



**Covid-19 and Suicide: A comparison between two waves in India**

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**Abstract**

**Background:** The COVID 19 pandemic has caused mental trauma to humans. Hence it is a justifiable concern of suicidal behavior and news media reporting it during the COVID-19 pandemic

**Aim:** To compare the suicidal behavior between the two waves of the pandemic in India

**Method:** This study used a systematic search of online news media reports between the dates 24<sup>th</sup> March to 3<sup>rd</sup> May for the years 2020 and 2021 using keywords suicide, self-harm, attempted suicide, kills self, hangs self. Socio-demographic variables and methods of suicide were then compared between the two years using descriptive statistics.

**Results:** A total of 1215 and 1325 articles were retrieved for the years 2020 and 2021 respectively, out of which 72 articles were COVID-related suicides in 2020 and 31 articles in 2021. Compared to 2021, 2020 had a greater proportion of males. More laborers had attempted suicide in 2021 (47.2%). Both times most common mode of suicide was hanging followed by jumping from a height. A more number of people with COVID positive status had committed suicide in 2021 and the mean duration between testing positive and

committing suicide had been less than 3 days for both waves.

**Conclusion:** Although it is difficult to attribute whether the findings are due to changes in the real scenario or due to changes in journalists’ attitude towards suicide and attempts at the time of lockdown but the findings can help develop strategies for preventing suicides in the future pandemics and waves.

**Keywords:** COVID, Suicide, India, media analysis

**Introduction**

The coronavirus disease-2019 (COVID-19) pandemic has caused a lot of trauma not only to physical health but also in the mental aspects of human lives. The consequences of its effect on mental health are more devitalizing as mental health is interlinked directly or indirectly with almost all aspects of human life (Khan et., 2020).

Suicide is a major public health concern. According to Schneidman suicide is a conscious act of self-induced annihilation, best understood as a multidimensional malaise in a needful individual who defines an issue for which suicide is perceived as the best solution (Shneidman, 1985).

Past studies have shown that the suicide rate increases during an epidemic or pandemic, for example during the influenza epidemic in the USA in 1918 (Cheung et al., 2010).

Even during the SARS epidemic, there had been an increase in suicides especially amongst the elderly population which was attributed to the collapse of social networks, fear of being infected, limited access to healthcare, the stress of being a burden on their families (Chan et al., 2006).

The first COVID case in India was recorded on 30th January 2020 (Rawat., 2020); and as the number of cases went on increasing, the Government of India instituted a complete nation-wide lock-down from 24 March 2020 to 3 May 2020 which was probably one of the largest confinement in the history of the nation affecting 1.3 billion citizens (Pal & Siddiqui., 2020).

The second wave started in mid-February 2021 and was much larger compared to the first which led to greater demands for vaccines, hospital beds, oxygen cylinders, and medications in the country (Safi., 2021). Although this time there had not been any complete nationwide lockdown the states individually opted for lockdown, starting with Maharashtra on April 5 (Express Web Desk., 2021).

Before the pandemic, the suicide death rate in India for both men and women was higher compared to the global average (The Global Burden of Disease Study., 2018).

According to National Crime Records Bureau 2019, India had reported about 381 deaths by suicide daily in that year. Compared to 2018, a 3.4 percent increase in suicides was noticed in 2019 (National Crime Records Bureau., 2019).

Previous studies have shown that the suicide rate has increased compared to pre lockdown times and a higher risk was seen among males and in those who were COVID positive or suspected to have COVID infection. Most suicides were seen within the first week of testing positive, in COVID quarantine or treatment centers (Sripad et al., 2021; Panigrahi et al., 2021; Pathare et al., 2020).

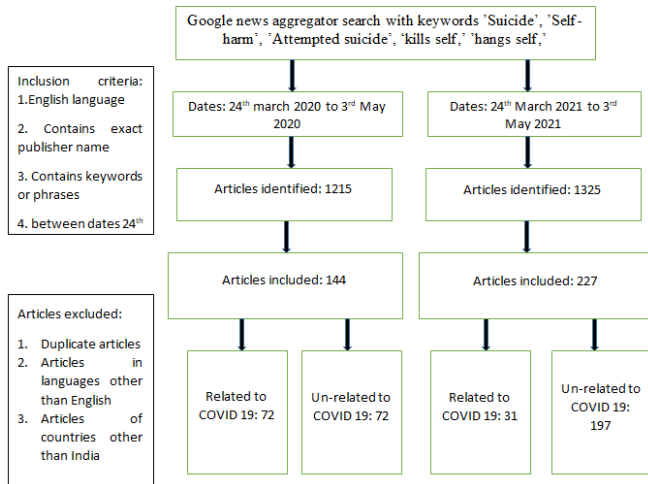
However, there is a dearth of literature comparing the suicide rates during the first and second waves in India. Hence this study, utilizing online newspaper reports aims to compare the suicide rate in India during the first and the second wave, the socio-demographic profile of the patients, and the factors influencing suicidal risks in the two waves.

### **Methods**

We conducted a “Google news aggregator search” of online newspapers from 24th March to 3<sup>rd</sup> May for the years 2020 and 2021, published in India. The following dates had been chosen as these dates correspond to the date of nationwide lockdown in India during the first wave. The other filter used was “India” as the region. News reported in only the English language were included. Two authors independently searched google with ‘news’ as a filter, using the terms ‘Suicide’, ‘Self-harm’, ‘Attempted suicide’, ‘kills self,’ ‘hangs self,’. Each article information was jointly evaluated, before inclusion in the final datasheet to evade multiple entries. To further avoid duplication, a proper inspection of sociodemographic data and suicide-related information was performed. The same process was also followed with dates between 24<sup>th</sup> March 2021 and 3<sup>rd</sup> May 2021. For the second wave, the same dates were kept as COVID-19 cases were increasing

enormously during April and also to ensure similarity between the two comparisons.

Flow Chart 1: Shows the details of the selection process of articles.



For the years 2020 and 2021 a total of 1215 and 1325 articles were obtained which met the inclusion criteria that is, article in the English language, contains the exact name of publisher, contains the keywords or phrases, and between the dates of 24<sup>th</sup> March and 3<sup>rd</sup> May.

## Results

Table 1: Shows the comparison of sociodemographic variables between the two years.

Variables	2020 n (%) or Mean(SD)	2021 N (%) or Mean(SD)
Gender	Male 67(93.1%)	Male 19(61.3%)
Age	37(13.7)	40.3(19.98)
Profession	Labor 34(47.2%) Status unknown 24 (33.3%)	Labor 3(9.7%) Doctor 4(12.9%)
Mode	Hanging 54(75%) Jumping from height 11(15.3%) Cutting with knife 3(4.2%) Poison 2(2.8%) Jumping in front of moving train 1(1.4%) Self-immolation 1(1.4%)	Hanging 15(48.4%) Jumping from height 5(16.1%) Cutting with knife 1(3.2%) Poison 5(16.1%) Jumping in front of moving train 2(6.5%) Self-immolation 1(3.2%)
COVID	Negative 60(83%)	Negative 17(54.8%)

144 articles got selected from the year 2020 and 227 from the year 2021. Articles that were excluded were articles in languages other than English, foreign country articles, and duplicate articles. Duplicate articles were those which covered a case of suicide or attempted suicide that had already been reviewed.

Out of 144 articles selected in 2020, 72 were non-COVID suicides and in 2021 out of 227 articles, 197 were not related to COVID.

The data was obtained using a semi-structured proforma which included age, gender, employment, location(home/hospital/quarantine), the method used, region, COVID status (positive negative / report awaiting), premorbid physical or mental illness, potential trigger or reason and whether attempted or succumbed. Data were analyzed using descriptive statistics.

Positive/negative	Positive 5(6.9%) COVID report awaiting 7(9.7%)	Positive 14(45.2%) COVID report awaiting 0
Co-morbid physical illness	7(9.7%)	3(9.7%)
Co-morbid psychiatric illness	6(8.3%)	1(3.2%)
Mean duration between testing positive and committing suicide.	1.25 days (0.5)	2.10 days(0.994)
Location(home/hospital)	Home 57(79.2%) Hospital 8(11.1%) Quarantine 7(9.7%)	Home 20(64.5%) Hospital 5(16.1%) Quarantine 6(19.4%)
Attempted/succumbed	Succumbed 58(80.6%) Attempted 14(19.4%)	Succumbed 24(77.4%) Attempted 7(22.6%)

In 2020 a greater percentage of males (93%) had committed suicide due to COVID-related causes compared to 2021 where only 61.3% were males.

Not much difference was noted between the two groups in terms of age.

In 2020 a major portion of the group had been laborers (47.2%) while in 2021 only 9.7% were laborers or daily wage workers. Out of the 31 COVID-related suicides in 2021, 12.9% had been doctors, but no suicide of doctors had been reported in 2020. Regarding the mode or method used for committing suicide not much difference was noted in the two years. The most common method for both the years had been hanging, followed by jumping from a height. For 2020, a total of 72 articles were examined in which 6.9% persons were positive, 83% were negative and 9.7% had committed suicide before they could get the results of their reports. A huge difference to this was seen in 2021 where around 45% of the people were positive. In 2020, 7 patients had a pre-morbid physical illness and 6 patients had a pre-morbid psychiatric illness. In 2021, 3 patients had a

pre-morbid physical illness and 1 patient had a pre-morbid psychiatric illness. Regarding location, in both the years, the most common place had been home followed by hospital and quarantine center.

Compared to 2021, a greater percentage of people had succumbed (80.6%)

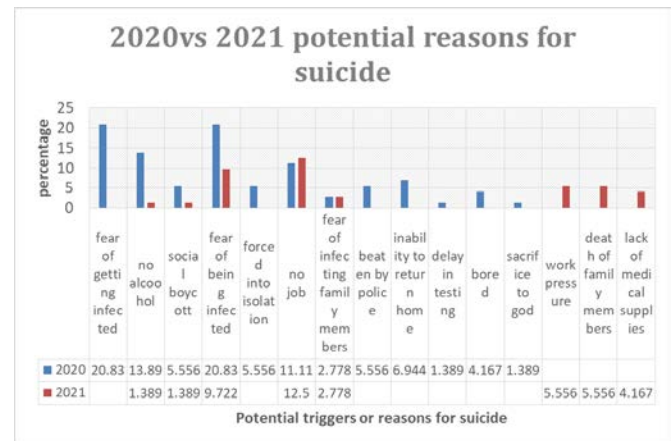


Chart 1: Compares the potential triggers or reasons behind suicides in the two years.

In 2020 the most common reason had been fear of getting the infection from others and fear of death after getting infected. The other prominent reasons in 2020 were unavailability of alcohol, social boycott, inability

to return home, beaten by police for breaking quarantine rules.

Reasons which had been prominent and common in both the years were financial crisis due to unavailability or lack of job. Fear after being infected had been prominent in 2021 as well but the percentage (9.72%) was much less compared to 2020 (20.8%).

New reasons noted in 2021 which had been absent in 2020 were work pressure (5.56%), death of family members due to COVID (5.56%), and lack of medical supplies (4.17%).

Reasons which had been prominent in 2020, but absent in 2021 include fear of getting infected (20.8%), being forced into isolation, beaten by police (5.56%), inability to return home (6.94%), boredom (4.17%), and delay in testing (1.39%).

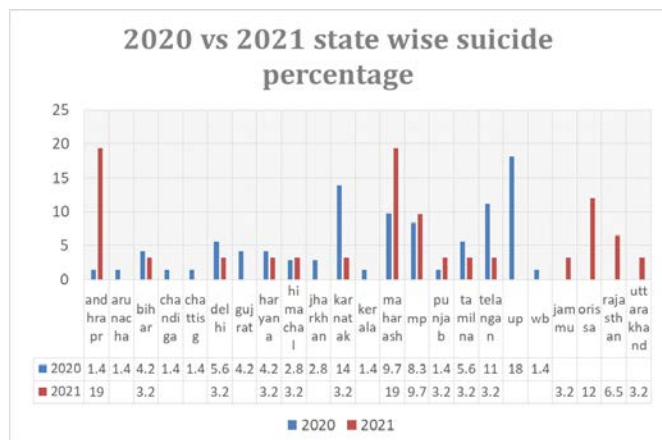


Chart 2: Shows the state-wise distribution of COVID-related suicides in both years. In 2020 the states from which the highest number of suicides had been reported were Uttarpradesh and Karnataka. In 2021 however, Maharashtra reported the highest number of suicides followed by Andhra Pradesh and Orissa.

**Discussion**

This study highlights the difference in suicide rates between the two waves of the pandemic concerning age, gender, place, COVID positive or negative status, potential triggers, or reasons for suicides. Although

compared to 2020, the number of suicide cases had been more in 2021 but the number of COVID-related suicides had been much less.

Even before the COVID times, the majority of suicide attempters in India had been males and this study's findings also reflect the same (Girdhar et al., 2003). For both the year's most common method used for suicide had been hanging, which goes against the findings of studies of pre-COVID times, where hanging was found to be the second most common method after poisoning (Bastia & Kar, 2009).

All the suicides in COVID positive cases had been attempted or completed within one week of testing positive.

According to the newspaper articles, during the first wave, a majority of the patients had been daily wage earners which might indicate the impact of COVID on possible job losses and economic crisis. And hence the vulnerable group like migrant workers and daily wage earners had been more affected during the first wave. During the second wave, a considerable percentage of doctor's death by suicide had been reported and the main reason cited behind these deaths in newspapers had been working stress and depression by seeing deaths of COVID patients regularly in wards. Studies have shown that majority of healthcare workers associated with COVID-19 care experiences stress, fear, and anxiety during their work tenure (George et al., 2020). Hence it can be aptly assumed that as during the second wave as the caseload had been much higher compared to the first wave, the stress at work also might have increased.

As reported in the articles, the percentage of COVID-positive patients committing suicide in 2021 had been higher compared to 2020. Also in 2020, a considerable

portion of people had committed suicide after giving samples for COVID testing, but before their reports could arrive. This explains the fear, stigma, and apprehension people had against COVID-19 in 2020, which have been confirmed in studies (Moideen et al., 2021). From the findings of this study we can assume that with time and by educating the public over various platforms regarding COVID, the terror or stigma might have decreased.

A similar trend can be seen in the findings of the potential triggers or causes of suicide. In 2020, the most prominent reason had been fear of getting infected which is absent in 2021. Since newspaper reports are not psychological autopsies, hence biases might be present regarding reporting of causes of suicide. However, if we assume that these reports are representatives of suicide or attempted suicide in our country it can be said that because of lockdown the other prominent reasons had been the unavailability of alcohol, being forced into quarantine, being beaten by police for violating lockdown rules and financial crisis. New reasons reported in 2021, which had been absent in 2020 include the death of family members, inability to get access to medical supplies, and work pressure. These reasons might be explained by the increased caseload in the second wave compared to the first wave.

In the first wave, the state from where the maximum number of suicides had been reported was Uttar Pradesh, which previously had a low suicide rate compared to the national average (National Crime Records Bureau., 2019). The highest suicide rate in the second wave had been reported from the states of Maharashtra and Andhra Pradesh and these states are one the worst affected states by COVID during the

second wave in terms of caseload and death rates (“COVID-19 second wave in India: 10 worst affected states with the highest number of coronavirus infections”, 2021).

The limitations of our study are that we included only reports published in the English language. Hence we might have overlooked reports published in Indian languages as officially 22 languages are acknowledged in our nation and many such publications are not available online.

Second, many of the suicides are not reported in news publications, so our findings might not collaborate with the real scenario. It might be probable that journalists have become more empathetic to suicide-related issues and mental health especially after the first wave and that is reflected as an increased number of suicide reports in the second wave.

Third is the period that has been chosen for the search of articles, during that period there has been a lot of difference in-between the two waves in terms of the number of COVID positive cases, the state of lockdown, the stigma and mentality of the people.

Lastly, news reports are not psychological autopsy reports and not standardized hence variations in these reports is possible.

The strength of the study is that our search included major English newspapers, which are read by a vast majority of the nation. Two researchers have separately evaluated the data to minimize bias. The socio-economic difference that existed in-between the two waves got reflected in our study results.

Despite the limitations, we believe that our study findings highlight some important points which might be helpful in future prevention of suicide, especially in the coming months of the second wave or if a third

wave comes in near future or in case of an epidemic or pandemic in future.

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