

The Awareness on Smoking Health Warning and Its Impact Among Muar Community

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Abstract

Introduction: Currently worldwide 3 million deaths annually estimated to be responsible for smoking. On average, everyday Malaysian adult smoker smoked 14 cigarettes per day. Most smokers were aware of the deleterious of smoking and had strong intentions to quit smoking but they were not motivated enough to stop.

Aim: To assess awareness on smoking health warning and its impacts among Muar Community.

Methodology: It was a quantitative survey done on 383 respondents from Bandar Maharani, Muar. The participants were aged 13-70 years. This was a descriptive, cross-sectional study using two- step sampling methods which are cluster sampling and simple random sampling. Data analysis including descriptive statistics was used to describe participants' socio-demographic characteristics and texts, tables, graphs, percentages and independent t-test was used to present the results.

Result: The highest smoking rate noted between the ages of 25-44. Among the races, Malays were the highest smokers which was 74 %.($p=0.019$). Smokers (64.1%) are married and there were significantly difference ($p = 0.000$) between the marital status and the smokers. Majority of the smokers were employed with 77.1% and it was significantly different ($p=0.000$). Greater number of smokers and non-smokers (90.9%) were aware about the presence of smoking health warning on cigarette packs. Smokers with 75% were planning to quit and about 58.3% of them perceived that cigarette health warning does not influence to prevent or to stop smoking ($p=0.000$). Majority of the smokers and non-smokers selected the graphic models based on its threatenig effects compared to other models.

Conclusion: Majority of the respondents has good awareness on smoking health warning and have seen or read the smoking health warning on the cigarette packs. The influence of cigarette health warning had no effect on smokers to stop smoking. Among the 6 models shown, graphic image lung cancer (Model A) has the highest number of choice by the smokers (32.3%) and non-smokers (27.2%). Threatening images was the most preferable choice among the respondents.

Recommendations: Each workplace recommended to set-up smoking cessation programs. Hospital based intervention program should be given by health practitioners in the hospital setting on pre-admission clinic for smokers. There must be tobacco rehabilitation programs in all levels of healthcare service centers for easy accessibility and promote their services for better outcomes. Existing graphic health warning should be improved in terms of size, appearance and message to be more effective. Current quitline services should be promoted more through the web sites and social media pages.

Keywords: Smoking, awareness, health warning, threatening, health

Introduction

Smoking is considered one of the most important public health problems (Crone M R., Reijneveld S A., Wilemsen M C., Leerdam F J M van., Spruijt R D, 2003), and the chemical called nicotine is the main active ingredient and it contains about 0.5 to 1.0

g of tobacco and, on average, 10 mg of nicotine. Tobacco smoke contains a deadly mix of more than 7,000 chemicals, 100 toxics and about 70 can cause cancer (A report of the Surgeon General how tobacco smoke causes disease, 2010). Every six seconds a person prematurely get killed due to the addiction to tobacco.(WHO, 2010).

Currently worldwide 3 million deaths annually estimated to be responsible for smoking or about 6% of all deaths. But by the 2020s or early 2030s, it is expected to cause 10.9% of all deaths in developing countries and 17.7% of those in developed countries, more than any single disease (WHO, 2001). According to Global Adult Tobacco Survey (GATS) Malaysia (2011), out of all current smokers of tobacco daily smokers were 20.9% while occasional smokers were 2.3%. On average, everyday Malaysian adult smoker smoked 14 cigarettes per day. In Malaysia every year, it is estimated that 10,000 deaths due to smoking related illnesses are reported making it the primary cause of death in this country since the 1980s (Lim, K.H., Sumarni, M.G., Amal, N.M., Hanjeet, K., Wan Rozita, W.M. and Norhamimah, A, 2009).

It is well accepted that smoking is the main cause of many preventable morbidity and mortality (Liu H. and Tan.W, 2009). Smoking is granted to be the cause of many diseases, such as heart diseases, diseases of pulmonary circulations, malignant neoplasms and cerebrovascular diseases. Cardiovascular diseases were identified as the major cause of years of life loss and disability-adjusted life years (DALYs) in Malaysia (Institute for Public Health, 2012). According to Sharma, A., & Misra, A. (2015), about 30% of all cancer deaths, 80% of deaths due to chronic obstructive pulmonary disease and cardiovascular diseases are attributed to the cigarette smoking.

Most smokers were aware of the deleterious of smoking and had strong intentions to quit smoking but they were not committed and motivated enough to stop (Khor Yoke, Lim and FoongKin., 2003). According to Dibello, A., Neighbors, C., & Ammar, J. (2015), mentioned that in an effort to raise awareness of the health risk associated with smoking and reduced tobacco usage among smokers, some countries have begun implementing warning labels on cigarette packages. Consistent with the finding recently reported in Canada, Australia and UK, the results from a study on graphic health warnings exude a loss-framed message as most effective health risk information about cigarette (Bansal-Travers, M., Hammond, D., Smith, P., & Cummings, K., 2011). Loss-framed messages illustrate the negative consequences when the recommended behavior is not performed. Other study by Cornelia Pechmann, (2012) suggests, there is proof that anti-smoking advertising can help to discourage adolescents from smoking cigarettes. Dr Nick Wilson, (2007), reported that “well-funded and implemented mass-media campaigns targeted at the general population and implemented at the state level, in conjunction with a comprehensive tobacco control program, are associated with reduced smoking rates among both adults and youth. Therefore, mass media anti-smoking campaigns also acting as a promising tool for health promotion. At moment, there is a need of execute country-wide mass media campaigns focusing on smoking termination (Anupama Sharma, A.K. Mishra, 2015).

Controls on marketing, advertising, and promotion of cigarettes, including warning labels, had mostly neutral equity effects (Tamara Brown, Stephen Platt, Amanda Amos, (2014). In Malaysia, “Tak-Nak” anti-smoking campaign using media to shape tobacco-related knowledge, opinions, attitude and behaviors and this media can be extremely powerful in impacting both individuals and policy makers regarding cigarette (Report of the Global Adult Tobacco Survey Malaysia 2011). Results of researches on the impact of health warning printed on the cigarette cover package had shown that the warning printed on the cigarette cover package had significantly improved the community’s knowledge about cigarette-caused diseases (Velasco M., 2009).

This research is conducting mainly to assess the “how much is smoking awareness on smoking health warnings and its impacts among Malaysians?” We also wanted to evaluate the community’s perceptions and their awareness about the current text health warnings printed on cigarette packs. Another important objective of this unit is to reduce the impact of tobacco use so that it will no longer remain a major public health burden. Information from this study may be used to support the efforts in reassessing the cigarette health warning to improve its effectiveness as a means of public awareness among Malaysians.

The above reasons raised our interest for this research study.

Aim of the study

General objective

1. To assess awareness on smoking health warning and its impacts among Muar community

Specific objectives

1. To evaluate the smoking behavior among the Muar community
2. To assess the community’s awareness about the current text health warning printed on cigarette packs
3. To identify the community’s perceptions and knowledge about smoking health warning
4. To analyze the effectiveness of the current text graphic health warning printed on cigarette packs in terms of providing some information about the dangers of smoking and in terms of motivating people to quit smoking among smokers and non-smokers

Methodology

Site of the study

Random number generator has picked Bandar Maharani as the site of this study from 11 districts of Muar, Johor.

Survey method

The study was a quantitative survey aimed to assess the community’s awareness on the smoking health warning and its impact from the participants’ perspective.

Study design

This was a descriptive, cross-sectional study using two- step sampling methods which are cluster sampling and simple random sampling where was conducted in Bandar Maharani, Muar as our target population.

Population and sample

The total population of Muar was 247,957 whereas the total population of Bandar Maharani was 127,905. The confidence level 95% and confidence interval of 5 was used. Our sample size was 383. The respondents that participated in this study were aged 13 – 70 years.

Data collection

Data collected using a validated questionnaire where the participants were required to answer questions about the knowledge, behavior and the impact of the smoking health warning on cigarette packs. The respondents also shown 6 types of health warning graphics images to be chosen based on their opinion about the consequences of smoking. This questionnaire section took about 5 minutes of duration.

Questionnaire design

The questionnaire which was used in the survey was based in English and Malay medium. The Malay medium questionnaire was validated by an expert Bahasa Malaysia teacher. It was a 23- item questionnaire which concentrated on socio-demographic information, awareness, smoking behavior and perception on health warning on cigarette packs.

Survey instrument

A 6 paged instrument was developed. The instrument consisted of research questions such as:

1. Socio-demographic information
2. Awareness on smoking health warning
3. Smoking behavior
 - 3.1. The number of cigarette use per day
 - 3.2. The number of respondents who planning to quit
4. Perception and knowledge about health warning
 - 4.1. Perception on the influence of cigarette health warning
 - 4.2. Knowledge on smoking-related diseases
5. Types of health warnings that the respondents think that can make people quit smoking
 - 5.1. The graphic image selection among smokers and non-smokers
 - 5.2. The graphic image selection based on warning label style among smokers
 - 5.3. The graphic image selection based on warning label style among non-smokers

After completing the questions participants were asked to view 6 number of health warning images on cigarette packs. They were allocated to select one image which was the best to avert smoking in their opinion and chose their reason in the questionnaire.

Data analysis procedures

After fill up the form by the participants, all questionnaires were checked by the supervisor in charge. The data was filed and interpreted by PASW Statistics Student Version 18. Data analysis including descriptive statistics was used to describe participants' socio-demographic characteristics and texts, tables, graphs, percentages was used to present the results. Data analysis was done through two steps, i.e univariate analysis and bivariate analysis. Univariate analysis was done by analyzing the frequency distribution of categorical data. Bivariate analysis was done by using appropriate statistical test which was independent t-test. The unit of analysis was individual respondent.

Ethical considerations

Ethical aspect relevant to the participants and methodology was handled properly. Medical Research and Ethics Committee (MREC) of Masterskill University College of Health Sciences was required to review the protocols to insure full protection of the rights of participants. Only persons who were willing to join the research were chosen as samples. Participants' informed consent was taken from the individual. Prior to each questionnaire section, participants were asked to read and agree the written informed consent letter. The participant's signature indicates that they had read and understood the information regarding this research study on awareness on smoking health warning and its impact among Muar community and consent to allow us to conduct this study. All the information they provide was kept confidential and would not revealed to other person.

Results

Table 1. Socio-demographic characteristics among smokers and non-smokers

Demographic characteristics	Smokers, N= 192		Non-smokers N= 191		Total N= 383	
	n	n (%)	n	n (%)	n	n (%)
Age (years)						
13-24 (adolescent)	47	24.5	91	47.6	138	36.0
25-44(young adulthood)	99	51.6	67	35.1	166	43.3
45-64(middle adulthood)	39	20.3	31	16.2	70	18.3
65-70(late adulthood)	7	3.6	2	1.0	9	2.3
Gender						
Male	190	99.0	93	48.7	283	73.9
Female	2	1.0	98	51.3	100	26.1
Race						
Malay	142	74.0	117	61.3	259	67.6
Chinese	25	13.0	34	17.8	59	15.4
Indian	20	10.4	37	19.4	57	14.9
Others	5	2.6	3	1.6	8	2.1
Occupation						
Unemployed	27	14.1	31	16.2	58	15.1
Employed	148	77.1	78	40.8	226	59.0
Student	17	8.9	82	42.9	99	25.8
Highest level of education						
Did not go to school	2	1.0	0	0	2	0.5
Primary School (Standard 1-6)	10	5.2	15	7.9	25	6.5
Secondary school (Form 1-5)	129	67.2	90	47.1	219	57.2
Tertiary education (College/University)	51	26.6	86	45.0	137	35.8
Marital status						
Married	123	64.1	84	44.0	207	54.0
Single	66	34.4	106	55.5	172	44.9
Divorce	3	1.6	0	0	3	0.8
Widow	0	0	1	0.5	1	0.3
Income (RM)						
<3000	150	78.1	164	85.9	314	82.0
3000-5000	38	19.8	23	12.0	61	15.9
>5000	4	2.1	4	2.1	8	2.1

Table 1 shows a total number of 383 participants took part in completing the study. From this population, 50.1% were smokers and 49.9% were non-smokers. Among the smokers, the highest smoking rate were 51.6% noted among young adulthood between the ages of 25-44 followed by adolescent aged 13-24 with 47%. Participants were mostly male compared to woman. When comparing among races, Malays were the highest smokers which was 74 %.($p=0.019$). In terms of education level, highest number of smokers (67.2%) was found among those who are from secondary school education level ($p = 0.004$). Smokers with 64.1% are married and there were

significantly difference ($p = 0.000$) between the marital status and the smokers. Majority of the smokers were employed with 77.1% and it was significantly different ($p=0.000$). Both smokers (78.1%) and non-smokers (85.9%) earning income was less than RM 3000 per month approximately.

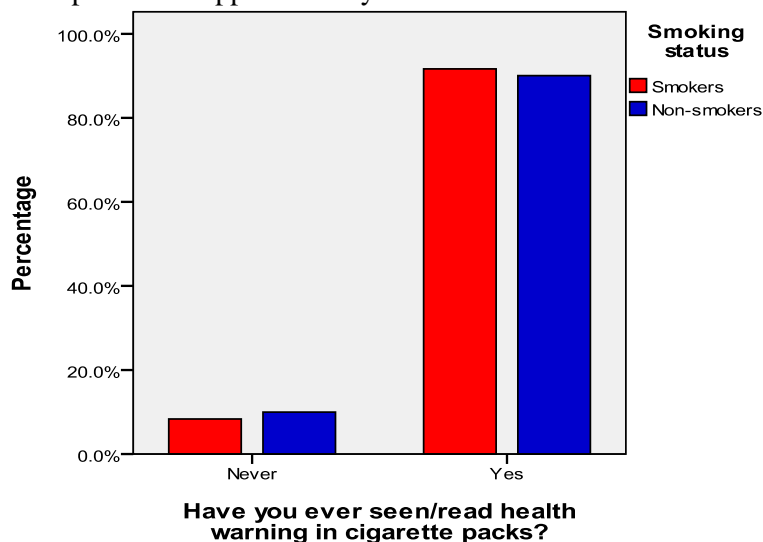


Figure 1. The respondents' awareness on smoking health warning by smoking status

Figure 1 shows the respondents' awareness of smoking health warning by smoking status. Most of the respondents of smokers and non-smokers (90.9%) were aware about the presence of smoking health warning on cigarette packs and only 9.1% was not aware of it. Around 91.7 % of smokers and 90.1% of non-smokers either have seen or read the smoking health warning.

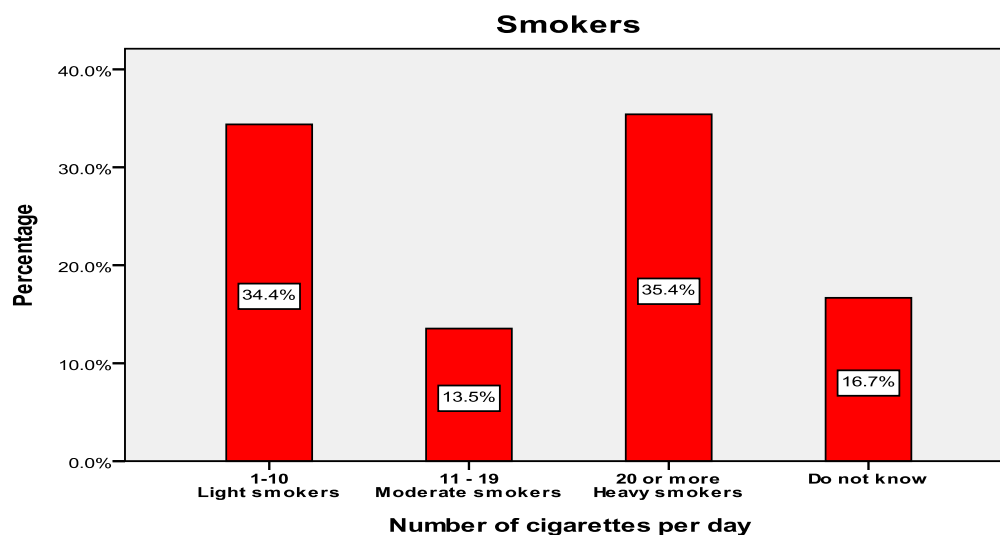


Figure 2. The number of cigarettes use per day among smokers

Figure 2 shows the number of cigarettes use per day among smokers. About 35.4% of respondents were heavy smokers whereby they were smoking more than 20 cigarettes per day whereas 34.4% of them were light smokers, consuming 1-10 cigarettes per day. This was followed by moderate smokers with 13.5% and 16.7% of them unsure about the number of cigarettes smoked per day.



Figure 3. The percentage of smokers who planning to quit smoking

Figure 3 shows the percentage of smokers whether they were planning to quit smoking. About more than half of all current smoker respondents which were 74% answered “yes” in conjunction planning to quit whereas 26% of them have no plans to quit smoking.

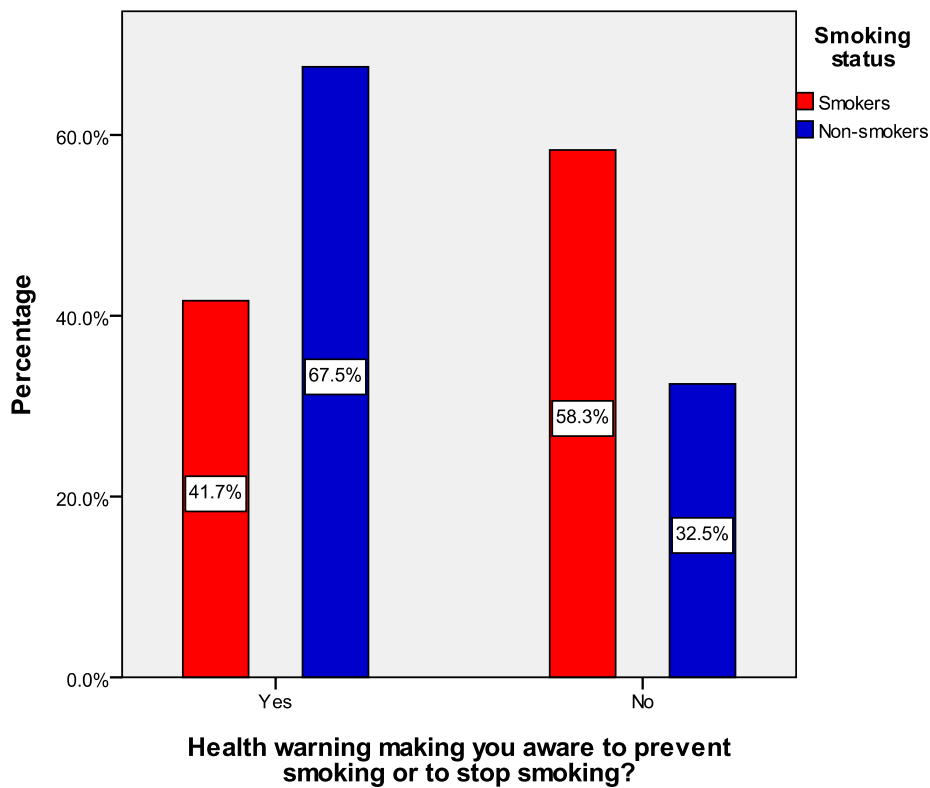


Figure 4. The respondents’ perception on the influence of cigarette health warning to prevent or to stop smoking among smokers and non smokers

Figure 4 shows the respondents’ perception on the influence of cigarette health warning to prevent or to stop smoking among smokers and non smokers. There were significantly difference ($p=0.000$) between the perception of the smokers and non-smokers. The percentage of smokers (58.3%) who acknowledged that the smoking health warning did not influence them to prevent or to stop smoking was higher

compared to the non-smokers (32.5%). In contrast, the greater number of non-smokers (67.5%) perceived that cigarette health warning can prevent or stop smoking compared to the smokers (41.7%).

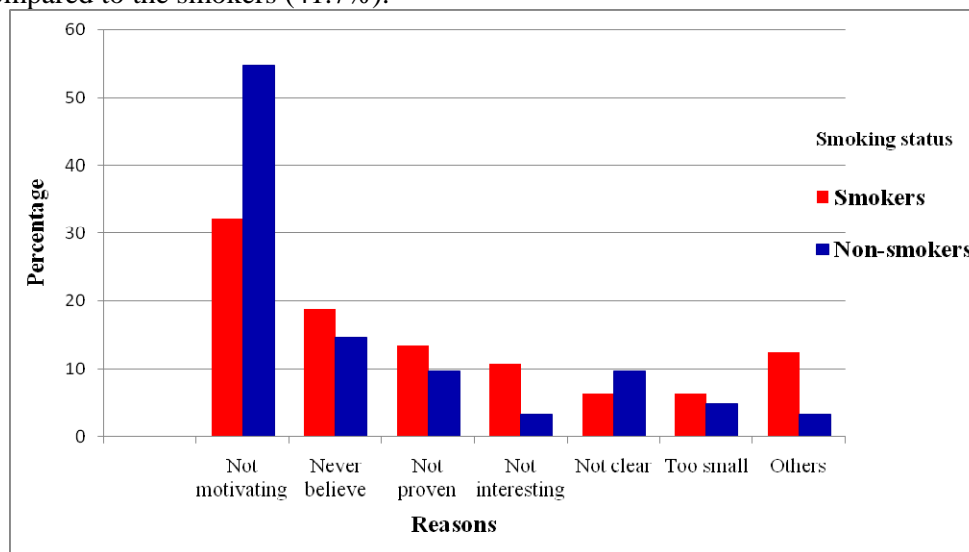


Figure 4.1. The reason of respondents' health warning does not stop smoking

Figure 4.1 represents the reasons of health warning does not prevent or to stop smoking. When the respondents were asked about the reasons on why the health warning did not prevent or to stop smoking, the smokers (32.1%) and non-smokers (54.8%) were mentioned that the health warning did not motivate to prevent or stop smoking. This followed by 18.8% of smokers and 14.5% of non-smokers who did not believe in the smoking health warning.

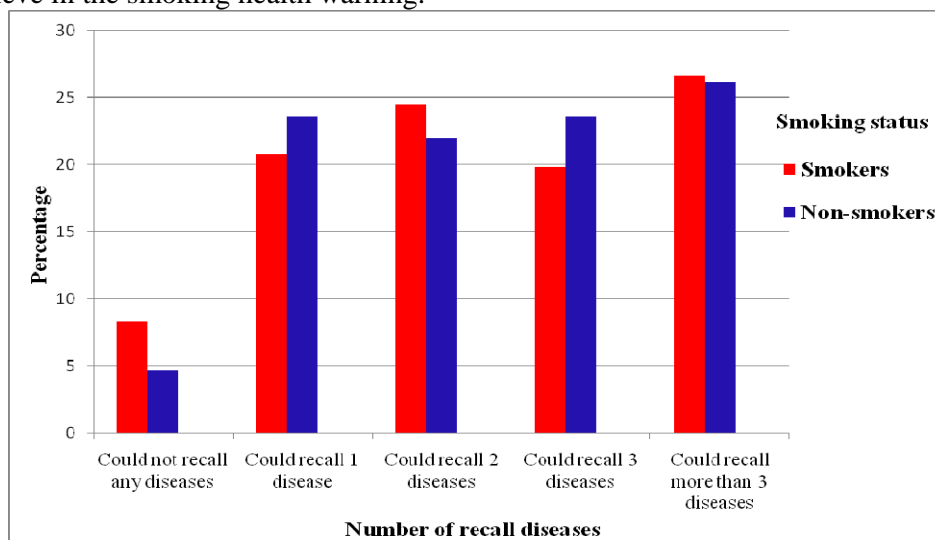


Figure 5. The knowledge of the respondents about smoking related diseases

Figure 5 reflects the knowledge of the respondents about smoking related diseases. To understand the memory confinement about the disease printed in text in the smoking health warning, the respondents were asked to recall all the diseases that they could remember. Both smokers and non-smokers were able to recall more than 3 diseases with 26.6% and 26.2% respectively. However, 8.3% of smokers and 4.7% of non-smokers could not able to recall any diseases

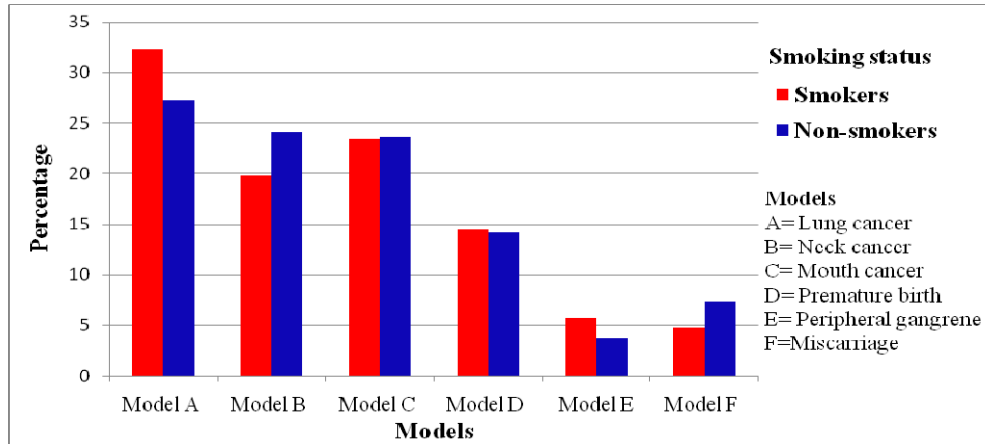


Figure 6. The different types of graphic image selection by the both smokers and non-smokers to stop smoking

Figure 6 represents the different types of graphic image selection by the both smokers and non-smokers. Among the 6 models shown, graphic image lung cancer (Model A) has the highest number of choice by smokers and non-smokers with 32.3% and 27.2% accordingly. Graphic image mouth cancer (Model C) was the second highest choice made by the smokers (23.4%) whereas non-smokers (24.1%) chose graphic image neck cancer (Model B). The least graphic models get selected was graphic image miscarriage (Model F) with 4.7% by the smokers and graphic image peripheral gangrene (Model E) with 3.7% by the non-smokers.

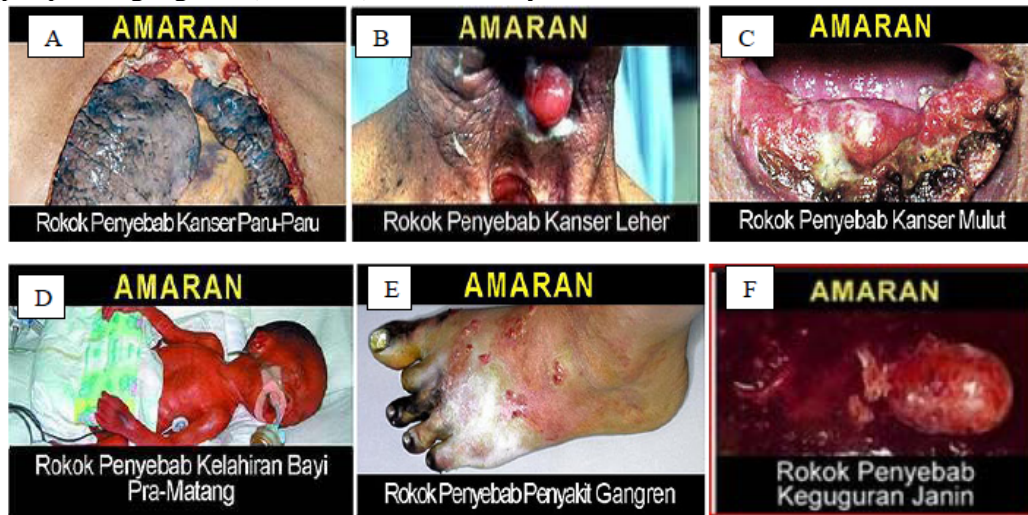














Table 2. The graphic image selection based on warning label style among smokers

Measures	Graphic models						Total
	Lung cancer [A]	Neck cancer [B]	Mouth cancer [C]	Premature birth [D]	Peripheral gangrene [E]	Miscarriage [F]	
	AMARAN	AMARAN	AMARAN	AMARAN	AMARAN	AMARAN	
							
	Rokok Penyebab Kanser Paru-P	Rokok Penyebab Kanser Leher	Rokok Penyebab Kanser M	Rokok Penyebab Kelahiran Ba Pra-Matang	Rokok Penyebab Penyakit Gangre	Rokok Penyebab Keguguran Janin	

	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n
Clear warning	22	27.8	16	20.3	23	29.1	12	15.2	4	5.1	2	2.5	79
Interesting	7	28.0	5	20.0	5	20.0	4	16.0	1	4.0	3	12.0	25
Motivating	21	39.6	9	17.0	10	18.9	7	13.2	4	7.5	2	3.8	53
Negative effects proven	33	36.3	14	15.4	20	22.0	14	15.4	6	6.6	4	4.4	91
Threatening	32	31.1	23	22.3	30	29.1	14	13.6	2	1.9	2	1.9	103
Others	2	40.0	0	0	2	40.0	1	20.0	0	0	0	0	5

Table 2 shows the graphic image selection based on warning label style among smokers. Among smokers, 103 of the respondents chose the graphic models based on the threatening effect of the image. Model A (lung cancer) with 31.1% and Model C (mouth cancer) with 29.1% were chosen due to its threatening effects of smoking related diseases. Negative effects proven was the second factor highlighted by smokers as the reason for the model selections. 29.1% of Model C (mouth cancer) and 27.8% of model A (lung cancer) were preferred by respondents due to its clear warning. This followed by other reasons such as motivating, interesting and other effects respectively.

Table 2.1. The graphic image selection based on warning label style among non-smokers

Measure s	Graphic models												
	Lung cancer [A]		Neck cancer [B]		Mouth cancer [C]		Premature birth [D]		Peripheral gangrene [E]		Miscarriage [F]		Total
	AMARAN		AMARAN		AMARAN		AMARAN		AMARAN		AMARAN		
													
	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n	n(%)	n
Clear warning	20	27.0	14	18.9	22	29.7	9	12.2	3	4.1	6	8.1	74
Interesting	5	21.7	6	26.1	7	30.4	2	8.7	1	4.3	2	8.7	23
Motivating	24	33.3	14	19.4	19	26.4	6	8.3	2	2.8	7	9.7	72

Negative effects proven	28	33.3	15	17.9	20	23.8	12	14.3	3	3.6	6	7.1	84
Threatening	26	22.2	31	26.5	30	25.6	17	14.5	4	3.4	9	7.7	117
Others	1	33.3	0	0	1	33.3	1	33.3	0	0	0	0	3

Table 2.1 shows the graphic image selection based on warning label style among non-smokers. Threatening effect was the highest selection by the non-smokers as the reason for the model selection to prevent smoking. 26.5% of model B and 25.6% of model C were preferred by them due to threatening effect. They also choose the model mainly based on proven negative effects of smoking with highest amount of 33.3% for model A and 23.8% for model C. Motivating and clear warning was chosen approximately by equal number of respondents. The graph below shows the respondents' preferences toward cigarette health warnings.

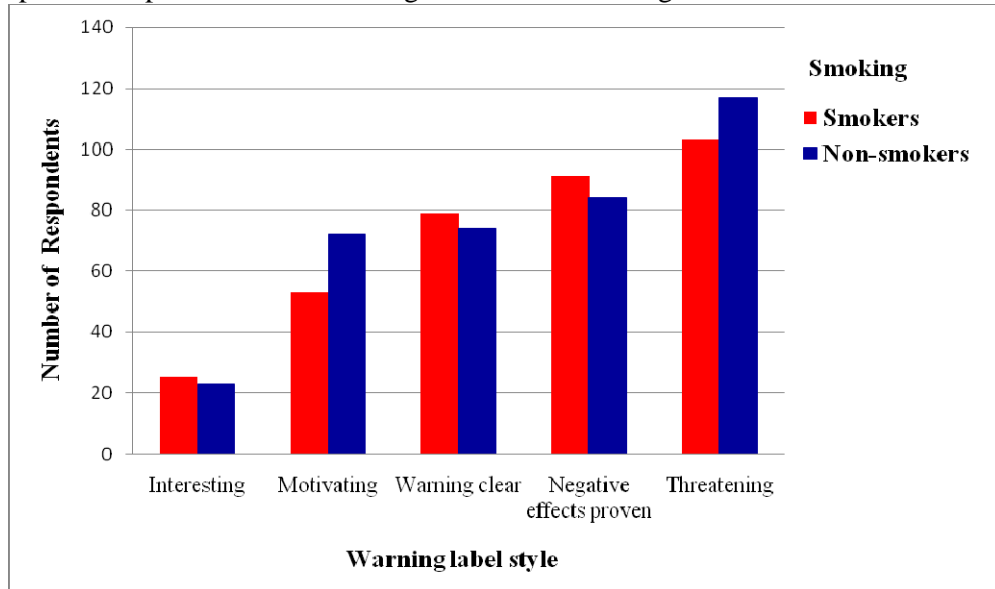


Figure 7. The graphic image selection based on warning label style among smokers and non-smokers to stop smoking

Figure 7 summarize the graphic image selection based on warning label style among smokers and non-smokers. Majority of the smokers and non-smokers selected the image based on its threatenig effects compared to other effects. A total of 91 smokers preferred negative effects proven labels compared to the non-smokers which was 84 Clear warning effect equally chose by smokers and non-smokers. The non-smokers preferred motivating health warning pictures which was 72 compared to smokers with the number of 53.

Discussion

The first goal of this study was to assess awareness on smoking health warning and its impacts among Malaysians. Tobacco control is a fundamental element of the Public Health Programme in Malaysia and one of the priorities of the Ministry of Health (Institute for Public Health, 2012). Currently, enormous progress is being made worldwide by governments to enhance awareness on smoking health warnings among the population (Velasco, M. (2009). However there is still ongoing debates on smoking awareness and its impact globally.

According to Smoking Statistics, *ASH Fact Sheet*, (2015), smoking prevalence is highest in the age groups of 25-34 (25%) and lowest amongst those aged 60 and over (11%). This study shows similar outcome when compared to our study where the age groups of 25-44 had the highest percentage of smokers (51.6%) and lowest among 65-70 age groups (3.6%). A similar pattern was reported by the Report of the Global Adult Tobacco Survey (GATS) Malaysia 2011 where it stated that 25-44 age groups (29.0%) had the highest percentage of smokers and decreased further to 25.3% for participants 65 years and above. Possible explanation for this include older age group has more time to face smoking-related health problems, health consciousness increased with age, has plenty time to be revealed to anti-smoking efforts, and a sense of liability that is less marked in the younger age groups (Lim, H., Ghazali, S., Kee, C., Lim, K., Chan, Y., Teh, H., Salleh, S., 2013). Prevalence of current smoking has traditionally been highest among Malays which is 74.0% compared to Chinese (13.0%) and followed by Indians (10.4%). This result resembles Lim, H., Ghazali, S., Kee, C., Lim, K., Chan, Y., Teh, H., Salleh, S.(2013) study where it mentioned smoking was higher among the Malays (55.9%) compared to other groups of ethnicity. When comes to level of education, the smokers with secondary school level qualifications had the highest prevalence of smoking (66.2%) as compared to those with tertiary education level (26.6%). According to Crone, M., Reijneveld, S., Willemsen, M. Leerdam, F., Spruijt, R., Sing, R.,(2003), smoking is more common among adults with lower education background. Smokers' low education, poor knowledge on the dangers of smoking had more positive or greater impact on their attitudes towards smoking (Lim, K.H., Sumarni, M.G., Amal, N.M., Hanjeet, K., Wan Rozita., W.M. and Norhamimah, A., 2009). Our present study also indicated that married person (64.1%) were more likely to smoke than unmarried persons (34.4%). This finding is in contrast to a study of Unger et al. (2003) who reported that there was no association between smoking and marital status. A previous research consistently reported that tobacco consumption habit is associated with income (Choudhury K, Hanifi SMA, Mahmood SS, Bhuiya A, 2007). We found that greater number of smokers (78.1%) are from low income of less than Rm3000. A similar to this finding, Lim, H., Ghazali, S., Kee, C., Lim, K., Chan, Y., Teh, H., Salleh, S. (2013) study stated that there were fewer smokers among those with monthly household income at least Rm3000 (39.2%).

In our studies, both smokers (91.7%) and non-smokers (90.1%) have almost same awareness on smoking health warning. However the pattern of Velasco, M. (2009) study result differ with our finding, showing that the smokers (96.9%) were more aware of the smoking health warning compared to the non-smokers (82.5%).

Most of the current smokers in Bandar Maharani, Muar were heavy smokers (>20 cigarettes per day) with 35.4% and are light smokers who smoke 1-10 cigarettes per day about 34.4%. However, Report of the Global Adult Tobacco Survey (GATS) Malaysia 2011 asserted that in 2006, light smokers were highest with 56.3% compared to heavy smokers with 23.6%. A YouGov survey found that 46% of current smokers in higher social groups smoked 10 or fewer cigarettes per day compared to 30% in the lowest social group (Smoking statistics who smokes and how much, *ASH Fact Sheet*, 2015).

In the present study, majority of the smokers (74%) were answered "yes" in conjunction planning to quit whereas 26% of them have no plan to quit smoking. The Report of the Global Adult Tobacco Survey (GATS) Malaysia 2011, reported that 92.8% of current smokers had noticed the health warnings on the cigarette packages and 45.8% of them had idea about quitting because of the labels. Another study emphasize more than 70% of smokers convey their idea to quit and 41% have tried to quit for at least a day (Wolburg, J., 2008). A study in Massachusetts reported the

effectiveness of the campaign is appreciate mostly by those quitters, non-smokers and smokers with strong intention to drop (Hong Liu., Wei tan, 2009).

Regarding the perception on the influence of cigarette health warning to prevent or to stop smoking both smokers and non-smokers have different impression. In the point of view of smokers (58.3%), cigarette health warning did not influence them to prevent or stop smoking whereas, the non-smokers (67.5%) agreed that cigarette health warning can influence the prevention and stopping of smoking. The smokers who did not get influenced acknowledged that the smoking health warning did not motivate them to stop smoking. In addition to that, they do not care or already addicted was another reason not to stop smoking (Velasco, M. (2009). Comprehensive health warning labels are effective among youth and there is proof that they prevent smoking initiation and pictorial warning labels that evoke a strong emotional response are very effective (Meg Riordan, 2013).

Graphics have been shown to increase attention to and evoke of warning labels, suggesting a more efficient mode of information processing. In our current study, the knowledge is still poor among the participants where 8.3% of smokers and 4.7% of non-smokers could not able to recall any diseases but some of the smokers (26.6%) and non-smokers (26.2%) could able to recall more than three diseases. In other study, the results point out most of the respondents are more likely to be knowledgeable of the effect of smoking (Siahpush, M., McNeill, A., Hammond, D., & Fong, G., 2006). Even though, the smokers knew about the consequences of smoking, they continued to smoke. A study by Velasco, M., 2009 underline that it was somewhat proven that the students were the perfect respondents who could recall the four diseases related to smoking. This might be because of their age factor and their current schooling.

There is evidence that smoking health warning can help to discourage adolescents from smoking cigarettes along with persuasive ever-growing evidence that picture-based warnings are more effective than text-only warning, and that effectiveness of warnings increases with size (Velasco, M. 2009). Our study found that knowledge on health warning of smoking-related cancer images was high with regard to lung cancer compared to mouth and neck cancer. Among 6 models shown, graphic model A (Lung cancer) was chosen the most by the smokers (32.3%) and non-smokers (27.2%). Most of the participants agreed that smoking is a cause of lung cancer (Innabi, A., Ammari, D., & Tuqan, W., 2014). Another study carried out in UK noted about 85% of lung cancer cases in men are accountable to smoking (Smoking and Cancer, *ASH Fact Sheet*, 2013). Graphic model C (Mouth cancer) was the second highest choice made by the smokers (23.4%) whereas non-smokers (24.1%) preferred graphic model B (Neck cancer). The least graphic model get selected was model F (Miscarriage) with 4.7% by the smokers and model E (Peripheral gangrene) with 3.7% by the non-smokers. Most of the researches finding had shown that the impact of health warning printed on the cigarette cover package greatly improved the community's knowledge on smoking. However, those studies still should be improvised to get better outcome and impact.

Majority of the smokers and non-smokers chose graphic models based on the threatening effect of the image. Therefore, threatening effect was the highest selection with number of 103 for smokers and 117 for non-smokers. The choice of selection might be related to its direct visibility and its concern respecting eating food, communication difficulties and the cosmetic issues (Velasco, M. (2009). The aspect of negative effects proven was the second rank selection considered by both smokers with the number of 91 and non-smokers by 84. Those respondents has strong belief that in addition to causing multiple diseases, cigarette smoking has many adverse effects on the body (The Health Consequences of Smoking-50 Years of Progress: A Report of the Surgeon General., 2014).

Conclusion

The survey results proved that smoking is a remarkable public health and basic problem in Malaysia. More than 35.4% smoker respondents smoked 20 cigarettes or more per day. By age, overall the 25-44 (young adulthood) age groups had the leading percentage (51.6%) of smokers. In terms of education level, highest number of smokers (67.2%) was found among those who are from secondary school education level. The majority of the smokers are earning income of less than Rm3000 per month. The robust finding of this study involved awareness and its impact on cigarette health warning. The respondents have good awareness on smoking health warning. They have seen or read the smoking health warning on the cigarette packs and most of them able to recall more than three diseases (26.6%). However, the knowledge is poor because only few respondents able to recall more than 3 diseases. There is larger number of the respondents of the smokers (74%) who have intention or planning to quit but most of the smokers, about 58.3% perceived that cigarette health warning does not influence them to stop smoking. However, 67.5% of non-smokers perceived that cigarette health warning can prevent from smoking. The smokers who did not get influenced acknowledged that the smoking health warning did not motivate them to stop smoking. Among the 6 models shown, graphic image lung cancer (Model A) has the highest number of choice by the smokers (32.3%) and non-smokers (27.2%) followed by second highest oral cancer (Model C) for smokers (23.4%) and neck cancer (Model B) for non-smokers (24.1%). Finally, when come to graphic image selection, threatening images was the most preferable choice among the respondents.

Recommendations

In order to curb the increasing trend of smoking among young adulthood (25-44 years), workplaces are excellent platforms for this age group to provide comprehensive and sustainable health promotion programmes to address issues affecting the health due to smoking. Each workplace recommended to set-up smoking cessation programs such as smoking cessation workshops, team-building activities, testimonial sharing sessions and year-long educational activities with knowledge and skills to quit smoking.

Since the knowledge is still poor among the respondents, we suggest more education on negative effects of smoking should be given to the community. As an initial step, education on smoking knowledge should be implemented as one of the compulsory school health program for students and teachers.

To confront the smoking rates among the Malay community, Malaysian Health Promotion Board (Mysihat) partners with mosques and Muslim organizations should implement customized educational initiatives and intervention programs. An example of a programme that lace in religious and cultural practices is the Muharram Challenge, which is an intensive one-month programme to encourage Malay smokers to quit smoking at the start of the Muslim calendar year.

Another feasible strategy is to give higher priority on hospital based intervention program. Brief smoking cessation advice or counseling should be given by health practitioners in hospital settings on pre-admission clinic for smokers. Other than that, evidence-based programmes intervention program. Brief smoking cessation advice or counseling should be given by health practitioners in hospital settings on pre-admission clinic for smokers. Other than that, evidence-based programmes should be implementing in hospital in-patient services that offer bedside brief advice on smoking consequences to patients who are smoking by the health care practitioners. This program should be practice in all hospitals. We suggest there must be more tobacco rehabilitation programs in all level of healthcare service centers in our country for easy accessibility and should promote their services for better outcomes.

The existing graphic health warning should be improved in terms of appearance, size, and message to be more effective. Current graphic image on cigarette packs are small, not threatening and motivating enough. Therefore, the warning label should be larger in size with more fear appeal for better view. Self-efficacy or motivational information must be integrated into graphic warning images to enhance effectiveness. The graphic image showing peripheral gangrene and miscarriage need to be improvised more because those pictures was least selected by the respondents. Although there is hotline or quitline on cigarette packs, we suggest promoting it more through the web sites and social media pages because it is a good communication tool to ensure adequate reach and intensity to meet the required needs of population subgroups

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