



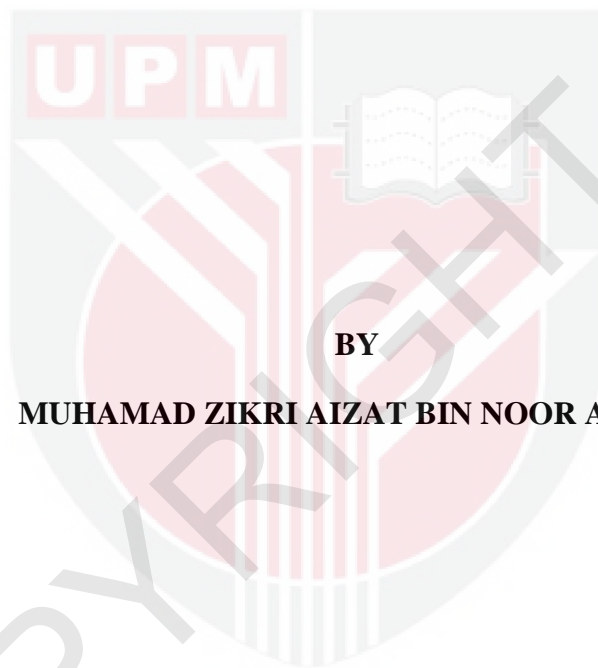
UNIVERSITI PUTRA MALAYSIA

***KNOWLEDGE, ATTITUDE AND PERCEPTION OF SMOKING
CESSATION AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI
PUTRA MALAYSIA***

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**KNOWLEDGE, ATTITUDE AND PERCEPTION OF SMOKING CESSATION
AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA
MALAYSIA**



BY

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**This thesis submitted in fulfilment of the requirement for the degree of Bachelor
Science (Environmental and Occupational Health) from the Faculty of Medicine
and Health Sciences, Universiti Putra Malaysia**

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ABSTRACT

KNOWLEDGE, ATTITUDE AND PERCEPTION OF SMOKING CESSATION AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI PUTRA MALAYSIA

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Introduction: In 2015, approximately 22.8% of Malaysia population aged 15 years and above were smokers including men and women. Currently there are insufficient data on the level of knowledge, attitude and perception of smoking cessation among students in institute of higher learning. **Objective:** The objective of the study is to determine the current knowledge, attitude and perception on smoking cessation and what are the factors that causes smokers insisted on not quitting smoking among undergraduate students. **Methodology:** A cross-sectional study involved three hundred and seventy-seven respondents among undergraduate students of UPM that participated were given specific set of online questionnaires. The questionnaire was adapted from the International Journal of Environmental Research and Public Health. Simple random sampling method were used for sampling. In the questionnaire, sections included on socio-demographic information, knowledge, attitude, perception and a section to identify the factor on why smoker insisted on not quitting smoking. For statistical analysis, Mann-Whitney test was used to determine the differences on mean between smoker and non-smoker while Chi-square are used to determine the association of socio-demographic with knowledge, attitude and perception. **Results:** Results found that 28.6%, 45.3% and 11.1% of undergraduate students have good knowledge, attitude and perception on smoking cessation respectively. There is no statistically significant differences for perception among smoker and non-smoker ($p = 0.614$) but there is significant differences for knowledge ($p = 0.003$) and attitude ($p < 0.001$). Among smokers, 78.9% agreed that smoking is the way to overcome stress and pressure. Smoking status has been associated with knowledge level ($p < 0.001$) and attitude level ($p < 0.001$) while gender ($p < 0.001$) and smoking status ($p < 0.001$) has been associated with perception level. **Conclusion:** These study findings suggested that the KAP level of smoking cessation should be improve among students as they were the generation to educate and lead the upcoming generation of Malaysia.

Keywords: Knowledge, attitude, perception, undergraduate, association, factor.

ABSTRAK

PENGETAHUAN, SIKAP DAN PERSEPSI TERHADAP BERHENTI MEROKOK DALAM KALANGAN PELAJAR SISWAZAH UNIVERSITI PUTRA MALAYSIA

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Pengenalan: Pada tahun 2015, dianggarkan seramai 22.8% populasi Malaysia yang berumur 15 tahun dan ke atas adalah perokok termasuk lelaki dan wanita. Terdapat masalah kekurangan data berkaitan pengetahuan, sikap dan persepsi terhadap berhenti merokok dalam kalangan pelajar institusi pengajian tinggi. **Objektif:** Objektif kajian ini adalah untuk menentukan tahap pengetahuan, sikap dan persepsi terhadap berhenti merokok dan apakah faktor yang menyebabkan perokok tidak ingin berhenti merokok terutamanya dalam kalangan pelajar siswazah. **Metodologi:** Satu kajian keratan rentas yang melibatkan seramai tiga ratus tujuh puluh tujuh pelajar siswazah dari Universiti Putra Malaysia yang telah menyertai kajian ini telah diberi boring soal selidik menggunakan platform atas talian. Borang soal selidik ini telah diadaptasi daripada *International Journal of Environment Research and Public Health*. Kaedah persampelan rawak mudah telah digunakan dalam kajian ini. Di dalam borang soal selidik ini, terdapat 5 seksyen utama termasuk maklumat sosio-demografi, pengetahuan, sikap, persepsi dan faktor perokok tidak ingin berhenti merokok. Untuk analisis statistik, ujian *Mann-Whitney* telah digunakan untuk menentukan perbezaan mean antara perokok dan bukan perokok manakala ujian *Chi-square* telah digunakan untuk menentukan hubungan kait antara faktor sosio-demografi dengan tahap pengetahuan, sikap dan persepsi terhadap berhenti merokok. **Keputusan:** Keputusan menunjukkan bahawa seramai 28.6%, 45.3% dan 11.1% pelajar siswazah mempunyai tahap pengetahuan, sikap dan persepsi yang baik terhadap berhenti merokok. Tiada perbezaan statistik yang signifikan terhadap persepsi antara perokok dan bukan perokok ($p = 0.614$) tetapi terdapat perbezaan statistik yang signifikan untuk pengetahuan ($p = 0.003$) dan sikap ($p < 0.001$). Dalam kalangan perokok, seramai 78.9% bersetuju bahawa merokok adalah cara untuk mengurangkan stres dan tekanan. Status merokok mempunyai hubungan kait dengan tahap pengetahuan ($p < 0.001$) dan sikap ($p < 0.001$) manakala jantina ($p < 0.001$) dan status merokok ($p < 0.001$) mempunyai hubungan kait dengan tahap persepsi. **Kesimpulan:** Penemuan kajian ini mencadangkan bahawa tahap pengetahuan, sikap dan persepsi terhadap berhenti merokok perlu dipertingkatkan khususnya dalam kalangan pelajar universiti memandangkan mereka merupakan generasi yang akan mengajar dan memimpin generasi yang akan datang di Malaysia.

Kata kunci: Pengetahuan, sikap, persepsi, siswazah, hubungan kait, faktor

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CHAPTER 1

INTRODUCTION

1.1 Study Background:

Smoking or tobacco use have been known since early 15th century where initially it was used as stress reliever or remedy in medication. Modern cigarettes still have the same purpose which to act as stress reliever but the content is a whole lot difference and hazardous to health. According to Malaysia Ministry of Health, smoking cigarettes have been contributed to morbidity as high as 15% out of all death in the country. Although the number is considerably high, there is still lack of awareness among adult smokers in Malaysia.

According to statistic, in 2018 there are 20.3 billion cigarettes for both legal and illegal were consumed in Malaysia. The rate has been increasing since the year 2015 (R. Hirschmann, 2020). Among general citizens, several studies have been conducted to determine the prevalence of smoking among adults. At the nationwide level, a series of studies such as the National Health and Morbidity Survey (NHMS) conducted in the year 1986, 1996 and 2006, as well as the Global Adult Tobacco Survey (GATS) conducted in 2011 to monitor smoking prevalence among Malaysians which the overall prevalence of smoking was 22.8% from a sample of 445 adults in Malaysia. (Lim et al., 2020).

Because of this, quit smoking program have been conducted to help smokers quitting their habit. Many agencies including the Ministry provide their own initiatives in reducing smoking habit among adult citizens in Malaysia which includes promotion, campaign and physician advice. Among the smokers, 50% is the adult smoker (National Health and Morbidity Survey, 2015). University students are considered as young adults and some of them appear to be involved in smoking habit. Pressure in study and campus life may lead to stress to them. One of the ways to cope with the situation is by smoking. Although smoking can help to reduce stress, but it is also highly destructive to lungs and respiratory system (Virtual Mentor, 2011).

Smokers have varieties of definitions. Different smoking status have different definition. Current smoker is defined as an adult who has smoked 100 cigarettes in his or her lifetime and who currently smokes cigarettes either everyday smokers or somedays smokers. Former smoker is defined as an adult who has smoked at least 100 cigarettes in his or her lifetime but who had quit smoking at the time of interview. A never smoker or non-smoker is defined as an adult who has never smoked, or who has smoked less than 100 cigarettes in his or her lifetime. As we mention quit attempt, it has the meaning of having stopped smoking for one day or longer while at the same time having the intention to quit smoking (Centers for Disease Control and Prevention (CDC)).

1.2 Problem statement

Malaysian had been taught that smoking itself is prohibited according to law especially in public. Current law has been applied where even in public area such as restaurant or food stall are prohibited area for smoking and requires the smoker to smoke at least 3 meters away from the premises. The law is highly relevant as majority of publics had already aware that smoking imposed more negative side effects compared to giving benefits especially in terms of human health.

Many initiatives have been conducted in order to reduce the prevalence of smoking exclusively among adults in Malaysia. Varieties of program such as quit smoking program, personal physician session and aiding medicine have been conducted but there is still no significant difference in the number of prevalence among smokers. This occurrence had already bringing apprehensive to the Ministry of Health. In 2015, approximately 22.8% of Malaysia population aged 15 years and above were smokers including men and women (National Health & Morbidity Survey 2015).

According to previous study, 29% of students from local university especially males are involved in smoking habit (Al-Naggar et al., 2011). The statistics shows considerable large number of smokers in institute of higher learning. The fact that there are still high number of smokers, questioned whether the students including smoker and non-smoker are aware of the existences of smoking cessation. It would be a problem to the next generation if the number keep on increasing. Currently there are insufficient data on the level of awareness of smoking cessation among students in institute of higher learning. The data is important to identify their current awareness and understanding on related topic and

obtaining the data may help to decide necessary action to be taken in the future. Lacking the data may lead to difficulty to reduce smoking prevalence in the future.

1.3 Study justification:

1.3.1 Awareness among young adult

Cigarettes smoking has been considered as 'Modern Culture' nowadays including among university students. University is the place where knowledge and passion are achieved. Majority of undergraduate students is a young adult who currently in active to gain knowledge and obtaining first degree's so that it can be used when entering the work life. Apart from that, this is also the place where these young adult relenting in improving attitude, behavior and personal skills. Their lifestyle is influenced on how well they behave, how well their attitude and how their current skills can bring them to the utmost forward in life. In this case, we looked more into their behavior and attitude towards smoking cessation. We do know that some students do smokes in their daily life, but there are also much higher number of students does not smoking. We wanted to know how far their understanding, attitude and perception on smoking cessation.

Their understanding is important because we wanted to determine whether our youth is in good or bad condition regarding smoking habit. From the data, we can identify the problem among our students and proactive action or recommendation can be taken to eradicate smoking habit and encouraging smoking cessation. It is important for us to stop smoking habit at early age before they are getting more addicted to the habit. The future of these generations depends on the current habits and lifestyle they undergoing now.

1.3.2 Free from smokes country

Majority of the whole nation has been well aware of the government's mission to make our country free of cigarettes smoke. The Ministry of Health Malaysia targeted to reduce the percentage of smokers to around 15% in 2025 and less than 5% in 2045. This is proportional to the main objectives which is to create a country free from cigarettes smoke.

Plenty of initiative has been conducted such as increasing taxes and displaying 'No Smoking' signage in public area as a way to create awareness among the public. University students is considered as young adult thus were not excluded from these initiatives. In order to fully achieve this mission, we need to cover the whole populations especially the university students as they are the youth that determine the future generations.

1.4 Objective:

1.4.1 General Objective:

To determine the level of knowledge, attitude and perception of smoking cessation among undergraduate students in institute of higher learning.

1.4.2 Specific Objectives:

- 1) To identify the socio-demographic information of selected undergraduate respondents.
- 2) To determine the level of knowledge, attitude and perception of smoking cessation among smoking undergraduate students.
- 3) To determine the level of knowledge, attitude and perception of smoking cessation among non-smoking undergraduate students.
- 4) To identify the difference on mean for knowledge, attitude and perception of smoking cessation between smoker and non-smoker undergraduate students.
- 5) To identify the factors on why smokers insisted on not quitting smoking although knowing the danger in hold.
- 6) To determine the association of socio-demographic factors with knowledge, attitude and perception of smoking cessation among undergraduate students.

1.5 Hypothesis

- There is a significant difference of mean for knowledge, attitude and perception between smoker and non-smoker.
- There is an association between level of knowledge, attitude and perception with socio-demographic factors.

1.6 Definition of Terms

1.6.1 Conceptual Definition

- i. Knowledge
 - The fact or condition of knowing something with familiarity gained through experience or association (Meriam-Webster, n.d.)
- ii. Attitude
 - A complex mental state involving beliefs and feelings and values and dispositions to act in certain ways (WordNet 2.0,2003).
- iii. Perception
 - Perception is a mode of apprehending reality and experiences through the senses, thus enabling discernment of figure, form, language, behavior and action (Patricia L. Muhall, 2012).
- iv. Smoking Cessation
 - To quit smoking. Smoking cessation lowers the risk of cancer and other serious health problems. Counseling, behavior therapy, medicines, and nicotine-containing products, such as nicotine patches, gum, lozenges, inhalers, and

nasal sprays, may be used to help a person quit smoking (National Cancer Institute, 2019).

v. Smoker

- Smoker can be defined as a person who smokes any tobacco product either regularly or occasionally (World Health Organization, 2008).

1.6.2 Operational Definition

i. Knowledge

- The knowledge possessed by the study population refers to undergraduate students understanding on smoking cessation which were assessed using given questionnaire.

ii. Attitude

- Attitude refers to undergraduate student feelings towards smoking cessation as well as how they act in certain way towards it. The level of attitude was assessed by the given questionnaire.

iii. Perception

- Perception refers to the way the undergraduate students think about situations related to smoking cessation. The level of perception was assessed by the given questionnaire.

iv. Smoking cessation

- Smoking cessation among undergraduate students were observed and measured from their knowledge, attitude and perception in the questionnaire.

v. Smoker

- Smokers are those who smoke regularly either using conventional cigarettes or vape as their tool. Smokers are randomly selected among the undergraduates in the university.

1.7 Conceptual Framework

The whole research purpose is to determine the level of knowledge, attitude and perception of smoking cessation among undergraduate students studying in Universiti Putra Malaysia. This research specifically focused on public university and purposely to study among the population of Universiti Putra Malaysia. The respondents may consist of smoker and non-smoker but the proportion is not determined. The proportion between smoker and non-smoker are completely random and may not be balance depending on the respondents taking part for the survey.

Every respondent will be given self-administered Questionnaire related to smoking cessation. The questionnaire will be used to identify the socio-demographic data of the undergraduate students and to determine their level of knowledge, attitude and perception of smoking cessation. It is expected to have a significance differences between smoker and non-smoker in terms of the level for their knowledge, attitude and perception.

The questionnaire also will include on several questions related to the factors that cause smoker to insist on stop smoking which then will be used as additional data to identify the cause. Based on literature review, several factors might be associate with the level of knowledge, attitude and perception. Some of the factors are age, educational program, gender, smoking status, education background and semester of study.

Factors that may associate with the level of knowledge, attitude and perception also were included in the conceptual framework based on literature review. The factors are age, educational program, gender, smoking status, education background and year of study. Association between this factors and level of knowledge, attitude and perception were identified using statistical analysis.



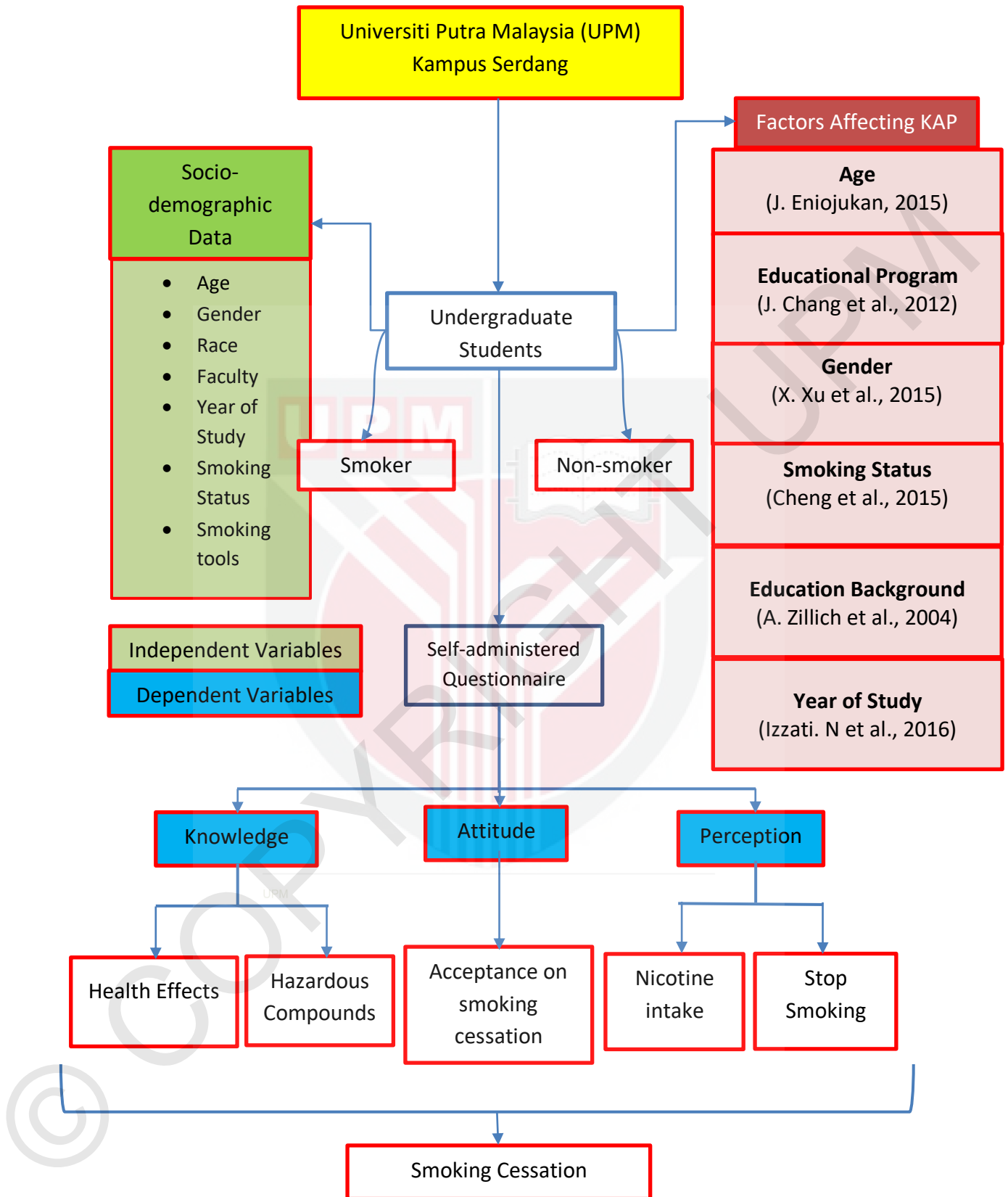


Figure 1.1: Conceptual Framework

CHAPTER 2

LITERATURE REVIEW

i. Tobacco

The use of tobacco started in the 15th century. It was originally used for pleasure and was even reported to have medicinal uses (Rashid et al., n.d.). It is a complex, dynamic and reactive mixture estimated to contain around 5000 chemicals (R. Talhout et al., 2011). Tobacco use is largely cause of premature death and disease all over the world and is preventable. Due to tobacco related illnesses, over five million people die each year and this figure is expected to be increasing to over eight million death a year by 2030. The whole majority of these death are expected to happened in developing country (Global Adult Tobacco Survey Collaborative Group. Tobacco Questions for Surveys: A Subset of Key Questions from the Global Adult Tobacco Survey (GATS), 2nd Edition. Atlanta, GA: Centers for Disease Control and Prevention, 2011).

The property of tobacco itself contains antidepressant effects which is the reason why many people tend to use this substances to cope with their mental stress (Rashid et al., n.d.). The situation is very worrying because although tobacco has the properties of antidepressant, there is still negative effect in the health of the user. To make it worse, it is the leading cause for mortality and morbidity with over 20,000 death were reported annually in Malaysia (National Health and Morbidity Survey, 2015). In Malaysia, smoking-related diseases have been the main cause of mortality for the past three decades (H. Lim et al., 2013).

Smokeless Tobacco (ST) is tobacco that is consumed by mouth and not burned. Common method used in United States are by chewing cut tobacco leaves and snuffing for moist ground tobacco. In India, several ingredients such as areca nut, betel leaf and lime were mixed with tobacco (Critchley, 2003). Several types of tobacco products sold in the market and not exclusively on tobacco smoke. Nowadays, tobacco pills and gums has been sold widely into the marketplace where consumer and buyer had the chance to taste the sensation without having to produce any tobacco smoke. Types of smokeless tobacco include chewing tobacco in the form of loose leaf or plug, snuff either in moist, dry or packets and dissolvable in the form of lozenges, sticks or orbs (World Health Organization, 2007).

ii. Smokers

Smoker can be defined as a person who smokes any tobacco product either regularly or occasionally (World Health Organization, 2008). In Malaysia, statistic shows that overall prevalence of smoking was 22.8% (4,991,458) of Malaysian are smokers (National Health and Morbidity Survey, 2015). From the observation of this statistic, university students are considered in this group as they were a young adult. According to a study conducted in International Islamic University Malaysia Kuantan, 18.3% of students were a smoker while majority of them is not a smoker which is 73% and 8.7% were former smoker (Izzati. N et al., 2016). The results shown that majority part of the students does not smokes and only small portion of them is a smoker which can be used to estimate in other institute of higher learning in Malaysia as well.

In 2015, approximately 60% of adult smokers smoke around 15 cigarettes and above (National Health and Morbidity Survey, 2015). This shows an increasing pattern

compared to the year 2006 where the average consumptions of cigarettes by smoker is 12 sticks daily. Further monitoring has concluded that the numbers kept on increasing as early as the year 2015 (Statista, 2019). Related to smoking cessation, 52.3% of adult smokers in 2015 had initiate to quit smoking. Unfortunately, only one out of ten smokers had attempted to visit health care providers of which only 75% of them were advised to quit smoking (National Health and Morbidity Survey, 2015).

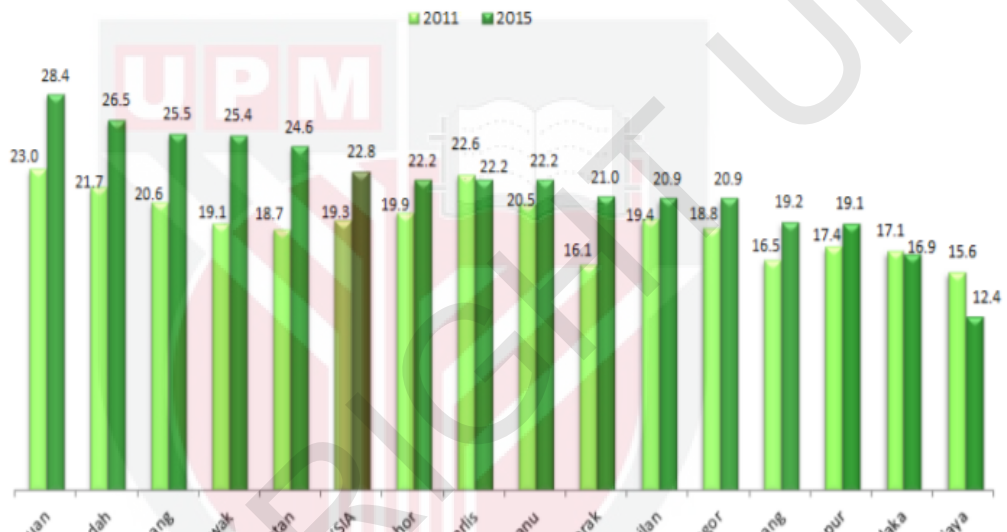


Figure 2.1 shows the prevalence of current smokers by state in 2011 & 2015 (National Health and Morbidity Survey, 2015)

2011 (aged 10 years and above)
 2015 (aged 18 years and above)
 Source of data: NHMS

Most smokers smoke to reduce stress and anxiety and this is no exception to the university students. They were burdened by excessive workload and information throughout their journey in campus. Besides, other factors may influence the source of stress. Previous research shows that when a student faces a stressful situation, there is a high chance that they will become unmindful person thus causing unconsciously act avoidance behaviors such as procrastination or emotion-focused behavior such as

substances abuse (N. Hamizah et al., 2018). In this case, substances abuse may refer to cigarette.

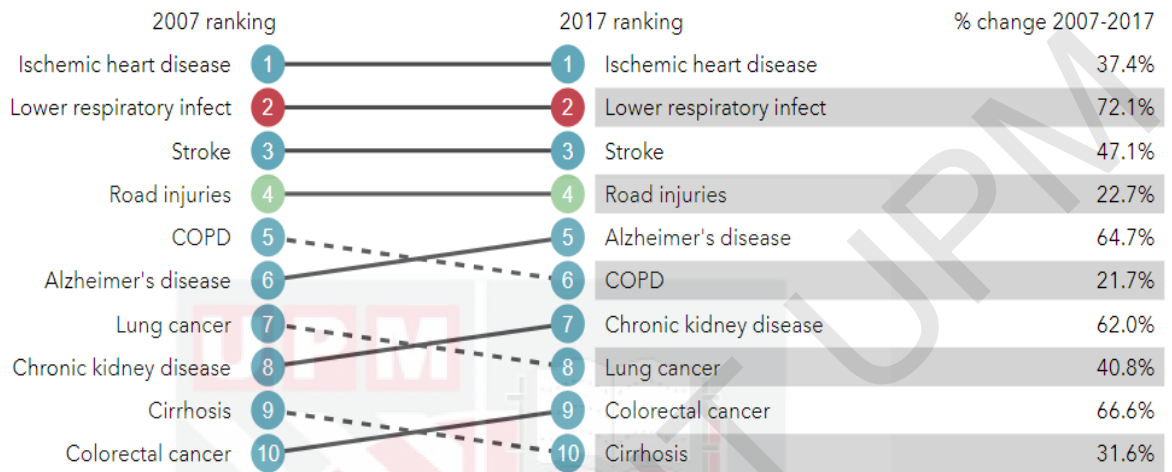


Figure 2.2 shows top 10 causes of death from 2007 until 2017 (Malaysia Institute for Health Metrics and Evaluation, 2017)

According to previous study conducted in MSU Shah Alam among 199 students, the prevalence of smokers among students is 29% and mostly consisted of male students and the reason to smoke includes the stress level (20%) while 16% are influenced by friends (Al-Naggar et al., 2011). Similar study was conducted in Management and Science University where the prevalence of shisha smoker among students is high (30%) (Al-Naggar et al., 2011). Based on a study among pharmacy students in International Islamic University Malaysia (IIUM), the percentage of smokers and ex-smokers is very low (0.4% & 0.8%) among 251 students (A. Al-Shami et al., 2018). Females also tend to be stricter in related to smoking habit due to cultural norm where smoking is considered inappropriate behavior for women (Shomar et al., 2014).

iii. Health effects of smoking

It has been scientifically proven that smoking may causes varieties of health effects. It may affect individually, family and even the community. Cigarette smoking can harm almost every organ inside the body. It may cause many illnesses and drastically reduced the health of smokers. Compared to non-smokers, smokers may have more potential in developing chronic diseases such as heart disease, stroke and lung cancer (U.S. Department of Health and Human Services, 2014). Other common tobacco smoke related causes of mortality are cardiovascular disease, chronic obstructive pulmonary disease, lung cancer and other varieties of cancer related (U.S. Department of Health and Human Services, 2014). Most of the diseases related to tobacco smoking is a chronic disease which means it is a long terms progression to finally shows symptoms of the diseases. Malaysian government has spent around 2.92 billion Malaysian Ringgit to treat patients with chronic obstructive pulmonary disease, ischemic heart disease and lung cancer. As a result, they seek to reduce the current smoking prevalence by 50% before reaching year 2020 (Lim et al., 2013).

Smoking have been said to be a good way to relieve stress. A study conducted In Japan among undergraduate and graduate students shows that subject who smokes help decreased their anxiety and the results from physiological (LPP) and psychological responses suggest that cigarette smoking perhaps can relieve stress (Choi et al., 2015). A previous study shows the same outcome where it was reported that majority of smokers (20%) among 199 respondents voted stress as the most important reason for smoking (Al-Naggar et al., 2011). To support this claim, another similar study conducted in Finland mentioned that stress was the second common reason for smoking after pleasure (Toriola & Myllykangas, 2008).

iv. Conventional cigarettes and vaping

Conventional cigarette or more commonly known as tobacco cigarette is a tube-shaped tobacco product that is made of finely cut, cured tobacco leaves wrapped in thin paper (National Cancer Institute, n.d.). E-cigarettes is a battery-operated device shaped like cigarettes that provide a way to get nicotine. The only different is that e-cigarette does not contain tobacco. Thus, creating a smokeless cigarette (Cancer Prevention & Treatment Fund, n.d.). E-cigarettes allow nicotine to be inhaled by heating a liquid cartridge containing nicotine, flavors and other chemicals into vapor. Instead of using tobacco, it uses liquid that release vapor instead of smoke (R. Connor, 2012).

Although e-cigarette does not contain tobacco, it does not make it any more safe than conventional cigarettes. Both conventional cigarettes and E-cigarettes contained same type of chemicals that may causes cancer and any other serious diseases. According to The Centers for Disease Control and Prevention, USA, severe lung illness was linked to vaping due to vast cases occurred in various state (G. Hauck, 2019). A study also has shown that e-cigarette contain chemical known as formaldehyde which may causes cancer to human (V. Varlet et al., 2015).

In Malaysia, the use of e-cigarettes has been broad among layers of public including young adults in university. According to previous study conducted in six universities around Malaysia, among 1302 students who either use e-cigarette or conventional cigarette, 74.9% has been using e-cigarettes (S. Ezat et al., 2018). This proves the expanding usage of e-cigarettes among university students.

v. Smoking awareness program

In Malaysia, there are several smoking awareness programs has been conducted in the previous decade which included Quit Smoking Clinic by Ministry of Health. One of the latest programs is the mQuit Program by the Ministry of Health. Smokers from all around the country are encouraged to join the mQuit programs as it will help and assist them to fully recover from being a smoker. MQuit program provides customized plans to quit smoking, resources and advice on quitting the habit, comprehensive follow-up sessions by dedicated healthcare professionals and nicotine replacement therapy to facilitate smoking cessation.

By year starting from 2015, the number of smokers registered under mQuit program has been increasing. It has been shown that in 2015, total patients of 7757 have registered under the program and until 2016, the total patients reached up to 10791. During the first establishment of the mQuit program, they have encountered several challenges but managed to overcome by going through discussion with related partners and applying remedial measures (Noraryana Hassan et.al, 2018). In the private sector, there are 162 healthcare providers operating mQuit services while in the public sector and private health it has been shown an increasing from 8946 in 2012 to 38704 in 2016 (Tharayana, 2018)

Several campaign in Malaysia related to smoking awareness also conducted such as the “Tak Nak” or “Say No” to cigarettes. These Health Ministry campaign has been running since 2004 until 2010. As for among children, the Smoke-Free Generation Initiative is established to initiate children born from 2009 onwards to never smoke. KOTAK program by conducting annual screenings, brief preventions and interventions

and advanced interventions has helped reduce smoking among school children (Tharayana, 2018).

vi. Knowledge on smoking cessation

Knowledge is defined as understanding of or information about a subject that you get by experience or study, either known by one person or by people generally (Cambridge Academic Content Dictionary, 2019). In this research, the knowledge mainly focused on participant's knowledge of smoking cessation and how does this can be manipulated before and after joining awareness program.

Different places and location around the globe prove to be having different level of knowledge mainly in smoking cessation because of several reasons. These included the role of policy maker, government systems and initiatives, and exposure to the knowledge itself. In Gaza, Palestine, the level of knowledge of smoking cessation among their civilians is not significant. This is due to their environment and current state of the country. Among university students in Gaza, Palestine, there is lack of knowledge about the existing national anti-smoking legislation. It seems also there is no initiative or centers for smoking cessation in Gaza (Shomar et al., 2014).

In Malaysia, the government have conducted various policy and initiatives to encourage smoking cessation. Various campaign and program also have been conducted in multiple level of the systems including school children, teenager and adults in corporate or organizations. All of these is to ensure the people can obtain important and necessary information regarding smoking so that it can encourage them to avoid dangerous habit for them. A study conducted in local university shows that the level of knowledge among local

students is still low as they failed to fully understand the danger of smoking and the fact that the prevalence of smoker is still not significantly reduced and still considered as high. Due to this occurrence, it is necessary to raise awareness through various campaign including media such as TV, radio and newspaper (R. Al-Naggar et al., 2011). In addition, since the use of media social have been expanding among young people this day, it can be a useful media to spread awareness about the health effect of smoking.

A study conducted in International Islamic University Malaysia Kuantan shows that respondents (including students and staffs) has good knowledge and practices towards smoking (Izzati. N et al., 2016). According to a study in MSU, Shah Alam, smokers tend to have much lower level of knowledge compared to non-smokers ($P < 0.05$). (R. Al-Naggar et al., 2011). Pharmacy students in IIUM tend to have good knowledge on smoking habits (43%) (A. Al-Shami et al., 2018). From previous study conducted among students in Chongqing, China in shows same results where non-smoker have better knowledge on smoking related topics obtained from the network compared to smoker (X. Xu et al., 2016).

vii. Attitude on smoking cessation

Attitude is defined as a feeling or opinion about something or someone, or a way of behaving caused by certain factors (Cambridge Academic Content Dictionary, 2019). In this research, it is the measurement of the participant's attitude towards smoking cessation and does the level of the attitude can be change after spreading awareness into them. Attitude towards smoking cessation may vary based on different factors. A study conducted among medical students in Saudi Arabia shows the students showed positive attitude in minimizing the act of passive smoking and show their support of banning smoking in

public areas (A. Al-Haqwi et al., 2010). From previous study conducted among 332 Hungarian dental professionals and students shows that non-smoker have better attitude with 62% of dentist and 67% of students agreed giving up smoking and smoking prevention because they considered it as very important (Z. Zalai, 2012). Another study shows the students and staffs in International Islamic University Kuantan (IIUMK) shows moderate attitude towards smoking habit (Izzati. N et al., 2016).

viii. Perception on smoking cessation

Perception is defined as a belief, often held by many people and based on how things seem (Cambridge Academic Content Dictionary, 2019). Perception is a mode of apprehending reality and experiences through the senses, thus enabling discernment of figure, form, language, behavior and action (Patricia L. Muhall, 2012). In order to understand health behavior including the attitude, we refer to the Theory of Planned Behavior (TPB). From this theory, attitude, subjective norms and perceived behavioral control over the behavior. In this research, smoking cessation treatment or awareness is used to allow motivation to act out the behavior (Webb et al., 2010).

A study in MSU, Shah Alam mentioned that smokers has wrong perception or beliefs on smoking and shows more negative attitude towards tobacco control policies compared to non-smokers (R. Al-Naggar et al., 2011). Previous study in local university among pharmacy students shows that more than half of the groups have positive attitude and practice towards smoking habits (A. Al-Shami et al., 2018). A study was conducted among 600 Palestinian adult population in the Gaza Strip revealed that the most influential factors to drive smoker to quit smoking is their family (Eldalo, 2016). A previous study

conducted among dental graduates in India shows the same result where there is were significant association between perceived effectiveness of tobacco cessation with gender ($P = 0.05$) in which the results shows association between gender and perception on tobacco cessation (Rajesh, 2012). Other study shows that cigarette packaging warnings may experience a loss of effectiveness in the future and eventually reduce the impact significantly to the smoker behavior (A. Drovandi et al., 2019). A study conducted among 5385 adults in Serbia where there is significant difference ($p < 0.05$) in risk perception according to smoking status (Kilibarda et al., 2019).

ix. Factors affecting knowledge, attitude and perception of smoking cessation

There are various reasons or factors that causes difference in the level of knowledge, attitude and perception of a person's view on smoking cessation. From previous studies, many researches had shown that a non-smoker has more positive attitude and perception as well as higher knowledge on smoking cessation compared to a smoker. A study among pharmacist in Taiwan shows that pharmacist who were non-smoker had more positive attituded toward their role in smoking cessation compared to pharmacist who smoke (J. Chang et al., 2012). This shows that they are aware of the danger on smoking and they tend to avoid themselves into smoking habit. Their role as a pharmacist also influence their attitude which prompt them to advice other people to avoid smoking.

The role of clinicians plays an important part in smoking cessation. Their presence may effectively affect the level of knowledge and attitude among smokers. This group should provide brief intervention on every session with their patients. According to a research in Taiwan, the action may enhance motivation among smoker patients of future

attempts at quitting (J. Chang et al., 2012). Contrary in Malaysia, it shows that simple advice from a physician provide little effect on smoking cessation rates and there is only small additional benefit of more intensive interventions over very brief interventions (Malaysian Family Physician, Volume 14 No.2, 2019). Moreover, we should not discard this initiative as it is still crucial in order to increase awareness among smokers and all they need is continuous support from time to time from the professional group.

Effectiveness of smoking awareness program also play a major role in ensuring the level of knowledge, attitude and perception among smokers. There are two side which is the deliverer and the receiver of the message. Deliverer refers to professionals such as doctor, physician, specialist and many others who are from the related field. Receiver refers to smokers who seek to stop smoking. A good smoking educational program may improve knowledge of the subject material (A. Zillich et al., 2004). Certain educational program may prove to be not effective because of the deliverer itself. It is important that they are competent in related fields. Awareness program may help to boost participants confident in delivering the message through improving their knowledge and attitude. (A. Zillich et al., 2004). In order to fully affect the knowledge and attitude of smoker participants, it is highly crucial that the health professional also is not a smoker. A health professional's smoking status is associated with their attitude toward their role in smoking cessation and with providing advice on smoking cessation (J. Chang et al., 2012).

Education level may influence the knowledge and understanding of smoking hazard among smokers. According to research in Chongqing, China, highly educated men have shown a decreasing trend compared to those with lesser educational background and the reason is that people with higher education have the capabilities to understand health information better which may translate the information into further action. Besides, they

have better self-control and cognition on the importance of smoking cessation for disease management (X. Xu et al., 2015). A study research locally on association of different ethnics with perception on smoking cessation. The results show that Chinese are more prone to start smoking cessation while Indian are the least to initiate smoking cessation (HRR = 0.40, 95%CI 0.25-0.64) which proves that different ethnics have different perception level of smoking cessation (Maria et al., 2012).

Previous study in International Islamic University Malaysia Kuantan (IIUMK) shows that gender, education level and smoking status are the factors to affect attitudes towards smoking (Izzati. N et al., 2016). According to a study conducted in Management and Science University, the significant predictor on the factors that affects attitude on smoking were gender, age & semester of study (R. Al-Naggar et al., 2011). A study in IIUM among pharmacy students shows that smoking prevalence is much higher among males compared to females which indicate gender as one of the factors influencing knowledge, attitude and perception of smoking cessation (A. Al-Shami et al., 2018). This claim is supported by J. Eniojukan (2015) studies among pharmacy students in Niger Delta University, South Nigeria. A study conducted among medical college students in China also claims that male smoker is 45.1% while female only 6.0% and other factors such as age and year of college affects the smoking prevalence (Chen et al., 2016). A study conducted in China among 13,354 respondents where it shows there is association between smoking status and knowledge in which the never smoker were compared with current smokers ($P < 0.05$) (Cheng et al., 2015).

Perception on smoking cessation may influence by various factor such as smoking health warning such as on the cigarette box and other media. According to study in Muar, 58.3% of smoker agreed that cigarette health warning did not influence them to prevent or

stop smoking as it does not motivate them at all (R. Rillera et al., 2017). This shows that graphic content of smoking habit may not effectively alter adult smoker's perception towards smoking cessation. On the contrary, use of graphic image proves to be effective among youth smoker. Comprehensive health warning labels are effective against youth and it helps prevent them to even start smoking in the first place and the reason is the label itself evoke strong emotional response to them (Meg Riordan, 2013). In England, smokers from different age group were asked about smoking cessation where age before 30 and after 50 tend to initiate smoking cessation compared to those age between 30 to 50 (Fidler et al., 2013).

Table 2.1: Literature Review Summary Table

	Author	Sample Size	Location of Study	Findings
Knowledge	Shomar et al., 2014	1,104	Gaza Strip, Palestine	there is lack of knowledge about the existing national anti-smoking legislation among students in Gaza.
	Al-Naggar et al., 2011	119	MSU, Shah Alam	smokers tend to have much lower level of knowledge compared to non-smokers (P <0.05).
	Izzati. N et al., 2016	115	International Islamic University Malaysia Kuantan (IIUMK)	63.5% (73) of the respondents have good knowledge scores (22-26) regarding smoking.
	A. Al-Shami et al., 2018	251	International Islamic University Malaysia (IIUM)	Pharmacy students in IIUM tend to have good knowledge on smoking habits (43%).
	X. Xu et al., 2016	1297	Chongqing, China	Finding results where non-smoker have better knowledge on smoking related topics obtained from the network compared to smoker.
Attitude	A. Al-Haqwi et al., 2010	215	Riyadh, Saudi Arabia	A study conducted among medical students in Saudi Arabia shows the students showed positive attitude in minimizing the act of passive smoking and show their support of banning smoking in public areas.
	Z. Zalai, 2012	332	Hungary	study conducted among Hungarian dental professionals and students shows that non-smoker have better attitude with 62% of dentist and 67% of students agreed giving up smoking and smoking prevention because they considered it as very important.
Perception	R. Al-Naggar et al., 2011	119	MSU, Shah Alam	A study in MSU, Shah Alam mentioned that smokers has wrong perception or beliefs on smoking and shows more negative attitude towards tobacco control policies compared to non-smokers (P < 0.05).
	Eldalo, 2016	600	Gaza Strip, Palestine	A study was conducted among Palestinian adult population in the Gaza Strip revealed that the most influential factors to drive smoker to quit smoking is their family.

Table 2.1 (Continue): Literature Review Summary Table

Perception	Rajesh, 2012	100	Manipal College of Dental Sciences, Manipal University	A previous study conducted among dental graduates in India shows result where there is significant association between perceived effectiveness of tobacco cessation with gender ($P = 0.05$) in which the results shows association between gender and perception on tobacco cessation.
	A. Drovandi et al., 2019	678	Australia, Canada, United Kingdom, and the United States	Study shows that cigarette packaging warnings may experience a loss of effectiveness in the future and eventually reduce the impact significantly to the smoker behavior.
	Kilibarda et al., 2019	5385	Serbia	A study conducted shows significant difference ($p < 0.05$) in risk perception according to smoking status.
Factors Affecting Knowledge, Attitude & Perception	J. Chang et al., 2012	769	Taiwan	A study among pharmacist in Taiwan shows that pharmacist who were non-smoker had more positive attituded toward their role in smoking cessation compared to pharmacist who smoke ($P < 0.05$).
				A health professional's smoking status is associated with their attitude toward their role in smoking cessation and with providing advice on smoking cessation.
				A good smoking educational program may improve knowledge of the subject material.
	A. Zillich et al., 2004	51	Iowa Pharmacy Association	Awareness program may help to boost participants confident in delivering the message through improving their knowledge and attitude
	X. Xu et al., 2015	1297	Chongqing, China	Highly educated men have shown a decreasing trend compared to those with lesser educational background because people with higher education have the capabilities to understand health information better which may translate the information into further action. They have better self-control and cognition on the importance of smoking cessation.

Table 2.1 (Continue): Literature Review Summary Table

Factors Affecting Knowledge, Attitude & Perception	Izzati. N et al., 2016	115	International Islamic University Malaysia Kuantan (IIUMK)	Study in International Islamic University Malaysia Kuantan (IIUMK) shows that gender, education level and smoking status are the factors to affect attitudes towards smoking.
	R. Al-Naggar et al., 2011	119	MSU, Shah Alam	According to a study in MSU, Shah Alam, smokers tend to have much lower level of knowledge compared to non-smokers (P <0.05).
	A. Al-Shami et al., 2018	251	International Islamic University Malaysia (IIUM)	Smoking prevalence is much higher among males compared to females which indicate gender as one of the factors influencing knowledge, attitude and perception of smoking cessation.
	J. Eniojukan, 2015	210	Niger Delta University, South Nigeria	Studies among pharmacy students in Niger Delta University, South Nigeria indicates that gender is one of the influenced factors for KAP.
	Chen et al., 2016		China	A study conducted among medical college students in China also claims that male smoker is 45.1% while female only 6.0% and other factors such as age and year of college affects the smoking prevalence.
	Cheng et al., 2015	13354	China	A study conducted in China where it shows there is association between smoking status and knowledge in which the never smoker was compared with current smokers (P < 0.05).
	R. Rillera & T. Subramaniam, 2017	383	Bandar Maharani, Muar	According to study in Muar, 58.3% of smoker agreed that cigarette health warning did not influence them to prevent or stop smoking as it does not motivate them at all.
	Maria et al., 2012		Malaysia	The results show that Chinese are more prone to start smoking cessation while Indian are the least to initiate smoking cessation (HRR = 0.40, 95%CI 0.25-0.64) which proves that different ethics have different perception level of smoking cessation.
	Fidler et al., 2013		England	Smokers from different age group were asked about smoking cessation where age before 30 and after 50 tend to initiate smoking cessation compared to those age between 30 to 50.

Table 2.1 (Continue): Literature Review Summary Table

Factors Affecting Knowledge, Attitude & Perception	Rozita, 2009		Malaysia	There is no significant difference ($p > 0.05$) in attitude scores between Malays, Indians and Bumiputera but there is significant difference ($p = 0.01$) between other races with Chinese where Chinese have greater attitude scores towards smoking compared to other races.
				Knowledge and attitude levels differ according to smoking status
	Edwards et al., 2007	3091	Australia	Cinema patron age between 12 – 24, where in relative to age, their perception is statistically significant ($p = 0.003$) when asked about whether they were likely to smoke in 12 months or not.

CHAPTER 3

METHODOLOGY

3.1 Study location

The study was conducted in Universiti Putra Malaysia Kampus Serdang. The university is located in the state of Selangor.

3.2 Study design

This is a Cross sectional research design where knowledge, attitude and perception (KAP) are measured using set of standardized questionnaires to determine their current understanding on smoking cessation.

3.3 Study sampling

3.3.1 Sampling population

The participants for this study were among undergraduate students currently studying in Universiti Putra Malaysia.

3.3.2 Sampling frame

The sample frame in this study was all the randomly chosen undergraduate students from different faculty and college around the campus.

3.3.3 Sampling Method

The sampling method used to select the undergraduate students for the study is simple random sampling where students are randomly chooses to participate in the questionnaires survey. To effectively cover the whole campus, the survey will be conducted online and distributed through various social media platform to reach students from all faculties.

3.3.4 Inclusion Criteria

The inclusion criteria for this study is undergraduate students who is currently studying in Universiti Putra Malaysia Kampus Serdang.

3.3.5 Exclusion Criteria

The exclusion criteria for this research are those who does not agree with the consent form.

3.3.6 Sample Size

According to the specific objective,

- 1) To determine the level of knowledge, attitude and perception of smoking cessation among smoking undergraduate students.
- 2) To determine the level of knowledge, attitude and perception of smoking cessation among non-smoking undergraduate students.

A sample size calculation was carried out using the sample size formula of proportion of two groups (Lwanga & Lemeshow, 1991).

$$n = \frac{\left\{ Z_{1-\frac{\alpha}{2}} \sqrt{2P(1-P)} + Z_{1-\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)} \right\}^2}{(P_1 - P_2)^2}$$

Where:

n = Sample size

$Z_{1-\frac{\alpha}{2}}$ = Standardized value for confidence interval, 95% CI = 1.96

$Z_{1-\beta}$ = Standardized value for Power, 80% of power = 0.84

P = Margin of error = 0.05

P_1 = Estimated proportion (larger)

P_2 = Estimated proportion (smaller)

Based on knowledge proportion on smoking cessation (Referred from A. Moysidou, K. Farsalinos & V. Voudris, 2016)

$P_1 =$ Proportion of good knowledge on smoking = 0.16

$P_2 =$ Proportion of poor knowledge on smoking = 0.015

$$n = \frac{\{1.96\sqrt{2(0.05)(1-0.05)} + 0.84\sqrt{0.16(1-0.16) + 0.015(1-0.015)}\}^2}{(0.16-0.015)^2}$$

$$n_1 = 36$$

$$\text{two proportions} = 72$$

Based on attitude proportion on smoking cessation (Referred from K. Awan, 2015)

$P_1 =$ Proportion of GDP agreed on smoking prevention = 0.32

$P_2 =$ Proportion of Dental students agreed on smoking prevention = 0.23

$$n = \frac{\{1.96\sqrt{2(0.05)(1-0.05)} + 0.84\sqrt{0.32(1-0.32) + 0.23(1-0.23)}\}^2}{(0.32-0.23)^2}$$

$$n_2 = 157$$

$$\text{two proportions} = 314$$

Based on perception proportion on smoking cessation (Referred from J. Fitzgerald, I.

Poureslami & J. Shum, 2015)

$P_1 =$ Proportion of female believe smoking as cultural habit = 0.57

$P_2 =$ Proportion of male believe smoking as cultural habit = 0.34

$$n = \frac{\{1.96\sqrt{2(0.05)(1-0.05)} + 0.84\sqrt{0.57(1-0.57) + 0.34(1-0.34)}\}^2}{(0.57-0.34)^2}$$

$$n_3 = 26$$

$$\text{two proportions} = 52$$

Thus, this is the sample size calculated based on the objectives in this study. The proportion was taken from previous similar study on smoking cessation. A minimum sample size of 314 respondents shall be recruited to participate for the survey in order to fulfill this study. Assuming 20% of attrition, the final sample size would be **377 respondents**.

3.4 Study Instrumentation

3.4.1 Questionnaires

A set of self-administered questionnaires with close-response format of the questions was adapted and modified by using set of questions from previous study (X. Xu, L. Liu, M. Sharma, Y. Zao, 2015). The questionnaire was adapted from the International Journal of Environmental Research and Public Health. A research with similar background has been conducted in China using the same set of questionnaires. Thus, it is reliable to determine the level of knowledge, attitude and perception of smoking cessation among undergraduate students. The survey was transformed into online survey to be able being distributed online through social media platform. The Malay version of the questionnaire was used since it is the mother language and can easily be understood by all of the respondent. The sections in the questionnaire was divided into four sections which is Section A, Section B, Section C, Section D and Section E. Section A included the socio-

demographic information of the respondent such as age, gender, race, faculty, year of study, smoking status and type of smoking tool used.

In Section B, the questions related to basic knowledge and information about smoking. The questions included definition, health related disease, health effects of smoking and exposure to second-hand smoke. They will be given option whether 'Yes', 'No' and 'Do not know' for each statement given in this part of the questionnaires. Below is the scoring system used in this part:

- 'Yes' answer = 1 point
- 'No' or 'Do not know' = 0 point

The obtained score will be converted in the form of score level. Mean score and standard deviation of the respondent group will be used to classify subject into different level.

- Good: $\text{Score} > \text{Mean} + \text{S.D}$
- Moderate: $\text{Score} = \text{Mean} \pm \text{S.D}$
- Low: $\text{Score} < \text{Mean} - \text{S.D}$

In Section C, the questions are related to the level of attitudes of undergraduate students towards the level of agreement on smoking cessation. It has been categorized from "strongly disagree" to "strongly agree" using point system of Likert scale. The point is as below:

- Strongly Disagree = 1
- Disagree = 2
- Neutral = 3
- Agree = 4
- Strongly Agree = 5

The score also will be converted into score level. The respondent level will be classified according to their mean score and standard deviation.

- Good: Score $>$ Mean + S.D
- Moderate: Score = Mean \pm S.D
- Low: Score $<$ Mean – S.D

The questions in Section D is to determine the level of perception on smoking cessation among undergraduate students. This section focused on the perception in practicing the steps for smoking cessation and prevention in their daily basis. The option was categorized using a three-point Likert scale where often=2, seldom=1 and never=0.

- Good: Score $>$ Mean + S.D
- Moderate: Score = Mean \pm S.D
- Low: Score $<$ Mean – S.D

Section E is specified for identifying the factors on why smokers insisted on not quitting smoking. In this section, participants will be given several choices of possibility on the reason for insisting on quitting smoking. There will be a total of 5 choices of answer to be choose by the participants. The choice of answer will reflect the reasons of the participant on the related factor.

3.4.2 Quality Assurance & Quality Check (QA/QC)

For Quality Check (QC), a Pre-test for the newly developed questionnaire has been conducted for the test of reliability and validity. Pre-test was conducted using Statistical Package for the Social Sciences (SPSS). After the test, the results showed that the value for Cronbach's Alpha for each variable exceeded 0.7. Value of 0.7 is the minimum value for a questionnaire to be considered as reliable and valid to be use. The pre-test was done on 3rd of March 2020 and conducted among Reserve Officer Training Unit (ROTU) which belongs under Reserve Unit of Angkatan Tentera Malaysia (ATM). 15 participants (in accordance to 10% of sample size) were chosen from Markas Pasukan Latihan Pegawai Simpanan (PALAPES), UPM. Researcher have contacted with the officer in charge in the base. The officer agreed to help distribute the questionnaires among 15 personnel who smokes. In one day, the data managed to be collected and proceed to be analyzed. Table below shows the result for the pre-test for each variable.

Table 3.4.2.1: Pre-test for Knowledge:

Reliability Test for Knowledge							
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items				N of Items		
0.941	0.942				15		
Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Item Means	1.646	1.250	1.938	0.688	1.550	0.036	15
Item Variances	0.466	0.063	0.783	0.721	12.533	0.046	15
Inter-Item Covariances	0.240	-0.017	0.567	0.583	-34.000	0.022	15
Inter-Item Correlations	0.521	-0.098	1.000	1.098	-10.247	0.055	15
Scale Statistics							
Mean	Variance		Std Deviation		N of Items		
24.69	57.296		7.569		15		

Based on Table 3.4.2.1, the results shown the reliability test for knowledge using Cronbach's Alpha. The value of Cronbach's Alpha is 0.941 which indicates that the questions to measure knowledge in the questionnaire is reliable. A total of 15 questions were prepared to measure the knowledge.

Table 3.4.2.2: Pre-test for Attitude

Reliability Test for Attitude							
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items				N of Items		
0.737	0.766				6		
Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Item Means	0.906	0.500	1.938	1.438	3.875	0.270	6
Item Variances	0.540	0.063	1.267	1.204	20.267	0.163	6
Inter-Item Covariances	0.172	-0.217	0.433	0.650	-2.000	0.029	6
Inter-Item Correlations	0.353	-0.770	0.864	1.634	-1.122	0.151	6
Scale Statistics							
	Mean	Variance	Std Deviation	N of Items			
	5.44	8.396	2.898	6			

Based on Table 3.4.2.2, the results shown the reliability test for attitude using Cronbach's Alpha. The value for Cronbach's Alpha is 0.737 which indicates that the questions to measure attitude used in the questionnaire is reliable. A total of 6 attitude-related questions were provided in the questionnaire.

Table 3.4.2.3: Pre-test for Perception

Reliability Test for Perception							
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items				N of Items		
0.710	0.734				4		
Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Item Means	1.563	0.938	1.875	0.938	2.000	0.195	4
Item Variances	0.273	0.117	1.463	0.346	3.964	0.033	4
Inter-Item Covariances	0.103	0.008	0.238	0.229	28.500	0.006	4
Inter-Item Correlations	0.408	0.039	0.555	0.516	14.314	0.036	4
Scale Statistics							
	Mean	Variance	Std Deviation	N of Items			
	6.25	2.333	1.528	4			

Based on Table 3.4.2.3, the results shown the reliability test for perception using Cronbach's Alpha. The value for Cronbach's Alpha is 0.710 which indicates that the questions to measure perception used in the questionnaire is reliable. A total of 4 perception-related questions were provided in the questionnaire.

3.5 Data Analysis

All of the collected data will be analyzed using Statistical Package for the Social Sciences (SPSS). For Specific Objective 1, which is to identify the socio-demographic data among undergraduate students, descriptive analysis was used. For Specific Objectives 2 & 3 which is to determine the level of knowledge, attitude and perception of smoking cessation among smoker and non-smoker undergraduate students, descriptive analysis was used as it only requires to obtain the score for each participant using the questionnaire. For Specific Objectives 4 which is to compare the difference of mean for KAP between smoker and non-smoker undergraduate students, Independent T-Test analysis was used for parametric testing while for Non-Parametric testing, Mann-Whitney U Test was used. For Specific Objectives 5 which is to identify the factors on why smokers insisted on quitting smoking, Descriptive Analysis was used.

Table 3.5.1: Data Analysis Summary Table

Specific Objectives	Statistical Analysis	
To identify the socio-demographic data among undergraduate students.	Descriptive Analysis	
To determine the level of knowledge, attitude and perception of smoking cessation among smoker undergraduate students.	Descriptive Analysis	
To determine the level of knowledge, attitude and perception of smoking cessation among non-smoker undergraduate students	Descriptive Analysis	
To compare the difference of mean for knowledge, attitude and perception between smoker and non-smoker undergraduate students.	Parametric	Non-parametric
	Independent t-test	Mann-Whitney test
To identify the factors on why smokers insisted on quitting smoking.	Descriptive Analysis	
To determine the association of socio demographic factors with knowledge, attitude and perception of undergraduate students.	Chi-Square	

3.6 Study Ethics

Before conducting the interview using questionnaires, all of the respondent will be given full clarification about the research and consent form to be fill by them. This research requires no biological sample to be taken from the respondents. Moreover, the whole research was submitted and reviewed by Ethics Committee for Research Involving Human Subjects Universiti Putra Malaysia (UPM), Serdang.

The benefits of the study to the subject or participants of the research is that they will gain new knowledges on topic related to smoking. As for the results gained from this study, it can help develop more effective and impactful smoking awareness program to help smokers in their effort to stop smoking. The results obtained from this study may help to identify the level of knowledge, attitude and perception on smoking cessation among the subjects which can be used to make an improvement for any smoking awareness program to fill the gap. Besides, this step will help us to reduce the prevalence of smoking among adults in Malaysia.

3.7 Expected Outcome

- i. There is a significant difference for the level of knowledge, attitude and perception on smoking cessation among undergraduate students who smokes and not smoking.
- ii. Smokers insisted on not quitting smoking although knowing the danger because they are affected by other factors for specific reasons.
- iii. Gender and Smoking status are the factors that influence the level of knowledge, attitude and perception of smoking cessation among undergraduate students.

CHAPTER 4

RESULTS

4.1 To identify the socio-demographic information of selected undergraduate respondents.

There was a total of 377 respondents answered the survey online form completely. 108 (28.6%) are males while 269 (71.4%) are females. The age of respondents varies between 19 – 29 with the mean of 22.34 ± 1.43 . For group of ethics, 362 (96.0%) are Malays, 6 (1.6%) Chinese, 1 (0.3%) is Indian and 8 (2.1%) Bumiputera. A total of 15 faculties with percentages of respondents from each faculty. Faculty with the most respondents is Faculty of Medicine and Health Sciences with 84 (22.3%) respondents while the lowest is from Faculty of Design & Architecture with 4 (1.1%) respondents. Respondents among 1st year, 2nd year, 3rd year, 4th year and 5th year are 68 (18.0%), 72 (19.1%), 69 (18.3%), 157 (41.6%) and 11 (2.9%) respectively. For smoking status, non-smoker consisted of 334 (88.6%) respondents, active smoker is 19 (5.0%) while ex-smoker is 24 (6.4%). Data on tools included from both active and ex-smoker shows that 19 (5.0%) is a cigarette use, 13 (3.4%) is a vape user while 11 (3.0%) used both cigarette and vape.

Table 1 shows the summary of the socio-demographic variables. Table 4.1.1 summarize the socio-demographic data of the respondents.

Table 4.1.1 below shows the respondents socio-demographic information:

Respondents characteristics of UPM undergraduate students in the study sample (N = 377)		
Sociodemographic characteristics	Frequency	Percentage (%)
Age		
19 – 24	351	93.1
25 – 29	26	6.9
Mean ± SD	22.34 ± 1.43	
Gender		
Male	108	28.6
Female	269	71.4
Race		
Malay	362	96.0
Chinese	6	1.6
Indian	1	0.3
Bumiputera	8	2.1
Others	0	0.0
Faculty		
• Faculty of Agriculture	34	9.0
• Faculty of Forestry	22	5.8
• Faculty of Veterinary Medicine	10	2.7
• School of Business and Economy	22	5.8
• Faculty of Engineering	31	8.2
• Faculty of Educational Studies	28	7.4
• Faculty of Science	39	10.3
• Faculty of Food Science and Technology	17	4.5
• Faculty of Human Ecology	13	3.4
• Faculty of Modern Languages & Communication	32	8.5
• Faculty of Design & Architecture	4	1.1

Table 4.1.1 (Continue) below shows the respondents socio-demographic information:

Sociodemographic characteristics	Frequency	Percentage (%)
Faculty		
• Faculty of Medicine and Health Sciences	84	22.3
• Faculty of Computer Science & Information Technology	22	5.8
• Faculty of Biotechnology & Biomolecular Sciences	13	3.4
• Faculty of Environmental Studies	6	1.6
Year of Study		
1 st Year	68	18.0
2 nd Year	72	19.1
3 rd Year	69	18.3
4 th Year	157	41.6
5 th Year	11	2.9
Smoking Status		
Non smoker	334	88.6
Active smoker	19	5.0
Ex-smoker	24	6.4
Tools (Included Ex-smoker)		
Cigarette	19	5.0
Vape	13	3.4
Cigarette and Vape	11	3.0

4.2 To determine the level of knowledge, attitude and perception of smoking cessation among smoking undergraduate students.

In order to determine their level for each variable, a scoring system were used to classify them as either 'Good', 'Moderate' or 'Low'. The group classification is based on the variables Means and Standard Deviation (SD). Overall, they have moderate knowledge level with the highest percentage achieved is 94.7 % from Question 13 (Tar may cause smoke-related illness). According to all the questions, respondents have good knowledge on effects of smoking to health and also the effects of second-hand smoke but for the part where the questions ask about chemicals that cause smoke-related illness is slightly lower compared to other parts. One of the major indicators is 63.2% of smoker believed that tobacco is not related smoke-related illness where in fact tobacco is one of the main contributors to smoke-related illness. The finding indicates that smoker does not have good awareness and knowledge on tobacco.

Overall, they have moderate knowledge level with the highest percentage achieved is 94.7 % from Question 13 (Tar may cause smoke-related illness). According to all the questions, respondents have good knowledge on effects of smoking to health and also the effects of second-hand smoke but for the part where the questions ask about chemicals that cause smoke-related illness is slightly lower compared to other parts. One of the major indicators is 63.2% of smoker believed that tobacco is not related smoke-related illness where in fact tobacco is one of the main contributors to smoke-related illness. The finding indicates that smoker does not have good awareness and knowledge on tobacco. Table

4.2.1 summarize the level of knowledge among smokers for each question in the questionnaire.

Table 4.2.1 below shows the knowledge on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
Smoking can cause lung cancer		
Yes	17	89.5
No	0	0.0
Not Sure	2	10.5
Smoking can cause mouth cancer		
Yes	15	78.9
No	0	0.0
Not Sure	4	21.1
Smoking can cause heart failure		
Yes	15	78.9
No	1	5.3
Not Sure	3	15.8
Smoking can cause stroke		
Yes	14	73.7
No	1	5.3
Not Sure	4	21.1
Smoking can cause infertility		
Yes	10	52.6
No	4	21.1
Not Sure	5	26.3

Table 4.2.1 (Continue) below shows the knowledge on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
Second-hand smoke may lead to lung cancer to smoker		
Yes	14	73.7
No	2	10.5
Not Sure	2	15.8
Second-hand smoke may lead to lung cancer to children		
Yes	16	84.2
No	0	0.0
Not Sure	3	15.8
Second-hand smoke may lead to heart disease		
Yes	13	68.4
No	2	10.5
Not Sure	4	21.1
Second-hand smoke may lead to birth of underweight baby causes by exposure of mother to cigarettes smoke		
Yes	14	73.7
No	0	0.0
Not Sure	5	26.3

Table 4.2.1 (Continue) below shows the knowledge on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
Second-hand smoke may cause serious illnesses to someone health		
Yes	16	84.2
No	0	0.0
Not Sure	3	15.8
Tobacco may cause smoke-related illness		
Yes	4	21.1
No	12	63.2
Not Sure	3	15.8
Carbon Monoxide may cause smoke-related illness		
Yes	13	68.4
No	2	10.5
Not Sure	4	21.1
Tar may cause smoke-related illness		
Yes	18	94.7
No	0	0.0
Not Sure	1	5.3
Arsenic may cause smoke-related illness		
Yes	13	68.4
No	0	0.0
Not Sure	6	31.6

Table 4.2.1 (Continue) below shows the knowledge on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
Nitrogen may cause smoke-related		
Illness		
Yes	5	26.3
No	7	36.8
Not Sure	7	36.8

The results of attitude among smoker are based on each question. Highest score with 31.6% of smokers had neutral reaction regarding their health when someone smokes near them. Same goes to their believe on smoking may deteriorate their health with majority of them 36.8% reacted with neutral. 63.2% voted on ‘Strongly Agree’ on third questions which shows close relative plays an important role to alter their attitude. 78.9% of them reacted with ‘strongly agree’ on the fourth question showing that they do believe that smoking may affect greatly to their health and quality of life. Despite their action on continuing smoking, 57.9% of them shows support to encourage smoking cessation program with only 5.3% of them strongly disagree. Table 4.2.2 summarize the level of attitude among smokers.

Table 4.2.2 below shows the attitude on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
I am truly concern about my health especially when there is someone smoking near me		
Strongly Disagree	1	5.3
Disagree	3	15.8
Neutral	6	31.6
Agree	5	26.3
Strongly Agree	4	21.1
I believe that being exposed to Second hand cigarettes smoke may deteriorate my health		
Strongly Disagree	2	10.5
Disagree	1	5.3
Neutral	7	36.8
Agree	5	26.3
Strongly Agree	4	21.1
Families, friends and colleagues believe that I should not smoke cigarette		
Strongly Disagree	0	0.0
Disagree	1	5.3
Neutral	1	5.3
Agree	5	26.3
Strongly Agree	12	63.2

Table 4.2.2 (Continue) below shows the attitude on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
If I stop or never smoking, it would definitely improve my health and quality of life.		
Strongly Disagree	1	5.3
Disagree	1	5.3
Neutral	1	5.3
Agree	1	5.3
Strongly Agree	15	78.9
I support all smoking cessation initiatives that encourages one to quit smoking.		
Strongly Disagree	1	5.3
Disagree	0	0.0
Neutral	2	10.5
Agree	5	26.3
Strongly Agree	11	57.9

The perception among smoker are based on each question. Among the smokers, 57.9% of them seldom discuss out concern regarding harm caused by smoking with their love one. 68.4% of them often think about implications of smoking to their personal health. As for question three, 68.4% of them chose ‘often’ as their answer indicating their concern about the health of other people around them as they smoke. 57.9% of smoker ‘often’ have the desire to avoid or stop smoking. Table 4.2.3 summarized the level of perceptions among smoker.

Table 4.2.3 below shows the perception on smoking cessation among smoker undergraduate students (N=19).

Variables	Frequency	Percentage (%)
I discuss or voice out concern regarding harm caused by smoking with love ones.		
Never	5	26.3
Seldom	11	57.9
Often	3	15.8
I think about the implications of smoking on my personal health		
Never	0	0.0
Seldom	6	31.6
Often	13	68.4
I am concerned about how my smoking habit affects health of people around me.		
Never	1	5.3
Seldom	5	26.3
Often	13	68.4
I have the desire to avoid or stop smoking		
Never	2	10.5
Seldom	6	31.6
Often	11	57.9

Table 4.2.4 below shows the level of knowledge based on group scoring among smoking undergraduate students

Knowledge		
<i>N</i> = 19		
<i>Mean</i> = 12.55		
<i>SD</i> = 2.46		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 14	0	0.0
Moderate (Score = Mean+/- S.D), = 10 - 14	14	73.7
Low (Score < Mean – S.D), < 10	5	26.3

According to table 4.2.4, the mean score for knowledge is 12.55 and the standard deviation is 2.46. Both mean and standard deviation were used to classify the respondents into three groups based on their knowledge level. Good scored above 14. Moderate scored between 10 to 14. While Low scored below 10. From the table, 14 smokers have moderate knowledge (73.7%) and 5 of them categorized as low knowledge (26.3%) while none of them achieved good knowledge level.

Table 4.2.5 below shows the level of attitude based on group scoring among smoking undergraduate students

Attitude		
<i>N = 19</i>		
<i>Mean = 23.44</i>		
<i>SD = 2.11</i>		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 24	1	5.2
Moderate (Score = Mean+/- S.D), 21 - 24	9	47.4
Low (Score < Mean - S.D), < 21	9	47.4

In Table 4.2.5 shows the overall level of attitude among smokers. From the table, the mean score is 23.44 and standard deviation is 2.11. Using both mean and standard deviation, it was used to classify the respondents into three group, Good, Moderate & Low. Among 19 smokers, only 1 (5.2%) of them managed to achieved good level. 9 of them (47.4%) classified in moderate level and the same for low level with 9 of them (47.4%) in the group.

Table 4.2.6 below shows the level of perception based on group scoring among smoking undergraduate students

Perception		
<i>N</i> = 19		
<i>Mean</i> = 5.39		
<i>SD</i> = 2.19		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 7	2	10.5
Moderate (Score = Mean+/- S.D), = 3 - 7	17	89.5
Low (Score < Mean – S.D), < 3	0	0.0

In Table 4.2.6 shows the overall level of perception among smokers. The mean is 5.39 while the standard deviation is 2.19. Both were used to classify respondents into three group based on their score. 2 of them (10.5%) categorized in good level while 17 of them (89.5%) is in moderate level.

4.3 To determine the level of knowledge, attitude and perception of smoking cessation among non-smoking undergraduate students.

Overall results show non-smoker has good knowledge level. Questions related to effect of smoking to health shows that the respondents have good understanding to it. 98.9% of respondents believed smoking may lead to lung cancer which also the highest score among the questions. On a topic related to second-hand smoke, the respondents have a fair knowledge on it based on the answer chose by them. Referring to question 8 about second-hand smoke may lead to heart disease, 81 (22.6%) respondents answered 'Not sure' showing that some of the respondents may not know about second-hand smoke. Questions related to chemical relevant to smoke-related illnesses, answers from respondents shows that they have fairly good knowledge about it. 254 (70.9%) respondents believed tobacco is related to smoke-related illnesses. 217 (60.6%) respondents believed Nitrogen is a chemical that may cause smoke-related illness which in fact the answer in supposed to be 'No'. Nitrogen is not a chemical that may cause smoke-related illnesses. Table 4.3.1 summarized the knowledge level of non-smokers.

Table 4.3.1 below shows the knowledge on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
Smoking can cause lung cancer		
Yes	354	98.9
No	0	0.0
Not Sure	4	1.1

Table 4.3.1 (Continue) below shows the knowledge on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
Smoking can cause mouth cancer		
Yes	351	98.0
No	0	0.0
Not Sure	7	2.0
Smoking can cause heart failure		
Yes	321	89.7
No	11	3.1
Not Sure	26	7.3
Smoking can cause stroke		
Yes	299	83.5
No	8	2.2
Not Sure	51	14.2
Smoking can cause infertility		
Yes	284	79.3
No	11	3.1
Not Sure	63	17.6
Second-hand smoke may lead to lung cancer to smoker		
Yes	327	91.3
No	6	1.7
Not Sure	25	7.0

Table 4.3.1 (Continue) below shows the knowledge on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
Second-hand smoke may lead to lung cancer to children		
Yes	315	88.0
No	6	1.7
Not Sure	37	10.3
Second-hand smoke may lead to heart disease		
Yes	259	72.3
No	18	5.0
Not Sure	81	22.6
Second-hand smoke may lead to birth of underweight baby causes by exposure of mother to cigarettes smoke		
Yes	312	87.2
No	5	1.4
Not Sure	41	11.5
Second-hand smoke may cause serious illnesses to someone health		
Yes	335	93.6
No	5	1.4
Not Sure	18	5.0

Table 4.3.1 (Continue) below shows the knowledge on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
Tobacco may cause smoke-related illness		
Yes	254	70.9
No	37	10.3
Not Sure	67	18.7
Carbon Monoxide may cause smoke-related illness		
Yes	309	86.3
No	10	2.8
Not Sure	39	10.9
Tar may cause smoke-related illness		
Yes	341	95.3
No	3	0.8
Not Sure	14	3.9
Arsenic may cause smoke-related illness		
Yes	256	71.5
No	2	0.6
Not Sure	100	27.9
Nitrogen may cause smoke-related Illness		
Yes	217	60.6
No	26	7.3
Not Sure	115	32.0

The attitude of respondents was based on each question. Overall, non-smoker have a good level of attitude towards smoking cessation. 244 (68.2%) respondents chose ‘Strongly Agree’ for question 1. For question 2, 216 (60.3%) respondents chose ‘Strongly Agree’. For question 3,4 and 5, The frequency of respondents chose ‘Strongly Agree’ are 298 (83.2%), 320 (89.4%) and 327 (91.3) respectively. As for respondents who answered ‘Strongly Disagree’ and ‘Disagree’, a total percent of 0.8%, 1.7%, 1.8%, 1.3% and 0.6% for questions 1,2,3,4 and 5 respectively. It can be concluded that the number of respondents with low attitude is very low and the number of respondents with good knowledge is very high. Table 4.3.2 summarized the level of attitude among non-smokers.

Table 4.3.2 below shows the attitude on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
I am truly concern about my health especially when there is someone smoking near me		
Strongly Disagree	0	0.0
Disagree	3	0.8
Neutral	17	4.7
Agree	94	26.3
Strongly Agree	244	68.2
I believe that being exposed to Second hand cigarettes smoke may deteriorate my health		
Strongly Disagree	1	0.3
Disagree	5	1.4
Neutral	41	11.5
Agree	95	26.5
Strongly Agree	216	60.3

Table 4.3.2 (Continue) below shows the attitude on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
Families, friends and colleagues believe that I should not smoke cigarette		
Strongly Disagree	3	0.8
Disagree	0	0.0
Neutral	10	2.8
Agree	47	13.1
Strongly Agree	298	83.2
If I stop or never smoking, it would definitely improve my health and quality of life.		
Strongly Disagree	1	0.3
Disagree	0	0.0
Neutral	3	0.8
Agree	34	9.5
Strongly Agree	320	89.4
I support all smoking cessation initiatives that encourages one to quit smoking.		
Strongly Disagree	2	0.6
Disagree	0	0.0
Neutral	2	0.6
Agree	27	7.5
Strongly Agree	327	91.3

The perception level of non-smoker was based on each individual questions. Only two questions are relevant to be answered by non-smoker. The overall level seems to show fairly good level of perception among the respondents. In question 1, the most chosen answer is ‘Seldom’ with 214 (59.8%) respondents choosing it. As for question 2, the most chosen answer is ‘Often’ with 235 (65.6%) respondent reacted to it. Table 4.3.3 summarized the perception level of non-smokers.

Table 4.3.3 below shows the perception on smoking cessation among non-smoker undergraduate students (N=358).

Variables	Frequency	Percentage (%)
I discuss or voice out concern regarding harm caused by smoking with love ones.		
Never	94	26.3
Seldom	214	59.8
Often	50	14.0
I think about the implications of smoking on my personal health		
Never	37	10.3
Seldom	86	24.0
Often	235	65.6

Table 4.3.4 below shows the level of knowledge among non-smoking undergraduate students

Knowledge		
<i>N</i> = 358		
<i>Mean</i> = 12.55		
<i>SD</i> = 2.46		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 14	108	30.2
Moderate (Score = Mean+/- SD), = 10 - 14	212	59.2
Low (Score < Mean – S.D), <10	38	10.6

According to table 4.3.4, the mean score for knowledge is 12.55 and the standard deviation is 2.46. Both mean and standard deviation were used to classify the respondents into three groups based on their knowledge level. Good scored above 14. Moderate scored between 10 to 14. While Low scored below 10. From the table, 108 (30.2%) respondents have good knowledge and 212 (59.2%) respondents have moderate level of knowledge. While 38 (10.6%) respondents classified in low level group. Among 358 respondents, majority of them having moderate level of knowledge.

Table 4.3.5 below shows the level of attitude among non-smoking undergraduate students

Attitude		
<i>N</i> = 358		
<i>Mean</i> = 23.44		
<i>SD</i> = 2.11		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 24	170	47.6
Moderate (Score = Mean+/- S.D), = 21 - 24	161	44.9
Low (Score < Mean – S.D), < 21	27	7.5

According to Table 4.3.5, the mean score for attitude is 23.44 and standard deviation (SD) is 2.11. From the classified group, 170 (47.6%) respondents were classified with good attitude. 161 (44.9%) respondents having moderate attitude and 27 (7.5%) respondents having low level of attitude. Respondents with good and moderate level of attitude are fairly distributed but the highest percentage is in the good level.

Table 4.3.6 below shows the level of perception among non-smoking undergraduate students

Perception		
<i>N</i> = 358		
<i>Mean</i> = 2.43		
<i>SD</i> = 1.02		
Scoring Classification	Frequency	Percentage (%)
Good (Score > Mean + S.D), > 3	43	12.0
Moderate (Score = Mean+/- S.D), = 1 - 3	296	82.7
Low (Score < Mean – S.D), < 1	19	5.3

According to Table 4.3.6, the mean score for perception among non-smoking undergraduate students is 2.43 and standard deviation (SD) of 1.02. Good level scoring has 43 (12.0%) respondents. 296 (82.7%) respondents are classified of having moderate level of perception. As for low classification, only 19 (5.3%) respondents classified under here. Overall, majority of the respondents (82.7%) have moderate level of perception towards smoking cessation.

4.4 To identify the difference on mean for knowledge, attitude and perception of smoking cessation between smoker and non-smoker undergraduate students.

Since the data for all the variables were not normally distributed, A non-parametric approach were used which is the Mann-Whitney Test to obtain the results. It shows that the mean knowledge for non-smoker is higher (192.74) compared to smoker (118.50) which indicates non-smoker have better knowledge level than smoker. *U* statistic value (2061.5) and *p*-value ($p = 0.003$) indicates that knowledge level among non-smoker is statistically significantly higher than smoker group. As for attitude, mean knowledge for non-smoker is higher (195.41) compared to smoker (68.18) indicating knowledge among non-smoker is statistically significantly higher ($p < 0.001$) compared to smoker. For perception, smoker have higher mean rank (200.66) compared to non-smoker (188.38) which indicates there are no statistically significant differences ($p = 0.614$). Table 4.4.1 summarized the results for mean differences between smokers and non-smokers.

Table 4.4.1 below shows the mean differences for knowledge, attitude and perception between smoker and non-smoker.

Mean Rank of Knowledge, Attitude and Perception Between Smoker and Non-smoker						
Variables	Groups	N	Mean Rank	Sum of Ranks	<i>U</i> Statistic	<i>p</i>-value
Knowledge	Smoker	19	118.50	2251.50	2061.5	0.003
	Non-smoker	358	192.74	69001.50		
Attitude	Smoker	19	68.18	1295.50	1105.5	0.000
	Non-smoker	358	195.41	69957.50		
Perception	Smoker	19	200.66	3812.50	3179.5	0.614
	Non-smoker	358	188.38	67440.50		

4.5 To identify the factors on why smokers insisted on not quitting smoking although knowing the danger it holds.

For this part, a special question to identify the factors were given to the smokers to answer. It is a multiple responses question thus each respondent can choose more than one answers. Responses were collected from a total of 19 smoker in the populations. Smokers here referred to those who use both conventional cigarette and vape as their smoking tool. The main factor with most voted is smoking is the way to overcome stress and pressure with 15 of smokers (78.9%) voted on it. The second most voted is smoking helps to improve productivity and work quality with 13 of them (68.4%) voted this answer. 10 of them (52.6%) responses with being addicted to smoking habit. 3 smokers (15.8%) responses with being ill and sick when stop smoking but not a single smoker believed that smoking makes them looked manly. Table 4.5.1 summarized the results.

Table 4.5.1 below shows the results for each response from every smoking respondent.

Factors on why smokers insisted on not quitting smoking		
Factors	Frequency	Percentage (%)
I fell ill and sick when stop smoking.	3	15.8
I am addicted to smoking habit.	10	52.6
Smoking is the way for me to overcome stress and pressure.	15	78.9
Smoking helps me to improve productivity and work quality.	13	68.4
Smoking make me looks manly.	0	0.0

4.6 To determine the association of socio-demographic data to the knowledge, attitude and perception of undergraduate students.

For this analysis, the variables chosen from socio demographic data are age, gender, race, year of study, smoking status and tools. All variables were observed of its association with all knowledge, attitude and perception. The test used for data analysis is Pearson Chi-Square. Significant differences were shown when the p-value is less than 0.05 ($p < 0.05$) which indicates there is association between the variables. Based on the results, only a factor has been showing association with knowledge which is the smoking status. Smoking status has been showing association with knowledge level as there is a statistically significant difference between them ($p = 0.001$). As for the other variables, there seems to be not having any association at all with the level of knowledge. Table 4.6.1 summarized the findings.

Table 4.6.1 below shows the results for association of socio demographic with knowledge.

Variables		Knowledge Level				df	p-value
		Low	Moderate	Good	Total		
Age	19 – 24	40	212	99	351	120	0.976
	25 – 29	3	14	9	26		
Gender	Male	13	64	31	108	12	0.464
	Female	30	162	77	269		
Race	Malay	42	216	104	362	36	0.886
	Chinese	1	4	1	6		
	Indian	0	0	1	1		
	Bumiputera	0	6	2	8		

Table 4.6.1 (Continue) below shows the results for association of socio demographic with knowledge.

Variables		Knowledge level				df	p-value
		Low	Moderate	Good	Total		
Year of Study	1 st Year	9	38	21	68	48	0.887
	2 nd Year	5	46	21	72		
	3 rd Year	9	41	19	69		
	4 th Year	18	96	43	157		
	5 th Year	2	5	4	11		
Smoking Status	Non smoker	37	201	96	334	24	0.001
	Active Smoker	5	14	0	19		
	Ex-Smoker	1	11	12	24		
Tools	Cigarette	3	10	6	19	20	0.090
	Vape	1	6	6	13		
	Cigarette and Vape	2	9	0	11		

As for attitude, smoking status is the factor that have been showing association to the level of attitude. There is a statistically significant difference ($p < 0.001$) between the group within. There have seems to be no association between other variables with the level of attitude. Table 4.6.2 summarized the findings.

Table 4.6.2 below shows the results for association of socio demographic with attitude.

Variables		Attitude Level				df	p-value
		Low	Moderate	Good	Total		
Age	19 – 24	33	159	159	351	120	0.991
	25 – 29	3	11	12	26		
Gender	Male	18	50	40	108	12	0.058
	Female	18	120	131	269		
Race	Malay	35	163	164	362	36	0.962
	Chinese	1	5	0	6		
	Indian	0	0	1	1		
	Bumiputera	0	2	6	8		
Year of Study	1 st Year	6	29	33	68	48	0.579
	2 nd Year	5	33	34	72		
	3 rd Year	7	31	31	69		
	4 th Year	17	71	69	157		
	5 th Year	1	6	4	11		

Table 4.6.2 (Continue) below shows the results for association of socio demographic with attitude.

Variables		Attitude Level			Total	df	<i>p</i> -value
		Low	Moderate	Good			
Smoking Status	Non smoker	23	152	159	334	24	0.000
	Active Smoker	9	9	1	19		
	Ex-Smoker	4	9	11	24		
Tools	Cigarette	5	9	5	19	22	0.368
	Vape	4	3	6	13		
	Cigarette and Vape	4	6	1	11		

Results for perceptions shows two variables that shown association with the level of perception among undergraduate students. The variables are gender and smoking status. Both have statistically significant differences, gender ($p < 0.001$) between male and female and smoking status ($p < 0.001$) between non-smoker and smoker. As for other variables, there seems to be not having any association with the level of perception among undergraduate students.

Table 4.6.3 below shows the results for association of socio demographic with perception.

Variables		Perception Level			Total	df	p-value
		Low	Moderate	Good			
Age	19 – 24	18	299	36	353	70	0.198
	25 – 29	1	14	9	24		
Gender	Male	5	91	12	108	7	0.000
	Female	14	222	33	269		
Race	Malay	18	301	43	362	21	0.998
	Chinese	0	5	1	6		
	Indian	0	1	0	1		
	Bumiputera	1	6	1	8		
Year of Study	1 st Year	3	56	9	68	28	0.903
	2 nd Year	4	61	7	72		
	3 rd Year	3	59	7	69		
	4 th Year	9	128	20	157		
	5 th Year	0	9	2	11		

Table 4.6.3 (Continue) below shows the results for association of socio demographic with perception.

Variables		Perception Level				df	<i>p</i> -value
		Low	Moderate	Good	Total		
Smoking	Non smoker	19	273	42	334	14	0.000
Status	Active Smoker	0	17	2	19		
	Ex-Smoker	0	23	1	24		
Tools	Cigarette	0	17	2	19	12	0.391
	Vape	0	13	0	13		
	Cigarette and Vape	0	10	1	11		

CHAPTER 5

DISCUSSION

5.1 To identify the socio-demographic information of selected undergraduate respondents.

A total of 377 respondents participated in the study fitting the exact number from the sample size calculation. The variables included in the socio-demographic information are age, gender, race, faculty, year of study, smoking status and tools. Since the sampling method used is simple random sampling, the number of participants within each group is totally random. During the course of this study, the pandemic COVID-19 occurred and Movement Control Order (MCO) was announced. Majority of the students are not available at the campus. It is difficult to collect data using hard copy questionnaire. To overcome this problem, online survey was used. Using Google Form, the link was distributed using social media platform and groups related to the students.

Among the variables, the number of respondents between sub-group may not be equal or balanced between them. For instance, among the respondents, 108 (28.6%) are male and 269 (71.4%) are female. Among the races, 96.0% are Malay and another 4.0% consisted of Chinese, Indian and Bumiputera. For this study, we successfully collected data with representative from each faculty although the number of respondents varies and not equally balanced but the outcome may represent the whole groups of undergraduates in Universiti Putra Malaysia. As for smoking status, there seems to be a huge gap between

smokers and non-smokers. In this study, ex-smoker is considered as non-smoker. Among the respondents, only 19 (5.0%) is an active smoker and another 358 (95.0%) are non-smoker. These results show that the prevalence of smoker among undergraduate students is low. The results aligned with a previous study from local university obtaining the same results (Izzati. N et al., 2016). Another reason contributed to this outcome is due to the portion of female is much higher compared to male and smoker commonly tend to come from among the male group. These results build on existing evidence from previous study conducted in MSU Shah Alam where most of smokers came from among the male. (Al-Naggar et al., 2011).

5.2 To determine the level of knowledge, attitude and perception of smoking cessation among smoking undergraduate students.

The level of knowledge, attitude and perception among 19 smokers were collected. Out of 377 respondents in this study, only 19 smokers participated because that is the only number of smokers responded to the survey form distributed. For knowledge, the results indicate that the level of knowledge among smokers is moderate. None of them had achieved good level as it is typically hard to achieve. Looking at the questions answered, these smokers have good awareness on effects of smoking to health and fairly knew the effects of second-hand smoke. Unexpectedly, most of the smokers denied the relation of tobacco to smoke-related illnesses. 12 (63.2%) of smoker believed that tobacco is not related smoke-related illness where in fact tobacco is one of the main contributors to smoke-related illness.

As for attitude, 9 (47.4%) of the smokers categorized in moderate and another 9 (47.4%) categorized in low attitude. From the survey also it seems that quite a number of respondents (63.2%) have families, friends and colleagues that believe they should not smoke. This shows that the smokers have positive surrounding and may play roles in affecting their attitude towards smoking. Another finding is 15 (78.9%) smokers strongly agreed that if they stop smoking it would definitely improve their health and quality of life. This data interpreted that smoker attitude is not sufficiently enough which may drive their habit to smoke although with the right exposure and encouragement, it would definitely will be easier to encourage them to stop smoking.

This study also detected a moderate level of perception on smoking cessation among smokers. It was revealed that 13 (68.4%) smokers often think about the implications of smoking on their personal health. This might be due to their current knowledge on the effects of smoking. 13 (68.4%) of them also concerned about how their smoking habit may affects the health of people around them. A previous study conducted in International Islamic University Malaysia Kuantan (IIUMK) also obtained the same results showing good practices towards smoking cessation (Izzati. N et al., 2016). Another study shows a contrary to the results, where smoker in MSU, Shah Alam tend to have a wrong perception or beliefs on smoking and showing more negative attitude towards smoking cessation compared to non-smoker (R. Al-Naggar et al., 2011). This might be due to lack of knowledge and understanding of smoking cessation and also affected by different socio-demographic background.

5.3 To determine the level of knowledge, attitude and perception of smoking cessation among non-smoker undergraduate students.

The level of knowledge, attitude and perception among 358 non-smokers were collected. For knowledge level, 212 (59.2%) of respondents have moderate knowledge while 108 (30.2%) have good knowledge and 38 (10.6%) of them have low knowledge on smoking cessation. Based on each individual question, respondents have no problem answering questions related to health effect of smoking but when it comes to second-hand smoking, most of the respondents are between low to moderate knowledge level. This shows that the information and awareness of second-hand smoke is still not sufficient.

For attitude, majority of the respondents have good attitude (47.6%) while 161 (44.9%) respondents have moderate attitude towards smoking cessation. The fact that they have good attitude might be a contributing factor for them to avoid smoking habit. This results also indicate that 327 respondents (91.3%) support all kind of smoking cessation initiatives which reflects their positive concern towards smoking cessation. A same result reflected from a previous study conducted among medical students in Saudi Arabia where the students show positive attitude toward minimizing passive smoking with their support to ban public areas smoking (A. Al-Haqwi et al., 2010).

For perception, the whole population of non-smoker reflects to be having moderate level of perception where 296 (82.7%) of respondents classified in this group. Only 43 (12.0%) respondents truly have good perception on smoking cessation. Only small group of them that often discuss or voice out concern regarding harm caused by smoking with their family. While majority of them seldom or never discuss the related topics. Many factors may affect the situation. Everyone has different family background or relationship

which may or may not triggered the kind of conversation related to smoking cessation. Those who are not concern with the topic will rarely spend their time to have related conversation.

5.4 The identify the differences on mean for knowledge, attitude and perception of smoking cessation between smoker and non-smoker undergraduate students.

The overall results from Table 4.4.1 shows that non-smoker undergraduate students have higher knowledge and attitude compared to smoker. As for perception, there is no statistically significant differences between smoker and non-smoker but looking at the mean ranks, smoker shows better perception compared to non-smoker. In line with the hypothesis, there are significant differences for both knowledge ($P = 0.003$) and attitude ($P = 0.000$) between smoker and non-smoker except for perception where the hypothesis is rejected due to no significant differences between smoker and non-smoker. The data can be interpreted as non-smoker have more understanding on the effects of smoking, second-hand smoke and chemicals related to smoke-related illnesses. From previous study conducted among students in Chongqing, China in shows same results where non-smoker have better knowledge on smoking related topics obtained from the network compared to smoker ($p < 0.05$) (X. Xu et al., 2016).

Non-smoker have better attitude level compared to smoker. There might be a correlation to the level of knowledge where commonly students with good knowledge tend to develop better attitude towards smoking cessation. This is because their understanding on the issues such as impact of smoking to health may drive them to act accordingly of the expected outcome. From previous study conducted among 332 Hungarian dental

professionals and students shows that non-smoker have better attitude with 62% of dentist and 67% of students agreed giving up smoking and smoking prevention considered as very important (Z. Zalai, 2012). The reliability of this data is impacted by equal sample size. Due to unequal sample size between smokers and non-smokers, the comparison might not fully represent the whole smoker population in UPM. The data might cannot be generalized for the whole smoker population. Nonetheless, the data is still valid due to Mann-Whitney Test neglect the unbalance sample size to process the overall mean ranks.

For perception, smokers show better results compared to non-smoker. The perception question related to whether they discuss or voice out concern regarding harm caused by smoking with their love ones and whether they think about the implications of smoking to their health. This might be related to their concern on how smoking may affect their health and people around them. They understand better the consequences of their action to people around them and themselves. Compared to those who does not smoke, they are not familiar with smoking habit and rarely felt guilty of their habit. Because of that, they rarely think about the consequences of smoking to people around them or themselves. A similar study was conducted among 600 Palestinian adult population in the Gaza Strip revealed that the most influential factors to drive smoker to quit smoking is their family (Eldalo, 2016). This shows smoking habit may alter one perception especially when it comes to family and close one.

5.5 To identify the factors on why smokers insisted on not quitting smoking although knowing the danger it holds.

Based on the results in Table 4.5.1, the most rated factors on not quitting smoking is smoking is the way to overcome stress and pressure. 15 (78.9%) smokers agreed to this statement. The results reflect to the main reason why people start smoking in the first place. These results build on existing evidence where a study conducted In Japan among undergraduate and graduate students shows that subject who smokes help decreased their anxiety and the results from physiological (LPP) and psychological responses suggest that cigarette smoking perhaps can relieve stress (Choi et al., 2015). A previous study shows the same outcome where it was reported that majority of smokers (20%) among 199 respondents voted stress as the most important reason for smoking (Al-Naggar et al., 2011). To support this claim, another similar study conducted in Finland mentioned that stress was the second common reason for smoking after pleasure (Toriola & Myllykangas, 2008). Contrary to the effect, smoking does not actually relieve stress but because of the presence of Nicotine it creates an immediate sense of relaxation making people who smoke believe they actually reducing stress and anxiety (“Smoking and Mental Health”, n.d.). The fact is smoking habit may causes increase in anxiety and tension.

Among all the smokers, 13 (68.4%) respondents answered smoking may help them to improve work productivity and work quality. Increase in work productivity may have connection with the presence of nicotine in smoke. This aligned with a previous study conducted where there are significant effects of nicotine on motor abilities, attention and memory that represents performance enhancement (S. Heishman et al., 2010). Increased of work performance may work in short-term period due to intake of nicotine but it must be

noted that presence of nicotine also has its own implication for the initiation of smoking. In the long run, there might be a kick-back of the work performance where it does not actually help to increase them but instead will reduce work performance significantly due to other factors such as smoke-related illnesses. Long-term effects of tobacco smoking may lead to smoke-related illnesses (Lim et al., 2013).

The implication from this occurrence is vital. Lack of understanding and genuine facts about smoking could cause the situation as stated. It is crucial to provide awareness and promote a better way to help those people in stress and pressure environments. The limitation from this study might be due to a small sample size. The number of smokers was too small (19) and might not reflect the whole population. Increase in sample size in future studies may provide variation and better results to be analyzed.

5.6 To determine the association of socio-demographic factors with knowledge, attitude and perception of smoking cessation among undergraduate students.

In table 4.6.1 shows the results for association of socio-demographic data with the level of knowledge on smoking cessation of undergraduate students. The factors included in the analysis are age, gender, race, year of study, smoking status and tools. Regarding knowledge of smoking cessation, it seems that there are no associations of age, gender, race, year of study and tools user with the level of knowledge. No association of age with level of knowledge is due to all of the students are in the same age group (19 – 29) thus there should be no significant difference in terms of knowledge between them. As for gender, no differences between males and females are due to both genders came from the same educational background (undergraduate). Besides, females are stricter in relation to smoking habits due

to cultural norm where smoking is considered inappropriate behavior for women (Shomar et al., 2014). For races, there seems to be no association between race and level of knowledge due to insufficient respondents from every races. The total respondents of non-Malay are only 15 while Malay have 362 respondents. This is one of the limitations for the analysis. Lack of required data leads to unfair comparison between the groups. Same goes with tools user, each group uses tend to have the same level of knowledge and no differences ($p = 0.09$) to prove any association to level of knowledge. Except for smoking status, there seems to be association with the level of knowledge ($p < 0.001$). Non-smoker have better knowledge compared to smoker. The results aligned with a study conducted in China among 13,354 respondents where it shows there is association between smoking status and knowledge in which the never smoker was compared with current smokers ($p < 0.05$) using a two-sided test. (Cheng et al., 2015). The results also consistent with late study where knowledge and attitude levels differ according to smoking status (Rozita, 2009).

In Table 4.6.2 shows the results for association of socio-demographic data with the level of attitude on smoking cessation among undergraduate students. The factors included in the analysis are age, gender, race, year of study, smoking status and tools. Regarding attitude of smoking cessation, there is no association of age, gender, race, year of study and tools users because all of the p -value is more than 0.05. The same results obtained from association with knowledge. This might be because of attitude usually synchronizing with level of knowledge. Good knowledge leads to good attitude and vice versa. There is almost a significant difference in terms of gender. Females slightly have better attitude level compared to males which could be due to strict cultural norm and religious demand. The results for gender contradict to a study in IIUM where it shows relationship between gender and attitude on smoking ($p < 0.05$) but level of study shows no relationship with attitude

on smoking ($p = 0.644$). The statistical analysis used in the study is Kruskal-Wallis (Al-Shami et al., 2018). For races, the same outcome obtained due to insufficient data from each race. That might cause the results to generate no association. Comparing to older study conducted in Malaysia, it claims that there is no significant difference ($p > 0.05$) in attitude scores between Malays, Indians and Bumiputera but there is significant difference ($p = 0.01$) between other races with Chinese where Chinese have greater attitude scores towards smoking compared to other races. (Rozita, 2009). Positive association of smoking status with level of attitude ($p < 0.001$) shows that there are significant differences between smoker and non-smoker. In this case, ex-smoker was categorized with the same group as non-smoker. A study conducted among 332 Hungarian dental professionals and students shows that non-smoker have better attitude with 62% of dentist and 67% of students agreed giving up smoking and smoking prevention because they considered it as very important (Zalai, 2012). The previous study proved that there is an association between smoking status and level of attitude.

In Table 4.6.3 shows the results for association of socio-demographic data with the level of perception on smoking cessation among undergraduate students. The factors analyzed for association included age, gender, race, year of study, smoking status and tools users. the results show there is no association on age, race, year of study and tools user but there is a positive association of gender ($p < 0.001$) and smoking status ($p < 0.001$). No association for age might be due to small gap between ages and no major group of ages involved in the study. Thus, age does not play a role in determining the level of perception in this study. Although a study conducted in Australia among 3091 cinema patron age between 12 – 24, where in relative to age, their perception is statistically significant ($p = 0.003$) when asked about whether they were likely to smoke in 12 months or not (Edwards

et al., 2007). Another similar study in England, smokers from different age group were asked about smoking cessation where age before 30 and after 50 tend to initiate smoking cessation compared to those age between 30 to 50 (Fidler et al., 2013). Year of study also can be related to age as well where everyone is in the same age group and does not show any significant difference ($p > 0.05$) in terms of perception on smoking cessation. This result supported the outcome from similar study conducted in IIUM among 251 respondents where the results shows no relationship between year of study and practice on smoking ($p = 0.071$) using Kruskal-Wallis test (Al-Shami et al., 2018). Race also failed to prove any association. This might be due to lack of sufficient data from each race other than Malay. Despite the absents of data, similar study was conducted earlier where it shows that Chinese are more prone to start smoking cessation while Indian are the least to initiate smoking cessation (HRR = 0.40, 95% CI 0.25-0.64) which proves that different ethics have different perception level of smoking cessation (Maria et al., 2012). Tools users also does not show any sign of association with perception level ($p = 0.09$). This might be due to limited sample size of smokers. This result shows contrary to recent study in Serbia which shows association of types of tools (cigarette, waterpipe, e-cigarette) used with the approval from friends and family are perceived differently (Kilibarda et al., 2019). The highlight of the study indicates that preventive interventions should be addressed to students and anyone significant to them. Gender has shown association to perception which indicates that both males and females have different perception on smoking cessation. A previous study conducted among dental graduates in India shows the same result where there is were significant association between perceived effectiveness of tobacco cessation with gender in which females are more perceive compared to males ($p = 0.05$) (Rajesh, 2012). Smoking status also shows to be associated with level of perception on smoking cessation. This was supported from a study conducted among 5385 adults in Serbia where

there is significant difference ($p < 0.05$) in risk perception according to smoking status (Kilibarda et al., 2019).



CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

After completing this study, it can be concluded that the respondents among undergraduate students have. Furthermore, non-smoking undergraduate students shows better knowledge and attitude towards smoking cessation compared to smoking undergraduate students. But in terms of perception, smokers provide better compared to non-smokers. After surveying the factors to cause smokers insisted on not quitting smoking, it shows that most of the smokers continue smoking as an act of stress and pressure reliever. Second reason is because they believe that by smoking it would help them to increase productivity and work quality. For the measure of association, it can be concluded that there is no association between any socio-demographic factors with knowledge except smoking status. For attitude, the only positive association obtained is smoking status. While for perception, the factors that associates are gender and smoking status. Different gender and smoking status may perceive differently towards smoking cessation. The most significant from this study is smoking status may associate with all variables including level of knowledge, attitude and perception of smoking cessation among students from institute of higher learning.

The study proves that the level of knowledge, attitude and perception of undergraduate students on smoking cessation is not sufficient and inadequate. This can be caused by various factors such as lack of awareness, environment and demography. Further action should be taken to increase awareness about smoking cessation. Encouragement also

should be delivered to the students especially smokers as it may give them a boost to quit smoking in the near future. Imagine the future if the current generations still lack in awareness about smoking. There would be no different now and the near future.

For recommendations, it is advised for any future study to be conducted, to consider the best sampling method for KAP study. The number of respondents from each sub-group should be equal or almost equal especially when the purpose of the study is to compare between groups and variables. The suggested sampling method is snow ball sampling or quota sampling or any suitable sampling method. Moreover, the factors on why smokers insisted on not quitting smoking can be expand in terms of answers choices and the number of smokers also should be sufficient enough so that in the end it can be generalized for the whole group.

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APPENDICES



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**ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS
(JKEUPM)
UNIVERSITI PUTRA MALAYSIA**

Research title	: Knowledge, Attitude and Perception of Smoking Cessation among Undergraduate Students in Universiti Putra Malaysia.
Study Site	: Universiti Putra Malaysia
JKEUPM Ref No.	: JKEUPM-2019-520
Researcher	: Muhamad Zikri Aizat Noor Azmin
Supervisor	: Prof. Dr. Shamsul Bahri Md Tamrin

Documents received and reviewed with reference to the above study:

1. Ethics Application Form, Version 4 dated 30/5/2020
2. Respondent Information Sheet & Consent (English), Version 4 dated 30/5/2020
3. Proposal (English), Version 6 dated 26/6/2020
4. Questionnaires/ Interviews (English), Version 4 dated 30/5/2020
5. Curriculum Vitae of:
 - a. Prof. Dr. Shamsul Bahri Md Tamrin

The University Research Ethics Committee, Universiti Putra Malaysia (JKEUPM) operates in accordance to the ICH-GCP Guidelines.

Decision by JKEUPM:

- Approved
- Permission MUST BE OBTAINED from the respective hospitals/ institutions before conducting the research**
- Disapproved

Please note that the approval is **VALID UNTIL 16 JULY 2021**

Researchers should comply with the following:

- I. Complete a Study Final Report upon study completion (Form 3.2).
- II. Ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

Appendix 2: Consent Form



**JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA**

FORM 2.4: RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

1. STUDY TITLE:

Knowledge, Attitude and Perception of Smoking Cessation Among Undergraduate Students in Universiti Putra Malaysia

2. INTRODUCTION:

The purpose of this study is to measure the level of knowledge, attitude and perception of smoking cessation among undergraduate students of UPM. This research is important to determine the awareness level on danger of smoking and importance of smoking cessation specifically among undergraduate students either those who are a smokers or non-smokers.

3. WHAT WILL YOU HAVE TO DO:

The questionnaire consisted of 5 section which is:

SECTION A: RESPONDENT'S DATA

SECTION B: KNOWLEDGE ON SMOKING CESSATION

SECTION C: ATTITUDE ON SMOKING CESSATION

SECTION D: PERCEPTION ON SMOKING CESSATION

SECTION E: FACTORS ON NOT QUITTING SMOKING

1. You are required to answer all questions given.
2. To answer, please tick in the box given.
3. This questionnaire form must be return to the researcher after being completed.

4. WHO SHOULD NOT PARTICIPATE IN THE STUDY:

Those who do not fulfilled the inclusive criteria should not participate in the study. The inclusive criteria for this study is undergraduate students who is currently studying in UPM Kampus Serdang. Others is not required to answer the questionnaire.

5. WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT

The participants will gain new knowledge on topic related to smoking. As for the results gained from this study, it can help develop more effective and impactful smoking intervention program to help smokers in their effort to stop smoking.

(b) TO THE INVESTIGATOR

The results obtained from this study may help to identify the level of knowledge, attitude and practices on smoking cessation among the subjects which can be use to make an improvement for any smoking intervention program to fill the gap. Besides, this steps will help us to reduce the prevalence of smoking among adults in Malaysia.

6. WHAT ARE THE POSSIBLE RISKS:

There is no possible risk for those who undertake to participate in this study.

7. WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL

Every information the participants provided in the form will be kept confidential and only be used for this study only.

8. WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH

Supervisor:

Prof Dr. Shamsul Bahri

Email: shamsul_bahri@upm.edu.my

Director

Tel: 017-3134792

Center of Industry Relations and Network (CIRNET)

Office of Deputy Vice-Chancellor (Industry and Community Relations)

Universiti Putra Malaysia

Researcher:

Muhamad Zikri Aizat bin Noor Azmin

Emel: zikriaizat@gmail.com

Bac. Sc. Environmental and Occupational Health

Tel: 011-19776706

Department of Environmental and Occupational Health

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

Please initial here if you have read and understood the contents of this page_____

9. CONSENT

I Identity Card No.
address.....

.....hereby voluntarily agree to take part in the research stated above *(clinical /drug trial/video recording/ focus group/interview-based/ questionnaire-based).

I have been informed about the nature of the research in terms of methodology, possible adverse effects and complications (as written in the Respondent's Information Sheet). I understand that I have the right to withdraw from this research at any time without giving any reason whatsoever. I also understand that this study is confidential and all information provided with regard to my identity will remain private and confidential.

I* wish / do not wish to know the results related to my participation in the research

I agree/do not agree that the images/photos/video recordings/voice recordings related to me be used in any form of publication or presentation (if applicable)

* delete where necessary

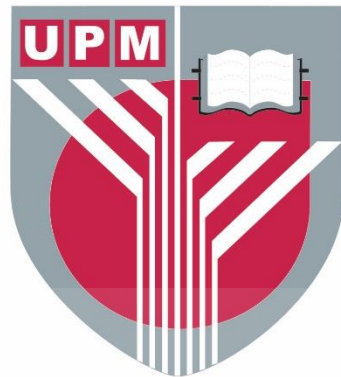
Signature Signature
(Respondent) (Witness)

Date : Name :
I/C No. :

I confirm that I have explained to the respondent the nature and purpose of the above-mentioned research.

Date Signature
(Researcher)

Appendix 3: Questionnaire



**DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL
HEALTH**

FACULTY OF MEDICINE AND HEALTH SCIENCES

UNIVERSITI PUTRA MALAYSIA

QUESTIONNAIRE FORM

**KNOWLEDGE, ATTITUDE AND PERCEPTION OF SMOKING
CESSATION AMONG UNDERGRADUATE STUDENTS IN UNIVERSITI
PUTRA MALAYSIA**

Researcher's Name: Muhamad Zikri Aizat bin Noor Azmin

Matric Number: 190107

INSTRUCTIONS: This questionnaire form consisted of five section. You are required to answer all questions based on the instructions given. All information regarding respondents will be kept confidential and only be used specifically for this research.

SECTION A: RESPONDENT'S DATA

This section is to obtain necessary information on respondent's background. All information given will be kept confidential and will only be used specifically for this research only.

Please tick (/) on related information in the box.

1. Age:

2. Gender:

Male	
Female	

3. Ethnic

Malay	
Chinese	
Indian	
Bumiputera	

4. Faculty:

5. Year of Study:

1 st Year	
2 nd Year	
3 rd Year	
4 th Year	
5 th Year	

6. Smoking Status:

Non smoker	
Ex-smoker	
Active smoker	

7. Types of Tool:

Cigarette	
Vape	
Cigarette and Vape	

SECTION B: KNOWLEDGE ON SMOKING CESSATION

This section is to evaluate the level of respondent's knowledge on smoking habit and the danger it poses. All information given will be kept confidential and will only be used specifically for this research only.

NO.	Statement	Yes	No	Not sure
Smoking may cause illness as below:				
1.	Lung cancer			
2.	Mouth cancer			
3.	Heart disease			
4.	Stroke			
5.	Infertility			
Exposure to Second-Hand Smoke may lead to conditions below:				
6.	Lung cancer to the non-smoker			
7.	Lung cancer to the children			
8.	Heart disease			
9.	Birth of underweight baby causes by exposure of mother to cigarettes smoke.			
10.	Smoking may cause serious illnesses to someone health.			
Chemicals below may cause smoke-related illness:				
11.	Tobacco			
12.	Carbon Monoxide			
13.	Tar			
14.	Arsenic			
15.	Nitrogen			

SECTION C: ATTITUDE ON SMOKING CESSATION

This section is to evaluate the level of respondent's attitude on smoking habit and its effects to surrounding people. All information given will be kept confidential and will only be used specifically for this research only.

NO.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	I am truly concern about my health especially when there is someone smoking near me.					
2.	I believe that being exposed to Second hand cigarettes smoke may deteriorate my health.					
3.	Families, friends and colleagues believe that I should not smoke cigarette.					
4.	If I stop smoking, it would definitely improve my health and quality of life.					
5.	I support all smoking cessation initiatives that encourages one to quit smoking.					

SECTION D: PERCEPTION ON SMOKING CESSATION

This section is to evaluate the level of respondent's perception on smoking habit. All information given will be kept confidential and will only be used specifically for this research only.

No.	Statement	Often	Rarely	Never
1.	I discuss or voice out concern regarding harm caused by smoking with love ones.			
2.	I think about the implications of smoking on my personal health			
3.	I am concerned about how my smoking habit affects health of people around me.			
4.	I have the desire to quit smoking			

SECTION E: FACTORS ON INSISTING TO NOT QUIT SMOKING

This section is to evaluate the factors on why smoker insisted on quit smoking although knowing the health impacts to the smoker itself.

I insisted on quit smoking because:

I get sick when I stop smoking	
I am addicted to smoking	
It is how I cope with stress and pressure	
It helps to increases my productivity and work performance	
It makes me looks more manly	

THANK YOU

Appendix 4: Online Questionnaire Form

Section 1 of 7

Pengetahuan, Sikap dan Persepsi Terhadap Berhenti Merokok Dalam Kalangan Pelajar Siswazah Universiti Putra Malaysia

Assalamualaikum dan salah sejahtera. Saya Muhamad Zikri Aizat bin Noor Azmin merupakan pelajar tahun akhir Bachelor Sains Kesihatan Persekitaran dan Pekerjaan, Universiti Putra Malaysia. Saya sedang menjalankan penyelidikan tentang Pengetahuan, Sikap dan Persepsi Terhadap Berhenti Merokok Dalam Kalangan Pelajar Siswazah Universiti Putra Malaysia bagi Projek Ilmiah Tahun Akhir.

PENGENALAN: Tujuan kajian ini dijalankan adalah untuk mengukur tahap pengetahuan, sikap dan persepsi berhenti merokok dalam kalangan pelajar siswazah UPM. Kajian ini penting untuk menentukan tahap kesedaran tentang bahaya merokok dan pentingnya berhenti merokok dalam kalangan masyarakat khususnya mahasiswa sama ada kepada mereka yang bergelar perokok mahupun bukan perokok.

ARAHAN: Borang soal selidik mengandungi LIMA (5) bahagian iaitu;

BAHAGIAN A: Maklumat Sosio-demografi
BAHAGIAN B: Pengetahuan Mengenai Tabiat dan Berhenti Merokok
BAHAGIAN C: Sikap Terhadap Berhenti Merokok
BAHAGIAN D: Persepsi Terhadap Berhenti Merokok
BAHAGIAN E: Faktor Tidak Mahu Berhenti Merokok

Anda diminta untuk menjawab semua soalan yang bertanda *
Untuk menjawab, sila tandakan pada ruangan bahagian jawapan yang telah disediakan.

Jika anda tergolong sebagai pelajar SEMASA dalam kategori dibawah anda tidak perlu mengambil bahagian dalam kajian ini:

1. Asasi/Matrikulasi
2. Diploma
3. Pelajar dari Fakulti Pertanian dan Sains Makanan, UPM Kampus Bintulu, Sarawak

Kajian ini tidak memberikan risiko kepada anda sama sekali. Segala maklumat yang diperolehi akan dirahsiakan dan hanya akan digunakan untuk tujuan kajian semata-mata.

Seandainya anda mempunyai persoalan mengenai kajian ini, anda boleh menghubungi:

Prof. Dr Shamsul Bahri bin Hj Mohd Tamrin
Pegarah,
Pusat Hubungan dan Jaringan Industri,
Pejabat Timbalan Naib Cancellor (Jaringan Industri dan Komuniti),
Universiti Putra Malaysia.
Email: shamsul_bahri@upm.edu.my
No. Tel: 017-3134792

Atau

Muhamad Zikri Aizat bin Noor Azmin
Bachelor Sains Kesihatan Persekitaran dan Pekerjaan,
Fakulti Perubatan dan Sains Kesihatan,
Universiti Putra Malaysia.
Email: zikriaizat@gmail.com
No. Tel: 011-19776706

Email address *

Valid email address

This form is collecting email addresses. [Change settings](#)

BAHAGIAN A: Maklumat Sosio-demografi



Bahagian ini adalah untuk mengetahui latar belakang responden. Segala maklumat yang diberikan adalah dirahsiakan dan hanya digunakan bagi kajian akademik sahaja. Sila isikan maklumat tertera dan tandakan pada kotak yang berkenaan.

Umur: *

Short answer text

Jantina *

- Lelaki
- Perempuan

Bangsa: *

- Melayu
- Cina
- India
- Bumiputera
- Lain-lain

Fakulti: *

- Fakulti Pertanian
- Fakulti Perhutanan
- Fakulti Perubatan Veterinar
- Sekolah Perniagaan dan Ekonomi
- Fakulti Kejuruteraan
- Fakulti Pengajian Pendidikan
- Fakulti Sains
- Fakulti Sains dan Teknologi Makanan

- Fakulti Sains dan Teknologi Makanan
- Fakulti Ekologi Manusia
- Fakulti Bahasa Moden dan Komunikasi
- Fakulti Rekabentuk dan Senibina
- Fakulti Perubatan dan Sains Kesihatan
- Fakulti Sains Komputer dan Teknologi Maklumat
- Fakulti Bioteknologi dan Sains Biomolekul
- Fakulti Pengajian Alam Sekitar

Tahun Pengajian: *

- Tahun 1
- Tahun 2
- Tahun 3
- Tahun 4
- Tahun 5

Status Merokok: *

Bukan Perokok: Tidak pernah merokok atau merokok kurang daripada 100 batang sepanjang hidup. Bekas Perokok: Pernah merokok lebih 100 batang sepanjang hidup tetapi telah berhenti merokok semasa sesi temubual. Masih Merokok: Pernah merokok lebih 100 batang rokok sepanjang hidup dan masih merokok pada waktu ditemubual.

- Bukan Perokok
- Masih Merokok
- Bekas Perokok

Pengguna (Jika anda seorang perokok):

- Rokok
- Vape
- Rokok dan Vape

BAHAGIAN B: Pengetahuan Tentang Tabiat dan Berhenti Merokok

Bahagian ini adalah untuk mengetahui tahap pengetahuan anda mengenai kepentingan pengetahuan tentang merokok dan bahaya yang boleh dihadapi. Segala maklumat yang diberikan adalah dirahsiakan dan hanya digunakan bagi kajian akademik sahaja.

1. Merokok boleh menyebabkan Kanser paru-paru. *

- Ya
- Tidak
- Tidak Pasti

2. Merokok boleh menyebabkan Kanser mulut. *

- Ya
- Tidak
- Tidak Pasti

3. Merokok boleh menyebabkan sakit jantung. *

- Ya
- Tidak
- Tidak Pasti

4. Merokok boleh menyebabkan Strok. *

- Ya
- Tidak
- Tidak Pasti

5. Merokok boleh menyebabkan Kemandulan. *

- Ya
- Tidak

6. 'Second-Hand Smoke' boleh menyebabkan kanser paru-paru kepada bukan perokok. *

- Ya
- Tidak
- Tidak Pasti

7. 'Second-Hand Smoke' boleh menyebabkan kanser paru-paru kepada kanak-kanak. *

- Ya
- Tidak
- Tidak Pasti

8. 'Second-Hand Smoke' boleh menyebabkan sakit jantung. *

- Ya
- Tidak
- Tidak Pasti

9. 'Second-Hand Smoke' boleh menyebabkan kelahiran bayi yang kurang berat kelahiran apabila si ibu mengandung terdedah kepada asap rokok. *

- Ya
- Tidak
- Tidak Pasti

10. 'Second-Hand Smoke' boleh menyebabkan penyakit bahaya yang serius kepada kesihatan seseorang. *

- Ya
- Tidak
- Tidak Pasti

11. Tembakau adalah bahan kimia yang boleh menyebabkan penyakit berkaitan merokok. *

- Ya
- Tidak
- Tidak Pasti

12. Karbon Monoksida adalah bahan kimia yang boleh menyebabkan penyakit berkaitan merokok. *

- Ya
- Tidak
- Tidak Pasti

13. Tar adalah bahan kimia yang boleh menyebabkan penyakit berkaitan merokok. *

- Ya
- Tidak
- Tidak Pasti

14. Arsenik adalah bahan kimia yang boleh menyebabkan penyakit berkaitan merokok. *

- Ya
- Tidak
- Tidak Pasti

15. Nitrogen adalah bahan kimia yang boleh menyebabkan penyakit berkaitan merokok.

- Ya
- Tidak
- Tidak Pasti

BAHAGIAN C: Sikap Terhadap Berhenti Merokok



Bahagian ini adalah untuk mengetahui sikap anda mengenai tabiat merokok dan kesannya kepada orang di sekeliling anda. Segala maklumat yang diberikan adalah dirahsiakan dan hanya digunakan bagi kajian akademik sahaja.

1. Saya cakna tentang kesihatan diri saya apabila terdapat orang lain yang merokok berdekatan dengan diri saya. *

	1	2	3	4	5	
Sangat Tidak Setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat Setuju

2. Saya percaya bahawa keterdedahan diri saya kepada asap rokok daripada perokok lain boleh menyebabkan sakit jantung. *

	1	2	3	4	5	
Sangat Tidak Setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat Setuju

3. Orang-orang di sekeliling saya termasuk keluarga, rakan-rakan dan rakan sekerja percaya bahawa saya sepatutnya tidak merokok. *

	1	2	3	4	5	
Sangat Tidak Setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat Setuju

4. Sekiranya saya berhenti merokok, ianya akan dapat menambahbaik kesihatan diri dan juga kualiti kehidupan saya. *

	1	2	3	4	5	
Sangat Tidak Setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat Setuju

5. Saya menyokong segala usaha yang dilakukan pelbagai pihak untuk mencegah tabiat merokok. *

	1	2	3	4	5	
Sangat Tidak Setuju	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sangat Setuju

BAHAGIAN D: Persepsi Terhadap Berhenti Merokok

Bahagian ini adalah untuk mengetahui persepsi anda mengenai tabiat merokok. Segala maklumat yang diberikan adalah dirahsiakan dan hanya digunakan bagi kajian akademik sahaja.

1. Apabila berada di rumah, saya sering berbincang mengenai bahaya merokok bersama ahli keluarga saya.

- Selalu
- Jarang-jarang
- Tidak Pernah

2. Saya memikirkan tentang tabiat merokok mampu untuk menjejaskan kesihatan diri saya. *

- Selalu
- Jarang-jarang
- Tidak Pernah

3. Saya memikirkan bahawa tabiat merokok saya mampu untuk menjejaskan kesihatan orang di sekeliling saya. *

- Selalu
- Jarang-jarang
- Tidak Pernah

4. Saya berfikir dengan serius untuk berhenti atau jauhi daripada tabiat merokok. *

- Selalu
- Jarang-jarang
- Tidak Pernah

BAHAGIAN E: Faktor Yang Menyebabkan Tidak Mahu Berhenti Merokok (Khusus untuk perokok)



Bahagian ini adalah untuk menentukan faktor kenapa perokok enggan untuk berhenti merokok walaupun mengetahui bahaya yang diperolehi daripada tabiat merokok.

Saya enggan berhenti merokok kerana:

- Saya menjadi sakit apabila berhenti merokok
- Saya ketagihan dalam merokok.
- Merokok adalah cara untuk saya mengatasi stres dan tekanan.
- Merokok membantu saya untuk meningkatkan produktiviti dan kualiti kerja.
- Merokok membuatkan saya kelihatan lebih kekelakuan.