

Review Article on Corona Virus

Dr. Arun Patel Anmol Agrawal, Divya Kori

Shri ram groups of institution

Department of pharmacy

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ABSTRACT: Corona is a virus-caused disease caused by the severe acute respiratory syndrome coronavirus. The virus was first detected in China in 2019, in December 2019 in Wuhan, China. This virus spreads mainly when an infected person comes in contact with another person, can spread through the saliva and mouth of the infected person, as well as it can spread through contaminated surfaces. Its main symptoms are fever, cough, fatigue, Difficulty breathing, chest pain or pressure should be used to prevent this, masks, sanitizers should be used as well as social distancing should be taken care of. Vaccines have also been made for its treatment but that too was not fully effective due to coronavirus. Social and economic losses .

KEYWORD: contaminated surfaces , fatigue, Vaccines , social distancing .

I. INTRODUCTION:

This is a new virus. The corona virus that is affecting the world is commonly called covid 19, which causes disease in the human respiratory system. According to medical reports, the corona virus is a virus found in animals of certain species, including organisms such as snakes and bats. This includes a group of RNA viruses that cause diseases in mammals and birds. This virus from China is rapidly spreading all over the world. The virus that causes covid 19 infects people of all ages. A novel corona virus identified as a cluster of pneumonia cases in Wuhan, a city of Hubei province, in February 2020 by the World Health Organization designated the disease covid 19. who

declared it an epidemic Most health agencies and governments are paying special attention to security measures to prevent the virus from spreading . Vaccines are being discovered to prevent the virus from spreading. The virus was mainly spread from China, although cases have been confirmed in some other countries after China, including Thailand , Vietnam Singapore , Japan, South Korea, Taiwan , Nepal , France , India ,and the US Ministry of Health has issued guidelines to prevent the corona virus.

Corona virus mortality.

In children up to 9 years old - 0%

In the age group of 10 to 39 years – 0.2%

In the age group of 40 to 49 years – 1.3 %

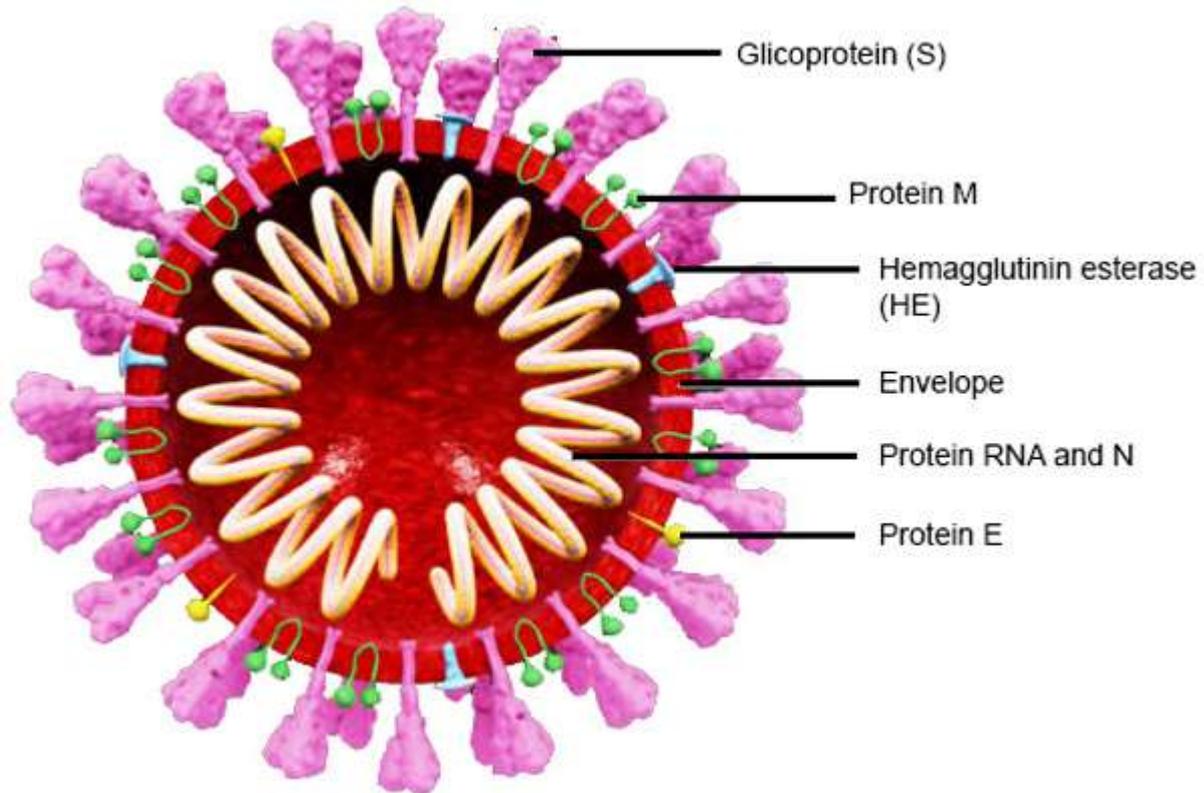
In the age group of 50 to 59 years - 3.6%

In the age group of 60 to 69 years - 3.8%

In the age group of 70 to 79 years - 8%

People over 80 years old -14.8%

Four categories of infection: According to Professor Wilson, people infected with Kovid-19 can be divided into four categories. The first category consists of people with no symptoms. The next category is those with upper respiratory tract infection. In this condition, infected people have symptoms of fever, phlegm, headache or conjunctivitis (eye disease). People with these symptoms are carriers of the infection but may not be aware of it. The third category consists of covid-19 positive people with pneumonia-like symptoms and have to stay in hospital. The fourth category is a severe form of pneumonia-like illness.



This disease mainly spreads more rapidly in older people and any other disease like diabetes, cancer, respiratory disease, asthma, high blood pressure etc. Already it caused infection to several million people and is still spreading rapidly. Efforts are being made to find an increasingly efficient therapy against covid 19. Vaccines are being manufactured. The clinical trial evaluation of covid 19 contained more than 10 reconstructed drugs. These include mainly chloroquine, anti-malarial and antibiotics that can help prevent the life cycle of virus infection. As a result of this epidemic, the number of virtual wards has increased, leading to the decline and hospitalization of patients in their home is monitoring.

Prevention

- When a person with COVID - 19 coughs or exhales. These drops land on objects and surfaces around the person. Others then touch COVID-19 by touching these objects or surfaces. This is why it is important to stay more than 1 meter (3 feet) away from the person getting sick.
- If it falls on a metal surface it will live for at least 12 hours - so if you come in contact with any metal surface - as soon as you can wash your hands with bacterial soap.

- Washing hands frequently because the virus can only remain on the hands for 5–10 minutes, but a lot can happen during that time.

II. METHODS:

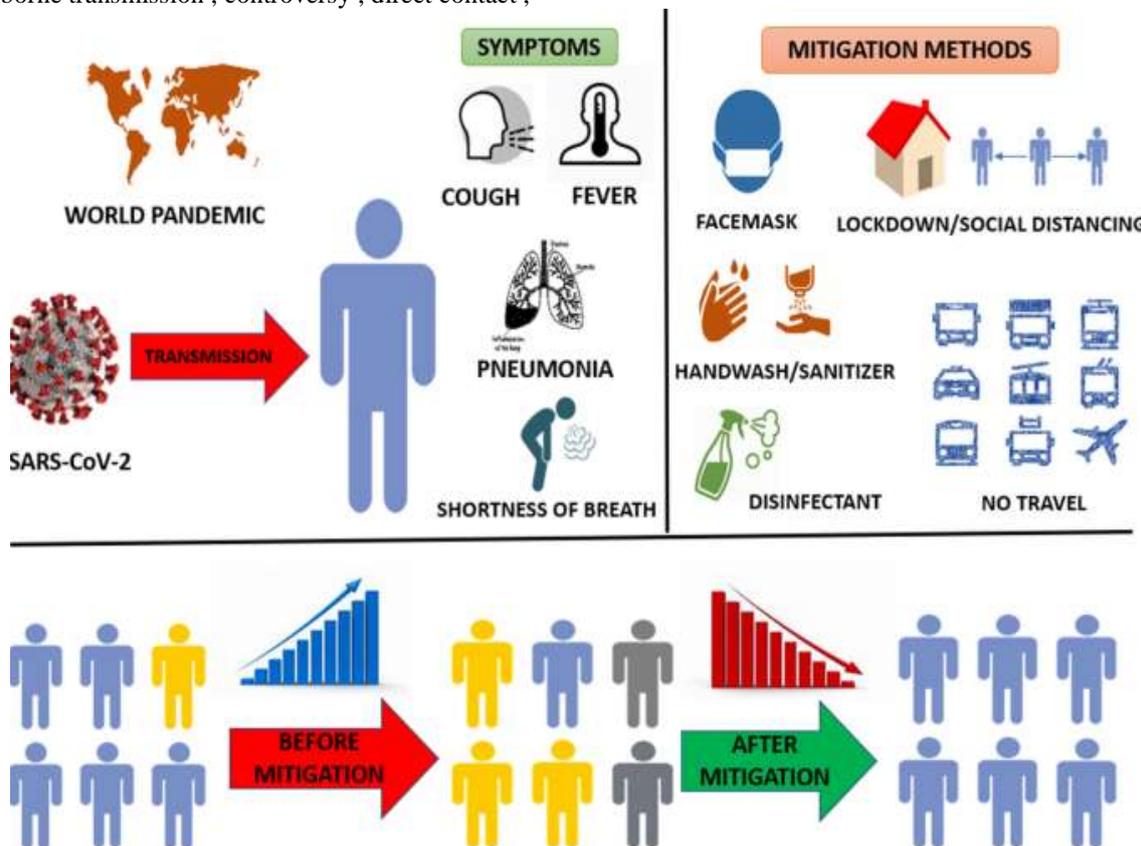
Using the Johns Hopkins COVID-19 Precision Medicine Analytics Platform Registry, we identified hospitalized adult patients with confirmed SARS-CoV-2 infection and stratified by presence of plasma cells and WHO disease severity. To identify plasma cells, we employed a sensitive flow cytometric screening method for highly fluorescent lymphocytes and confirmed these microscopically. Cox regression models were used to evaluate time to death and time to clinical improvement by the presence of plasma cells in patients with severe disease.

Method of transmission: Experts believe that the virus that causes COVID-19 mainly spreads from one person to another. There can be several ways: drops or aerosols. The virus spreads mainly after coughing, sneezing, singing, talking or breathing in a person infected with the respiratory tract. The closer people interact, and the longer they interact, the more likely they are to transmit COVID-19. Closer distances may include larger droplets and aerosols, while longer distances include only

aerosols. Larger droplets can transform into aerosols through evaporation.

Routes: droplets, social distancing, aerosols, airborne transmission, controversy, direct contact,

mother to child, indirect contact, food and water, animal vectors.



Testing for covid -19 test

Positive viral tests indicate a current infection, while positive antibody tests indicate a prior infection. Other techniques include a CT scan, checking for elevated body temperature, checking for low blood oxygen level, and the deployment of detection dogs at airports.

Detection of the virus

Detection of the virus is usually done either by looking for the virus' inner DNA, or pieces of protein on the outside of the virus. Tests that look for the viral antigens (parts of the virus) are called antigen tests.

There are multiple types of tests that look for the virus by detecting the presence of the virus's DNA. These are called molecular tests, after molecular biology. As of 2021, the most common form of molecular test is the reverse transcription polymerase chain reaction (RT-PCR) test. Other methods used in molecular tests include CRISPR, isothermal nucleic acid amplification, digital polymerase chain

reaction, microarray analysis, and next-generation sequencing.

Sniff tests: Sudden loss of smell can be used to screen people on a daily basis for COVID-19. A study by the National Institutes of Health showed that those infected with SARS-CoV-2 could not smell a 25% mixture of ethanol and water. Because various conditions can lead to the loss of the sense of smell, a sniff test would not be definitive but indicate the need for a PCR test. Because the loss of the sense of smell shows up before other symptoms, there has been a call for widespread sniff testing. Health care bureaucracies have generally ignored sniff tests even though they are quick, easy and capable of being self-administered daily. This has led some medical journals to write editorials supporting the adoption of sniff testing.

Breath tests: The breath test by a Coronavirus breathalyzer is a pre-screening test for people who have no or mild symptoms of COVID-19. NBT can

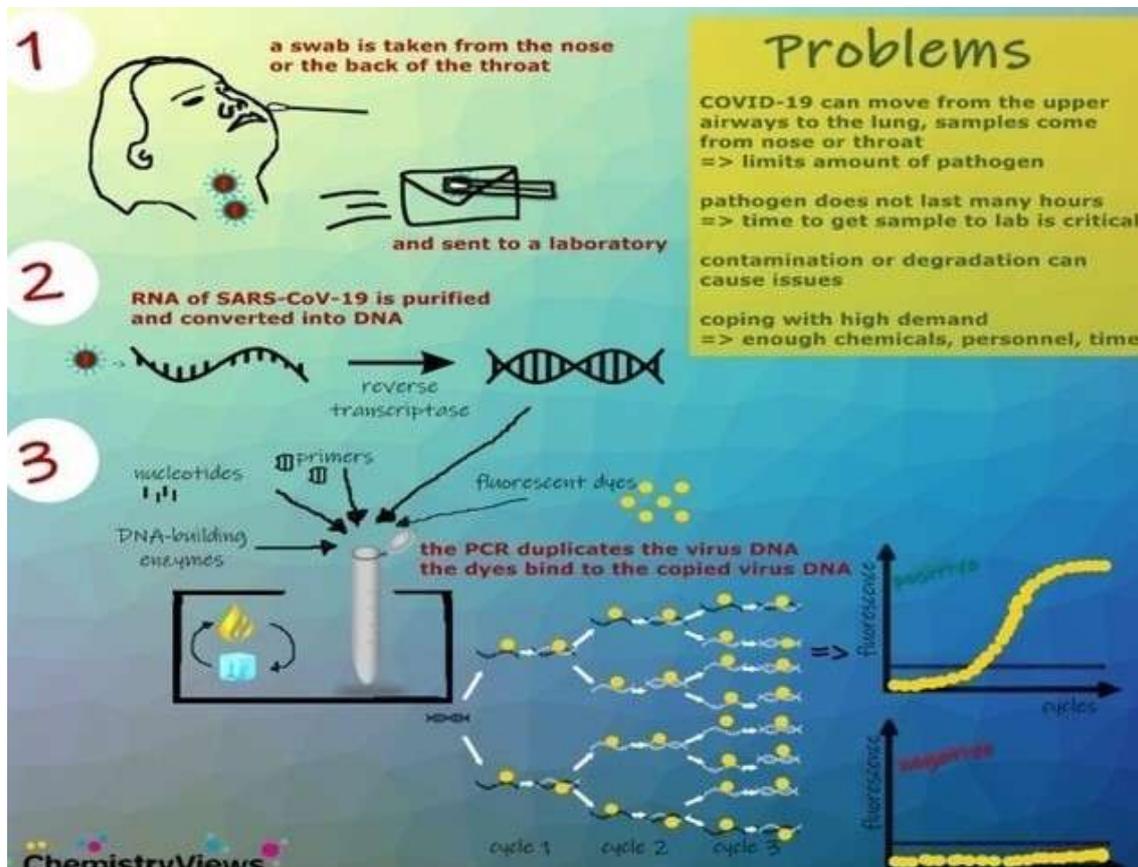
be used to detect the substances present in a person's breath. In this study the breath of people presenting for COVID-19 testing is going to be analysed. Analysing a large number of samples from people with COVID-19 (as confirmed by the standard swab test used by the NHS) will enable a breath profile to be produced, ie the substances present in the breath when someone has COVID-19. After the profile has been validated, NBT can be used to test whether or not a person has COVID-19 by seeing if their breath matches the profile.

Serological tests: These tests detect antibodies that the body produces to fight the virus. These antibodies are present in anyone who has recovered from COVID-19. The antibodies exist in blood and tissues throughout the body. A serological test usually requires a blood sample. Serological tests are particularly useful for detecting cases of infection with mild or no symptoms. The Centers for Disease Control and Prevention (CDC) Trusted Source are currently developing a serological test for SARS-CoV-2.

Molecular testing: commonly known as RT-PCR testing, is a method of testing that is used to detect the presence of virus directly in a sample. The test detects the RNA of the virus, which is the genetic material of the virus. The first step in this test is to convert this RNA into DNA using an enzyme called reverse transcriptase. The PCR test then detects this DNA. Hence the name RT-PCR. They are also known as diagnostic tests and nucleic acid amplification tests (NAAT).

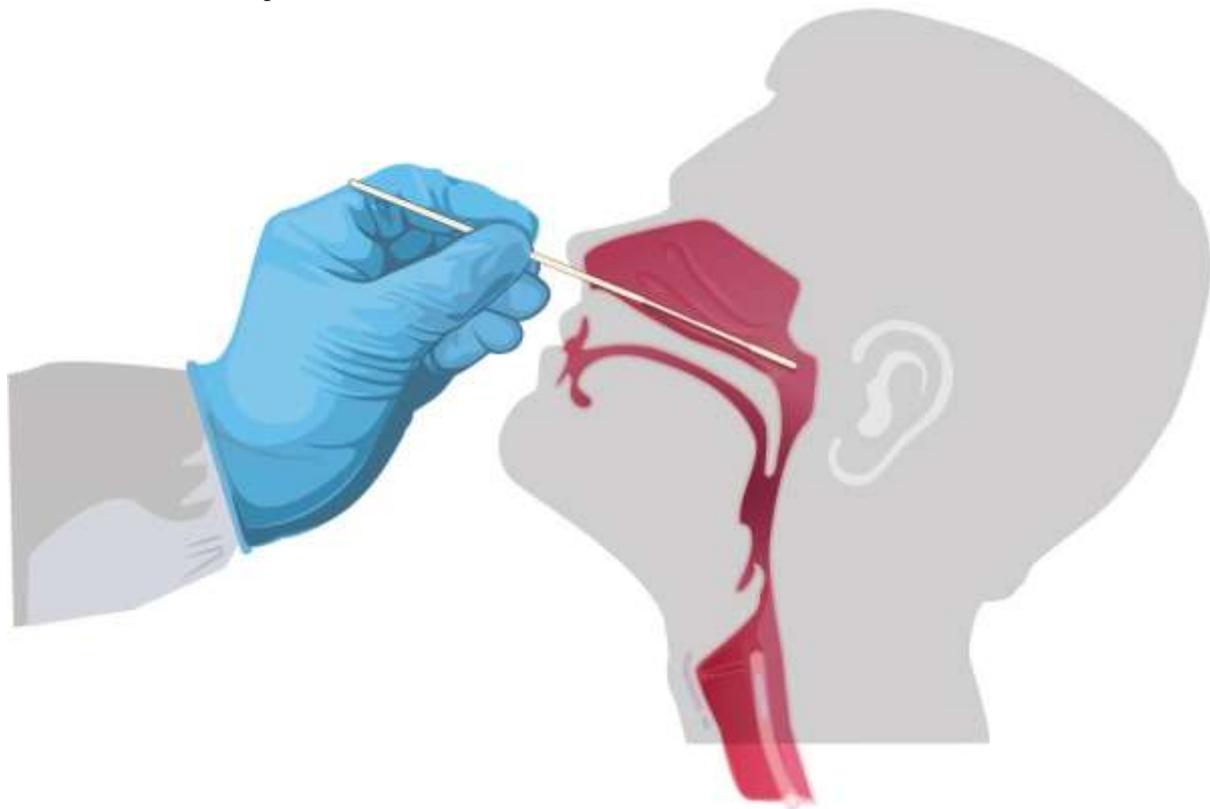
A sample of nose or throat swab is taken in its sample. And its results are given within a single day or 2-3 days. And this test is the most accurate. It has a high sensitivity and specificity.

This test helps diagnose active coronavirus infection. If the virus is present in the sample, then the test is positive, but if the test is negative, you may not necessarily be infected, as you may have taken the test in the early days. And this test fails to show if you ever had COVID-19 in the past. For RT-PCR test. Antibody test kit is required and costs between Rs 2000 and Rs 3000.



Antigen test: The antigen test, also known as the rapid antigen test, is a rapid diagnostic test that gives faster results than molecular tests. But there is a drawback, antigen tests are more likely to miss active infection. Antigen testing looks for proteins on the surface of the virus to detect the presence of a pathogen. A sample of tear or larynx swab is taken for a sample antigen test. And it results in 1 hour or less. COVID-19 antigen test kit costs between 400 and 500 rupees.

Nasopharyngeal test: In this test, the swab is taken from the back of the nose. and The portion between the nose and throat from which the swab is extracted is called the nasopharyngeal area. Also, the swab is a type of instrument in which organisms (viruses) are taken from the nasopharyngeal by applying cotton to a thin rod. Because the nasopharyngeal is the part of the body where the virus or bacteria load is the highest.



DATA EXPLORATION:

TYPES OF VISULIZATION USED

Pie chart: To show active , recovered , death percentage due to covid 19.

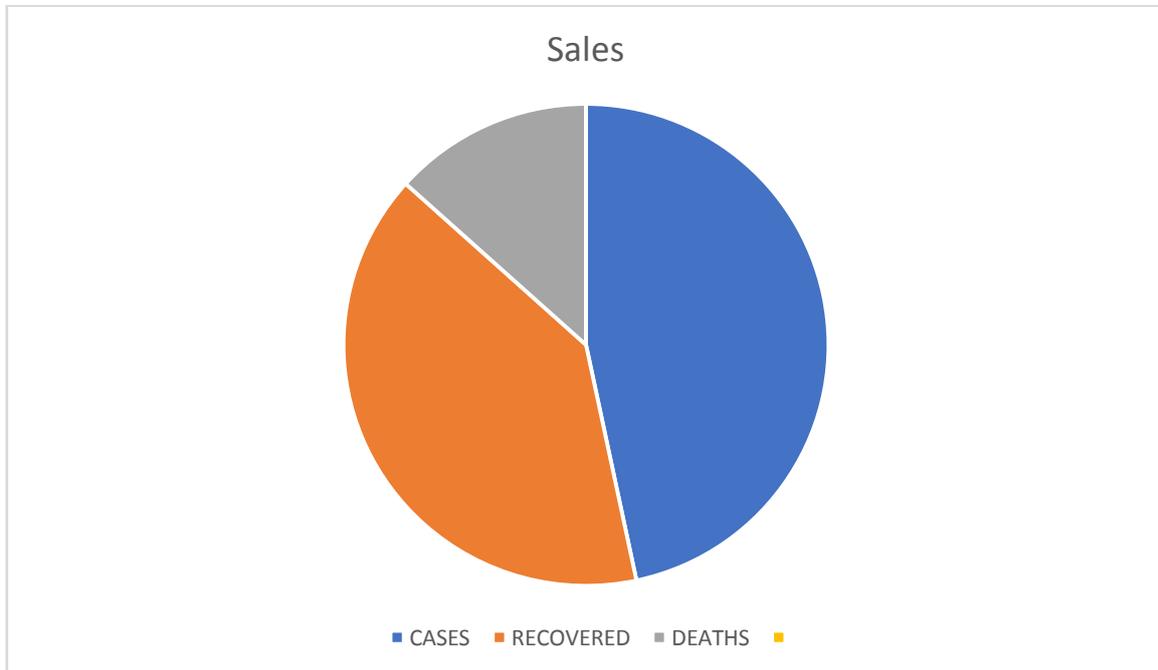
Line plot: To show corona case in countries.

Situation of India till 18 April 2021

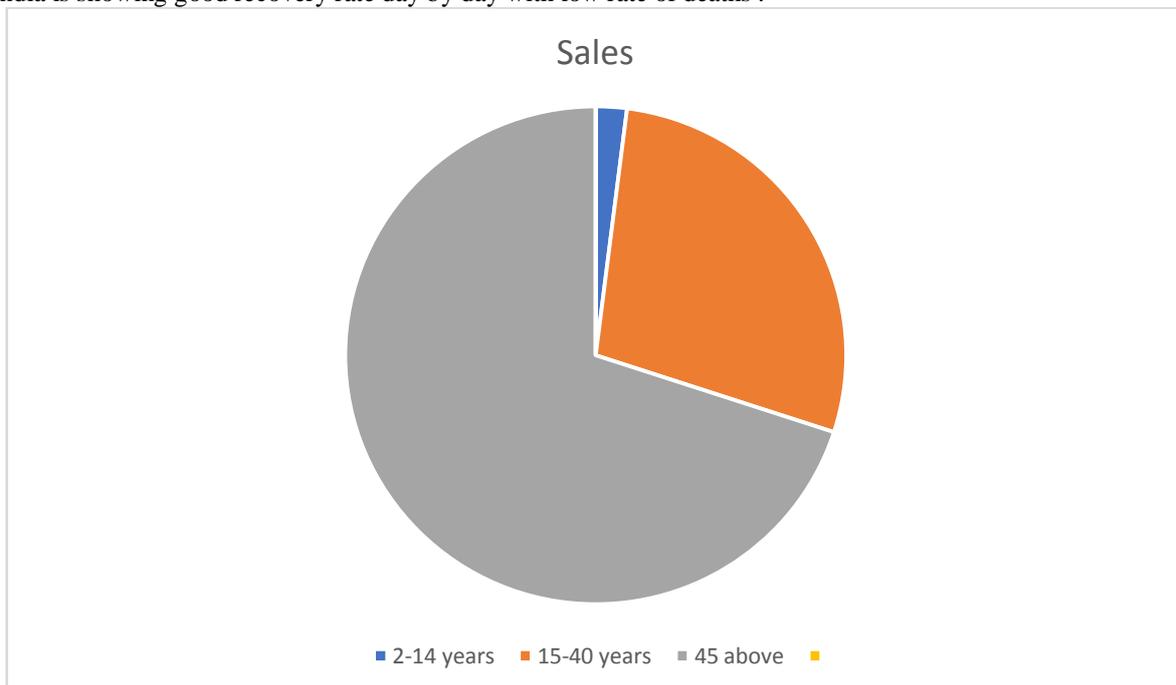
CONFIRM CASES: 15,040,918

RECOVERED :12,932,574

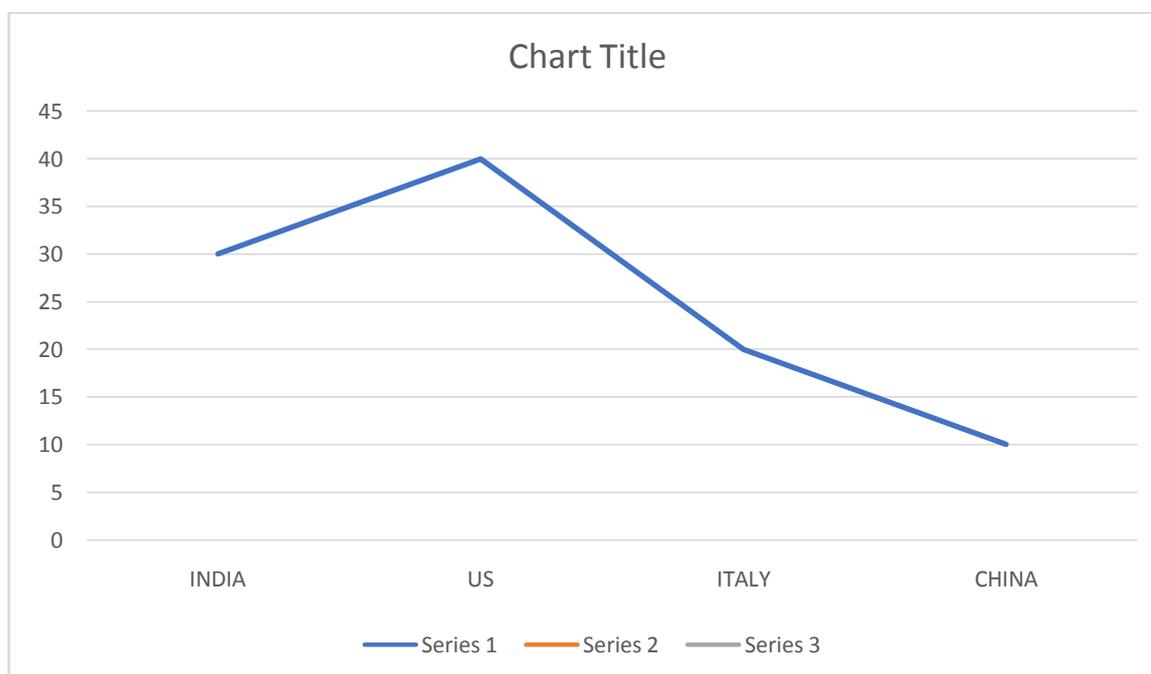
DEATHS : 178,567



India is showing good recovery rate day by day with low rate of deaths .



As shows above, the death toll at different ages



As shows above , corona cases in countries

III. DISCUSSION:

Currently, the spread of COVID-19 is affecting people around the world. COVID-19 primarily induces a lower respiratory tract disease, identified as novel coronavirus pneumonia. The symptoms of Covid 19 are highly diffuse. This virus is mainly spread by air when people talk to each other. So the risk of spreading this virus is high. This virus spreads through talking. Means of COVID-19 transmission include respiratory infection control including early detection of infected people, social distance, and maintenance of quarantine. To control the virus and prevent it from spreading more, it was spreading more rapidly than the beginning of the lockout announcement in cities, then it subsided after some time but is now spreading more rapidly. On the one hand, there is a huge reduction in the speed of the economy, on the other hand, due to this lockdown, the spread of the virus is stalling and there is also success on the pollution front. It is obvious that fewer vehicles on the road, shutdown of factories and stoppage of construction are the reasons behind this. All are considering whether this change will be effective in the long run. RT-PCR results are often used as an indicator of the diagnosis, discharge, and isolation of patients, but RT-PCR detection sensitivity is influenced by many factors, such as sample type, sample collection, sample transport, and test kits.

Instability or variance. Currently, nasopharyngeal swab specimens are commonly used for RT-PCR testing. The NIH recommends using the following drugs for the treatment of COVID-19, except in a clinical trial, a combination of hydroxychloroquine plus azithromycin due to the ability of the toxins to cause adverse effects of lopinir / rantave or other HIV. Protease inhibitor. Pharmacodynamics and because clinical trials have not demonstrated clinical benefit in patients with COVID-19. Scientists are preparing the vaccine for Covid 19 and the vaccine is also being applied to everyone. The name of the vaccine made in India is Covaxin which is being given to the people at large and at the same time guidelines are being issued to stop it. Herbal medicines are also used for the treatment of covid-19. Other things like turmeric, black pepper, cinnamon etc. are used, these include. Anti inflammatory antioxidants and other activities that strengthen our immune system and provide the ability to fight viruses .

IV. RESULT:

World health organization (WHO) declared covid 19 as an epidemic. It spread from Wuhan in China and is affecting the whole world. Its tests are being done separately. It consists mainly of two tests. The virus is detected through RT-PCR and antigen test in teste. Of the University

of Illinois. Researchers at Ranger College have prepared an Ultra sensitive test. for the corona test. Of paper in this test. With the help of electrochemical sensor has been prepared, due to which Coronavirus within just 5 minutes. Can be detected. Scientists in the past. With the help of 2D Nanometers such as Graphene Point of Care. Some biosensors have been prepared by which diseases are detected. Can be applied. Graphene Biosensor. The idea is that they give quick results and make it. The cost also comes down. To eliminate this, the vaccine was discovered by scientists which was not completely successful before but is now being given to people on a large scale. Even after that the virus is spreading rapidly in people. Small groups were detected sporadically in the coronavirus test, while test positivity clustered in the Middle Eastern and Southwest WVs. This occurred more than those with other disease in patients who were diagnosed with covid 19 in the same time frame but did not have sickle cell disease symptoms. One of them was a low proportion of diabetes and a high proportion had asthma, liver condition, cerebral infarction, acute renal failure, etc., but it can be avoided by following all the safety guidelines.

V. CONCLUSION:

COVID - 19, a new and sometimes fatal respiratory disease originating in a live animal market in China, has spread rapidly throughout the country and the world. The new coronavirus was first discovered in December 2019 in Wuhan, China. Thousands of people were infected in China, with the virus spreading easily from one person to another in many parts of that country. The novel coronavirus infection was previously associated with travel from Wuhan, but the virus has now established itself in a rapidly spreading epidemic in 177 countries and regions around the world. Health officials in the United States and around the world are working to prevent the spread of the virus through public health measures such as social disturbances, contact tracing, testing, quarantine and travel restrictions. Scientists are working to find drugs to treat the disease and develop a vaccine. The World Health Organization on 30 January declared the outbreak of the novel coronavirus to be "a public health emergency of international concern". After the disease spread outside China on March 11, 2020, the World Health Organization declared the COVID-19 pandemic an epidemic. Public health measures implemented in China and now around the world

will increase the risk of the virus spreading during treatment and develop a vaccine to prevent it by providing extra care and close care to patients with OSA to reduce the risk of infection. Monitoring should be provided. There is no specific antiviral treatment recommended for COVID-19 and There is no vaccine or specific treatment available for the infection. Patients Supportive care should be obtained to relieve symptoms. For serious Cases, treatment should include care to support vital organ functions Although supportive care is currently the only method in the treatment of COVID-19, anti-viral IgM, IgA and IgG antibodies were detected in individuals with COVID-19 disease in the first week and second week, respectively, after the onset of symptoms. By week 2-3, IgG specific antibodies are seen in 100% of infected individuals. The lock down was imposed in India and other countries due to covid 19 and it also caused coffee losses, mostly covid 19 to those people. Those who already have a disease. Many people have also died due to this. Scientists are searching for a vaccine. But till date there is no specific anti viral drug available to deal with this virus except vaccines. Due to covid 19, lockout was implemented in India and other countries, covid 19 is happening for those who already had the disease. Many people have also died due to this. Scientists are searching for a vaccine. But till date there is no specific anti viral drug available to deal with this virus apart from the vaccine.

REFERENCE:

- [1]. Basu, T. Zinger, K. Inglima, K.M. Woo, O. Atie, L. Yurasits, B. See, M.E. Agüero-Rosenfeld
- [2]. Performance of abbot ID Now amplification test using Nasopharyngeal Swabs Transported in viral Transport Media and dry Nasal Swabs in a New York City Academic Institution
- [3]. J Clin Microbiol, 58 (2020).
- [4]. Abrahams M, Boisits S, Lund C, Domestic violence, food insecurity and mental health of pregnant women in the covid-19 lockdown in cape town, south Africa preprint
- [5]. Avila-Nava A, Cortes-Telles A, Lopez-Romero A, serum IL-6: a potential biomarker of mortality among SARS-CoV-2 infected patients in Mexico.
- [6]. B. Bahar, C. Jacquot, Y.D. MO, R.L. DeBiasi, J. Campos, M. Delaney Kinetics of Viral Clearance and Antibody production

- Across Age Groups in Children with severe Acute Respiratory syndrome coronavirus 2 Infection *J Pediatr* (2020).
- [7]. C.S. Bailey, P. Rasoulinejad, D.Taylor, K. Sequeira, T. Miller, J. Watson, R. Rosedale, S.I. Bailey, K.R.Gurr, F. Siddiqi, et al.
- [8]. Surgery versus conservative care for persistent sciatica lasting 4 to 12 months *N Engl J Med*, 382 (2020)
- [9]. G. Falk, J. Carter, I. Nicchitta, E. Nyhof, P. Romero Unemployment Rates During the COVID-19 Pandemic: In Brief Congressional Research Service, R46554 (2020) .
- [10]. K.G.Beavis, S.M. Matushek, A.P.F. Abeleda, C. Bethel, C. Hunt, S.Gillen, A. Moran, V. Tesic
- [11]. Evaluation of the EUROIMMUN Anti-SARS-CoV-2 ELISA Assay for detection of IgA and IgG ANTIBODIES
- [12]. *J Clin Virol*, 129 (2020) .
- [13]. L. Lan, D. Xu, G. Ye, et al.
- [14]. Positive RT-PCR test results in patients recovered from COVID -19 *JAMA*, 323 (15) (2020)
- [15]. M.J. Loeffelholz, Y.W. Tang
- [16]. Laboratory diagnosis of emerging human coronavirus infection – the state of the art *Emerg Microbes Infect*, 9 (1) (2020) .
- [17]. N. Engelhardt, M. Krause, D. Neukirchen, P.N. Posch Trust and stock market volatility during the COVID-19 crisis *Finance Research Letters*, 38 (November 2020) (2020).
- [18]. N. Sethuraman, S.S. Jeremiah, A. Ryo Interpreting diagnostic tests for SARS-CoV-2 *JAMA*, 323 (22) (2020).
- [19]. O. Haroon, S.A.R. Rizvi COVID-19: Media coverage and financial markets behavior- A sectoral inquiry *Journal of Behavioral and Experimental Finance*, 27 (2020).
- [20]. Porter C, Favara M , Scott D ,The impact of covid -19 lockdowns on physical domestic violence: evidence from a list randomization experiment .
- [21]. Salleh N.H.M , Jeevan J, Azry Zamri M,The impact of covid-19 pandemic: A review on maritime sectors in Malaysia .
- [22]. S. Ramelli, A.F. Wagner Feverish stock price reactions to COVID-19 *Review of corporate Finance Studies*, 9 (3), (2020).
- [23]. T.L. Dao, Hoang, P. Gautret Recurrence of SARS-CoV-2 viral RNA in recovered COVID-19 patients: a narrative review *Eur J Clin Microbiol Infect Dis*, 40 (1) (2020) Official publication of the European society of clinical Microbiology.
- [24]. V. Centro, Colagrossi, A. NAVA, et al. Persistent positivity and fluctuations of SARS-CoV-2 RNA in clinically- recovered COVID-19 patients *J Infect*, 81 (3) (2020) .
- [25]. Z.Wu, J.M. McGoogan Characteristics of and important lessons from the corona virus disease 2019 (COVID-19) outbreaks in china summary of a report of 72314 cases from the Chinese center for disease control and prevention *J.A.M. Med. Assoc.* (2020).