

## Coronavirus- Pandemicity and Pathetic Situation of the Countries across the Globe. Hopes, Sorrows, Economies' and Calamities!!! Yet to Fight the Battle...???

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### Abstract

### Original Research Article

The intent of human being in the process of modernisation and becoming supernatural power to conquer the world lead to disaster to the mankind. In the process failed to realise the facts of infections which can be pandemic and take the lives of kith and kin even in the yester years and now also in the 21<sup>st</sup> century. The most fatal pandemic recorded in human history was the Black Death (also known as The Plague), which killed an estimated 75–200 million people in the 14th century [2-7]. Other notable pandemics include the 1918 influenza pandemic (Spanish flu) and the 2009 influenza pandemic (H1N1) [8-10]. The 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup> century were noticed with number of diseases transmitted with bacteria and viruses. These diseases were transmitted on pandemicity and caused calamities, the socioeconomic status shattered. Current pandemics include HIV/AIDS and the 2019-20 Coronavirus. “An emerging infectious disease (EID) is one that has appeared and affected a population for the first time, or has existed previously but is rapidly increasing, either in terms of the number of new cases within a population, or its spread to new geographical areas” (e.g. SARS) [41]. There is no clear evidence on whether and how prior exposure to a strain of CoV can produce permanent immunity against the strain species or even cross-immunity for other CoV species [47]. At present 1.28% of GDP, India's expenditure on health is still low although higher than before!!! Developed nations—the US (16.9%), Germany (11.2%), France (11.2%) and Japan (10.9%)—spend even more. India spends the least among BRICS countries: Brazil spends the most (9.2%), followed by South Africa (8.1%), Russia (5.3%), China (5%).

**Keywords:** Pandemic, Coronavirus, Healthcare in India, Post corona status, Lack of appropriate treatment.

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## INTRODUCTION

At present 1.28% of GDP, India's expenditure on health is still low although higher than before!!! National Health Profile data, informed the cost of treatment has been on the rise in India, which has led to inequity in access to healthcare. India just spends a little over 1 per cent of its GDP on public health despite an increase in health expenditure since 2009. The figure was 1.02 per cent of the GDP in 2016-17. While India's per capita public expenditure on health has increased more than twice from Rs 621 per person in 2009-10 to Rs 1,657 in 2017-18, it still remains very low compared to other countries. The United States spends the most on public health — 18 per cent of its GDP, which is over USD 10,000 (nearly Rs 70,000), per person a year [49].

## MATERIAL AND METHODS

Data was obtained from the government hospitals, area hospitals and district hospitals where the patients were screened for the symptoms, signs and complications of corona positive cases. These patients were subjected to laboratory tests specified by ICMR guidelines and they were screened for corona positive cases. If the patients once proved to be corona positive either by RT-PCR test and digital MRI scan, were isolated and sent for the treatment. The patients affected from coronavirus presented with fever, cough, loss of appetite, fatigue, shortness of breath and combinations of these symptoms. Medical doctors, health workers, sanitation workers and support workers were facing lack of ventilators, shortage of PPE mask gloves and

sanitizers which were basic needs to protect themselves from the diseased persons and their near and dear. As a result few doctors and other health workers succumbed to death. Dental doctors are facing difficulties for treating the patients as exposure to them is direct face to face for any dental procedures. To arrive for a definitive diagnosis whether the patient is positive for coronavirus, kits were not available in the initial face and the test costed high, this posed dilemma for many dental doctors to treat the patients. In the process of lockdown, dentists were not able to cope the monetary disaster.

## DISCUSSION

The GDP spent by India on healthcare compared to the other countries is very less and now with few policies changed in the centre and state towards healthcare has improved thereby resulting healthy society. Before the central and state governments were not prepared for the disaster happened and present happenings of the outcome of the impact by coronavirus on the human population either directly affected or transmitted through man to man. Hence, there are many pitfalls in the past which were rectified and corrective appropriate measures implemented resulted in decreased number of fatalities compared to the developed countries.

## BACKGROUND

The intent of human being in the process of modernisation and becoming supernatural power to conquer the world lead to disaster to the mankind. In the process failed to realise the facts of infections which can be pandemic and take the lives of kith and kin even in the yester years and now also in the 21<sup>st</sup> century. In epidemiology, an infection is said to be endemic (from Greek *ἐν εν* "in, within" and *δῆμος demos* "people") in a population when that infection is constantly maintained at a baseline level in a geographic area without external inputs [1]. An epidemic is a disease that affects a large number of people within a community, population, or region. A pandemic (from Greek *πᾶν, pan*, 'all' and *δῆμος, demos*, 'people') is an epidemic of disease that has spread across a large region, for instance multiple continents or worldwide, affecting a substantial number of people. The most fatal pandemic recorded in human history was the Black Death (also known as The Plague), which killed an estimated 75–200 million people in the 14th century [2-7]. Other notable pandemics include the 1918 influenza pandemic (Spanish flu) and the 2009 influenza pandemic (H1N1) [8-10]. The 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup> century were noticed with number of diseases transmitted with bacteria and viruses. These diseases were transmitted on pandemicity and caused calamities, the socioeconomic status shattered.



Emergency hospital during *Spanish Influenza* epidemic, Camp Funston, Kansas (1918-20)

The 1918 Spanish flu epidemic was caused by an influenza A (H1N1) virus, killing more than 500,000 people in the United States, and up to 50 million worldwide. The possible source was a newly emerged virus from a swine or an avian host of a mutated H1N1 virus. Many people died within the first few days after

infection, and others died of complications later. Nearly half of those who died were young, healthy adults. Influenza A (H1N1) viruses still circulate today after being introduced again into the human population in the 1970s.

Death toll (estimate)	Location	Date	Event	Disease
12 million+ in India and China alone	Worldwide	1855–1860	Third plague pandemic	Bubonic plague [11,12]
1 million	Worldwide	1889–1890	1889–1890 flu pandemic	Influenza [13]
1.5 million	Worldwide	1915–1926	1915 Encephalitis lethargica pandemic	Encephalitis lethargica [14]
17-100 million	Worldwide	1918–1920	Spanish flu (pandemic)	Influenza A virus subtype H1N1[15-17]
1-4 million	Worldwide	1957–1958	Asian flu	Influenza A virus subtype H2N2 [18,19]
	Worldwide	1961–1975	Seventh cholera pandemic	Cholera (El Tor strain)[20]
500 million	Worldwide	1877–1977		Smallpox[21-24]
1-4 million	Worldwide	1968–1969	Hong Kong flu	Influenza A virus subtype H3N2 [25,26]
32 million+ (23.6-43.8 million)	Worldwide	1981–present (data as of 2018)	HIV/AIDS pandemic	HIV/AIDS [27,28]
774	Worldwide	2002–2004	2002–04 SARS outbreak	Severe acute respiratory syndrome (SARS) [29]
151,700-575,400	Worldwide	2009–2010	2009 flu pandemic (informally called "swine flu")	Pandemic H1N1/09 virus [30]
862 (as of 13 January 2020)	Worldwide	2012–present	2012 Middle East respiratory syndrome coronavirus outbreak	Middle East respiratory syndrome (MERS) [31-33]
11,300+	Worldwide, primarily concentrated in Guinea, Liberia, Sierra Leone	2013–2016	Ebola virus epidemic in West Africa	Ebola virus disease [34,35,36]
~53	Worldwide	2015–2016	2015–16 Zika virus epidemic	Zika virus [37]
214,105 (As of April 28, 2020)	Worldwide	2019–present	2019–20 coronavirus pandemic	COVID-19 / SARS-CoV-2 [38-40]

Current pandemics include HIV/AIDS and the 2019-20 Coronavirus. “An emerging infectious disease (EID) is one that has appeared and affected a population for the first time, or has existed previously but is rapidly increasing, either in terms of the number of

new cases within a population, or its spread to new geographical areas” (e.g. SARS) [41]. They also include infectious diseases that have affected a given area in the past, declined with passage of time or were controlled, but again reappeared in increasing numbers [42, 43].

The microbial agent	The human host	The human environment
Genetic adaptation and change	Human susceptibility to infection	Climate and weather
Poly-microbial diseases	Human demographics and behavior	Changing ecosystem
	International trade and travel	Economic development and land use
	Intent to harm (bioterrorism)	Technology and industry
	Occupational exposure	Lack of public health services
	Inappropriate use of antibiotics	Animal populations
		War and famine
		Lack of political will

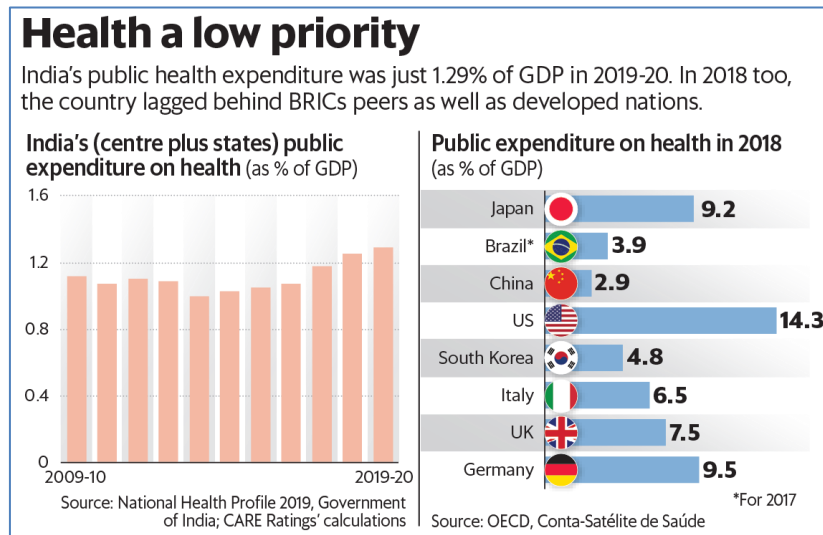
People died of infectious disease and the science developed fast yet there are no appropriate measures for curbing COVID. Emerging political

scenario in the world to dominate and conquer the powerless is never ending!

Epidemiological studies suggest that SARS-CoV-2 has an intrinsic capacity to cause epidemic spread [44]. The current fatality rate for COVID-19 cases is about 3.4%, significantly less than SARS and MERS but potentially higher than those reported for endemic human non-SARS CoV infections [45]. During the first two months of the current outbreak, COVID-19 has spread rapidly throughout China and caused varying degrees of illness [46]. Several studies suggest that antibodies against nonSARS-CoVs are highly prevalent

in the general population including in children, suggesting that most individuals have been infected by CoVs and have potentially developed a certain degree of (protective) immune response [47].

There is no clear evidence on whether and how prior exposure to a strain of CoV can produce permanent immunity against the strain species or even cross-immunity for other CoV species [47]



Developed nations—the US (16.9%), Germany (11.2%), France (11.2%) and Japan (10.9%)—spend even more. India spends the least among BRICS countries: Brazil spends the most (9.2%), followed by South Africa (8.1%), Russia (5.3%), China (5%).

The combined Central and state governments spend on healthcare, as percentage of total expenditure had remained flat at 5.3 in last two consecutive financial years. The spend on healthcare, as percentage of total expenditure, has remained flat at 5.3 percent in last two consecutive financial years, according to Economic Survey 2020. The overall budgetary expenditure by Centre and states in FY20 budget estimates stood at Rs 60.72 lakh crores. In terms of Gross Domestic Product (GDP) the government spend on healthcare is 1.6 percent in FY20 budget estimate a small rise from 1.5 percent in FY19. Expenditure on health includes expenditure on medical and public health, family welfare and water supply and sanitation. Primary healthcare accounts for 52.1 per cent of India's current public expenditure on health as per the National Health Estimates, 2016-17. The National Health Policy - 2017 stated that health spend by government should be 2.5 percent of GDP by 2025. The policy recommended to spend at least two third of Government's health expenditure on primary healthcare, in addition to setting a target to reduce the proportion of households facing

catastrophic health expenditure from the current levels by 25 percent by 2025.

### Reducing out of pocket expenditure

Out of pocket expenditure on health is one of the biggest reasons for people falling into poverty in India. As per the latest National Health Accounts (NHA) 2016-17, the out of pocket expenditure (OoPE) as a percentage of total health expenditure has declined from 64.2 percent in 2013-14 to 58.7 per cent in 2016-17.

The government was able to achieve the reduction in OoPE by combination of policy initiatives that includes launching Ayushman Bharat and price controls of medications.

### Can investing in health boost the economy?

IMF has said in its annual Article IV reports that India can boost its human capital's productivity by investing in education and healthcare. In 2018, it identified poor public health as the 12th most important hurdle for ease of doing business, ahead of crime, tax regulations and policy instability.

India reported the first confirmed case of the coronavirus infection on 30 January 2020 in the state of Kerala. The affected had a travel history from Wuhan, China.



## MATERIAL AND METHODS

Data was obtained from the government hospitals, area hospitals and district hospitals where the patients were screened for the symptoms, signs and complications of corona positive cases. These patients were subjected to laboratory tests specified by ICMR guidelines and they were screened for corona positive cases. If the patients once proved to be corona positive either by RT-PCR test and digital MRI scan, were isolated and sent for the treatment. The patients affected from coronavirus presented with fever, cough, loss of appetite, fatigue, shortness of breath and combinations of these symptoms.

Symptoms of COVID-19[50]	
Symptom	Range
Fever	83–99%
Cough	59–82%
Loss of appetite	40–84%
Fatigue	44–70%
Shortness of breath	31–40%
Coughing up sputum	28–33%
Muscle aches and pains	11–35%

Search for active cases was done through house to house surveillance by special teams formed for the purpose. Testing of all cases was done as per sampling guidelines. Combing was done for tracing. Clinical management of all confirmed cases

For the week after 3<sup>rd</sup> May, the list of red/orange/green districts is as below

**Table 1:**  
Number of districts per zone

Red Zone	130
Orange Zone	284
Green Zone	319

**Table:2**  
Classification of the districts – State-Wise

State	Red Zone	Orange Zone	Green Zone	Total
Andaman And Nicobar Islands	1	0	2	3
Andhra Pradesh	5	7	1	13
Arunachal Pradesh	0	0	25	25
Assam	0	3	30	33
Bihar	5	20	13	38
Chandigarh	1	0	0	1
Chhattisgarh	1	1	25	27
Dadra And Nagar Haveli	0	0	1	1
Daman And Diu	0	0	2	2
Delhi	11	0	0	11
Goa	0	0	2	2
Gujarat	9	19	5	33
Haryana	2	18	2	22
Himachal Pradesh	0	6	6	12
Jammu And Kashmir	4	12	4	20
Jharkhand	1	9	14	24
Karnataka	3	13	14	30
Kerala	2	10	2	14
Ladakh	0	2	0	2
Lakshadweep	0	0	1	1
Madhya Pradesh	9	19	24	52
Maharashtra	14	16	6	36
Manipur	0	0	16	16
Meghalaya	0	1	10	11
Mizoram	0	0	11	11
Nagaland	0	0	11	11
Odisha	3	6	21	30
Puducherry	0	1	3	4
Punjab	3	15	4	22
Rajasthan	8	19	6	33
Sikkim	0	0	4	4
Tamil Nadu	12	24	1	37
Telangana	6	18	9	33
Tripura	0	2	6	8
Uttar Pradesh	19	36	20	75
Uttarakhand	1	2	10	13
West Bengal	10	5	8	23
<b>Total</b>	<b>130</b>	<b>284</b>	<b>319</b>	<b>733</b>

All States were accordingly requested to delineate the containment zones and buffer zones in the

identified red and orange zone districts and notify the same to the government health officials.

State/District Wise Details Of Covid19 Positive Cases/Deaths			
State	No of District Affected	District	No of Positive Cases
ANDAMAN AND NICOBAR ISLAND	1	SOUTH ANDAMAN	16
ANDHRA PRADESH	11*	ANANTAPUR	29
		CHITTOOR	28
		EAST GODAVARI	24
		GUNTUR	128
		KADAPA	37
		KRISHNA	76
		KURNOOL	158
		NELLORE	67
		PRAKASAM	44
		VISAKHAPATNAM	20
		WEST GODAVARI	35
		111*	
ARUNACHAL PRADESH	1	LOHIT	1
ASSAM	12	CACHAR	1
		DHUBRI	4
		GOALPARA	4
		GOLAGHAT	9
		HAILAKANDI	1
		KAMRUP	1
		KAMRUP METRO	2
		KARIMGANJ	1
		LAKHIMPUR	1
		MARIGAON	6
		NALBARI	4
		S MANCACHAR	1
BIHAR	14*	BEGUSARAI	9
		BHAGALPUR	1
		BHOJPUR	1
		BUXAR	4
		GAYA	5
		GOPALGANJ	3
		LAKHISARAI	1
		MUNGER	20
		NALANDA	28
		NAWADA	3
		PATNA	7
		SARAN	1
		SIWAN	29
		VAISHALI	1
		1*	
CHANDIGARH	1	CHANDIGARH	26
CHHATISGARH	5	BILASPUR	1
		DURG	1
		KORBA	28
		RAIPUR	5
		RAJNANDGAON	1
DELHI	11	CENTRAL DELHI	184
		EAST DELHI	38
		NEW DELHI	37
		NORTH DELHI	60
		NORTH EAST DELHI	25
		NORTH WEST DELHI	32
		SHAHADARA	48
		SOUTH DELHI	70
		SOUTH EAST	130
		SOUTH WEST DELHI	42
		WEST DELHI	122
		TJ From Quaritine	1080
		Others Non Tracable	213

GOA	2	NORTH GOA	6
		SOUTH GOA	1
GUJARAT	27	AHMEDABAD	1298
		ANAND	28
		ARVALLI	8
		BANASKANTHA	10
		BHARUCH	23
		BHAVNAGAR	32
		BOTAD	5
		CHHOTA UDEPUR	7
		DAHOD	3
		GANDHI NAGAR	17
		GIR SOMNATH	3
		JAMNAGAR	1
		KHEDA	3
		KUTCH	6
		MAHISAGAR	3
		MEHSANA	6
		MORBI	1
		NARMADA	12
		PANCHMAHAL	11
		PATAN	15
		PORBANDAR	3
		RAJKOT	40
		SABARKANTHA	2
		SURAT	338
		TAPI	1
		VADODARA	188
		VALSAD	2
HARYANA	19*	AMBALA	12
		BHIWANI	3
		CHARKHI DADRI	1
		FARIDABAD	42
		FATEHABAD	1
		GURGAON	38
		HISSAR	2
		JIND	2
		KAITHAL	2
		KARNAL	6
		KURUKSHETRA	2
		NUH	57
		PALWAL	34
		PANCHKULA	18
		PANIPAT	5
		ROHTAK	1
		SIRSA	4
		SONEPAT	7
		YAMUNANAGAR	3
			14*
HIMACHAL PRADESH	6	CHAMBA	6
		HAMIRPUR	2
		KANGRA	5
		SIRMAUR	1
		SOLAN	9
		UNA	16
JAMMU AND KASHMIR	14*	ANANTNAG	3
		BADGAM	13
		BANDIPORA	81
		BARAMULLA	43
		GANDERBAL	14
		JAMMU	27
		KULGAM	6
		KUPWARA	31
		PULWAMA	3
		RAJOURI	4
		SAMBA	4
		SHOPIAN	22
		SRINAGAR	79
UDHAMPUR	20		
	18*		

JHARKHAND	8*	BOKARO	10
		DEOGHAR	1
		DHANBAD	2
		GIRIDH	1
		HAZARIBAGH	3
		KODERMA	1
		RANCHI	25
		SIMDEGA	2
KARNATAKA	21*	BAGALKOTE	21
		BALLARI	13
		BBMP	66
		BELAGAVI	42
		BENGALURU (R)	12
		BENGALURU (U)	23
		BIDAR	15
		CHIKKABALLAPUR	16
		CHITRADURGA	1
		DAKSHIN KANNADA	14
		DAVANAGERE	2
		DHARWAD	7
		GADAG	4
		KALBURGI	27
		KODAGU	1
		MANDYA	12
		MYSURU	84
		TUMAKURU	2
		UDUPI	3
		UTTARA KANNADA	11
		VIJAYAPURA	32
KERALA	14	ALAPPUZHA	5
		CANNANORE(KANNUR)	92
		ERNAKULAM	24
		IDUKKI	10
		KASARAGODE	170
		KOLLAM	9
		KOTTAYAM	3
		KOZHICODE (CALICUT)	20
		MALAPPURAM	20
		PALAKKAD	8
		PATHANAMTHITTA	17
		THIRUVANANTHAPURAM	14
		THRISSUR	13
WYANAD	3		
LADAKH	2	KARGIL	4
MADHYA PRADESH	27*	LEH (LADAKH)	14
		AGAR	8
		ALIRAJPUR	3
		BARWANI	24
		BETUL	2
		BHOPAL	277
		CHINDWARA	2
		DEWAS	18
		DHAAR	41
		DINDORI	1
		GWALIOR	3
		HOSHANGABAD	25
		INDORE	915
		JABALPUR	25
		KHANDWA (East Nimar)	32
		KHARGON	41
		MANDSAUR	9
		MORENA	13
		RAISEN	29
RAJGARH	1		
RATLAM	13		
SAGAR	2		
SATNA	0		



		SHAJAPUR	6
		SHEOPUR-KALAN	4
		SHIVPURI	2
		TIKAMGARH	1
		UJJAIN	29
		VIDISHA	13
			1*
MAHARASHTRA	32*	AHMEDNAGAR	27
		AKOLA	17
		AMRAVATI	6
		AURANGABAD	30
		BEED	1
		BULDHANA	21
		CHANDRAPUR	2
		DHULE	2
		GONDIA	1
		HINGOLI	1
		JALGAON	3
		JALNA	1
		KOLHAPUR	8
		LATUR	8
		MUMBAI	3029
		MUMBAI SUB Ur	67
		NAGPUR	76
		NANDURBAR	1
		NASHIK	96
		OSMANABAD	3
		PALAGHAR	17
		PARBHANI	1
		PUNE	660
		RAIGAD	17
		RATNAGIRI	7
		SANGLI	27
		SATARA	14
SHOLAPUR	21		
SINDHUDURG (KUDAL)	2		
THANE	465		
WASHIM	1		
YAVATMAL	32		
			5*
MANIPUR	2	IMPHAL WEST	1
		THOUBAL	1
MEGHALAYA	1	EAST KHASI HILLS	11
MIZORAM	1	AIZWAL WEST	1
ODISHA	10*	BALASORE	3
		BHADRAK	8
		CUTTACK	1
		DHENKANAL	1
		JAJPUR	2
		KALAHANDI	2
		KENDRAPARA	2
KHURDA (BHUVANESHWAR)	46		
		PURI	1
		SUNDARGARH	2
			6*
PUDUCHERRY	2	MAHE	1
		PONDICHERRY	6
PUNJAB	19	AMRITSAR	11
		BARNALA	2
		FARIDKOT	3
		FATEHGARH SAHIB (SARHIND)	2
		FIROZEPUR	1
		GURDASPUR	1
		HOSHIARPUR	7
JALANDHAR	48		

		KAPURTHALA	2
		LUDHIANA	16
		MANSANA	11
		MOGA	4
		MUKTSAR	1
		NAWANSHAHR (SBS Nagar)	19
		PATHANKOT	24
		PATIALA	26
		RUPNAGAR	3
		SANGRUR	3
		SASNAGAR	61
		AJMER	23
		ALWAR	7
		BANSWARA	60
		BARMER	1
		BHARATPUR	102
		BHILWARA	28
		BIKANER	35
		CHURU	14
		DAUSA	13
		DHOLPUR	1
		DUNGARPUR	5
		HANUMANGARH	3
		JAIPUR	537
		JAISALMER	32
		JHALAWAR	20
		JHUNJHUNU	37
		JODHPUR	228
		KARAULI	3
		KOTA	99
		NAGAUR	58
		PALI	2
		PRATAPGARH	2
		SAWAI MADHOPUR	5
		SIKAR	2
		TONK	95
		UDAIPUR	4
		IRAN EVACUEES	60
			100*
		KHAMMAM	7
		KOTHAGUDEM (BADADRI)	4
		MAHABOBNAGAR	12
		MAHABUBABAD	1
		MEDAK	6
		MEDCHAL	30
		MULUGU	2
		NAGARKURNOOL	2
		NALGONDA	15
		NIRMAL	18
		NIZAMABAD	56
		PEDDAPALLY	2
		SANGAREDDY	8
		SIDDIPET	1
		SIRICILLA (RAJANNA)	3
		SURYAPET	75
		VIKARABAD	36
		WARANGAL	25
		YADADRI	15
		GOMATI	1
		NORTH TRIPURA	1
TRIPURA	2	AGRA	241
		ALLAHABAD	1
		AURAIYA	7
		AZAMGARH	7
		BAGHPAT	15
		BANDA	2
		BARA-BANKI	1
		BAREILLY	6
		BASTI	19
		BIJNOR	26
UTTAR PRADESH	52*		

		BUDAUN	13
		BULANSHAHAR	18
		ETAH	3
		ETAWAH	3
		FIROZABAD	58
		GAUTAM BUDHA NAGAR	98
		GHAZIABAD	41
		GHAZIPUR	6
		GONDA	1
		HARDOI	2
		Hapur	17
		HATHRAS	4
		JAUNPUR	5
		Amroha	17
		KANNAUJ	6
		KANPUR	59
		KANSHI RAM NAGAR (Kasganj)	3
		KAUSHAMBI	2
		LAKHIMPUR KHERI	4
		LUCKNOW	167
		MAHARAJGANJ	6
		MAINPURI	4
		MATHURA	6
		MAU	1
		MEERUT	75
		MIRZAPUR	3
		MORADABAD	58
		MUZAFFAR NAGAR	5
		Sambhal	7
		PILIBHIT	2
		PRATAPGARH	6
		RAE-BAREILLY	2
		RAMPUR	15
		SAHARANPUR	72
		SANT KABIR NAGAR	1
		SANT RAVI DAS NAGAR (Bhadoi)	1
		SHAHJAHANPUR	1
		SHAMLI	26
		SITAPUR	17
		SULTANPUR	1
		UNNAO	1
		VARANASI	14
			118*
UTTARAKHAND	6	ALMORA	1
		DEHRADUN	24
		HARIDWAR	7
		NAINITAL	9
		PAURI GARHWAL	1
		UDHAMSINGH NAGAR	4
WEST BENGAL	17	BASIRHAT-HD	1
		DARJEELING	4
		DIAMOND HARBOUR-HD	3
		HOOGLY	12
		HOWRAH	79
		JALPAIGURI	5
		KALIMPONG	7
		KOLKATA	184
		MURSHIDABAD	2
		NADIA	6
		NANDIGRAM-HD	1
		NORTH 24 PARGANAS	46
		PASCHIM BURDWAN	7
		PASCHIM MEDNIPUR	4
		PURBA BURDWAN	1
		PURBA MEDNIPUR	21
		SOUTH 24 PARGANAS	9
<b>Grand Total</b>	<b>429*</b>		<b>18985*</b>

\*Likely to change once districts of all known 18985 cases are ascertained

## DISCUSSION

### Various factors influencing the economy and spread of COVID and its outcome in India Religious tourism and weddings: potential coronavirus clusters in India

Places of religious gathering in temples, mosques and churches have been proved to be clusters for coronavirus transmission in India, where religious tourism is high and community gatherings for celebrating festivals are huge. Foreigners from the coronavirus-affected countries were instructed not to visit for two months, as a precautionary measure.

Weddings in India means gathering of guest counts from few hundreds to more than a thousand which one more potential coronavirus cluster

### Coronavirus cases in India: Confirmed, suspected and recovered

Thousands of suspected cases have been tested resulting in more than 2,000 confirmed coronavirus cases in India. The regions with the highest number of cases include Maharashtra, Kerala, Delhi, Karnataka, Andhra Pradesh, Uttar Pradesh, Rajasthan and Tamil Nadu.

### Religious meeting leads to surge in cases

India is witnessed a surge in confirmed coronavirus cases after people who attended the Tablighi Jamaat religious congregation at Nizamuddin Markaz in Delhi started testing positive for the virus. Held in mid-March, the meeting is estimated to have been attended by more than 20,000 members including foreigners. The Indian government has traced approximately 95% of the members and contact tracing is ongoing on a war footing.

### Coronavirus: Kerala situation update

The regions in Kerala where cases have been reported include Kottayam, Kasaragod, Pathanamthitta and Ernakulam. Kasaragod is one of the worst-affected regions in the country recording more than 90 cases.

### Coronavirus: Punjab situation update

Two out of three Italians who arrived in Hoshiarpur in Punjab tested positive in a preliminary test conducted at All India Institute Of Medical Sciences (AIIMS) in New Delhi.

### Coronavirus: Pune, Mumbai situation update

Maharashtra has recorded some of the highest cases of COVID-19 in Pune and Mumbai (DHARAVI SLUM ZONE). The first infected in Pune were a couple who returned from Dubai. They were admitted to the Naidu Infectious Disease Hospital for treatment.

### Coronavirus: Hyderabad (Telangana) and Andhra situation update

One coronavirus-infected was identified in Hyderabad on 02 March. The infected person returned from Dubai to Hyderabad after completing a business

trip. One person in Nellore, Andhra Pradesh, tested positive for coronavirus on 12 March, after returning from a trip to Italy. A second positive case in Andhra Pradesh was reported in Prakasam District, later.

### Coronavirus: Jaipur, Rajasthan, situation update

Coronavirus was confirmed on 03 March in a 69-year-old male Italian who arrived in Rajasthan. The first test on the Italian tourist yielded a negative result but a second test turned out to be positive. His wife was also diagnosed to be positive later, on the same day.

A total of 16 Italian tourists and one Indian driver were found to have contracted coronavirus. Bhilwara was one of the areas in Rajasthan where a high number of cases have been recorded.

### Coronavirus: Delhi and Gurugram COVID-19 situation

A Delhite with travel history to Thailand and Malaysia was tested COVID-19 positive on 06 March. An employee of Payments Company Paytm in Gurugram tested positive for coronavirus after returning from Italy, announced Paytm on 04 March. The government has set up a task force to monitor and control the Delhi coronavirus situation. The Nizamuddin West and Dilshad Garden areas in Delhi have witnessed a surge in cases.

### 10. Coronavirus Uttar Pradesh update

Noida and Meerut have registered a large number of confirmed cases in the state. Majority of the cases in Noida are linked to private company, while some of the cases in Meerut are linked to the family of a man who recently returned from Maharashtra.

### 11. Coronavirus Bangalore, Karnataka COVID-19 cases and update

The south Indian city of Bengaluru, the capital of Karnataka state, witnessed a techie working in Intel having been suspected to be exposed to coronavirus. The suspected person has been quarantined.

One new case of coronavirus has been confirmed in Bangalore (officially Bengaluru), which is popularly called the Silicon Valley of India for being a major IT services exporter.

Three new cases of coronavirus infection were reported in Karnataka on 10 March.

### 12. Coronavirus in Odisha

The first coronavirus case in Odisha was reported on 16 March in an Indian who recently returned from Italy. The man is reported to have reached Bhubaneswar by train from Delhi to avoid airport screening.

### 13. Indians on quarantined cruise ship *Diamond Princess*

The latest coronavirus cases in India are reported from the *Diamond Princess* Cruise ship quarantined off the coast of Yokohama in Japan. A total of 16 people from India have tested positive for the virus on the ship as of 26 February. The infected persons are reported to be a stable condition. A total of 132 passengers and six crew members from India are reportedly on board the ship. A total of 124 Indian nationals including five foreign nationals who have tested negative for the virus were evacuated in a special flight on 27 February.

### 14. Coronavirus disease in India: Approved treatments

The Drug Controller General of India has granted approval to the Indian Council of Medical Research to use a combination of lopinavir and ritonavir in the event of the coronavirus disease in India turns into a public health emergency. Lopinavir and ritonavir have already been approved for the treatment of HIV.

### COVID-19: Measures India has taken to control the Wuhan coronavirus spread

The Indian government has announced a number of preventive measures to minimise the entry and spread of coronavirus, as detailed below. A control room operational 24×7 to address queries has been launched. India's prime minister appealed Indians to avoid mass gatherings.

#### Nation-wide lock-down

A lock-down across the country was imposed from 26 March to May 3<sup>rd</sup> to curb the spread of the coronavirus pandemic.

All factories, schools, colleges, offices and transportation services have been closed, while essential services such as supermarkets and pharmacies remain open.

#### Government announces stimulus package

The Indian government announced a \$22.6bn stimulus package to aid the poor who are affected by the coronavirus outbreak.

The government also plans to provide wheat, rice and pulses free of cost to approximately 800 low-income families over the next three months. Further, cooking-gas cylinders will be provided to 83 million poor families and a \$13.31 cash-transfer will be provided to 30 million senior citizens. The government will provide \$6.65 per month to approximately 200 million poor women for three months.

Medical insurance worth five million rupees (\$66,000) will be provided for healthcare workers including doctors, nurses and paramedics.

### Evacuation measures

The Indian government arranged for the evacuation of 324 Indian citizens from Wuhan in a special Air India flight on 31 January 2020. The passengers were placed under quarantine for a period of 14 days.

The second batch of 330 passengers, including seven Maldivian citizens evacuated by the government, arrived from Wuhan on 01 February 2020. The repatriated passengers are currently being monitored. India evacuated 654 people including 647 Indians citizens by 11 February.

The health condition of all of them was monitored on a daily basis. They were tested twice for COVID-19 infection and found to be negative. All the evacuees were discharged on 18 February.

A total of 76 Indian nationals and 36 foreign nationals were evacuated in a special flight from Wuhan on 26 February. They are placed under quarantine in Manesar and have tested negative in the first test.

India has commenced evacuation of hundreds of Indians stranded in Iran. The first flight carrying 58 Indian nationals landed in Ghaziabad on 10 March.

### Coronavirus: Visas cancelled for foreign nationals travelling from affected countries

India announced the cancellation of existing e-visas issued to all foreign nationals of China, on 05 February and advised Indians to avoid travelling to China.

Further, India announced that people travelling to China will be quarantined upon return. India temporarily suspended visa on arrival for Japanese and South Korean nationals on 27 February.

On 03 March, India announced the suspension of all visas issued to nationals of Italy, Iran, South Korea and Japan who have not yet entered the country. Visas issued to foreign nationals who travelled to China, Iran, Italy, South Korea and Japan who have not yet entered the country have also been cancelled.

The cancellation is not applicable to diplomats, officials of the international bodies, OCI cardholders and aircrew although medical screening is mandatory for all. Medical screening and submission of self-declaration form including travel history for all passengers arriving from the restricted countries are also mandatory.

### Ensuring availability of coronavirus drugs in India

The Department of Pharmaceuticals is assessing the availability of drugs in the country due to the increase in cases of coronavirus infection. A report submitted by a committee formed by the department



revealed that the existing stock of APIs will be sufficient to manufacture drugs for two to three months.

Various government organisations including the National Pharmaceutical Pricing Authority and Drugs Controller General of India have been instructed to ensure an adequate supply of APIs and check black-marketing or illegal hoarding. The organisations have also been asked to monitor the availability of APIs and drugs.

The Directorate General of Foreign Trade (DFGT) has been instructed to restrict the export of 13 APIs and formulations, the majority of which are made in Hubei, China. According to the latest reports, many Chinese pharmaceutical companies have partially resumed production and expected to resume full production by the end of March. Logistics, however, have not resumed fully, which may delay the availability of APIs.

### **Coronavirus screening, testing and quarantining at Indian airports**

Starting from 04 March, India mandated universal screening at all airports in the country given the rise in coronavirus imports.

Thermal screening has been installed at 21 airports including those in Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, and Cochin to check for coronavirus in India. Universal screening has been mandated for flights from China, Hong Kong, Singapore and Thailand at the aero-bridges ear-marked for the purpose.

Screening measures have also been implemented at 12 major seaports and 65 minor seaports and land borders. The Ministry of Health announced on 06 February that all 645 evacuees from Wuhan tested negative.

Two quarantine centres have been set-up to isolate any passengers showing symptoms of the infection. One centre is located at Manesar, Haryana, and is managed by Armed Forces Medical Services, while the second is located at Chawla Camp in New Delhi and is managed by Indo-Tibetan Border Police (ITBP).

A total of 406 evacuees who were quarantined at the ITBP facility were discharged and allowed to return home on 19 February.

By 14 March, India screened approximately 1.2 million visitors.

### **Labs testing for coronavirus in India**

The NIV and 52 other laboratories under the Indian Council of Medical Research's (ICMR) Viral

Research and Diagnostics Laboratories network are equipped to test samples.

The National Institute of Virology lab in Pune is serving as the nodal lab for coronavirus testing in India. The Pune lab has facilities for COVID-19 molecular diagnosis and next-generation sequencing.

### **India COVID-19: Visa cancellations and travel restrictions**

The Indian government has mandated that non-resident Indians (NRIs) arriving to the country should carry a coronavirus-negative certificate from designated hospitals in the countries they are travelling from.

The Indian government has advised all Indians to avoid non-essential travel abroad. Self-quarantine is mandated to passengers arriving in India from China, Hong Kong, Republic of Korea, Japan, Italy, Thailand, Singapore, Iran, Malaysia, France, Spain and Germany.

Visas have been suspended to French, German and Spanish nationals as well as foreigners with a travel history to these countries. Visas of foreigners already in India, however, remain valid.

The government had also temporarily suspended e-Visa facility for Chinese passport holders and noted that already issued e-Visas are temporarily invalid. Online application for a physical visa from China was also disabled.

The Indian government is expected to extend visa cancellations to more countries with the fresh cases reported in Maharashtra, Delhi and Bangalore.

### **Impact of coronavirus on India**

Coronavirus is expected to present both opportunities and challenges to Indian pharmaceutical manufacturers, while trade with China is expected to be hit.

### **Impact on India's trade with China**

With China under lock-down, India is expected to witness a major impact on imports and exports in various industries including pharmaceuticals, electronics, mobiles, and auto parts.

### **How the COVID-19 outbreak impacts the Indian pharmaceutical industry**

Bulk drugs and drug intermediates accounted for \$1.5bn or 3% of India's imports from China. According to the Trade Promotion Council of India, approximately 85% of active pharmaceutical ingredients (APIs) imported by Indian companies are from China.

India's overdependence on China for APIs exposes it to raw material supply disruption and price volatility. Another major hindrance to the Indian pharmaceutical industry is its low capacity utilisation, according to a report from the Ministry of Commerce and Industry (MCI). India has a capacity utilisation between 30% and 40% as against 75% of China.

### Opportunities for Indian pharmaceutical manufacturers

Although the Wuhan coronavirus outbreak could have a significant impact on the Indian pharmaceutical industry unless it is brought under control over the next few months, it also provides an opportunity to India's pharmaceutical manufacturers to grab share from their Chinese competitors.

### Export ban on protection equipment

The DGFT issued a ban on the export of personal protection equipment such as respiratory masks and protective overalls, on 31 January. The exact reason for the ban has not been notified, though.

### Post covid measurement

For every 1:1000 population as recommended by WHO, but in INDIA it is 1:1465 which means shortage of doctors. India can raise its supply—8.5 hospital beds and 8 physicians per 10,000 people—to the standards of Japan and South Korea: over 100 beds per 10,000 people. Price control on medical devices and reasonable adjustments to import duty structures on raw materials and medical equipment are some of the positive steps that have been undertaken to make healthcare more affordable and equitable. Controlling EIDs poses a daunting challenge for the public health infrastructure of any country and more so for a developing country like India.

**Coronavirus cases and deaths by country**

The COVID-19 epidemic has reached more than 170 countries.

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	Country	Confirmed Cases	Deaths	Cases as % of Global	Mortality Rate
1	Global	2,992,401	206,881		6.91%
2	US	987,322	55,415	32.99%	5.61%
3	Spain	226,629	23,190	7.57%	10.23%
4	Italy	197,675	26,644	6.61%	13.48%
5	France	162,100	22,856	5.42%	14.1%
6	Germany	157,770	5,976	5.27%	3.79%
7	UK	152,840	20,732	5.11%	13.56%
8	Turkey	110,130	2,805	3.68%	2.55%
9	Iran	90,481	5,710	3.02%	6.31%
10	Mainland China	82,830	4,633	2.77%	5.59%
11	Russia	80,949	747	2.71%	0.92%
12	Brazil	63,100	4,286	2.11%	6.79%
13	Canada	46,895	2,560	1.57%	5.46%
14	Belgium	46,134	7,094	1.54%	15.38%
15	Netherlands	37,845	4,475	1.26%	11.82%
16	Switzerland	29,061	1,610	0.97%	5.54%
17	India	27,977	884	0.93%	3.16%
18	Peru	27,517	728	0.92%	2.65%
19	Portugal	23,864	903	0.80%	3.78%
20	Ecuador	22,719	576	0.76%	2.54%
21	Ireland	19,262	1,087	0.64%	5.64%

22	Sweden	18,640	2,194	0.62%	11.77%
23	Saudi Arabia	17,522	139	0.59%	0.79%
24	Israel	15,443	201	0.52%	1.3%
25	Austria	15,225	542	0.51%	3.56%
26	Mexico	14,677	1,351	0.49%	9.2%
27	Singapore	13,624	12	0.46%	0.09%
28	Japan	13,441	372	0.45%	2.77%
29	Chile	13,331	189	0.45%	1.42%
30	Pakistan	13,328	281	0.45%	2.11%
31	Poland	11,617	535	0.39%	4.61%

A total of 170 countries have been affected by COVID-19 now making a tally of 210 countries. The most affected countries among the world are USA followed by Spain, Italy, France and Germany.

## CONCLUSION

The following plan of actions was implemented to curb COVID -19 cases are lockdown, spacing, symptomatic treatment like ventilators and usage of hydroxychloroquine and azithromycin combination and plasma therapy.

Inspite of the known symptoms of the people affected by coronavirus, the experimental treatment is still continuing. Its race against the ticking clock and pathetic situation of the Governments across the globe with silence and fear and waiting patiently for real happening in the form of vaccination!!!.

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