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ASSESSMENT OF VACCINATION STATUS, CLINICAL MANIFESTATION, COMORBIDITIES AND MORTALITY STATUS RATE OF COVID 19 PATIENTS DURING 2nd WAVE- A PROSPECTIVE CROSS-SECTIONAL STUDY

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ABSTRACT

Background: We collected data from patients with COVID-19 confirmed between May 25 and July 31, 2021. This was a cross-sectional study conducted by tele-consultation with a sample size of 306 patients. By interacting with patients via questionnaires used to gather required information and analyzed. **Materials and Methods**: We collected data from patients with COVID-19 confirmed between May 25 and July 31, 2021. This was a cross-sectional study conducted by tele-consultation with a sample size of 306 patients. By interacting with patients via questionnaires used to gather required information and analyzed. **Results**: Among 306 patients (53.6%) were male and (46.4%) female seen at common age group of 40 -70 years in age. About 76.4% of patients who not get at least single dose of vaccination and Maximum patient's not had any co-morbidity (64.4%) and others associated with diabetic (19.9%), blood pressure (14.7%), heart problem (5.8%), thyroid (4.8%), and others (9.2%).65% of people had fatigue, (21.9%) increased appetite, (16.8%) cough. We found there is no clear reports of modes of transmission other than family clusters. **Conclusion:** The study suggests that Although the age range of confirmed cases of COVID-19 almost all age groups, most patients with confirmed COVID-19 tend to be middle age persons. The patients with co-morbidity have more risks outcomes compared with patients without co-morbid condition. Vaccination was helps in reducing the mortality rate and home quarantine may help in preventing further transmission. Family cluster was the most common suspected mode of transmission.

KEYWORD: *COVID-19, Comorbidity, Quarantine, Transmission, Vaccination.*

INTRODUCTION

Coronavirus was the most important pathogens for humans and animals.[1] At the end of 2019, a novel coronavirus which became recognized as the cause of cluster of pneumonia instances in Wuhan, Province of China.[2] It rapidly spread, followed by an increasing number of cases throughout the world as epidemic.[3] On March 11, 2020, the World Health Organization announced the disease COVID-19, which stands for coronavirus disease 2019 as pandemic.[4] Here in India first case of COVID-19 infection reported in Kerala.[5] On January 27, 2020, a 20 yr old female admitted in the Emergency Department in General Hospital, Thrissur, Kerala, with a manifestation of dry cough and sore throat.[6] There was no history of shortness of breath, rhinitis or fever. She disclosed that she had returned to Kerala from Wuhan city.[7]

The virus that reasons COVID-19 is certain severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) previously, it became known as 2019-nCoV (Novel coronavirus).[8] Symptoms can appear 2 days to 2 weeks after exposure to the virus.[9] The preliminary scientific case collection from China in large part comprised hospitalized sufferers with severe pneumonia.[10] Further facts suggest that about 80% of the peoples were sufferers from mild to moderate disease, 20% people require clinic admission, and about 5% people require intensive care admission.[11] Mortality rates were worsened among humans over 60 years of age and with coexisting conditions.[12]

Person-to-person transmission of COVID-19 infection in the isolation of infection that had been in the end administered a variety of treatments.[13] Extensive measures to reduce person-to-person transmission of COVID-19 had been applied to limit the outbreak.[14] Special interest and effort to protect or reduce transmission need to be carried out in inclined populations which includes children, fitness care providers, and aged people.[15]

Big data may be one of the most efficient tools of scientific prevention and control for this public health

emergency.[16,17] Therefore, we aimed to obtain the clinical characteristics, vaccination and transmission of COVID-19 among the population to accumulate the knowledge of this new disease and support epidemic prevention and control.

Here we provide an update for clinicians, health care providers and public about the recent study on COVID-19 patients based on 2nd wave.

MATERIAL AND METHODS

Details of data collection: A separate Google's data entry form for incorporating patient details was also designed the format contains provision of enter the details such as age, gender, quarantine method, mortality rates and vaccination status. Provision was given in the format for entry of details like co-morbidity, clinical features, mode of transmission, follow-up.

Data Collection and Management: The data were collected with help of Greater Chennai Cooperation by "Covid-19 Follow up Program" as a volunteer. Necessary information was collected and filed properly in a format by cross-sectional study method. For this study, 306 Covid patient were randomly selected for the duration of period 2 months. The objectives of the study, analyze the impacts during 2nd wave. The sampling procedure, and the methods to collect data from encounters using the form.

The specific information required to assess the covid-19 patient were recorded for every patient's regarding information was entered directly into an online Google form sheet.

The survey about to Analyze the COVID-19 patient's various condition and its impacts during 2nd wave Google form was created. The link for Google form is as below

https://docs.google.com/forms/d/e/1FAIpQLSeRTt8PF6GlwBLUJMx0AWYFN0mejB_xkowCsHBLzyv6-0uf6A/viewform?usp=sf_link

METHODS AND MATERIAL

We analyzed data from the Chennai "COVID-19 and Society" Internet Survey study, a cross-sectional, web-based, self-reported questionnaire survey conducted with help of greater Chennai corporation as a volunteer. We Selected individuals aged 1 to 91 years (n=306) were included in the study using stratified random sampling based on gender, age, and pre-fetched category to represent the distribution of the general population in Chennai in 2021. Individuals who are agreed to participate in the survey accessed the designated website and responded to questionnaires asking about a wide range of socioeconomic, lifestyle, and health measures in the context of the COVID-19 pandemic 2_{nd} wave. Questionnaires were distributed from May 25, 2021, until July 31, 2021 (hereafter, "June - July 2021").

Study Recruitment procedure

(I) Inclusion Criteria

- All Group patients from neonates to elders were included.
- Both male and female sex were included.
- Only Covid Positive Patients were included.

(II) Exclusion Criteria

- Asymptomatic Covid Patients (False-Positive) were excluded.
- Patient who are having bleeding disorder.
- Patient who are taking chemotherapeutic agents were excluded.

RESULT

Age and Gender wise Distribution: We retrieved data from 306 cases of COVID-19 confirmed between May 25 and July 31, 2021. The age distribution study shows that the maximum number of patients being in between 45-60 years(31%) followed by the age group 15-30 years(23.9%), age group 30-45 years(20.3%), age group 60 above(17.3%) and age group up to 15(7.5%).The male patients (53.6%) were found to be higher and more dominant than that females(46.4%).

Type of Quarantine: (78.4%) peoples were at the home quarantine, and they were dominant rest of (21.6%) peoples are under the hospital quarantine. Home quarantine was chosen as one of the best method among that help in preventing further transmission.[18]

Mortality Status: Mortality rate was (4.7%) covid-19 during 2_{nd} wave of covid-19 and the recovery rate was (95.3%). The patients with comorbidities have more deteriorating outcomes compared with patients without co-morbid condition.[19]

Follow-up Duration

Table no 1: Most of the patients are having symptoms up to 4weeks (42.8%) and they are more dominant followed by 2-4weeks (29.1%) and 1-2weeks (28.1%). On Average maximum Covid-19 patients are recovers and free from symptoms after 16 - 35 days.[20]

Table 1: Details about the Follow-up Duration among the peoples who are affected Covid-19 during II_{nd} wave.

S.NO	FOLLOW-UP	PERCENTAGE
1	>4 WEEK	42.8%
2	2-4 WEEK	29.1%
3	1-2 WEEK	28.1%

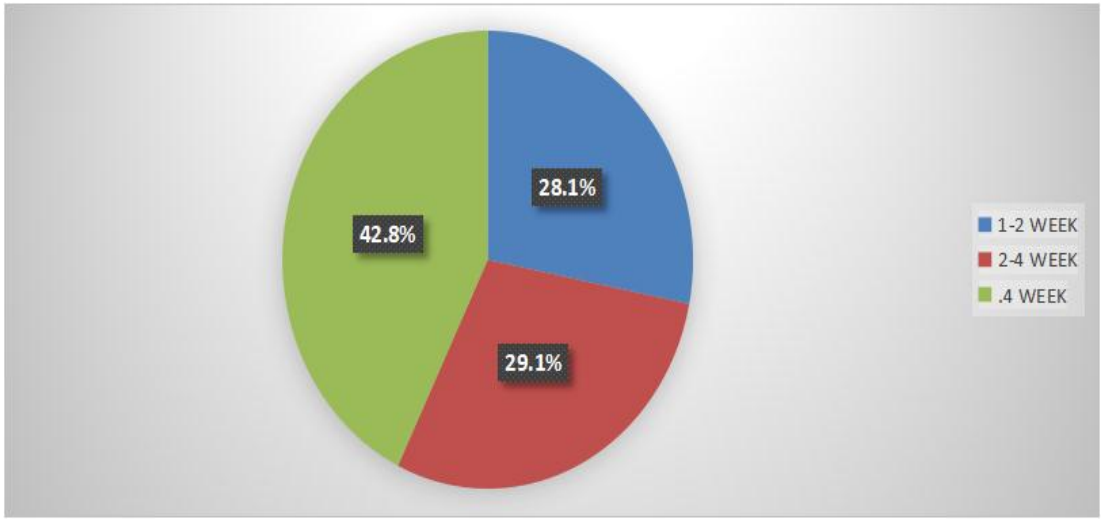

Figure 1: Details about the Follow-up Duration among the peoples who are affected Covid-19 during II_{nd} wave.

Co-morbidity

Table no 2: Maximum patient's not had any co-morbidity (64.4%) they were more dominant, so they were recovered quickly and some of associated with diabetic (19.9%), blood pressure (14.7%), heart problem (5.8%), thyroid (4.8%), and others (9.2%).

Table 2: Details about the Co-morbidity among the peoples who are affected Covid-19 during II_{nd} wave.

S.No	CO-Morbidity	Percentage
1	NONE	64.4%
2	DIABETES	19.9%
3	BLOOD PRESSURE	14.7%
4	OTHER	9.2%
5	HEART PROBLEM	5.8%
6	THYROID	4.8%

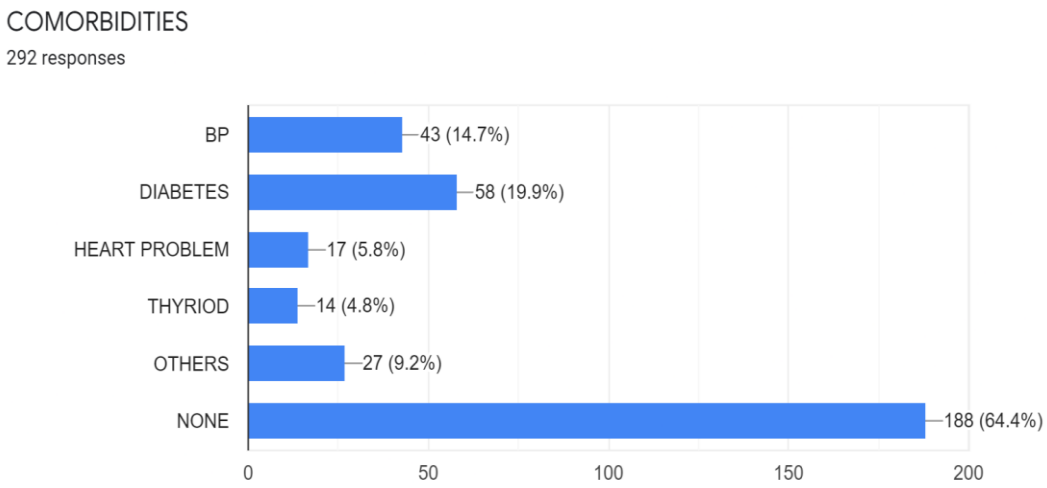

Figure No 2: Details about the Co-morbidity among the peoples who are affected Covid-19 during II_{nd} wave.

Clinical Manifestation

Table no 3: Maximum patient's had clinical symptoms like tiredness (65.1%), increased appetite (21.9%), cough (16.8%), sleeplessness (15.4%), smelliness (13.4%), tastelessness (7.5%), body pain (6.8%), breathlessness (5.1%) and headache (2.7%). Fatigue, Body pain, Cough and Insomnia are the most common symptoms among the covid-19 patients.[21]

Table No 3: Details about the Current Clinical Symptoms of the peoples who are affected Covid-19 during II_{nd} wave.

S.NO	Clinical Symptoms	Percentage
1	TIREDNESS	65.1%
2	NONE	28.4%
3	INCREASED APPETITE	21.9%
4	OTHER	17.1%
5	COUGH	16.8%
6	SLEEPLESSNESS	15.4%
7	SMELLESSNESS	13.4%
8	TASTLESSNESS	7.5%
9	BODY PAIN	6.8%
10	BREATHLESSNESS	5.1%
11	HEADACHE	2.7%

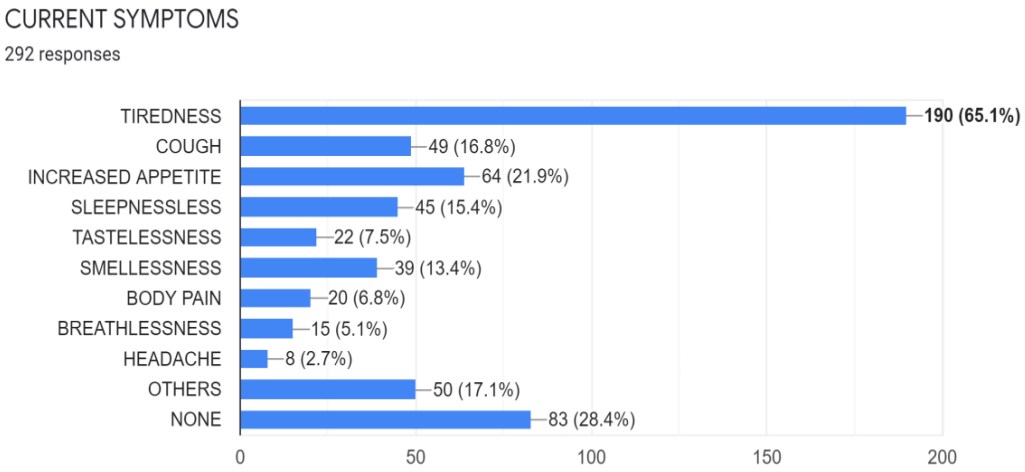

Figure No 3: Details about the Current Clinical Symptoms of the peoples who are affected Covid-19 during II_{nd} wave.

Vaccination Status

Table no 4: No one was got at least single dose of vaccination (76.4%) before they affected by covid-19 during 2nd wave followed by Covidshield 1st dose (13.4%), Covidshield 2nd dose (3.8%), Covaxin 1st dose (2.4%), Covaxin 2nd dose (2.4%). Vaccination may help in reducing the mortality rate.[22]

Mode of Transmission: Maximum patients were got covid-19 from family/neighbor (82.9%). The most common suspected mode of transmission was through family cluster.[23]

Table No 4: Details about the Vaccination status among the peoples who are affected Covid-19 during II_{nd} wave.

S.NO	VACCINATION STATUS	PERCENTAGE
1	NOT YET VACCINATED	76.4%
2	YES,1 DOSE OF COVIDSHIELD	13.4%
3	YES,2 DOSE OF COVIDSHIELD	3.8%
4	YES,1 DOSE OF COVAXIN	2.4%
5	YES,2 DOSE OF COVAXIN	2.4%
6	VACCINATED ,BUT NAME UNKNOWN	1.7%

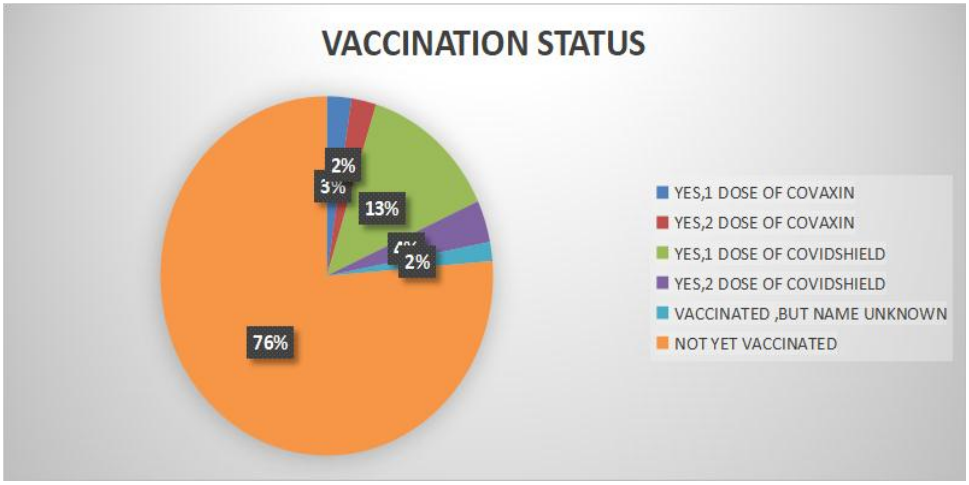

Figure 4: Details about the Vaccination status among the peoples who are affected Covid-19 during II_{nd} wave.

DISCUSSION

This is study to explore the transmission chains and epidemiological characteristics of COVID-19.We found more male than female were diagnosed with COVID-19, However, there is no clear evidence yet for the higher susceptibility of male than female and most patients with confirmed COVID-19 tend to be middle-aged persons. People of all ages have been shown to be susceptible to SARS-CoV-2, and are thus at risk of acquiring the infection as long as the conditions necessary for transmission are met.[24] However, the risk of acquiring SARS-CoV-2 may be increased in the elderly and people with co morbid conditions such as asthmatic, diabetic and heart disease [26]. The patients who are got at least one dose of vaccination are safe from the Covid progression and complication compared to non-vaccinated patients.[22] Fatigue, Body pain, Cough and Insomnia are the most prevalent symptoms among the covid-19 patients.[21]

The many cases were clustered in families or neighborhoods, and we found no clear reports of other modes of transmission. The incubation period of SARS-CoV-2 was generally about 7 to 10 days, and large number of suspected patients and asymptomatic infections become the main source of pandemic[25, 26]. Data sources gave new opportunities to accurately delineate the group of people with close contacts and realize early warning to prevent family aggregation of the disease.

Due to lack of awareness, the spread of COVID-19 was accelerated at the beginning of the epidemic by the delayed in diagnosis, treatment, and epidemic management. Big data has a huge impact helps to follow, control and respond to epidemics rapidly. The use of information technology and big data as an effective for epidemiological investigations can not only achieve early detection, early reporting, early isolation, and early treatment of cases, but also for quickly map out the current status of the disease, understand the patients past medical history, and help to track the sources of infection and control the epidemic. This big data network allows almost real-time disease monitoring and rapid surveillance method will make public health surveillance more sensitive, especially to trace the unknown close contacts and provide the necessary control measures to prevent further infections.[27]

CONCLUSION

SARS CoV-2 being a relatively new virus, the data available was limited. However, patients with comorbidities have more deteriorating outcomes compared with patients without co-morbid condition.

There are so many suggestions for preventing the coronavirus transmission, where the home quarantine was chosen as one of the best method among that. The implementation of lockdown had a great impact on reducing the transmission of infection across the country. The number of cases also reduced due to this lockdown. It was difficult to establish an early diagnosis and thus preventing the transmission of the infection, if the patient was unknowingly exposed.

The main reasons for participants refusal of vaccination or hesitation were concerns about safety and efficacy, in addition due to inadequate information regarding the vaccine. Healthcare providers must ensure their roles and address these concerns by increasing awareness about the vaccination role in preventing the spread of infection and acquiring herd immunity.

Mortality rates have been increased in case of covid-19 patients with comorbidities, it was necessary to treat the co-morbid condition in order to improve their survival. In conclusion, the COVID-19 pandemic had a huge impact may last for a longer time this urges the need for further implementation of teleconsultation for the betterment of the patient and ensuring to lead healthy life.

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