label amaran di kotak rokok, kenaikan harga rokok, klinik bebas rokok dan kempen anti-merokok) telah dinilai dalam kajian ini menggunakan skala Likert. Faktor perkaitan dan peramal persepsi untuk faktor sosiodemografik dan sosioekonomik adalah: umur, jantina, tahap pendidikan, pekerjaan, dan pendapatan bulanan telah dikaji.

Keputusan: Secara keseluruhan, persepsi positif terhadap usaha anti-merokok adalah hanya di antara 14.6-19.0%. Antara ciri-ciri sosiodemografik dan sosioekonomik, tahap pendidikan ($p=0.05$) mempunyai perkaitan signifikan terhadap label amaran di kotak rokok dan pendapatan bulanan ($p=0.01$) mempunyai perkaitan signifikan terhadap kenaikan harga rokok. Tahap pendidikan ($p=0.02$) ialah peramal penting untuk persepsi terhadap kenaikan harga rokok dan umur ($p=0.04$) adalah peramal penting untuk persepsi terhadap polisi bebas merokok.

Conclusion: Kajian ini mendedahkan persepsi terhadap usaha anti-merokok di Felda. Faktor perkaitan yang penting untik persepsi adalah tahap pendidikan dan pendapatan bulanan, manalaka umur dan tahap pendidikan adalah peramal penting. Langkah-langkah berjaga-jaga perlu diambil untuk meningkatkan persepsi positif terhadap usaha anti-merokok.

Kata kunci: Persepsi, usaha anti-merokok, peneroka Felda.

ACKNOWLEDGEMENT

First and foremost, we would like to thank God the Almighty for giving us such a precious chance to carry out this research and enable us to complete our research successfully.

Most, importantly, here we would like to express our highest gratitude to our supervisor, Dr. Suriani binti Ismail and co-supervisor, Dr. Kulanthayan K.C Mani, for their unconditional support in the overall coordination from the very beginning until the end of the research. Their guidance, comments, suggestions, tolerance and encouragement are highly appreciated. This research would not be carried out successfully without them. Moreover, we would like to thank to all the respondents in Felda Raja Alias who were willing to participate in our research.

Furthermore, constructive guidance offered by Dr. Salmiah and Dr. Hayati are well-appreciated. What's more, a good teamwork among the group members is also highly appreciated as well, as collaborative works and unity are important in making this project a triumph.

Last but not least, we would like to thank to our families for giving us financial support, moral support, mental support and encouragement. We really appreciate what had been done by our families. Also, we also cordially want to acknowledge our friends who giving us helping hands whenever we were facing problems during those days.

TABLE OF CONTENTS

List of tables

List of abbreviations

1. B : Beta
2. CI : Confidence interval
3. COSH : Council On Smoking and Health
4. CPAA : Cancer Patients Aid Association
5. GATS : Global Adult Tobacco Survey
6. GED : General Educational Level
7. GYTS : Global Youth Tobacco Survey
8. IARC : International Agency for Research on Cancer
9. ITC : International Tobacco Control
10. OR : Odd ratio
11. P value: Significant value
12. S.E. : Standard error
13. sd : Standard deviation
14. SES : Social Economic Status
15. SHS : Second Hand Smoke
16. U.S. : United State
17. WHO : World Health Organization

CHAPTER 1

1.0 Introduction

1.1 Background

Smoking habits has always been a major health issue in developed country as well as under developed country. As a countermeasure, a lot of health promotion efforts have been done to reduce and contain the health issue. Among all the programs that has been introduced and carried out, anti-smoking campaign has been one of the well-known programs. Anti-smoking campaign has been done in a lot of countries abroad as well as our own country. It has been rebranded in each country in many different names to attract the community but the objective remains the same that is to increase the awareness of smoking hazard and reduce smoking habits of the public.

World Health Organization (WHO) states that tobacco kills half of all its users, whis is an alerting issue because WHO also states that tobacco products kill nearly 6 million people each year. Out of the 6 million, 5 million are active users and ex users, while 600 000 are nonsmokers who are unfortunately exposed to second-hand smoke. The current staggering issue is that consumption of tobacco products is increasing globally aside from the fact that it is now one of the biggest public threats faced by the whole world. According to WHO, 80% of more than 1 billion smokers in the world comes from low- and middle-income countries, where tobacco mortality and morbidity

is the highest. Unless appropriate measures are taken, the annual death toll could increase up to 8 million by 2030.

Some of the anti-smoking campaigns that has been launched abroad are TheTruth.com in United States, Help in European Union, Giving UP Smoking in United Kingdom, Quit Now in Australia, Smoke Free Home in New Zealand, Meeroken in Netherlands, CPAA in India and COSH in China. The reception of these campaigns has been generally favourable, with evidence of reduction of smoking habits and improvement of lifestyle among the community.

In Malaysia there are also a number of efforts that has been done to improve the lifestyle of the community and promote smoking cessation. Malaysia's tobacco control policy started as early as 2004 which has been launched by the previous Prime Minister as the *Tak Nak* Campaign (Say No to Smoking). *Tak Nak* campaign's span was between 2004 to 2011, which was supported with various smaller campaigns, and government policies to promote smoking cessation. *Tak Nak* is a nationwide campaign aimed to reduce the prevalence of smoking by encouraging current smokers to quit and preventing the youth from starting. The campaign employs the mass media channel as well as the print media to open the eyes of the public toward the individual and public hazard of smoking. There were also other public awareness campaigns such as "*Kempen Nafas Baru Bermula Ramadan*".

Malaysia signed the WHO Framework Convention on Tobacco Control (FCTC) on September 2003 and ratified the treaty in September 2006. It is the world's first public health treaty, aimed at the global tobacco epidemic through multiple measures to reduce tobacco supply and demand. The measures include price and taxation of cigarette, reducing exposure to tobacco smoke, packaging and labelling of various tobacco products, ban tobacco advertising and sponsorship, cessation and treatment, illicit trade control and ban on sales to minors.

Based on oxford dictionary, the definition of perception is the way in which something is regarded, understood, or interpreted. Perception towards Malaysia's tobacco policy and anti-smoking campaign is discrepant, which varies year by year. The perception of the people towards the campaign depends on the outcome of the campaign itself in cessation and prevention of smoking. The people wants good results so their perception is reflected by the government's successfulness on tackling the issue. The theories of perception also states that in a straightforward view, we directly perceive the world as it is, this is also referred as naïve realism. But actually there is more to perception than what it meets the eye, this has led to representative realism, suggesting that perception is not just a passive process, but rather we are actively involved, incorporating a lot of its content via our experiences.

Perception also plays a very important role in influencing the people's awareness towards the hazard of smoking. A country with a high smoking prevalence is usually under a false perception that smoking is not harmful, or

at least harmful enough to be concerned. Anti-smoking campaign needs to appeal and attract as many audiences as possible in order for it to be successful. If a campaign fails to pose a positive perception towards the community, it will not become an efficient campaign. Thus, this is seen in the rising of smoking prevalence in countries such as Korea, which has been reported to have a weak anti-smoking policies and campaigns among the developed countries. However, perception is influenced by many factors such as socio-demographic and socioeconomic factor.

Anti-smoking campaign is a key player in promoting public awareness towards a better lifestyle. A lot of efforts have been implemented to increase the public awareness of the issue whether abroad or locally. However the rise in the use of tobacco products as evidenced by WHO is a worrying issue. Many new ideas are generated, more organizations have rallied in the context of promoting public health and even more policies are introduced to curb the easiness of the public over a box of cigarette. However there is a dire need to increase the effectiveness of these efforts, because without really understanding the concept of what makes these efforts beneficial, many of these efforts would have been time and energy wasting.

1.2 Problem Statement

Smoking habits bring many negative impacts to the country and individual. While it is a high value industry for the wealthy, the cost for the

damage that smokers bring to themselves and other people is not worth it. Tobacco products are a very dangerous item, it is easily accessible, it is not illegal to possess and can be passed from one to another effortlessly. With evidence from WHO the mortality rate of using tobacco product is nearly 50 percent of all its users, that is about 6 million people died annually. While it causes death, it also cause serious health issue to the people around the smoker, there are risk of cancer, respiratory diseases and nonatal mental retardation. All of these are reflected on the medical costs that increase every year and funds to launch the anti-smoking campaign.

Malaysia has launched many efforts to reduce the prevalence of smoking and preventing the youth from starting. Example of these afforts are Tak Nak campaign from 2004 to 2011, as well as implementing various laws and policies towards tobacco product use. However, not all people have a positive reception towards these efforts. There are a lot can be done to increase the efficiency of anti-smoking campaign and give the people a positive response of the issue.

Therefore, this study aims to study more about the perception on the community towards the anti-smoking campaign in Malaysia as well as factors that are associated with it.

1.3 Objective

1.3.1 General objective

To study the perception towards anti-smoking efforts in Malaysia among the people of Felda Raja Alias, Negeri Sembilan.

1.3.2 Specific objective

1. To determine the perception towards anti-smoking efforts in Malaysia among the people of Felda Raja Alias, Negeri Sembilan
2. To study the associations between socio-demographic and perception towards anti-smoking efforts.
3. To identify the factors that associated with perception of anti-smoking efforts of the community.

1.4 Hypothesis

The perception of residents in Felda Raja Alias, Negeri Sembilan is positive towards the anti-smoking efforts in Malaysia.

Chapter 2: Literature review

2.1 Prevalence of smoking

The sections below will describe about the prevalence and epidemiology of smoking in United States and in Malaysia.

2.1.1 United States

According to national estimates of percentage of adults who were current smokers in 2010, an estimated 19.3% of all adults, or 45.3 million people, aged 18 years or older, in the United States smoke cigarettes. Cigarette smoking is more common among men (21.5%) than women (17.3). The prevalence according to age is 20.1% of adults aged 18–24 years, 22.0% of adults aged 25–44 years, 21.1% of adults aged 45–64 years, and 9.5% of adults aged 65 years and older. The prevalence according to ethnicity are 31.4% of American Indians/Alaska Natives (non-Hispanic), 9.2% of Asians (non-Hispanic; excludes Native Hawaiians and Pacific Islanders), 20.6% of blacks (non-Hispanic), 12.5% of Hispanic) , and 21.0% of whites (non-Hispanic). The prevalence according to education are 45.2% of adults with a GED diploma, 33.8% of adults with 9–11 years of education, 23.8% of adults with a high school diploma, 9.9% of adults with an undergraduate college degree, 6.3% of adults with a postgraduate college degree (Centers for Disease Control and Prevention, 2010) .

2.1.2 Malaysia

The prevalence of smoking among adult males in Malaysia was 46.5% (95% CI: 45.5–47.4%), which was 3% lower than a decade ago. Mean age of smoking initiation was 18.3 years, and mean number of cigarettes smoked daily was 11.3. Prevalence of smoking was highest among the Malays (55.9%) and those aged 21–30 years (59.3%). Smoking was significantly associated with level of education (no education OR 2.09 95% CI (1.67–2.60), primary school OR 1.95, 95% CI (1.65–2.30), secondary school OR 1.88, 95% CI (1.63–2.11), with tertiary education as the reference group). Marital status (divorce OR 1.67, 95% CI (1.22–2.28), with married as the reference group), ethnicity (Malay, OR 2.29, 95% CI (1.98–2.66; Chinese OR 1.23 95% CI (1.05–1.91), Other Bumis OR 1.75, 95% CI (1.46–2.10, others OR 1.48 95% CI (1.15–1.91), with Indian as the reference group), age group (18–20 years OR 2.36, 95% CI (1.90–2.94); 20–29 years OR 3.31 , 95% CI (2.82–3.89); 31–40 years OR 2.85 , 95% CI (2.47–3.28); 41–50 years OR 1.93, 95% CI (1.69–2.20) ; 51–60 years OR 1.32, 95% CI (1.15–1.51), with 60 year-old and above as the reference group) and residential area (rural OR 1.12 , 95% CI (1.03–1.22)) urban as reference(Lim, 2011; NHMS 3, 2011).

2.2 Perception towards effectiveness on various anti-smoking efforts

Adult themselves hold very negative opinions and beliefs about their smoking. This was true among the 1867 smokers in Malaysia as it has been in the other 19 ITC countries. Over five out of six (84%) adult smokers in Malaysia reported that they had a “bad” or “very bad” opinion of smoking.

Overall, Malaysian youth have a negative opinion about smoking – of the 877 youth surveyed, 58% and 37% have a "very bad" or "bad" opinion of smoking, respectively. In addition, 58% "agree" that Malaysian society disapproves of smoking (ITC Malaysia National Report, 2012).

Some opinion stated that anti-smoking campaigns in Malaysia have faced criticism in the past with former Health Minister Datuk Dr Chua Soi Lek saying there had been no indications the number of smokers had gone down since the national "Tak Nak" anti-smoking campaign first launched some years ago (Pamela Vinsence,2009).

The perception towards anti-smoking can be divided accordingly into warning label, advertisement, price and taxation, "Smoke free" area, and education, communication, and public awareness.

2.2.1 Warning label on cigarette box

Over the past 35 years, warning labels have become a popular method used by governments in attempting to inform their citizens of the health consequences of smoking. By 1991, 77 countries required health warnings on their tobacco products (The World Bank, 1999).

Over the past 50 years, there was a vast body of social psychological research regarding the processes and principles that affect attitude and behaviour change had been conducted (Cialdini, 1993). They concluded out a

number of basic principles for enhancing the effectiveness of warning labels which can be divided into two categories.

1) Content principles refer to features of the message content itself that make the message more effective.
2) Process principles refer to design features (for example, stylistic features) that make the message more effective.

Both categories of principles can be used to inform the design of warning labels (The World Bank, 1999).

On September 2012, the U.S. Family Smoking Prevention and Tobacco Control Act (FSPTCA) (Family Smoking Prevention and Tobacco Control Act, 2009) of 2009 required nine new health warning statements to be placed on cigarette packages and in cigarette advertisements. The new statements were designed to be accompanied by color images chosen by the Food and Drug Administration (FDA), (Food and Drug Administration Required Warnings for Cigarette Packages and Advertisements, 2011) most of which graphically depict the negative health consequences of smoking. The new warning labels, which are under on-going litigation as a result of multiple challenges by the tobacco industry, are designed to update the current text-only statements on cigarette packages, which have been in effect in the U.S. since 1984. These text warnings have been consistently characterized as "worn out"–unlikely to be noticed and rated as ineffective by smokers. (Hammond D. , 2007) Further, studies indicate that the text-only messages had little effect on Americans' decision-making regarding tobacco use. The

Institute of Medicine describing them as "woefully deficient when evaluated in terms of proper public health criteria." (Ending the Tobacco Problem, 2007).

When developing new warning labels there are three important aspects to be focused on:

1) Warning labels should not expose smokers to fear inducing anti-smoking arguments
2) Behavior instructions provided by an external source should be avoided (except if they increase self-efficacy; see Witte, 1992)
3) Warning labels should stimulate smokers to generate anti-smoking arguments themselves.

The warning labels that appear on tobacco are designed to inform people about the negative consequences of smoking (Strahan et al., 2002), and should thereby increase the smoking-related risk perception. Research has shown that current warning labels induce threat, and are perceived as scary even when the arguments are not directly related to death (Hansen et al.,2010). The concept here operates as fear appeals, which are defined as persuasive communication that should – via the induced fear – lead to self-protective actions (Rogers, 1983). Thus, the increased smoking-related risk perception is assumed to elicit self-protective actions, which could involve changing attitudes and the corresponding behavior. Attitudes and the corresponding behavior are suggested to change when people perceive a threat, and simultaneously perceive that they are highly efficient in changing their behavior (Marks, 1998; Schwarzer, 1992; Schwarzer and Fuchs, 1996; Strahan et al., 2002; Witte, 1992).

Table 1: Malaysian cigarette packaging and labelling regulations

	Prior to 2008 Regulations	2008 Regulations
Label	"Warning by the Malaysian government: Smoking is hazardous to health."	Set of six rotating pictorial health warning labels Cigarette contains 4000 chemicals: "Produk ini mengandungi lebih 4,000 bahan kimia termasuk tar, nikotina dan karbon monoksida yang membahayakan kesihatan" Prohibited sale to persons under Age 18 years: "Dilarang Jual Kepada Orang Bawah Umur 18 Tahun"
Font	Printed in block letters of not less than 3 mm in height	**Health information and sales restrictions:** Text printed in lettering of Arial font of not less than 8 points
Colour	Same colour and background as name of the brand	**Health information and sales restrictions:** In a colour most conspicuous against the background of the cigarette package

(Government of Malaysia (2004). Control of Tobacco Product Regulations 2004. Section 36 -Act 281, Government of Malaysia (2008). Control of Tobacco Product (Amendment) Regulations 2008. Section 36 -Act 281).

Findings from focus groups research in Malaysia – Penang and Selangor, rural and Urban, male and Female - age 10-12 years, 13-14 years, 15-16 years, 17-19 years, 20-30 years (Studying the effect of pictorial and health warning labels on the attitude of children and young adults towards smoking in Malaysia, 2007) showed that 80% of the respondents had noticed health warning on Malaysian cigarette packs. However, in the report, the research findings stated that only a small percentage of women aged 10-14 from both urban and rural did not know or noticed the existing of health warnings on cigarette pack. The report further stated that although noticing of health warning is considerably high but not many had uttered out correctly the simple phrase of health warning: "Warning by the Malaysian Government: Smoking is hazardous to health". The report also explained the reasons were

because they never thought about health warning when buying or wanting to smoke. However, to those who noticed health warnings, many of them said that through the Tak Nak media campaign, they noticed the text warning on the side panel of the pack (Maizurah Omar et.al, 2008).

A survey was conducted to assess the perceived effectiveness of cigarette health warnings in China. By comparing picture, text-only warnings, and warning labels from other countries on 1169 individuals, participants were asked for their opinions about what the Chinese warnings should include. Nearly three-quarters of participants (74.4%) stated that cigarette packages should have more health information. Only 6.0% said that cigarette packages should have less health information, and 19.6% said that cigarette packages should have "about the same". This result suggests that pictorial warnings and health information would significantly increase the impact of health warnings in China. (Geoffrey T Fong, 2010)

Currently, warning labels that appear on tobacco packages typically consist of simple statements about the health risks of smoking (for example, "Smoking causes lung cancer", "Smoking can kill you") Although pointing out the health risks of smoking may be beneficial, it is clear from the research on attitudes and persuasion that the sole focus on negative health risks may be too narrow (Leventhal, 1970).Smokers may easily get bored with these labels and not responding towards them after a period of time.

Thus, warning labels should not only contain negative and fear inducing information concerning the health consequences of smoking, but should also contain information about facilities that can be contacted to get help when trying to quit smoking. In the process of changing attitudes and behavior, the out-come expectancies are crucial (Marks, 1998;Schwarzer, 1992; Schwarzer and Fuchs, 1996;Strahan et al., 2002). Therefore, warning labels should also provide additional information about the positive outcomes of quitting smoking (Sabine, Warning Labels Formulated as Questions Positively Influence Smoking-Related Risk Perception, 2012).

2.2.2 Anti-smoking advertisement

Article 13 of the FCTC requires Parties to implement effective measures against tobacco advertising, promotion, and sponsorship. The Control of Tobacco Product Regulations 2004 prohibited most forms of direct and indirect tobacco advertising and promotion in Malaysia. Offering or supplying free tobacco products, and advertising and promotion at points of sale are also banned under the 2004 regulations. (ITC Malaysia National Report, 2012).

On the other hand, government is promoting the anti-smoking advertisements to reduce the prevalence of smoking. Anti-smoking advertisement appears to have more reliable positive effects on those in pre-adolescence or early adolescence by preventing commencement of smoking

(Flyn et al.,1997). Antismoking advertisements can "immunize" adolescents against the positive stimuli enhanced by smoking scenes in movies (Minoo Farhangmehr, Catarina Silva, 2009).

There are more evidences that antismoking campaigns can promote cessation of smoking, but dose of advertising, type of message and effects on different proportion of population is less known. Due to the high cost of airing televised antismoking advertisement, the effect of exposure of mass media on behaviour change at population level and the extent of the media dose and message type is important. The study found that both strong emotional and graphic antismoking advertisements are effective in increasing cessation of smoking among adults smokers (Farelly M.C, 2012).

There is controversy over which types of message themes and styles of execution works best towards tobacco use as prevention among adolescent from start smoking. There are many types of antismoking advertising such as disease and suffering, selling disease and death, dying relatives, counter-industry activism, environmental tobacco smoke, marketing tactics, acceptance of non-smokers and cosmetic effects. Out of the 8 types of advertising tested, seven out of 8 advertisement types failed to significantly reduce adolescents' future smoking intention. The type of advertisement, that significantly lower most adolescents' smoking intention was disease and suffering advertisement. In conclusion, anti-tobacco advertisement should consider using advertisements showing disease and suffering caused by tobacco use if aimed towards youths (Pechmann C, 2006).

According to result of a survey conducted in Malaysia and Thailand, it is significantly that more Thai adolescents reported receiving advice from their nurses or doctors about the danger of smoking ($p < .001$), but no country difference was observed for reported antismoking education in schools and exposure to antismoking messages. Multivariate analyses revealed that only provision of antismoking education at schools was significantly associated with reduced susceptibility to smoking among female Malaysian adolescents (OR = 0.26). Higher knowledge of smoking harm and higher perceived health risk of smoking were associated with reduced smoking susceptibility among Thai female (OR = 0.52) and Malaysian male adolescents (OR = 0.63), respectively (Shukry Zawahir et.al, 2013).

According to a survey on perceptions of anti-smoking messages amongst high school students in Pakistan, it shows that videos of a cancer patient using an electronic voice box and a patient on a ventilator, picture of an oral cavity cancer, were perceived to be the most effective anti-smoking messages by students. Addiction, harming others through passive smoking and impact of smoking on disposable incomes were perceived to be less effective messages to them. Pictorial or multi-media messages were perceived to be more effective than written health warnings (Syed MA Zaidi, 2010).

However, Social Economic Status (SES) is also a consideration too when comes to the effectiveness of advertisements. A paper presents a

systematic review of the literature on the effectiveness of media campaigns to promote smoking cessation among low SES populations in the USA and countries with comparable political systems and demographic profiles such as Canada, Western European, and Australia nations. They reviewed 29 articles, summarizing results from 18 studies, which made explicit statistical comparisons of media campaign effectiveness by SES, and 21 articles, summarizing results from 13 studies, which assessed the effectiveness of media campaigns targeted specifically to low SES populations. They find that there is considerable evidence that media campaigns to promote smoking cessation are often less effective, sometimes equally effective, and rarely more effective among socioeconomically disadvantaged populations relative to more advantaged populations (Niederdeppe J, 2008).

2.2.3 Quit smoking campaign

Education, communication and public awareness can be achieved through campaigns. In Malaysia, the most well-known one is campaign "No Smoking". Most of the health campaigns are notably aimed at reduction of tobacco use and heart-disease prevention, but also addressed to other health-related issues such as alcohol and illicit drug use. In young people, smoking prevention seems to be more likely when mass media efforts were combined with school programs and the community. While in adult, many population studies state that when mass media campaigns have been

combined with other tobacco control strategies school there is reduction in smoking prevalence (Wakefield M.A., 2010).

From the self-perception theory, we know that people often observe their behaviour to infer their attitudes, especially in situations in which they are not exactly sure what to believe about a particular topic (Bem, 1967). Just like an outside observer, people draw conclusions about their attitudes from what they are doing. For example, smokers may evaluate smoking as more negative when they observe themselves finding arguments against smoking (Sabine, Warning Labels Formulated as Questions Positively Influence Smoking-Related Risk Perception, 2012). Therefore, education is important to change the perception of public towards smoking.

The American Legacy Foundation (ALF) developed and pilot-tested a branded media campaign called EX in 2006. This campaign encourages smokers to live a life without cigarettes. The campaign also explore whether awareness of the EX campaign is related with campaign-specific ideas, confidence in quitting smoking, and quit behaviour in a sample of smokers. It was found that 62% of respondents in the sample showed confirmed awareness toward the EX campaign while 79% reporting aided awareness. This shows that a media campaign that shows and offers smokers practical advice on how to approach quitting of smoking results in successful quitting over a short period of time (Vallone, 2007)

The Tak Nak anti-smoking campaign is a widely recognized among smokers. Results from the ITC Malaysia Survey from year 2005 to 2009 indicate that almost all smokers surveyed were aware of the Tak Nak anti-smoking campaign. Smokers were asked if they had seen or heard anything about the campaign. At least 93% of the respondents indicated that they had seen the campaign. This proved that this campaign has had a positive influence on smokers. In 2009, more than half of smokers said that the campaign has led to discussion about smoking and health amongst family (61%) and friends (53%). In 2009, 79% of smokers agreed that the Malaysian government should conduct more campaigns to discourage smoking (ITC Malaysia National Report, 2012).

According to another study in California, the results suggest that the anti-smoking media campaign not only significantly reduces the prevalence of smoking among adults and adolescents, but also brings significant long term benefits in smoking reduction. These are achieved by inducing more future attempts to quit among adult smokers and deterring more initiating intentions among adolescents (Liu, 2009).

According to the national evaluation sample, 85% of adolescent smokers thought the campaign was relevant to them. Fifty three per cent indicated that the campaign had led some teenagers to at least try to quit and eighty five percent thought it made smoking seem less cool and desirable. Among students who were established smokers the campaign generated quitting activity, with twenty seven percent percent cutting down the number of

cigarettes they smoked and twenty six percent having thought about quitting (Siegel M, 2000).

Smoking Cessation Service Provider (CSCSP) in Malaysia is to train community pharmacists as a counsellor for such smoking quitting service. In year 2005, CTOB (Clearinghouse for Tobacco Control)has introduced another form of smoking cessation program utilizing the call center concept also known as "Quitline" service. The objective of the service is to ensure the consistency and standardization of advice given to smokers and passive smokers. Within a short period of 2 months, a total number of 58 smokers and 2 proxy callers had called the Quitline. These 52 smokers were enrolled into the program.

The Health Education Authority's advertising campaign was very successful in generating calls to the helpline. Very large numbers of smokers from diverse backgrounds, including the key groups highlighted in the UK government's recent proposals on tobacco, called the Quitline, which appeared to be very successful in helping these callers to stop smoking. At one year 22% (95% confidence interval (CI) 18.4% to 25.6%) of smokers reported that they had stopped smoking. Assuming that those who refuse to take part in the one year follow up are continuing smokers and a further 20% of reported successes fail biochemical validation, this yields an adjusted quit rate of 15.6% (95% CI 12.7% to 18.9%) at one year. Among ex-smokers, 41% (95% CI 34.3% to 47.7%) reported that they were still not smoking at one year. The adjusted figure for ex-smokers at one year is 29% (95% CI 23.3%

to 34.8%). Of those who resumed smoking 28% were smoking less than they had been initially. Currently Quitline receives around half a million calls in the course of one year, 93% of whom are phoning for themselves. This represents 4.2% of the total population of adults smokers in England (L.Owen, 2000).

The Health Education Board for Scotland's antismoking campaign also reached a high number of adult smokers, was associated with a highly acceptable quit rate among adults given direct help through Smokeline, and contributed considerably to an accelerated decline in smoking prevalence in Scotland (Platt S, 1997).

From these studies, we can observe that education on smokers is very important and effective in helping them quit smoke. Therefore, education of anti-smoking should not focused on smokers and non-smokers, it should be a continuous support for the ex-smokers to help them to be determine in living a smoke free live.

2.2.4 Smoke free policies

In 2001, a systematic review for the Guide to Community Preventive Services identified strong evidence of effectiveness of smoking bans and restrictions in reducing exposure to environmental (second-hand) tobacco smoke (Hopkins, 2010). The second-hand smoke (SHS) is always a concern

of the public when come to the smoking issues. According to a survey of smoking policies and measurement of SHS level in 14 office buildings from 10 provinces in China, smoking in the building significantly elevated the SHS concentrations both in offices with at least one smoker and in offices with no smokers. In one building that recently adopted a smoke-free policy, after the policy was enacted, the nicotine concentrations decreased significantly. Enactment of a smoking policy was effective in reducing SHS exposure in the buildings (Gan Q, Effectiveness of a smoke-free policy in lowering secondhand smoke concentrations in offices in China., 2008). This comes to a realisation of the need to legislate smoke-free policy in workplaces.

In areas where new smoke-free laws were part of multiple tobacco control efforts, there was clear and consistent evidence of a positive change in smoking behaviour from prior on-going trends. However, if multiple tobacco control measures are instituted simultaneously, attribution of the change to a new law restricting smoking is not clear. Studies that assessed smoking behaviour, before and after implementation of new laws restricting smoking in public and workplaces, were analytically weak and produced mixed results; some provided no statistical evaluation even though differences or trends appeared to be present. Almost all the studies correlating the extent and strength of laws restricting smoking with various aspects of smoking behaviour found the expected associations: localities with relatively stronger restrictions in more places, or that covered a greater proportion of the population, generally showed lower adult and youth prevalence rates and reduced cigarette consumption. Whether localities with strong anti-smoking

norms were more likely to pass such regulations, or the regulations led to reduce smoking, is unknown (IARC, 2009).

Article 8 of the FCTC requires the adoption of effective measures to provide protection from exposure to tobacco smoke. The 1993 Regulations banned smoking indoors in healthcare institutions, public spaces (theatres, public lifts or toilets, etc.), and air-conditioned eating venues and public transportation. In 2004, the Regulations were amended to be more comprehensive, adopting full smoking bans in places of worship, educational and governmental institutions, additional public spaces (public toilets, libraries, internet cafe), petrol stations, air-conditioned shopping centres, airports, stadiums, and fitness centres. There is some exception with designated smoking areas can occupy one-third of air-conditioned eating places, non-air conditioned public transport terminals, and open air stadiums. Smoking in pubs, night clubs, discotheques, and casinos is still permitted. In 2008 Malaysia updated the regulations again to include smoking bans in National Service Training Centres, and finally banned smoking in all air conditioned workplaces in 2011. In all places where smoking is prohibited, proprietors are required to post 'No Smoking' signs (ITC Malaysia National Report, 2012). Penalty for violation is fine not exceeding RM10,000 or imprisonment for a term not exceeding two years(Smoke-Free policies and enforcement in the ASEANS, 2010).

Local councils in Penang are seeking the right to issue RM300 compound notices to smokers who light up in gazetted non-smoking areas.

Currently, the Penang Municipal Council (MPPP) and Seberang Prai Municipal Council (MPSP) can only impose a RM500 fine for littering to those who throw cigarette butts on the pavement (Penang wants fine for lighting up in smoke-free areas, 2012).

With the implement of smoking bans in workplace in most states, the prevalence of observed smoking in workplaces generally decreased between 2008 and 2009. Within these two years, the percentage of smokers reporting that they noticed smoking in workplaces decreased in five states: Sarawak (31% decrease), Johor (22% decrease), Penang (17% decrease), Terengganu (12% decrease), and Kedah (2% decrease). In two states, the prevalence increased slightly: Selangor (11% increase), and Sabah (2% increase). The largest reductions in the prevalence of observed smoking in workplaces were seen in the states of Johor, Sarawak, and Penang (ICT Malaysia National Report, 2012).

Smoking at home in 2005 shows a very low percentage of adult male smokers, ranging from 2% to 13% in seven states (Johor, Kedah, Penang18, Selangor, Terengganu, Sabah, and Sarawak) did not allow smoking in their homes. By 2009, there was a substantial increase in the prevalence of smoke-free homes – ranging from 30% of adult male smokers in Terengganu to 49% of adult male smokers in Sarawak and Johor. The most dramatic increases in smokefree homes between 2005 and 2009 were seen in Johor (47% increase), Sarawak (36% increase), Sabah (36% increase), and Selangor (33% increase), where the reported percentage of smoke-free

homes increased by at least 30 percentage points. This shows that the implementation of the 2004 regulations has had a dramatic impact on the prevalence of smoke-free homes in Malaysia (ICT Malaysia National Report, 2012).

According to a study did by 17 scientists from nine countries in 2008, smoke-free policies showed to improve the health and productivity of employees and decrease business costs for insurance, cleaning, maintenance, and potential litigation. Implementing comprehensive smoke free policies has not had a net negative economic effect on the restaurant and bar industry (Eriksen M, 2007).The conclusion was made that "there is sufficient evidence that smoke-free policies do not decrease the business activity of the restaurant and bar industry" (Pierce, 2008).

Studies also consistently report that smoke-free homes are associated with decreased tobacco use and increased successful quitting. The effect of a smoke-free home is consistently stronger than the effect of a smoke-free workplace (León, 2002).

Compliance survey of smoke-free law is an effective measuring of means progress towards a smoke-free society. They also help policy makers to take action where strengthening measures are required. India has a comprehensive tobacco control law known as Cigarettes and Other Tobacco Products Act (COTPA 2003) which prohibits smoking in public places and requires display of 'No smoking' signage with proper specifications at

conspicuous points. A survey was carried out to ascertain the level of compliance with smoke-free law in public places of a district of North India. The result shows that the overall compliance rate towards section 4 of COTPA was 92.3%. No active smoking was observed in 94.2% of the public places. In 90% of the public places 'No Smoking' signage were displayed as per COTPA. Health and educational institutions had maximum compliance with the smoke-free law while transit sites showed the least compliance. The compliance to the smoke-free law was high in the study (Sonu Goel, 2013).

2.2.5 Increasing price and taxation

Excise taxes are an effective tool for generating higher revenues among consumers. In recent years, in addition to satisfying revenue needs, more number of governments have used tobacco tax increases in order to reduce the health and economic burden of tobacco use. Studies have shown that tobacco taxes are the most cost effective way to reduce tobacco consumption. It is partly due to the reason that implementation of a package of price and non-price policies (e.g. banning smoking in public places, banning advertising etc.) is also highly cost-effective (World Health Report 2002, Jha et al. 2006a, Asaria et al. 2007).

In 2005, the National Tobacco Board of Malaysia estimated that the country has over 1,600 growers with a total crop value of approximately RM56.3 million ($4.2 million US). Taxes on tobacco products were determined

according to weight. However, since year 2005, excise taxes are charged per cigarette. An excise tax of RM0.08 ($0.02 US) per stick is applied to cigarettes produced and sold in Malaysia. Imported cigarettes are subject to an import tax of RM0.02 ($0.007 US) for international products and RM0.10 ($0.03 US) for cigarettes from Association of South East Asian Nations (ASEAN) countries (South East Asian Tobacco Control Alliance, 2008). In 2007, excise tax duty was increased by 25%. As of 2010, tax constitutes about 54% of the retail price of popular brand cigarettes and these retail prices must get prior approval from the government. Cigarettes are set at a minimum price of RM6.40 per pack and price promotion has been totally banned. Exported cigarettes and tobacco leaves are exempt from taxes (ITC Malaysia National Report, 2012).

According to a survey conducted in Malaysia, a 1% increase in real income increased cigarette consumption by 1.46%. The model predicted that an increase in cigarette excise tax from Malaysian ringgit (RM) 1.60 to RM2.00 per pack would reduce cigarette consumption in Malaysia by 3.37%, or by 806,468,873 cigarettes (H. Ross, Nabilla A. M. Al-Sadat, 2007).

However, with respect to the decision to increase tobacco taxes, political considerations have to be taken into account. Such considerations include, but not limited to, concerns about the expected impact of a tax increase on: tax evasion (smuggling) and tax avoidance; affordability of cigarettes; inflation; employment and other tobacco products, especially for low income smokers, and the relative prices of foreign and domestic brands.

Furthermore, in some countries, there is a culture of negotiated tax increases has developed between some governments and manufacturers. Manufacturers' responses to tax increases affect governments' expected revenues. The most crucial to the success of the tobacco tax policy is an understanding of the political and economic environment in each country (The political economy of tobacco taxation, 2010).

In Ukraine, a relatively small tax increase that raises the tax to 50 percent of the retail price could reduce the number of smokers by up to 500,000, avert 253,000 deaths (about 3.1 percent of the expected tobacco-related mortality in this cohort), and annually generate about uAH 1.4 billion (uS$ 281 million) in additional excise revenues. If Ukraine were to raise tobacco taxes to 70% of the retail price, the number of smokers would decline by almost two million, and about one million tobacco-related deaths would be avoided in this cohort, reducing tobacco-related mortality by 12 percent. At the same time, the government would collect an additional uAH 4.2 billion (uS$ 860 million) in excise tax revenue each year. Taxes in Ukraine are low compared to neighbouring countries, creating an incentive for smuggling duty-paid cigarettes out of the country. Therefore, a tax increase in Ukraine would reduce incentives for illicit cigarette trade and reduce duty-paid sales. However, even if all illegal cigarette exports are eliminated, tax revenue would still increase by uAH 2.6 billion to 3.6 billion (uS$ 539 million to uS$ 727 million), an increase of about 150 to 200 percent (Hana Ross et al., 2009).

Opponents of tobacco tax increase often suggest that the tax increases will result in job losses since that many are employed in tobacco growing, manufacturing and distribution. However, as Warner (2000) has noted, an economic presence of tobacco does not really imply an economic dependence on tobacco. Many of the jobs that are counted in estimates of the economic contribution of tobacco are far from dependent on tobacco, but rather involve tobacco in some limited way, often =indirectly (e.g. retailers who sell tobacco products, among many other products, or jobs in the heavy equipment sector where farming equipment is produced). Similarly, these estimates include so-called "expenditure induced employment" – jobs that result from spending by those whose incomes are earned in the jobs counted as tobacco related. In general, only jobs in tobacco farming (which are often part time and for which tobacco is one of several crops), tobacco leaf drying and warehousing (which involves very few jobs), and tobacco product manufacturing can be considered truly dependent on tobacco (The political economy of tobacco taxation, 2010).

2.3 Perception according to socio-demographic and socio-economic characteristics

The sections below will briefly discuss about the perception towards anti-smoking efforts according to age, gender, ethnic and educational level.

2.3.1 Age

Adolescent involvement in health-threatening activities is frequently attributed to unique feelings of invulnerability and a willingness to take risks(Lawrence D. Cohn et al.)

School tobacco use policies are regarded to be a comprehensive measure to prevent or reducing adolescent tobacco use. The study tested a conceptual model that specifies possible direct and indirect association among community norms, school antismoking policies, cigarette smoking behaviors and adolescent personal smoking beliefs. Direct effects were found from perceived enforcement of school anti-smoking policies to each of personal smoking beliefs. The study suggested that school antismoking policies may reflect community attitudes about youth cigarette smoking and more likely to be implemented when community norms towards youth smoking are less favourable. Therefore, school anti-smoking policy is an important prevention tools for the adolescent. (Lipperman S, 2009)

The smoker percentage in South Korea is among the highest in developed nations. In 2005, 50.3% of men and 3.1% of women aged 20 years and older were smokers. Due to this, Korea suffers from increasing medical expenditures and public health problems. Although reduction of smoking rate was one of the main issues of public health policy, Korea has weak national policies to reduce smoking rate. The study found that out of 2847 respondents, 38.9% males were smokers and 61.1% were non-smokers. People who smoked the largest amount cigarette were between the ages 50-59. On the other hand, males between the ages 30-39 are the highest

percentage of current smokers. The factors that contributed to this were income, religious affiliation occupation and policy implications. Korean government developed many anti-smoking policies, but the smoking prevalence rate is still among highest of the developed nations. (Chung W., 2009).

Finding ways to discourage adolescents from taking up smoking is paramount because those tho begin smoking at a younger age are more likely to become addicted and have more difficulty in quitting. This article examine whether antismoking messages and education could help to reduce the intention to smoke among in Malaysia and Thailand. 2008 adolecents were surveyed. The mean level of knowledge of the health hazard of smoking was higher among Thai (3.34 vs 3.58), but the mean for the perceived health risk of smoking was higher among Malaysian adolescent (5.40 vs 4.98). about 15% of adolescents in Malaysia and 14% in Thailand reported that they were susceptible to smoking. In both countries, susceptibility to smoking was associated with measures of antismoking education or with media messages. Therefore, educating adolescents abouth the danger of smoking in schools is an effective means of reducing the susceptibility for smoking in Malaysia and Thailand. (Zawahir S, 2013).

2.3.2 Gender

Smoking prevalence among men is about 4 times as of females (48% against 12%) globally. The Global Youth Tobacco Survey (GYTS) conducted

survey on tobacco use among adolescent aged 13-15 years old. By 2025, it is predicted that 20% of female population will be smokers, increasing from 12% in 2005. Several factors causing increase in female smoking is rise in spending power, weakening social and cultural norms and greater female autonomy. About 8 out of 10 young females in all countries, (although only half of females in Malaysia) were aware of health warning on cigarette packs. 9 out of 10 females in Thailand and Vietnam said that health warning on packs trigger thought of harmfulness of smoking, compared to 7 out of 10 in Indonesia and Philippines. Over 80% of females in all countries supported implementation of pictorial warnings on cigarette packs. Most of females in each country emphasized the need to have effective measures and enforcement of all the policies. They proposed increasing enforcement of tobacco advertising bans and smoke-free area in public places. Some of them recommended to include more public education on the harms of secondhand smoke. (Kin F., 2009)

According to WHO, smoking is the second most common cause of death and fourth most common risk factor for disease globally. With the current trend, smoking will cause 8 million of deaths by 2030, 80% of which occurring in middle- and low-income countries. Advocacy for tobacco regulation in Malaysia has progressed slowly since it began in the 70s. However, with its ratification of the Framework Convention of Tobacco Control (FCTC)., the first international public health treaty, the Malaysian government has begun using multiple approaches towards tobacco control. The study was conducted using medical students' participations. The results state that

slightly more males than females were current smokers, however more females had started smoking before age 7. Regardless of smoking status, male medical students perceived that printed media and radio were the best media for delivering anti smoking messages. While female students showed grated approval of total bans on cigarettes use than the male students. Despite being taught about the hazard of tobacco in Medical School, some students disagreed or slightly agreed with total ban of cigarettes. The study postulates that male medical students had a false perception of the harms of tobacco use, which may have been enhanced by influence of medical specialists, lecturers and parents who are smokers. As a conclusion, gender differences existed in the future doctors' perception of effectiveness of anti-smoking initiatives. (Yasin S. M., 2013).

2.3.3 Ethnic

A study was done at the Battle Creek Veterans Affairs Medical Center to determine if race predicts motivation to quit smoking and preferences for cessation services among smokers serviced by a primarily psychiatric Veterans Affairs hospital. In the multivariate analyses, compared with Whites, non-Whites had 3.5 times greater odds of thinking that quitting smoking was extremely important to health (*P*= 0.01), 4.0 times greater odds of thinking of quitting using tobacco products in the next 30 days (*P*= 0.004) and 3.4 times greater odds of being interested in receiving smoking cessation services (*P*= 0.007). Yet, non-White patients were less likely to be interested in intensive nurse counselling and cessation medications. (Karvonen-Gutierrez CA. 2012)

A survey on perceived exposure to anti-smoking messages was collected from 1,608 high school students surveyed through the ASPIRE (A Smoking Prevention Interactive Experience) Program in Houston, Texas which the data collection took place between October 2002 and March 2003. Logistic regression identified that African Americans perceived significantly less exposure to anti-smoking advertisements via television (OR = .50, $p < 0.05$) and posters (OR = .61, $p < 0.05$) than whites. However, they had nearly twice as much perceived exposure to anti-smoking advertisements at movies (OR = 1.79, $p <$ or $= 0.05$) and sporting events (OR = 2.1, $p <$ or $= 0.05$) than their white counterparts. Hispanic youth perceived significantly less exposure to anti-smoking posters (OR = .51, $p <$ or $= 0.05$) and significantly higher exposure to anti-smoking messages at sporting events (OR = 1.92, $p <$ or $= 0.05$) and school programs (OR = 3.44, $p <$ or $= 0.05$) compared to white youth (Peters RJ Jr. 2005).

According to a survey, European-American youth reported that messages that emphasized long-term smoking effects were significantly more persuasive ($p=.008$) if compared to African American youth. Analyses within racial group revealed that very little preference for message type among African-American adolescents, with two exceptions. African-American adolescents rated tobacco industry manipulation messages as significantly less persuasive compared to secondhand smoking messages and long-term health effect messages. They also rated that long-term health effect messages were significantly more persuasive than nicotine is addicting messages. There was much more variability in the responses of European-

American youth. Messages that focused on long-term health effects were perceived as significantly more persuasive compared to all other message types (all p valuesb.004). Next, secondhand smoking messages were perceived as significantly more persuasive compared to every other message type (all p valuesb.02) but less persuasive than messages emphasizing the long-term health effects. The remaining messages which revealing nicotine is addicting, short-term smoking effects, and tobacco industry manipulation, all were seen as persuasively similar to one another (all p values>.18) (Shannah Tharp-Taylor et.al.2012).

Result from a survey showing that Asian smokers were more likely to report receiving smoking cessation advice from a physician relative to non-Hispanic White smokers. After controlling for gender, age, education, and cigarettes smoked per day and with the exception of American Indian/Alaska Native smokers, the receipt of advice by each racial group increased significantly from the 1992--1993 survey to the 1998--1999 survey, (Reed MB, Burns DM. 2008).

2.3.4 Educational level

Smoking is highest among persons with 9-11 years of education (37.5 %) and lowest among persons with 16 or more years of education (14.0 %). Smoking is higher among persons living below the poverty level (32.5 percent) than among those living at or above the poverty level (23.8 percent) (Smoking Statistics, 2013).

At the level of individual schools, studies about the relationships between school antismoking policies and adolescents' smoking behaviors provide mixed results. Some studies suggest that the prevalence of smoking is lower when school policies against tobacco use are in place (Moore et al., 2001), whereas others found only inconsistent or minimal effects (Darling, Reeder, Williams, & McGee, 2006).

Graphic pictorial or multi-media health warnings that depict cosmetic and functional distortions were perceived as effective anti-smoking messages by English-medium high school students in Pakistan. Smokers demonstrated greater resistance to health promotion messages compared with non-smokers. Targeted interventions for high school students may be beneficial (Syed MA Zaidi et. Al. 2011).

Radio and television advertising appears to have been a more successful mechanism for delivering anti-smoking messages than have attempts by teachers and parents to convince young people to stop smoking, or do not start smoking. More respondents recalled radio and television advertising than messages delivered by teachers before. Through this study, it also suggests that traditional anti-smoking scare campaigns may not be working effectively among young people (James Mahoney, 2006).

According to a survey comparing prevalence of smoking by educational level in the United Kingdom, Finland, Sweden, Norway, and France, most of the odds ratios for current smoking were greater than 1.00, indicating a higher prevalence of smoking in the lower educated group. The educational differences in smoking were generally higher than in the older age group, and smoking rates were higher among lower educated people in most countries. Among younger women, a similar north-south pattern was found as among older women. Among younger men, large educational differences in smoking were found for northern European as well as for southern European countries, except for Portugal (Educational differences in smoking: international comparison, 2000).

A study in Bangladesh found that class grade, but not age was significantly associated with students' perception. The class grade IX and X were at least 2 times more likely to support the anti-tobacco policy compared to grade VIII. This is because in Bangladesh, student's school age entrance is different due to poor birth registry. Therefore, the age differences were nullified. This study had shown that the socioeconomic status was a predictor for students' perception towards anti-tobacco policy where higher socio-economic status has almost 2 times more supportive towards the policy compared to lower socio economic status. In this study, prevalence of smoking among high socioeconomic status students was slightly higher. So, they are more aware of the anti-tobacco policy (Rahman M et.al.,2012).

2.3.5 Occupation

A research in United State showed that the prevalence of cigarette smoking was highest among material moving occupations, construction laborers, and vehicle mechanics and repairers. The lowest smoking prevalence was found among teachers. Among industry groups, the construction industry had the highest prevalence of cigarette smoking (Bang KM, Kim JH, 2001)

According to a new government report, construction workers, miners and food service workers top the list of occupations that smoke the most. Experts say that it might have as much to do with lower education levels as the jobs themselves (Mike Stobbe, 2011).

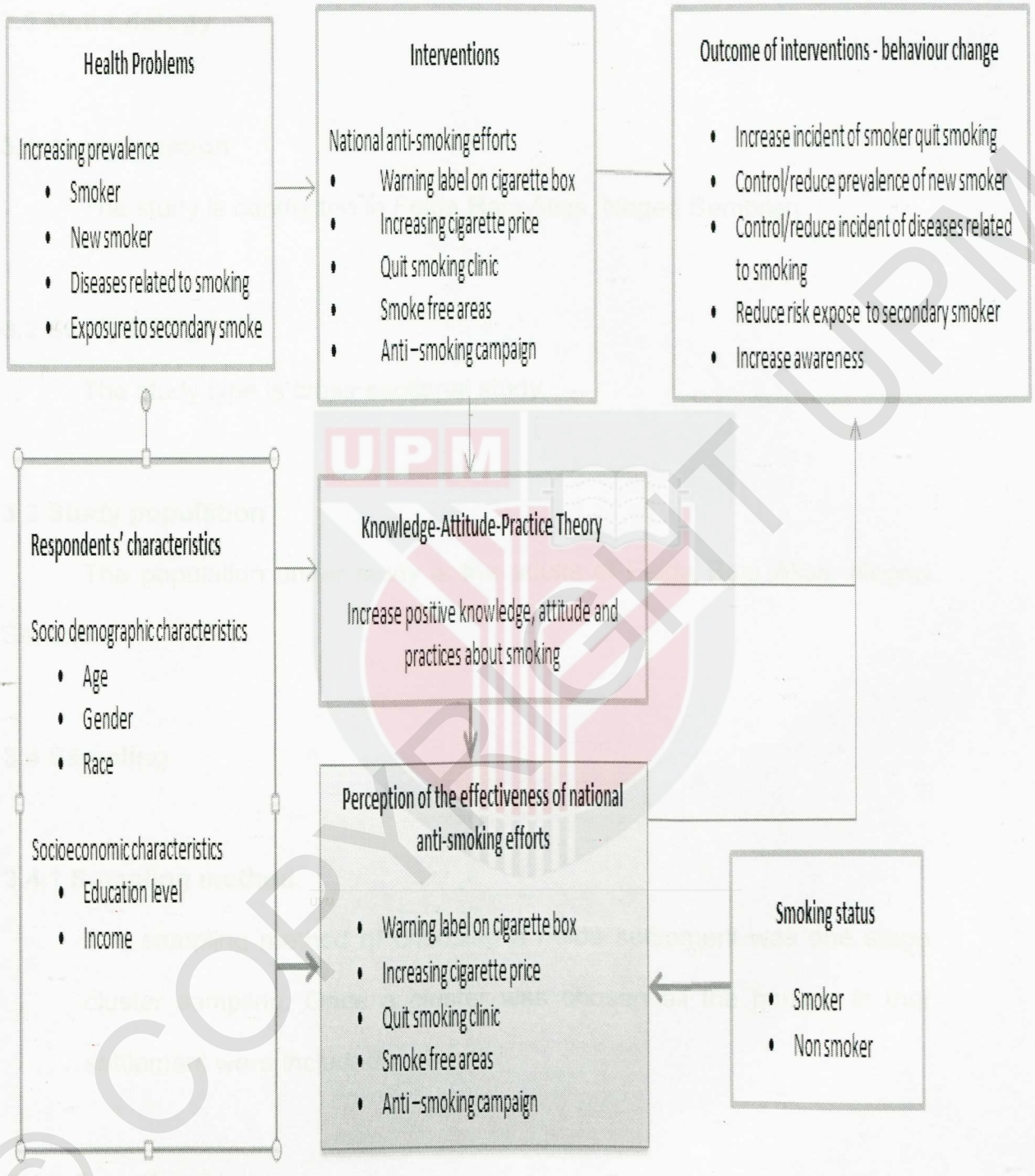
2.3.6 Income

Although there are many factors contributing to predicted tobacco use, socio-economic status is the greatest predictor. Tobacco and poverty create a vicious cycle: low income people smoke more, suffer more, spend more, and die more from tobacco use. Low social-economic status populations include low-income individuals with less than 12 years of education, the medically underserved, the unemployedo, and the working poor and can also be prisoners, gays and lesbians, blue collar workers, and the mentally ill (Partnership For A Tobacco-Free Maine).

2.3.7 Others

Survey showed a significant relationship between income levels and educational attainment. Basically, the higher the education level, the higher the income. For example, people with professional degrees earned 6 times as much as people who did not graduate from high school (Steven Strauss, 2011).

2.4 Conceptual framework:



Perception of the effectiveness of anti-smoking efforts: warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies, and anti-smoking campaign, in relation to socio-demographic, socio-economic factors, and smoking status.

CHAPTER 3

3.0 Methodology

3.1 Study location

The study is conducted in Felda Raja Alias, Negeri Sembilan.

3.2 Study Design

The study type is cross-sectional study.

3.3 Study population

The population under study is the adults of Felda Raja Alias, Negeri Sembilan

3.4 Sampling

3.4.1 Sampling method

The sampling method of choosing a Felda settlement was one stage cluster sampling. Once a cluster was chosen all the houses in that settlement were included.

3.4.2 Sampling frame

All Felda settlement in Felda Raja Alias, Negeri Sembilan

3.4.3 Sampling unit

The household residents of the selected Felda settlement who agree to participate.

3.4.4 Sample size

n= required sample size

P= estimated prevalence (ITC Malaysia National Report, March 2012)

Z= confidence level at 95% (standard value of 1.96)

d= precision (in proportion of 1)

α= level of significance

Sample size estimation:

$$n = \frac{Z^2 P(1-P)}{d^2}$$

$$= \frac{1.96^2 \times 0.80(1-0.80)}{0.05^2}$$

=245

±10% non respondent = 270

Table 2: Sample size according to literature review

No	Prevalence of awareness towards a type of anti-smoking effort	No of samples	Comments
1.	Warning Label= 80% *ITC Malaysia Report, 2012*	245	The sample is suitable
2.	Advertisement (youth)= 42% *ITC Malaysia Report, 2012*	374	Sample size is too large
3.	Quit smoking campaign= 85% *Siegel M, 2000*	196	Sample size is low
4.	Smoke-free law= 92.3% *Sonu Goel, 2013*	109	Sample size is too low

The most appropriate sample size is 245, because it is suitable for the time frame given which is 1 week and the resource available which is 2 researchers.

3.5 Data collection

The data collection period is on 3rd of June to 14th June. A set of self-administered questionnaires were given to each respondent personally together with personal consent and respondents were given a period of time to fill the questionnaires.

3.6 Inclusion and Exclusion Criteria

3.6.1 Inclusion criteria

i. The household members of House which is occupied and agreed to participate
ii. Residences of 20 years old and above.

3.6.2 Exclusion criteria

i. Does not agree to participate in the study
ii. Non-Malaysian citizen
iii. Mentally impaired
iv. Disabilities that prevents the person to answer or provide answers to the questionnaire.

3.7 Ethical issues and consent

The approval of this study was obtained from Ethical Committee of Faculty of Medicine and Health Science of Universiti Putra Malaysia. We received permission from Felda Office as well. Personal consents from the respondents will be disclosed together with the questionnaire during data collection. Respondents' information is confidential and will be kept as anonymous.

3.8 Instruments

A set of self-administered questionnaire was given to respondents which will be divided into 7 sections. The questions are to be answered using 5-point Likert scale ranging from 1(strongly disagree) to 5(strongly agree).

3.9 Variables

3.9.1 Dependent variables

i. Perception on anti smoking efforts, including perception on government policies, effectiveness of anti-smoking efforts, quitting of smoking and availability of anti-smoking clinics.

3.9.2 Independent Variable

Sociodemographic and socioeconomic factors for example age, gender race, education level, and income.

3.10 Validity and reliability

Pre-testing was done to residents of another felda.

3.11 Data analysis

Data management and satistical analysis were all done using database entered into SPSS 21.0. A descriptive study analysis was performed. The tests for difference were performed using one-way ANOVA and independent T-test. The predictors for positive perception, in relation to sociodemographic factors were analysed using binary logistic regression.

3.12 Definition of terms.

i. Smoker: a person who smokes tobacco regularly.

ii. Non-smoker: a person who does not smoke tobacco.

iii. Perception: the way in which something is regarded, understood or interpreted.

- Positive perception: Requires a rating of 4 or higher on the Likert Scale. (Raut U., 2012)
- Negative perception: Rating of 3 or lower on Likert Scale. (Raut U., 2012)

vi. Adolescent: young people between the ages of 10 and 19 years. (WHO definition)

vii. Operational definition:

- The definition of dependent and independent variables according to Oxford Dictionary:

Table 3: Definition of independent variables.

Independent variables	Definition
Gender	The state of being male or female.
Age	The length of time that a person has lived or a thing has existed.
Ethnic	Relating to a population subgroup (within a larger or dominant national or cultural group) with a common national or cultural tradition. The main ethnicities in Malaysia are Malay, Chinese and Indian.
Religion	The belief in and worship of a superhuman controlling power, especially a personal God or gods. The most common religions in Malaysia are Islam, Christians, Buddhist and Hindu.
Education	The process of receiving or giving systematic instruction, especially at a school or university.
Occupation	A job or profession of respondents.
Income	Total amount of money by all residents in a house within a month.
Smoker	Respondents who declared that he or she is smoking.

Table 4: Definition of dependent variables.

Dependent variables	Definition
Perception	The way in which something is regarded, understood, or interpreted in relation to anti-smoking efforts: warning label on cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies and anti-smoking. The perception is valued according to Likert scale. In this research, 5 point Likert scale was used.1 is the lowest mark with negative perception and 5 is the highest mark with very positive perception. Positive perception means respondents agree that these anti-smoking efforts are effective while negative perception means respondents think that these efforts are not effective.

Chapter 4

4.0 **Result**

4.1 **Response rate**

According to the sample size calculated, the targeted sample size that should be collected was 270. In Felda Raja Alias, there were 410 houses and questionnaires were delivered to all the houses with their residents at home. Data were collected from 156 houses and managed to get 336 respondents. There were an average of 2-3 residents in a house.

Percentage of household in research = $\frac{156 \times 100\%}{410}$ = 38.05%

Percentage of respondents compared to targeted sample size = $\frac{336 \times 100\%}{270}$ = 124.4%

4.2 **Characteristics**

4.2.1 **Socio-demographic, socio-economic characteristic and smoking status of respondents.**

Table 4.2.1 shows that the respondents are nearly equal in gender, with 53.9% male respondents and 46.1% female respondents. The average age was 46 (±14.43) years old and all the respondents were Malays with Islam religion. Majority of the respondents received educational level until high school, worked as settlers and had monthly salary of less than RM 1500. Among 336 respondents, 136 were smokers.

Table 4.2.1 Socio-demographic and socio-economic characteristic and smoking status of respondents.

	Mean	sd	Frequency	Percentage
Gender				
-Male			181	53.9
-Female			155	46.1
Age	46	±14.43		
Ethnic				
-Malay			336	100.0
Religion				
-Islam			336	100.0
Educational level				
-No formal education			25	7.4
-primary school			93	27.7
-high school			166	49.4
-University/College			41	12.2
-Missing			11	3.3
Occupational status				
- Student			15	4.5
- Settlers			155	46.1
- Businessman			22	6.5
- Government staff			18	5.4
- Private sector worker			31	9.2
- Housewife			80	23.8
- Missing			15	4.5
Monthly salary				
- RM1000- RM1499			177	52.7
- RM1500- RM1999			35	10.4
- RM2000- RM2499			42	12.5
- RM2500- RM2999			24	7.1
- RM3000 and above			26	7.7
- Missing			32	9.5
Smoking status				
-Yes			136	40.5
- No			197	58.6
-Missing			3	0.9

4.2.2 **Description of perception towards anti-smoking efforts among respondents**

Table 4.2.2 is the description of the total score of perception towards anti-smoking efforts which were assessed using relevant questions using Likert scale responses. The anti-smoking efforts were divided into: warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies and anti-smoking campaign.

In general, the positive perception towards anti-smoking effort was only between 14.6-19.0%. The highest positive perception is for smoke free policies (19.0%), followed by anti-smoking campaign (17.6%), increment in cigarette price (16.1%), quit smoking clinic(16.1%), and warning label on cigarette box(14.6%).

A: Labelling on the cigarette box (7 questions)

The total score for labelling on the cigarette box ranged from 7 to 35. The mean score was 22.03 with standard deviation of 5.05. Among 336 respondents, 14.6% had positive perception, 18.8% with negative perception and majority respondents had moderate perception (66.7%).

B: Increment in cigarette price (3 questions)

The total score for increment in cigarette price ranged from 3 to 15. The mean score was 10.13 with standard deviation of 2.86. Among 336 respondents, 16.1% had positive perception, 19.0% with negative perception and majority respondents had moderate perception (64.9%).

C: Quit smoking clinic (2 questions)

The total score for quit smoking clinic ranged from 2 to 10. The mean score was 7.11 with standard deviation of 1.95. Among 336 respondents, 16.1% had positive perception, 13.7% with negative perception and majority respondents had moderate perception (70.2%).

D: Smoke free policies (3 questions)

The total score for smoke free policies ranged from 3 to 15. The mean score was 11.26 with standard deviation of 2.55. Among 336 respondents, 19.0% had positive perception, 9.2% with negative perception and majority respondents had moderate perception (71.7%).

E: Anti-smoking campaign (5 questions)

The total score for anti-smoking campaign ranged from 5 to 25. The mean score was 18.06 with standard deviation of 4.70. Among 336 respondents, 17.6% had positive perception, 15.2% with negative perception and majority respondents had moderate perception (67.3%).

Table 4.2.2 Description of the total score of perception towards types of anti-smoking efforts.

Types of anti-smoking efforts	Mean	Sd	Categories of perceptions
Labelling on cigarette box (Score range: 7-35)	22.03	±5.05	Positive perseption=14.6 Moderate perception =66.7 Negative perception=18.8
Increment in cigarette price (Score range: 3-15)	10.13	±2.86	Positive perseption =16.1 Moderate perception =64.9 Negative perception =19.0
Quit smoking clinic (Score range: 2-10)	7.11	±1.95	Positive perseption =16.1 Moderate perception =70.2 Negative perception =13.7
Smoke free policies (Score range: 3-15)	11.26	±2.55	Positive perseption =19.0 Moderate perception =71.7 Negative perception =9.2
Anti-smoking campaign (Score range: 5-25)	18.06	±4.70	Positive perseption =17.6 Moderate perception =67.3 Negative perception =15.2

4.3 **The associations of socio-demographic and socio-economic with perception towards anti-smoking efforts. The tests were done using one way ANOVA and independent T-test.**

The perception towards anti-smoking effort were divided into warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies, and anti-smoking campaign. Analysis was done to see association of gender, educational level, type of occupation, monthly income, and smoking status to these perceptions.

4.3.1 **The associations of socio-demographic and socio-economic with perception towards the warning label on the cigarette box.**

Table 4.3.1 shows the associations of socio-demographic and socio-economic with perception towards the warning label on the cigarette box. Result shows that there were no significant association of perception toward the warning label according to gender, type of occupation, income and smoking status. However there was a borderline significant association with level of education ($p= 0.047 \approx 0.05$).

Table 4.3.1 The associations of 'total score of perception towards the warning label on the cigarette box' with gender, socio-economic, and smoking status characteristics.

Variable		Means	sd	P value	CI
Gender (N=336)	Male	22.30	±4.96		
	Female	21.72	±5.16	0.29	(-0.50; 1.675)
Education level (n=325)	No formal education	19.72	±6.05		(17.22; 22.22)
	Primary school	22.29	±4.96		(21.27; 23.31)
	High school	22.54	±4.80		(21.81; 23.28)
	University/college	21.27	±5.62	0.05*	(19.49; 23.04)
Occupation(n=321)	Student	20.33	±4.73		(17.71; 22.95)
	Settlers	22.16	±4.89		(21.39; 22.94)
	Businessman	22.45	±5.15		(20.17; 24.74)
	Government	21.11	±5.69		(18.28; 23.94)
	Private sector	21.74	±4.78		(19.99; 23.49)
	Housewife	22.41	±5.57	0.70	(21.17; 23.65)
Income (n=304)	RM1000- RM1499	22.11	±4.79		(21.40; 22.82)
	RM1500- RM1999	22.34	±4.96		(20.64; 24.05)
	RM2000- RM2499	22.07	±6.42		(20.07; 24.07)
	RM2500- RM2999	21.04	±5.29		(18.81; 23.27)
	RM3000 and above	22.08	±3.25	0.89	(20.76; 23.39)
Smoking status (n=333)	Yes	22.61	±4.59		
	No	21.66	±5.36	0.10	(-0.16; 2.06)

* $p<0.05$

4.3.2 **The associations of socio-demographic and socio-economic with perception towards the increment in cigarette price.**

Table 4.3.2 shows the associations of socio-demographic and socio-economic with perception towards the increment in cigarette price. Result shows that there was no significant association with gender, education level, occupation and smoking status. However there was a significant association with monthly income (p=0.01).

Table 4.3.2 The associations of 'total score of perception towards increment in cigarette price' with gender, socio-economic, and smoking status characteristics.

Variable		Means	sd	P value	CI
Gender (N=336)	Male	10.19	±2.96		
	Female	10.06	±2.74	0.67	(-0.48; 0.75)
Education level (n=325)	No formal education	9.60	±3.12		(8.31; 10.89)
	Primary school	10.18	±2.83		(9.60; 10.77)
	High school	10.20	±2.79		(9.78; 10.63)
	University/college	10.39	±3.08	0.74	(9.42; 11.36)
Occupation(n=321)	Student	9.67	±3.16		(7.92; 11.41)
	Settlers	10.35	±2.84		(9.90; 10.80)
	Businessman	10.36	±3.00		(9.03; 11.69)
	Government	9.72	±3.61		(7.93; 11.52)
	Private sector	9.45	±2.55		(8.51; 10.39)
	Housewife	10.19	±2.87	0.63	(9.55; 10.83)
Income (n=304)	RM1000- RM1499	10.26	±2.56		(9.88; 10.64)
	RM1500- RM1999	9.06	±2.77		(8.11; 10.01)
	RM2000- RM2499	10.86	±3.16		(9.87; 11.84)
	RM2500- RM2999	9.08	±3.36		(7.66; 10.50)
	RM3000 and above	10.73	±2.72	0.01*	(9.63; 11.83)
Smoking status (n=333)	Yes	10.24	±2.88		
	No	10.09	±2.86	0.65	(-0.48; 0.77)

* p<0.05

4.3.3 **The associations of socio-demographic and socio-economic with perception towards the quit smoking clinic.**

Table 4.3.3 shows the associations of socio-demographic and socio-economic with perception towards the quit smoking clinic. Result shows that there was no significant association with all the characteristics (gender, education level, occupation, education level and smoking status).

Table 4.3.3 The associations of 'total score of perception towards quit smoking clinic' with gender, socio-economic, and smoking status characteristics.

Variable		Means	sd	P value	CI
Gender (N=336)	Male	7.13	±1.90		
	Female	7.09	±2.02	0.84	(-0.38; 0.46)
Education level (n=325)	No formal education	6.24	±2.74		(5.11; 7.37)
	Primary school	7.15	±1.81		(6.78; 7.52)
	High school	7.30	±1.79		(7.02; 7.57)
	University/college	7.00	±2.23	0.09	(6.30; 7.70)
Occupation(n=321)	Student	6.13	±2.48		(4.76; 7.50)
	Settlers	7.11	±1.80		(6.82; 7.39)
	Businessman	7.86	±1.52		(7.19; 8.54)
	Government	7.17	±2.04		(6.15; 8.18)
	Private sector	6.87	±2.16		(6.08; 7.66)
	Housewife	7.21	±2.18	0.18	(6.73; 7.70)
Income (n=304)	RM1000- RM1499	7.12	±1.83		(6.85; 7.40)
	RM1500- RM1999	6.54	±2.19		(5.79; 7.29)
	RM2000- RM2499	7.40	±2.14		(6.74; 8.07)
	RM2500- RM2999	6.88	±2.03		(6.02; 7.73)
	RM3000 and above	7.58	±1.77	0.211	(6.86; 8.29)
Smoking status (n=333)	Yes	7.07	±1.94		
	No	7.15	±1.98	0.69	(-0.09; 0.22)

4.3.4 **The associations of socio-demographic and socio-economic with perception towards the smoke free policies.**

Table 4.3.4 shows the associations of socio-demographic and socio-economic with perception towards the smoke free policies. Result also shows that there was no significant association with all the characteristics (gender, education level, occupation, education level and smoking status).

Table 4.3.4 The associations of 'total score of perception towards the smoke free policies' with gender, socio-economic, and smoking status characteristics.

Variable		Means	sd	P value	CI
Gender (N=336)	Male	11.36	±2.46		
	Female	11.15	±2.64	0.45	(-0.34; 0.76)
Education level (n=325)	No formal education	11.31	±3.00		(10.08; 12.56)
	Primary school	11.23	±2.54		(10.70; 11.75)
	High school	11.33	±2.36		(10.97; 11.69)
	University/college	11.32	±3.05	0.99	(10.36; 12.28)
Occupation(n=321)	Student	10.93	±3.35		(9.08; 12.79)
	Settlers	11.39	±2.45		(11.01; 11.78)
	Businessman	11.14	±2.23		(10.15; 12.13)
	Government	11.28	±3.25		(9.66; 12.89)
	Private sector	10.94	±2.35		(10.07; 11.80)
	Housewife	11.46	±2.60	0.91	(10.88; 12.04)
Income (n=304)	RM1000- RM1499	11.20	±2.47		(10.83; 11.56)
	RM1500- RM1999	11.17	±2.46		(10.33; 12.01)
	RM2000- RM2499	11.50	±3.20		(10.50; 12.50)
	RM2500- RM2999	11.63	±2.34		(10.64; 12.61)
	RM3000 and above	10.96	±1.97	0.85	(10.17; 11.76)
Smoking status (n=333)	Yes	11.29	±2.46		
	No	11.24	±2.62	0.87	(-0.51; 0.61)

4.3.5 **The associations of socio-demographic and socio-economic with perception towards the anti-smoking campaign.**

Table 4.3.5 shows the associations of socio-demographic and socio-economic with perception towards the anti-smoking campaign. Once again, result shows that there was no significant association with all the characteristic (gender, education level, occupation, education level and smoking status).

Table 4.3.5 The associations of 'total score of perception towards the anti-smoking campaign' with gender, socio-economic, and smoking status characteristics.

Variable		Means	sd	P value	CI
Gender (N=336)	Male	17.97	±4.87		
	Female	18.15	±4.50	0.72	(-0.18; 0.52)
Education level (n=325)	No formal education	18.24	±5.24		(16.08; 20.40)
	Primary school	18.28	±4.47		(17.36; 19.20)
	High school	18.21	±4.69		(17.49; 18.93)
	University/college	17.63	±4.82	0.90	(16.11; 19.16)
Occupation(n=321)	Student	16.87	±5.66		(13.73; 20.00)
	Settlers	18.05	±4.35		(17.36; 18.74)
	Businessman	18.36	±4.67		(16.30; 20.43)
	Government	18.72	±4.50		(16.49; 20.96)
	Private sector	16.84	±5.42		(14.85; 18.83)
	Housewife	18.54	±5.03	0.51	(17.42; 19.66)
Income (n=304)	RM1000- RM1499	18.29	±4.26		(17.66; 18.92)
	RM1500- RM1999	17.69	±5.12		(15.93; 19.44)
	RM2000- RM2499	17.79	±5.39		(16.10; 19.47)
	RM2500- RM2999	17.42	±5.18		(15.23; 19.61)
	RM3000 and above	18.81	±3.34	0.74	(17.46; 20.15)
Smoking status (n=333)	Yes	17.90	±4.67		
	No	18.19	±4.76	0.59	(-1.32; 0.75)

4.4 **Predictors for positive perception, in relation to socio-demographic and socio-economic factors. The odds ratio were calculated using binary logistic regression.**

The predictors of positive perception towards anti-smoking efforts: warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke free policies, and anti-smoking campaign, in relation to socio-demographic and socio-economic factors were determined to assess the determining factors.

The socio-demographic and socio-economic factors were:

A) Gender : Compare the odds ratio for male against the odds ratio for the reference group(female).

B) Age : Compare the odds ratio for age ≤40against the odds ratio for the reference group(>40).

C) Educational level : Compare the odds ratio for ≤high school against the odds ratio for the reference group(≥*university*).

D) Occupation : Compare the odds ratio for settlers against the odds ratio for the reference group(non-settler).

E) Income : Compare the odds ratio for income <RM2500 against the odds ratio for the reference group(≥*RM2500*).

4.4.1 **Predictors for positive perception towards warning label on the cigarette box, in relation to socio-demographic and socio-economic factors.**

There were no significant relation between gender, age, educational level, occupation and salary to positive perception towards warning label on cigarette box. The perception regarding the information on the cigarette box is trustable was all negative.

Table 4.4.1 The predictors for positive perception towards warning label on the cigarette box in relation to socio-demographic and socio-economic factors.

		OR	CI 95%	P value	B	S.E
A1	The information on the cigarette box can easily be understood					
	-Gender (male, female)	1.08	(0.65; 1.80)	0.75	0.08	0.26
	Age (≤ 40, >40)	1.24	(0.65; 2.37)	0.51	0.22	0.33
	-Education level (high school, >diploma)	1.03	(0.40; 2.63)	0.96	0.03	0.48
	-Occupation (settler , non-settler)	1.93	(0.50; 7.48)	0.34	0.66	0.70
	-Salary (<2500, ≥2500)	0.66	(0.27; 1.606)	0.36	-0.42	0.46
A2	The information on the cigarette box is trustable	All perception was negative for question A2				
	-Gender (male, female)					
	Age (≤ 40, >40)					
	-Education level (high school, >diploma)					
	-Occupation (settler , non-settler)					
	-Salary (<2500, ≥2500)					

		OR	CI 95%	P value	B	S.E
A3	The information on the cigarette box increases the awareness of harmfulness of smoking					
	-Gender (male, female)	1.46	(0.90; 2.35)	0.12	0.38	0.24
	Age (≤ 40, >40)	1.00	(0.56; 1.82)	0.99	0.00	0.30
	-Education level (high school, >diploma)	0.91	(0.39; 2.11)	0.82	-0.10	0.43
	-Occupation (settler , non-settler)	0.80	(0.27; 2.39)	0.69	-0.22	0.56
	-Salary (<2500, ≥2500)	0.76	(0.32; 1.82)	0.54	-0.27	0.44
A4	The information on the cigarette box increases the concern of smokers regarding their own health					
	-Gender (male, female)	1.29	(0.81; 2.06)	0.29	0.26	0.24
	Age (≤ 40, >40)	0.81	(0.45; 1.46)	0.48	-0.21	0.30
	-Education level (high school, >diploma)	0.71	(0.30; 1.67)	0.43	-0.34	0.44
	-Occupation (settler , non-settler)	1.50	(0.50; 4.50)	0.47	0.40	0.56
	-Salary (<2500, ≥2500)	0.74	(0.31; 1.78)	0.50	-0.30	0.45
A5	The information on the cigarette box cuts off the mind set to start smoking					
	-Gender (male, female)	1.35	(0.84; 2.16)	0.21	0.30	0.24
	Age (≤ 40, >40)	1.29	(0.71; 2.32)	0.40	0.25	0.30
	-Education level (high school, >diploma)	0.93	(0.40; 2.15)	0.86	-0.07	0.43
	-Occupation (settler , non-settler)	0.74	(0.25; 2.22)	0.59	-0.31	0.56
	-Salary (<2500, ≥2500)	1.15	(0.49; 2.75)	0.75	0.14	0.44
A6	The information on the cigarette box helps smokers to quit smoking					
	-Gender (male, female)	1.07	(0.67; 1.73)	0.78	0.07	0.24
	Age (≤ 40, >40)	0.93	(0.51; 1.69)	0.81	-0.07	0.30
	-Education level (high school, >diploma)	1.08	(0.46; 2.54)	0.86	0.08	0.44
	-Occupation (settler , non-settler)	0.61	(0.19; 1.95)	0.41	-0.50	0.59
	-Salary (<2500, ≥2500)	1.12	(0.47; 2.67)	0.81	0.11	0.45

		OR	CI 95%	P value	B	S.E
A7	The information on the cigarette box helps smokers to quit smoking					
	-Gender (male, female)	1.12	(0.70; 1.80)	0.64	0.11	0.24
	Age (≤ 40, >40)	0.86	(0.48; 1.55)	0.61	-0.15	0.30
	-Education level (high school, >diploma)	0.57	(0.24; 1.36)	0.20	-0.57	0.45
	-Occupation (settler , non-settler)	0.95	(0.30; 2.96)	0.93	-0.-5	0.58
	-Salary (<2500, ≥2500)	1.24	(0.52; 2.96)	0.62	0.22	0.44

4.4.2 **Predictors for positive perception towards increment in cigarette price, in relation to socio-demographic and socio-economic factors.**

The respondents with high school education level were 2.9 times likely to have positive perception that increment of cigarette price helps smokers to quit smoking. There were no significant relation between gender, age, occupation and salary to positive perception towards increment to cigarette price.

Table 4.4.2 The predictors for positive perception towards increment in cigarette price in relation to socio-demographic and socio-economic factors.

		OR	CI 95%	P value	B	S.E
B1	Increment in cigarette price helps smokers to quit smoking					
	-Gender (male, female)	0.73	(0.46; 1.19)	0.20	-0.31	0.24
	Age (≤ 40, >40)	0.63	(0.34; 1.17)	0.15	-0.46	0.31
	-Education level (high school, >diploma)	2.90	(1.21; 6.96)	*0.02	1.06	0.45
	-Occupation (settler , non-settler)	0.93	(0.30; 2.92)	0.90	-0.07	0.58
	-Salary (<2500, ≥2500)	0.39	(0.27; 1.67)	0.39	-0.40	0.46
B2	Increment in cigarette price helps to reduce the number of cigarettes smoked					
	-Gender (male, female)	1.19	(0.74; 1.91)	0.48	0.17	0.24
	Age (≤ 40, >40)	0.91	(0.50; 1.64)	0.75	-0.10	0.30
	-Education level (high school, >diploma)	1.60	(0.68; 3.81)	0.29	0.47	0.44
	-Occupation (settler , non-settler)	0.66	(0.22; 1.99)	0.46	-0.42	0.56
	-Salary (<2500, ≥2500)	0.88	(0.37; 2.09)	0.77	-0.13	0.44
B3	Increment in cigarette price stop the initiative to start smoking among those who are curious about smoking.					
	-Gender (male, female)	0.82	(0.51; 1.32)	0.41	-0.20	0.24
	Age (≤ 40, >40)	0.79	(0.44; 1.44)	0.45	-0.23	0.31
	-Education level (high school, >diploma)	2.31	(0.96; 5.54)	0.06	0.84	0.45
	-Occupation (settler , non-settler)	0.36	(0.11; 1.21)	0.10	-1.01	0.61
	-Salary (<2500, ≥2500)	0.81	(0.33; 1.99)	0.65	-0.21	0.46

4.4.3 **Predictors for positive perception towards quit smoking clinic, in relation to socio-demographic and socio-economic factors.**

There were no significant relation between gender, age, educational level, occupation and salary to positive perception towards quit smoking clinic.

Table 4.4.3 The predictors for positive perception towards quit smoking clinic in relation to socio-demographic and socio-economic factors.

		OR	CI 95%	P value	B	S.E
C1	Quit smoking clinic helps smokers to quit smoking					
	-Gender (male, female)	1.12	(0.70; 1.80)	0.64	0.11	0.24
	Age (≤ 40, >40)	1.23	(0.68; 2.22)	0.50	0.21	0.30
	-Education level (high school, >diploma)	0.80	(0.35; 1.85)	0.60	-0.23	0.43
	-Occupation (settler , non-settler)	0.91	(0.31; 2.72)	0.87	-0.09	0.56
	-Salary (<2500, ≥2500)	0.63	(0.27; 1.51)	0.30	-0.46	0.44
C2	Quit smoking clinic helps smokers to reduce the number of cigarettes smoked.					
	-Gender (male, female)	0.84	(0.52; 1.36)	0.48	-1.72	0.25
	Age (≤ 40, >40)	1.08	(0.59; 1.96)	0.81	0.74	0.31
	-Education level (high school, >diploma)	0.65	(0.28; 1.53)	0.32	-0.43	0.43
	-Occupation (settler , non-settler)	1.93	(0.60; 6.19)	0.27	0.66	0.60
	-Salary (<2500, ≥2500)	0.70	(0.29; 1.67)	0.42	-0.36	0.44

4.4.4 **Predictors for positive perception towards smoke free policies, in relation to socio-demographic and socio-economic factors.**

The respondents with age less than 40 were 0.54 times likely to have positive perception that with smoke free policies, smokers be cautious not to smoke in smoke free area. There were no significant relation between gender, educational level, occupation and salary to positive perception towards smoke free policies.

Table 4.4.4 Predictors for positive perception towards smoke free policies in relation to socio-demographic and socio-economic factors.

		OR	CI 95%	P value	B	S.E
D1	Smoke free policies reduce the side effect for non-smokers as second hand smokers					
	-Gender (male, female)	1.00	(0.61; 1.66)	0.99	0.00	0.26
	Age (≤ 40, >40)	0.77	(0.41; 1.42)	0.40	-0.27	0.32
	-Education level (high school, >diploma)	1.89	(0.74; 4.83)	0.18	0.64	0.48
	-Occupation (settler , non-settler)	1.16	(0.33; 4.10)	0.82	1.34	0.64
	-Salary (<2500, ≥2500)	3.81	(1.09; 13.33)	0.04	-4.31	0.64
D2	Smokers be cautious to not smoke in smoke free area					
	-Gender (male, female)	0.95	(0.58; 1.56)	0.84	-0.05	0.25
	Age (≤ 40, >40)	0.54	(0.30; 0.98)	*0.04	-0.62	0.31
	-Education level (high school, >diploma)	1.71	(0.71; 4.10)	0.23	0.53	0.45
	-Occupation (settler , non-settler)	0.99	(0.32; 3.07)	0.99	-0.01	0.58
	-Salary (<2500, ≥2500)	1.42	(0.55; 3.65)	0.47	0.35	0.48

		OR	CI 95%	P value	B	S.E
D3	Smoke free policies increase awareness regarding the danger of smoking					
	-Gender (male, female)	1.43	(0.88; 2.32)	0.15	0.36	0.25
	Age (≤ 40, >40)	0.79	(0.44; 1.44)	0.45	-0.23	0.31
	-Education level (high school, >diploma)	1.73	(0.72; 4.18)	0.22	0.55	0.45
	-Occupation (settler , non-settler)	0.71	(0.23; 2.16)	0.55	-0.34	0.57
	-Salary (<2500, ≥2500)	1.62	(0.63; 4.14)	0.32	0.48	0.48

4.4.5 **Predictors for positive perception towards anti-smoking campaign, in relation to socio-demographic and socio-economic factors.**

There were no significant relation between gender, age, educational level, occupation and salary to positive perception towards anti-smoking campaign.

Table 4.4.5 Predictors for positive perception towards anti-smoking campaign in relation to socio-demographic and socio-economic factors.

		OR	CI 95%	P value	B	S.E
E1	Anti-smoking campaign increases the awareness of dangerous of smoking.					
	-Gender (male, female)	0.88	(0.53; 1.45)	0.61	-0.13	0.26
	Age (≤ 40, >40)	1.06	(0.57; 1.99)	0.85	0.61	0.32
	-Education level (high school, >diploma)	1.63	(0.63; 4.23)	0.32	0.49	0.49
	-Occupation (settler , non-settler)	1.18	(0.34; 4.10)	0.80	0.16	0.64
	-Salary (<2500, ≥2500)	0.96	(0.39; 2.37)	0.92	-0.05	0.46

		OR	CI 95%	P value	B	S.E
E2	Anti-smoking campaign increases the concern of smokers regarding their own health.					
	-Gender (male, female)	1.06	(0.65; 1.73)	0.81	0.06	0.25
	Age (≤ 40, >40)	0.89	(0.49; 1.63)	0.71	-0.11	0.31
	-Education level (high school, >diploma)	1.29	(0.53; 3.14)	0.57	0.26	0.45
	-Occupation (settler , non-settler)	1.72	(0.50; 5.90)	0.39	0.54	0.63
	-Salary (<2500, ≥2500)	1.09	(0.44; 2.69)	0.86	0.08	0.46
E3	Anti-smoking campaign cut off the mind set to start smoking.					
	-Gender (male, female)	1.28	(0.79; 2.06)	0.32	0.25	0.24
	Age (≤ 40, >40)	0.80	(0.44; 1.45)	0.46	-0.22	0.30
	-Education level (high school, >diploma)	1.43	(0.60; 3.40)	0.41	0.36	0.44
	-Occupation (settler , non-settler)	0.83	(0.27; 2.49)	0.73	-0.19	0.56
	-Salary (<2500, ≥2500)	1.07	(0.44; 2.60)	0.88	0.07	0.45
E4	Anti-smoking campaign helps smokers to quit smoking.					
	-Gender (male, female)	0.95	(0.59; 1.53)	0.83	-0.05	0.24
	Age (≤ 40, >40)	0.86	(0.48; 1.55)	0.61	-0.15	0.30
	-Education level (high school, >diploma)	1.37	(0.58; 3.22)	0.47	0.32	0.44
	-Occupation (settler , non-settler)	1.27	(0.41; 3.91)	0.68	0.24	0.58
	-Salary (<2500, ≥2500)	0.69	(0.29; 1.63)	0.40	-0.38	0.44
E5	Anti-smoking campaign helps to reduce the number of cigarettes smoked.					
	-Gender (male, female)	1.01	(0.62; 1.64)	0.96	0.01	0.25
	Age (≤ 40, >40)	0.78	(0.43; 1.41)	0.41	-0.25	0.31
	-Education level (high school, >diploma)	1.11	(0.47; 2.62)	0.82	0.10	0.44
	-Occupation (settler , non-settler)	2.21	(0.65; 7.58)	0.21	0.79	0.63
	-Salary (<2500, ≥2500)	0.95	(0.39; 2.30)	0.91	-0.05	0.45

Chapter 5

5.0 **Discussion**

5.1 **Socio-demographic and socio-economic characteristic and smoking status of respondents.**

All the respondents are Malays with Islam religion. This is different form GATS Malaysia, 2011 with Malay respondents (58.9%), Chinese respondents (18.6%), Indian respondents (9.4%) and other ethnicity (13.2%). The difference in ethnicity was due to the reason that this research was carried out in Felda Raja Alias with all Malay residents only while GATS Malaysia, 2011 include respondents all over Malaysia. Percentage of male (53.9%) and female (46.1%) contributed to this research were nearly equal showing that the research is based on the perception of both male and female. This is similar with GATS Malaysia, 2011 which had 51.5% male and 48.5% female (GATS Malaysia, 2011). Most of the respondents were with high school educational level(49.4%) and work as settlers(46.1%). These two factors attributed to the factors that causing 52.7% of the respondents are with monthly household income less than RM1500. The lower the educational level, the lower the monthly salary (Steven Strauss, 2011). The smokers had attributed 40.5% in this research.

5. 2 **Perception towards anti-smoking efforts**

Perception towards anti-smoking effort were divided into warning label on the cigarette box, increment in cigarette price, quit smoking clinic, smoke

free policies, and anti-smoking campaign. Analyses were done to see the percentage of respondents with positive perception and association of gender, educational level, occupation, monthly income and smoking status with these perceptions.

5.2.1 **Percentage of respondents with positive perception**

By looking at the graph of perception towards anti-smoking efforts, all the graphs were negatively skewed. Overall, the positive perception towards anti-smoking effort was only between 14.6-19.0%. The highest positive perception is for smoke free policies (19.0%), followed by anti-smoking campaign (17.6%), increment in cigarette price (16.1%), quit smoking clinic(16.1%), and warning label on cigarette box(14.6%). This was same with opinion which stated that anti-smoking campaigns in Malaysia have faced criticism in the past with former Health Minister Datuk Dr Chua Soi Lek saying there had been no indications the number of smokers had gone down since the national "Tak Nak" anti-smoking campaign first launched some years ago (Pamela Vinsence,2009).

5.2.2 **Association of gender, educational level, occupation, monthly income and smoking status with these perceptions.**

Result shows that there were no significant association of perception toward the warning label according to gender, type of occupation, monthly income and smoking status. However there is a borderline significant

association with level of education (p= 0.05). Survey by GATS Malaysia,2011 showed that most of current smokers with a primary education or above noticed health warnings (93.2% primary, 96.0% secondary / high school, 100% college or above), but only 73.3% of those with less than a primary education had noticed them. Therefore, could say that the higher the educational level, the higher the chance they noticed the warning label.

By increment in cigarette price, there were no significant association according to gender, type of occupation, educational level and smoking status. However, not surprisingly, there was a strong significance association with monthly income. According to GATS Malaysia,2011, a current smoker of manufactured cigarettes spent an average of RM 178.80 per month on manufactured cigarettes. It also showed that 6.8% of current smokers of manufactured cigarettes, spending money on cigarettes resulted in their not having enough money for food sometime in the last 6 months. With these results, could say that the cigarette price had a strong association in influencing the cessation of smoking habit just as what Philip Morris stated, "it is clear that price has a pronounced effect on the smoking prevalence of teenagers, and that the goals of reducing teenage smoking and balancing the budget would both be served by increasing the Federal excise tax on cigarettes."

By quit smoking clinic, result shows that there was no significant association with all the characteristics (gender, education level, occupation, education level and smoking status). This result is different with 'Smokeline' by the Health Education Board of Scotland which it had reached a high number of adult smokers and was associated with a highly acceptable quit

rate among adults, contributed considerably to an accelerated decline in smoking prevalence in Scotland (Platt S, 1997). The difference in result could be due to the failure of publishing the quit smoking clinic in Malaysia.

By smoke free policies, result also shows that there was no significant association with all the characteristics (gender, education level, occupation, education level and smoking status). This could be due to the inappropriate legislation and enforcement in Malaysia. Malaysia does not have comprehensive national legislation that protects all people from SHS, although subnational jurisdictions have the authority to implement laws that ban smoking in public places (GATS Malaysia,2011).

By anti-smoking campaign, once again result shows that there was no significant association with all the characteristics (gender, education level, occupation, education level and smoking status). In America, it was found that 62% of respondents in the sample showed confirmed awareness toward a branded media campaign- EX campaign while 79% reporting aided awareness (Vallone,2007). This could be due to the insufficient publishing and event planning of campaign 'Tak Nak' in Malaysia, leading to poor perception towards anti-smoking campaign.

5.3 **Predictors for positive perception, in relation to socio-demographic and socio-economic factors.**

The predictors of positive perception towards anti-smoking efforts: warning label on the cigarette box, increment in cigarette price, quit smoking

clinic, smoke free policies, and anti-smoking campaign, in relation to socio-demographic and socio-economic factors: gender, age, educational level, occupation and income were determined to assess the determining factors. There were no significant relation between gender, age, educational level, occupation and salary to positive perception towards warning label on cigarette box, quit smoking clinic and anti-smoking campaign. For the smoke free policies, there were no significant relation between gender, educational level, occupation and salary to positive perception towards smoke free policies. For the increment in cigarette price, there were no significant relation between gender, age, occupation and salary to positive perception towards increment to cigarette price.

Surprisingly all respondents had negative perception regarding the information on the cigarette box is trustable. Respondents thought that all the information on the cigarette box cannot be trusted. This result is shocking as the information on the cigarette box is under control of regulation. All the information on the cigarette box is true and trustable. The warning labels that appear on tobacco are designed to inform people about the negative consequences of smoking (Strahan et al., 2002). The ability of information on cigarette box for personal-intentions-to-quit and encourage-to-quit was significantly greater in condition with both the warning statement and the visual warning than those for the U.S. warning-only condition, the visual-warning-only condition, and the no-warning control (Jeremy Kees et al., 2006). This showed that the information on the cigarette box is being trusted and managed to induce quit smoking effect in United State. The difference in

result might be due to the lower educational level among respondents in Felda Raja Alias, causing the respondents didn't realize that the information on cigarette box is under control of regulation and not believe that smoking habit will cause negative effect on health.

5.3.1 **Educational level as a predictor for positive perception towards increment in cigarette price.**

The respondents with high school education level and below were 2.9 times likely to have positive perception that increment of cigarette price helps smokers to quit smoking. This can be explained by the relationship between educational level and income. Survey showed a significant relationship between income levels and educational attainment. Basically, the higher the education level, the higher the income. For example, people with professional degrees earned 6 times as much as people who did not graduate from high school in America in year 2009 (Steven Strauss, 2011). The lower income will become a factor for smokers to quit smoking.

5.3.2 **Age as a predictor for positive perception towards smoke free policies**.

The respondents with age less than 40 were 0.54 times likely to have positive perception that with smoke free policies, smokers be cautious not to smoke in smoke free area. This shows that respondents with age less than 40 didn't agree that smoke free policies stops smokers from smoking in smoke

free area. This is same with the result of GATS Malaysia 2011 which showed that less percentage of respondents aged 25-44 who thought that indoor smoking should be prohibited, if compared to respondents aged 45-64 (GATS Malaysia, 2011). This might be due to the younger age, which lead to disobedient in law.

5.4 **Limitation**

This study was a cross sectional study in Felda Raja Alias which may not be representative for other population or whole Malaysia. There was some non-response bias as it was a self-administrated questionnaire, some of the residents refused to answer the questionnaires. Information bias might occur too as respondents were self-reporting their smoking status.

5.5 **Recommendation**

Personality stands in dialectical relationship to perception. Perception itself will influence our personality. Nonetheless, personality and will on the one hand and perceived situation on the other are clearly distinct. And the direction of behaviour depends on the relationship between these distinct aspects of psychological field (R.J.Rummel). Therefore, it is recommended that anti-smoking efforts should target to increase positive perception because positive perception influence behaviour change.

Numerous theorists have argued that behaviour is mentally represented in a similar way to other social information such as judgments

and attitudes (Melissa J. Ferguson and John A. Bargh, 2004). Therefore, it is recommended to empower society to have proper attitude against the smoking by stop the smokers when seeing them smoking at the smoke free area.

Since the increment in cigarette price had significant association with monthly income, it is also recommended continue to increase cigarette price with higher tax and consistent annual raise in tobacco taxes.

5.6 **Conclusion**

Tobacco consumption is the leading preventable cause and disease worldwide. In Malaysia, anti-smoking efforts had been started years ago but there was no outstanding result in decreasing the smoking prevalence. This research on perception of anti-smoking efforts aimed to know the perception of respondents, wishing that could contribute in anti-smoking efforts planning in future.

From this research, it can be concluding that overall, the positive perception towards anti-smoking effort was only between 14.6-19.0%. More intervention should be done so that society will have higher positive perception on these efforts and also fruitful results.

By looking at the socio-demographic and socio-economic characteristics, there were no significant association with quit smoking clinic, smoke free policies, and anti-smoking campaign except warning label on the

cigarette box had borderline significant association with educational level, and increment in cigarette price had significant association with monthly income.

References

1. Adult Cigarette Smoking in the United States: Current Estimate. (2010). Centers for Disease Control and Prevention. Assessed on 14.4.13 from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/
2. Al-Delaimy WK, White MM, Trinidad DR, et al. The California tobacco control program. (2013). Can we maintain the progress? Results from the California Tobacco Survey, 1990–2005. Sacramento, CA: California Department of Public Health.
3. Bang KM, Kim JH, 2001. Retrieved on 18 August from http://www.ncbi.nlm.nih.gov/pubmed/11598969
4. Borland R, Wilson N, Fong GT, et al. (2009) Impactof graphic and text warnings on cigarette packs:Findings from four countries over five years.Tobacco Control. Volume18: 358–364
5. Centers for Disease Control and Prevention. Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years—United States, 2005–2010. Morbidity and Mortality Weekly Report 2011;60(33):1207–12
6. Chaloupka FJ, Hu TW, Warner KE, et al. (2000). The taxation of tobacco products. In Jha P, Chaloupka FJ, eds. Tobacco control in developing countries. Oxford: Oxford University Press.
7. Chaloupka FJ, Warner KE. (2000) The economics of smoking. In: Culyer AJ, Newhouse JP, eds. Handbook of health economics. Amsterdam: North Holland.

8. Chung W., Kim H., Lim S., Lee S., and Cho K. (2009). Factors influencing cigarette smoking and quantified implications for anti-smoking policy: evidence from South Korea. 54, page 409-419.
9. Cialdini RB.(1993). Influence: science and practice. 3rd ed. New York: Harper Collins.
10. ClearWay. (2006). Minnesota. A toolkit for implementing and defending smoke-free ordinances. Minneapolis, MN: Minnesota Institute of Public Health.
11. Darling H, Reeder AI, Williams S, McGee R. (2006). Is there a relation between school smoking policies and youth cigarette smoking knowledge and behaviors? Health Educ Res. 2006 Feb; 21(1):108-15.
12. David P. Hopkins, Sima Razi, Kimberly D. Leeks. Smokefree Policies to Reduce Tobacco Use. Volume 38, 275-289.
13. Dearlove J., Bialous S., Glantz S. (2002). Tobacco industry manipulation of the hospitality industry to maintain smoking in public places. Tobacco Control. Volume 11, 94-104.
14. Dr. Zarihah Zain.(2007). Malaysian Smoking Cessation Programme & Smoke-Free Air Laws. International Union Against Tuberculosis & Lung Disease Asia Pacific Region 1st Asia Pacific Regional Conference 2007.
15. Durkin S, Biener L, Wakefield M. (2009). Effects of different types of antismoking ads on reducing disparities in smoking cessation among socioeconomic subgroups. American Journal of Public Health 2009; 99 (12): 2217-2223.

16. Durkin S, Wakefield M, Spittal M. (2011). Which types of televised anti-tobacco campaigns prompt more quitline calls from disadvantaged groups? Health Education Research. 26(6): 998-1009.
17. Eagly AH, Chaiken S.(1993). The psychology of attitudes. Fort Worth, Texas: Harcourt Brace Jovanovich.
18. Educational differences in smoking: international comparison.(2000). BMJ 2000; 320
19. Family Smoking Prevention and Tobacco Control Act. (2009) .Public Law. No: 111–31
20. Farelly M.C, Duke J.C., Davis K.C., Nonnemaker J.M., Kamyab K., Willet J.G., and Juster H.R. (2012). Promotion of Smoking Cessation with Emotional and/or Graphic Antismoking Advertising. V 43(5), 475-482.
21. Farrelly MC, Bray JW. (1998). Office on Smoking and Health. Responses to Increases in cigarette prices by race/ethnicity, income, and age groups – United States, 1976-1993. MMWR Morb Mortal Wkly Rep1. 47:605–9.
22. FCTC article 11: tobacco warning labels: evidence and recommendations from the ITC project Waterloo, ON. (2009). International Tobacco Control Policy Evaluation Project. Retrieved on 29 April 2013, from: http://www.itcproject.org
23. Fong GT.(2007). The International Tobacco Control Policy Evaluation Project: Evaluating global tobacco policies of the Framework Convention on Tobacco Control [plenary presentation]. In: 8th Asia Pacific Conference on Tobacco or Health (APACT), Taipei

24. Food and Drug Administration Required Warnings for Cigarette Packages and Advertisements. (2011) 21 CFR Part 1141

25. Foong Kin, Yong Check Yoon, Ulysses Dorotheo. Tobacco Tax In ASEANS Countries Report Card.

26. Gan Q, Hammond SK, Jiang Y, Yang Y, Hu TW. Effectiveness of a smoke-free policy in lowering secondhand smoke concentrations in offices in China. J Occup Environ Med. Volume 50. 570-575.

27. Geoffrey T Fong, David Hammond.(2010). Perceptions of tobacco health warnings in China. Tobacco control. 69-77.

28. Global Adult Tobacco Survey (GATS) Malaysia 2011 Fact sheet. Assessed on 13.4.13 from http://www.moh.gov.my/images/gallery/Report/GATS_Malaysia.pdf

29. Global Adult Tobacco Survey: Thailand Country. Assessed on 14.4.13 from http:/ / www.searo.who.int/LinkFiles/Regional_Tobacco_Surveillance_System _GATS_Thailand_2009.pdf

30. H. Ross, Nabilla A. M. Al-Sadat. (2007). Demand analysis of tobacco consumption in Malaysia. Nicotine Tob Res. 2007 Nov;9(11):1163-9.

31. Hammond D, Fong GT, Borland R, Cummings KM, McNeill A, et al. (2007) Text and graphic warnings on cigarette packages: findings from the international tobacco control four country study. Am J Prev Med 32: 202–209.

32. Hammond D, Fong GT, McDonald PW, CameronR and Brown KS (2003) Impact of the graphic Canadian warning labels on adult smoking behaviour.Tobacco Control. 12: 391–395

33. Hammond D.(2009) Tobacco labelling & packaging toolkit: a guide to FCTC Article 11 Waterloo, ON: Tobacco Labelling Resource Centre; 2009. Retrieved 13 29 April, 2013, from: http://www.tobaccolabels.ca/tobaccolab/iuatldtook
34. Hana Ross, Limin Peng. (2009). The Impact of Cigarette Taxes and Advertising on the Demand for Cigarettes in Ukraine. Cent Eur J Public Health 2009; 17 (2): 93–98
35. Hansen J, Winzeler S and Topolinski S (2010) Whenthe death makes you smoke: A terror manage-ment perspective on the effectiveness of cigaretteon-pack warnings. Journal of Experimental Social Psychology 46: 226–228
36. Hassan LM, Shiu E, Thrasher JF, Fong GT, Hastings G (2008) Exploring the effectiveness of cigarette warning labels: findings from the United States and United Kingdom arms of the International Tobacco Control (ITC) Four Country Survey. NVSM 13: 263–274. doi: 10.1002/nvsm.328.
37. Hastings G and MacFadyen L (2002) The limitations of fear messages.Tobacco Control 11: 73–75
38. IARC Handbooks of Cancer Prevention, Tobacco Control, Vol. 13: Evaluating the efectiveness of smoke-free policies (2009).
39. Institute of Medicine (1994) Growing Up Tobacco Free: Preventing Initiation in Children and Youth. Washington D.C.: National Academies Press.

40. Institute of Medicine (2007) Ending the Tobacco Problem: A Blueprint for the Nation. Washington D.C.: The National Academies Press. 372 p.
41. International Agency for Research on Cancer World Health Organization. IARC Handbooks on Cancer Prevention Tobacco Control. Volume 13,75-253
42. ITC Malaysia National Report. The International Tobacco Control Policy Evaluation Project. 2012.
43. ITC Project: Findings from Wave 1 to 4 Surveys (2005–2009). Putrajaya, Malaysia: University of Waterloo, Waterloo, Ontario, Canada; Universiti Sains Malaysia, Pulau Pinang, Malaysia; and Ministry of Health; 2012.
44. Jaffe AB. (2001). "Cigarettes". In: Adams W, Brock J, eds. The structure of American industry, 10th ed. Upper Saddle River, New Jersey: Prentice-Hall, Inc.
45. JAMES MAHONEY. (2006). Strategic communication and anti-smoking campaigns. University of Canberra
46. Jeremy Kees et al. (2006). Journal of Public Policy and Marketing: Tests of Graphic Visuals and Cigarette Package Warning Combinations: Implications for the Framework Convention on Tobacco Control
47. John P Pierce, María E León. (2008). IARC Handbook Working Group, Tobacco and Cancer Working Group M Scollo. Volume 9:618-619.

48. Karvonen-Gutierrez CA et.al.(2012). Ethnicity predicts perceptions of smoking and smoking cessation among veterans. J Psychiatr Ment Health Nurs

49. Kin F,. (2009). SMOKING AMONG GIRLS AND YOUNG WOMEN IN ASEAN COUNTRIES: A REGIONAL SUMMARY. Page 1-16.

50. L.Owen. (2000). Impact of a telephone helpline for smokers who called during a mass media campaign. Tobacco control. P. 148-154

51. Lee JM: Effect of a large increase in cigarette tax on cigarette consumption: an empirical analysis of cross-sectional survey data.Public Health 2008, 122:1061-1067.

52. Leventhal H. (1975). Findings and theory in the study of fear communications. Adv Exp Soc Psychol. 5:119–86.

53. Lipperman-Kreda S., and Grube J. W. (2009). Students' perception of community disapproval, perceived enforcement of school antismoking policies, personal beliefs, and their cigarette smoking behaviors: Results from a structural equation modeling analysis. Vol.11, Number 5, Page 531-539.

54. Liu Hong. (2009). The Effect of Anti-Smoking Media Campaign on Smoking. P.29-47

55. Maizurah Omar. (2008). Regional Efficacy Testing Graphic Health Warnings In ASEAN Countries of Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailnad, and Vietnam. Southeast Asia Tobacco Control Research.

56. Marks DF (1998) Addiction, smoking, and health:Developing policy-based interventions. Psychol-ogy, Health, & Medicine 3: 97–111

57. Melissa J. Ferguson and John A. Bargh (2004). Retrieved on 29 April 2013, from http://melissaferguson.squarespace.com/storage/ferguson%20bargh%202004%20tics.pdf

58. Mike Stobbe, 2011. Retrieved on 18 August from http://usatoday30.usatoday.com/news/health/story/health/story/2011-09-29/CDC-Miners-construction-food-workers-smoke-most/50609376/1

59. Mitchell BM. (1999). Review of documents on tobacco package warnings and toxic constituent labeling. Report prepared for the Center for Behavioural Research and Program Evaluation, National Cancer Institute of Canada. University of Waterloo, Waterloo, Ontario, Canada: Brenda Mitchell and Associates.

60. Moore et al. (200). School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales. Tob Control. 2001 Jun; 10(2):117-23.

61. New Straits Times. (1976). Cigarette Packets to Carry Health Warnings. Retrieved on 15 April 2013, from http://news.google.com/newspapers?id=HEo1AAAAIBAJ&sjid=3X0FAAAAIBAJ&pg=1087,5778192 &dq=warning&hl=en.

62. New York State Department of Health. (2006). The health and economic impact of New York's Clean Indoor Air Act. Albany, NY: New York State Department of Health.

63. Niederdeppe J, Kuang X, Crock B, Skelton A.(2008). Media campaigns to promote smoking cessation among socioeconomically

disadvantaged populations: what do we know, what do we need to learn, and what should we do now?

64. Partnership For A Tobacco-Free Maine. Retrieved on 18 August from http://www.tobaccofreemaine.org/channels/special_populations/low_income_and_education.php

65. Pechmann C, and Reibling E.T.(2006). An Independent Evaluation of Health, Counter-Industry, and Industry Approaches. Antismoking Advertisements for Youths. P.906-913.

66. Peracchio, L. A., and D. Luna, (1998), "The Development of an Advertising Campaign to Discourage Smoking Initiation Among Children and Youth,"

67. Peters RJ Jr. et.al. (2005). The relationship between perceived youth exposure to anti-smoking advertisements: how perceptions differ by race.

68. Petty RE, Cacioppo JT. (1986). The elaboration likelihood model of persuasion. In: Berkowitz L, ed. Advances in experimental social psychology. Hillsdale, New Jersey: Erlbaum. 123–205.

69. Philip Morris (2012). Teenage Smoking and the Federal Excise Tax on Cigarettes.

70. Platt S, Tannahill A, Watson J, Fraser E. (1997). Effectiveness of antismoking telephone helpline. BMJ.

71. Prevalence of tobacco use. (2009). WHO.

72. R.J. Rummel. Perceiving and Behaving. Retrieved on 29 April 2013, from http://www.hawaii.edu/powerkills/TCH.CHAP7.HTM

73. Rahman M et.al. (2012). STUDENTS' PERCEPTIONS ON TOBACCO FREE SCHOOL: AN ANALYTIC CROSS SECTIONAL STUDY. Malaysian Journal of Public Health Medicine 2012, Vol. 12(2): 45-51

74. Reed MB, Burns DM. (2008). A population-based examination of racial and ethnic differences in receiving physicians' advice to quit smoking. Nicotine Tob Res.

75. Rogers RW (1983) Cognitive and physiological processes in fear appeals and attitude change:A revised theory of protection motivation. In:Cacioppo JT and Petty RE (eds) Social Psycho- physiology: A Sourcebook New York: GuilfordPress, pp. 153–176

76. Sabine Glock, Barbara CN Müller and Simone Ritter. (2012). Warning Labels Formulated as Questions Positively Influence Smoking-Related Risk Perception. Journal of Health Psychology.

77. Shannah Tharp-Taylor et.al.(2012). Targeting anti-smoking messages: Does audience race matter? Addictive Behaviors 37. 844–847

78. Shields M.(2007). Smoking-prevalence, bans and exposure to second-hand smoke. Health Rep. 18: 67–85.

79. Shukry Zawahir et.al. Effectiveness of Antismoking Media Messages and Education Among Adolescents in Malaysia and Thailand: Findings From the International Tobacco Control Southeast Asia Project. Nicotine & Tobacco Research, Volume 15, Number 2 (February 2013) 482–491

80. Siahpush M, Wakefield M, Spittal M, Durkin S.(2007). Antismoking television advertising and socioeconomic variations in calls to

Quitline. Journal of Epidemiology and Community Health 2007; 61(4): 298-301.

81. Siegel M, Biener L. (2000). The impact of an antismoking media campaign on progression to established smoking: results of a longitudinal youth study. American Journal of Public Health. P.380-386

82. Simmons VN and Brandon TH (2007) Secondarysmoking prevention in a university setting: Arandomized comparison of an experiential, theory-based intervention and a standard didacticintervention for increasing cessation motivation. Health Psychology 26: 268–277.

83. Smoke-Free Environment Law Project. Retrieved on 29 April 2013, from http://www.tcsg.org/sfelp/home.htm

84. Smoking Statistics. Retrieved on 18 April 2013, from http://www.readytoquit.com/content/articles/smoking-statistics

85. Sonu Goel, Khaiwal Ravindra, Rana J Singh, Deepak Sharma (2012). Effective smoke-free policies in achieving a high level of compliance with smoke-free law: experiences from a district of North India. Tobacco Control.

86. Steven Strauss. Retrieved on 18 August from http://www.huffingtonpost.com/steven-strauss/the-connection-between-ed_b_1066401.html

87. Strahan EJ, White K, Fong GT, Fabrigar LR, ZannaMP and Cameron R (2002). Enhancing the effec-tiveness of tobacco warning labels: A social psychological perspective. Tobacco Control 1:183–190.

88. Swanson JE, Rudman LA and Greenwald AG (2001)Using the implicit association test to investigateattitude–behavior consistency for stigmatized behavior. Cognition and Emotion. 15: 207–230

89. Syed MA Zaidi et. al.(2011). Perceptions of anti-smoking messages amongst high school students in Pakistan. BMC Public Health 2011, 11:117

90. Tenant RB. (1950). The American cigarette industry: a study in economic analysis and public policy. New Haven, Connecticut: Yale University Press.

91. The political economy of tobacco taxation.WHO technical manual on tobacco tax administration.75-102

92. The World Bank. Curbing the epidemic. (2009). Governments and the economics of tobacco control. Washington DC: The World Bank.

93. Vallone. (2007). Results from a Plot Smokinh-Cessation Media Campaign. P. 312-318

94. Wakefield M.A., Loken B and Hornik R.C. (2010). Use of Mass Media Campaigns to Change Health behaviour. Vol. 376, p.1261-1271.

95. Wakefield M.A., Loken B and Hornik R.C. (2010). Use of Mass Media Campaigns to Change Health behaviour. Vol. 376, p. 1261-1271.

96. Witte K (1992) Putting the fear back into fearappeals: The extended parallel process model. Communication Monographs59: 329–349

97. Yasin S. M., Ismail N., Mohd Noor N., Mohd Azman M. S., Taib H., Mat Jusop J., and Salaudin N. A. (2013). Gender Differences in Responses towards Anti-Smoking Messages and Policy Implementation among Future Doctors in Malaysia. Vol. 14, P. 303-308.

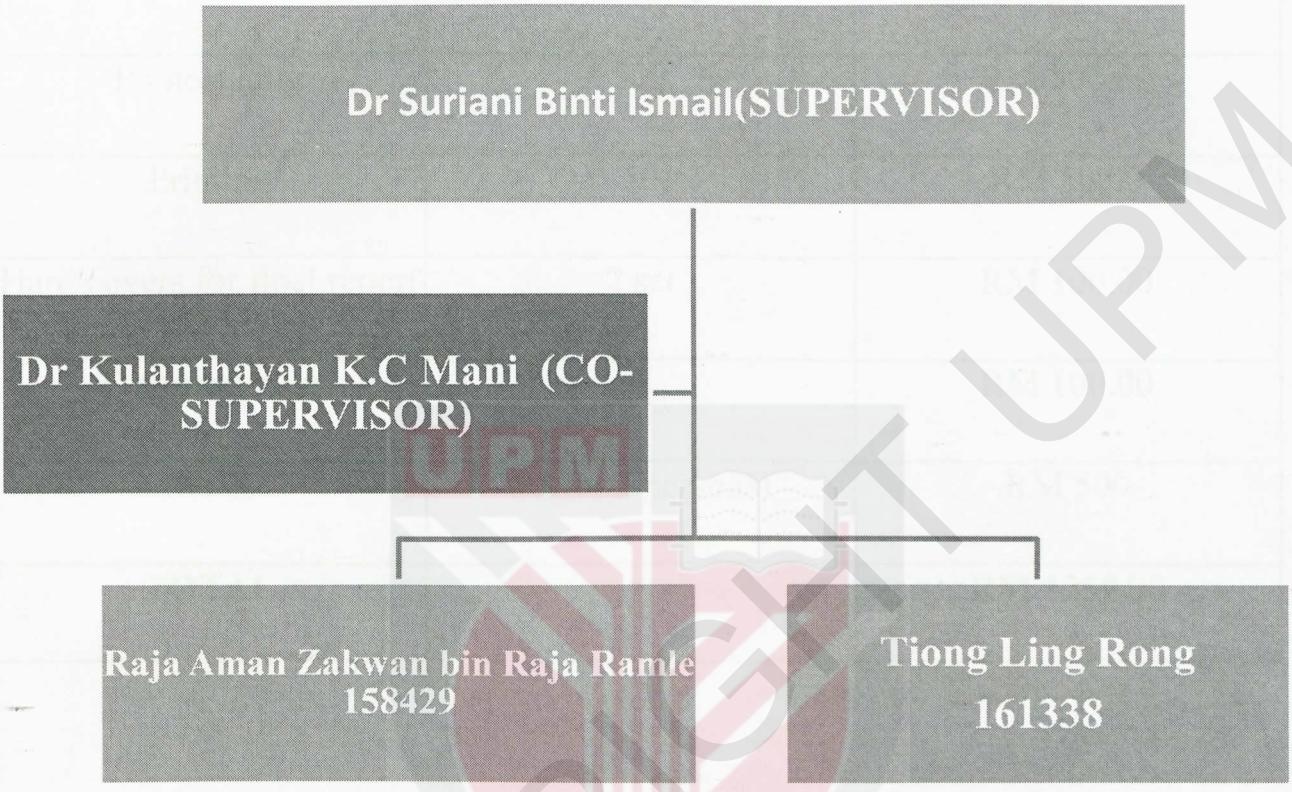
98. Zawahir S., Omar M., Awang R., Yong H., Borland R., Sirirassamee B., Fong G. T., and Hammond D. (2013). Effectiveness of Antismoking Media Messages and Education Among Adolescents in Malaysia and Thailand: Findings From the International Tobacco Control Southeast Asia Project. Vol. 15(2), P. 482-491

APPENDIX 1
TABLE 1.0 GANTT CHART FOR RESEARCH ACTIVITIES

No	Activities	2013																											
		Mar				Apr				May				Jun				July				Aug				Sept			
1	Preparation of draft proposal and meeting with supervisors			!!	!!																								
2	Submission of research proposal draft					!!																							
3	Proposal preparation, submission of proposal paper and proposal presentation preparation					!!	!!	!!																					
4	Proposal presentation ,preparation of ethical approval and letters to respective organizations							!!																					
5	Send all ethical forms and letters to module coordinator								!!																				
6	Data collection and data analysis													!!	!!	!!	!!	!!	!!	!!	!!								
7	Submission of analyzed data report to module coordinator																					!!							
8	Preparation																					!!							

	of report of analyzed data (research findings)																									
9	Correction of data analysis																		!!							
10	Report writing/ meeting with supervisors																			!!	!!					
11	Submission of project report and scientific article to module coordinator																				!!					
12	Preparation and rehearsal for final presentation																				!!	!!				
13	Correction of final report and scientific article																					!!	!!			
14	Submission of log book and final report (hard cover) to module coordinator																						!!			
15	Result																						!!			

APPENDIX 2
RESEARCH TEAM



APPENDIX 3
BUDGET PLANNING

Item	Quantity	Price
Photostating	500	RM 500.00
Printing	50	RM 50.00
Hard covers for final report	2 set	RM 100.00
Transportation	-	RM 100.00
Meals	50(for 2 persons)	RM 500
TOTAL		**RM 1250.00**

Attachment 2

JKEUPM Ref No. : FPSK_Mei (13)02

Members of the JKEUPM who reviewed the documents:

Prof. Dr. Patimah Ismail

Date of approval: 19/7/2013

Endorsed at JKEUPM Meeting on **2/8/2013**, attended by:

NAME	DESIGNATION	GENDER	TICK IF PRESENT
Prof. Dr. Norlijah Othman	Paediatrics& Dean, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr Zamberi Sekawi	Medical Microbiologist & Deputy Dean of Research and Internationalization, Faculty of Medicine and Health Sciences	Male	\
Prof. Dato' Dr. Lye Munn Sann	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Tengku AizanAbd Hamid	Gerontologist & Director, Institute of Gerontology	Female	√
Prof. Dr. Lekhraj Rampal	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Elizabeth George	Pathologist, Dept of Pathology, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr. Lim ThiamAun	Anesthesiologist, Dept of Surgery, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Wan Omar Abdullah	Medical Parasitologist, Dept of Medical Microbiology and Parasitology, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Patimah Ismail	Professor of Biomedicine, Dept of Biomedical Sciences, Faculty of Medicine and Health Sciences	Female	\
Assoc. Prof. Dr. Johnson Stanslas	Pharmacologist, Dept of Medicine, Faculty of Medicine and Health Sciences	Male	\
Assoc. Prof Dr. Mansor Abu Talib	Assoc. Professor of Guidance and Counselling, Dept of Human Development and Family Studies, Faculty of Human Ecology	Male	
Assoc. Prof. Dr. Noritah Omar (Lay Person)	Assoc. Professor of English Language, Dept of English Language, Faculty of Communication and Modern Languages	Female	\
Dr. RojanahKahar (Lay Person)	Lecturer of Dept of Human Development and Family Studies, Faculty of Human Ecology	Female	\
Tan Sri Dato' Napsiah Omar (Lay Person)	Chairman, National Population and Family Development Board	Female	