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Escape Corona- Part 13.....

KnowLab
rsr.chem1979

K. Somasekhara Rao,
Dept. of Chemistry,
Acharya Nagarjuna Univ.,
Dr. M.R.Appa Rao Campus,
Nuzvid-521 201, India

R. Sambasiva Rao,
School of Chemistry,
Andhra University,
Visakhapatnam 530 003, India

Layout

- 📖 Vaccination progress for SARS-CoV-2
- 📖 Time line of Covid-19 (Pandemic infection) critical Data
 - ➔ Daily trends : Confirmed cases and deaths
 - ➔ Graphic display
 - Last 30 days
 - Last 60 days
 - Since 2020-Jan
- 📖 Appendix --SARS-CoV-2 virus

Vaccination progress for SARS-CoV-2

Global					
Up to Date	Doses administered	Fully vaccinated	Received at least one dose	Confirmed cases	
		%	%	During last 60 days Lakhs	
15-05-22	11,64,61,76,751	59.58	65.66	52,01,14,085	
30-04-22	11,57,14,38,400	59.27	65.46	51,30,85,948 (01-05-22)	

17-04-22	11,44,97,52,483	58.84	65.23	50,19,18,823
31-03-22	1124,24,73,625	57.9	64.64	48,52,04,991
15-03-22	1100,40,89,103	56.90	63.84	45,79,49,618

United States					
Upto Date	Doses administered	Fully vaccinated	Received at least one dose	Confirmed cases	
		%	%		During last 60 days Lakhs
15-05-22	58,13,76,728	63.15	77.65	8,23,72,947	28
30-04-22	57,52,57,890	62.84	71.81	8,12,37,868	
17-04-22	56,90,32,907	62.61	77.32	8,05,24,337	
31-03-22	56,04,19,082	62.2	76.93	8,00,19,128	
15-03-22	55,71,38,106	61.93	76.68	7,95,23,228	

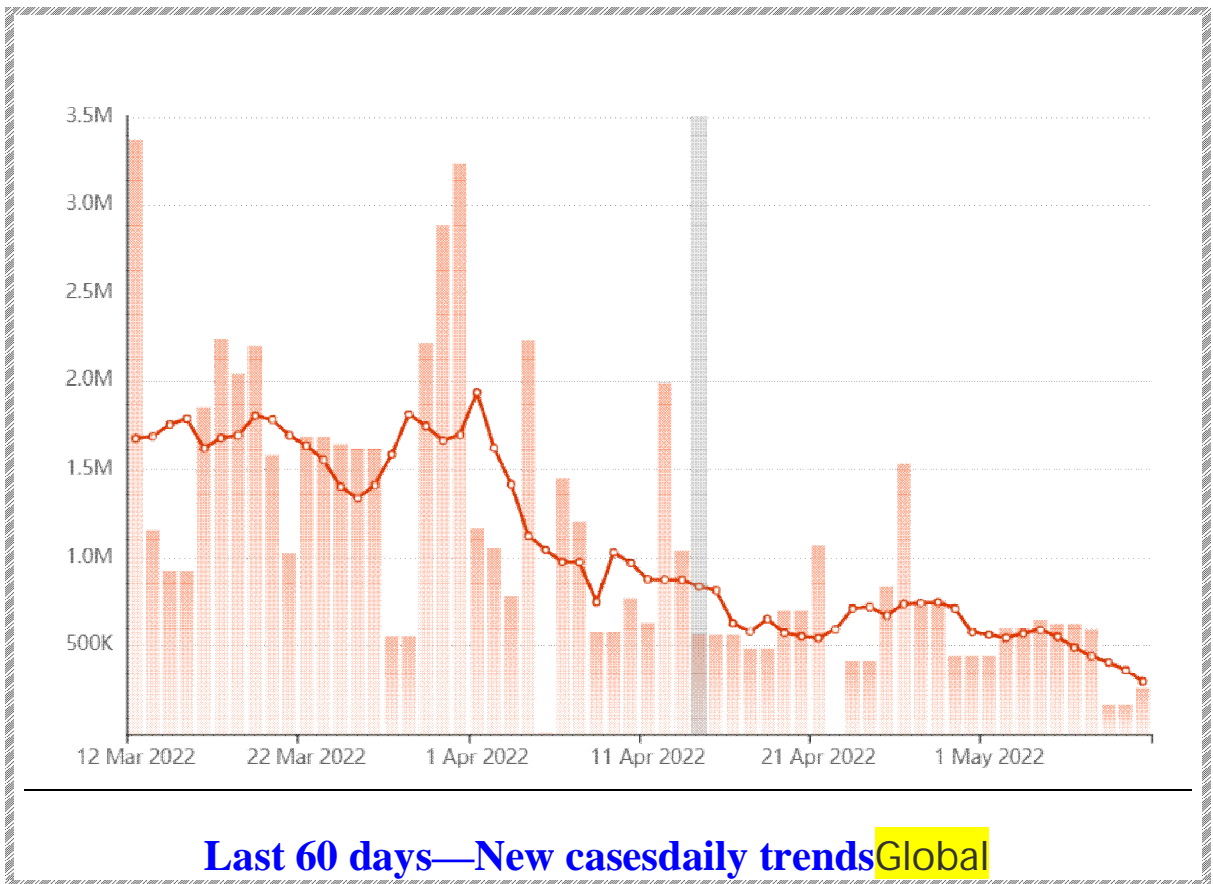
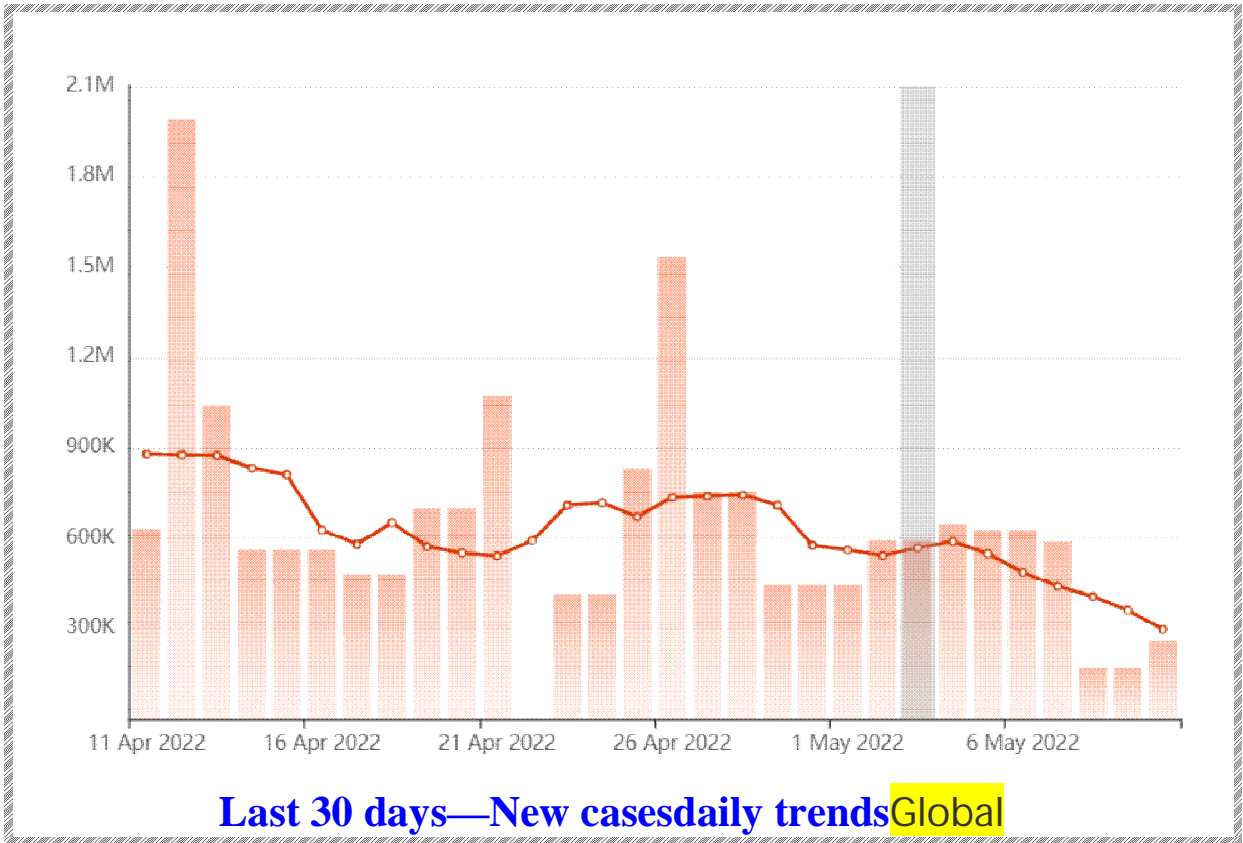
India					
Upto Date	Doses administered	Fully vaccinated	Received at least one dose	Confirmed cases	
		%	%		During last 60 days Lakhs
15-05-22	1,91,23,22,912	65.64	75.61	4,31,21,599	2
30-04-22	1,88,80,76,471	64.4	75.25	4,30,75,864	
17-04-22	1,86,42,67,321	63.22	74.83	4,30,42,097	
31-03-22	1,83,98,96,873	62.3	74.1	4,30,24,440	
15-03-22	180,51,12,094	61.19	72.71	4,29,96,062	

Upto Date	Doses administered	Fully vaccinated	Received at least one dose	Confirmed cases	
		%	%		During last 60 days Lakhs
Brazil					
15-05-22	43,51,85,477	82.13	91.06	3,06,39,130	13
30-04-22	42,87,48,714	81.46	90.78	3,03,99,004	
17-04-22	42,35,94,585	80.8	90.45	3,02,47,302	
31-03-22	41,35,59,595	79.7	90.04	2,98,87,191	
15-03-22	40,32,86,505	78.48	89.43	2,93,80,063	

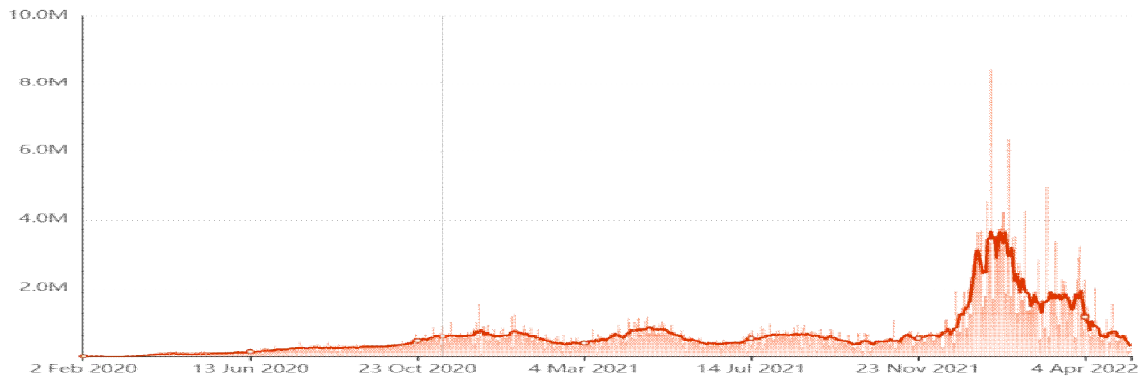
	United Kingdom				
15-05-22	14,23,90,214	79.84	85.43	2,22,48,695	25
30-04-22	14,21,21,736	79.74	85.29	2,20,86,149	
17-04-22	14,15,99,879	79.54	84.97	2,17,87,105	
31-03-22	14,09,68,337	79.24	84.67	2,10,73,009	
15-03-22	14,04,30,802	78.93	84.54	1,97,00,952	
	China (mainland)				
15-05-22	3,36,00,50,000	----	----	11,30,410	10.1
30-04-22	3,34,07,11,000	----	----	8,96,144	
17-04-22	3,30,86,16,000	----	----	4,87,060	
31-03-22	3,26,31,29,000	----	----	1,47,437	
15-03-22	319,82,72,000	----	----	1,16,008	
	Italy				
15-05-22	13,72,89,630	79.42	84.14	1,69,93,813	35
30-04-22	13,67,57,391	79.39	84.12	---	
17-04-22	13,63,28,765	79.34	84.1	1,56,59,835	
31-03-22	13,58,70,869	79.25	84.06	1,45,67,990	
15-03-22	13,51,29,857	79.06	83.99	1,34,89,319	

Time line of Covid-19 (Pandemic infection) critical Data
 [15-May 2022 down to] 15-Jan-2020

Global SARS-CoV-2 (Global)				
Up to dd-mm-yy	Infected		Deaths	
15-05-22	52,01,14,085	6 lakhs	62,60,299	2.16lakh s
30-04-22	51,17,47,564		62,28,621	
17-04-22	50,19,18,823		61,89,593	
31-03-22	----		----	
15-03-22	45,79,49,618		60,44,192	



Global Confirmed



All-time — New cases daily trends Global

Time line of Covid-19 (Pandemic infection) typical Data

..... USA

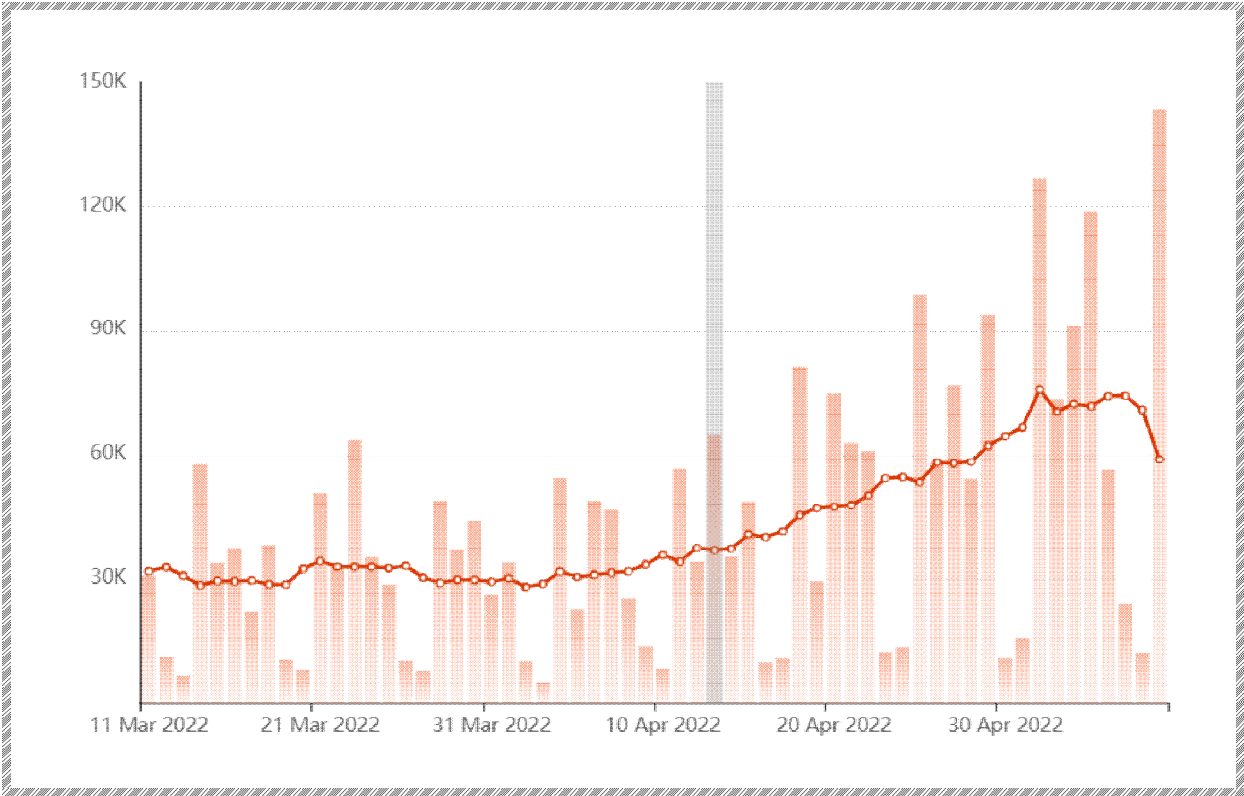
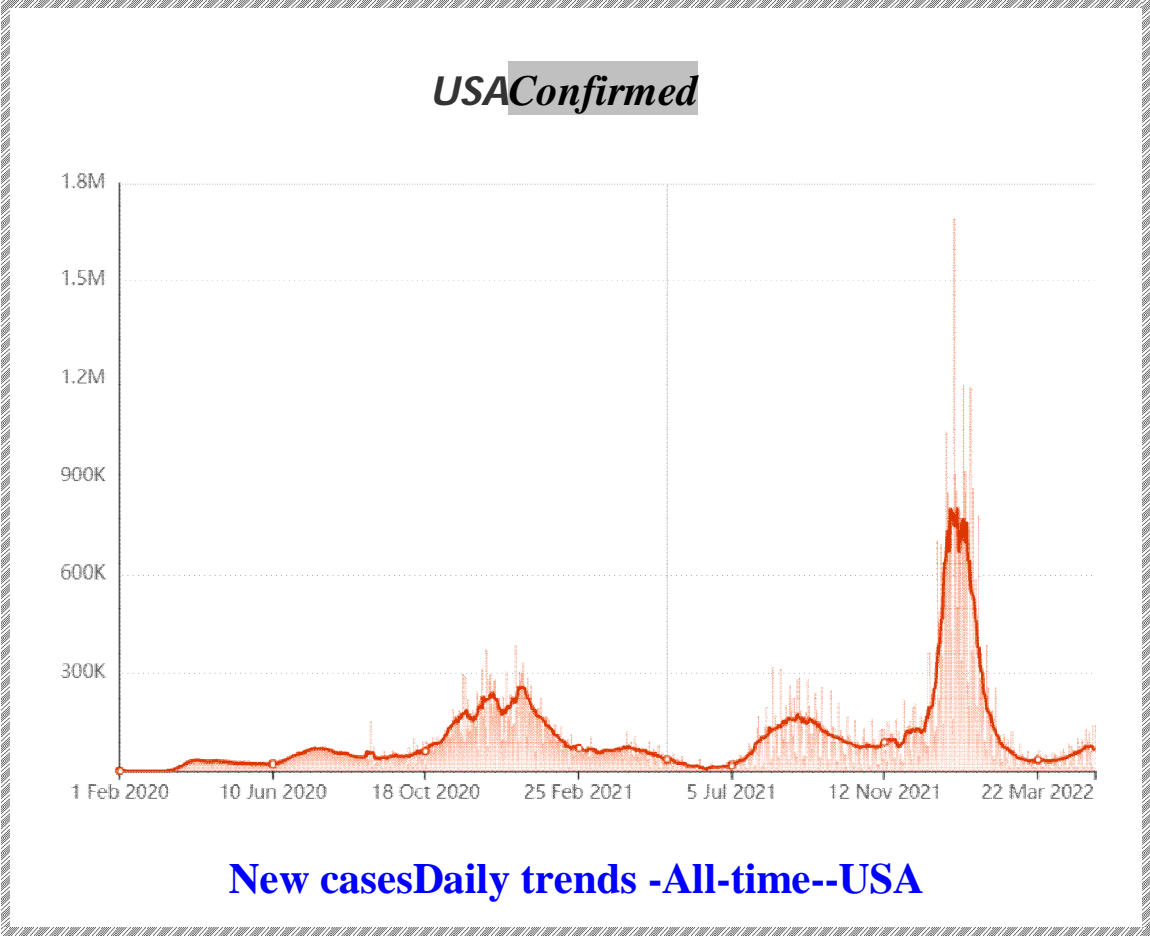
SARS-CoV-2 (USA)

Up to dd-mm-yy	Infected	Deaths	32 Thousands (60 days)
15-05-22	8,23,72,947	9,99,125	
30-04-22	8,12,37,868	9,92,740	
17-04-22	8,05,24,337	9,87,343	
31-03-22	8,00,08,210	9,78,546	
15-03-22	7,95,23,228	9,67,720	
	28 lakhs		

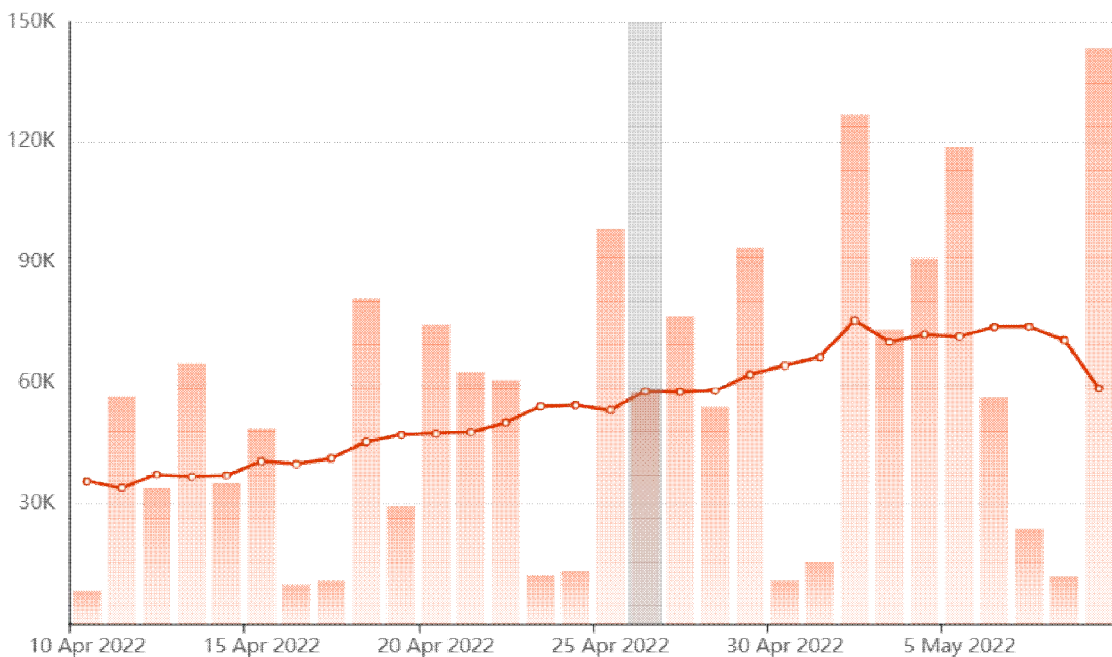
..... India

SARS-CoV-2 (India)

Up to dd-mm-yy	Infected	Deaths	9 Thousands (60 days)
15-05-22	4,31,21,599	5,24,214	
30-04-22	4,30,75,864	5,23,803	
17-04-22	4,30,42,097	5,21,751	
31-03-22	4,30,25,775	5,21,129	
15-03-22	4,29,96,062	5,15,974	
	1.25 lakhs		

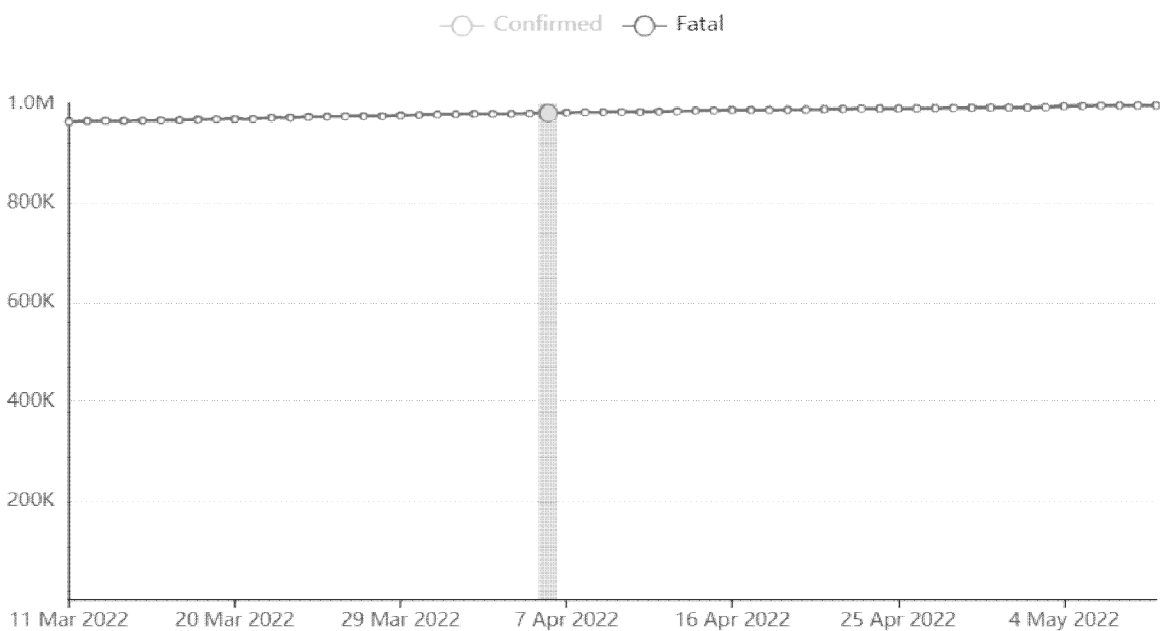


Last 60 days (New casesDaily trends) --USA

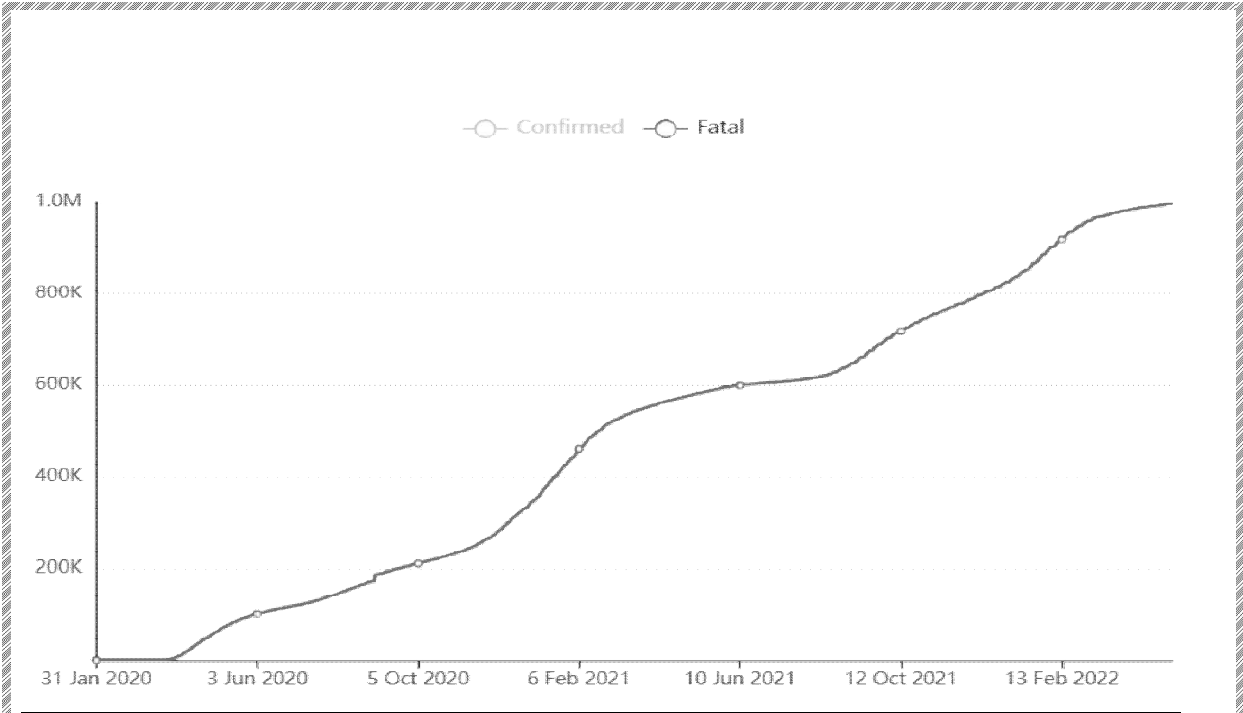


Last 30 days (New casesDaily trends) --USA

USA Fatal

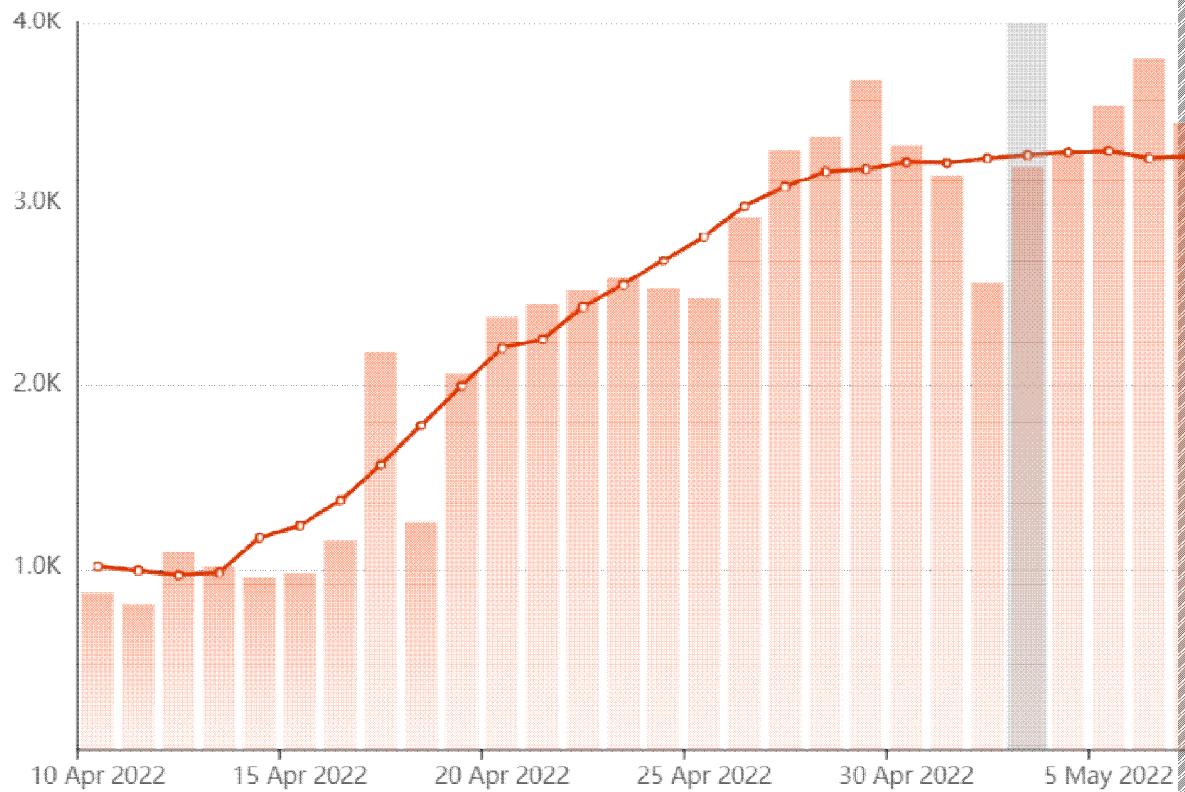


Last 60 days (daily trends)--USA Fatal

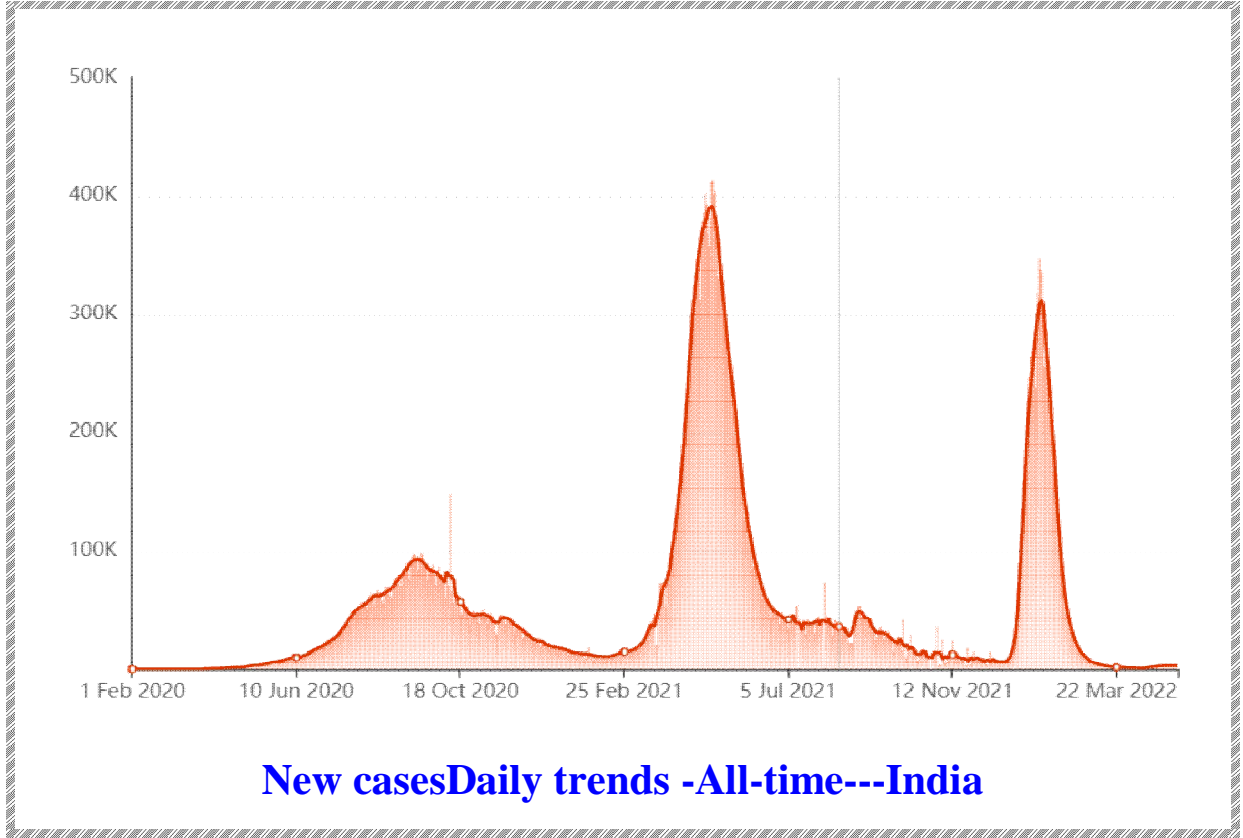
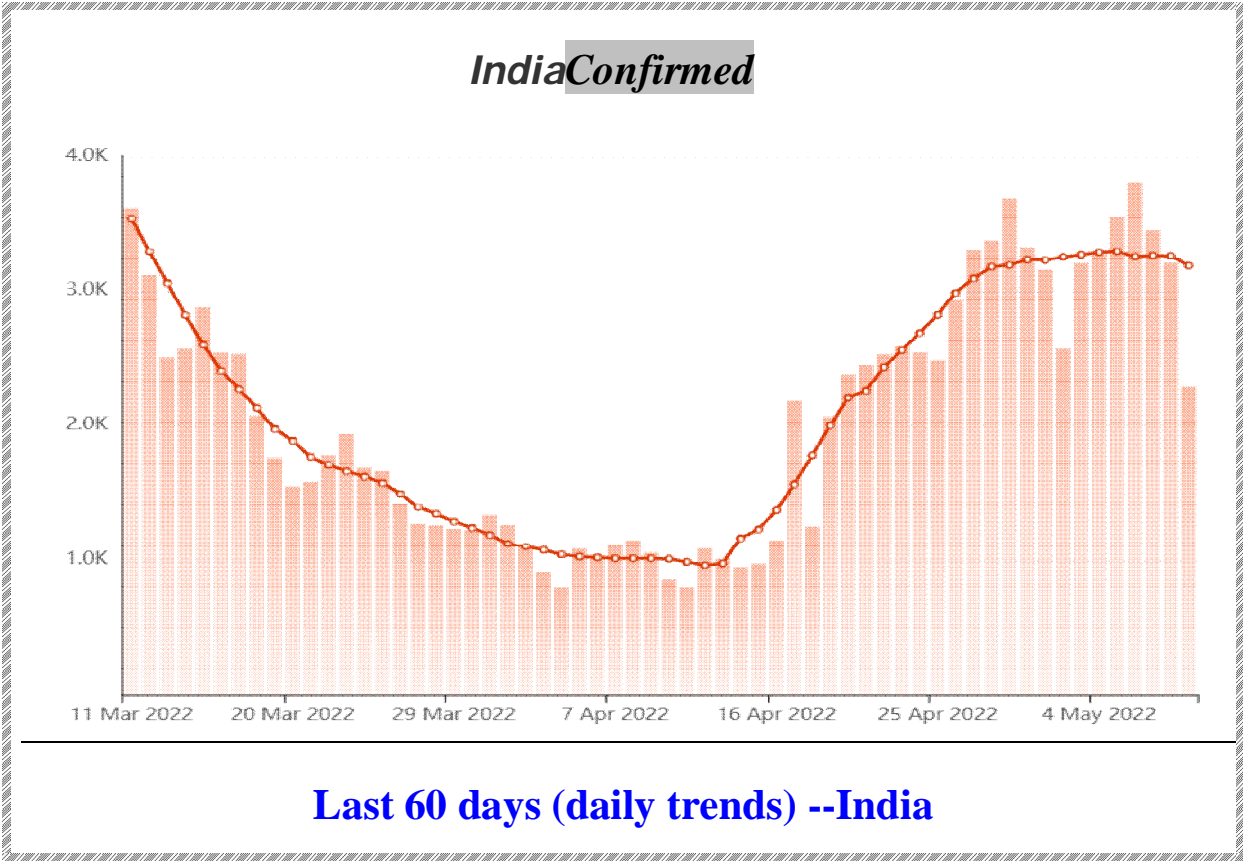


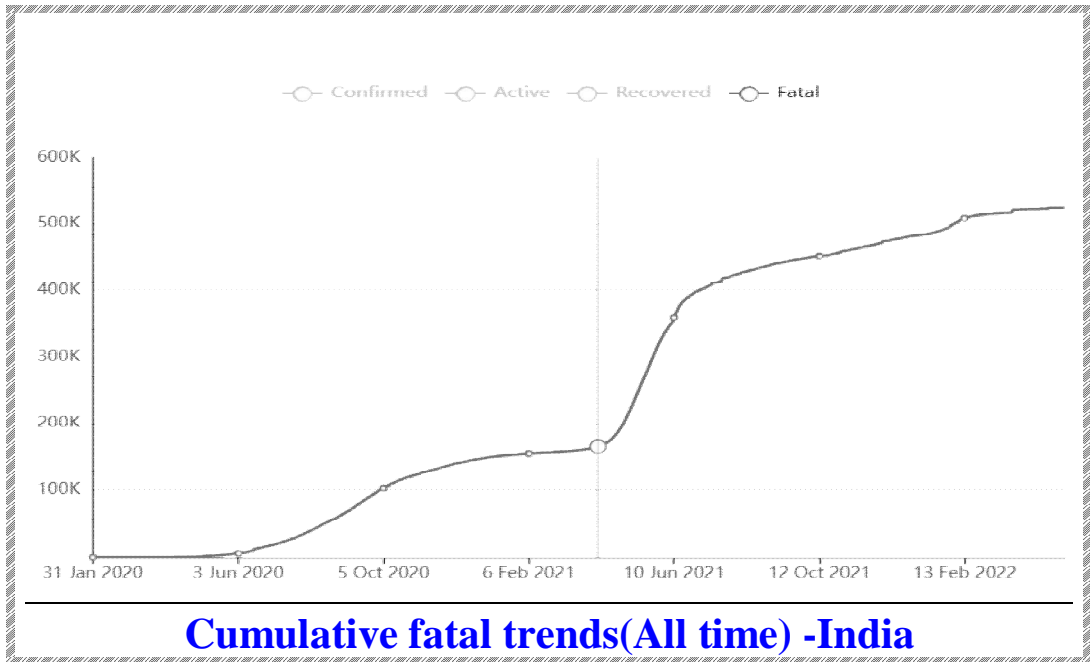
All (daily trends)–USA Fatal

India Confirmed



Last 30 days (daily trends) --India





SARS-CoV-2 (15-03-2022)			
Europe,			
Infected	Country	Country	Infected
2,91,51,859	France	Japan	82,60,356
1,20,58,888	Spain	Egypt	5,15,645
2,57,23,697	Germany	Russia	1,82,55,337
81,60,046	Netherlands	Singapore	12,40,233
38,28,328	Canada	Greece	33,84,982
36,49,155	Switzerland	Marshall Islands	17
1,77,82,061	South Korea	Antarctica	11

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Title	EscapeCorona – Part 11
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Title	EscapeCorona – Part 5 Knowledge Inn (in nature)-15
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Title	EscapeCorona – Part 4 Knowledge Inn (in nature)-14
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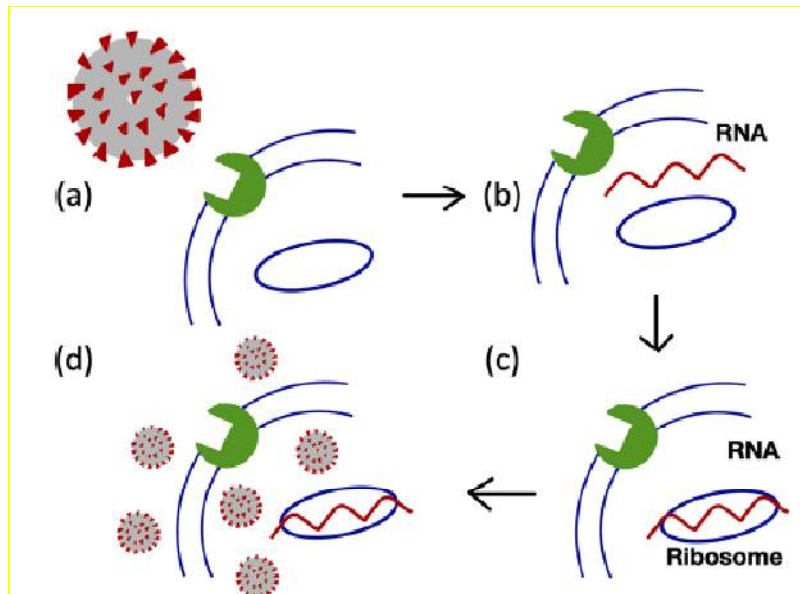
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Journal	Journal of Applicable Chemistry, 2020, 9 (3): 344-361	
Authors	K. Somasekhara Rao, K. Ramakrishna, Ch. V. Kameswara Rao and R.Sambasiva Rao	

Information Source	Covid tracker	https://www.bing.com/covid
	Johns Hopkins Coronavirus Resource Center	https://coronavirus.jhu.edu/map.html

Appendix

SARS-CoV-2 virus

Replication cycle of SARS-CoV-2



The virus invades a human cell by attaching its spike protein to a cell surface receptor
 (a). Upon entering the cell, the virus breaks up to release its genetic Material
 (b). The viral RNA hijacks the ribosome of the host cell to produce viral proteins
 (c). Viral proteins and RNA are assembled into new viral particles
 They are eventually released from the host cell to infect other cells
 (d). The viral main protease (MPRO) is essential for cleaving the viral polypeptide chain into functional proteins needed to assemble new viruses

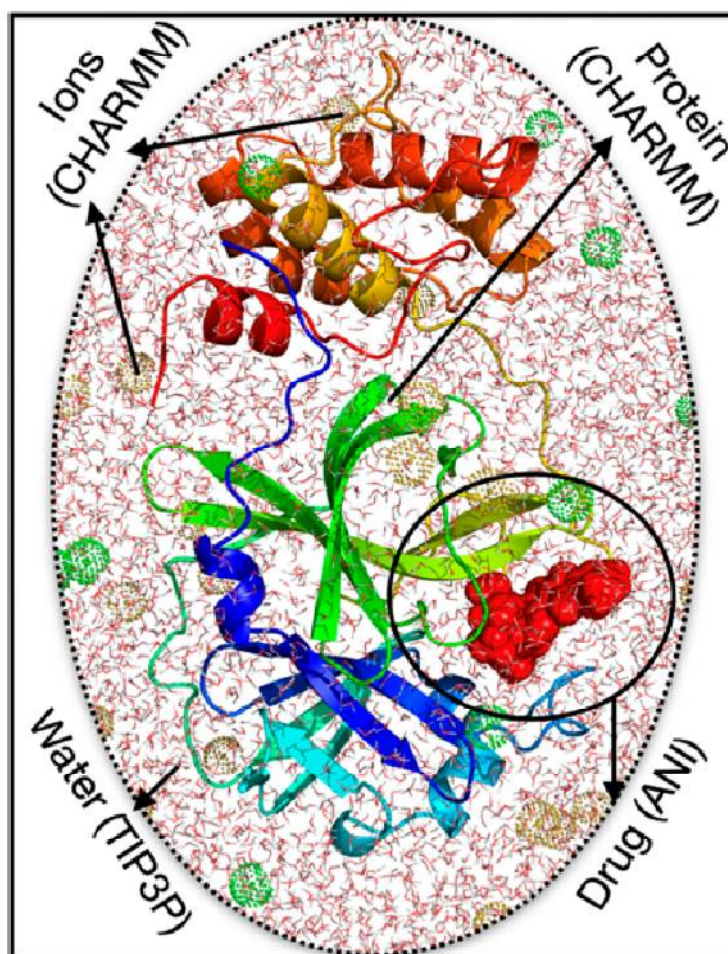
Profiling SARS-CoV-2 Main Protease (MPRO) Binding to Repurposed Drugs Using Molecular Dynamics Simulations in Classical and Neural Network-Trained Force Fields

<https://dx.doi.org/10.1021/acscombsci.0c00140>
 ACS Comb. Sci.2022

Aayush Gupta and Huan-Xiang Zhou

Source

Structure of MPRO and the system for ANI/MM MD simulations



System	
☞ Drug	📖 Red surface
☞ MPRO	📖 Cartoon representation
☞ Drug bound to MPRO	
☞ Solvated with TIP3P water molecules	
☞ Na ⁺ and Cl ⁻ ions	📖 Green and brown mesh bubbles
☞ Box	📖 Line representation
☞	📖
☞ Chemical system	📖 CQC Model
☞ Protein and ions	📖 CHARMM force field
☞ Water	📖 TIP3P
☞ Ligand molecule	📖 ANI-2x force field