

## A Comparison of Knowledge and Attitude Between Health Care and Non-health Care Undergraduate Students Towards Tobacco Smoking in Penang.

### Abstract :

**Introduction:** This study investigated the prevalence of smoking among health care and non-health care undergraduate students in Penang. Further, the knowledge, awareness and attitude levels of the respondents were also discerned. Besides, the existence of any significant difference between the knowledge, awareness and attitude levels of the two groups was also investigated. **MATERIALS AND METHODOLOGY:** The population comprised the undergraduate students of Penang. Out of this population, a sample of 162 respondents were randomly selected. Survey questionnaires were given to the respondents to ascertain their prevalence of smoking and their knowledge, awareness and attitude towards smoking. Data was collected and both descriptive and inferential analysis were carried out using SPSS.

**Results:** There were proportionately less smokers among the healthcare respondents compared to the non-healthcare respondents. Additionally, it was also found that there existed a significant difference between the two groups in terms of the score for knowledge, awareness and attitude towards smoking ( $t=6.19, p < 0.05$ ).

**Conclusion:** Thus health care students had a lower prevalence of smoking and had greater knowledge, awareness and attitude of the dangers of smoking and were possibly aided by their greater knowledge of the health sciences.

**Keywords:** attitude, awareness, knowledge, prevalence of smoking

### Introduction:

Healthcare students are exposed to the knowledge of health care and encounter a variety of health conditions on real patients on a daily basis even as students. As prospective health care providers, patients will expect knowledgeable inputs and guidance from them regarding the dos and don'ts of health related matters. This puts health care students in a key position to educate the public.

For a country like Malaysia where the prevalence of smoking is at 25% from 2011 to 2015 indicating a high smoking prevalence,[1] smoking-related diseases have been the primary cause of mortality for the past three decades.[2] It is important that future healthcare providers become the pioneers of the non-smoking culture for them to lead our society towards becoming a healthier, smoke-free nation.[3] Hence the smoking behaviour of healthcare students in Malaysia is of interest to this study. As these students progress in medical school, their knowledge on diseases and systemic manifestations caused by smoking increases.[4]

In this study, we dig into the smoking behaviour among healthcare students in the state of Penang. This study seeks to determine whether medical education has general positive effects in preventing these

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students from taking up smoking. The syllabus required to be completed by each healthcare students also contains many examples of diseases in which the contributing factors involve smoking. Potential positive effects from learning in depth about this might influence healthcare students' perception that society expects them to act as health role models, which could include refraining from smoking. To identify effects of a medical education, we compared the smoking behaviour of healthcare students to those of different majors in a number of colleges in Penang.

The present study surveyed health care students and non-health care students in a single design, allowing the possibility of assessing the specific effect of health education in addition to any effects of a college education in general. It also examines the beliefs and attitudes of these students toward smoking. Its aim was to compare the prevalence of smoking and the knowledge and attitudes towards tobacco between health care students and non-health care students in Penang state.

**Materials & Methodology:**

This is a questionnaire based survey and a cross-sectional descriptive study which evaluated the knowledge on the risks associated with tobacco use, awareness and attitude towards smoking among health care and non-health care undergraduate students in Penang. Furthermore, it compared the knowledge and attitude towards tobacco between health care students and non-health care students in Penang state. The ethical approval was obtained by the Internal Review Board and a written informed consent was taken from the participants involved in the study. Inclusion criteria was those full time students, who have enrolled in Bachelor's degree in both health care courses and non-health care courses, irrespective of race, age and sex in private colleges.

Exclusion criteria were the Diploma or foundation students irrespective of race, age and sex in government colleges and open universities. The random sample size of 162 was determined from the total undergraduate students in Penang who actually responded to take part in the study.

A specifically designed questionnaire for this study consisted of 27 questions which were separated into four parts (A, B, C, and D). Part A consisted of 6 sociodemographic questions which included gender, ethnicity, academic classification, university, and course. Part B consisted of 10 questions regarding knowledge on the risks associated with tobacco use. The participants were required to answer either "strongly agree", "agree", "neutral", "disagree" or "strongly disagree". Part C consisted of 2 questions which assessed the awareness and Part D consisted of 9 questions which assessed the attitudes toward tobacco smoking. The questions consisted of multiple choice answers.

A permission letter for the students to participate in our survey was emailed to the student affair unit of the respective private colleges in Penang. Once approval was granted, the questionnaire was distributed to the randomly selected students in the colleges after obtaining informed consent from all participants. Research team members briefly introduced the survey, explain that the survey

responses were voluntary and confidential. The collected data in the questionnaire were recorded by utilizing SPSS software and then it underwent statistical analysis using independent sample t-test.

Confidentiality of all records was maintained and no information of the respondents will be released or published. The data of the survey was kept confidential by coding each questionnaire.

**Results**

Table 1: Profile of Respondents\

Respondent's Profile	Frequency		Percentage (%)		Total (%)
	Healthcare	Non-healthcare	Healthcare	Non-healthcare	
<b>Gender</b>					
Male	25	35	15.4	21.6	37.0
Female	37	65	22.8	40.1	63.0
Total	62	100	38.3	61.7	100.0
<b>Ethnicity</b>					
Malay	18	20	11.1	12.3	23.5
Chinese	28	49	17.3	30.2	47.5
Indian	14	18	8.6	11.1	19.8
Others	2	13	1.2	8.0	9.3
Total	62	100	38.3	61.7	100.0
<b>Age (years)</b>					
18-22	11	95	6.8	58.6	65.4
23-25	49	4	30.2	2.5	32.7
Above 25	2	1	1.2	0.6	1.9
Total	62	100	38.3	61.7	100.0
<b>Academic classification</b>					
Year 1	0	58	0.0	35.8	35.8
Year 2	0	23	0.0	14.2	14.2
Year 3	4	17	2.5	10.5	13.0
Year 4	31	1	19.1	0.6	19.8
Year 5	27	1	16.7	0.6	17.3
Total	62	100	38.3	61.7	100.0

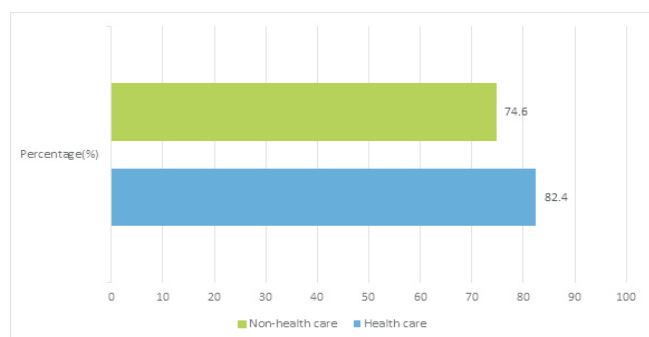
Based on Table 1, the majority of the respondents were from age of 23 to 25 years among healthcare students and more non-healthcare students were in the range of 18 to 22 years. There were 102 females and 60 males in the sample which comprised of different ethnicity with majority being Chinese, followed by Malay, Indian and others. The samples also comprised students who studied in Year 1 to Year 5 from colleges around Penang.

Table 2: Mean Value of Smoking Prevalence

	Course	N	Mean	Std. Deviation	Std. Error Mean
Smoker or non-smoker?	Health care	62	1.0806	.27451	.03486
	Non-health care	100	1.1700	.37753	.03775

According to Table 2 above, the prevalence of smoking was clearly more evident among students who were in the non-healthcare disciplines. In total, the respondents comprised only 62 students who had a prevalence mean of only 1.08 whereas, the 100 non-healthcare students registered a prevalence mean of 1.17. In a situation where a mean of 2 would denote the status of being a smoker and a mean of 1 would indicate the status of being a non-smoker, a mean closer to 2 would mean a greater prevalence of smoking. As evidenced from the table above, the students from healthcare courses have a prevalence value of only 1.0806/2 or 54%, while the students from the non-healthcare courses have a prevalence value of 1.17/2 or 58.5%.

Figure 1: Knowledge, Awareness and Attitude towards Tobacco Smoking



According to Figure 1 above, the knowledge, awareness and attitude score of the healthcare respondents was 70.04/85 or 82.4%. A score of more than 80% for knowledge, awareness and attitude pertaining to smoking was certainly a very encouraging and reassuring score. Whereas in the case of non-health care students, the knowledge, awareness and attitude score was 63.4/85 or 74.6%. A score of more than 70% for knowledge, awareness and attitude pertaining to smoking was still a good score. While the non-health science students registered a score of less than that of the medical students, the score is still encouraging and not deplorably low.

Table 3: Means and t-Test of Knowledge, Attitude and Awareness of Healthcare and Non-Healthcare Students

Courses	N	Mean knowledge, awareness, attitude score	Std. Deviation	t value	Mean difference	p value
Health care	62	70.05	6.51462	6.19	160	.000
Non-health care	100	63.38	6.75514			

Table 3 showed that the mean of the knowledge, attitude and awareness score for the healthcare was 70.05 whereas the mean for those in the non-healthcare group was only 63.38. As the t-test reading obtained was 6.19 which was less than 0.05, which is the benchmark value of the two-tailed test, it was evident that there was a clear significant difference between healthcare and non-healthcare groups in terms of the scores obtained for the knowledge, attitude and awareness pertaining to smoking.

Table 4: History of Smoking Habits N=22

Variables	Courses		Total (%)
	Health care	Non-health care	
<b>Reasons for smoking</b>			
Relieve boredom	1(20.0%)	5(29.4%)	27.3
Relieve anger and frustration	3(60.0%)	4(23.5%)	31.8
Mix in social situations	1(20.0%)	5(29.4%)	27.3
Peer pressure	-	2(11.8%)	9.1
Curiosity	-	1 (5.9%)	4.5
<b>Reasons for quitting smoking</b>			
Encouragement by family	1(20.0%)	3(17.6%)	18.2
Encouragement by friends	2(40.0%)	8(47.8%)	45.5
Learnt about harmful effects through media	1(20.0%)	6(35.3%)	31.8
Learnt about harmful effects at college	1(20.0%)	-	4.5
<b>Reasons for not quitting smoking</b>			
Not sure how to quit	-	4(23.5%)	18.2
Lack of willpower	2(40.0%)	2(11.8%)	18.2
People around me smoke	1(20.0%)	9(52.9%)	45.5
Stress	2(40.0%)	-	9.1
I like it very much	-	2(11.8%)	9.1

Table 4 shows the previous history of smoking habits among health care and non-health care students. Relieve boredom and mix in social situations were the most prevalent reasons for started smoking with 29.4% respectively, among students in non-health care courses, while relieved anger and frustration were considered the most common reason for smoking by 60% among students in health care courses.

Majority of health care and non-health care students wanted to quit smoking with the reason of encouragement by friends, followed by encouragement by family and learnt about harmful effects through media. The most prevalent reason for the non-health care students to not quit smoking was having people around them who smoke by 52.9%, which made them struggle to quit the habit due to surrounding people.

**Discussion;**

A number of researches were carried out in other countries investigating the knowledge, attitude and awareness on smoking in health care and non-healthcare students and even workers in various fields. In our study, we found that the prevalence of smoking was 13.6% and showed higher prevalence in non-healthcare undergraduates when compared to their counterpart in health care courses. The results showed higher prevalence of smoking among males than females.

The findings of Han (2012) which found that students in the medical line were generally more aware of the health hazards of smoking

than those out of the non-medical line.[5] In fact, Magda (2015) also found that students in the medical sciences had greater awareness of the hazards of smoking compared to those in the non-medical sciences.[6]

This coincided with the findings of Cohen (2008) who found there was a difference of awareness between health care and non-health care students about smoking and the health care undergraduate students demonstrated greater knowledge of smoking and had a lower rate of smokers compared to the non-healthcare students.[7]

The results also showed that almost half of the respondents-initiated smoking as a result of mixing in social situations and to relieve boredom with each reason taking up to one fourth of the respondents, respectively. These results were in line with results of previous researches which reported that, friends and boredom were considered the major reason for starting smoking.[8] This highlights the importance of educational programs in schools regarding the detrimental effects of smoking and ways and channels they can reach out for, if they plan to stop smoking. These programs should be aimed towards adolescents and young adults since at this age, they are at a high risk of morally corruptive behaviors.

According to the findings from the current studies, there was a large discrepancy between health care and non-health care respondents regarding their knowledge on the availability of nicotine replacement therapy (NRT).[9] Non-health care students showed a percentage of mere 25. This highlights the reason they are unable to quit the habit might be due to the lack of public awareness programs and their lack of exposure to such information.

The most prevalent reason for them to not quit smoking was environmental, where they struggled to quite due to having people around them who smoke. In congruence with the results from previous studies, our study showed that health care undergraduates are more knowledgeable and aware about the hazards of smoking.[10] This finding might be due to the fact that health care students are taught in-depth about the downsides of smoking and even measures to be taken to stop the habit in their curriculum. It is clear from the results of this study that education plays an important role in the lifestyle and awareness of a person towards health hazards around them.

### Conclusion:

From the findings of the survey, there was a clear prevalence of less smoking in health care undergraduates when compared to their counterpart in the non-health care courses. The study also showed greater knowledge and awareness on the hazards of smoking among respondents in health care courses. Also, there was a statistical difference between these two groups in relation to their attitude towards smoking. The main reason for smoking was found to be due to environmental factor like having people around them who smoke. Health care respondents also showed greater willingness to quit the smoking habit.

According to the outcome of the results, future researchers should assess the factors affecting smoking initiation, as well as effective techniques for the prevention of smoking initiation among university students. Tobacco education programs can be introduced into the university curricular. Adopting anti-smoking programmes to prevent the harmful effects of smoking are required in all colleges hence information on tobacco control policies should be widely disseminated. Introducing special courses for smoking behaviors and cessation in the curriculum for health care students to increase their awareness and encourage them to stop smoking should be done which will boost their credibility as health care providers especially in cases of health education and consultation.

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