



A CROSS-SECTIONAL STUDY OF TOBACCO USAGE AMONGST HOSPITAL ADMITTED PATIENTS

General Surgery

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ABSTRACT

Introduction: Tobacco consumption is an important cause of deaths and post-operative complications the world over. This study analyses tobacco usage patterns of in hospital patients, the secondary exposure of obstetric patients to tobacco smoke, and whether or not appropriate counselling regarding tobacco use was offered to the patients by their doctors.

Methodology: A cross-sectional observational study was performed in the departmental wards of Surgery, General Medicine, Orthopaedics, Gynaecology and Obstetrics, and ENT of a tertiary care centre in a metropolitan city in India. A population of 338 patients matching the inclusion criteria was selected.

Results: 48.5% of patients admitted to tobacco use, of which 77.7% were male. Of all the users, only 29.88% were counselled. In obstetric patients, 63.38% were exposed to secondary smoke.

Conclusion: There is need for comprehensive awareness initiatives in patients, for cessation of tobacco use, and in treating physicians for better counselling of the patients.

KEYWORDS:

INTRODUCTION

Tobacco use is one of the most important causes of preventable deaths worldwide. However, studies have shown that tobacco users are generally unaware of effects of tobacco on general and oral health, as well as in relation to cancerous and pre-cancerous conditions.¹ Thus, there is need to strengthen the awareness among people regarding harmful effects of tobacco, and also to promote cessation of tobacco use by providing appropriate cessation aids which can help quit the habit and promote a disease-free healthy life. The role of the media in educating the public, along with peer communication may be used as an effective tool in improving further public awareness. The morbidity and mortality rates related to tobacco use in recent times is alarmingly high. Tobacco use is a major preventable cause of premature death and disease, and is expected to cause over ten million deaths yearly by 2030.² The vast majority of these deaths are projected to occur in developing countries. Recent shifts in global tobacco consumption indicate that an estimated 930 million of the world's 1.1 billion smokers live in developing countries, with 182 million in India alone.^{3,4}

By 2020 tobacco consumption has been projected to account for 13% of all deaths in India.^{5,6} Such a high proportion of deaths linked to tobacco use may be because tobacco use is not only associated with cancerous states, but is also linked to cardiovascular diseases, tuberculosis (about 40% deaths in India), and chronic respiratory diseases.^{7,8} The annual incidence of oral cancer in men in India is estimated to be 10 per 100 000.⁴ Globally, cigarette smoking is the dominant form of tobacco use. In the Indian context, tobacco is consumed in a variety of smokeable and smokeless forms, e.g. bidi, hookah, cigarettes, cigars, chillum, gutkha, khaini, paan masala, amongst others.^{9,10} This varied range of tobacco products is available at different price points, reflecting the varying socio-economic and demographic patterns of consumption in India.¹¹ India has but a short history of tobacco-related legislation.¹² Only recently has there been significant impetus to come up with a multifaceted national control measure at various administrative levels.

In this study we have investigated the prevalence of tobacco use in hospital admitted patients, duration and type of tobacco consumed, their awareness regarding harmful effects of tobacco consumption and secondary exposure to tobacco smoke in patients of the Department of Gynaecology and Obstetrics. We have also assessed whether counselling was provided to patients regarding use of tobacco during admission.

METHODS

Study design: A cross sectional, observational study was performed.
Study timeline: 1st-31st January, 2017

Study Site: A tertiary care institute catering to central, north, east and west fringes of Kolkata, a metropolitan city of India. It also caters to patients from neighbouring districts and surrounding states and countries (Bangladesh and Nepal).

Study Population: 338 patients admitted to the Departments of Surgery, General Medicine, Orthopaedics, Gynaecology and Obstetrics and ENT

Outcome measures:

1. Nature of tobacco use
2. Counselling for cessation of tobacco use
3. Discontinuation of tobacco use prior to admission
4. Secondary exposure to tobacco smoke

Statistical approach: The data was collected using a pre-designed and pre validated questionnaire. The analysis was done using MS Office 2013.

RESULTS

It was found that 164 of the 338 admitted patients were tobacco users. Of these, 134 (77.7%) were male and 30 (18.3%) were female. Table 1 shows the age and gender distribution of the tobacco users. It was found that males used tobacco far more frequently than females by a factor of 4.47. Of the 81 users of smokeable tobacco, all were seen to be males. For the non-smokeable form, 53 (63.85%) were males while 30 (36.14%) patients were females. Both smokeable and smokeless tobacco was consumed by only 8 male patients, that is 4.88%.

AGE	TOTAL POPULATION	SMOKEABLE TOBACCO	SMOKELESS TOBACCO	BOTH	TOTAL USERS
OVERALL					
18-27	102	11	8	0	19 (18.6%)
28-37	51	15	14	0	29 (56.8%)
38-47	62	14	18	2	32 (51.6%)
48-57	57	18	18	3	36 (63.1%)
58-67	47	13	19	2	32 (68%)

67+	19	10	6	1	16 (84.2%)
MALE					
18-27	37	11	7	0	18 (48.6%)
28-37	35	15	12	0	27 (77.1%)
38-47	32	14	11	2	25 (78.1%)
48-57	33	18	10	3	28 (84.8%)
58-67	25	13	11	2	24 (96%)
67+	12	10	2	1	12 (100%)
FEMALE					
18-27	65	0	1	0	1 (1.5%)
28-37	16	0	2	0	2 (12.5%)
38-47	30	0	7	0	7 (23.3%)
48-57	24	0	8	0	8 (33.3%)
58-67	22	0	8	0	8 (36.3%)
67+	7	0	4	0	4 (57.1%)

Table 1: Gender and age wise distribution of tobacco users according to kind of tobacco used.

A total of 53, 41, 52, 10 and 8 tobacco users were interviewed in the departments of General Surgery, Medicine, Orthopedics, Gynaecology and Obstetrics and ENT respectively. Out of these 164 users who were admitted, only a total of 49 patients (29.88%) were counselled to cease tobacco use before admission as shown in Figure 1. It was seen that after admission, 132 of the total 164 tobacco users (80.49%) patients did not cease usage of tobacco at all. Figure 3 shows that out of the 53 patients admitted for elective surgical procedures 21 patients (12.8%) were observed to have ceased tobacco consumption of any kind, and only 11 patients had stopped (6.7%) tobacco usage greater than 1 month prior to surgery.

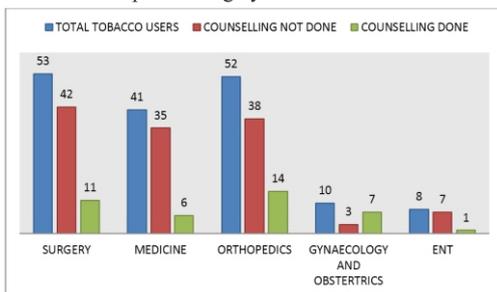
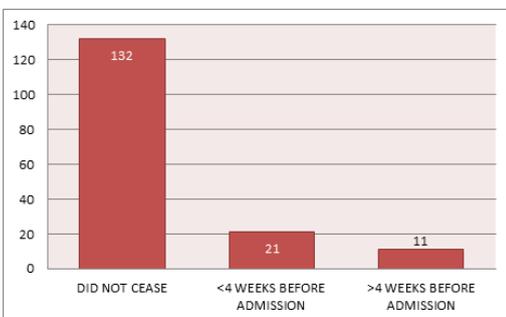


Figure 1: Department wise pre-admission counselling data for cessation of tobacco use.



Graph 2: Cessation of tobacco use prior to admission

Amongst the 71 patients admitted to the G and O, 63.38% (45 patients) admitted for antenatal or post natal care were found to be either tobacco users or exposed to tobacco smoke from their spouse shown in Figure 3.

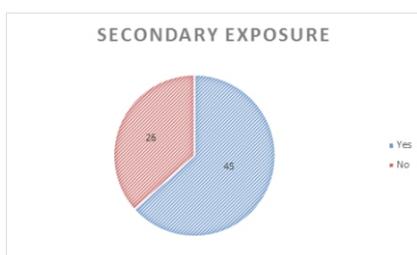


Figure 3: Secondary Exposure of patients admitted to the gynaecology and obstetrics wards.

DISCUSSION

Global Adult Tobacco Survey (GATS) conducted by the Ministry of Health and Family Welfare of the Government of India in the years 2009-2010 showed the true picture of tobacco consumption in Indian population. It was conducted in all the 29 states, and in the union territories of Chandigarh and Pondicherry, covering approximately 99.9% of the total population of India according to the 2001 Census.

GATS India documented that 47.9% of adult tobacco users in India were males. In our study, men smoked 4.47 times more commonly than women. This finding is also in accord with that of most studies conducted in developing countries.13, 14, 15 In our study, only male patients were found to use smokeable tobacco, and accounted for 49.39% of total tobacco users. The extent of use of smokeless tobacco products among males (32%) was found to be higher than among females (18%) by about 1.76 times. This is very similar to the community based data of smokeless tobacco use found by GATS, where males have used smokeless tobacco 1.78 times more frequently than females. 20% of total tobacco consumption in India is through cigarette smoking, bidis (hand rolled cigarettes that contain unprocessed tobacco) and hookahs, with bidi smoking accounting for 40% of total tobacco consumption.4,6 Tobacco is also consumed, especially in India and South East Asian countries, through chewing (for example, paan masala, gutka, and mishri).10,11 GATS India revealed that 14% of the adults are smokers while 25.9% adults use some form of smokeless tobacco.

It is known that smokers are at greater risk than non-smokers of postoperative wound healing complications, as well as postoperative pulmonary and cardiovascular complications.16,17,18 Clinical trials have suggested that 4 weeks of abstinence from smoking reduced the frequency of wound infections in healthy smokers to the frequency in healthy non-smokers.19 The minimum duration of abstinence necessary to confer benefit however is unknown.20 Counselling for quitting tobacco use was however seen in only 11 patients that is, 20.75% of all patients undergoing general elective surgical procedures. If all hospital admissions are taken into account, pre admission counselling was done in 49 patients (29.89%) and only 11 (6.7%) of them actually stopped smoking 4 weeks before admission. 132 patients (80.49%) continued using tobacco even in the hospital. This article is one among the first in the Indian subcontinent to highlight the problem of in hospital tobacco use, barring studies involving particular sections of hospital admitted patients only. For example, the article titled ‘Pattern of Smoking and Nicotine Dependence in Patients with Psychiatric Disorders ‘concluded that prevalence of smoking is higher in patients with psychiatric illness compared to the general population.21 There remains a scarcity of reports centring around tobacco usage status of hospital admitted patients as a whole and in patients with diseases not directly attributable to tobacco usage.

An article titled ‘Smokeless tobacco use, birth weight, and gestational age: population based, prospective cohort study of 1217 women in Mumbai, India’ conducted in eight primary health care centres in Mumbai, India studied the adverse effects of smokeless tobacco use by pregnant women on the birth weight and prematurity of their babies. Babies born to mothers using smokeless tobacco were on average 105 g lighter (2672 g v 2777 g, 95% confidence interval for difference 30 g to 181 g; P=0.006) than those of non-users (median decrease 150 g, P=0.02). Women using smokeless tobacco gave birth an average of 6.2 days earlier than women not using tobacco (271.1 days v 264.9 days; 95% confidence interval 3.0 days to 9.4 days; P=0.0001); preterm deliveries were earlier by 11.6 (4.4 to 18.8) days (P=0.002). It has been known for more than 40 years that babies born to mothers who smoke weigh less than babies whose mothers don't smoke. Smoking during pregnancy also increases the risk for preterm delivery.22 In South East Asia smoking among women may be rare, but use of smokeless tobacco is common.23 In this study it was found that 63.3% women in antenatal or post natal care in the Gynaecology and Obstetrics Department were either tobacco users or they were exposed to tobacco smoke from their spouses. This study did not compare the adverse effects of tobacco use in the foetus.

Almost half (49%) of the adult population in India are aware that smoking causes stroke and less than two-thirds (64%) believe that smoking causes heart attack whereas, a large proportion (85%)

believes that smoking causes lung cancer. Across all states/UTs, highest proportion of adults in Mizoram reported that smoking causes stroke (79%), heart attack (92%) and lung cancer (98%) whereas the lowest proportion of adults in Arunachal Pradesh reported it (34%, 37% and 78% respectively). However, barring a few local studies, little systematic investigation has been done into how tobacco consumption is socioeconomically and geographically distributed in India.²⁴ The gaps in tobacco consumption need to be examined to see which people are most likely to consume tobacco and which areas are more likely to have higher tobacco consumption. Such analyses are critical for designing policies and interventions aimed at achieving overall reductions in tobacco consumption at the population level and at reducing the inequalities in susceptibility to consume tobacco.

CONCLUSION

Tobacco consumption remains one among the most important social problems in a developing country like India. Tobacco has been associated with multiple health risks thus increasing the healthcare and disease burden of the community. Present study highlights the rate of non-compliance among patients admitted in the hospital despite proactive public warnings. The current study should also be conducted in a larger scale with an in depth analysis of the adverse outcome for in hospital admitted patients due to tobacco smoking.

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