

## <Educational Report>

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Post Graduate Public Health in International Health  
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### Tobacco use survey among public health students in the University of the Philippines, Manila.

#### フィリピン大学における公衆衛生学部生と大学院生の喫煙に関する調査

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**Keywords:** GHPSS, tobacco use, smoking, public health students, university of the Philippines.

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## I. Introduction

### 1. Background

Much research has been carried out in the area of tobacco use and has been found that tobacco use is among the leading causes of preventable premature deaths due to disease and disability [1]. Out of the eight leading causes of world deaths is caused by tobacco use [2]. Deaths due to tobacco, will increase to 10 million by the year 2020, if the current tobacco use epidemic continues and more than 70% of the deaths are expected to occur in developing countries [3]. Smoking, which is one of the major risk-taking behaviors, is responsible for the health burden on the society more than any other drug. Public health professionals should have a leading role in the prevention and control of smoking in the community they serve. Brief interventions by public health professionals can substantially reduce smoking rates in the community [4]. Their profession and the services they offer to serve the community are important in the development of public health policies. Public health students who are future public health law enforcers and promoters have a vital role to play in tobacco use prevention, control and cessation efforts.

The Global Health Professional Students Survey (GHPSS) of 2005, showed that 38% of males and 18% of females were current tobacco users among the third year pharmacy students in the College of Public Health of the University of the Philippines [5]. There is vast body of evidence on the contrary that smoking is high in medical and public health tertiary schools of learning. These students lack knowledge on tobacco use cessation techniques and smoking related diseases [6].

Because of high increase in disease related to smoking, various governments remain concerned about the uptake of smoking by young people, which perpetuate tobacco use and subsequent poor health in the communities. The government of the Philippines introduced a series of legislations and policies on the prevention and control of tobacco use and a ban on smoking in all indoor and outdoor public places, including work places; ban on all tobacco advertising; mandatory printed warnings on all cigarette packages; increased taxes on tobacco products; and promoted the implementation of programs related to cessation approaches [7]. Our study determined the prevalence of tobacco use and related awareness on the prevention and control approaches among public health students in the College of Public Health in the University of the Philippines, Manila. Our hypothesis was “The expected awareness of ‘role model’ of Undergraduates and MPH students in controlling tobacco use is different”.

### 2. Objectives of the Study

Previous surveys, under the framework of the GHPSS concentrated on the third year medical, pharmacy, nursing and dentistry students [8]. This survey, aimed at assessing the knowledge, attitude and practice on tobacco use among public health students to influence a prevention and control program in the University of the Philippines [9]. In order to achieve the proposed main objective, specific objectives were set as follows: (i) to determine the prevalence of tobacco use among Undergraduates and graduate MPH students in the College of Public Health, (ii) to describe environmental exposure to second hand smoke among public health students, (iii) to evaluate knowledge and

attitudes of public health students towards smoke bans, (iv) to describe tobacco- use cessation behavior among public health students (v) to describe the curriculum and training activities for public health students in smoking cessation approaches and techniques.

## II. Methods

This was a cross-sectional study targeting public health related students proper by use of (GHPSS) core questionnaire designed by World Health Organization (WHO) for health learning institutions in WHO Member States. The survey was conducted from the 14th -19th of November, 2011, in the University of the Philippines using the GHPSS modified questionnaire and adding a few questions on the demographic, knowledge, attitude and practice, exposure to environmental tobacco smoke sections. The target populations were first year, second year of public health Undergraduates and MPH students in the College of Public Health in the University of the Philippines. The survey was carried out in class rooms during regular lecture sessions. The survey followed an anonymous identity approach and the questionnaire was self-administered for data collection. List of definitions was provided on, tobacco uses, type of smoke and ex-smokers [10]. The study investigated the knowledge, attitude and practice on tobacco use and made recommendations that will influence the prevention and control program in the University.

The total sample for the survey was 215; 75 were first year students, 71 were second year students and 69 were Master of Public Health students, respectively.

The survey assessed six areas namely,(i)socio-demographic, (ii) tobacco use prevalence,(iii) exposure to environmental tobacco smoke,(iv) knowledge, attitude and practice,(v) behavior and cessation and ,(vi)curriculum and training. The onsite observations were also made especially for health promotion posters and leaflets.

The Conceptual Framework in Figure 1 was drawn from the six components of the survey assessment tool developed by WHO (GHPSS). However, a number of factors outside the university such as influence of media, peer, and family that was not included in the study.

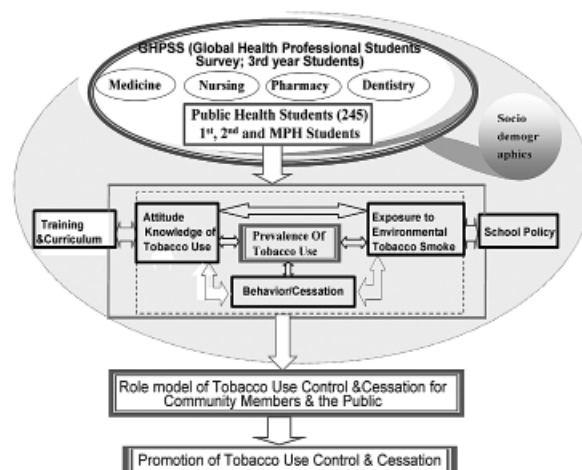


Fig 1 Conceptual Framework on the contributing factors to tobacco use control and cessation approaches

The study received a review approval from the National Institute of Public Health Ethical Review Board (NIPH-IBRA 11027). The informed consent form was used before the interviews. Data generated from interviews and questionnaires were analyzed by use of Epidata 3.1. Statistical analyses were conducted with the use of SPSS version 15.0.

The literature review was classified into five categories as follows:(i) Prevalence of tobacco use in youths,(ii) second hand smoke(iii) environmental exposure to tobacco use (iv) behavior and cessation (v) Curriculum and training. The Philippines has one of the highest percentages of young smokers across the Asian Countries. It was stated that 30% of the adolescents in the Philippines urban areas smoke. Of these, more than 70% started smoking between the ages of 13 and 15 years old. Although risk-taking behavior is considered as part of developmental stage, adolescents engage in dangerous and health compromising behaviors [8].

## III. Results

The total number of respondents was 215, out of whom 75 were first year Undergraduates, 71 were second year and 69 were MPH public health students. The prevalence of current-smokers among public health students was 6.1%, and the prevalence of ex-smokers was 27.6%. According to the survey, 71.9 % of Undergraduate respondents and 69.6% of MPH respondents believed that they serve as "Role Model" for their community members and the public. Out of the 215 respondents, 55.6% of Undergraduates (146 respondents) and 58.2% of MPH students (69 respondents) think they did not get enough knowledge about smoking.

The prevalence of smoking among public health students was low compared to previous GHPSS results in the Philippines; however, it was suggested that the rate of smoking should be reduced to present more non-smoking role models in the communities. As for the expected role models in the communities, 47.9% of the Undergraduates described the expected role model as “by not smoking and encouraging others to stop smoking in the community”, while 24.6 % of the MPH students only mentioned it.

**1. Demographic characteristics of respondents**

The total number of targeted students was 245 and a total of 217 students were present during survey, from which 215 students participated in the study and two students did not. The respondents were fairly distributed in three groups, 74 students were in first year, one of them did not respond, 70 students in second year and 69 students were MPH students. Among them all, 68.1% were females. The mean age of the respondents was 21.7years and the average age for the first year, second year and MPH students was 16.7, 17.8 and 31.2 years, respectively. The key socio-demographic characteristics of the respondents are summarized in table 1.

**Table 1 Demographic characteristics of the respondents**

|                 | Male                       |             | Female                     |             | Total                      |             |
|-----------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
|                 | No. of respondents<br>n(%) | Age<br>M±SD | No. of respondents<br>n(%) | Age<br>M±SD | No. of respondents<br>n(%) | Age<br>M±SD |
| First Year PHS  | 19 (27.9)                  | 16.6 ± 0.7  | 55 (37.9)                  | 16.7 ± 0.7  | 74 (34.7)                  | 16.7 ± 0.7  |
| Second Year PHS | 25 (36.8)                  | 17.9 ± 0.6  | 45 (31.0)                  | 17.7 ± 0.6  | 70 (32.9)                  | 17.8 ± 0.6  |
| MPH students    | 24 (35.3)                  | 28.3 ± 7.1  | 45 (31.0)                  | 32.7 ± 7.7  | 69 (32.4)                  | 31.2 ± 7.7  |
| Total           | 68 (100)                   | 21.2 ± 6.8  | 145 (100)                  | 22.0 ± 8.4  | 213 (100)                  | 21.7 ± 7.9  |

PHS:Public Health Students Note: One first year student from Undergraduates and another from second year did not respond.

**2. Tobacco use prevalence among health professional students**

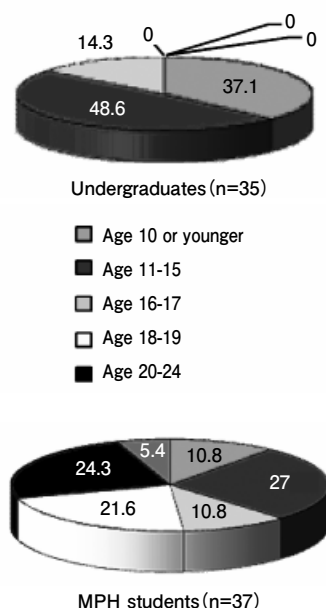
Nearly all public health students had high understanding of the consequences of smoking; Undergraduates were 97.3%, and MPH students were 97.7% respectively. Out of the total number of students, 13 (6.1%) were current smokers, 59 (27.6%) were ex-smokers and the remaining 142 (66.4%) were non-smokers. Among males, 7 students were current smokers where as 26 of them were ex-smokers. Among the females, 6 students were current smokers while 33 of them were ex-smokers. Comparing the males and females, the prevalence of current smokers among male students was higher than female students (10.1% vs. 4.1%) and that of ex-smokers was 37.7% for males and 22.8% for females. When

comparing Undergraduate students with MPH students, the prevalence of smoking (current smokers and ex-smokers) among MPH students was higher than Undergraduate students (Male: 70.8% vs. 35.6%, p=0.005; Female: 44.4% vs. 19.0%, p=0.001) (Table 2).

**Table 2 Prevalence of smoking among public health students by grade**

|               | Current smoker |                  | Ex-smoker      |                  | Non-smoker     |                  | Total          |                  |
|---------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|
|               | Male<br>(n, %) | Female<br>(n, %) | Male<br>(n, %) | Female<br>(n, %) | Male<br>(n, %) | Female<br>(n, %) | Male<br>(n, %) | Female<br>(n, %) |
| Undergraduate | 2(4.4)         | 2(2.0)           | 14(31.1)       | 17(17.0)         | 29(64.4)       | 81(81.0)         | 45(100)        | 100(100)         |
| MPH students  | 5(20.8)        | 4(4.1)           | 12(50.0)       | 16(35.6)         | 7(29.2)        | 25(55.6)         | 24(100)        | 45(100)          |
| Subtotal      | 7(10.1)        | 6(4.1)           | 26(37.7)       | 33(22.8)         | 36(52.2)       | 106(73.1)        | 69(100)        | 145(100)         |
| Total         | 13 (6.1)       |                  | 59 (27.6)      |                  | 142 (66.4)     |                  | 214 (100)      |                  |

Among all the current and ex-smokers, the initial age was 11-15 years of starting smoking. The smoking rate was 48.6% for Undergraduate students whose age was 18-19 years and 27% for MPH students whose ages ranged within 20-24 years old (Figure 2)



**Fig 2 Distribution of initial age of smoking among current smokers and ex- smokers.**

**3. Exposure to environmental tobacco smoke (second hand smoke)**

Among all the respondents, nearly 60% were not exposed to smoking in their living places during the past 7 days. When stratified by smoking status, the percentage range

was 38.6%, 64.4% and 60.1% for current smoker, ex-smoker and non-smoker, respectively (Figure 3). There was no significant difference between percentage of smokers (including current smokers and ex-smokers) and non-smokers ( $p=0.778$ ).

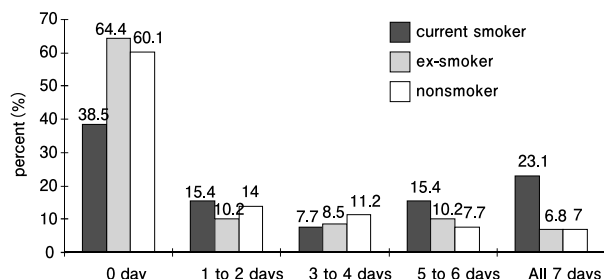


Fig 3 Frequency of exposure to smoking in the living places

During the past 7 days, non-smokers frequency of exposure to smoking in public places was high on 1 to 2 days (26.2%) and during all the seven days (29.8%), respectively and there was significant difference between smokers and non-smokers ( $p=0.022$ ). A total of 23.1% of current smokers, 44.1% of ex-smokers and 29.8% of non-smokers were not exposed to smoking in the public places during all the past 7 days (Figure 4).

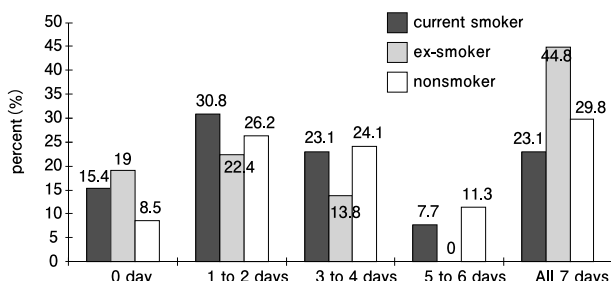


Fig 4 Frequency of exposure to smoking in public places

#### 4. Knowledge, Attitude and Practice

The results indicated a high level of knowledge (97.7%) about tobacco use and cessation techniques among the public health students. Therefore, training public health professionals in tobacco use control and cessation would equip them with more knowledge in implementing promotion activities in their communities. Among Undergraduates and MPH students, the positive response regarding advertising of tobacco products and banning in discos/bars/pubs was low compared to restaurants and public places (Figure 5).

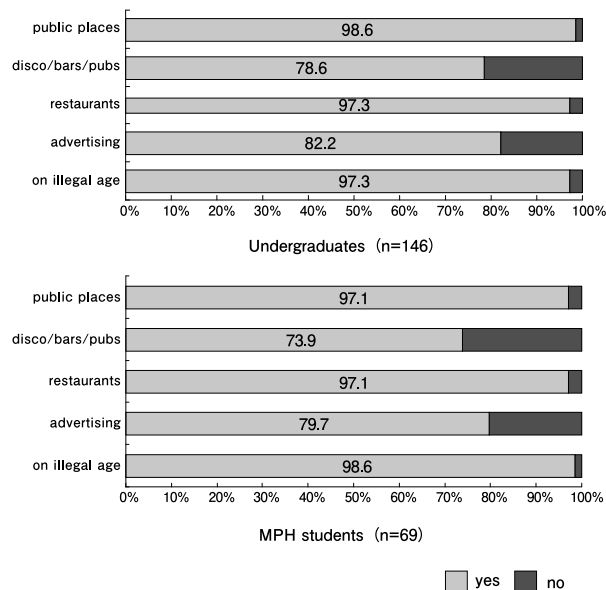


Fig 5 Attitude towards smoke ban

#### 5. Expected role model

The Undergraduate students (47.9%) were found to be more involved than the MPH students (24.6%) in encouraging community members to stop smoking. The Undergraduates (27.4%) had also almost similar interest with MPH students (27.5%) in implementing promotion activities that improved lifestyles of the communities. The MPH students (18.8%) had provided cessation approaches and had knowledge of smoke ban strategies than the Undergraduates (7.5%). This was justified by the MPH Students being already in employment service (Table 3).

Table 3 Expected role model

| Expected activities   | Undergraduate students n (%) | MPH students n (%) | Total n (%) |
|---|------------------------------|--------------------|-------------|
| Expected role model in the community by not Smoking and encouraging others to stop smoking                          | 70 (47.9%)                   | 17 (24.6%)         | 87 (40.4%)  |
| Promotion activities, improve lifestyle condition and strengthening of advocacy measures regarding tobacco control  | 40 (27.4%)                   | 19 (27.5%)         | 59 (27.4%)  |
| Cessation approaches and knowing smoke ban strategies   | 11 (7.5%)                    | 13 (18.8%)         | 24 (11.1%)  |
| Provision of education and training to the community about dangers and health risk of smoking and other tobacco use | 6 (10.3%)                    | 14 (20.2%)         | 29 (13.4%)  |
| Preventive activities and Anti- Tobacco Campaign  | 10 (6.8%)                    | 6 (8.6%)           | 16 (7.4%)   |
| Total number of respondents   | 146 (100%)                   | 69 (100%)          | 215 (100%)  |

## **IV. Discussion**

Our results confirmed that the prevalence of smoking among public health students was low compared to previous (GHPSS) of 2007 results of third year pharmacy students; however, it was suggested that the rate of smoking should be reduced to present more non-smoking public health students role models in the Philippines. The provision of health promotion activities to the community members could have a positive effect on smoking habits of the community, including tobacco cessation approaches for public health students for their playing a significant role in the prevention and control of tobacco use. Therefore the University of the Philippines should consider training public health students in cessation techniques and approaches. The results show that public health students recognize that they are role models in society.

### **1. Prevalence of Tobacco Use**

The prevalence of tobacco use among public health students was 6.1%; 2.8% for Undergraduates and 13% for MPH students, respectively. The results suggested that expected role models for the Undergraduates and MPH students were different. The prevalence of tobacco use among public health students in the College of Public Health in the University of the Philippines, Manila was 6.1% which was low compared to the previous GHPSS results of pharmacy students in 2007.

This study did not go deeper in identifying the reasons of lower prevalence; however, the influence on student's knowledge, attitude and practice was the result of the University programs which were seen as the common influential factors. On the other hand, public health students believed that they served as "role model" for the community they serve. None of the previous studies as well as our study identified the reason male students tend to smoke more than females.

### **2. Environmental Exposure (second hand smoke)**

The school policy follows the Philippines government anti smoking law which restricts smoking in public places and in school premises which also protects non smokers from second hand smoke exposure. The majority of the students indicated that there were smoking bans in the University buildings/clinics and also smoking ban was being enforced by the University authorities. Most exposures to tobacco use were indicated to be from the living dormitories outside the University premises. The University had less authority over the ownership of living dormitories.

### **3. Knowledge, Attitude and Practice**

Knowledge about the tobacco use and smoking cessation techniques among public health students was relatively high

among the current smokers, ex-smokers and non smokers. The public health students also showed commitment in their responses to serve as "role model" for the community they serve.

### **4. Tobacco Use Training and Cessation Techniques**

Both Undergraduates and MPH students indicated the need to acquire knowledge; especially the Undergraduates were more willing to undergo training and felt those already working in the field had not done so much to prevent and control tobacco use both in the University of Philippines and in the communities where they live. Therefore, this study suggested that 6.1% of tobacco use prevalence was still high. It was supposed to be zero since public health students were the "role model" as promoters and educators to the community. Therefore, it was very important for the University to intensify leaflet distribution on sensitization of the students and the public about tobacco use prevention and control and class teaching on smoking cessation approaches, techniques and on effects of tobacco use law enforcement on the prevention and control measures.

## **V. Conclusion**

The prevalence of tobacco use among public health students was 6.1% (2.8 % for Undergraduates, and 13.0% for MPH students, respectively). Nearly all the public health students (93.3% for Undergraduates and 97.7% for MPH students) had high understanding of the consequences of smoking and had positive attitudes towards tobacco use control and ban. It appears that the results suggest that expected role models for Undergraduates and MPH students be different.

## **VI. Limitation of Study**

Limitation to the current study included the definition by WHO-GHPSS of "Ex- Smoker" which was not clear to categorize and more detailed information was not obtained to compare the results of the previous similar surveys. Finally, the results were not generalized because only one school was covered in our study.

## **VII. Recommendations**

We recommend that some topics about cessation techniques be included in the curriculum because the students after graduating from the College of Public Health, the University of Philippines play a vital role in their communities for cessation and control of tobacco use. Public Health students have a role in their communities to support

smokers to quit smoking.

### Acknowledgements

We owe our deepest gratitude to the College of Public Health, University of the Philippines, Manila, for the moral and material support rendered to us during the proceedings of the survey. Many endless thanks go to Dr. Nina G. Gloriani, Prof Janathan Guevara and the support staff. Many thanks also go to our Supervisors and supporting staff from National Institute of Public Health-Saitama –Japan. We also extend many thanks to JICA, Tokyo for financial support other logistics.

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