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# General perceptions and practices of smokers regarding tobacco-related issues and hazards

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## Abstract

**Objective:** To assess the perceptions and practices related to tobacco consumption and its hazards among cigarette smokers seeking medical attention.

**Methods:** The cross-sectional study included 180 active smokers who were either hospitalised in medical or chest ward or attending pulmonary OPD at Shaikh Zayed Hospital, Lahore, between January and July 2010. Patients having altered sensorium were excluded from the study. A questionnaire was filled by the consulting participants. SPSS version 15 and chi-square tests were used for statistical analyses.

**Results:** A total of 180 questionnaires were distributed among 118 (65.6%) in-house and 62 (34.4%) active smokers in the out-patients department. These included 154 (85.6%) males and 26 (14.4%) females, with a mean age of 53.84 ± 17.35 years, and with varying pack years (mean 26.44 ± 19.89). Apart from cigarettes, 42 (74%) were also smoking other types of tobacco. Attempt to quit smoking was made by 92 (51.1%) and 151 (83.9%) were willing to give up. Majority of them 130 (72%) had at least two more smokers in the family. Most of the patients 169 (93.9%) presented with illnesses directly related to smoking. Besides, 127 (70.6%) patients had visited their general practitioners within the preceding year and a positive history of hospitalisation was found in 101 (56.1%). Regarding the knowledge of smoking hazards, only 5 (2.8%) could name three organs that may dysfunction due to smoking. While 162 (90%) had poor perception regarding the estimated number of chemicals in a cigarette, 120 (66.7%) knew the smoking's association with cancer.

**Conclusion:** A high proportion of urban population consumes tobacco and most are poorly informed about the traumatic effects of its consumption. The continuing habits of patients with a history of seeking medical attention suggest that healthcare providers are missing opportunities for quit-smoking counselling.

**Keywords:** Cigarette smoking, Pack years, Tobacco hazards (JPMA 62: 590; 2012).

## Introduction

The annual death rate due to tobacco usage is estimated to be 5.4 million and if present trends continue, this toll is projected to rise to over 8 million deaths per year by the year 2030, with 80 percent of those deaths occurring in the developing world where tobacco use is on the rise.[1,2] One out of every two to three middle-aged men in Pakistan are cigarette smokers and their smoking habit is having deleterious effects upon their health.[3,4] The federal government has already enforced an ordinance regarding the prohibition of smoking and protection of non-smokers' health.[5] Tobacco use is a growing threat to global health and the most important causes of smoking-related mortality are atherosclerotic cardiovascular disease, lung cancer, and chronic obstructive pulmonary disease (COPD).[6] Many patients are ready to quit during their illness presentation at the hospital if appropriately counselled and followed up.[7] Unfortunately, the general understanding of our community about the health threats associated with tobacco smoking is sparse and, like other developing countries, our youth is least hesitant in picking up the habit, continuing the dangerous tobacco trends which are going down in the developed world due to better realisation of tobacco-associated health hazards both in their general as well as medical communities.[8]

This study was undertaken to assess the knowledge and practices related to the hazards of cigarette smoking in smokers seeking medical attention.

## Subjects and Methods

A total of 180 questionnaires were filled out by trainee doctors after interviewing consenting patients. The response rate was 100%. It was a cross-sectional survey having a sample size of 180 patients who were active cigarette smokers admitted in medical wards

(Internal Medicine and Pulmonology) or attending pulmonary OPD, and gave consent to participate in the study. Based on convenient sampling, the survey was conducted at the Shaikh Zayed Hospital, Lahore, from January 1 to July 31, 2010. Inclusion criteria consisted of patients who were active smokers at the time of presentation as well as those indoor patients who had quit smoking due to their hospitalisation. Exclusion criteria consisted of sick patients having altered sensorium. A specifically-designed questionnaire proforma was filled out by postgraduate trainee doctors after interviewing the patients. The survey instrument was designed to assess the general perceptions and practices about smoking-related issues and hazards. The three-page questionnaire included 20 items; a short, simple format was maintained in the interest of reducing respondent burden. Confidentiality of responses was assured. The questions in the study proforma had a wide range and are shown in the Annexure.

Statistical analysis was performed using SPSS version 15. The frequencies of diagnoses were worked out by using bar chart. Association of various items in the questionnaire with age and education of patients were determined by using chi-square analysis.

## Results

Of the total 180 respondents 118 (65.6%) were from the medical ward (Internal Medicine and Pulmonology) and 62 (34.4%) were from the pulmonary OPD (Figure). Male participants were 154 (85.6%) and females were 26 (14.4%). The mean age of the participants was 53.84± 17.35 years. Education status of the participants revealed 55 (30.6%) were uneducated, 33 (18.3%) were under-matric, 39 (21.7%) were matriculate, 25 (13.9%) were intermediate, 26 (14.4%) were graduate and 2 (1.1%) were postgraduates (Table). The ages of the participants were between 15 to 100 years. Of them, 17 (9.4%) were up to 30 years of age, 57 (31.1%) were between 31-50 years, 83 (46.1%) were between 51-70 years, and 23 (12.8%) were above 70 years of age.

The minimum number of smoking pack years was 0.60 and maximum of 112.5 with a mean of 26.44 ± 19.89 years. The mean numbers of their smoking years under-estimated by the smokers were 5.27 ± 19.89 years. Some of the cigarette smokers were also smoking other types of tobacco, which included 20 (36%) hookah smokers, 2 (1.1%) pipe smokers, 20 (36%) were using cannabis/marijuana (charas), while 39 (21.7%) were also using oral tobacco (niswar). Only 18 (10%) patients had fair knowledge, whereas 162 (90%) had poor perception regarding the estimated number of chemicals in a

**ANNEXURE**

**Study Performa**

**General perceptions and practices of cigarette smokers regarding tobacco related issues and hazards-2010.**

**Patient's Profile:**

Hospital MR No:_____ Name: _____

Age: ___ years (what patient tells) ___ years (what doctor calculated from any remote event).

Gender: M___ F___ Patient entry: Medical Indoor_____Pulmonary OPD_____

Education level: Uneducated ___Under Matric ____Matric____ Intermediate ____ Graduate _____.

Address: _____

_____

Phone No: _____ Date of admission: _____

**Questionnaire:**

Q.No.1. How many cigarettes do you smoke? Approximation: _____.

Q.No.2. For how many years have you been smoking? _____

At what age did you start smoking_____?

& What is your age now _____?

Number of years under estimated _____?

Q.No.3. Do you smoke any other type of tobacco other than cigarettes?

Hookah_____ Pipe_____ Beeree_____ Cigar_____ Other_____

Q.No.4. Do you use oral (niswar) tobacco?

No____ Yes ____ Regular _____Occasional _____

Q.No.5. What is your rough guess regarding the presence of chemicals in a cigarette? _____

Q.No.6. Can tobacco smoking causes any cancer? Yes ___No___

Q.No.7. Can you name any 3 organs affected/diseases caused by smoking?

No____

Yes____

Number: 1_____2_____3_____

Q.No.8. Have you ever tried to quit your smoking habit?

Yes ___ No ___

Q.No.9. Do you want to quit now or later?

Yes ___ No ___

Q.No.10. How can you kick your smoking habit away?

a) Stop at once & fight____

b) Gradually tapering the number of cigarettes _____

Q.No.11. How many times have you attempted to quit? _____

Q.No.12. Do you smoke in your room/house in the presence of children &/or other family members? Yes____ No____

Q.No.13. Do you think passive cigarette smoke can harm your family members? Yes ____No____

Q.No.14. Did any doctor ever advise you to quit? Yes ____ No____

Q.No.15. Did you receive any medication that can help in smoking cessation? Yes ____No____

Q.No.16. Who else smokes in your family?

Father___ Mother___ Spouse____ Sister____ Brother____ Uncle___

**Calculation by the interviewing doctor:**

Smoking pack years: _____

Diagnosis: _____

Smoking related: Yes ___No___

Co-morbidities:_____

Smoking related: Yes ___ No ___

In the last one year:

1. H/O any OPD visits: Yes___ (Number:____); No___
2. H/O any Hospitalizations: Yes___ (Number:____); No___
3. H/O any GP consultations: Yes___ (Number:____); No___
4. H/O any Physician consultations: Yes___ (Number:____); No___
5. H/O any Pulmonologist consultations: Yes___ (Number:____); No___

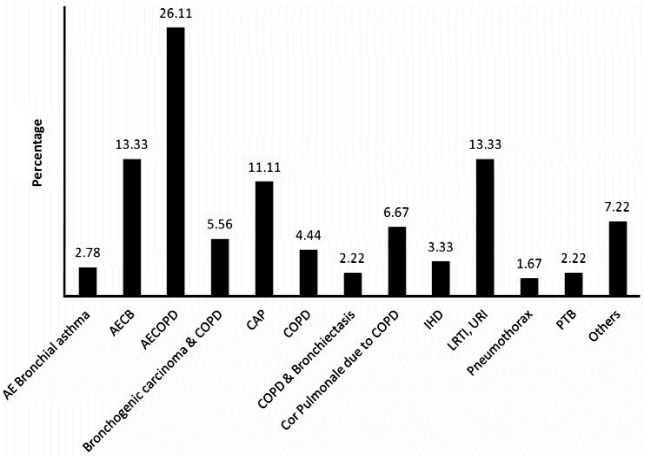
**Table: Association of age and education of cigarette smokers with perceptions and practices about tobacco smoking hazards and cessation.**

| Smoker's perceptions and practices | Age | | | Education | | |
|---|---|---|---|---|---|---|
| | $\chi^2$ | df | p-value | $\chi^2$ | df | p-value |
| Use of tobacco other than cigarettes | 24.89 | 9 | 0.003** | 26.74 | 15 | 0.031* |
| Regular use of other tobacco | 12.52 | 3 | 0.006** | 8.16 | 5 | 0.148 |
| Use of oral tobacco | 11.56 | 3 | 0.009** | 10.16 | 5 | 0.071† |
| Estimating chemicals in a cigarette | 19.17 | 3 | 0.001** | 9.26 | 5 | 0.100† |
| Awareness of tobacco-cancer association | 3.17 | 3 | 0.366 | 2.69 | 5 | 0.611 |
| Knowledge of smoking related diseases | 8.07 | 9 | 0.528 | 47.49 | 15 | 0.001** |
| Willing to quit smoking | 0.47 | 3 | 0.927 | 5.35 | 5 | 0.375 |
| Attempted to quit smoking | 7.12 | 3 | 0.068† | 5.28 | 5 | 0.383 |
| Favored gradual vs. cold turkey approach | 19.13 | 3 | 0.001** | 1.74 | 5 | 0.885 |
| In house smoking | 31.5 | 3 | 0.001** | 15.63 | 5 | 0.008** |
| Awareness of passive smoking harm | 2.57 | 3 | 0.463 | 29.77 | 5 | 0.001** |
| Ever received quit advice by doctor | 15.89 | 3 | 0.001** | 5.27 | 5 | 0.385 |
| Ever received anti smoking prescription | 8.36 | 3 | 0.039* | 2.24 | 5 | 0.816 |
| Number of other smokers in family | 37.1 | 18 | 0.005** | 45.37 | 30 | 0.036* |
| Smoking related diagnoses | 3.52 | 3 | 0.317 | 1.39 | 5 | 0.926 |
| Smoking related co-morbidities | 5.72 | 51 | 0.126 | 11.45 | 85 | 0.022** |

Here Age had 4 categories while Education had 6
†Intermediate significance at 10% level of significance
* Significance at 5% level of significance
** Significance at 1% level of significance
DF: degrees of freedom.

cigarette. Regarding the knowledge of diseases caused by smoking, only 5 (2.8%) could name three organs that may dysfunction due to smoking; 77 (42.8%) named two, 60 (33.3%) named one; and 38 (21.1%) answered none. However, 120 (66.7%) were aware of smoking's association, with cancer.

Quit smoking attempts were made by 92 (51.1%) and the maximum number of quit attempts by these smokers were 8 with a mean of 2 ± 3, and 151 (83.9%) wanted to quit during their illness presentation at the hospital. Regarding smoking cessation, 104 (58%) responded that gradual tapering was better, while the remaining favoured a sudden stoppage (going cold turkey) approach. In-house smoking was done by 158 (87.8%) and 95 (52.8%) did not perceive passive smoking to be harmful to others. Almost half of them, 81 (45%) received some quit advice by doctors while 99 (55%) had never received it. Regarding the pharmacological treatment, only 14 (7%) smokers had ever received anti-smoking prescription, and 166 (92.2%) had never heard of it. Positive family history of cigarette smoking was observed in many individuals. Of the smokers 72 (40%) had two other family members who were also cigarette smokers, 59 (32.8%) had one, 13 (7.2%) had three, 7 (3.9%) had four, 2 (1.2%) had six or seven smokers in the family.




**AE: Acute exacerbation, AECB: Acute exacerbation of chronic bronchitis, AECOPD: Acute exacerbation of chronic obstructive pulmonary disease, COPD: Chronic obstructive pulmonary disease, IHD: Ischaemic heart disease, LRTI: Lower respiratory tract infection, URI: Upper respiratory infection, PTB: pulmonary tuberculosis.**

Figure: Bar chart showing percentage of various diagnoses of cigarette smokers presenting in hospital.

Among the smokers, 169 (93.9%) had a diagnosis associated with their smoking habit and only 11 (6.1%) individuals had an ailment unrelated to tobacco smoking, while 78 (43.3%) patients had co-morbid conditions also associated with their smoking habit. The most frequent diagnosis was acute exacerbation of COPD in 47 (26.11%) cases, and the most frequent co-morbid illnesses were diabetes mellitus, 11 (14.1%); hypertension, 5 (6.4%); and ischaemic heart disease in 4 (5.1%) of the 78 cases with co-morbid conditions. It was observed that these patients were in contact with

healthcare providers, and 133 (73%) had visited some government hospital OPDs in the preceding one year with average number of visits being 2.66 ± 2.73. Most of the patients had been in contact with general practitioners and 127 (70.6%) had visited their GPs within the preceding one year. The maximum numbers of visits were 20 with a mean of 3.01± 4.15. A positive history of hospitalisation in different hospitals was found in 101 (56.1%) patients with a mean of 1.10 ±1.28. The general medical physician's and pulmonologist's consultations in the preceding year were done by 96 (53.3%) and 77 (42.8%) patients with the mean number of visits being 1.11 ± 1.74 and 0.91 ±1.35 respectively.

The association of age with smoker's perceptions and practices about smoking hazards and cessation revealed that the use of tobacco other than cigarettes was more in use in population ≥ 50 years, who were mainly smoking hookah ($p \leq 0.003$), while those <30 years of age were not taking tobacco other than cigarettes except 4 individuals smoking marijuana, and the age group between 30-50 years was mainly smoking marijuana and hookah in addition to cigarette smoking. The regular use of other types of tobacco was also associated with the age ($p \leq 0.003$). Patients up to 30 years of age were not using it regularly, only seven >70 years were using it regularly, and most of the regular users were between 31-70 years of age. The association between age and oral/chewable tobacco use ($p \leq 0.009$) revealed that none of those up to 30 years were using it; most users (18) were between 31-50 years, followed by age group between 51-70 years (16), and only 5 of age >70 years were using oral tobacco (niswar). The knowledge of chemicals in a cigarette was uniformly poor in all age groups ($p \leq 0.001$). Sixteen of the 17 patients up to 30 years of age were willing to quit during their hospital visit compared to 42 out of 57 in the 31-50 age group. Besides, 72/83 in the 51-70 group and 21/23 of >70 were experiencing severe symptoms ($p \leq 0.068$). The preferable approach to quit tobacco smoking, cold turkey versus gradual reduction, was less favoured in all groups. However, the differences ($p \leq 0.001$) included 5/12 in individuals up to 30 years of age, 11/57 between 31-50 years, 33/83 between 51-70 years and 16/23 of >70 years favoured the cold turkey approach. In-house smoking was more frequent among the 51-70 and > 70, while it was least practised in the younger age group of up to 30 years ($p \leq 0.001$). The quit-smoking advice by doctor ($p \leq 0.001$) was received mostly by individuals between 51-70 years (48/83), and the least (2/17) by the youngest age group. The receipt of anti-smoking prescription had a low frequency in all patients. However, up to 30-year-old patients never received it compared to the other groups ($p \leq 0.039$). Smoking runs in families and many smokers had other smokers in the family. Most of the patients (83) in the age group between 51-70 years had maximum cigarette smokers in the family, and the least (17) in those up to 30 years of age ($p \leq 0.005$). However, the association was insignificant for other parameters, including awareness of tobacco-cancer association, knowledge of smoking-related diseases, and number of attempts to quit smoking, awareness of passive smoking harm, smoking-related diagnoses and smoking-related co-morbidities.

Better education level of the patients showed better knowledge, perceptions and practices of smoking compared with low level of education. The association of education with smoker's perceptions and practices revealed that the use of tobacco other than cigarettes ($p \leq 0.031$), use of oral tobacco ($p \leq 0.071$), estimating chemicals in a cigarette ($p \leq 0.100$), knowledge of smoking related diseases ($p \leq 0.001$), in-house smoking ($p \leq 0.008$), awareness of passive smoking harm ($p \leq 0.001$), number of other smokers in family ($p \leq 0.036$) and smoking-related co-morbidities ($p \leq 0.022$) were more frequent in un-educated patients and under-matriculate individuals compared to those with better education levels.

## Discussion

In the developed world, it was observed that the consumers faced a multitude of risks in their daily lives and the most prominent of them was cigarette smoking. This required hazard warnings, partial advertising bans, annual surgeon general's reports, restrictions on public smoking, and widespread adverse publicity.[9] Surveys from major cities of Pakistan showed that a high proportion of people, including men and women, consumed tobacco and mostly were unaware about tobacco hazards, and passive smoking.[5,10,11] Cigarette smoke contains more than 4,000 chemicals, including over 60 known carcinogens and metabolic poisons, and the use of oral tobacco (niswar) is associated with cancer of the contents of oral cavity.[8] Tobacco use also increases the risk of many other acute and chronic diseases, including 30% cancers at many sites (kidney, liver, lower urinary tract, mesothelioma, myeloid leukaemia, pancreas, nasal cavity, stomach, upper aerodigestive tract, uterine cervix) besides bronchogenic carcinoma.[12] Our study results showed the existence of very poor awareness among our people regarding the chemical contents of tobacco, and minimal awareness about the diseases that can occur with its consumption.

Most of the smokers (83.9%) in our study wanted

to quit during their illness presentation at the hospital as compared to other surveys where individuals wanted to quit, and over 40 percent of smokers reported that they tried to quit in the preceding year and intentionally did not smoke for at least 24 hours.[6,10] Smoking cessation counselling is of great benefit to hospitalised patients who smoke, particularly those admitted with acute medical problems like myocardial infarction.[13] Other tobacco products include pipe and cigars and traditionally used hookah/water-pipe now called 'shisha,' which is a newer tobacco trend of the 21st century. The smoke of these products is not typically inhaled as deeply into the lungs as the cigarette smoke, and for this reason, the health risk of smoking cigars and pipes is lower than the risk of smoking cigarettes, but higher than the health risk of a non-smoker.[12] In our study population, the use of tobacco other than cigarettes was mainly hookah, favouring poor awareness regarding its hazards on our smokers side whereas reports by the World Health Organisation and the American Cancer Society have shown that, in a one-hour hookah/shisha session, users consume about 100 to 200 times the smoke and about 70 times the nicotine as they do in one cigarette.[14] Cannabis/marijuana/charas is mixed with tobacco and rolled in cigarettes and smoked, and is the most commonly used illegal substance worldwide.[15] In our observation, 36% of people were smoking it, and it was the younger group (30-50 years of age) of individuals who were mostly using it. The estimated cumulative (lifetime) incidence of cannabis use among different countries varies from 0.3 to 42.4 percent and its chronic use may affect the neurologic, respiratory, cardiovascular, immune, and reproductive systems.[15] In-house smoking was mainly practised by the elderly population of our study having minimal awareness about the deleterious effects of passive smoking on human health as evidenced by many studies including the 2006 US surgeon-general's report.[16] Compared to other studies, a major proportion of our participants (58%) agreed for gradual reduction to be a preferred strategy to quit smoking.[8] Risk factors for an adolescent becoming a smoker include having parents or friends who smoke, living with a smoker, having a strained relationship with a parent and/or single parent at home, low level of self-esteem and self-worth, poor academic performance, increased perception of parents' approval of one's smoking, co-morbid psychiatric disorders, and the availability of cigarettes.[17]

The USPHS (United States Public Health service) guideline developed a simple five-step algorithm called the 5 As that operationalises the elements of brief counselling for office practice. This system encourages clinicians to ask patients about their smoking status, advise smokers to quit, assess their readiness to quit, assist them with their smoking cessation effort, and to arrange for follow-up visits or contact.[18] Despite the demonstrated efficacy of brief counselling in office practice, healthcare providers appear to miss many opportunities to provide it.[19] Generally, doctors pay more concentration on the treatment aspects and less in helping people quit the smoking habit. Even in our study, only 45 percent participants said they were given advice to quit by doctors (general practitioners, physicians and pulmonologists) either in community or during hospital visits but it is questionable if they were doing it in accordance with some guidelines. Routine counselling offered to smokers who are hospitalised is effective, increasing the odds of long-term smoking cessation by 65 percent in a meta-analysis but only if it includes at least one month of continued support, usually by telephone calls, after discharge.[13]

Our study results revealed that 93.9 percent smokers had a diagnosis associated with their smoking habit while a major proportion had visited their medical physician, pulmonologist and general practitioners in the preceding year, but were still active smokers. This reflects the inability of the medical community to stop the rising tobacco epidemic in our part of the world.[9] It has been shown that effective treatment for tobacco dependence exists, that psychosocial counselling and pharmacotherapy (with nicotine replacement, bupropion, or varenicline etc.) has strong evidence of efficacy, and those combinations of the two methods produce the best results, but only 7 percent of our study group had ever received an anti-smoking drug prescription.[8] The process of smoking cessation begins by setting a 'quit day' within the next four weeks. Patients should be directed to stop smoking completely on their 'quit day' and should be prepared to handle nicotine withdrawal symptoms. Although smoking cessation medications reduce nicotine withdrawal and craving for cigarettes, they do not entirely prevent such symptoms. It should be emphasised, however, that tobacco withdrawal symptoms decrease over the first week and become very manageable within a few weeks as long as patients do not smoke at all. Common propositions to help smokers cope with the early days of quitting include the use of chewing gum, increased activity, and refraining from high-risk situations for smoking. A follow-up visit should be lined up within three to seven days of the patient's 'quit day' to provide reinforcement and monitor response to smoking cessation pharmacotherapy. No clear interventions have been identified that reliably reduce the rates of relapse

following a period of lucrative cessation.[7]

## Conclusions

The knowledge of hazards, false perceptions and inappropriate practices at the end of tobacco users are alarming. There is also inadequate input from healthcare providers to curb the epidemic. The health community, media, governmental and private organisations should take steps to decelerate the momentum of the rising tobacco epidemic with special emphasis on the youth. Awareness seminars should be arranged and dedicated smoking-cessation clinics should be established at community and hospital levels.

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