

# Chapter 1

## Insights of NCoV 19 and COVID19



COVID 19, a contagious respiratory disease caused by Novel Corona Virus 19 or Severe Acute Respiratory Syndrome Coronavirus 2 is a major concern of the decade. A highly contagious microbe of Coronavirus family named Novel Coronavirus 19 (NCov19) has badly affected China, USA, Italy and other European countries, India, Brazil, Russia which spread rapidly and took the whole world into its custody. COVID 19 has provoked the world with its quick spread and uncontrollable infection. It was first identified in Wuhan city of China which later spread throughout the globe causing the major pandemic of 2019.

The first sample obtained was in Wuhan, China with a patient complaining the symptoms of pneumonia of unknown etiology. Bronchoalveolar samples were collected from the victim and processed for real time PCR (RT PCR) assay. Results of the analysis revealed the identity of the samples close to beta corona virus. Further the study was extended to sequence the whole genome of the organism using illumine and nanopore sequencing [1]. In silico analysis based on bioinformatics genomic tools revealed the identity of the organism to be related to the beta corona virus 2B lineage. Further in silico annotation of the viral genes indicated that they belong to the corona virus family exhibiting features similar to this group [2]. The alignment studies of this genome to the corona group revealed the identity to be very close (96% identity) to bat SARS-like coronavirus strain BatCov.

### 1.1 Symptoms and Characteristics of COVID19

The basic symptoms of the disease include Dry Cough, Fever, loss of appetite, fatigue, loss of smell and difficulty in breathing [3]. Primarily lungs are affected leading to serious alteration in the respiration process and hence a prominent difficulty in breathing is reported in most of the patients [4]. However the disease is asymptomatic in most of the cases making it further a hurdle for early screening and diagnosis. The