Phil. J. Internal Medicine, 47: 129-135, May-June, 2009

SMOKING BEHAVIOR AND PRACTICES AND SMOKING CESSATION IN THE GENERAL POPULATION AND AMONG HEALTH CARE PROFESSIONALS IN METRO MANILA

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ABSTRACT

***Background*: A sizeable amount of the population continues to smoke despite global efforts in smoking cessation; unfortunately smoking prevalence is especially high in the productive age group, i.e., 22-65 years old. Even health care professionals who are aware of the ill effects of smoking have difficulty quitting.**

***Objective*: The main aim of this study is to investigate the smoking behavior and reasons for failure of smoking cessation in the general population and among health care professionals in Metro Manila.**

***Methodology*: Random sampling of cities and participants was done. Cities included were Pasig, Mandaluyong, San Juan, Paranaque, Makati, Quezon City, Manila, Paranaque and Muntinlupa; hospitals included were CSMC, TMC, SLMC and UP-PGH. The Wisconsin Inventory of Smoking Dependence Motives (WISDM-68), a standardized questionnaire, was used.**

***Results*: A total f 4,000 survey forms were distributed and 1,388 (34.7%) were returned; 1,249 (90%) from the general population and 139 (10%) from health care professionals. Principal reasons for smoking and difficulty quitting in the general population are social and environmental goads, particularly in the workplace, and associative processes. Moreover, health care professionals are high in the motives that predict relapse, namely cognitive enhancement, social and environmental goads and negative reinforcement, in that order.**

***Conclusion*: With a more in depth understanding of smoking behavior and practices and why most smokers fail to quit, physicians would be more adept in motivating and counseling each smoking patient to quit.**

***Keywords:* Global epidemic, health care professionals, nicotine, tobacco**

INTRODUCTION

Smoking is considered a global epidemic, within significant proportions in many countries. It is considered the leading single, modifiable cause of disease and death in the Western world; and is a formidable barrier to development in many developing countries.[1] A 1998 Metro Manila Survey revealed that the smoking prevalence in the productive age group, i.e., 22-65 years old, was 65%.[2]

A sizeable amount of the population continues to smoke despite the well-publicized dangers of smoking and global efforts in smoking cessation. An Asian study reports a lower cessation rate for Filipino smokers compared to other Asian countries.[3] Since the 1980's, broad scientific consensus showed that smokers become dependent upon nicotine, which has been blamed for every smoking behavior and relapse4. Because of this concept, maneuvers undertaken to quit are the nicotine patch, gum, lozenge, inhaler, nasal spray, drugs that assert to inhibit smoking (Zyban, Wellbutin, Champix) and smoking cessation programs. Despite all these extensive efforts and modern innovations, a large proportion of our population continues to smoke. Perhaps, if we could develop a clearer understanding of its nature and motivational mechanisms, we will be better-positioned to help prevent smoking and aid in smoking cessation.

The prevalence and patterns of use among specific populations may be of particular interest. In this case, patterns of tobacco use among physicians are vital and may indicate the likelihood of future change among the general population. Health care professionals are highly respected in their communities. They act as role models in issues related to health, and people turn to them for advice and consultation. Physicians are aware of the ill effects of smoking on one's health, yet a number still chooses to smoke themselves. Evaluation research of the prevalence of smoking among physicians is encouraged and prioritized by the World Health Organization (WHO),

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which posits that health professionals should be the primary target of anti-smoking campaigns due to the fundamental advisory role they play in the prevention and cessation of smoking among their patients and in the population at large.[5] A local study by Jorge, M., *et al.* found that both cardiologists and pulmonologists recognize their roles as examples to their patients and to the community and that there was no significant difference regarding their knowledge on the hazards of smoking. It also showed that there is no significant difference between smokers and non-smokers in their knowledge, attitudes and practices towards smoking and smoking cessation.

This study was undertaken to evaluate the smoking behavior and practices of the general population and the health care professionals. In line with this, the researchers decided to look into why a number of health care professionals continue to smoke despite their knowledge of its effects, and to help them counsel their patients to stop smoking. Moreover, this study would help non-smoker physicians to understand their smoker patients more and improve in promoting smoking cessation.

Objectives

To investigate the attitudes of smokers towards issues related to smoking and smoking cessation in the general population and among health care professionals in Metro Manila.

Specifically, this study aims (1) to determine the reasons for smoking, (2) to look into the smoking behavior and practices, and (3) to investigate reasons for failure of smoking cessation in the general population and among health care professionals in Metro Manila.

Hopefully, this study also has the purpose of furthering the implementation of anti-smoking strategies.

MATERIALS AND METHODS

A. Study Design

This is a descriptive study done by cross-sectional survey.

B. Subject Selection

Random selection of eight of the seventeen cities in Metro Manila was done by the fishbowl method. The cities included were Pasig, Mandaluyong, San Juan, Makati, Quezon City, Manila, Paranaque and Muntinlupa. The hospitals included were (physicians, medical students and nurses) in Cardinal Santos Medical Center (CSMC), The Medical City (TMC), St. Luke's Medical Center (SLMC) and University of the Philippines – Philippine General Hospital (UP-PGH). Study period is from June to October 2008. This involved randomly selected regular smokers from the general population and among health care professionals (physicians, medical students and nurses) from the productive age group, that is, between 22 to 65 years old. General population subjects were randomly selected from employees of banks, call centers, bars, coffee places, construction companies, clothing companies, college and post-graduate schools and unemployed individuals. Only regular smokers were included in this study, defined as any person who smokes a tobacco product at any time during the survey.[8]

C. Data Collection Tools and Procedure

Recruitment of subjects was done by randomly clustering cities and selecting hospitals in Metro Manila. Subsequently, subjects were randomly selected from these clusters to represent the whole population. The Wisconsin Inventory of Smoking Dependence Motives (WISDM-68), an international standardized and validated questionnaire, was used in this study. It was also translated to Filipino by Eilene Antoinette G. Narvaez from UP Sentro ng Wikang Filipino – Diliman, so that both English and Filipino dialects were used in the questionnaire (Appendix 1), and anyone can answer the questionnaire. Random subjects were asked to answer the questionnaire. Each questionnaire was scored and tallied accordingly.

RESULTS

A total of 4,000 survey forms were distributed and 1,388 (34.7%) were returned that were included in the study. There were 1,249 (90%) respondents from the general population and 139 (10%) were health care professionals.

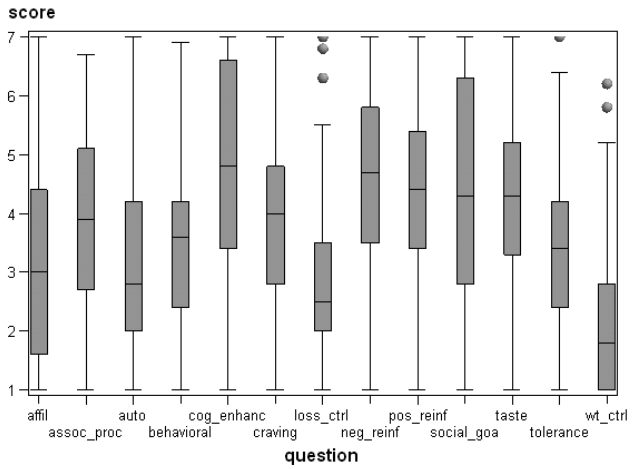
Hospital	Total No.
CSMC	40
TMC	17
SLMC	34
PGH	45
Total	139

Population	Total No.
Pasig	273
Mandaluyong	114
San Juan	121
Makati	123
Quezon City	180
Manila	221
Paranaque	108
Muntinlupa	112
Total	1,249

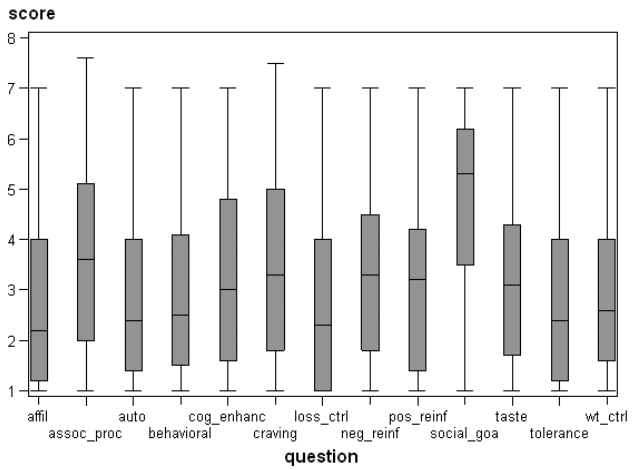
Of the respondents, 933 (67.2%) were men, 417 (30%) were women, 38 (2.7%) did not put their gender. Age of respondents is between 22 to 64 years old.

Age Range (in years)	Total No.	Percentage
22 – 35	637	26.4%
36 – 45	419	30.2%
46 – 55	243	17.5%
55 – 65	48	3.5%
Unknown (did not put age)	42	3.0%

A. Reasons for smoking

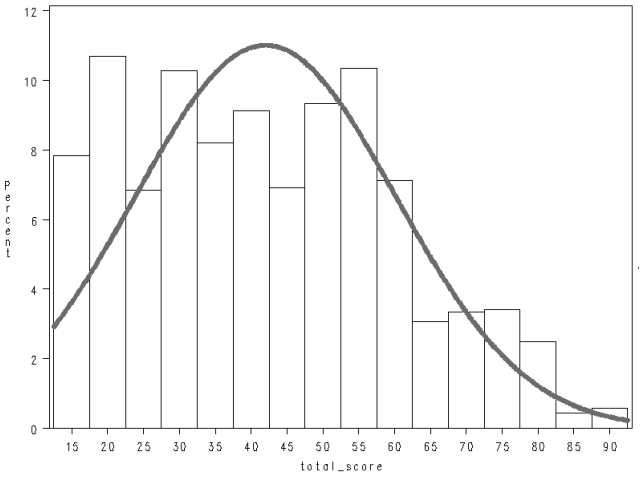


Reasons for smoking in the general population



Reasons for smoking among health care professionals

B. Smoking behavior and practices



Total scores of all participants

The total score of each respondent is obtained, 13 being the lowest score, 91 being the highest score; 200 subjects (14.4%) fell in the 13-20 total score range, 239 (17.2%) were in the 21-30 range, 244 (17.6%) were in the 31-40 range, 251 (18.1%) were in the 41-50 range, 251 (18.1%) were in the 51-60 range, 105 (7.6%) range, 80 (5.8%) were in the 71-80 range and 18 (1.3%) were in the 91-91 range. Most of the respondents fall in the middle of the bell curve, meaning they are not too dependent on and yet not liberated from smoking. A slightly high percentage also fell on the 13-20 total score range. This is because a number of respondent answered 1 in all the items in the questionnaire.

DISCUSSION

The Wisconsin Inventory of Smoking Dependence Motives (WISDM-68) has thirteen subscales that measure dependence based on different motivational forces, which intended to elucidate mechanisms underlying compulsive drug use and inability to quit.[9] It is imperative that dependence be viewed not only as the presence of internal state behaviors or external situations, but more importantly as the individual's disposition to respond to such states with drug use or smoking. This questionnaire was also preferred because aside from its standardization and validity, it also has the advantage of consistency in various subgroup of smokers (eg., ethnicity, gender, daily or non-daily smokers).

The 13 subscales are as follows: affiliative attachment, automaticity, behavioral choice and/or

melioration, cognitive enhancement, craving, cue exposure or associative processes, loss of control, negative reinforcement, positive reinforcement, social and environmental goads, taste and sensory properties, tolerance and weight control.

A. Reasons for smoking

Based on this study, the leading reason for smoking in the general population is social goads. Social or environmental goads are social stimuli that either model or invite smoking. This motive plays an important role in motivating drug use and it may be especially important in the initiation as well as the maintenance of drug behavior. Social or occupational environments promote smoking, making cessation difficult. Therefore, smokers with more smokers in their environment or smokers who interact with other smokers who do not value cessation will have a harder time quitting.

This year, the Philippine Business for Social Progress (PBSP) developed the Quit Smoking Support (QuitsS) program, a workplace-based project batting for a holistic approach to kicking the habit among employees and aims to ensure the application of participatory, evidenced-based approaches that lead to desired behavioral changes among smokers. The pleasant QuitsS mascot takes the place of the old monster "Yosi Kadiri", showing the different, more positive approach to smoking cessation.

Associative processes come in second. These are frequent encounters with nonsocial cues or a strong perceived link between cue exposure and the desire or tendency to smoke. The smoker learns to associate certain cues with smoking and finds it hard to do something without smoking, like relaxing after eating, going to the bathroom or drinking alcohol. Smokers who are more dependent will be exposed to more salient cues more frequently than less dependent smokers.

The third top motive for the general population group is craving. This is a very traditional theoretical motive for drug use. Craving is defined as experiencing intense and/or frequent urges to smoke. Craving is an aversive state that motivates relapse and self-administration of drug. The more one is deprived of a cigarette, the more he or she is likely to have the intense need to have it.

As for the health care professionals, the foremost reason for smoking is cognitive enhancement. Most physicians and medical students smoke to improve cognitive functioning. Studies have shown that nicotine can improve attention and vigilance.[10] Smokers usually smoke to increase their cognitive abilities either above their baseline ability or usually to restore their cognitive abilities after nicotine deprivation. They claim to have more concentration after taking a cigarette break.

Another significant motive for smoking among health care professionals is social goads. Since health care professionals have long hours of duty in the hospital, they find ways to "escape" and relieve stress within the vicinity. They usually have smoking breaks with other doctors or nurses on duty.

The third topmost reason for smoking in this population is negative reinforcement, wherein smoking is used to alleviate an aversive physical or psychological state. Within this domain the negative state may be due to life events such as stress or may be due to withdrawal symptoms. Health care professionals, physicians and medical students, have more frequent aversive states such as stress, lack of sleep, extremely high physical demands, need for continuous mental and cognitive alertness. These incessant stressors cause them to utilize cigarettes more frequently to alleviate these states and continue working efficiently.

Positive reinforcement is another cause for smoking for health care professionals. An individual smokes in order to experience a "high" or a positive feeling. Just like negative reinforcement, this motive is higher for health care professionals compared to the general population (Appendix 3). This may be related to the fact that this population experiences more stress and demands from work that they resolve to smoking to give them immediate optimistic and upbeat feeling after a difficult case, a tiring duty or encounter with an angry senior. It is predicted that more dependent smokers will report more positive reinforcement motives for smoking than less dependent smokers.[9]

Affiliative attachment falls in the middle for health care professionals, and is at the lower half of the graph for the general population (Appendix 3). Affiliative attachment is the strong emotional attachment to smoking and cigarettes. This hypothesizes that general population respondents do not depend on cigarettes for companionship and less likely would feel alone if cigarettes are taken away from them. The more attached a smoker is to his or her cigarettes, the harder cessation will be, suggesting stronger dependence.

Automaticity is smoking without awareness of intention. Like any activity an individual practices, smoking eventually becomes automatic. Both groups are in the lower half of the graph for this motive, Loss of control is interrelated with automaticity. Loss of control is present when a person believes that he or she has lost volitional control over drug use due to any variety of factors. The assessment of control may provide important information regarding the smoker's ability to quit smoking. Like automaticity, both groups are in the lower half of the graph. This hypothesizes that they will be more likely to quit smoking when they want to because they feel that they are aware of the times they reach for a cigarette and still have some control over their drug use. Smokers with highly automatic smoking processes and loss of control over smoking will find it harder to quit, either due to a stronger dependence or an inability to counter their automatic behavior.

Behavioral choice is smoking despite constraints on smoking or negative consequences. Smokers who are more dependent will be more likely to smoke even in the presence of constraints on cigarettes. The general population group falls on the lower half of the graph, while health care professionals fall on the middle of the graph. This motive is found to be inversely related to relapse if there is concurrent motive for smoking cessation.

Taste and sensory properties is another motive, wherein one smokes to experience the orosensory or gustatory effects of smoking. The more positive the experience of smoking a cigarette is, the more that behavior will be strengthened. Health care professionals are higher in this motive compared to the general population, probably associating the relief from stress that they experience with the taste or feel of smoking.

Tolerance is to smoke increasing amounts over time in order to experience the desired effects. This motive is a necessary component of dependence. This enables the individual to tolerate higher doses of drug without suffering its toxic effects and requiring higher doses of the drug in order to achieve the same subjective high. The general population group is at the lower half of the graph while health care professionals are in the middle of the graph (Appendix 3).

Finally, smokers may be motivated to continue using drug for the purposes of controlling their weight. Cigarettes do appear to increase metabolism and serve as an appetite suppressant. This weight control motive may occur in response to weight loss that occurred after smoking was initiated or it may be driven by a fear of gaining weight once the smoker quits. People who are concerned about their weight or concerned about controlling and/or suppressing their hunger may have more trouble quitting smoking. Health care professionals do not consider weight control to be a motive for smoking. On the other hand, the general population seems to regard this as one reason to continue smoking. However, plot just falls on the lower half of the graph (Appendix 3) because the question was phrased slightly in a different manner; respondents expect and rely on smoking to control their appetite and weight, yet this does not happen, hence the low score.

B. Smoking Behavior and Practices

Particular motives strongly predict dependence. These are craving, associative processes, affiliative attachment, positive reinforcement and negative reinforcement. Tolerance also is frequently considered to be one of the defining characteristics of dependence. The general population was found to be high in associative processes and health care professionals were found to be high in negative reinforcement. As mentioned earlier, the smoker from the general population smoker learns to associate certain cues with smoking and finds it hard to do something without smoking. On the other hand, health care professionals have higher levels of stress and this causes them to use cigarettes more frequently to relieve these states and to continue working efficiently.

There are four motives that strongly predict relapse. These are automaticity, cognitive enhancement, social and environmental goads, negative reinforcement. This may be the reason why health care professionals have difficulty quitting. They are quite high in three out of the four measures of relapse --- cognitive enhancement, social and environmental goads and negative reinforcement, in that order.

Smokers who have histories of specially heavy tobacco exposures are likely to endorse strongly notions that they have formed emotional attachments to smoking, that tobacco use has displaced other sources of reinforcement, that tobacco use allows them to think more clearly and effectively, and that tobacco use reduces cravings or urges to eat.

C. Smoking Cessation

Studies have shown that a large proportion of smokers tried to quit or want to quit smoking

sometime, but that most who have tried quitting did not succeed.[8] The WISDM-68 saw dependence as an emergent property of motivational processes that influence compulsive drug use and an inability to quit.

Behavioral choice or melioration motives were found to be inversely related to relapse because it is a measure of overall motivation to quit.[9] If an individual has high levels of this motive but is motivated enough to participate in a smoking cessation program, he or she was less likely to relapse. Both groups in this study did not stand out in this motive.

Physicians in our country and other countries as well, may not be taking full advantage of windows of opportunity to identify smokers and provide smoking advice. During outpatient consultation, patients should be routinely asked if they smoke, if they have thought of quitting and should be routinely advised to quit. A lot of physicians fail to illicit this information or fall short in giving this advice. In conjunction with the fact that a number of physicians are current smokers, this indicates a need for a more developed and individualized intervention.

The extent a physician's advice influences patient decisions. And whether physicians are actively involved in promoting health policy related to smoking prevention and control have impact on patients. Healthcare professionals can help patients stop smoking by ensuring that counseling and pharmacological therapy is available, and actually counseling them about quitting. Physicians who do not smoke are more likely than those who do to provide advice to quit. This study is also helpful for physicians who do not smoke in counseling patients to quit smoking as they can be more conscious of the factors that influence an individual to smoke. A study in Armenia revealed that patients find physicians more believable and motivating if the physician discloses their own positive health practice. This study also found out that nurses also have an impact on lowering smoking among patients they handle.[6]

LIMITATIONS AND RECOMMENDATIONS

There was no strict randomization done in the second stage of the multi-stage cluster random sampling. Random subjects were expected to be representative of the whole population. The hospitals included were not randomized. They were included based on proximity and convenience. These hospitals may not represent the whole population of health care professionals. However, this is a descriptive study done thru survey conduction.

Another potential source of bias arises from the response rate. A larger sample size will allow a more precise result. More than half of the survey forms distributed were not returned, decreasing the accuracy of the outcome. For future studies, focus should be given on the retrieval of questionnaires.

A considerable percentage of total scores fell on the 13-20 total score range. This is because a number of respondents, 34 (2.4%) to be exact, answered 1 in all the items in the questionnaire without thinking. However, these survey forms cannot be disregarded, hence a skewed bell curve and bar graph.

CONCLUSIONS

It takes time to become addicted to tobacco, and much, much longer to break the addiction. The principal motives for smoking among health care professionals are cognitive enhancement, social goads and negative reinforcements. They usually smoke to restore their cognitive abilities and relieve stress from work. These motives are high predictors of relapse hence the difficulty in smoking cessation. The general populations' chief motives for smoking are social and environmental goads, particularly in the workplace, and associative processes. Physicians should have a more in depth understanding of smoking behavior and practices and the real reasons why most smokers fail to quit. This would aid them to better approach and counsel each patient. It should be the goal of every health professional to motivate every smoking patient to stop smoking. Routinely ask patients about smoking habits and advise them to quit.

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