

Figure 2. COVID-19 Statistics as on 29-03-2020

The paper aims to classify the reason of infection and to identify symptoms of corona virus according to age of a person. The dataset used for the analysis is available on Kaggle [18]. Tableau desktop is used to do the analysis.

2. Statics of COVID-19

In this paper, data till 29^h March 2020, is analyzed based on basic demographic data (age, sex and symptoms)[15]. Data of confirmed cases of COVID-19, reported between 1st December to 29th March 2020 of the COVID -19 of affected countries china and South Korea is considered for analysis. The analysis on the basis of Gender, Infection reason, Age

3. Based on Gender

In spite of the fact that gender disaggregated information for COVID-19 show equivalent quantities of cases among people so far, there appear to be gender contrasts in the initial 1400 cases reported in China. Also true in case of mortality and weakness to the disease. Rising proof proposes that a greater number of men than ladies are biting the dust, possibly due to sex-based immunological or on the other hand gendered contrasts, for example pervasiveness of smoking. Be that as it may, current sex-disaggregated information is deficient, alerted against early presumptions.

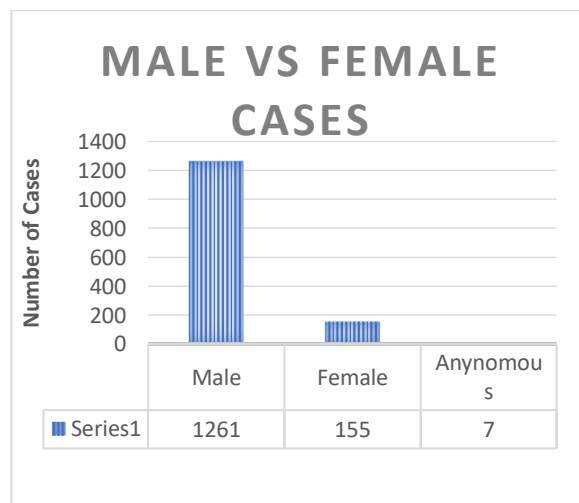


Figure 3: Clusters of COVID-19 cases Male Vs Female, December-March ,2019-20(m=1423)

4. Based on Travel History

Travel details of confirmed cases were recorded, Figure 4 shows the reason of infection among the population. The statics clearly shows that the two main reasons of spreading the disease are travelling and coming in contact with patients. Most of the patients obtained infection by clear transmission courses, incorporating close contact with family or a travel history, individuals, a background marked by presentation to plague territories, or both of these. Few different sources, for example, an emergency clinic remain or indistinct courses of transmission, were distinguished. This transmission highlight implies that distinguishing proof of these patients was direct. Be that as it may, past work has demonstrated that potential transmission courses of SARS-CoV-2 can be exceptionally variable, thought about with MERS coronavirus, which is less transmissible. This circumstance could be adjusted if COVID-19 perseveres for a long time in a zone with expanded hazard for community acquired diseases.

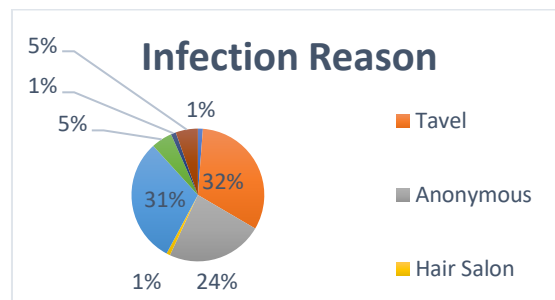


Figure 4: COVID-19 cases as per the travel details December-March ,2019-20(m=1423)

5. Based on Age

In China, the disease pace of coronavirus was the most noteworthy among individuals of age above 60s. The large population of mainland china is above 40 years of age[16]. The death pace of coronavirus by age bunch was fairly not the same as the age distribution of complete contamination cases. The death rate was most elevated among individuals in their 80s. Most of the old age people have been confirmed Corona Virus cases. Further information to settle on educated choices and investigations is required. Age wise clusters of initial cases are formed in Figure 5. Analysis is performed on thirteen different symptoms like fever, cough, chill, pneumonia etc.

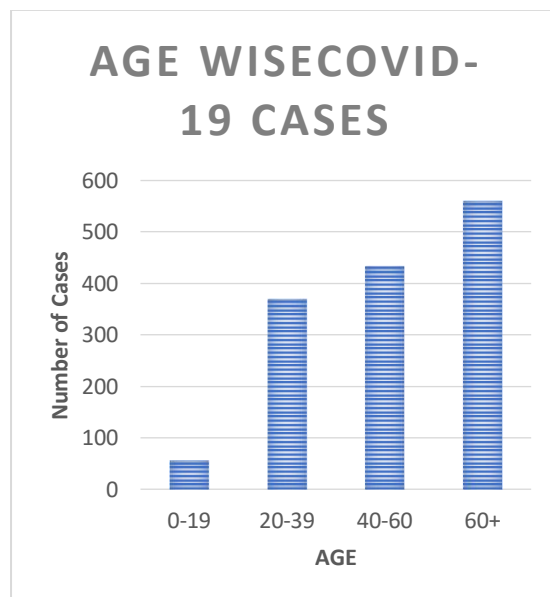


Figure 4: Age wise COVID-19 cases December-March ,2019-20(m=1423)

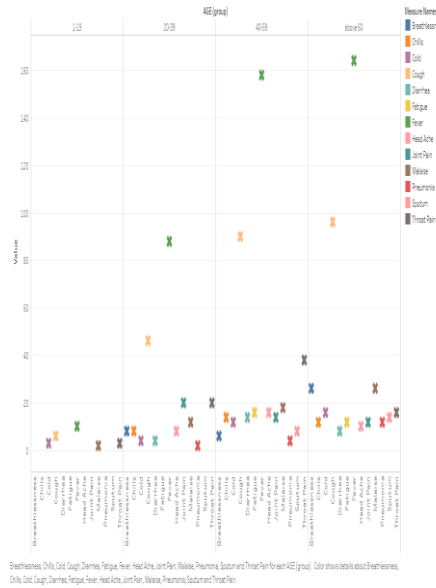


Figure 5. Age wise clusters of COVID-19 Case Symptoms

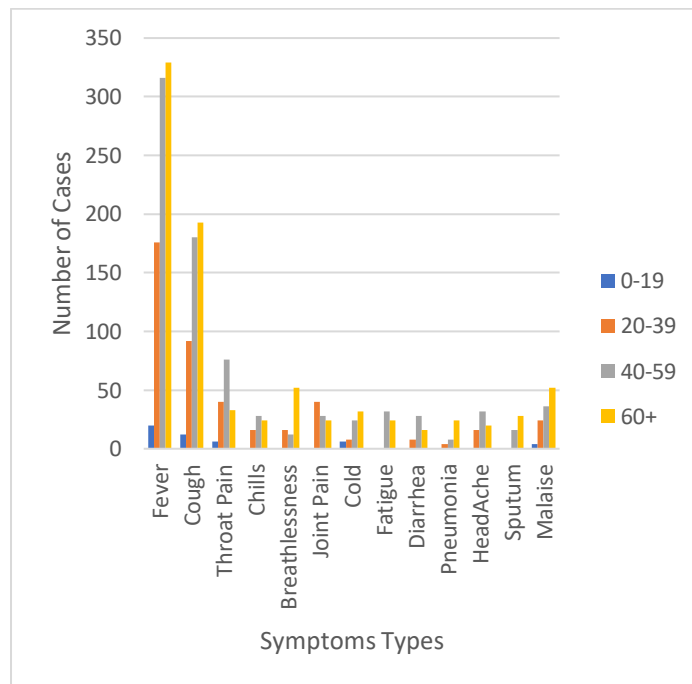


Figure 6. Age wise COVID-19 Symptoms Types vs Number of Cases

Clusters of identified cases, where the categories were made on the basis of symptoms in different age groups (Kids, Young, Middle Age, Old). Data quality on the clusters is strong. Among the known data, the age wise and symptom wise cluster are shown. All patients with COVID-19 were from China, they correspond to four different epidemiologically symptom-based clusters and were admitted to hospital after the beginning of symptoms. Fever or Cough was the major complaints of the patients across all ages that can be seen in Figure 5 and 6. Fatigue, pneumonia and sputum are commonly seen in people above 50 years as shown in Figure 5. The sample of data used for clustering is shown in Table 1. SARS-CoV-2 is an infectious pathogen causing a high pervasiveness of pneumonia in infected cases. Understanding the clinical highlights in patients is significant for conclusion and viable treatment of this ailment. The discoveries of our study show that the primary clinical highlights of COVID-19 across all age groups were fever, dry Cough. In age group 20-39 years, Joint pain and Throat pain were the third highest symptoms seen. Cough, Fever and pneumonia were present in more than half

of the patients who were critical. This severe disease requiring intensive care and ventilator support were from old age group (60+). Only 4% of the total cases were found to be Asymptomatic.

SYMPTOMS																
Patient	Age	Fever	Cough	Throat Pain	Chills	breathlessness	Joint Pain	Cold	Fatigue	Abdominal pain	Diarrhoea	Pneumonia	loss of appetite	Headache	Sputum	Malaise
1	33	√	√				√									
2	33	√	√								√					
3	33	√	√	√	√											√
4	34					√			√					√		
5	34					√										
6	35	√														
7	35	√	√													
8	35	√						√								
9	35	√										√			√	
10	35	√									√					
11	35	√		√												
12	35	√														
13	35	√					√							√		√
14	35	√	√				√		√							
15	35	√			√		√									
16	35	√	√													
17	35			√							√					
18	35		√	√												
19	35			√	√		√									
20	36				√	√		√								

Table 1: Age Vs Symptoms chart

6. Discussion

The outburst of COVID-19 is extraordinary in many ways, especially in the emergence of clusters of patients with 13 different symptoms that have been taken into account in different patients.. It is noteworthy that major reason for this rise in infected cases is because of travelling to different parts of the world since December 2020. The majority of cases appeared after travel the city of Wuhan in Mainland China however, travels that are destined to other parts of the world also suggested the risk of introductions. Huge no of cases has been reported to date, despite enhanced medical observation, in some country’s death cases is rising alarmingly. The striking overrepresentation of men as compared to female is higher over time. In a similar fashion, the median age of cases has survived in fighting against the virus, although this has not been proved scientifically. The results of paper shows, prominent graphs which can be used for future analysis. The future works may include the analysis based on the climatic conditions, humidity and precipitation. However, countries are providing knowledge, how to handle the COVID-19 outbreak, the guidelines are provided by the Govt. officials who are continuously suggesting ways to eliminate panic among the common man.

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