

Pervasiveness of the Addiction of Tobacco in Western India with Respect to the Demographic Factors: An Epidemiological Study

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ABSTRACT

Introduction: The consumption of tobacco and its addictive abuse is taking a toll in the current era. In spite of augmented awareness regarding the detrimental effects of the tobacco, people still continue to exploit it. Tobacco consumption usually leads to the development of oral cancer which is one of the most incapacitating and mutilating pathologies. The ominously increased occurrence of oral carcinoma in India is credited to extensive tobacco abuse. **Aim:** The aim of the epidemiological study is to identify the pervasiveness of the addiction of tobacco in western India with respect to the demographic factors. **Materials and Methods:** The retrospective study was piloted in the different regions of western India and targeted amongst the patients consuming tobacco products in one way or the other in the year 2015. A pool of about 579 subjects was formed who had confirmed the consumption of tobacco. They were then characterized into diverse categories namely age group, sex of the subject, type of tobacco consumed, clinically visible lesions, socio-economic status of the subject, the occupation of the subject, and the awareness of the ill effects of the tobacco consumption. **Results:** It was found that 47.66% of the subjects consuming tobacco were younger than the age of 30 years. The male: female ratio was 2.91: 1. About 25.04% subjects consumed gutka, and nearly 22.27% of the subjects smoked bidi. The least consumed form was the hukka that accounted for just 04.66% of the total tobacco consumption. Nearly 148 subjects (25.56%) had lesions out of the total 579 subjects. About 80.48% of the subjects were seen amongst the lower and lower-middle class group. The highest case of tobacco abuse and consumption of about 46.11% was observed in the Industry workers. Nearly 81.17% of the subjects were aware of the ill effects of the tobacco consumption while the remaining 18.83% were clueless about it. **Conclusion:** The dependence on tobacco is a progressively addictive disorder which worsens over a period of time. Granting that numerous pharmacology approaches and herbal therapy are available to reduce the dependence, it is of utmost obligation that the subjects susceptible to tobacco abuse are acknowledged at an early stage in order to intervene at the most preliminary stage. For identifying the susceptible class of people, a methodological survey concerning the pervasiveness of the addiction of tobacco in the entire world with respect to the demographic factors must be carried out.

KEYWORDS: Demographic, Pervasiveness, Tobacco, Epidemiology

INTRODUCTION

Tobacco abuse has substantial destructive effects on the health of the human body which has been documented momentarily in literature. In preponderance number of countries, the elementary causes of mortality and morbidity have been attributed to the dominance of tobacco consumption. Vigorous tobacco smoking in the younger generation is growing in a distressing style that seems sovereign from social and economic expansion or racial background.¹ The survey executed by the World Health Organization (WHO) suggests that a developing nation like India is assumed to be entailing about 12% of the biosphere's smokers. In the census performed in the year 2006, there were a billion people reported smoking nearly 6 trillion cigarettes.² The developing country of India showed a yearly depletion of over 700 billion bidis.³ In the last few years, where tobacco consumption

has seen a significant decline in the developed countries, the tobacco consumption has substantially increased in the developing nations.⁴ Even though man has been considered dominant for tobacco abuse over the decades, a rise has been seen in tobacco consumption in females due to the liberal cultural and communal views in the society.

The addictive property of tobacco can be attributed to nicotine, which has been graded as one of the utmost addictive constituents of tobacco. Nicotine is freely riveted into the human blood via smoking through the pathway of lungs or in the form of smokeless tobacco through the oral cavity. After entering the bloodstream, it is hastily dispersed throughout the human body. Nicotine has been proven to act on the mesolimbic zone of the brain resulting in a discharge of elements such as dopamine, norepinephrine, and serotonin. When the body has been subjected to repeated use of nicotine, the

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adaptation of the brain cells resulting into a higher threshold leads to an increased need of higher dosage. The development is referred to as neuro-adaptation.⁵ Consequently, a subject would need a higher dose of tobacco every time the subject in order to attain the preferred psychological reaction.⁶ Such dependence on tobacco due to nicotine is a staunch disorder which is characterized by manifold periods of relapse and diminution. To stop the menace, it is necessary to classify the demographic factors associated with the nicotine addiction and identify the subjects and curb the peril right from the commencement.

Aim: The aim of the epidemiological study is to identify the pervasiveness of the addiction of tobacco in western India with respect to the demographic factors.

MATERIALS AND METHODS

The retrospective study directed on 579 cases with the history of tobacco consumption is an assortment of information from multiple hospitals in the western India. The survey was executed during the course of March 2015 to October 2015. A prudently planned inquiry form was tendered to all the partaking subjects after the committee professed it to be ethically justified. The questionnaire was concentrated on numerous criteria namely age group, sex of the subject, type of tobacco consumed, clinically visible lesions, socio-economic status of the subject, the occupation of the subject, and the awareness of the ill effects of the tobacco consumption. The information collected was re-confirmed with the subjects to evade any inconsistency in the results. The subjects were fully aware of the study and were cognizant that a comprehensive discretion would be upheld concerning the personal information of the subjects. A statistical exploration was primed on the foundation of the data gained, and the results followed

RESULTS

The 579 cases centered on their habit of tobacco consumption in the western part of India were categorized into the following criteria:

- Age group
- Sex of the subject
- Type of tobacco consumed
- Visibility of lesions
- Socio-economic status
- Occupation
- Awareness of the ill effects

Age: Table 1 displays the dispersal of the cases into age groups from 11 years onwards. The age group that was commonly linked to consumption of tobacco was the 21-30 years. About 47.66% of the subjects were younger than the age of 30 years which is a distressing insignia for the forthcoming generation. The youngest subject in the study was 13 years old and the eldest being 67 years old.

Age Group	Cases
11-20	125
21-30	151
31-40	97
41-50	86
51-60	52
60+	68

Table 1 – Classification of cases centred on age of the subjects

Sex of the subject: Table 2 shows the distribution of the cases based on gender. Nearly 74.43% of the subjects consuming tobacco were males and 25.57% of the subjects were female. The male: female ratio is 2.91: 1.

Sex	Cases
Males	431
Females	148

Table 2 – Classification of cases centred on sex of the subjects

Type of tobacco consumed: Table 3 shows the distribution of the cases based on the type of tobacco consumed by the subjects. About 25.04% subjects consumed gutka and nearly 22.27% of the subjects smoked bidi. The least consumed form was the hukka that accounted to just 04.66% of the total tobacco consumption.

Sex	Cases
Bidi	129
Cigarette	117
Snuff	111
Gutka	145
Hookah	27
Combination Of Few Forms	50

Table 3 – Classification of cases centred on the type of tobacco consumed

Visibility of lesions: Out of 125 subjects in the age group 11-20, about 27 subjects (21.60%) showed the presence of lesion in the oral cavity. In the age group 21-30 with 151 subjects, about 49 subjects (32.45%) exhibited the existence of lesion in the oral cavity. Out of 97 subjects in the age group 31-40, about 27 subjects (27.83%) presented the manifestation of oral lesion. In the age group 41-50 with 86 subjects, about 21 subjects (24.41%) displayed the presence of lesion in the oral cavity. Out of 52 subjects in the age group 51-60, about 11 subjects (21.15%) had an oral pathology. In the 68 subjects of age group of above 60 years, nearly 13 subjects (19.11%) were detected with oral lesions. In general, nearly 148 subjects (25.56%) had lesions out of the total 579 subjects.

Age Group	Cases	Cases With Lesions
11-20	125	27
21-30	151	49
31-40	97	27
41-50	86	21
51-60	52	11
60+	68	13

Table 4 – Classification of cases centred on the visibility of lesions

Socio-economic status: Bearing in mind the approximate income in the west of India, the group is distributed into

four sectors namely: Upper class, Upper-middle class, Lower-middle class and the Lower class. About 80.48% of the subjects were seen amongst the lower and lower-middle class group while the remaining 19.52% of the subjects were seen amongst the upper and upper-middle class group.

Class	Cases
Upper	42
Upper-Middle	71
Lower-Middle	175
Lower	291

Table 5 – Classification of cases centred on the socio-economic status of the subjects

Occupation: Table 6 displays the classification of cases centred on the occupation of the subjects. The highest case of tobacco abuse and consumption of about 46.11% was observed in the Industry workers while the least case of tobacco abuse and consumption of about 5.00% were observed in the self-employed subjects.

Occupation	Cases
Self-Employed	29
Unemployed	87
Industry Worker	267
Agriculture Worker	157
Office Worker	39

Table 6 – Classification of cases centred on the occupation of the subjects

Awareness of the ill effects: Table 7 displays the classification of cases centred on the awareness of the ill effects. About 391 males and 79 females were aware about the ill effects of the tobacco consumption. Nearly 81.17% of the subjects were aware about the ill effects of the tobacco consumption while the remaining 18.83% were clueless about the ill effects of the tobacco consumption.

Case	Sex	Awareness
431	Male	391
148	Females	79

Table 7 – Classification of cases centred on the awareness of the ill effects

DISCUSSION

It is equitably flawless to that the inflated incidences of staunch tobacco addiction are appealing a colossal toll on the human health. It is domineering to appreciate the demographic factors concomitant with tobacco dependence to stance a superior chance of identifying the susceptible subjects. A sensible understanding is unquestionably crucial in order to accomplish the task of identifying the susceptible subjects. Table 1 displays the dissemination of the cases into multiple age groups. About 47.66% of the subjects were younger than the age of 30 years which is a distressing insignia for the forthcoming generation. Table 2 displays the distribution of the cases based on gender. Nearly 74.43% of the subjects consuming tobacco products were males, and 25.57% of the subjects were female. The male: female ratio was 2.91: 1. Even though the dominance is observed

in males, studies have shown that tobacco consumption in females is increasing at an alarming state. Table 3 displays the distribution of the cases based on the type of tobacco consumed by the subjects. About 25.04% subjects consumed gutka, and nearly 22.27% of the subjects smoked bidi. The least consumed form was the hukka that accounted for just 04.66% of the total tobacco consumption. Owing to a very palatable taste, stress-free availability and its economical price on the market, gutka is the most used tobacco in India. Extreme gutka abuse can ultimately lead to loss of hunger; endorse unfamiliar sleep traits, and damage to attentiveness.

In the age group 21-30 with 151 subjects, about 49 subjects (32.45%) exhibited the existence of lesion in the oral cavity. In general, nearly 148 subjects (25.56%) had lesions out of the total 579 subjects. This is a distressing indication that a lot of cases of tobacco dependence are already showing pre-cancerous lesions in the oral cavity. Bearing in mind the approximate income in the west of India, the group was distributed into four sectors namely: Upper class, Upper-middle class, Lower-middle class and the Lower class. About 80.48% of the subjects were seen amongst the lower and lower-middle class group which proves that tobacco dependence is majorly seen in low-income group people.

Table 6 displays the classification of cases centered on the occupation of the subjects. The highest case of tobacco abuse and consumption of about 46.11% was observed in the Industry workers. Table 7 displays the classification of cases centred on the awareness of the ill effects. Nearly 81.17% of the subjects were aware of the ill effects of the tobacco consumption. It is troubling to know that in spite of such high awareness; the tobacco dependence is still on the rise.

CONCLUSION

The dependence on tobacco is a progressively addictive disorder which worsens over a period of time. Granting that numerous pharmacology approaches and herbal therapy are available to reduce the dependence, it is of utmost obligation that the subjects susceptible to tobacco abuse are acknowledged at an early stage in order to intervene at the most preliminary stage. For identifying the susceptible class of people, a methodological survey concerning the pervasiveness of the addiction of tobacco in the entire world with respect to the demographic factors must be carried out.

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