

# A Comparative Study to Assess the Post Covid Respiratory Status among Tobacco and Non-Tobacco Users at SMCH in Thandalam

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## ABSTRACT

**Background:** The present study aims to assess the post COVID respiratory status among the tobacco and non-tobacco users. **Materials and Methods:** The quantitative approach with descriptive research design coherent study was conducted in the host institution of Saveetha Medical College and Hospitals. A total of 30 study participants were recruited using purposive sampling technique based on the inclusion criteria, the demographic and clinical data was collected by using a self-structured questionnaire and the level of respiratory status was estimated during 1 week. **Results:** The outcome results identified that, among our study shows that among post COVID tobacco users, 15(100%) had abnormal forced vital capacity, 12(80%) had severe forced expiratory volume, 10(66.7%) had severe Fev1\FVC and 14(93.3%) had abnormal forced expiratory flow. Whereas among the post COVID non-tobacco users, 14(93.3%) had normal forced vital capacity, 12(80%) had normal forced expiratory volume, 11(73.3%) had normal Fev1\FVC and 12(80%) had normal forced expiratory flow. **Conclusion:** This study assessed there was significant difference in the level of post COVID respiratory status among the tobacco and non-tobacco users.

**KEYWORDS:** Post COVID respiratory status, tobacco, non-tobacco users

## INTRODUCTION

The unfold of an rising novel respiration pathogen is observed through uncertainty regarding its key epidemiological, medical and virological characteristics, in particular its capacity to unfold withinside the human populace and its virulence (case severity). This is the case for the radical CORONAVIRUS referred to as excessive acute respiration syndrome CORONAVIRUS 2 (SARS-coV-2), first detected in Wuhan, china as a cluster odd pneumonia instances in December 2019. This novel CORONAVIRUS might also additionally were circulating for numerous months earlier than the detection of sustained human-to-human transmission in December 2019, with occurrence cost of contamination doubling in length each 7.4 days withinside the early degrees and an expected simple reproductive variety of 2.2.

Other CORONAVIRUS, which include intense acute respirations syndrome CORONAVIRUS (SARS-CoV) and Middle and East respiration syndrome CORONAVIRUS (MERS-CoV), were characterized

settings, once in a while ensuring in big NOSOCOMIAL outbreaks. Overcrowding in emergency rooms, non-adherence to IPC measures and feasible environmental infection are idea to be implicated in such amplification occasions throughout MERS-CoV outbreaks. Health employees play a important function, now no longer best withinside the medical control of sufferers however additionally in making sure that good enough IPC measures are applied in fitness care facilities. In addition, preliminary surveillance regularly focuses typically on sufferers with excessive sickness. As a result, the overall spectrum of ailment won't be clear, inclusive of the volume and percentage of moderate or asymptomatic infections that don't require scientific interest and the position such infections may also play in secondary transmission.

Smoking records is described as a records of non-stop or cumulative smoking minimum 6 months all through the entire life (World Health Organization, 1997), and cigarette smoking is pretty regular

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everywhere in the world. It kills about 50% of customers and eight million human beings are died from it each year, 1.2 million of which might be uncovered to the second-hand smoking (Lippi et al.,2020). The mechanisms of smoking in inducing the incidence of breathing illnesses are changing airway architecture, improving mucosal permeability, disrupting respiration epithelium and inhibiting ciliary clearance (Arcavi and Benowitz, 2004). It changed into said that smoking performed a critical position in continual obstructive pulmonary disease (COPD) in advanced international locations which changed into the fourth main purpose of death (Agarwal et al., 2020), and people who smoke have been additionally much more likely to have multiplied prevalence of cancer, influenza,

tuberculosis and pneumonia relative to non-people who smoke (Warren et al., 2014; Brake et al., 2020).

#### METHODS AND MATERIALS:

The study was used quantitative research approach and descriptive research design with the sample size of the study was 30 who has post COVID patients who were selected by purposive sampling technique and who fulfilled the inclusion criteria. The inclusion criteria were both sex, clients who have no other comorbidities, clients who are willing to participate in the study and the exclusion criteria includes were clients who are absent at the time of data collection, clients with any other comorbidity. The study was conducted at SMCH, THANDALAM. Self structured questionnaire was used to collect the demographic variables and the level of respiratory status was estimated during 1 week.

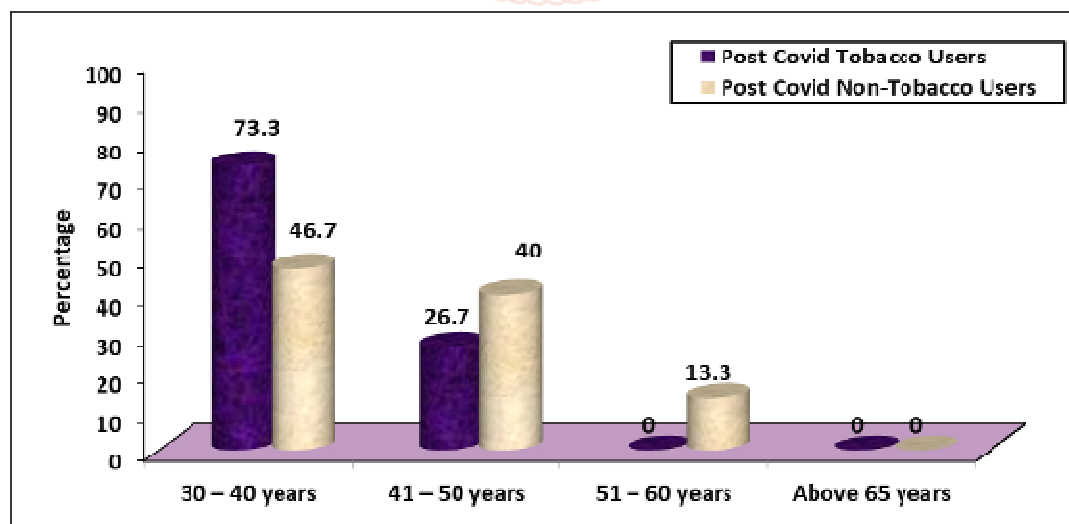
#### RESULTS AND DISCUSSION:

##### SECTION A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF TOBACCO USERS.

**Table 1: Frequency and percentage distribution of demographic variables of post COVID tobacco users and post COVID non-tobacco users. n = 30(15+15)**

The table 1 shows that among post COVID tobacco users most of them, 11(73.3%) were aged between 30 – 40 years, 10(66.7%) were male, 7(46.7%) had formal and primary education respectively, 14(93.3%) were employee, 9(60%) had family history of tobacco users, 6(40%) were Hindus, 9(60%) were married, 8(53.3%) had the habit of smoking, 9(60%) had monthly income of less than 10,000, 8(53.3%) had persistent dyspnea as post COVID complications, 6(40%) had the habit of smoking for 2 – 7 years, 9(60%) used cigarettes, had respiratory problem before COVID, had collapsed lungs and were in the post COVID period of 2 – 3 months.

The table 1 shows that among post COVID non-tobacco users most of them, 7(46.7%) were aged between 30 – 40 years, 8(53.3%) were male, 5(33.3%) had higher secondary education, 7(46.7%) were employee, 9(60%) had no family history of tobacco users, 5(33.3%) were Hindus, 10(66.7%) were married, 12(53.3%) had no habit of smoking, 4(26.7%) had monthly income of less than 10,000, 10,000 – 35,000 and 35,000 – 60,000 respectively, 7(46.6%) had palpitations as post COVID complications, 12(80%) had no habit of smoking, 8(53.3%) had no respiratory problem before COVID, had no respiratory complications and were in the post COVID period of less than 1 month.



**Figure 1: Percentage distribution of age of the post COVID tobacco users and post COVID non-tobacco users**

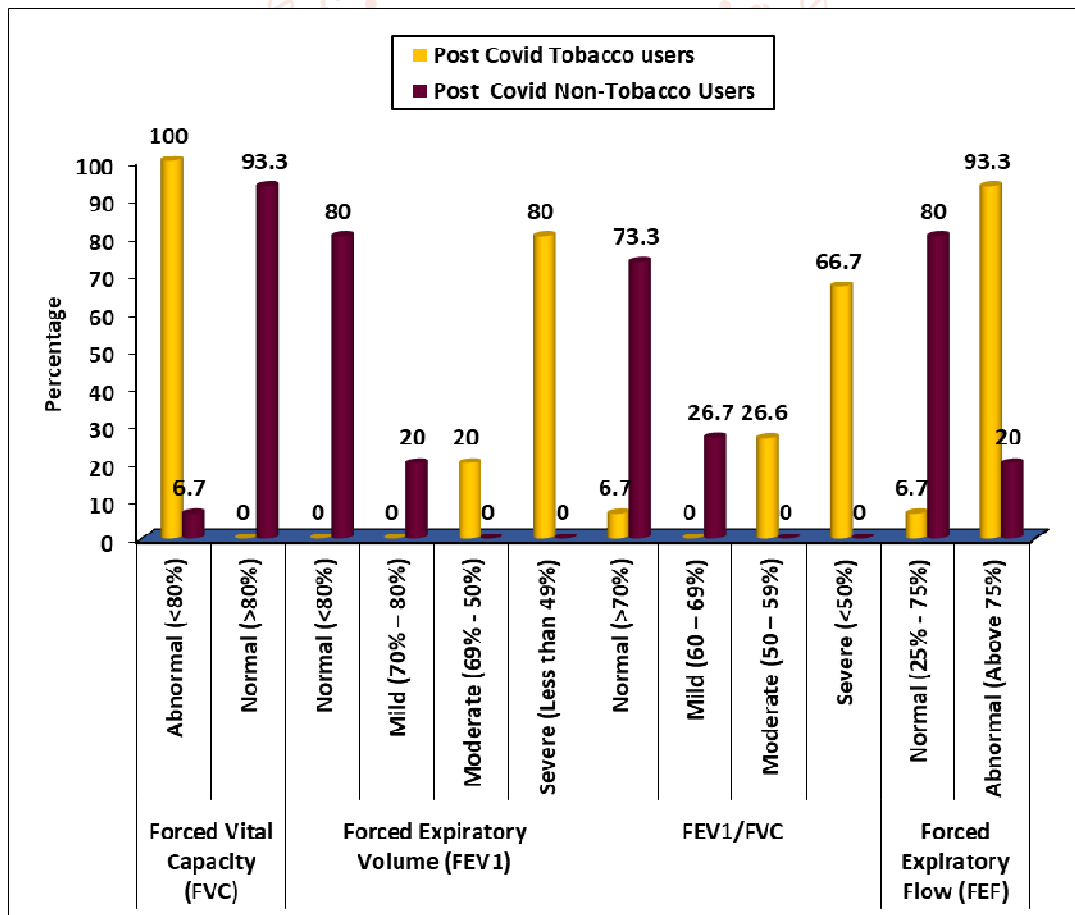
**SECTION B: ASSESSMENT OF LEVEL OF RESPIRATORY STATUS AMONG POST COVID TOBACCO USERS AND POST COVID NON-TOBACCO USERS.**

**Table 2: Frequency and percentage distribution of respiratory status among post COVID tobacco users and post COVID non-tobacco users.n = 30(15+15)**

Respiratory status	Level	Post COVID Tobacco Users		Post COVID Non-Tobacco Users	
		F	%	F	%
<b>Forced Vital Capacity (FVC)</b>	Abnormal (<80%)	15	100.0	1	6.7
	Normal (>80%)	0	0	14	93.3
<b>Forced Expiratory Volume (Fev1)</b>	Normal (<80%)	0	0	12	80.0
	Mild (70% – 80%)	0	0	3	20.0
	Moderate (69% - 50%)	3	20.0	0	0
	Severe (Less than 49%)	12	80.0	0	0
<b>Fev1/FVC</b>	Normal (>70%)	1	6.7	11	73.3
	Mild (60 – 69%)	0	0	4	26.7
	Moderate (50 – 59%)	4	26.6	0	0
	Severe (<50%)	10	66.7	0	0
<b>Forced Expiratory Flow (FEF)</b>	Normal (25% - 75%)	1	6.7	12	80.0
	Abnormal (Above 75%)	14	93.3	3	20.0

The above table 2 shows that among post COVID tobacco users, 15(100%) had abnormal forced vital capacity, 12(80%) had severe forced expiratory volume, 10(66.7%) had severe Fev1/FVC and 14(93.3%) had abnormal forced expiratory flow.

Whereas among the post COVID non-tobacco users, 14(93.3%) had normal forced vital capacity, 12(80%) had normal forced expiratory volume, 11(73.3%) had normal Fev1/FVC and 12(80%) had normal forced expiratory flow.



**Figure 2: Percentage distribution of respiratory status among post COVID tobacco users and post COVID non-tobacco users**

**SECTION C: COMPARISON OF RESPIRATORY STATUS AMONG POST COVID TOBACCO USERS AND POST COVID NON-TOBACCO USERS.****Table 3: Comparison of respiratory status among post COVID tobacco users and post COVID non-tobacco users.  
n = 30(15+15)**

Respiratory Status	Post COVID tobacco users		Post COVID non-tobacco users		Mean Difference Score	Student Independent 't' test value
	Mean	S.D	Mean	S.D		
<b>Forced Vital Capacity (FVC)</b>	67.70	11.51	86.53	23.35	<b>18.83</b>	<b>t = 2.709</b> <b>p=0.014</b> <b>S*</b>
<b>Forced Expiratory Volume (Fev1)</b>	44.43	9.64	83.27	4.09	<b>38.84</b>	<b>t = 14.357</b> <b>p=0.0001</b> <b>S***</b>
<b>Fev1/FVC</b>	46.53	11.41	85.63	15.48	<b>39.10</b>	<b>t = 7.876</b> <b>p=0.0001</b> <b>S***</b>
<b>Forced Expiratory Flow (PEF)</b>	82.67	6.29	61.33	15.48	<b>21.34</b>	<b>t = 4.944</b> <b>p=0.0001</b> <b>S***</b>

\*\*\*p&lt;0.001, Significant

The table 3 depicts that the mean score of FVC among post COVID tobacco users was 67.70±11.51 and the mean score among post COVID non-tobacco users was 86.53±23.35. The mean difference score was 18.83. The calculated student independent 't' test value of t = 2.709 was found to be statistically significant at p<0.05 level.

The above table shows that the mean score of FEV1 among post COVID tobacco users was 44.43±9.64 and the mean score among post COVID non-tobacco users was 83.27±4.09. The mean difference score was 38.84. The calculated student independent 't' test value of t = 14.357 was found to be statistically significant at p<0.001 level.

The above table shows that the mean score of FEV1/FVC among post COVID tobacco users was 46.53±11.41 and the mean score among post COVID non-tobacco users was 85.63±15.48. The mean difference score was 39.10. The calculated student independent 't' test value of t = 7.876 was found to be statistically significant at p<0.001 level.

The above table shows that the mean score of FEF among post COVID tobacco users was 82.67±6.29 and the mean score among post COVID non-tobacco users was 61.33±15.48. The mean difference score was 21.34. The calculated student independent 't' test value of t = 4.944 was found to be statistically significant at p<0.001 level.

The above findings clearly infers that there was significant in the level of respiratory status between the post COVID tobacco users and post COVID non-tobacco users in which post COVID non-tobacco

users had good respiratory status than the post COVID tobacco users.

**DISCUSSION:**

Hence the research hypothesis H<sub>1</sub> that stated earlier "There will be a significant difference between the post COVID respiratory status between the tobacco and non-tobacco users" was accepted.

Hence the research hypothesis H<sub>2</sub> that stated earlier "There will be a significant association of post COVID respiratory status between the tobacco and non-tobacco users with their selected demographic variables" was accepted for the demographic variables religion, habit of years and age and not accepted for all other demographic variables.

**CONCLUSION:**

The present study assessed the post COVID respiratory status among tobacco and non-tobacco users at SMCH in Thandalam. Based on statistical findings, there was significant difference in the level of post COVID respiratory status among the tobacco and non-tobacco users. In which the tobacco users had severe level of respiratory status than the non-tobacco users.

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