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Review Article

SARS-CoV-2 (COVID-19) Pandemic Outbreak: A Worldwide Challenge and Contemporary Situation

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ABSTRACT

Objectives: In this review article, the authors carried out a study about the COVID-19 pandemic outbreak, its challenges and current situation in worldwide. This study aimed to determine the morphological characters, genome sequence, symptoms and preventions.

Methodology: The pandemic of COVID-19 has very substantial medical, economic and social consequences. The study was observed during the coronavirus outbreak from December 2019 to till date. In Wuhan, China December 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections was found and it has been spreaded across China.

Results: Coronavirus is a pandemic disease and appears major public health anxiety. This is the time to exercise restrains and caution. Whole world's many governments, scholars and scientists are engaged for discover the proper treatment until we find the proper and right treatment for it we have to be careful to avoid infection.

Conclusion: This paper included origin and morphology of the novel coronavirus and current scenario of disease, cause of disease, symptoms of disease and how to prevent from its infection. WHO officially stated the infection spreaded by a novel coronavirus and named it COVID-19. Presently, whole world is struggling with COVID-19 disease.

Keywords: COVID-19; SARS-CoV; Pandemic; Infection; Symptoms; Prevention

INTRODUCTION

On dated December 8th, 2019, the novel SARS-CoV-2 coronavirus that expressed in Wuhan City of Hubei Province of China and became epidemic at large scale. The COVID-19 disease spreaded among more than 210 other countries. In March 2020, around 3300 deaths due to coronavirus and approximate, 96,000 corona positive (COVID-19) cases have been reported in China while in India reported 29 cases [1]. On dated 9th January 2020, coronavirus emerged as novel infectious viral agent [2,3] which has unique background of infection in human being in 1997 due to avian influenza A H5N1 [4] and SARSCoV in 2003 [5]. The origin of this infection was started from china. In Wuhan, the capital city of Hubei, December 2019, adult people started suffering from severe pneumonia-like unknown disease. The respiratory samples of the affected people sent to the labs for etiologic investigations and found the cause of this disease was coronavirus which had more than 95% homology with the bat coronavirus and more than 70% similarity with the SARSCoV which is further notified by World Health Organization (WHO). Many of the cases reported from the Huanan seafood wholesale market which also known to traded live animals. So, the surveillance system was activated after the knowing cause of infection and which signified that the virus was originated from the Huanan seafood market [6]. It has been declared the transmission of virus was found more rapidly by human-to-human contact [7]. Now a day's, this disease (COVID-19) affected whole world and became anxiety. The epidemiology of this infection stated that the susceptibility of the coronavirus infection was found in all age people. It transmitted through the symptomatic patients to the healthy person by coughing and sneezing in the range of 1-2 m but now it also spread through asymptomatic people [8-10]. The virus can remain viable on surfaces and can be destroyed by some common disinfectants such as hydrogen peroxide, sodium hypochlorite, etc. [11].

MORPHOLOGY AND GENOME SEQUENC OF

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CORONAVIRUS

Coronaviruses are spherical particles (150 to 160 nm) which is enveloped and pleomorphic, and consist of constructive single-stranded RNA, un-segmented, nucleoprotein, capsid, matrix, and surface glycoprotein (S-protein) (Figure 1). Significant viral proteins comprises different type of proteins such as nucleocapsid protein (N), membrane protein (M), spike glycoprotein (S), and envelope small membrane protein (E). Glycoproteins such as acetyl esterase and Hemagglutination encoded by some beta coronaviruses eg. COVID-19 causing coronaviruses [12-14]. Glycoprotein (S) is the outermost covering of this virion which provides typical shape. Coronavirus name is given due to the homotrimers of these S proteins which resembles sun-like morphologies [15-17]. S proteins interact with the M proteins and virion membrane through C-terminal trans-membrane regions [18,19]. Regeneration of virions in the cell is governed by the M protein. There are three trans-membrane regions was found in M Glycoproteins which goes under modification of the virion to fuse with the cell and to make them antigenic by interacting with Endoplasmic Reticulum -Golgi Apparatus Intermediate Compartment (ERGIC) [20-25]. Glycoproteins (E) composed of around 76 to 109 amino acids. Amino acids in the N-terminus allow the glycoprotein (E) attachment to the viral membrane [26]. It also helps in the assembly and morphogenesis of virions inside the cell. N proteins are phosphoproteins having a flexible structure of viral genomic RNA by binding to the helix. Due to locating in both the replication or transcriptional regions and the ERGIC region. It plays a key role in virion structure, replication and transcription [22,27-34].

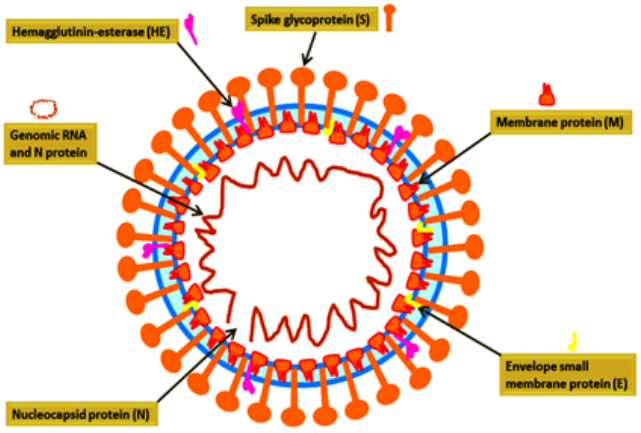

Figure 1: Pictorial depiction of the leading structure of crown shaped COVID-19 coronavirus identical to the solar corona due to presence of spikes.

Evaluation of the genome arrangement showed that COVID-19 is more identical with SARS-CoV as compared to MERS-CoV6 and the RNA binding domain of the S-protein of COVID-19 also showed more homology with with SARS-CoV. Depending upon polyprotein and S-protein the arrangement of amino acid in COVID-19 coronavirus is differ from former coronaviruses completely. S-protein (consist two subunits) helps to binding of the coronavirus to the host cells. S protein binds with the receptor of host cell and enters inside the host cell. Most of the studies revealed that angiotensin-converting enzyme (ACE2 and mostly ACE29) works as receptor for the COVID-19 in human [35-37]. It has been noted that specific CoV do not need to have the full ensemble of structural proteins to make virons, highlighting that certain proteins maybe dispensable or compensated by the function of non-structural proteins [38]. Table 1 shows the structural proteins of coronavirus and their functional roles.

Table 1: Structural proteins of coronavirus and their functions (Adopted from [26]).

STRUCTURAL PROTEINS	PROTEINS FUNCTION
Spike glycoprotein (S)	Critical for binding of host cell receptors to facilitate entry of host cell
Nucleocapsid protein (N)	Bound to RNA genome to make up nucleocapsid
Envelope small membrane protein (E)	Interacts with M to form viral envelope
Membrane protein (M)	Central organizer of CoV assembly Determines shape of viral envelope
Hemagglutinin-Esterase (HE)	Forms a distinct inner fringe of short peplomer

COVID-19 SYMPTOMS

Understanding the symptoms of COVID-19 is a very important aspect. Common symptoms of COVID-19 are including fever, cough, and fatigueness. Few days prior to fever symptoms arises with diarrhea and nausea, it is suggested that fever is dominating symptoms but not the premier symptom of infection. Some patients also can suffer from hemoptysis or headache [39,40] and some even asymptomatic [41]. Severe alveolar damage due to respiratory failure affects commonly older men. The disease shows organ dysfunction such as Acute Respiratory Distress Syndrome (ARDS), shock, acute cardiac and kidney injury and in severe cases, it causes death [7,40]. The COVID-19 positive patients might show lower white blood cell counts, thrombocytopenia or lymphopenia, and increment in C-reactive protein level [7,39,40].

As it is clear through literature investigations, there are situations where patients affirmed with COVID-19 contamination have no chest CT irregularities, appearing differently in relation to subclinical disease giving positive imaging discoveries on CT. It is urgent that the clinical effects of screening asymptomatic patients with chest CT be resolved. A progressively careful examination about the presence of any possible advantage on clinical results should be tended to against the known monetary expenses and presentation to ionizing radiation related with CT checking. Overall, the symptoms of this virus are like pneumonia. According to WHO reports, based on 56, 000 lab cases the fit symptoms of coronavirus infection caused 14%, 5%, 14%, 88%, 5%, 19%, 15%, 38%, 11%, 4%, 33% and 68% of headache, runny nose, sore throat, fever, vomiting, shortness of breath, joint pain fatigue, chills, diarrhea, phlegm, dry cough, respectively.

SPREADS OF CORONAVIRUS AND PREVENTION

The human coronavirus (COVID-2019) generally spreads from person to person through open-air coughing and sneezing, touching or shaking hands, touching a narrow object or surface, then touching your nose, eyes or mouth without washing or sanitizing your hands and use of an infected thing like vegetable and other food items. The basic and most important prevention of COVID-19 infections are such as clean your hands with soap and water or alcohol-containing hand bars, cover your nose and mouth with a tissue or bent elbow when coughing and sneezing, avoid making close contact with people who have cold or flu-like symptoms, always allow hello or greet at the place of hand contact,

use the mask and dispose of it after using by burning of buried, avoid going to public places and crowds, avoid market food items which are cooked out of the house, after bringing the vegetable, wash it immediately with hot salt water, avoid courier or postal item it may carry the virus infection, do not let the children play or visit outside of the house, always prefer to take more fluids, do not invite guests or other outsiders to the house and also minimize the use of computers, and gadgets used by other persons. The most common target of the infection is elder or aged people so do not let them out of the house. There is one example of prevention is that Indian government put one-day 'JANTA' curfew on dated March 22, 2020, for the same. If you feel the symptoms of COVID-19 infection such as fever, cough and difficulty in breathing, immediately contact the doctor and follow the important information, and the advice is given by the doctors.

EXISTING SITUATION

According to World Health Organization (WHO) it is a pandemic disease and found 215 countries, areas or territories and till June 17th, 2020 total confirm cases 8,295,151, confirmed deaths 446,746 and recovered cases are 4,346,863. In India, total of 155,227 cases are confirmed out of 11,903 death and 186,934 get recovered till June 17th, 2020. The highest confirmed in Maharashtra state which is 113,445 and deceased 5,537. Here, we presented the worldwide report of confirmed cases and deaths by country, territory, or conveyance.

CONFIRMED CORONAVIRUS CASES AND DEATHS BY COUNTRY AND TERRITORY OR CONVEYANCE

The coronavirus COVID-19 is affecting 213 countries and territories around the world and 2 international conveyances: the Diamond Princess Cruise ship harbored in Yokohama, Japan, and Holland America's MS Zaandam cruise ship. The day (June 17, 2020) is reset after midnight UTC+7. The list of countries and territories and their continental regional classification is based on the Countrycodex.COVID-19 affected countries report of coronavirus cases in globally (Table 2).

Table 2: COVID-19 affected countries report of total coronavirus cases, total deaths; total recovered and total active cases (Data obtained from June 17, 2020).

S. No.	Country, Other	Total Cases	Total Deaths	Total Recovered	Active Cases	Total Tests	Population
	World	82,95,151	4,46,746	43,46,863	35,01,542		
1	USA	22,08,787	1,19,145	9,03,136	11,86,506	2,57,30,914	33,09,28,170
2	Brazil	9,28,834	45,456	4,77,364	4,06,014	17,09,468	21,25,00,470
3	Russia	5,53,301	7,478	3,04,342	2,41,481	1,56,79,724	14,59,32,234
4	India	3,55,060	11,922	1,87,718	1,55,420	60,84,256	1,37,94,55,941
5	UK	2,98,136	41,969	N/A	N/A	69,81,493	6,78,72,439
6	Spain	2,91,408	27,136	N/A	N/A	48,26,516	4,67,54,133
7	Italy	2,37,500	34,405	1,78,526	24,569	46,95,707	6,04,64,907
8	Peru	2,37,156	7,056	1,25,205	1,04,895	13,96,605	3,29,52,301
9	Iran	1,95,051	9,185	1,54,812	31,054	13,19,920	8,39,47,823
10	Germany	1,88,523	8,910	1,73,600	6,013	46,94,147	8,37,74,027
11	Chile	1,84,449	3,383	1,56,232	24,834	8,73,533	1,91,09,674
12	Turkey	1,81,298	4,842	1,53,379	23,077	27,21,003	8,43,01,943
13	France	1,57,716	29,547	73,335	54,834	13,84,633	6,52,68,238
14	Mexico	1,54,863	18,310	1,16,178	20,375	4,28,563	12,88,77,519
15	Pakistan	1,54,760	2,975	58,437	93,348	9,50,782	22,06,97,198
16	Saudi Arabia	1,41,234	1,091	91,662	48,481	11,44,282	3,47,90,318
17	Canada	99,467	8,213	61,443	29,811	22,16,730	3,77,28,960
18	Bangladesh	98,489	1,305	38,189	58,995	5,51,244	16,46,22,947
19	China	83,265	4,634	78,379	252		1,43,93,23,776
20	Qatar	83,174	82	62,172	20,920	3,04,801	28,07,805
21	South Africa	76,334	1,625	42,063	32,646	11,72,513	5,92,77,377
22	Belgium	60,244	9,675	16,684	33,885	10,56,075	1,15,87,727
23	Belarus	56,032	324	32,735	22,973	7,78,935	94,49,432
24	Colombia	54,931	1,801	20,366	32,764	5,19,990	5,08,60,734
25	Sweden	53,323	4,939	N/A	N/A	3,25,000	1,00,96,837
26	Netherlands	49,204	6,074	N/A	N/A	4,84,389	1,71,33,488
27	Ecuador	47,943	3,970	23,684	20,289	1,35,845	1,76,31,471
28	Egypt	47,856	1,766	12,730	33,360	1,35,000	10,22,47,168
29	UAE	42,982	293	28,861	13,828	26,26,000	98,85,431
30	Indonesia	41,431	2,276	16,243	22,912	5,59,872	27,34,05,579
31	Singapore	41,216	26	31,163	10,027	5,76,189	58,48,529
32	Portugal	37,672	1,523	23,580	12,569	10,06,563	1,01,97,718
33	Kuwait	37,533	306	28,896	8,331	3,43,027	42,67,854

34	Argentina	34,159	878	10,174	23,107	2,45,059	4,51,79,151
35	Ukraine	33,234	943	14,943	17,348	5,17,995	4,37,42,277
36	Switzerland	31,183	1,956	28,900	327	4,75,224	86,52,146
37	Poland	30,701	1,286	14,921	14,494	12,47,099	3,78,48,055
38	Philippines	27,238	1,108	6,820	19,310	5,26,100	10,95,19,465
39	Afghanistan	26,874	504	6,158	20,212	60,298	3,88,86,984
40	Oman	26,079	116	11,797	14,166	1,48,467	51,00,291
41	Ireland	25,334	1,709	22,698	927	3,86,572	49,35,518
42	Dominican	1	1	1	1	1	1
Republic	23,686	615	14,133	8,938	1,12,603	1,08,43,502	1
43	Romania	22,760	1,451	16,117	5,192	5,85,353	1,92,41,808
44	Iraq	22,700	712	9,862	12,126	3,80,005	4,01,79,950
45	Panama	21,962	457	13,774	7,731	93,646	43,11,810
46	Bolivia	19,883	659	3,752	15,472	47,372	1,16,66,267
47	Israel	19,637	303	15,459	3,875	7,88,870	91,97,590
48	Bahrain	19,553	48	13,866	5,639	4,38,080	16,98,380
49	Armenia	18,033	302	6,814	10,917	87,600	29,63,042
50	Japan	17,587	927	15,701	959	3,44,526	12,64,89,572
51	Austria	17,203	687	16,099	417	5,40,615	90,04,430
52	Nigeria	17,148	455	5,623	11,070	96,402	20,58,92,211
53	Kazakhstan	15,542	88	9,716	5,738	11,84,416	1,87,67,378
54	Serbia	12,426	256	11,511	659	3,13,483	87,38,546
55	Denmark	12,294	598	11,185	511	8,40,721	57,91,444
56	Moldova	12,254	427	7,077	4,750	63,328	40,34,284
57	S. Korea	12,198	279	10,774	1,145	11,32,823	5,12,67,604
58	Ghana	12,193	58	4,326	7,809	2,55,971	3,10,42,920
59	Algeria	11,147	788	7,842	2,517		4,38,15,597
60	Guatemala	10,706	418	2,096	8,192	31,427	1,79,00,654
61	Azerbaijan	10,662	126	5,948	4,588	3,86,898	1,01,35,522
62	Czechia	10,112	332	7,360	2,420	5,05,272	1,07,08,259
63	Cameroon	9,864	276	5,570	4,018		2,65,13,830
64	Honduras	9,656	330	1,075	8,251	21,540	98,97,736
65	Morocco	8,985	212	7,960	813	4,63,157	3,68,92,413
66	Norway	8,660	242	8,138	280	2,85,867	54,19,572
67	Malaysia	8,515	121	7,873	521	6,64,334	3,23,48,590
68	Sudan	7,740	477	2,820	4,443	401	4,38,00,496
69	Australia	7,370	102	6,859	409	18,77,702	2,54,87,651
70	Nepal	7,177	20	1,167	5,990	3,83,315	2,91,13,368
71	Finland	7,117	326	6,200	591	2,24,400	55,40,409
72	Ivory Coast	5,679	46	2,637	2,996	38,637	2,63,46,655
73	Uzbekistan	5,638	19	4,096	1,523	7,48,555	3,34,48,409
74	Senegal	5,369	73	3,606	1,690	63,862	1,67,22,182
75	Tajikistan	5,160	50	3,624	1,486		95,27,545
76	DRC	5,100	115	640	4,345		8,94,21,061
77	Guinea	4,639	26	3,327	1,286	14,407	1,31,15,087
78	Haiti	4,547	80	24	4,443	9,353	1,13,96,738
79	Djibouti	4,539	43	3,324	1,172	40,855	9,87,384
80	North Macedonia	4,482	210	1,803	2,469	46,445	20,83,377
81	Gabon	4,114	29	1,432	2,653	23,741	22,23,225
82	Hungary	4,078	567	2,547	964	2,42,139	96,61,188
83	Luxembourg	4,075	110	3,933	32	1,16,869	6,25,532
84	El Salvador	4,066	78	2,137	1,851	1,30,677	64,84,963
85	Kenya	3,860	105	1,328	2,427	1,21,956	5,37,15,735

86	Ethiopia	3,630	61	738	2,831	1,92,087	11,48,25,733
87	Bulgaria	3,453	181	1,817	1,455	1,08,325	69,50,101
88	Venezuela	3,150	27	835	2,288	10,81,542	2,84,38,678
89	Greece	3,148	185	1,374	1,589	2,59,736	1,04,24,732
90	Thailand	3,135	58	2,996	81	4,68,175	6,97,93,557
91	Bosnia and Herzegovina	3,085	168	2,178	739	77,494	32,81,478
92	Somalia	2,658	88	649	1,921		1,58,70,989
93	Kyrgyzstan	2,562	30	1,902	630	1,50,612	65,19,466
94	CAR	2,410	14	396	2,000	18,921	48,26,038
95	Mayotte	2,333	29	2,058	246	8,800	2,72,499
96	Cuba	2,273	84	1,994	195	1,38,831	1,13,26,859
97	Croatia	2,258	107	2,141	10	70,712	41,06,085
98	Maldives	2,094	8	1,670	416	35,533	5,40,120
99	Mauritania	2,057	93	373	1,591	13,842	46,43,639
100	Estonia	1,977	69	1,743	165	99,000	13,26,503
101	Sri Lanka	1,921	11	1,397	513	90,010	2,14,09,881
102	Mali	1,885	106	1,145	634	9,873	2,02,21,292
103	Nicaragua	1,823	64	1,238	521		66,21,283
104	Iceland	1,812	10	1,796	6	63,198	3,41,157
105	Costa Rica	1,796	12	794	990	32,801	50,92,255
106	Lithuania	1,778	76	1,447	255	3,75,572	27,23,374
107	South Sudan	1,776	30	58	1,688	3,356	1,11,88,290
108	Albania	1,722	38	1,077	607	19,266	28,77,906
109	Equatorial Guinea	1,664	32	515	1,117	16,000	14,00,545
110	Slovakia	1,561	28	1,437	96	1,98,780	54,59,548
111	New Zealand	1,506	22	1,482	2	3,16,251	50,02,100
112	Slovenia	1,503	109	1,359	35	90,519	20,78,928
113	Guinea-Bissau	1,492	15	153	1,324	1,500	19,65,778
114	Lebanon	1,473	32	889	552	1,08,039	68,26,459
115	French Guiana	1,421	5	619	797	277	2,98,302
116	Zambia	1,405	11	1,142	252	45,248	1,83,58,109
117	Madagascar	1,378	12	450	916	16,402	2,76,56,188
118	Paraguay	1,303	13	699	591	49,978	71,28,884
119	Sierra Leone	1,225	51	686	488		79,69,522
120	Tunisia	1,125	49	1,002	74	61,430	1,18,13,579
121	Hong Kong	1,121	4	1,071	46	2,75,293	74,94,577
122	Latvia	1,104	30	875	199	1,31,646	18,86,823
123	Niger	1,016	66	885	65	6,317	2,41,58,588
124	Cyprus	985	18	816	151	1,42,912	12,07,015
125	Jordan	981	9	693	279	2,92,623	1,01,99,034
126	Burkina Faso	895	53	809	33		2,08,74,685
127	Georgia	888	14	731	143	78,158	39,89,431
128	Yemen	885	214	91	580	120	2,97,95,150
129	Congo	883	27	391	465		55,11,524
130	Andorra	854	52	789	13	3,750	77,261
131	Chad	853	74	720	59		1,64,02,021
132	Uruguay	849	24	801	24	54,486	34,73,283
133	Cabo Verde	781	7	354	420	1,307	5,55,740
134	Uganda	732		420	312	1,53,180	4,56,65,591
135	Diamond Princess	712	13	651	48		
136	San Marino	696	42	591	63	5,433	33,928

137	Sao Tome and Principe	671	12	182	477	1,464	2,18,976
138	Malta	662	9	610	43	84,964	4,41,500
139	Mozambique	638	4	160	474	20,263	3,12,11,470
140	Rwanda	636	2	338	296	96,801	1,29,36,672
141	Jamaica	621	10	449	162	16,947	29,60,681
142	Benin	572	9	237	326	46,622	1,21,07,579
143	Channel Islands	568	48	512	8	10,255	1,73,799
144	Malawi	564	6	73	485	8,523	1,91,05,730
145	Togo	537	13	344	180	25,589	82,69,473
146	Eswatini	520	4	259	257	6,551	11,59,675
147	Palestine	514	3	415	96	44,876	50,95,772
148	Liberia	509	33	222	254		50,52,009
149	Tanzania	509	21	183	305		5,96,48,351
150	Réunion	495	1	460	34	17,200	8,95,063
151	Libya	484	10	76	398	14,029	68,67,331
152	Taiwan	445	7	434	4	74,699	2,38,15,210
153	Zimbabwe	391	4	62	325	52,905	1,48,53,642
154	Mauritius	337	10	325	2	1,37,789	12,71,692
155	Isle of Man	336	24	312	0	5,620	85,016
156	Vietnam	335		325	10	2,75,000	9,73,03,556
157	Montenegro	326	9	315	2	13,186	6,28,063
158	Myanmar	262	6	179	77	53,351	5,43,95,646
159	Suriname	236	6	48	182	1,165	5,86,422
160	Martinique	202	14	98	90		3,75,275
161	Comoros	197	3	127	67		8,68,739
162	Mongolia	197		111	86	18,886	32,75,982
163	Cayman Islands	193	1	123	69	18,220	65,690
164	Faeroe Islands	187		187	0	11,162	48,856
165	Syria	177	6	78	93		1,74,80,189
166	Gibraltar	176		176	0	10,428	33,691
167	Guadeloupe	171	14	157	0	5,691	4,00,122
168	Guyana	171	12	99	60	1,995	7,86,408
169	Angola	148	6	64	78	10,000	3,28,13,171
170	Bermuda	144	9	128	7	9,246	62,286
171	Brunei	141	3	138	0	25,600	4,37,310
172	Cambodia	128		126	2	28,524	1,67,09,126
173	Trinidad and Tobago	123	8	109	6	4,111	13,99,320
174	Eritrea	121		39	82		35,44,334
175	Bahamas	104	11	72	21	2,261	3,93,093
176	Burundi	104	1	75	28	382	1,18,72,654
177	Aruba	101	3	98	0	2,233	1,06,749
178	Monaco	99	4	94	1	16,200	39,231
179	Barbados	97	7	83	7	6,960	2,87,362
180	Liechtenstein	82	1	55	26	900	38,124
181	Sint Maarten	77	15	62	0	477	42,856
182	Bhutan	67		24	43	21,790	7,71,259
183	Botswana	60	1	24	35	26,800	23,49,447
184	French Polynesia	60		60	0	4,578	2,80,846
185	Macao	45		45	0		6,48,960
186	Saint Martin	42	3	36	3	685	38,637
187	Gambia	34	1	24	9	1,970	24,13,256
188	Namibia	34		18	16	5,919	25,38,844

189	St. Vincent Grenadines	29		25	4	731	1,10,927
190	Antigua and Barbuda	26	3	22	1	489	97,897
191	Timor-Leste	24		24	0	1,568	13,17,308
192	Curaçao	23	1	19	3	1,080	1,64,068
193	Grenada	23		22	1	4,130	1,12,503
194	Belize	22	2	16	4	1,957	3,97,304
195	New Caledonia	21		21	0	7,788	2,85,387
196	Laos	19		19	0	11,249	72,71,033
197	Saint Lucia	19		18	1	1,356	1,83,595
198	Dominica	18		16	2	534	71,979
199	Fiji	18		18	0	2,431	8,96,191
200	Saint Kitts and Nevis	15		15	0	417	53,184
201	Falkland Islands	13		13	0	671	3,475
202	Greenland	13		13	0	2,723	56,766
203	Turks and Caicos	12	1	11	0	245	38,695
204	Vatican City	12		12	0		801
205	Montserrat	11	1	10	0	61	4,992
206	Seychelles	11		11	0		98,324
207	MS Zaandam	9	2		7		
208	Western Sahara	9	1	8	0		5,96,630
209	British Virgin Islands	8	1	7	0	212	30,223
210	Papua New Guinea	8		8	0	5,281	89,39,356
211	Caribbean Netherlands	7		7	0	424	26,213
212	St. Barth	6		6	0	152	9,876
213	Lesotho	4		2	2	1,515	21,41,579
214	Anguilla	3		3	0	93	14,998
215	Saint Pierre Miquelon	1		1	0		5,795
	Total	8295151	446746	4346863	3501542		

CONCLUSION

Through this review article, we infer that the disease framework of COVID-19 is dynamic and proceeds to quickly spread. The COVID-19 pandemic is dispersing transversely the world at a disturbing recurrence. It has caused more infections and deceases as contrasted to SARS and MERS. There are hitherto many open quarries that are pending about COVID-19. Maturing and immuno-compromised patients are at the extraordinary danger of mortality. The brief degree of disease licenses exceptional examination and quarantine protocols to prevent further transmission. Till date, no prolonged drug or immunization has been created. Present treatment approaches are expected at symptomatic precaution and oxygen rehabilitation. In future, prophylactic vaccination will be obligatory for the impending prevention of COV-associated epidemic or pandemic.

CONFLICT OF INTEREST STATEMENT

None declared

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MM and PS contributed to all chapters and had a key role in formulating the review. PS and MM wrote review, critically read and corrected the entire manuscript, and MM adjusted it to the required format. MM prepared the figures and the list of references.

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