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Menacing Chronicle of Covid-19 Patient

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ABSTRACT:

The 2019 dispersal of the new corona virus (2019-nCoV) presents the planet with a new emergency or health threat. In December 2019, this virus was spread by an unknown intermediate species to humans in Wuhan, China. Corona virus disease 2019 (COVID-2019) has identified via 6,143,019, active cases in India till on 29 September 2019. The aim of this article is to educate people to avoid public places and near encounters with infected persons and pets. The virus is human-transmitted and has triggered a global pandemic. In the First Chinese New Year, the epidemic was caused by mass migration from China, the release of 2019 (2019-nCoV) is on the first day of the Chinese New Year, with dramatically Chinese migration fueled the outbreak. In Chinese Provinces and in people who returned Wuhan to other countries cases were registered. A total of 82, 990 cases, 33,582 recoveries and 2802 deaths have been registered in India on 15 May 2020 (BBC 2020). In Kerala on 30 January India announced the first COVID-19 case, which amounted to three cases, all returning students from Wuhan, China. There was no significant rise in accidents during the remainder of February. 28 new cases, including the cases of a group of 14 Italian visitors, were published on 6 March. A quick overview of the latest COVID-19 know-how will be presented and relevant clinical features will be outlined as currently reported in this first report.

Introduction:

Corona virus is composed of protein matrices, which will be present for 2019 in novel corona viruses (2019-

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nCoV) [1]. Most corona viruses contain a protein known as hem agglutinin esterase [2]. Virus severe acute respiratory syndrome corona virus 2 (SARS-Cov-2) that is pneumonia of unknown cause detected in Wuhan China which causes the diseases Covid19 [3]. The Corona viruses have a genetic material (26.4–31.7 kb) for all the known RNA viral G+C's of range 32 percent to 43 percent for the 2019 new corona virus (2019-nCoV) distribution [4]. There are differences in ORF in various strains of corona viruses between the diverse retained genes and downstream of the nucleocapsid gene [5]. A distinctive N-terminal within the protein spike contains the viral genetic material. All protein of the corona virus in order 5'–3'' occurs, including S, E, M and N [6]. In 2019, The Corona Virus produces 6 ORF in its genetic material; the transmission of novel corona virus (2019-nCoV) is possible. Except for the nspl encoding gamma corona virus, the first ORF (ORF1a / b) encode about 2/3 of the genome encode 16 different nsps. Polypeptides are transformed into 16 nsps by viral protease coding such as chymotrypsin (3CLpro), main protease (Mpro), or proteases such as papain. Proteases such as papain all of the proteins are sgRNA CoVs encoded. On the 3'-terminus 10 11 ORFs are named for the Spike (S), envelope (E), nucleocapsid (N) and membrane (M) [7]. CoVs encode different proteins such as 3a / b protein, HE and 4a / b protein [8]. In Tunicamycin coronavirus, spike-less, non-infectious virions do not contain S but M grow and develop. The 2019 dissemination is present in The Corona virus entrance depends on proteases such as human airway trypsin (HAT), cathepsins and transmembrane protease serine 2 [9]. A corona-virus protein that expresses certain polyproteins, nucleoproteins, and membrane proteins, like polymerase of the rhino, 3-chymotrypsin-like protease, papain-like protease, glycoprotein, and accessory proteins is contained in a spicy protein SARS-CoV-2 [10]. The SARS-CoV-2 spike protein has a 3-D structure in the area of RBD to support Vander Waals forces [11]. The 394-glutamine residue is detected in the SARS-CoV-2 field by the critical residue of lysine 31 on the human ACE2 receiver [12]. The common cold and croups of human's coronaviruses like 229E and NL63 and alpha coronavirus are responsible for them [13]. In addition, beta coronaviruses include SARS CoV, Middle East Respiratory Syndrome Coronavirus (MERS-CoV), and SARS-CoV2 [14].

Table 1: Classification of SARS-CoV-2 patients [15]

Class	Signs and Symptoms
Mild	Fever, fatigue, myalgia, cough, sore throat, runny nose, sneezing.
Moderate	Frequent fever, cough, hypoxemia.
Severe	Pneumonia with hypoxemia
Critical	Heart failure, acute kidney injury, myocardial injury, ARDS.

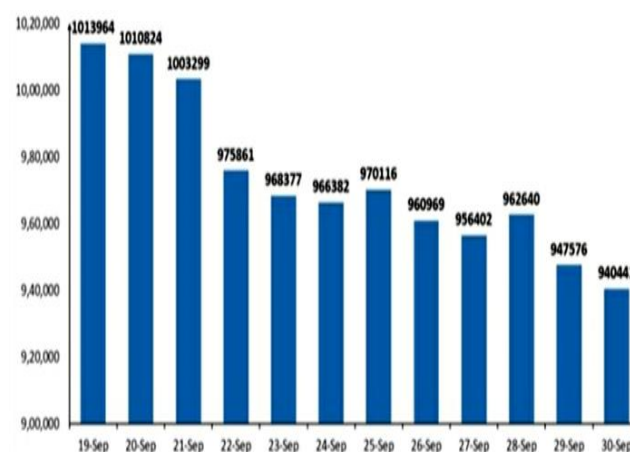


Figure 1: Number of active patients [16]

Table 2: Coronavirus cases globally as of 15 May 2020 [17]

Region	Confirmed cases	New cases	Total deaths	New deaths
Globally	4338658	90269	297119	5073
European Region	1826295	24627	163277	1864
Region of the Americas	1864468	44915	111934	2813
Western Pacific Region	165550	1268	6664	42

Eastern Mediterranean Region	305186	1138	9558	169
South East Asia Region	122254	5637	4050	129
African Region	54190	2438	1623	56

United States of America	4,248,327	0	2,028,074	148,490
Brazil	2,348,200	0	1,592,281	85,385
India	1,337,022	0	850,107	31,406
Russia	800,849	0	588,774	13,046
South Africa	421,996	0	245,771	6,349
Mexico	378,285	6,483	242,692	42,649
Peru	378,961	0	259,423	17,843
Chile	341,304	0	313,696	8,914
Spain	319,501	0	0	28,432
UK	297,914	0	0	45,677
Iran	286,523	0	249,212	15,289
Pakistan	271,887	16,813	236,596	5,787
Saudi Arabia	262,772	0	215,731	2,672
Italy	245,590	0	198,192	35,097
Colombia	233,541	0	113,864	7,975
Turkey	224,252	0	207,374	5,580
Bangladesh	218,658	0	120,976	2,836
Germany	205,960	0	190,400	9,201
France	180,528	0	80,815	30,192
Argentina	153,520	0	65,447	2,807
Canada	113,206	0	98,873	8,881
Qatar	108,638	0	105,420	164
Iraq	104,711	0	71,268	4,212
Indonesia	95,418	0	53,945	4,665

15 May 2020

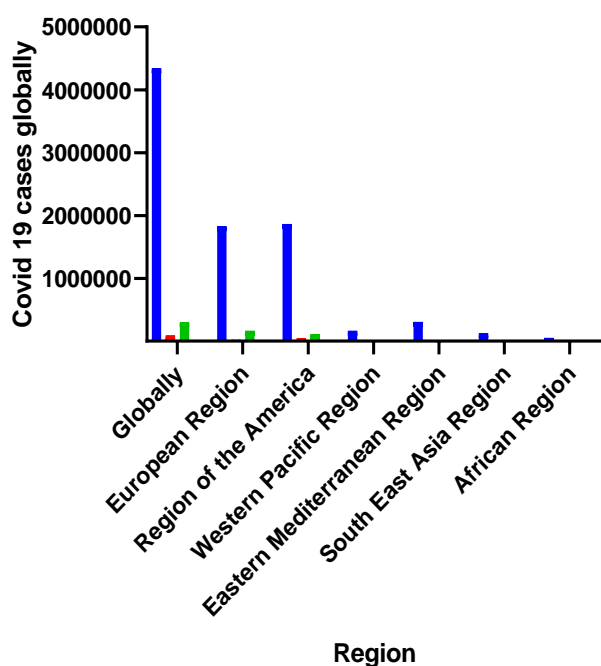


Figure 2: Graph of COVID-19 cases in the World [18]

Table 3: Worldwide Coronavirus cases on 24 July 2020 the US, Brazil, India, Russia, Peru is five most affected countries and now China is on 26 placed [19]

Region	Confirmed cases	Active cases	Recovered	Deceased
Globally	15,945,330	25,907	9,742,879	642,779

Egypt	91,072	0	31,970	4,518
China	83,784	16	78,889	4,634

Spread of Single Strand RNA Covid 19 Virus in India

India is the second most populous country with 1.3 billion people and third most effected country with 1,044,963 active cases of COVID-19, and death report 26,347 with recovered cases 655,667 till 18 July 2020 [20, 21, and 22]. On 30 January India reported its first case of Covid19 in Kerala and on 3 February total 3 cases that all were students who had returned from Wuhan, China [23, 24]. On 4 March total 22 new cases rises in India who were the infected by 14 Italian tourist members [25]. On 12 March 76 year old man who has returned from Saudi Arabia became the first victim of the death [26]. Than Indian ministry of health ordered for all international visitors must go through screening on airport and must be quarantine for 14 days [27]. On 13 April the effigy of cases 9,152 confirmed and 857 have been cured [28]. Sign and symptoms of Covid19 are Fever, cough, difficulty breathing, headache, runny nose, cold, flu [29]. The union health ministry has urged people to contact their emergency helpline number 91-11- 23978049 for queries and they also provide email id “n cob 2019@gmail.com [30]. On 15 March 100 confirmed cases were crossed, on 5 April 2000 and on 12 April 8000. On 2 April the death toll was more than 50 and on 6 April more than 100 and on 13 April more than 250 and by 15 May 82,990 [31].

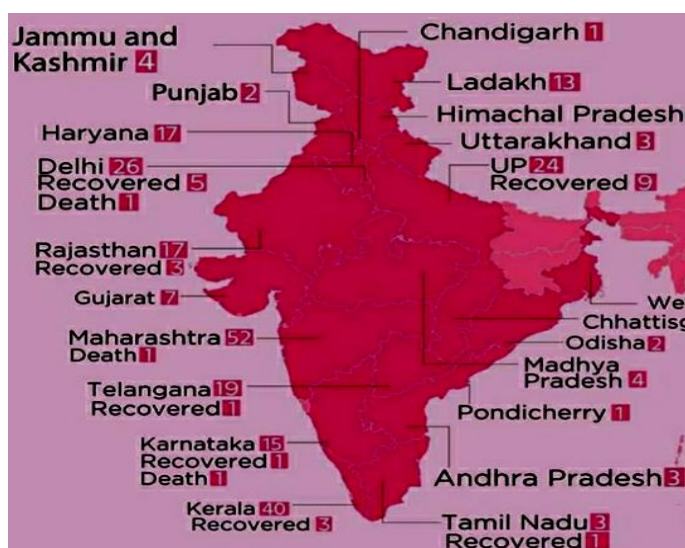


Figure 3: State checks per Covid-19 in India on 21 March [31]

Figure 4: State checks per million people (29 May 2020) Monitoring [32]

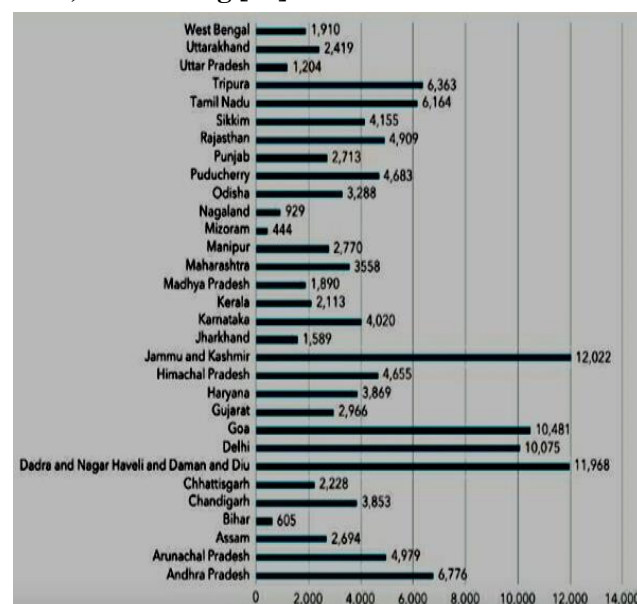


Table 3: RNA Single Strand Covid-19 virus State wise July 20, 2020 total active cases 4, 02,529, cured- 7, 24,577 and Deaths – 28,084 in India [33]

State Name	Total confirmed	Cured	Death
Andaman and Nicobar	203	145	0
Andhra Pradesh	49650	22890	642
Arunachal Pradesh	740	282	3
Assam	23999	16023	57
Bihar	26569	16308	217
Chandigarh	717	488	12
Chhattisgarh	5407	3775	24
Dadra and Nagar Haveli and Daman	605	414	2
Delhi	122793	103134	3628
Daman and Diu	0	0	0
Goa	3657	2218	22
Gujarat	48355	34901	2142
Haryana	26164	19793	349
Himachal Pradesh	1483	1059	11
Jammu and Kashmir	13899	7811	244
Jharkhand	5535	2716	49
Karnataka	63772	23065	1331
Kerala	12480	5371	42
Ladakh	1178	1003	2

Lakshadweep	0	0	0
Maharashtra	310455	169569	11854
Manipur	1911	1213	0
Meghalaya	450	66	2
Mizoram	284	167	0
Madhya Pradesh	22600	15311	721
Nagaland	988	445	0
Odisha	17437	12453	91
Puducherry	1999	1154	28
Punjab	10100	6535	254
Rajasthan	29434	21730	559
Sikkim	283	92	0
Tamil Nadu	170693	117915	2481
Telangana	45076	32438	415
Tripura	2878	1759	5
Uttar Pradesh	49247	29845	1146
Uttarakhand	4515	3116	52
West Bengal	42487	24883	1112

Covid-19 Mode of Transmission

The Virus COVID-19 transmits minute respiratory droplets and pathways between humans [34]. The transmission of the airborne aircraft was not identified [35]. The transmission of droplet is occurring in a person in close contact (within 1 m) with someone who has respiratory symptoms (e.g., cough or sneezes) and thus risks being exposed by his or her mucosa or conjunctiva to potentially inflammable respiratory goutlets [36]. An infected person releases fomite from the virus into the immediate area [37].

Diagnostic criteria

176 laboratories including 47 private laboratories have been certified for testing by the Indian Council for Medical Research (ICMR). The United States (FDA) has approved 20 COVID-19 diagnostic test kits and manufacturers. Roche's Cobas SARS CoV-2 package, which is also approved by the Indian FDA, is the first test kit. The second is Thermo Fisher's TaqPath COVID-19 combination pack, which will be tested by ICMR labs [38].

Table 4: SARS-CoV-2 virus tests their running time and costs

Review Article				
Demand	RT-PCR	Rapid Antobody	ELISA	TrueNat
Need	Nasal Sample s need to be collect ed	Blood sample to be taken	For Surveillan ce, to detect exposed population	To diagno se
Time Taken to test	30 mint	20-30 mint	60 min	60 min
Cost	Rs 450	Rs 500 or Rs 600	Not fixed	1,300

Favipiravir

Favipiravir (T-705) is an anti-viral agent that selectively and efficiently inhibits RNA polymerase (RdRp) RNA (RNA)-dependent [39]. Favipiravir is a viral anti-viral drug. Favipiravir was discovered by Toyama Chemical Co Ltd [40]. Through chemical library screening for influenza disease [41]. Intracellular phosphoribosylation, favipiravir RTP is an active form, known as RdRp substrate, which inhibits RNA polymerase activity. Favipiravir undergoes an intracellular phosphoribosylation and is an action inhibitor [42]. Favipiravir blocked viral genome replication, the most common in a time-of-drug addiction test in the midst of a viral proliferation [43]. Favipiravir antiviral activity has been dimmed in the presence of purine nucleosides or purine bases, which suggests favipiravir competitiveness rather than pyrimidine nucleosides with purine nucleosides. In experiments with laboratories of influenza virus with 50% effective concentration (EC50) values ranging from 0,014 to 0,55 mg / mL, Favipiravir demonstrated anti-viral activity for all subtypes of flu virus streams including Type A, B and C. The oral dose should be used for mild to moderate disease approved in India [44].

Remdesivir

Gilead Sciences developed Remdesivir (GS-5734) and came into being through the Gilead-US partnership.

Disease Control and Prevention Centers (CDC) and the United States Institute of Infectious Diseases for Medical Research of the Army (USAMRIID) [45]. Chemotherapy antiviral therapies are often aimed at particular viral enzymes or strike a vulnerable point in viral replication in the host for example, for RNA-dependent polymerases [46]. Prodrug Remdesivir (GS-5734) is converted into an alanine metabolite (GS-704277) into a monophosphate derivative and eventually into an active nucleoside triphosphate derivative in to an alanine metabolite [47]. Remdesivir drug approved in India administered intravenously to hospitalized Oxygen Patients with mild Covid-19 [48].

Hydroxychloroquine

Original synthesis of rheumatoid arthritis and systemically-administered lupus erythematosus in 1934 and commonly used to prevent and cure malaria as well as to treat inflammatory diseases [49]. Hydroxychloroquine immunomodulatory activity has a broad variety of immune-regulation networks, which have been commonly considered in other research. Hydroxychloroquine drug is approved in India orally given to the hospitalized patient [50].

Glucocorticoids

The ribonucleic acid virus is coronavirus [51]. In patients with infected and severe respiratory diseases, systemic therapeutic corticoids were administered during the 2003 SARS CoV epidemic [52]. In a corticosteroid meta-analysis, four studies were performed and each indicated greater mortality in patients with SARS [53]. Two recent Lancet papers indicated that corticosteroids are not to be used to treat COVID-19 between February and March 2020. Such conclusions are based primarily on findings from the above mentioned Meta-analyses on related viral diseases, but do not directly examine COVID-19 [54].

Tocilizumab

Tocilizumab is an immunosuppressive drug known as atilizumab and is commonly used to treat rheumatoid arthritis and systemic young idiopathic arthritis (SYA), which is a severe type of arthritis in children. It is a humanized monoclonal antibody for interleukin-6 [55]. In addition to other functions, the development of immunological and inflammatory reactions involves interleukin 6 (IL-6). Certain autoimmune conditions such as RA are associated with abnormally high levels of IL-6. Tocilizumab binds interleukin-6 receptors, both soluble and membrane bound to

prevent IL-6 from having pro-inflammatory effects. The membrane bound shape and soluble shape of the IL-6 receptor may have various impacts in the pathogenesis of rheumatoid arthritis, where the soluble form is more involved [56].

Dexamethasone

In the first clinical trial in the UK, the World Health Organization (WHO) welcomes dexamethasone, a corticosteroid, as a life-saving treatment for patients with a critical COVID-19 condition [57]. Among ventilator patients, death was reduced by about one third and mortality was decreased by about one fifth in patients needing only oxygen, according to WHO preliminary findings [58]. Dexamethasone is a steroid used in a variety of conditions, including infectious disorders and other cancers since the 1960s. Since 1977, it has been used in several formulations on the WHO Model List of Essential Medicines, and is currently off-patented in most countries and available at a low cost [59].

Convalescent Plasma

Infectious diseases were successfully treated by passive immunization therapy until the 1890s [60]. An individual who is sick and recovers from infection has blood drawn and screened for a specific antibodies-neutralizing microorganism. After identifying those with high antibody neutralization titers, convalescent plasma containing these neutralizing antibodies can be provided for symptoms reduction and death in individuals with severe clinical diseases. Therefore, convalescent plasma transfusion (CPT), especially following large-scale epidemics, is being given more attention [61]. In the treatment of infectious diseases, CPT has very long history of use. Since the outbreak of many diseases, including Spanish influenza A (H1N1) infections between 1915 and 1917, its use has also been well known [62-70]. Almost all patients were symptom improvement, including elevated body temperature, varying degrees of lung absorption and resolving ARDS, weaned from ventilation from 1 day to a total of 35 days after transfusion, when recovery was replaced by plasma transfusion [71-77].

Suggestive Treatment for suspected COVID-19 Positive patient at home

For all tablet hydroxychloroquine 400 mg first day 2 tablet given to the patient after morning and evening breakfast and next 6 days 1 tablet after breakfast evening/morning. 1 Tablet shelcal (vitamin-D) after lunch and 1 tablet zinc sulphate after dinner and Tablet

vitamin C morning/noon/evening for 7 days. In case of fever 2 Tablet Dolo 650mg suggested morning/evening for 5 days. In case of cough 3 spoon syrup Bro-zedex tie in day for five days and for reduce itching tablet cetirizine 10mg is given but if covid patient is suffering from breathlessness than for 5 days 5mg 1tablet dexon at evening is suggested [78-80]. Medical kit Covid needed at home (Paracetamol, Betadine for mouthwash and gargle, vitamin C and D3, B complex, Vapour+Capsules for steam, Oximeter, Oxygen cylinder (For emergency only) arogya setu app, Breathing Exercise). Citizens must be aware of these home remedies [80-83].

1. Covid is only half a day in time for nose recovery. (Steam Inhalation), vitamin, no fiber normally. Asymptomatic.
2. Covid in Throat-sore throat, recovery time 1 day (hot water gargle, warm water to drink, if Temp than paracetamol. Vitamin C, Bcomplex. If severe than antibiotics.
3. Covid in Lungs-coughing and breathlessness 4 to 5 days. (Vitamin C, B complex, hot water gargle, oximeter, paracetamol, cylinder if severe, lot of liquid required, deep breathing exercise.

Conclusion

The spread of this new virus has threatened China's and in some ways other neighbors' fiscal, medical and public health infrastructures. Time alone shows us how the virus can affect India's lives. In fact, potential virus and zoonotic pathogens are likely to develop. In addition to curbing this outbreak, therefore, efforts should be undertaken to develop comprehensive actions to prevent future zoonotic outbreaks. The COVID-19 pandemic travels at an unprecedented pace around the world and has caused catastrophe. The most developed medically-advanced countries worldwide have been exposed by insufficient number of hospital beds, inadequate PPE supply, low morgue capacity etc because of the quick spread of the virus' glaring in the health capability of their governments. Therefore, the source of the infection needs to be detected and cut off at origin, the transmission route is shut down and efforts focused to eliminate the virus through the use of available drugs are needed. The progress of the disease must also be proactively tracked. Study, production of new drugs, and vaccines and efforts to reduce morbidity and mortality of diseases should be promoted to improve our role in combating and protecting life.

CONSENT FOR PUBLICATION

Not applicable

Avalibility of Data and Materials

Not applicable

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Conflict of Interest

The authors declare no conflict of interest, financial or otherwise

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