

**PREVALENCE OF SMOKING AND ASSOCIATION WITH DIETARY PRACTICE
AMONG THE COMMUNITY OF APARTMENTS AT DENGKIL, SEPANG, SELANGOR,
MALAYSIA**

Zainal Nastaiin Zainal, Iza Syazwina M. Y., Amirah Nuraisha K., Sabariah A.H.

Faculty of Medicine, *Cyberjaya University College of Medical Sciences (CUCMS)*
No. 3410, Jalan Teknokrat 3, Cyber 4
63000 Cyberjaya, Selangor, Malaysia

Corresponding Author:

Sabariah Abd. Hamid

sabar318@gmail.com, +6016 2089887

Abstract

Background: World Health Organization (WHO) reports six million people killed each year exclusively attributed to direct tobacco. Research has suggested that tobacco smoking is an important risk factor for acute myocardial infarction and also has been associated with bad dietary practice. Thus, the aim of this study was to determine the smoking status and the association with dietary practice.

Materials and Methods: A cross-sectional study was conducted in apartments area in Dengkil, Sepang, Selangor. A Systematic random sampling was conducted to choose the respondents' unit and a simple random sample of adults aged 18 years and above was selected. Data have been collected through face to face interview, using a structured questionnaire.

Result: The prevalence of smoking was 28.4%. Addiction (64.1%) and stress (20.5%) were the higher barriers among respondents who attempted to quit smoking. Majority of the smokers (96.7%) have inadequate dietary practice

Conclusion: Comprehensive adequate dietary practice and anti-smoking campaign should be strengthened and strategies on coping with withdrawal symptoms of smoking could be introduced to the smokers.

Keywords: smoking, quit smoking, barriers, diet practice, association

1.0 INTRODUCTION

Tobacco continues to be the leading global cause of preventable death. World Health Organization (WHO) records that more than 7 million people killed each year where 6 million of the deaths exclusively attributed to direct tobacco use while small proportion of the deaths are due to non-smokers being exposed to second-hand smoke (WHO, 2011).

In Malaysia, deaths attributed to smoking are approximately 20% of all deaths annually, which account for almost 10000 deaths (Lim, et al., 2009). National Health and Morbidity Survey (NHMS) 2015 reports 22.5% of Malaysian adults have smoked any cigarette and male smokers are higher compared to female (43% and 1.4%, respectively) (Cahn, et al., 2018). The consequences of smoking to health cannot be understated. Hbejan (2011), states that tobacco smoking is an important independent risk factor for acute myocardial infarction in young adults, with a similar effect for both genders. Therefore, practicing a healthy diet is very important to health as Collins, et al., (2011) states that the prevalence of malnutrition among smokers are higher (32%) compared to non-smokers and ex-smokers (19%). Smoking also has been associated with bad dietary practice, where the diet quality of current smokers of at least 20 cigarettes per day is significantly poorer than those who never smoked independent of several socioeconomic, lifestyle, and biologic confounding factors (Alkerwi, et al., 2016).

Thus, this study has been conducted to determine the prevalence of smoking and the association with dietary practice among the community. Therefore, through our finding, we will suggest appropriate intervention related to their problems especially on smoking and diet practice.

2.0 METHODOLOGY

A cross-sectional study was carried out in apartments area in Kota Warisan, Sepang, Selangor, which comprises of 12 blocks of apartments with 960 units.

Systematic random sampling was conducted to choose the respondents' unit, followed by simple random sampling to select the respondent within the household. All residents who were living in the apartments, aged more than 18 years, not mentally retarded, deaf and mute, from each unit were selected. Respondents who refused to participate in the survey or were not there during the survey after three visits, will be considered as non-respondents.

Data was collected through face to face interview using a set of validated questionnaire from NHMS (2015). The data has been analyzed using descriptive statistics to get the frequency and relative frequency (percentage) for smoking and diet practice status, and also sociodemographic variables. Adequate dietary practice means intake of at least 5 servings of fruits and vegetables per day and at least 6 glasses of plain water per day. The association was determined by Pearson chi-square test. The level of significance was set at $p < 0.05$ and confidence level at 95%.

3.0 RESULTS

A total of 218 participants participated in this study, giving an overall response rate of 100%.

Table 1. Prevalence of smoking status among respondents

Smoking status	n	%
Yes	62	28.4
No	156	71.6
Total	218	100

Prevalence of smoking is 28.4% (Table 1). The higher prevalence is among age 20-29 years (36.1%), male (67.4%), single (40%), those who are working in government sector (60%).

Table 2: Smoking status by socio-demographic (N= 218)

Sociodemographic Factors	Smoking status			P-Value
	Yes n (%)	No n (%)	TOTAL n (%)	
Age				
< 20	2 (22.2)	7 (77.8)	9 (100)	0.33
20 - 29	26 (36.1)	46 (63.9)	72 (100)	
30 – 39	19 (31.1)	42 (68.9)	61 (100)	
40 – 49	8 (18.2)	36 (81.8)	44 (100)	
50 - 59	3 (17.6)	14 (82.4)	17 (100)	
≥ 60	4 (26.7)	11 (73.3)	15 (100)	
Gender				
Male	58 (67.4)	28 (32.6)	86 (100)	0.00
Female	4 (3.0)	128 (97.0)	132 (100)	
Education level				
No formal education	0	2 (100)	2 (100)	0.23
Primary education	6 (30.0)	14 (70.0)	20 (100)	
Secondary education	43 (32.8)	88 (67.2)	131 (100)	
Tertiary education	13 (20.0)	52 (80.0)	65 (100)	
Marital status				
Single	28 (40.0)	42 (60.0)	70 (100)	0.01
Married	34 (25.4)	100 (74.6)	134 (100)	
Divorcee/Widow	0	14 (100)	14 (100)	
Occupational status				
Unemployed	4 (18.2)	18 (81.8)	22 (100)	0.00
Govt. / Semi-govt.	6 (60.0)	4 (40.0)	10 (100)	
Private employee	45 (40.9)	65 (59.1)	110 (100)	
Self-employed	5 (21.7)	18 (78.3)	23 (100)	
Housewife	0	43 (100)	43 (100)	
Student	0	6 (100)	6 (100)	
Retiree	2 (50.0)	2 (50.0)	4 (100)	

Table 3. Barrier factors among smokers who attempted to quit smoking

Barrier factors	n	%
Addiction	25	64.1
Stress	8	20.5
Peer	5	12.8
Withdrawal symptom	1	2.6
Total	39	100

Among the smokers, 39 (62.9%) attempted to quit smoking. However, the most cited barriers to quit smoking are addiction with 64.1% followed by stress (20.5%), peer (12.8%) and withdrawal symptom (2.6%) (Table 3).

Table 4. Association between smoking status and diet practice among respondents

Smoking status	Dietary practice			Fisher test (p value)
	Adequate n (%)	Inadequate n (%)	TOTAL n (%)	
Yes	2 (3.2)	60 (96.7)	62 (100.0)	0.516
No	10 (6.4)	146 (93.6)	156 (100.0)	

Respondents with never smoke are two times more of having adequate dietary practice. However, statistically, there is no significant association between smoking status and dietary practice ($P > 0.05$).

4.0 DISCUSSION

Majority of the smokers in our study have been smoking for more than 15 years as they started smoking before 18 years old. Peers might be one of the factors that influenced young adult to smoke as supported by a study done in 2011 which reports that early teenage smoking is higher risk being influenced by peer (odd ratio of 10.06) and sibling (odd ratio of 4.13) (Kelly, et al., 2011). Men's smoking is more likely to be associated with being with others who were smoking (Ferguson, et al., 2015).

The National Health Morbidity Survey (NHMS, 2015) reports that the current tobacco smoker among Malaysian is higher in males with 43.0% compared to females (1.4%). Majority of current smokers among in our study were males. This might be due to women, who usually possess a natural characteristic as a family caretaker, are more alert to the adverse effects of smoking on health. Also, female smoking is usually less acceptable in the society as compared to male. (Bilgic, et al., 2010)

Studies done in Malaysia and United states show that majority of smokers smoke less than 10 cigarettes per day (42.9% and 48%, respectively) (Fathelrahman, et al., 2010, Valera, et al., 2014). Most of the smokers at the apartment also smoked about less than 10 cigarettes per day. The NHMS (2015) also reports that the prevalence of smoking any cigarette among Malaysian with secondary education level is higher (27.8%) compared to primary education (24.9%), no formal education (20.1%) and tertiary education (15.2%), which is consistent with our study that showed the highest prevalence of smokers is among residents with secondary education level. This may be

due to the majority of our respondents had only until their secondary education level. With that level of education, the spending of almost RM100 per month on cigarettes among the residents could be explained as their earning per month match the education level-

The General Lifestyle Survey (GLS, 2009) in UK reports that smoking prevalence is much lower among married people (15%) than among those in any of the three other marital status categories such as cohabiting (33%) and single (27%). It is consistent with our result where young adult respondents contributed highest frequency of smokers and most of them were single. This might be due to their environment that approved their smoking behavior, in which the risk of smoking initiation among young adults increased under the exposure to social norms and perceptions that encourage smoking (Freedman, et al., 2012). Young adults also tend to have high level of curiosity as they want to experience new thing which sometimes may lead them to do something unbeneficial such as smoking. This is supported by Pepper (2014) where the most common reasons for starting e-cigarette use are due to curiosity (53%), a friend or family member used, gave, or offered an e-cigarette (34%), and to quit or cut back on smoking (30%).

The Roll-Your-Own (RYO) cigarettes or more known as hand-rolled in Malaysia has substantially less expensive price than the manufactured cigarettes (Jackson, et al., 2018). However, the manufactured cigarette is more favorable compared to rolled cigarette for the type of tobacco used among the smokers' respondents. This might be influenced by the age group of the smokers since the highest prevalence of current smokers are among the younger generation aged between 20 to 29 years old. Among adult smokers in Malaysia and Thailand, 74.4% of the smokers prefer to smoke factory-made only cigarette instead of hand-rolled only cigarette (12.0%) (Li, et al., 2010).

A study done in Malaysia by Cheah & Naidu (2012) states that 81% of Malaysian smokers are having inadequate dietary practice, which is similar with our finding. MacLean explains that daily smokers and nondaily smokers have significantly higher dietary energy density compared to never smokers, which demonstrates any amount of current cigarette consumption is associated with poor diet (MacLean, et al. 2018). An adequate fruits and vegetables intake is more strongly associated with a reduction of cardiovascular disease in current smokers as high fruits and vegetables have high content of antioxidant which may reduce oxidative damage due to toxic tobacco product (Haas, et al., 2010).

Our finding showed that most of the smokers have attempted to quit within 12 months prior to study. Among those who try to quit, most of them failed due to addiction compared to other

barriers such as peers, stress or withdrawal symptoms. This is supported by a study conducted by Baharudddin (2015) which states that smokers are still smoking because they feel addicted to tobacco (56.0%) and feel really need to smoke (55.6%). Aubin (2010) also shows that, amongst the reasons that lead the French smokers to resume smoking, craving is the most frequently mentioned (45%), followed by anxiety/stress (34%), significant life event (21%), weight gain (18%), and irritability (16%).

5.0 CONCLUSION

Majority of the smokers in an apartment area in Kota Warisan, Sepang have inadequate dietary practice. Addiction, stress, influences from peers and withdrawal symptom are among the barriers for the smokers to quit smoking.

Therefore, strategies on coping with smoking withdrawal symptoms should be introduced to the smokers. Smoking cessation programme that already existed in the clinic should be strengthened.

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