



COVID SPIKES ON TOBACCO STICKS - TOBACCO HABIT CHANGES DURING COVID-19 PANDEMIC

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ABSTRACT

Introduction: Tobacco is the foremost preventable cause of death and disease in the world today, killing half of the people who use it. The use of tobacco is a risk factor for many respiratory infections and increases the severity of respiratory diseases. Experts have confirmed that tobacco users are more likely to develop severe symptoms or die from COVID-19, as it primarily attacks the lungs. Hence the present study assessed the tobacco habit changes during COVID-19 pandemic and to determine the factors associated with tobacco habits during pandemic. **Methodology:** A mixed method study was conducted from December 2021 – January 2022 among 200 tobacco users attending outpatient services in a tertiary care hospital, Tamil Nadu, South India with informed consent using an interview administered structured questionnaire by convenient sampling method. **Result:** Out of 200 study participants, around 59% participants have experienced decrease in tobacco consumption during COVID-19 pandemic because of lockdown (24%), lack of accessibility (19%) and 5.5% individuals was afraid of acquiring COVID-19 infection and similar percentage of individuals due to unavailability of products. But around 41% participants increased their tobacco usage in COVID -19 pandemic. Tobacco habits during COVID19 pandemic shows significant association with socio-economic status of consumer, current tobacco habits and plan to quit tobacco use. **Conclusion:** The COVID-19 pandemic offered a singular chance to minimize and discontinue tobacco use among tobacco users, and lockdown-experiences might strengthen control behaviors among users on a national and international level. During the COVID-19 pandemic, there may have been a decline in tobacco use due to several factors, including fear of contracting the virus and product scarcity as a result of lockdown.

KEYWORDS : COVID-19, Tobacco, Pandemic, Lockdown

INTRODUCTION

Tobacco is emerging as one of the greatest public health challenges worldwide. The tobacco epidemic kills more than 8 million people annually. More than 7 million of the fatalities are due to direct tobacco use. Around 1.2 million non-smokers remain exposed to secondhand smoke. There is no safe degree of exposure to tobacco because it is toxic in all forms.

The most prevalent method of tobacco consumption worldwide is cigarette smoking. Other tobacco goods include bidis, kreteks, cigars, cigarillos, roll-your-own tobacco, water pipe tobacco, and numerous smokeless tobacco items.

More than 80% of the 1.3 billion tobacco users globally reside in low- and middle-income nations, which bear the brunt of the disease and death caused by tobacco use. By diverting household spending away from necessities like food and shelter to cigarettes, tobacco usage contributes to poverty.

Smoke that comes from the burning of a tobacco product and smoke that is exhaled by smokers are inhaled by non- smokers. Inhaling secondhand smoke is called involuntary or passive smoking also called environmental tobacco smoke (ETS). It is also one of the biggest concern now a days(1).

Global pandemic Corona Virus Disease 2019 (COVID-19) is brought on by the SARS-CoV-2 virus family. In December 2019, the Center for Disease Prevention and Control of China and WHO confirmed the viral illness was first reported in the Chinese city of Wuhan (2). It is similar to Severe Acute Respiratory Syndrome Coronavirus-1 (SARS-CoV-1) and Middle East Respiratory Syndrome Coronavirus (MERS-CoV) with its origin in horseshoe bats and pangolins as intermediate hosts.

The virus that causes COVID-19 infects individuals of all age groups. The main source of viral transmission is respiratory droplets, aerosols, salivary contamination and personal contact and contaminated surfaces. Earlier reports have suggested that SARS-CoV-2 can stay in air as droplets and in micro-aerosols for up to three hours after

oral/nasal release (3). In addition, common surfaces used in smoking devices include paper, plastic, metals, on which the virus is found active from four hours up to 2-3 days (3). The contaminated surfaces, surrounding air and aerosol due to smoking of tobacco through multiple devices can passively infect non-smokers even if human distancing is practiced.

Worldwide, around 80% (1.1 billion) tobacco smokers live in low income-based countries where malnourishment is also a serious threat to immunity levels (4). Tobacco smokers are also at high risk of severe COVID-19 infection due to compromised lung function, cross infection and susceptible hygiene habits.

Smoking predisposes to severe lung diseases by impairing lung tissue resulting in diseases like chronic obstructive pulmonary disease, (COPD) emphysema, chronic bronchitis and lung cancer. Evidence indicates that smokers are more likely to suffer more severe outcomes of COVID-19, such as admission into intensive care units and death, than never smokers. Furthermore, severe forms of COVID-19 or deaths due to COVID-19 are more frequent in people with comorbidities that are related to tobacco use, including COPD, lung cancer and cardiovascular diseases (2). So we undertook to study the changes in tobacco habit during COVID-19 pandemic.

METHODOLOGY

MATERIALS AND METHODS:

A mixed method study was conducted over a period of two months from December 2021 to January 2022 in a tertiary care hospital, Tamil Nadu, South India. After obtaining approval from the Institutional Research and Institutional Ethics Committees, the study was rolled in exploratory sequential method. In the beginning, training was given to interviewers by qualified researcher (STS) before the start of the study and qualitative data was collected by interview method with the help of trained interviewers. The study was conducted using a convenient sampling method among all forms of tobacco users in field practice area of department of community medicine. After obtaining informed consent, the interview was conducted with help of interview guide and it was audio recorded. With help of audio record, the information is gathered in the form of transcript notes. The prepared notes were then

coded followed by categorization and finally the content was analyzed, and the report was prepared. With the help of the report a questionnaire was prepared. The questionnaire was validated after pilot study using Cronh Bach's alpha test. The questionnaire was administered by the trained researchers after obtaining consent from the study participant using EPICOLLECT application.

Questionnaire items broadly covers information about socio-demographic profiles, current tobacco usage (both smoking and/or smokeless), their duration and their intention to quit, tobacco habit change during the pandemic with self-admitted reason. The tobacco uses related variables such as monthly financials utilized and consumption numbers (e.g.: 2 or 3 per day). The COVID19 related variables such as vaccination status and acquired COVID-19 infection status were recorded.

Study Participants:

The study was carried out among all forms of tobacco users in the field practice area of a tertiary care teaching hospital in Tamil Nadu, South India. The study included all current and previous tobacco users of any gender who were between the ages of 18 and 75 years. It excluded any current tobacco users who were younger than 18 or older than 75 years, those who had discontinued using tobacco after contracting any disease which also include COVID-19 and also who stopped smoking more than a year.

Sample Size:

Based on study done by Himanshu A.G *et al.*, (5) "How has the COVID-19 pandemic affected tobacco users in India: Lessons from an ongoing tobacco cessation program", the prevalence of people who quit tobacco 51% was considered to calculate sample size of 200.

Statistical Analysis:

The data was extracted from EPICOLLECT software and coded in Microsoft Excel software 2010 version. The SPSS version 20 was used to analyze these data. The frequency of the variables was analyzed using descriptive statistics.

RESULT

The study explored the tobacco habit changes during COVID-19 pandemic and impact during the public threat situation, which in turn may have direct or indirect influence in spread of the disease.

A total of 200 tobacco users were admitted into the study after informed consent, in which most of the respondents were men. Among participants, only 14% of them used smokeless forms of tobacco while the remaining 86% used smoking form of tobacco. About, 19% were between 18- 25 years age group, 21% of participants were between 26- 35 years, 14%, 22% and 24% of participants fall in age group of 36-45 years, 46-55 years and above 55 years respectively. Among tobacco users, 77% of them currently have the habit of using tobacco, while rest 23% of the people mentioned not using any form of tobacco. Around 48.5% of tobacco users, having the habit for years together. Around 30 % of participants were spending more than Rs.1000 per month, 33% of participants were spending between Rs.500-1000 per month, rest 14.5% of them were spending less than Rs.500 per month. According to Modified Kuppaswamy classification around 32% of the participants belongs to Class IV, 38% of participants fall in class III and only 3% were in Class I.

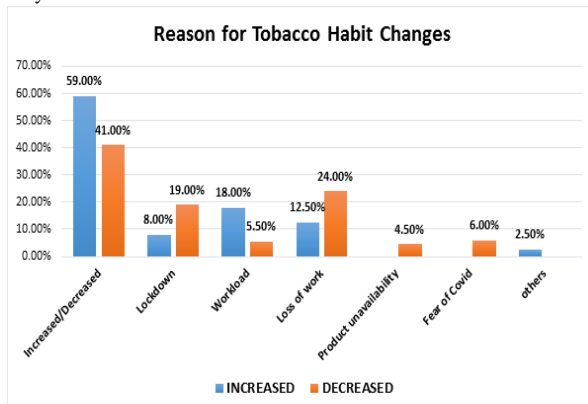


Figure 1: Reason For Tobacco Habit Changes During COVID-19 Pandemic.

The Figure 1 depicts that, around 59% participants have experienced decrease in tobacco consumption during COVID-19 pandemic because of lockdown (24%), lack of accessibility (19 %) and 5.5% individuals had fear of acquiring COVID-19 infection and similar percentage of individuals due to product unavailability. But around 41% participants increased their tobacco usage in COVID -19 pandemic.

Table 1 : Association Between Tobacco Habits During Pandemic And COVID-19 Vaccination Status, Acquired COVID-19 Infection And Severity Of COVID-19 Infection.

Variables		Tobacco habits during pandemic		Chi square	P value
		Decreased	Increased		
COVID-19 Vaccination status	Not Vaccinated	34 17.0%	13 6.5%	7.515	0.023
	Single Dose Vaccinated	26 13.0%	13 6.5%		
	Two doses vaccinated	58 29.0%	56 28.0%		
Acquired COVID-19 infection	No	109 54.5%	66 33.0%	6.248	0.012
	Yes	9 4.5%	16 8.0%		
Severity of COVID-19 infection	No COVID-19 infection	109 54.5%	66 33.0%	8.516	0.022
	Mild infection	4 2.0%	11 5.5%		
	Moderate infection	5 2.5%	4 2.0%		
	Severe infection	0 0.0%	1 0.5%		

Table 1 shows that vaccination status has an influence upon increasing or decreasing the tobacco habit during COVID-19 pandemic. Increase or decrease in tobacco habit during pandemic is having influence in acquiring COVID -19 infection. Even though minimum number of people in our study acquired severe COVID – 19 infections, prevalence is higher in participants who had increased their tobacco habit during pandemic.

DISCUSSION

Tobacco compromises lung function, and COVID-19 invariably affects the lungs. Smoking weakens the immune system, and prior research has shown that smoking is associated with worse outcomes for those who have respiratory disease like pneumonia and tuberculosis. Hence, tobacco habit may have influence on COVID -19 outcomes. The current study revealed the association between tobacco habit and COVID disease.

A study by Bommele, J *et al* in 2020 among a sample of Dutch current smokers showed 14.1% of smokers reported smoking less due to the COVID-19 pandemic, whereas 18.9% of smokers reported smoking more, which is similar though at higher proportion to the current study. Thus, stress related to the COVID-19 pandemic appears to have impact on smoking uptake, some smokers increased their frequency of smoking while others decreased it. Participants answered that, boredom situation and restrictions in movement have stimulated smoking, while the threat of contracting COVID-19 and becoming severely ill had motivated others to improve their health by quitting tobacco habit(6).

According to Ahmad AlMulla *et al.*, 2022 says that, among hospitalized patients 37% were having severe form of Covid-19 in which 2.5% were smokers. Our study revealed 4% of tobacco users got severe form of COVID -19 among the 25 participants infected with COVID 19. Even though the proportion is smaller further studies may explore regional factors contributing to this(7).

Some studies like study by Arora M *et al* 2021 in two cities Delhi and Chennai, India shows 11.3% tobacco users reported that they had quit using tobacco after the COVID-19 lockdown period and concluded that the measures enforced by the Government of India to reduce access to tobacco products during the nationwide COVID-19 lockdown led to a favorable environment for existing tobacco users to quit(8).

Evidence of research says that, heart and lungs will start to function

better as soon as stopping tobacco. High blood pressure and elevated heart rate begin to decline 20 minutes after quitting. The blood's carbon monoxide concentration returns to normal after 12 hours. Circulation gets better and lung function gets better between two to twelve weeks. Coughing and shortness of breath get better after 1 to 9 months. By giving up, tobacco we can help our environment additionally (1). WHO also recommends using effective interventions to stop using tobacco, including toll-free quit lines, mobile text messaging cessation programs, and nicotine replacement therapies (NRTs).

CONCLUSION

The study revealed the prevalence of severe COVID-19 was higher in people who have increased tobacco habit during pandemic when compared with non-tobacco users. As there is definitive evidence that, smoking diminishes the lung capacity to work normally, it also explains an influence upon any respiratory illness. Thus, quitting tobacco can be encouraged in all of its demeanors.

Conflict Of Interest:

The authors have no conflicts of interest.

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