

**Impact of Covid -19 on caller characteristics and quit rates: An experience from  
regional tobacco Quitline from India**

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**Abstract:**

**Background:** The tobacco epidemic is a major health concern amplified by Covid-19. We aimed to study differences in caller profiles to the regional tobacco quitline services of South India during the Covid-19 pandemic in comparison with the pre-pandemic.

**Method:** Using a descriptive cross-sectional research design, we examined registered caller profiles to the quitline between March and July 2019 (Pre-Pandemic N=7845) and the same months in 2020 (Covid-19 pandemic phase N=6447) phases.

**Results:** The proportion of registered callers with an expressed intent to quit tobacco increased by 1.73 times during pandemic (16.7% versus 9.6%). Health concerns were cited as the major reason (93.25%) to quit tobacco in 2020 as compared to 2019 (88.02%). Cough (28.50%) and psychological difficulties (14.20%) were reported significantly more by RCs in 2020. Self-reported quit rates were significantly higher among RCs in 2020 as compared to 2019 on the quit day (2019 - 47.37% & 2020 - 77.54%, P=0.001), at one week (2019 - 25.17% and 2020 - 56.06%, P=0.001) as was one-month continuous abstinence (2019 - 11.88% and 2020 - 39.60% P=0.001).

**Conclusion:** The pandemic resulted in a greater intent to quit among registered callers to the quitline. However, awareness about the quitline services as well as other tobacco cessation services needs to be expanded to reach more tobacco users.

**Keywords:** Covid-19, Tobacco Quitline, Tobacco, Lockdown, Tobacco Cessation

**Implication: Pandemics offer an opportunity to change health risk behaviours. During the Covid-19 pandemic, callers to the tobacco quitline were more motivated to quit tobacco and attributed it to concerns about the health risks from tobacco use, particularly during the pandemic. Quit rates also increased significantly during the pandemic as compared to before. These gains in encouraging tobacco cessation need to be maintained beyond the pandemic by strengthening existing quitlines and other supports for tobacco cessation.**

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## **Introduction:**

India is the second-largest tobacco consumer in the world after China. Tobacco consumption has reached epidemic proportions globally and its impact is devastating.<sup>1</sup> In India, the direct use of tobacco caused 7 million deaths annually and an additional 1.2 million deaths among non-smokers attributed to passive smoking.<sup>2</sup> Tobacco, in both smoking (ST) and smokeless (SLT) forms, is used by 28.6% of the population. About one in two users (55.4% of smokers and 49.6% of SLT users) are willing to quit tobacco. Under half (48.8%) of ST and even fewer SLT users (31.7%) are routinely advised by health professionals to quit tobacco, according to the Global Adult Survey GATS 2.<sup>3</sup>

The Novel Corona Virus Disease (Covid-19) has affected 171 million people across the globe, and over 36 million have died due to the disease by middle of 2021.<sup>4</sup> **Lockdown and other restrictions due to Covid-19 led to many changes in lifestyle and economic situations.**<sup>5</sup> like unemployment, financial difficulties, limited movement and social isolation. All of these have added to the stress and, in turn, contributed to adverse health behaviours, including tobacco and alcohol use.<sup>6,7</sup> This is of particular concern as ST and SLT users are more vulnerable to contracting the Covid-19, and continuing use of tobacco also worsens the outcome of Covid-19 infection.<sup>8-10</sup> Thus, during the pandemic, it is important to help tobacco users to quit through well-designed tobacco cessation programs.<sup>11</sup>

**The Covid-19 pandemic increased the motivation to quit tobacco. Preventive measures by government has created awareness among public regarding the harmful effects of tobacco in general and the risk of use during the pandemic in particular by**<sup>12</sup>. Studies have reported greater interest among tobacco users to quit or reduce tobacco use during the pandemic.<sup>13,14</sup>

However, devising supportive mechanisms to provide tobacco cessation services is important. Article 14 of the WHO Framework Convention on Tobacco Control (WHO

FCTC) recognizes and recommends tobacco quitline services as an important population-level approach to help tobacco users to quit <sup>15</sup>. As a part of the tobacco control program in India, the National Tobacco Quitline Services were established in 2016 and expanded in 2018.

**In order to contain the Covid-19 infection in India, the government imposed a nationwide lockdown between March and July 2020, during which all business activities, including tobacco sale outlets remained closed.** <sup>16</sup> At this time, many dependent tobacco users required support to quit. The national tobacco quitline service was active in offering cessation services to tobacco users. In this study, we attempted to study the changes in the pattern of calls made to the NIMHANS Tobacco Quitline Services (NTQLS) located at National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore and the quit outcomes of registered callers (RC) during the pandemic. **Therefore, the study intended to**

- 1) Compare the differences in demographics, tobacco use patterns, related health problems of RCs during the two periods**
- 2) Assess outcomes with respect to tobacco use status of RCs during non-pandemic and COVID-19 pandemic phases.**

#### **Method:**

A tobacco quitline supported by the Ministry of Health, Government of India has been functioning at the National Institute of Mental Health and Neuro Sciences (NIMHANS) since 1-Sep-2018. This quitline has a dedicated toll-free number (1800-11-2356) and operates six days a week between 8 AM to 8 PM. The NTQLS offers services primarily to the southern states of India (Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Kerala, Puducherry, and Andaman and Nicobar). Similar quitlines run from the Vallabhbhai Patel Chest Institute (VPCI) in Delhi, Dr Bhubaneshwar Borooah Cancer Institute (BBCI) in Guwahati and Tata Memorial Centre (TMC) in Mumbai, catering to other regions of the country.

At the NTQLS, we have an Interactive voice response (IVR) in 6 Indian languages (Kannada, Tamil, Telugu, Malayalam, Hindi, and English) and dedicated software that segregates the calls. The IVR provides information about services available at NTQLS in the preferred language of the caller. Thereafter, the call is connected to the counsellor for further counselling. Twenty-three counsellors, fluent in the southern languages, catering to the quitline callers in two shifts.

In order to compare changes in the callers' patterns before and during the pandemic, we collected data of registered callers (RCs) at the NTQLS between March to July 2019 (Non-Pandemic) and for the same period in 2020 (Covid-19 pandemic phase) phases.

**Design:** The study uses a descriptive cross-sectional research design, and was approved by the Institute Ethics committee.

**Measures:** The NTQLS provides free counselling to help tobacco users to quit tobacco use. Once the quitline caller connects with the counsellor, the counsellor registers the caller, obtains consent, collects basic demographic details, family history of tobacco use, and tobacco use details (like onset of first and daily/nearly daily tobacco use, the amount spent on tobacco per month, the average quantity of tobacco sticks and pouches used per day). **The Fagerstrom Test for Nicotine Dependence<sup>17,18</sup> (FTND) was used to measure the severity of ST and SLT, The FTND was administered over the phone. The FTND has been translated into the vernacular languages Kannada, Tamil, Telegu, Malayalam and Hindi, and counsellors have been trained by experts on procedure of administration of FTND in vernacular languages, since the inception of the quitline.** The counsellors also record dichotomous responses with regard to health problems, including cough lasting more than a month, breathing difficulties, blood pressure, problems in mouth and gums, digestion difficulties, and **psychological difficulties (subjective experience of feeling sad, poor appetite, poor concentration, trouble sleeping, tiredness, palpitations, shivering,**

**dizziness, restlessness**). A 1 to 10 rating scale (1 = Low and 10 = High) is used to measure the current readiness to quit tobacco, craving level, expected difficulties to quit. The current mood is also recorded (1 representing low mood, 10 indicates a happy mood) (Complete details of variable attached in Supplementary file 1).

Following the assessment, the counsellor begins intervention by helping the caller set a ‘Quit date’. The counsellor provides information and strategies for cessation in accordance with the WHO telephone counselling training guidelines.<sup>19</sup> This includes the STAR Method (S= Set Quit date, T = talk to family and Friends, A = Anticipate Challenges, R = Remove Tobacco products from the environment. The Counsellors adopt a pragmatic strategy drawn from the 5As (Ask, Advise, Assess, Assist and Arrange), 5Rs (Relevance, Risks, Rewards, Roadblocks, Repetition); ACE model (A= Avoid risky situation when possible, C = Cope using a variety of behavioural, pharmacological and cognitive strategies, Escape the situation by leaving) and the 4Ds approach (D1 = Deep Breathing D2 = Drinking Water, D3 = Delay D4 = Distract), as well as craving management and relapse prevention strategies in a 20 to 25-minute counselling session. In addition, **counsellors also provide educational materials about tobacco cessation through email and WhatsApp to the registered callers. For those who have no access to email or WhatsApp, counsellors guide them to approach tobacco cessation centres for material, other guidance, quit support and services for physical health problems.**

Following registration, 4 proactive calls are usually made to the registered callers 3 days before the quit date, on the quit date, one week later and one month later. Proactive calls are also made at 3, 6, 9 and 12 months. For the purpose of this study, we assessed tobacco use status at the end of one month. Tobacco use status was measured as **1) Quit: Non-use of tobacco for last 24 hours after receiving service from NTQL considered** 2) Continuous abstinence: Non-use of tobacco from the quit date call 3) Reduced: Decrease in the frequency

of tobacco use as compared to earlier use and 4) Increased: Increase in tobacco use frequency as compared to earlier 5) No change: Tobacco use frequency remaining as earlier and 6) Relapse: Returning to tobacco use after a period of abstinence for at least a week.

**Analysis:** Descriptive and inferential statistics were performed to compare 2019 and 2020 registered caller with the NTQLS. Mann Whitney U and Chi-Square tests were used to compare differences in tobacco use outcome across the two groups at one month.

## Results

From March to July 2019 and 2020, the NIMHANS Tobacco Quitline Services (NTQLS) had 2,26,684 and 1,47,020 IVR (Interactive Voice Response) hits respectively. Of these 21,838 (9.6%) and 24,552 (16.7%) respectively comprised callers interested in quitting. Of this group of callers, 7845 and 6447 callers across the two periods registered for the tobacco cessation program. The majority of callers (96.70% & 97.27% in 2019 and 2020) had obtained the NTQLS toll-free number (1800-11-2356) from the tobacco product pack. Most of the registered calls were made from the southern states of Karnataka during both the time periods (26.48% and 21.84%), Tamil Nadu (19.54% and 17.71%) Andhra Pradesh and Telangana (8.82% and 14%) Kerala (20.96% and 5.83%). **There were a few calls from other states not serviced by the tobacco quitline at NIMHANS, Bangalore, both pre and post pandemic. These included Uttar Pradesh (5.46% and 10.58%), Rajasthan (6.63% and 9.55%), Madhya Pradesh (2.41% and 3.91%), Delhi (2.52% and 2.82%), Haryana (1.05% and 2.33%), Bihar (1.12% and 1.74%), Himachal Pradesh, Punjab, Maharashtra, Jammu and Kashmir, Assam, Gujarat and West Bengal (2.15% and 3.69%), Uttarakhand, Odisha and Lakshadweep (0.00% and 0.74%) and state not disclosed (2.47% and 4.99%)** There were substantially increased registration calls from other states in 2020 as compared to 2019.



### **Profile of callers**

The mean age (28.79 years) RCs in 2020 was relatively higher as compared to 2019 (27.02%). The majority of the RCs in both periods were male (2019: 99.5% and 2020: 99.1%) and the number of female callers slightly increased in 2020 (0.9%). Mean years of education of RCs was lower in 2020 (11.60 years) as compared to 2019 (12.17 years), majority of RCs were single in both periods (2019: 66.55% and 2020: 58.03% respectively), but the number of married callers increased in 2020 (41.54%) as compared to 2019 (32.61%), RCs with no use of substances other than tobacco were comparatively higher in 2020 (64.20%) as compared to 2019 (58.19%), family history of both smoking (ST) and smokeless tobacco (SLT) use among first degree relatives was lower in 2020 as compared to 2019 (ST Use 2019: 35.42% and 2020: 32.51%. SLT use 45.89% and 26.40%). Overall, a significant difference was found between age, occupation, marital status, native states of RCs, use of other substance use and family history of tobacco use ( $p = 0.001$ ), gender and sources of quitline information ( $p = 0.002$ ) between 2019 and 2020 RC (Table 1).

### **Tobacco use patterns**

With respect to the differences in the patterns of use between the two periods, RCs using both ST and SLT in 2020 had a significantly later onset of use, had a higher average quantity of daily use ( $p = 0.001$ ) and reported higher levels of craving ( $p = 0.002$ ) as compared to RCs in 2019. There were higher registrations of both ST and SLT users in 2020, (ST 39.10% and SLT 55.50%) as compared to 2019 (ST 37.30% and SLT 51.50%). Bidi (17.77%) and Gutkha (47.38%) users (Gutkha is a banned smokeless form of tobacco) increased in 2020. With respect to the severity of tobacco dependence, the percentage of callers with high levels of dependence was significantly lower in 2020 as compared to 2019 (4.08% and 8.21% for ST and 3.7% and 10.6% for SLT respectively,  $p = 0.001$ ). There were significantly more RCs

with low to moderate ( $p = 0.001$ ) and moderate levels of dependence for both ST and SLT in 2020 as compared to 2019 (Supplementary Table 1).

### **Reasons for quitting**

The attributed reasons by RCs for quitting were significantly different between 2019 and 2020 period ( $p = 0.001$ ), with **health concerns (which includes pre-existing health problems and subjective feeling regarding general health pre and post pandemic)** cited as the major reason (93.25%) to quit tobacco in 2020 as compared to 2019 (88.02%), while financial and family (**concern for children, betterment of interpersonal relationship and family environment**) reasons were relatively more common in 2019. Cough (28.50%) and psychological difficulties (14.20%) were reported significantly more by RCs in 2020. as compared to 2019, when breathing difficulties (30.22%) blood pressure or heart problems (17.60%), and oral problems (53.64%) were more commonly reported. RCs in 2020 reported a significantly lower level of mood ( $p = 0.001$ ) and greater psychological difficulties ( $p = 0.004$ ) as compared to the earlier period (Table 2).

### **Outcome**

From March to July 2019 and 2020, proactive calls were made to 6403 (81.62%) & 4890 (75.85%) respectively to RCs who had consented to proactive counselling service. On the quit date, one-week and one-month, proactive calls were answered by 42.98%, 47.56%, and 41.99%, in 2019 and 51.55%, 40.04%, and 43.28% respectively in 2020. 21.09% and 12.35% registered cases were closed permanently due to the consent for proactive counselling withdrawn from callers (as RCs reported they had not called NTQLS or were not interested in receiving counselling, the phones were continuously switched off, went to wrong numbers or to phones not in use. Comparison of quit rates between 2019 and 2020 on quit day (47.37% & 77.54%,  $p = 0.001$ ), one week (25.17% and 56.06%,  $p = 0.001$ ) one-month continuous

abstinence (11.88% and 39.60%  $p = 0.001$ ) showed consistently higher quit rates in 2020 as compared to 2019 (Table 3).

### **Discussion:**

Tobacco quitline have gained significant importance across the world. Quitline has been adopted widely because it is an evidence-based individualized tobacco cessation service to a large number of tobacco users, and it is easy to access. Quitline removes barriers such as lack of transportation, inability to pay for treatment and cut waiting times. Therefore, it is widely accepted by people as they can avail service from where they are, and it serves as a key component of a comprehensive tobacco control program.<sup>20,21</sup> The tobacco quitline has been actively assisting tobacco user to quit tobacco during the lockdown. Several quitlines have reported that quit intention had significantly increased among tobacco users. Intention to quit smoking increased by four times in Australia.<sup>22</sup> Hong Kong quitline reported a 58% reduction in tobacco use.<sup>23</sup>

The objectives of the current study were 1) To compare the differences in demographics, tobacco use patterns, related health problems of registered callers during the two periods, 2) To assess outcomes with respect to the tobacco use status of registered callers during non-pandemic and Covid-19 pandemic phases. The study showed that the number of callers intending to quit tobacco increased in 2020 (16.7%) as compared to 2019 (9.6%). Fear of Covid-19 infections motivated people to quit tobacco. Following this, the term ‘how to quit smoking’ was highest searched in google in India between March to April 2020.<sup>24</sup> This phenomenon indicates that people were interested to quit tobacco, as it increases the risk of Covid-19 and worsens its outcomes. Such a trend was reflected in the NTQLS call rate.

The study shows a significant increase in middle-aged ( $M = 29.79$  years), employed (68.82%) and married (41.54%) men and women (0.9%) callers in 2020 as compared to 2019. This perhaps reflects that older, married and working persons are worried about the impact of

Covid-19 such as ill-health, fear of uncertainty of job, deterioration of the economic condition, fear of spouse and children safety during the lockdown and covid related psychological distress. A mental health study reported that people in the age group 18-49 years showed a positive perceiving likelihood of contracting Covid-19 and significant anxiety during the lockdown.<sup>25</sup>

With respect to the tobacco use pattern, there is an increase in the number of exclusive ST user (39.10%), SLT user (55.50%) and consumption of bidi (17.77%), gutkha (47.38%) in 2020 as compared to 2019. The reasons behind this could be during the lockdown, in India, the tobacco products available at grocery and other essential shops, these shops were allowed to function limited hours during the lockdown, due to restriction on selling tobacco, the prices had been hiked two to five times, therefore, dual tobacco users might have shifted to one form of tobacco product. As a result of price hike, bidi consumption increased during the lockdown as compared to cigarettes, which are more expensive.

We found that the majority of ST and SLT users reported mild to moderate and moderate level severity. There is an increase in frequency of tobacco use (ST: M= 9.39 Sticks per day) and (SLT: M= 5.92 times a day), craving level (ST: M = 6.17 and SLT M = 6.08), difficulty level to stop (ST: M = 6.27 and SLT: M =6.74) tobacco during the lockdown. A study on tobacco use among older adults reported that tobacco use increased by 15% and others had no change in tobacco use pattern<sup>26</sup>, similar findings reported by a study conducted in Chennai that tobacco use remained the same at 20% and increased by 16% of participants, two-thirds of the respondents purchased tobacco daily from the shop, majority of them had tobacco stock and obtained from peers<sup>27</sup>. A study on tobacco use pattern in five countries reported that tobacco use was a coping mechanism of nicotine consumers, who expressed fears of becoming ill, losing job, anxiety, psychological distress, boredom<sup>28</sup>. Restriction of movement

for outdoor activities and lapses in implementation of lockdown regulation<sup>29</sup> might have also led to increasing the tobacco use.

We observed that the majority of the respondents expressed health (93.25%) as the major reason to quit tobacco. Common symptoms included cough (28.50%) and psychological difficulties during the lockdown. Since cough is one of the primary symptoms of Covid-19, frequent coughing and fear of Covid-19 may induce anxiety among the respondents and might have been one of the main reasons for psychological distress. **Similar findings of health being the most common reason among smokers for reducing and quitting tobacco during the pandemic have been reported.**<sup>30</sup>

Despite an increase in tobacco use among the registered callers during the Covid-19 pandemic, we found that a higher percentage of participants were significantly motivated to quit tobacco as compared to 2019. Our study shows a significant increase in self-reported quitting on the set quit date (2019: 47.37%, 2020: 77.54%) have quit tobacco, one week (2019: 25.17%, 2020: 56.06%) and at end of one month (2019: 11.88%, 2020: 39.60%) had maintained abstinence. The Hong Kong tobacco quitline study reported a significant increase in quit rates among youth between January to April 2020.<sup>23</sup> 31% of participants quit smoking in Turkey,<sup>31</sup> and 6 monthly follow up study showed that 34% of tobacco users quit in India<sup>29</sup> a significant increase in tobacco quit rate among waterpipe users in Iran<sup>32</sup> during the lockdown. In addition to health concerns, this may also have been facilitated by increased price and non-availability of tobacco.<sup>27,33</sup>

The major challenges reported by counsellors who worked from home during the pandemic and had calls redirected from the NTQLS to their mobile numbers were 1) poor network 2) technical glitches 3) an unsuitable home environment for counselling 4) manual maintenance of data initially 5) inability to make outbound calls at the start of the initiative.

The major strength of the study is that although many services except health were shut during the lockdown, however, the NTQLS very actively provided tobacco cessation services, supported and assisted a large number of people to quit tobacco. The limitations of the study were, first, since it is a telephone-based service we do not have any mechanisms to cross verify the information collected by RCs and self-reported tobacco quit status could not be validated biochemically. **Secondly, we did not have any information regarding month wise covid cases of states mentioned in the study and the covid status of RCs, and details about state/cities and zonal wise unlock phases.**

### **Conclusion**

**Our study during the first wave of the Covid-19 pandemic in India indicates an increase in the intent to quit among RCs using tobacco. Concerns about the ill effects of tobacco and the risk of COVID 19 infection seem to have motivate tobacco users to quit tobacco. The quitline was operational during the lockdown and in addition to offering support and services to quit tobacco also provided knowledge about risk factors for Covid-19, thus increasing awareness on tobacco ill effects and enhancing quit rates. Therefore, the Covid-19 pandemic provided an opportunity for tobacco users to quit and such facilities and support to quit need to be expanded in India.**

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**Conflict of Interest:** All authors declare that they have no conflict of interest to disclose

**Authors' Contribution:** Pradeepkumar participated in analysis of data, and writing of first draft of manuscript. Pratima Murthy contributed in supervising, conceptualization and design of the research work, and editing the final draft of manuscript. Lohit and Sudarshan were involved in data collection and editing. Prabhat Chand and Lakshman edited the final draft of manuscript All authors have read and approved this final draft as submitted

**Data availability statement:** As the quitline service is primarily a clinical service, individual data would not be provided.

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**Table: 1 Comparison of demographic profiles of registered callers at the NIMHANS TQL, between March - July 2019 and 2020**

Variable	March to July 2019 N=7845 (Percent)	March to July 2020 N=6447 (Percent)	P-value
<b>Age in years</b>	Mean= 27.02 (SD ± 9.25)	Mean=28.79 (SD ± 10.53)	0.001
<b>Individual Monthly Income</b>	Median: 15000	Median: 15000	
<b>Gender</b>			
Male	7805 (99.5%)	6387 (99.1%)	0.002
Female	40 (0.5%)	60 (0.9%)	
<b>Education in years</b>	12.17 (SD ± 3.20)	11.60 (SD ± 3.33)	0.001
<b>Occupation</b>			
Employed	5183 (66.07)	4437 (68.82)	0.001
Unemployed	1856 (23.66)	1546 (23.98)	
Seasonally employed	490 (6.25)	396 (6.14)	
Not disclosed	316 (4.03)	68 (1.05)	
<b>Marital Status</b>			
Never married	5221 (66.55)	3741 (58.03)	0.001
Married	2558 (32.61)	2678 (41.54)	
Divorced	16 (0.20)	20 (0.31)	
Widowed	6 (0.08)	4 (0.06)	
Not Disclosed	44 (0.56)	4 (0.06)	
<b>Heard about Quitline from:</b>			
Pack information	7586 (96.69)	6271 (97.27)	0.02
Other Sources	259 (3.31)	176 (2.73)	
<b>Any other substance used other than tobacco</b>			
No	4565 (58.19)	4139 (64.20)	0.001
Alcohol	3060 (39.01)	2178 (33.78)	

Cannabis	50 (0.64)	50 (0.78)
Opioids	0 (0.00)	6 (0.09)
Sleeping pills	0 (0.00)	16 (0.25)
More than one substance	170 (2.17)	58 (0.90)

Chi-Square test has been applied to variables such as 'gender', 'occupation', 'marital status', 'heard about quitline from', 'any other substance used other than tobacco'. Mann Whitney U test has been used for 'age' and 'education' variables. For both tests,  $p < 0.05$  was considered significant.

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**Table 2: Reasons to Quit Tobacco and Health Problems of Registered Callers**

<b>Variable</b>	<b>March to July 2019 N=7845 (Percent)</b>	<b>March to July 2020 N= 6447 (Percent)</b>	<b>P – Value</b>
Health Reason	6905 (88.02)	6012 (93.25)	0.001
Family Reason	490 (6.25)	298 (4.62)	
Economic Constraint	450 (5.74)	137 (2.13)	
<b>Health problems of Registered Callers</b>	<b>March to July 2019 N=7845 (Percent)</b>	<b>March to July 2020 N= 6447 (Percent)</b>	<b>P- Value</b>
Cough lasting for more than a month	1382 (17.60)	1839 (28.50)	0.001
Breathing Difficulties	2720 (34.70)	1346 (30.90)	0.001
Stomach and Digestion problems	2371 (30.22)	1975 (30.63)	0.001
Blood pressure or Heart problem	1334 (17.60)	831(12.89)	0.596
Problems with mouth and gums in the last month	4208 (53.64)	3197 (49.59)	0.001
Psychological difficulties	982 (12.50)	913 (14.20)	0.004
Present Mood? (1 Sad, Depressed, Down 10 Happy, High, Awesome, Great)	Mean= 6.77 (SD ± 2.04)	Mean= 5.64 (SD ± 2.42)	0.001

‘Reasons to quit tobacco’ and ‘health problems’ of RCs were variables considered for chi-square test, ‘present mood condition’ considered for Mann Whitney U test. For both tests,  $p < 0.05$  was considered significant.

**Table 3: Tobacco Quit Status of Registered Callers**

<b>Time Period</b>	<b>2019 M - J</b>	<b>2020 M - J</b>	<b>2019 M - J</b>	<b>2020 M - J</b>	<b>2019 M - J</b>	<b>2020 M - J</b>
	<b>Quit Date call</b>	<b>Quit Date call</b>	<b>1-Week F/U Call</b>	<b>1-Week F/U Call</b>	<b>1-Month F/U Call</b>	<b>1-Month F/U Call</b>
<b>Total QD</b>	<b>7845</b>	<b>6447</b>				
Consented for Proactive call	6403	4890	4757	3881	4164	3660
<b>Total Proactive calls made</b>	<b>N=6389 (Percent)</b>	<b>N=4863 (Percent)</b>	<b>N=4111 (Percent)</b>	<b>N=3565 (Percent)</b>	<b>N=4063 (Percent)</b>	<b>N=3624 (Percent)</b>
Answered	<b>3407 (53.33)</b>	<b>2859 (58.79)</b>	<b>1621 (39.43)</b>	<b>1238 (37.73)</b>	<b>1692 (41.64)</b>	<b>1548 (42.72)</b>
Not answered	1350 (21.13)	1026 (21.10)	1906 (46.36)	2107 (59.10)	1509 (37.14)	1624 (44.81)
Case closed	1632 (25.54)	978 (20.11)	584 (14.21)	220 (6.17)	862 (21.22)	452 (12.47)
<b>Tobacco Use Status of Answered Callers</b>	<b>N=3407 (Percent)</b>	<b>N=2859 (Percent)</b>	<b>N=1621 (Percent)</b>	<b>N=1238 (Percent)</b>	<b>N=1692 (Percent)</b>	<b>N=1548 (Percent)</b>
Quit	1614 (47.37)	2217 (77.54)	-	-	-	-
Continuous Abstinence	-	-	408 (25.17)	694 (56.06)	201 (11.88)	613 (39.60)

Reduced	1074 (31.52)	550 (19.24)	769 (47.44)	407 (32.88)	986 (58.27)	854 (55.17)
No change	635 (18.64)	84 (2.94)	389 (24)	98 (7.92)	465 (27.48)	63 (4.07)
Increased	84 (2.47)	8 (0.28)	13 (0.80)	11 (0.89)	8 (0.47)	6 (0.39)
Relapsed	-	-	42 (2.59)	28 (2.26)	32 (1.89)	12 (0.77)

M – J = March to July, and F/U = Follow Up

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