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Title: A Study of awareness and perception of Tobacco Control and Smoking Health risks in a University sample

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THE UNIVERSITY OF THE WEST INDIES

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TITLE: A STUDY OF AWARENESS AND PERCEPTION OF TOBACCO CONTROL AND SMOKING HEALTH RISKS IN A UNIVERSITY SAMPLE

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ABSTRACT

OBJECTIVE: Tobacco use continues to kill more than 5 million people worldwide each year, and this number is expected to grow. The burden of tobacco use is greatest in low- and middle-income countries. The objective of this study is to evaluate student perception and awareness of the tobacco control act and health risks due to smoking.

METHOD: A survey was conducted on a convenient sample of one hundred participants from the University of the West Indies, St Augustine campus. Students partook in the study during November 2009. A questionnaire was administered to participants which included - demographics, attitudes, perception and awareness of smoking health effects.

RESULTS: Most participants of the study were aware of the tobacco control act as well as the majority was in support of the ban of smoking in public places. 89% of the total population was aware of the health risks associated with smoking.

CONCLUSION: The study shows there was a high awareness of the tobacco control act among this sample population which may be related to demographic factors of age group and educational level.

1.0 INTRODUCTION

The World Health Organization (WHO, 2009) states that tobacco use as one of the biggest public health threats the world has ever faced. It kills more than five million people a year an average of one person every six seconds. According to the World Health Organization, tobacco use accounts for one in ten adult deaths and up to half of its current users will eventually die of a tobacco related disease. More than 80% of the world's one billion smokers belong to low and middle income countries. Research has shown that tobacco use is the most easily preventable cause of premature morbidity and mortality from diseases such as lung cancer and cardiovascular diseases (U.S. Public Health Services, 2000).

Studies have indicated that tobacco related deaths account for a larger number of deaths than those caused by obesity, HIV, alcohol and illegal drugs combined (Jha et al, 1999). Previous research has also indicated that the estimated number of deaths caused by tobacco will increase from 4.9 million currently to 10 million in the year 2030 (Yach et al, 2004). There has also been evidence that suggests that tobacco use has an overall effect on the quality of life (Mody et al. 2006).

Smoke free legislation or public smoking bans have presently been ratified within the past few years (Kelly et al.2009). These laws prohibit smoking within indoor or enclosed areas where individuals work or socialize so as to provide a smoke free environment for all.

The World Health Organization continues to expand and strengthen efforts to reduce tobacco use. The Framework Convention on Tobacco Control (FCTC), developed through the World

Health Organization proposes higher tobacco taxes, smoke-free indoor air laws, strong advertising restrictions and health warnings, cessation treatment coverage, and a well organized information campaign to curb the smoking epidemic. There has been extensive evidence that indicates that these policies can substantially reduce adult smoking rates, especially when combined as a comprehensive strategy (Hopkins et al, 2001; Levy et al, 2004).

Several studies have illustrated that with the implementation of smoking bans there have been successful in decreasing exposure to secondhand smoke (Siegel et al, 2004). There has been great evidence that indicates that secondhand smoke causes various health diseases with more than 50 compounds in secondhand smoke to be known human carcinogens (Centers for Disease Control and Prevention, 2006). In the study conducted by Fichtenberg et al, (2002) the smoking ban was also found to reduce the frequency of smoking in current smokers.

Recent studies have found a relationship between tobacco advertising and tobacco consumption (Saffer et al, 2000). There has also been indications from studies conducted that illustrate smoking behavior can be predicted by awareness, tobacco advertising and merchandising. Public health threats posed by tobacco marketing have been responded to by introducing regulatory policies to control the tobacco industry's advertising activities. The Framework Convention on Tobacco Control treaty 2004 calls for bans on such advertising activities.

The ban on tobacco advertising has taken a worldwide stance. Several countries such as Canada, Australia, New Zealand and the United Kingdom have had a ban on tobacco advertising put into full effect. The UK Tobacco Advertising Promotion Act prohibits tobacco marketing

through print and broadcast media, billboards, the internet, direct mail, product placement, promotions, free gifts, coupons and sponsorships.

Within recent years Trinidad and Tobago has taken a great step towards tobacco control with the implementation of The Trinidad and Tobago Tobacco Control Act 2009. The act states to prevent tobacco use by children; regulate tobacco use by individuals; enhance public awareness of the hazards of tobacco use and ensure that individuals are provided with information to make more fully informed decisions about using tobacco. It strives to protect individuals from exposure to tobacco smoke; prohibit and restrict promotional practices; prevent smuggling of tobacco; provide for regulation of tobacco products to mitigate against the harmful effects of tobacco; and provide for other related matters.

Reasons for implementation of the act were based upon the realization that the use of tobacco products is responsible for various incapacitating and fatal diseases; smoke from tobacco products is a serious health threat to persons exposed to the smoke which can cause serious diseases in adults and children. Most smokers who start smoking at a very young age are not aware of the extent and nature of the harm caused by tobacco products. Also, the marketing of tobacco products through product design, promotion, packaging, pricing and distribution, is known to contribute to the demand for tobacco products.

1.1 PROBLEM STATEMENT

The Tobacco Control Act awareness and perception of the public along with the awareness of health risks of tobacco use are the key findings of the study. Scientific evidence has indisputably established that exposure to tobacco smoke causes death, disease and disability.

The purpose of the study is to investigate student awareness, attitudes and perception of the Tobacco Control Act along with their awareness of associated health implications as a result of tobacco use.

1.2 SCOPE

The study will be conducted on university students attending University of the West Indies, St. Augustine in Trinidad. The sample size will contain 70 participants who will partake in a survey which will educate the subject about the tobacco control act and determine awareness, perception and attitudes.

1.3 GENERAL OBJECTIVES

To evaluate student perception and awareness of the tobacco control act.

1.4 SPECIFIC OBJECTIVES

1. To investigate the sample populations' awareness of the anti smoking legislation.

2. Examine the awareness and perception of the risks of smoking.

3. To report the percentage of the sample population that agrees with the implementation of the Tobacco Control Act.

4. To investigate the percentage of the sample that supports the ban against tobacco advertising.

5. To examine the effect of an increase in prices of cigarettes in relation to one's smoking behavior.

1.5 HYPOTHESIS

1. More males are likely than females to be smokers.

2. 71.8% of the respondents in the study sample support banning smoking in public places. This hypothesis was formulated based on results found from a study conducted by Yang et al, 2007.

3. Smokers are less likely to support the tobacco control measures than non smokers. This hypothesis was formulated based on results found from a study conducted by Yang et al, 2007.

4. Non-smokers are more likely to have positive attitudes against smoking and are more aware of the adverse effects of smoking than smokers. This hypothesis was formulated based on results found from a study conducted by Haddad et al, 2002.

2.0 LITERATURE REVIEW

2.1 THE TOBACCO CONTROL ACT.

In accordance with the Trinidad and Tobago Tobacco Control Act 2009 the overall goal is to prevent tobacco use by children, regulate tobacco use by individuals, enhance public awareness of the hazards of tobacco use and ensure that individuals are provided with information to make more fully informed decisions about using tobacco; protect individuals from exposure to tobacco.

The act recognizes that the use of tobacco products is responsible for numerous life threatening and fatal diseases. Also, that smoke from tobacco products is a serious health threat to persons exposed to the smoke causing serious diseases in both adults and children. The act seeks to prevent the use of tobacco products by younger individuals seeing that most smokers who start smoking at a very young age are not aware of the degree and nature of the damage caused by such tobacco products. The act also recognizes that the marketing of tobacco products through product advertisements, design, promotion, pricing and distribution can be main contribution factors in the demand of these products.

The Tobacco Control Act prohibitions state that individuals shall not smoke or hold a lighted tobacco product in any enclosed public place, enclosed workplace, or public conveyance. The act prohibits the sale of tobacco products to individuals under the age of eighteen. There are also prohibitions against the sale of tobacco products in areas such as facilities where health care services are provided, sports, athletic or recreational facilities, government buildings and educational facilities. The act also describes conformity with packaging and labeling

requirements and prohibits against tobacco advertising, stating that no person shall initiate, produce, publish, engage or participate in any tobacco advertising, promotion or sponsorship.

2.2 INGREDIENTS CONTAINED IN CIGARETTES.

According to the US Department of Health and Human Services it is the burning the substances contained in tobacco that changes the chemical properties of these substances for the worse. The US Department of Health and Human Services also states that more than 4000 chemicals have been identified in tobacco smoke due to the burning of a cigarette. At least 250 of these compounds are known to be harmful and more than 50 are known to be carcinogenic (US Environmental Protective Agency 1992). Some of chemicals contained in cigarettes includes acetone which is a flammable, colorless liquid used as a solvent. It's one of the active ingredients in nail polish remover. Arsenic is also a main ingredient; it is a silvery-white very poisonous chemical element. This deadly poison is used to make insecticides, and it is also used to kill rats. Other ingredients include Cadmium, a metallic chemical element used in alloys. This toxic metal causes damage to the liver, kidneys, and the brain and can stay in the body for years.

2.3 THE RISKS OF SECOND HAND TOBACCO SMOKE TO HEALTH.

According to the International Agency for Research on Cancer second-hand tobacco smoke can be defined as the smoke emitted from the burning end of a cigarette (side stream smoke) or from other tobacco products, usually in combination with the main stream smoke exhaled by the smoker, and has similar components to inhaled or mainstream smoke. In a study conducted

by Shick et al. 2005 it was found that second hand smoke is three to four times more toxic than main stream tobacco smoke. This study also indicated the toxicity of side stream smoke is higher. Studies have revealed that pollution levels in indoor places that permit smoking are higher than levels found on busy roadways, in closed motor garages and during firestorms (Invernizzi ~~G~~ et al. 2004).

The study conducted by Navas- Acien et al. 2004 states that second hand tobacco smoke is present in all public places where smoking is allowed. There is no safe level of exposure according to Hyland et al. 2008. It is estimated, internationally, that about one third of adults are regularly exposed to second-hand tobacco smoke. It is estimated that second hand smoke will cause 600,000 premature deaths per year worldwide (Oberg et al.).

Evidence has shown that non smokers who may breathe air that contains the second hand smoke from tobacco also face significant risk of disease and death. There have been various studies that indicate that the exposure to second hand smoke can cause multiple life threatening debilitating diseases (Woodward et al. 2001). In addition to smoking related disorders as a result of second hand smoke, this exposure is also linked to a reduced health related quality of life (Mody et al. 2006).

The US Department of Health and Human Services has identified various diseases caused by second hand smoke which includes lung cancer, coronary heart disease breast cancer stroke, and brain tumor. Similar results were found in other studies (Salo et al. 2003).

2.4 BANNING TOBACCO ADVERTISING CAN REDUCE SMOKING.

According to the Department of Health UK 1992 tobacco advertising has been reported to increase tobacco consumption. Previous research suggests that comprehensive advertising and promotion bans can reduce tobacco consumption (Chaloupka et al. 2000). The study by Saffer et al. states a comprehensive ban on all advertising and promotion protects people from industry marketing tactics. This study also states that tobacco advertising bans could decrease tobacco consumption. Key findings in the study by Yang et al. 2007 entitled Attitudes and behavioral response towards key tobacco control measures, 85.9% of respondents were found to support the ban on tobacco advertising.

3.0 METHODOLOGY

3.1 RESPONDENTS

The UWI student population was selected as the target population for the study. Criteria for participation in this study entailed: students between the ages of 18 and 55, enrolled in the University of the West Indies, St. Augustine. This sample population comprised students of the faculties of engineering, law, medical sciences, science and agriculture, social sciences, and humanities and education. Undergraduate and post-graduate students as well as full-time, part-time and evening enrollment were not necessary criteria and therefore not determined in this study.

Questionnaires were distributed to university students on the main campus grounds in highly 'student-active' locations. Students were randomly selected in all areas: SAC, LRC, Engineering undercroft, UWI food court, and Mount Hope library. A total of 100 students volunteered willingly upon being asked in answering and completing the questionnaires.

. All subjects were students of the University of the West Indies, St Augustine campus. The subjects were approached about answering the questionnaire simply by asking them if they would be willing to participate in a project currently be under taken by a final year student completing her final year project, for the BSc. Human Nutrition and Dietetics. Once the students affirmed that they would be willing to participate in the study, they were then first visually presented with a questionnaire consisting of seventeen (17) questions. Subjects were informed to answer all questions honestly and without bias. After this they were left to complete the

questionnaire, each person took approximately ten minutes to complete each questionnaire. The sample group consisted of both men and women to note any relationship between gender and smoking.

Sampling Error was present in the study. The sample size cannot be representative of population size, but only represents a small section of a massive picture. The limitation of time factor was the main reason for the sampling error.

3.2 PRETESTING

Pretesting of 15 questionnaires was carried out, testing their validity. Slight adjustments were made to the questionnaires. This study design was chosen based on the flexibility distributing questionnaires and the time period allotted to carry out the research.

3.3 QUESTIONNAIRE

The study was conducted via a census using a questionnaire as the research instrument to collect data from the respondents. See appendix for questionnaire. The data collection by questionnaire was carried out on the week of 26th October, 2010 by my colleagues and myself. There were no personal interviews in the study and the questionnaires were given to each

student and left in privacy for them to complete. This distribution and recollection of the questionnaires was completed within the same period.

The questionnaire (see appendices) comprised 17 questions which were divided into five sections: demographics, smoking status, attitudes toward tobacco control, awareness of smoking health effects and intent to change smoking behavior.

The section on demographics comprised three questions: age, faculty of enrollment and gender.

The section on smoking status comprised of two questions. These includes if respondents smoked and how would they describe their smoking status.

The section on attitudes towards tobacco control included students' perception of tobacco control measures. Students were asked if they were aware of the Tobacco Control act, if they support bans on tobacco advertising and also increases in cigarette tax.

The awareness of smoking health effects section of the questionnaire, the students were asked if they were aware of the health risks due to smoking and to identify which diseases they associated with smoking.

The final section on the questionnaire pertained directly to smokers. It asked students if increases in cigarette price would affect their smoking behavior and also if the ban in public places would affect their smoking behavior.

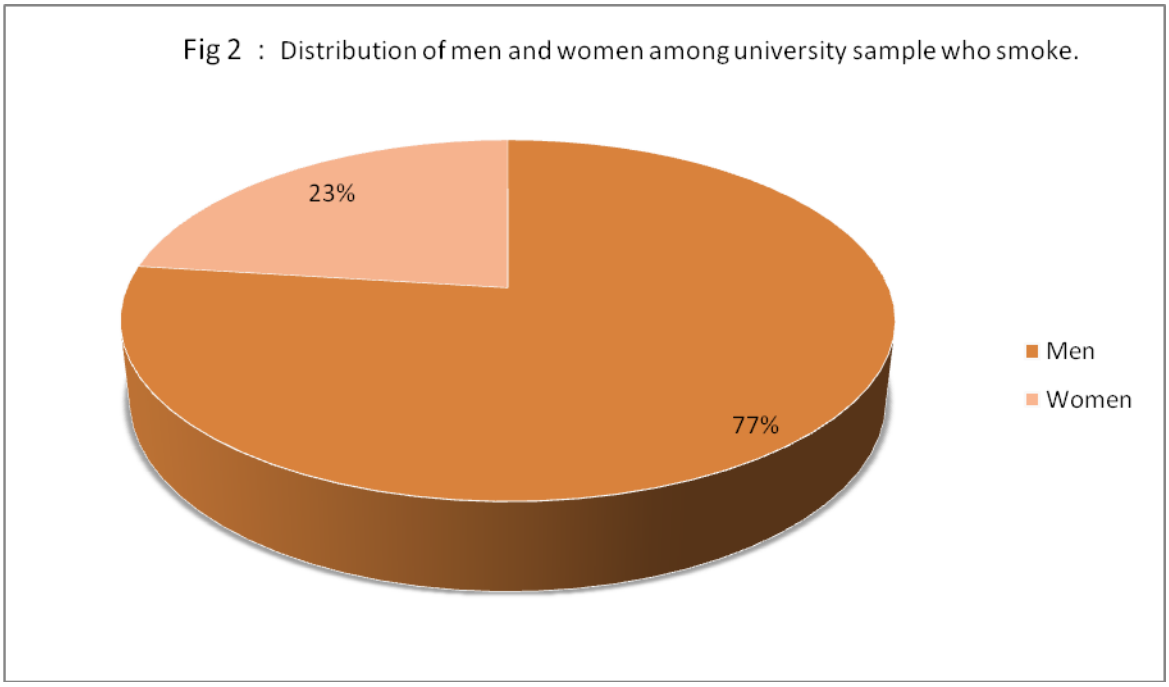
3.4 STATISTICAL ANALYSIS

The data collected was analyzed using SPSS Statistical software version 17 for window, Chicago, Illinois, 2003 as well as Windows Excel, 2007. Distribution frequency and chi square tests were the methods used to analyze data.

4.0 RESULTS

There was a response rate of 100% of each item on the questionnaire. Table 1 shows the demographic characteristics of participants in the study. Of the 100 university students that participated in this study, 55 were males and 45 were females and the majority of students fell into the age group 20-25 (See appendix: Table1).From the entire sample 48% of the population indicated that they smoke while non-smokers made up 52% of the population (See appendix: Fig 1). Within the smoking population 54% of individuals identified themselves as being current smokers, that is, they smoked within the last month. 34% comprised of daily smokers indicating that they smoke every day (See appendix: Table 2). The majority of smokers were found to be male with 77% while female were 23% (Fig 2). A p value of 0.01 < 0.05 indicated that there was a significant relationship between gender and smoking. Therefore, the hypothesis males are more likely than females to be smokers is accepted.

HYPOTHESIS 1

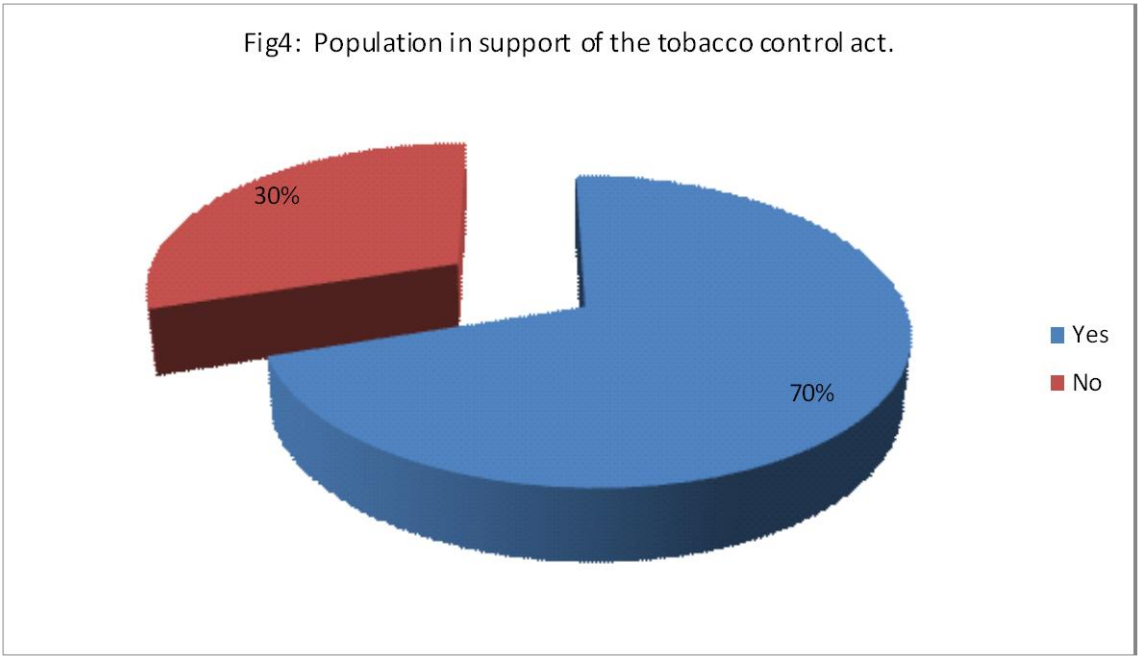


Chi square = 0.01 < 0.05 which is significant. This implies that the hypothesis males are more likely than females to be smokers is accepted.

4.1 PERCEPTION AND ATTITUDES TOWARDS TOBACCO CONTROL.

Subjects were asked whether they were aware of the Tobacco Control Act. 81% indicated that they were in fact aware of the Tobacco Control Act whereas, 19% of respondents stated that they were not. (See appendix: Table 3).Within the smoking population, 95% of respondents claimed to be aware of the Tobacco Control Act while only 5% of smokers said they unaware (See appendix: Fig 3). Subjects were asked whether they agree with the Tobacco Control Act and 70 respondents stated they agree while 30 stated they did not agree (See Fig 4). Using distribution frequency this result supports the hypothesis that 71% of respondents support the tobacco control act.

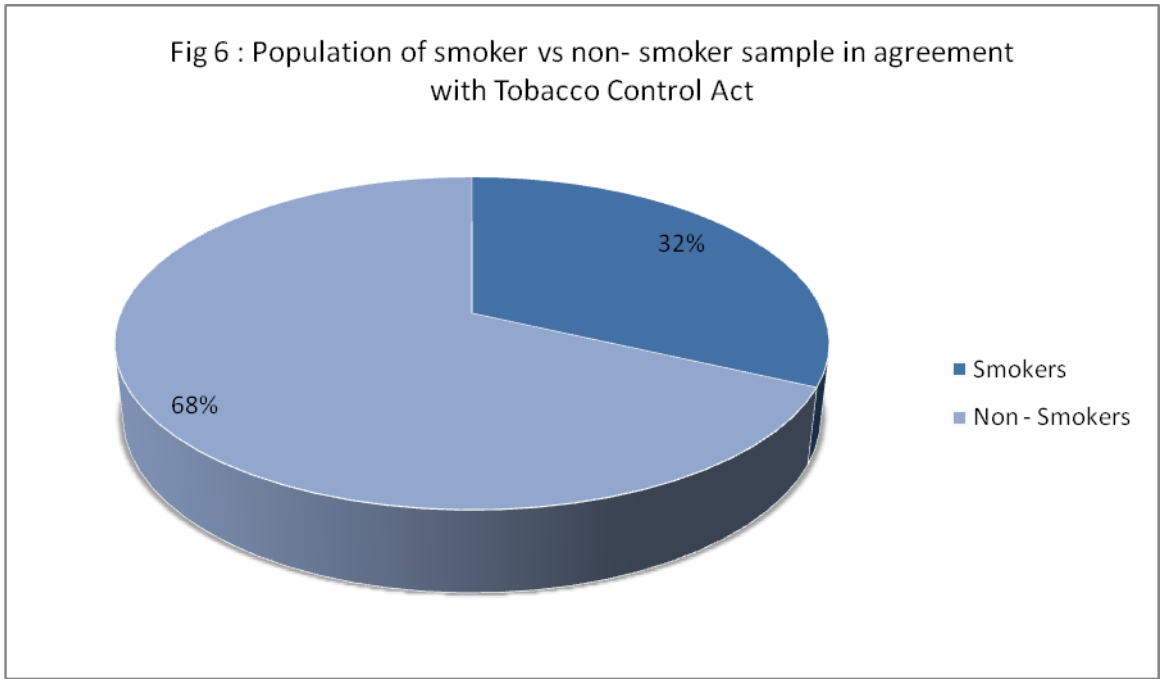
HYPOTHESIS 2



Using frequency distribution analysis, the results support the hypothesis that 71% of respondents support the tobacco control act.

In this sample population, tobacco control awareness was found to be greater among men than women, where 54% of men claimed to have heard about tobacco control versus the 46% of men (See appendix: Fig 5). Within this sample population, smokers who agreed with the Tobacco Control Act were 32% while non smokers who were in agreement made up 68% of the population (See Fig 6). A p valve of $0.01 < 0.05$ indicates that there was a significant relationship between support for tobacco control measures and smoking status (smoker/ non-smoker). Therefore, the hypothesis smokers are less likely than non- non smokers to support the tobacco control act is accepted.

HYPOTHESIS 3



Chi square p value = 0.01 < 0.05 indicates that there was a significant relationship between support for tobacco control measures and smoking status (smoker/ non-smoker). Therefore, the hypothesis smokers are less likely than non- non smokers to support the tobacco control act is accepted.

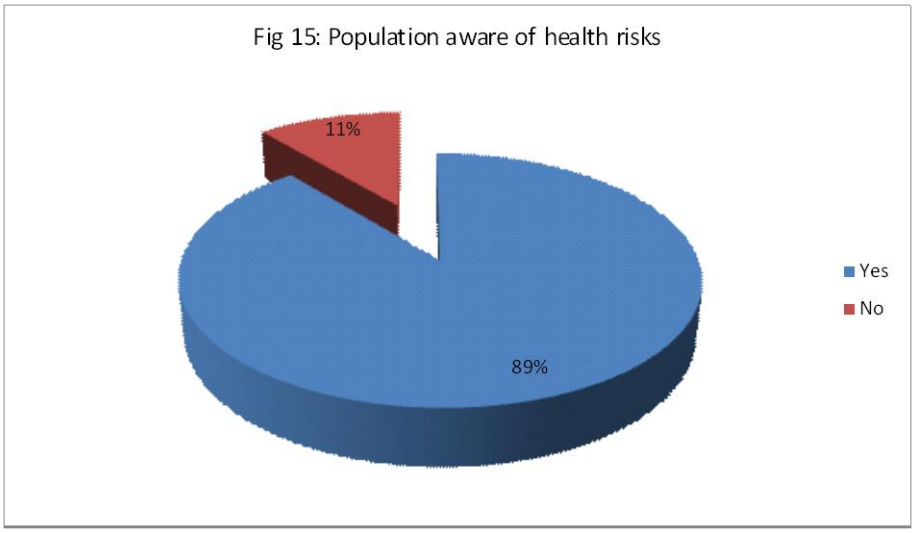
The respondents of the social sciences faculty were shown to have been most aware since 32% of these students answered positively to having heard about the tobacco control act prior to the questionnaire. The faculty least aware was the law faculty, with only 1% having heard of it (See appendix: Fig 7).

When it comes to the ban against tobacco advertising 49 respondents said they were in support while 51 said they did not support the tobacco advertising ban. Non smokers were found to be more in favor of the ban against tobacco advertising with 84% versus smokers with 16% (See appendix: Fig 8).

The study found that smokers were less likely to favor an increase in cigarette tax with 19% compared with smokers 81 % (See appendix: Fig 9).

4.2 AWARENESS OF SMOKING HEALTH EFFECTS.

The study found that 89 respondents were aware of the smoking health effect while only 11 said they were unaware (See appendix: Table 4 Fig). Males were found to be more aware of smoking health risks with 57 % than females with 43% (See appendix: Fig 10). Non smokers were found to be more aware of the health risks due to smoking than smokers with 52% versus 48% respectfully (See appendix: Table 4). Chi square = 0.032, p value = 0.858 > 0.05 which is insignificant. This implies that the hypothesis that non smokers are more likely than smokers to be aware of smoking health risks is rejected. Therefore there is no relationship between awareness of smoking health risks and smoking status (smoker/ non-smoker).



A total of 92 respondents believed that cigarette smoking was harmful to health whereas only 8 respondents believed otherwise. 45% comprised of smokers while 54% were non smokers (See

appendix: Fig 11). Of the 48 smokers in the study 42 respondents indicated they believed that cigarette smoking is harmful to health while 6 believed it is not (See appendix: Table 5).

The study found that a total of 72 % of respondents believed that cigarette smoking is one of the main causes of lung cancer, 9% said cigarette smoking is not one of the main causes of cancer and 19 % indicated that they did not know (See appendix: Fig 12)

Other diseases respondents associated mostly with as a result of smoking were Lung cancer, cardio vascular disease and chronic bronchitis with 45% of population. 19 % of respondents answered that they believe lung cancer, cardio vascular disease, chronic bronchitis and stroke are associated with tobacco use (See appendix: Table 6).

4.3 INTENT TO CHANGE SMOKING BEHAVIOR.

When smokers were asked if an increase in cigarette prices would affect their smoking behavior 38 respondents (79%) said yes while 10 respondents (21%) said that an increase in cigarette prices would not affect their smoking behavior (See appendix: Table 7).

Table 8 illustrates how smokers who said that increase in cigarette prices would affect their smoking behavior intended to change their smoking behavior. 74% said they would switch to a cheaper brand while 26% said they would decrease their smoking.

Table 8: How smokers who said 'YES' to an increase in cigarette prices would affect smoking behavior intended to change their smoking behavior.

	n	%
Switch to cheaper brand	28	74
Decrease smoking	10	26
Total	38	100

The study found that 27 smokers, which represent 56% of the smoker population, indicated that the ban of smoking in public places would affect their smoking behavior. 44 % of smokers claimed that the ban of smoking in public places would not affect their smoking behavior (See appendix: Fig 13).

Fig 14 illustrates how smokers intended to change their smoking behavior, either by decreasing smoking or stop smoking completely, as a result of being affected by the ban of smoking in public places. 85% of respondents indicated that they would decrease smoking while 15% said they would stop smoking completely.

5.0 DISCUSSION

The aim of the study was to assess the students' at the University of the West Indies, St Augustine campus perception and awareness of the tobacco control act, to examine the sample populations awareness and perception of health risks due to smoking, as well as to report the percentage of the sample population that agrees with the implementation of the Tobacco Control Act. The study was designed to answer the questions of the students' perceived knowledge level and their awareness of the act, as well as their views on tobacco advertising, tax increases and health implications. Data for the study was collected using various methods, all of which proved to be very successful. The results found would be discussed in the following paragraphs starting with the information collected from the questionnaires.

Questionnaires were used as a method of data collection from the students. The questionnaires were useful in providing the demographic information about the student along with their views on the subject. From the questionnaires it was seen that the majority of the students who answered the questionnaire were male with 55% and females making up 45%of the sample population. With respect to faculty, 27% to Science and Agriculture, 10% to Engineering, 17% to Humanities and Education, 28% belonged to the faculty of Social Sciences, 17% to Medical Sciences and 1% to Law. The majority of university students in this sample fell into the age group 20-25 years, and being university students may predispose this sample to more sources of information to learn about the tobacco control measures currently being implemented

From the study it can be seen that 48% of the university's sample population identified themselves as smokers while 52% claimed to be non-smokers. The majority of smokers, 54%, identified themselves as being current smokers, that is, they smoked within the last month. 34% comprised of daily smokers

indicating that they smoke every day. The majority of smokers were found to be male with 77% while females made up 23% of the smoking population. According to the National Center for Chronic Disease Prevention and Health Promotion 2007, by sex, smoking prevalence is higher among men than women.

This study found that tobacco control awareness is high which is supported by the results of 81% of the sample population answering that they were aware of the Tobacco control Act. Of all the faculties, the one with the highest number of students identifying that they were aware of the Tobacco Control Act was Social Sciences with 32% of the respondents responding affirmatively. This can be due to the fact that this was also the same faculty from which the most questionnaires were answered from. It can be assumed that respondents belonging to this faculty have a background in pressing issues within the society.

High awareness may be attributed to differences in cultures and age group. There was also a high agreement of the ban of smoking tobacco products in any enclosed public places, enclosed workplace or public conveyance with 70% of respondents indicated that they were in agreement with this while 30% were not. Of the students that said they were in agreement with the Tobacco Control Act 32% made up smokers while 68% were non- smokers. In the study conducted by Kelly et al, entitled Smoking and attitudes on smoke free air laws, similar results were attained. This study found that smokers support for tobacco ban was less than non smokers. Also, the study by Kelly et al. 2009 goes on further to report that a majority support the smoking ban among smokers. However, in this study 47.1% of smokers indicated that they support the smoking ban while 52.1% of smokers said that they did not support the ban. In another study conducted by Yang et al 2007 similar results were also found, 71.8% of the respondents favored ban on smoking in public places, which is also similar to the findings in the study conducted by Chapman et al. 2001.

Respondents in this study were found to be in favor of the ban on tobacco advertising with the majority being non- smokers. The underlying reasons for this high level of support may be unclear one possible elimination may be because respondents may believe that tobacco advertisements can have a great influence or be a major contributing factor to whether an individual smokes. Another possible explanation according to Yang et al 2007 the high level of support could also be due to the respondents' overall dissatisfaction with the advertisements themselves. Comparable results were found in the study conducted by Yang et al. 2007 where respondents in their study also had high support for advertising bans.

There was a high awareness of health risks among the overall population with 89% claiming there were aware of the risks while 11% claimed otherwise. The results of the study indicated that non smokers were found to be more aware of the health risks associated with smoking than smokers. Similar results were attained in the study conducted by Haddad et al. 2001. Possible explanations for this could be that non-smoker would focus on the harms of smoking. A smoker would tend to deny or ignore those harms in the remote future and may instead tend to focus on the pleasure and relaxation gained from it.

Unlike the study conducted by Haddad et al 2001on smoking attitudes where it was found that females are more aware of the health risks due to smoking, possibly because females may tend to have a greater concern for their own health owed by the periodic changes experienced in their bodies such as menstruation, child birth and lactation, in this study males were more aware of the health effects comprising of 57% while females were 43%. Explanations for this difference can be that the sample population comprised of more males than females also differences in cultures may be attributed to the results found in this study. Therefore it can be assumed that there is no relationship between gender and the health effects associated with smoking.

The combination of diseases respondents mostly associated with smoking was lung cancer, heart disease and cardio vascular disease which made up 49% of the sample population. Comparable results were achieved in the study by Krosnick et al. 2006. Justifications for this could be due to the fact that the sample population was university students and educated enough to identify diseases that are associated with smoking. Awareness of smoking health risks varied among the various faculties. Results found that the faculty of Science and Agriculture had the highest percentage (29 %) of the sample population who was aware of the health risks. It can be assumed that respondents belonging to this faculty have a background in at least two sciences and may also be predisposed to information based on lifestyle diseases and their causes.

Consistent with previous literature, in this study, there was a strong association between cigarette price increasing and intentions to change smoking behavior. A majority of smokers, 79%, said that an increase in cigarette prices would affect their smoking behavior while 21% of smokers said that increases in prices would not affect their behavior. The most commonly reported reaction of how smokers who said 'YES' to an increase in cigarette prices would affect smoking behavior, intended to change their smoking behavior was switching to a cheaper brand 74% and stop smoking with 26%. Likely explanations for this may be that these individuals may be dependent on this habit seeing that cigarettes contain chemical that are highly addictive in nature. Similar results were found in the study by Yang et al 2007 where the majority of respondents indicated they would switch to a cheaper brand followed by decrease smoking and then stop smoking completely.

56 % of smokers indicated that the ban of smoking in public places would in fact affect their smoking their smoking behavior. Reasons for this include that they would now be prohibited from smoking in what was previously called indoor designated smoking areas which could be found in restaurants for

example. When asked how their smoking behavior would change as a result of the ban the majority of smokers indicated they would decrease their smoking.

5.1 LIMITATIONS

- Tobacco control awareness studies that were conducted in Trinidad or the wider Caribbean were not found during research.
- When collecting data respondents may have given socially desirable responses which may or may not have been the truth.
- The survey instrument used in the present study limited the demographic information. Therefore, other types of information such as ethnicity, country of origin, program pursued and income level were not investigated
- The sample size may not have been representative the entire university population.
- Only 1 law student was surveyed in this study, this was not representative of the entire law faculty.
- Depending on level of education and maturity, the respondents may have interpreted the questions differently and may have been reluctant to ask for clarification.
- Limited time frame for planning and preparation for this study.

- The survey instrument used in the present study limited the demographic information to ensure that the questionnaire could have been completed quickly.

5.2 RECOMMENDATIONS

- Socio-economic factors could have taken into account such as income.
- More demographic factors could have been considered, such as ethnicity, country of origin and program pursued.
- The sample size could be increased.
- Other study designs can be used to conduct the study such as using a focus group rather conducting a survey.
- The sample size limits the study's validity. A larger sample would have allowed the researcher to generalize findings to the wider populations under study. Consequently, this would have allowed the study to a give a better representation of the awareness patterns
- Based on the demographic factors used in this study, the researcher recommends that more factors can be considered.
- Promote and support tobacco control research in the region.
- Counteract the social responsibility campaigns of the tobacco industry in the region.
- Support the ratification of tobacco control and its strongest possible implementation.
- Focus on the most effective means of tobacco control Increase taxes on tobacco, Promote smoke-free environments, and, Total prohibition on tobacco advertisement, promotion and sponsorship

6.0 CONCLUSION

The study shows there was a high awareness of the tobacco control act among this sample population which may be related to demographic factors of age group and educational level. There was also a high awareness of the health risks associated with smoking found among the sample. This survey study also shows general support of tobacco control measures among the university sample population. It was also found that increase in cigarette prices are likely to affect smokers' behavior either by switching to cheaper brand or decrease smoking.

In the long run, implementing policies aimed at smoke-free environments in public places may reduce morbidity and mortality associated with smoking by thousands of cases each year. This is of particular relevance to youth and young adults, who have not fully developed patterns of addictive habitual use. In this regard, smoke-free air policies may be viewed as a direct means of intervening with youth. As smoke-free air policies gain global favor, the burden of tobacco-related illnesses will decline. That these policies find widespread favor among younger generations provides great hope for future health promotion efforts.

7.0 APPENDICES

Table 1: Demographics of the university sample population

Variable	**n**	**%**
Gender		
Male	55	55
Female	45	45
Total	100	100
Age		
19 and under	16	16
20-25	67	67
25-30	17	17
Total	100	100
Faculty		
Science &Agri	27	27
Engineering	10	10
Hum&Ed	17	17
Social Science	28	28
Law	1	1
Med. Sci.	17	17
Total	100	100

n = number of respondents

% = percent of n

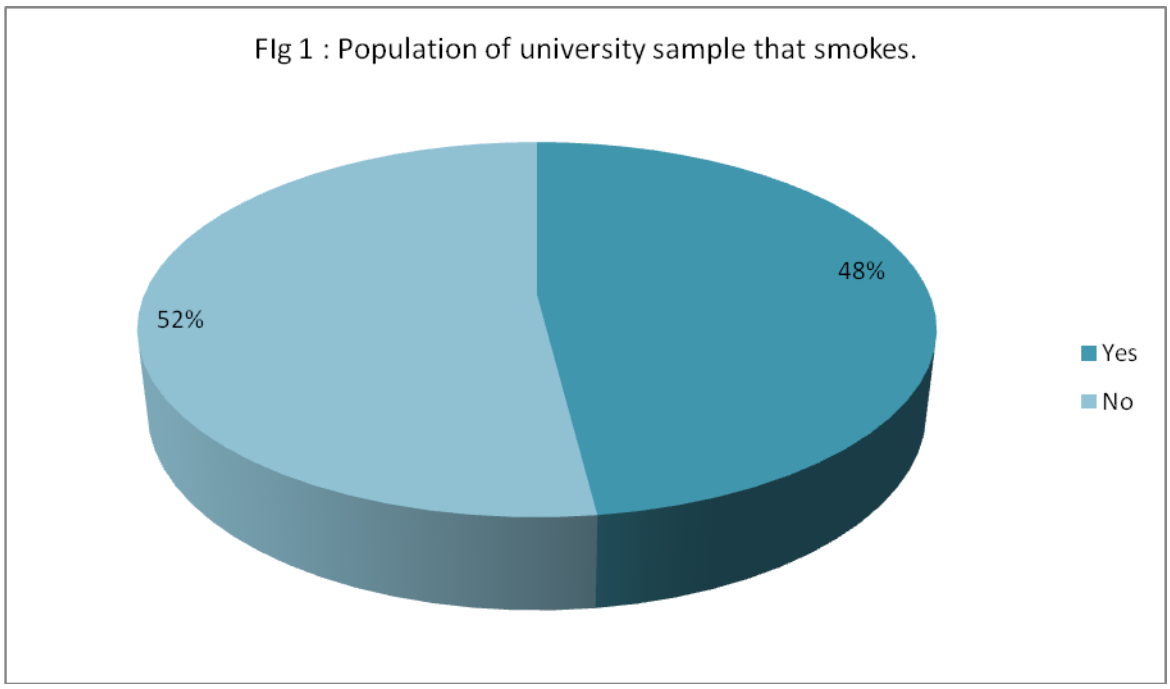


FIg 1 : Population of university sample that smokes.
48%
52%
Yes
No

Table 2: Respondents who smoke.

Variable	n	%
Smoke	48	100
Smoking Status		
Current smoker	26	54
Daily smoker	16	34
Occasional smoker	5	10
Former smoker	1	2

n = number of respondents

% = percent of n

Table 3: Attitudes and perception of the Tobacco Control Act.

Variable	**n**	**%**
Awareness of tobacco control.		
Yes	81	81
No	19	19
Agree with the ban of smoking in public places		
Yes	70	70
No	30	30
Support for advertising ban		
Yes	49	49
No	51	51
Support for increase in cigarette tax		
Yes	54	54
No	46	46

n = number of respondents

% = percent of n

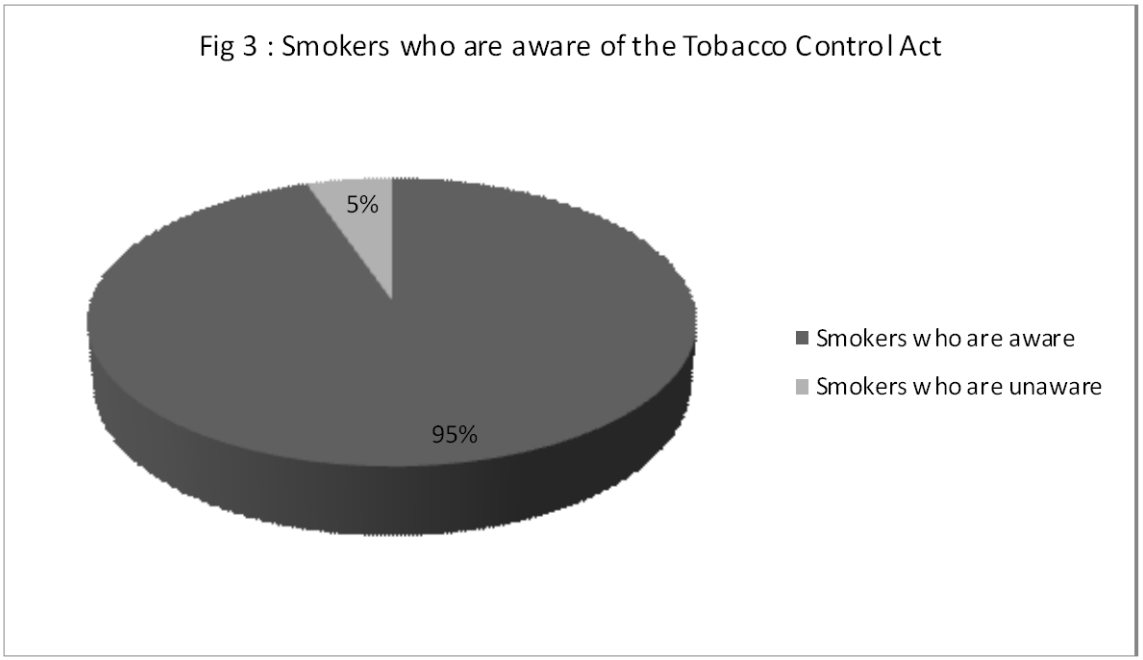


Fig 3 : Smokers who are aware of the Tobacco Control Act
5%
95%
Smokers who are aware
Smokers who are unaware

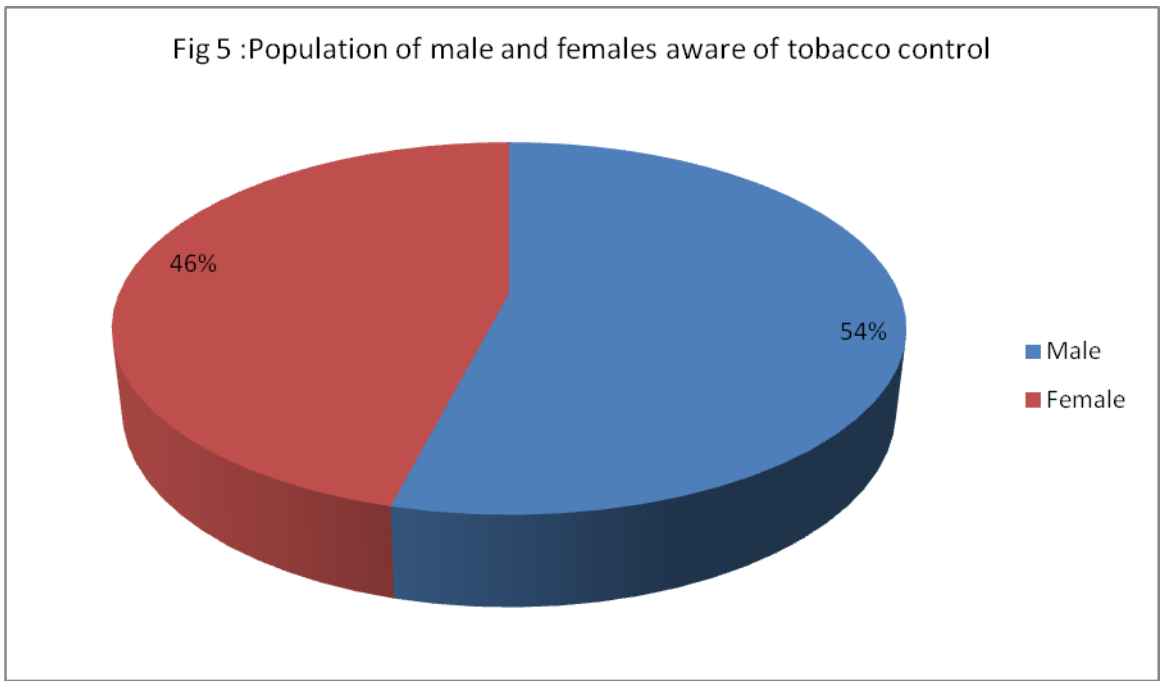


Fig 5 :Population of male and females aware of tobacco control
46%
54%
Male
Female

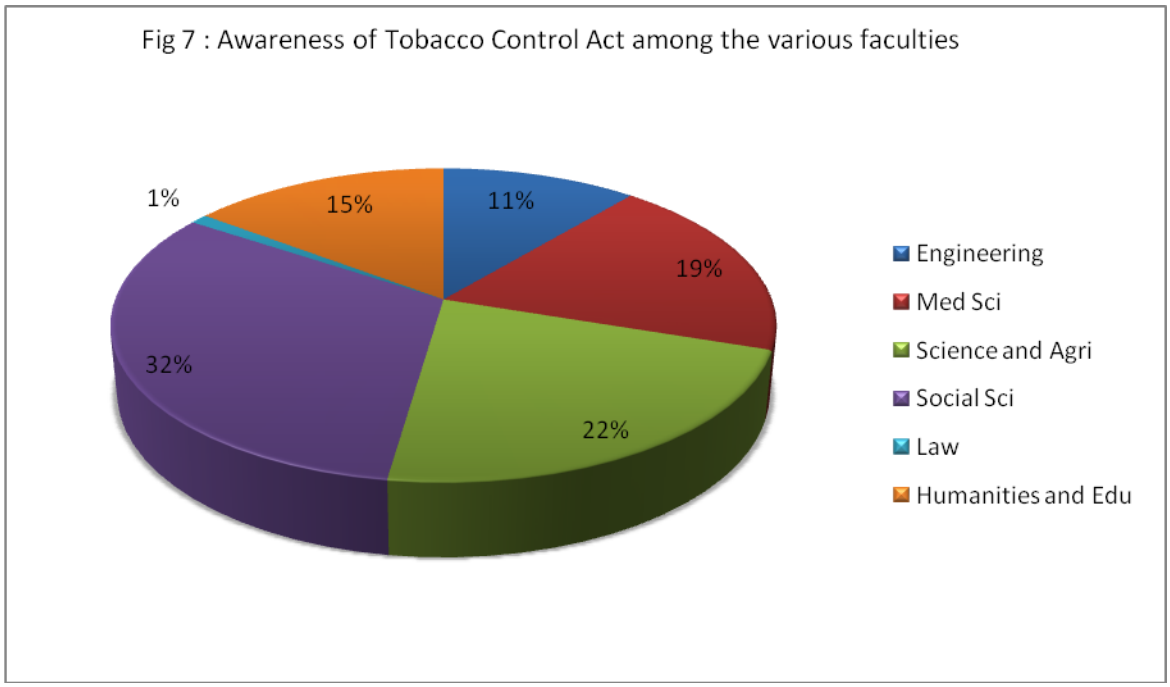


Fig 7 : Awareness of Tobacco Control Act among the various faculties
1%
15%
11%
19%
32%
22%
Engineering
Med Sci
Science and Agri
Social Sci
Law
Humanities and Edu

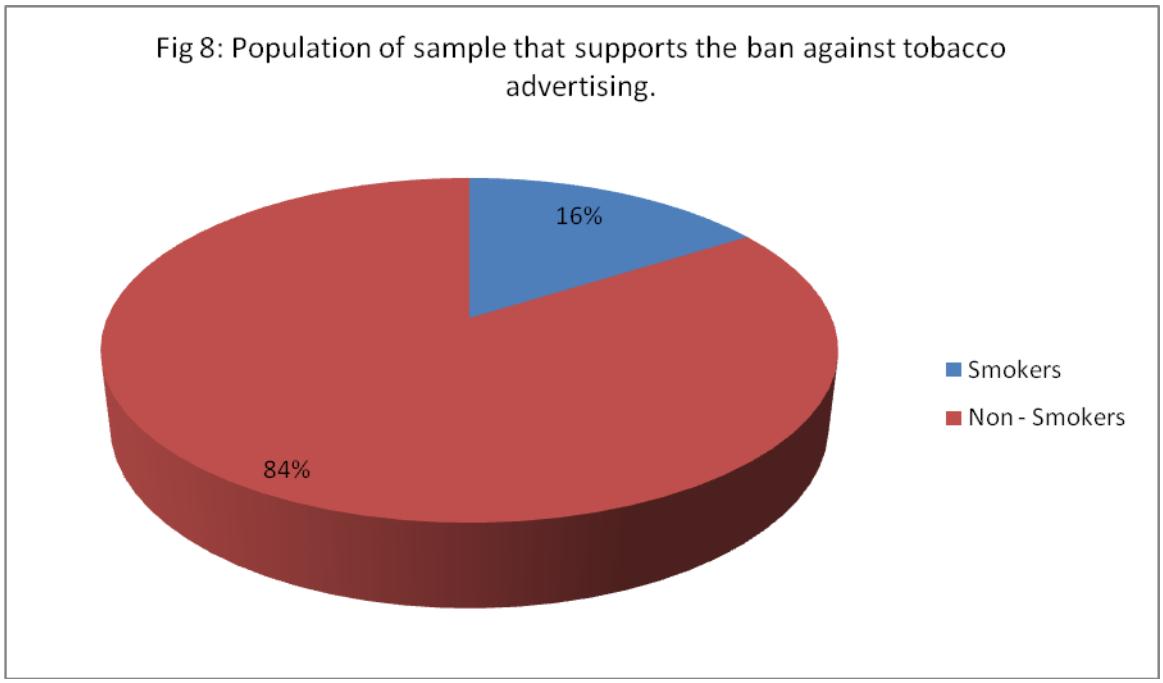
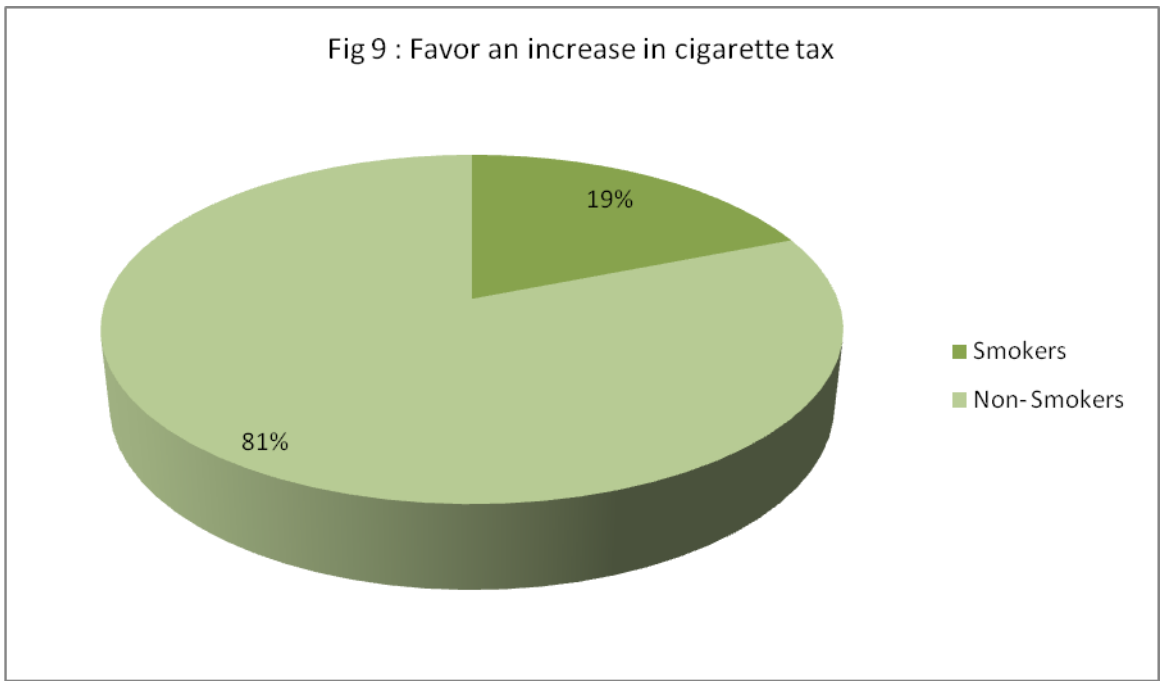


Fig 8: Population of sample that supports the ban against tobacco advertising.
16%
84%
Smokers
Non - Smokers

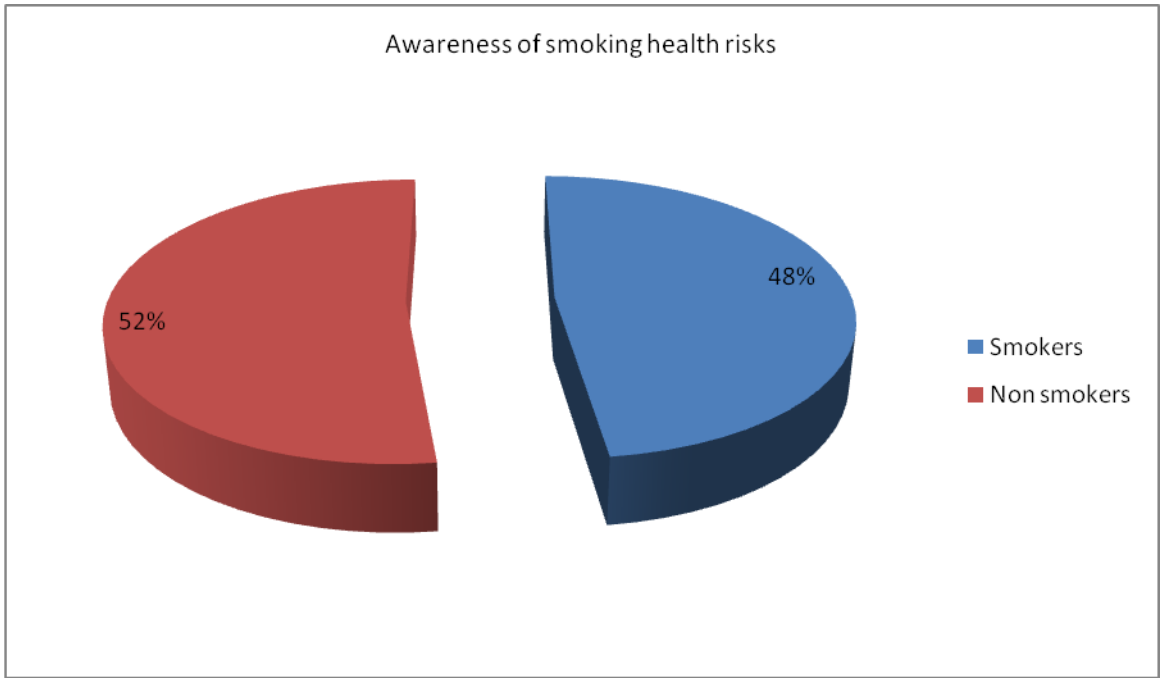


HYPOTHESIS 4

Table 4: Showing number of smokers and non – smokers who were aware or not aware of smoking health risks.

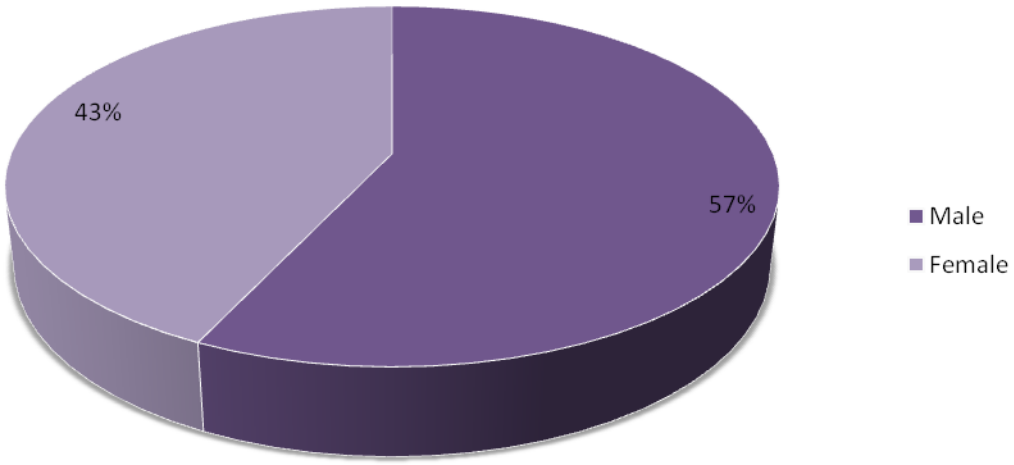
Smoke	Awareness of health risks.		Total
	Yes	No	
Yes	43 (48%)	5 (45%)	48 (48%)
No	46 (52%)	6 (54%)	52 (52%)
Total	89	11	100

Hypothesis 4



Chi square = 0.032, p value = 0.858 > 0.05 which is insignificant. This implies that the hypothesis that non smokers are more likely than smokers to be aware of smoking health risks is rejected.

Fig 10 : Awareness of smoking health risks among male and female.



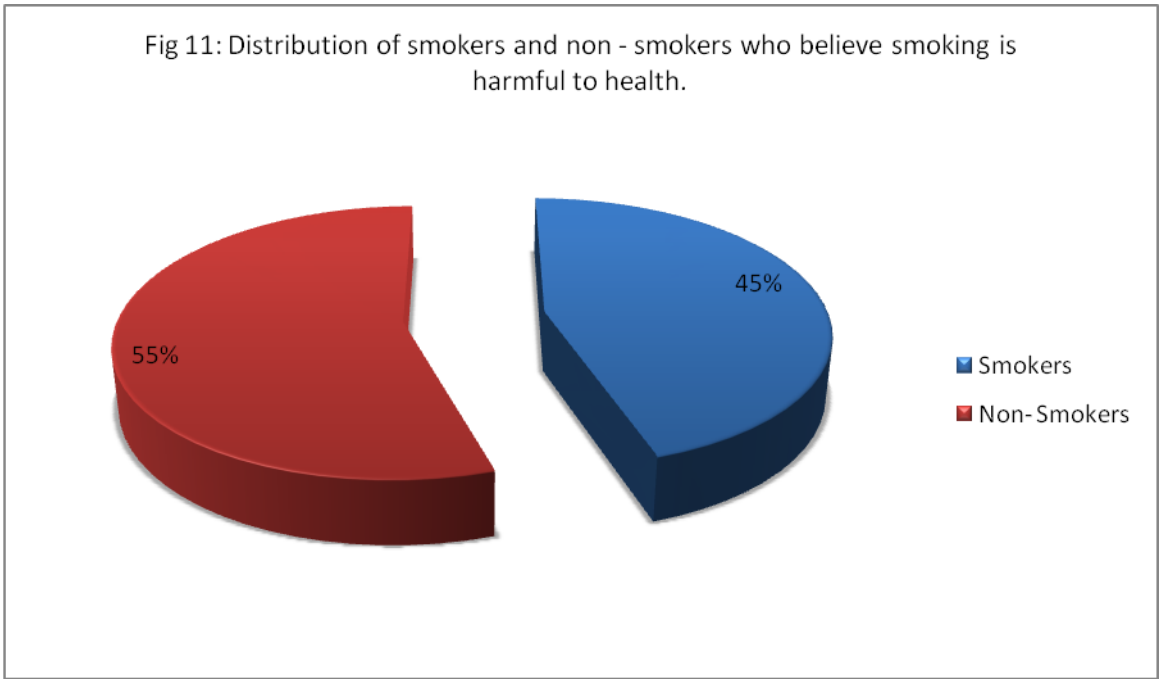


Table 5: Showing smokers and non – smokers who believed cigarette smoking is harmful to health.

Smoke	Do you think cigarette smoking is harmful to health?		Total
	Yes	No	
Yes	42 (45%)	6 (75%)	48 (48%)
No	50 (54%)	2 (25%)	52 (52%)
Total	92	8	100

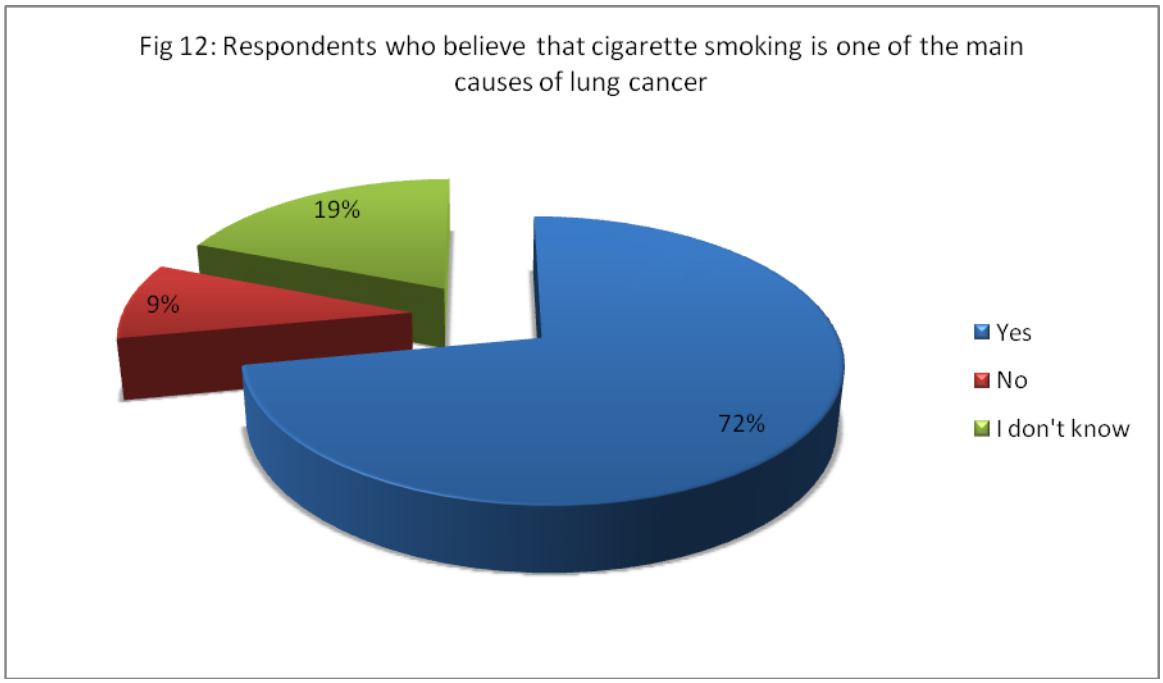


Fig 12: Respondents who believe that cigarette smoking is one of the main causes of lung cancer
19%
9%
72%
Yes
No
I don't know

Table 6: Diseases respondents believe are associated with tobacco use.

	n	%
Lung cancer	1	1
Cardio vascular disease (CVD)	1	1
Chronic bronchitis	3	3
Lung cancer, CVD, Chronic bronchitis	49	49
Lung cancer, CVD, Chronic bronchitis, Stroke	19	19
Lung cancer, CVD, Stroke	7	7
Lung cancer, CVD	7	7
CVD, Chronic bronchitis	4	4
I don't know	9	9
Total	100	100

Table 7: Smokers who said an increase in cigarette prices would affect their smoking behavior.

	n	%
Smokers who said an increase in cigarette price would affect their smoking behavior	38	79
Smokers who said an increase in cigarette price would not affect their smoking behavior	10	21
Total	48	100

Fig 13: Smokers who said that the ban of smoking in public places would affect smoking behavior.

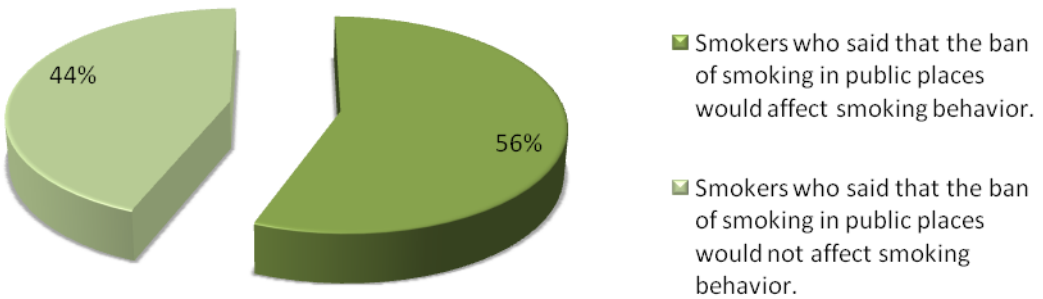


Fig 14: Smokers who indicated how their smoking behavior would change as a result of a ban of smoking in pulic places.

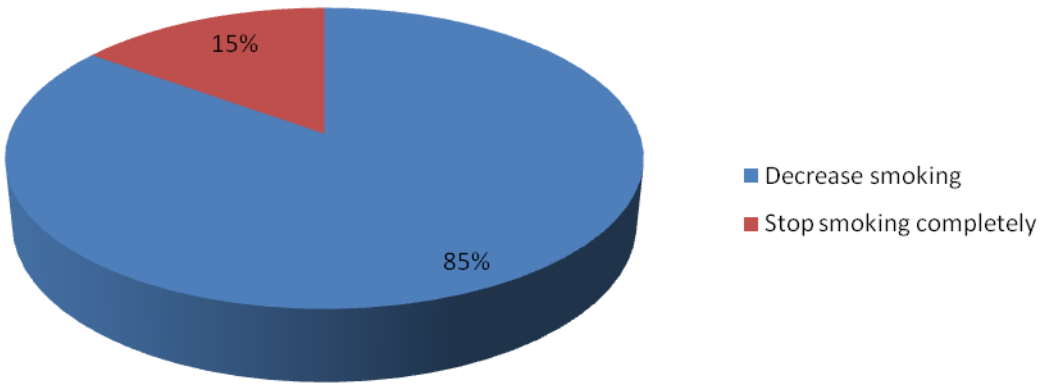
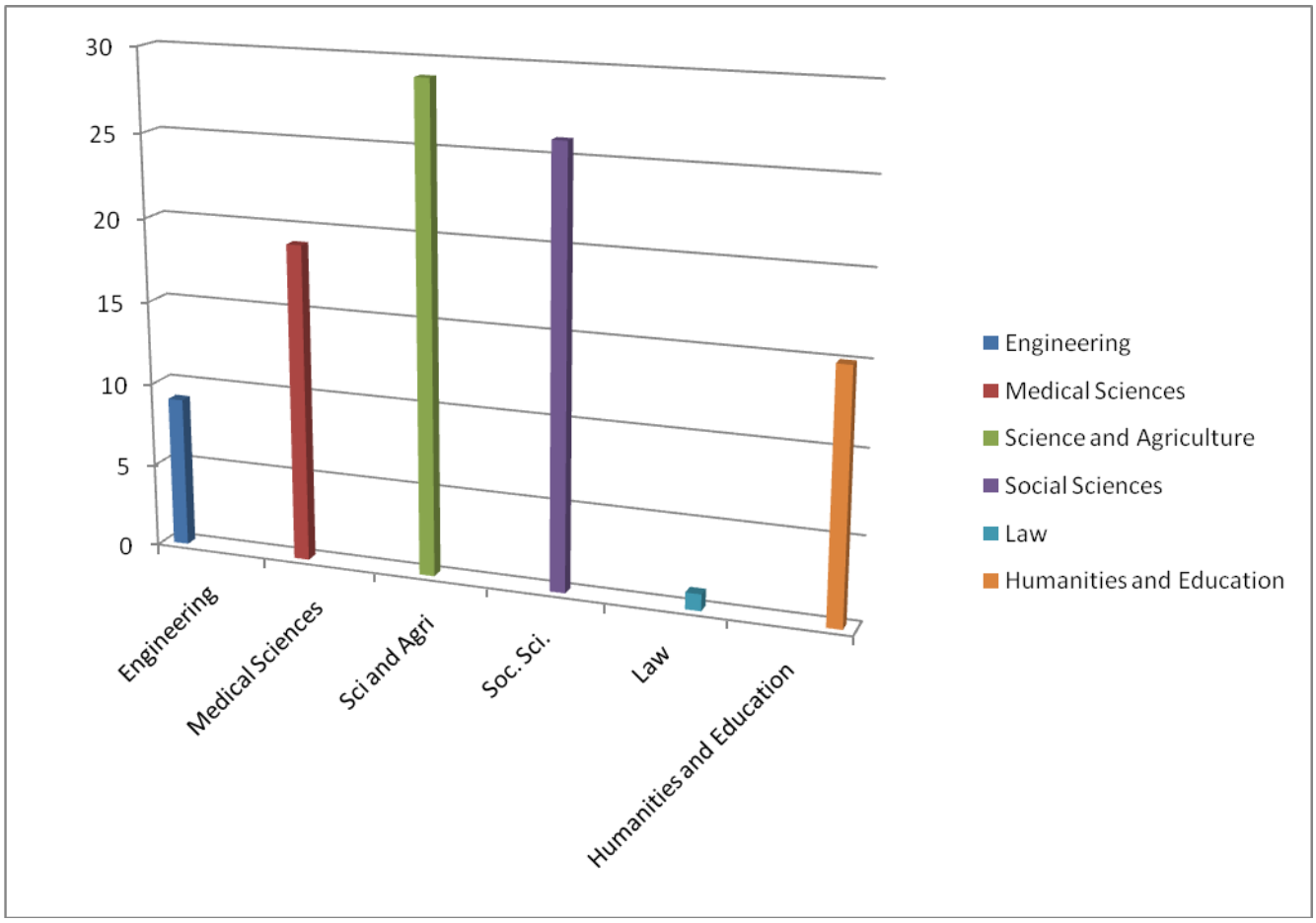


Table 9: Population of sample that supports the ban against tobacco advertising

Support the ban against tobacco advertising	Smokers	Non Smokers	Total
	Yes	No	
Yes	8	41	49
No	40	11	51
Total	48	52	100

Fig 16: Awareness of health smoking health risks among the various faculties.



QUESTIONNAIRE

DEMOGRAPHICS

1. Age Group

   ☐ 19 and under

   ☐ 20 – 25 years

   ☐ 26 –30 years

   ☐ 31 years or older

2. Gender

   ☐ Male ☐ Female

3. Faculty of enrollment

   ☐ Engineering ☐ Medical Sciences ☐ Science and Agriculture

   ☐ Social Sciences ☐ Law ☐ Humanities and Education

SMOKING STATUS

4. Do you smoke?

   ☐ Yes ☐ No

IF YOUR RESPONSE IS NO CONTINUE TO ITEMS 6-13

5. Which of the following best describes your smoking status?

☐ Current smoker – I have smoked wit in the last month.

☐ Daily smoker – I smoke every day.

☐ Occasional smoker – I smoke on some day within the past month

☐ Former smoker – I smoked frequently within the past.

ATTITUDES TOWARDS TOBACCO CONTROL

The Trinidad and Tobago Tobacco Control Act aims to prevent tobacco use by children; regulate tobacco use by individuals; enhance public awareness of the hazards of tobacco use and ensure that individuals are provided with information to make more fully informed decisions about using tobacco; protect individuals from exposure to tobacco smoke; prohibit and restrict promotional practices.

6. Are you aware of the Tobacco Control Act?

☐ Yes ☐ No

7. The Tobacco Control Act prevents smoking tobacco products in any enclosed public places, enclosed workplace or public conveyance. Do you agree with this?

☐ Yes ☐ No

8. The Tobacco Control Act prohibits against tobacco advertising. Do you support this?

☐ Yes ☐ No

9. Do you favor an increase in cigarette tax?

☐ Yes ☐ No

AWARNESS OF SMOKING HEALTH EFFECTS.

10. Do you think that cigarette smoking is harmful to your health?

☐ Yes ☐ No

11. Are you aware of the health risks due to smoking?

☐ Yes ☐ No

12. Do you think that cigarette smoking is one of the main causes of lung cancer?

☐ Yes ☐ No ☐ I don't know

13. Which of the following diseases do you associate with tobacco use?

☐ Lung Cancer

☐ Cardiovascular Disease

☐ Chronic Bronchitis

☐ Stroke

☐ I don't know

INTENT TO CHANGE SMOKING BEHAVIOUR

14. Would an increase in cigarette prices affect you smoking behavior?

☐ Yes ☐ No

15. If 'yes' how would your smoking change?

☐ Switch to a cheaper brand

☐ Decrease smoking

☐ Stop smoking completely

16. Would the ban of smoking in public places affect your smoking behavior?

☐ Yes ☐ No

17. If 'yes' how would you smoking change?

☐ Decrease smoking

☐ Stop smoking completely

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