



Study on Impacts of COVID-19 Pandemic
and Lockdown
On Madhya Pradesh
of India

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Introduction

What is Coronavirus?

Coronavirus is linked to a wide virus family that spreads in humans.

COVID-19 is caused by the novel SARS coronavirus. After a report of a cluster of cases of "viral pneumonia" in Wuhan, China, the WHO first learnt about this new virus on December 31, 2019. Prior to the epidemic, no one had heard of this virus.

What are the signs and symptoms of coronavirus infection?

- Fever
- Dry cough
- Fatigue
- Headache,
- Muscle or joint pain are the most prevalent symptoms of COVID-19.

Other symptoms that are less common and may affect some patients include:

- Loss of taste or smell,
- Nasal congestion,
- Conjunctivitis (also known as red eyes)
- Sore throat,pain,
- Different types of skin rash,
- Nausea or vomiting,
- Diarrhea,
- Chills or dizziness.

Symptoms of serious COVID-19 disease include:-

- Shortness of breath,
- Loss of appetite,
- Confusion,
- Persistent pain or pressure in the chest,
- High temperature (above 38 degree Celsius).

► **When should a person get a test for COVID-19?**

- Anyone with symptoms should be tested, wherever possible. People who do not have symptoms but have had close contact with someone who is, or may be, infected may also consider testing – contact your local health guidelines and follow their guidance.
- While a person is waiting for test results, they should remain isolated from others. Where testing capacity is limited, tests should first be done for those at higher risk of infection, such as health workers, and those at higher risk of severe illness such as older people, especially those living in seniors' residences or long-term care facilities.

What test should be done to see if a person have/had COVID-19?

Types of tests

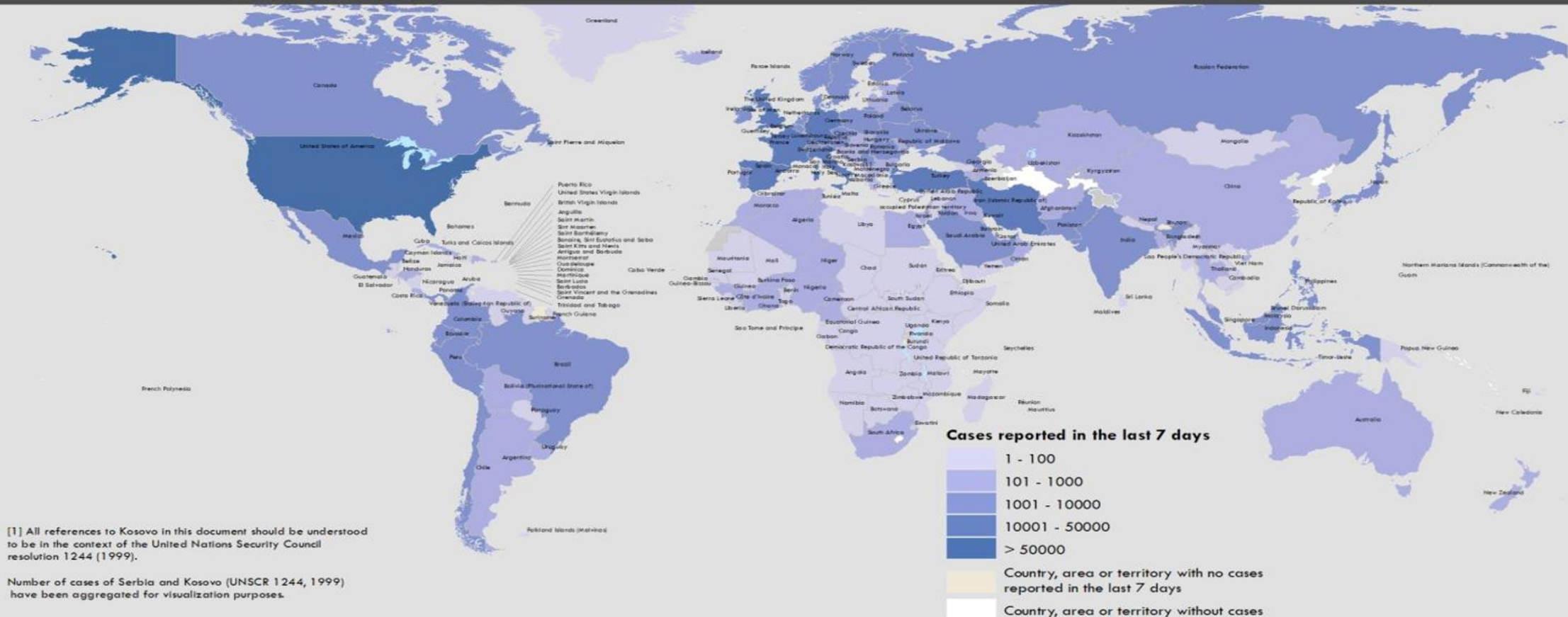
COVID-19 tests are available that can test for current infection or past infection.

- A viral test tells you if you have a current infection. Two types of viral tests can be used: RTPCR test and antigen tests.
- An antibody test (also known as a serology test) might tell you if you had a past infection. Antibody tests should not be used to diagnose a current infection.

COVID 19 IN GLOBAL CONTEXT:-

Fig 1. This map has been presented based on the number of infected cases per capita as from 5 April 2020 to 11 April 2020.

Countries, areas or territories with COVID-19 cases reported in the last 7 days
(From 05 April 2020, 10:00AM to 11 April 2020, 10:00AM (CET))



[1] All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

Number of cases of Serbia and Kosovo (UNSCR 1244, 1999) have been aggregated for visualization purposes.

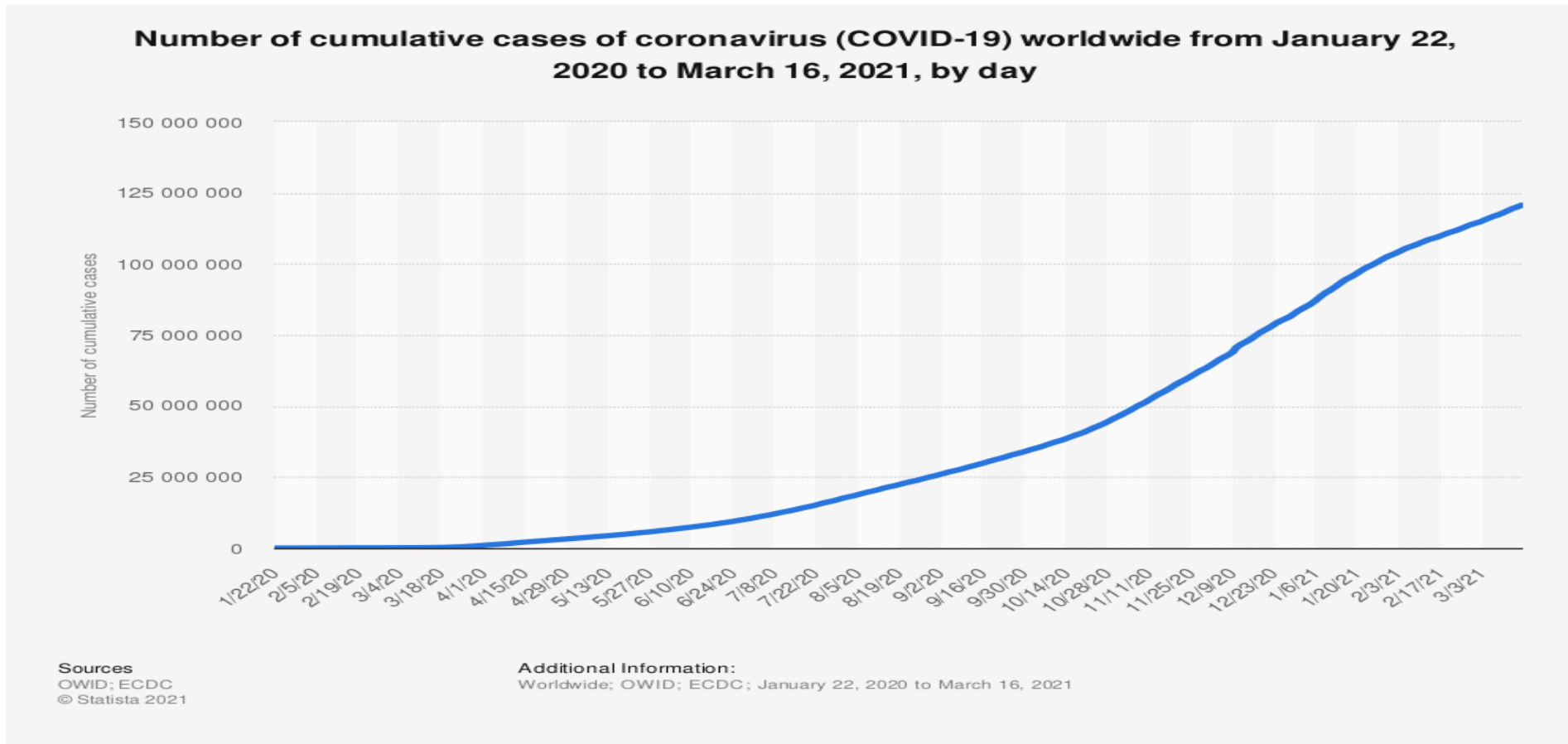
Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme

Not applicable

0 2,500 5,000 km
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The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Fig 2. No: of cumulative cases of COVID-19 worldwide from January 22, 2020 – March 16, 2021, by day



Coronavirus is the disease that has been spread at large scale and lost lives because of severe suffering. The pandemic disease has brought the greatest financial, economic, and social shock to the 21st century. Strict measures have been followed in the countries to limit the spread of the virus that is thrusting the economy. In many places, the ambitious plans were followed at the early stage to respond effectively.

COVID-19 IN MADHYA PRADESH:-

Madhya Pradesh is running under the effective leadership of Shri Shivraj Singh Chouhan and governance of Anandiben Patel. The area that is covered by Madhya Pradesh is 308,252 sq km. As per 2011 census the total population is 7.27 crore in the state and the majority of the population of around 5.25 crore in part of the rural population.

The first cases of the COVID-19 pandemic in Madhya Pradesh were confirmed on March 20,2020. These were the four cases in Jabalpur, Madhya Pradesh. Madhya Pradesh has confirmed a total of 588 thousand cases, including 5812 deaths and 495 thousands recoveries as of May 3,2021.

DISEASE - COVID-19

VIRUS STRAIN - SARS-CoV-2

LOCATION - MADHYA PRADESH

FIRST OUTBREAK - WUHAN, CHINA

INDEX CASE - JABALPUR

ARRIVAL DATE - MARCH 21,2020

CONFIRMED CASE - 7,00,202 (12 MAY 2021)

ACTIVE CASE - 1,09,928 (12 MAY 2021)

RECOVERED - 5,83,595 (03 MAY 2021)

DEATHS - 5812 (03 MAY2021)

FATALITY RATE - 0.98%

AIM OF THE RESEARCH:

Overseeing the preparedness and the complications arising out of situation due to COVID-19 and its after-effects in and out after the lockdown.

OBJECTIVES OF THE RESEARCH

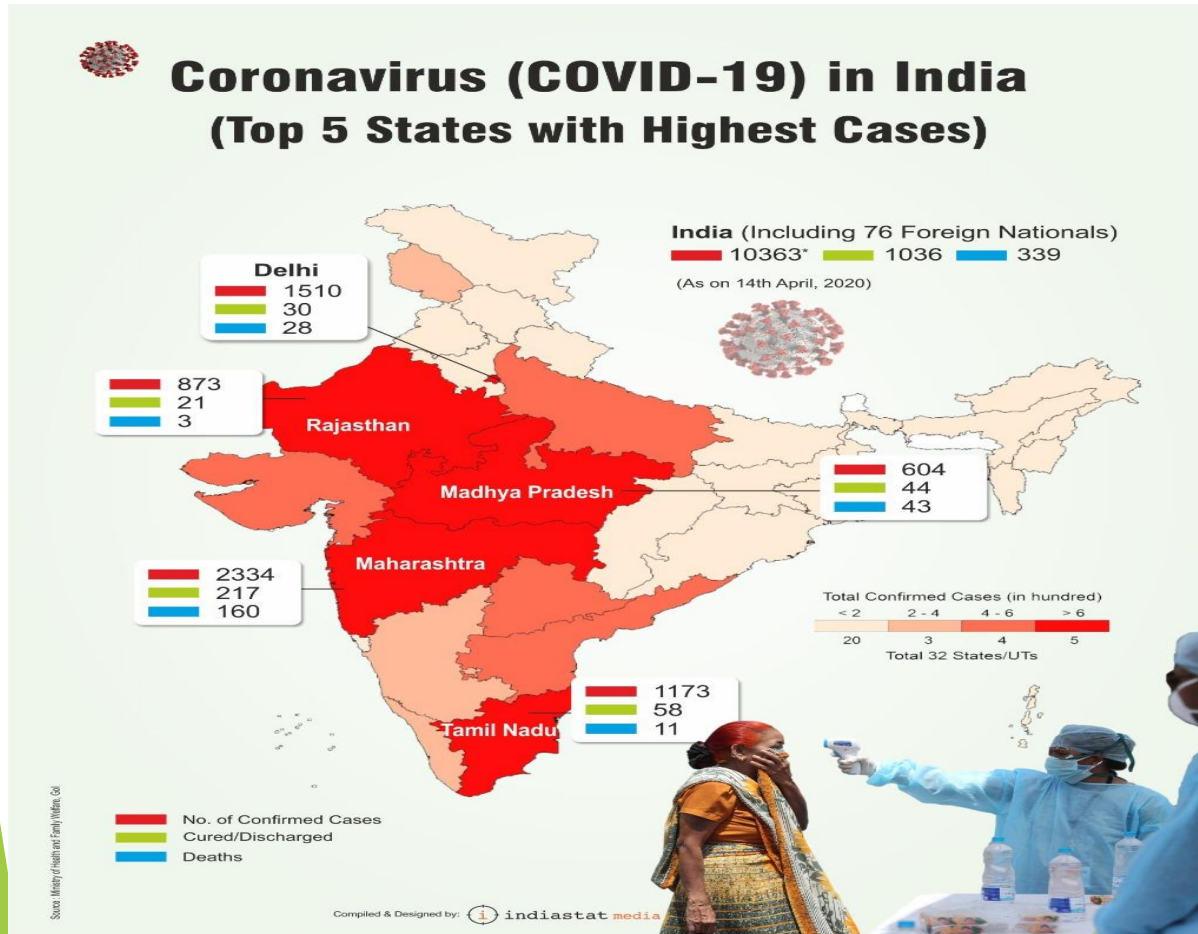
To analyse the COVID-19 situation by:-

1. Overseeing and observing the social aspects
2. Health based monitoring and observations
3. Economic aspects and its results

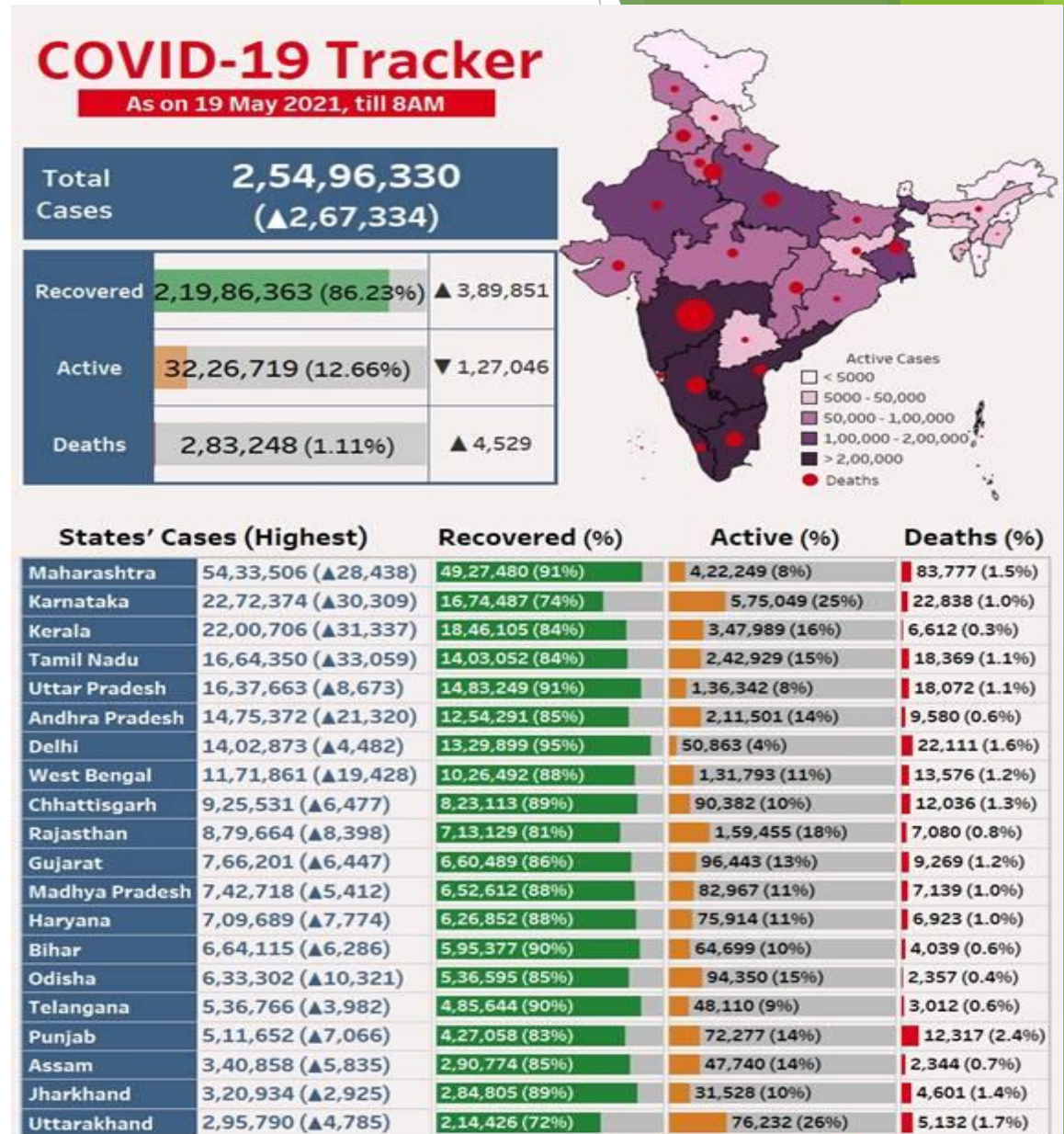
Mental and psychological effects on people and society

LITERATURE REVIEW

COVID 19 PANDEMIC IN INDIA IN 1ST WAVE



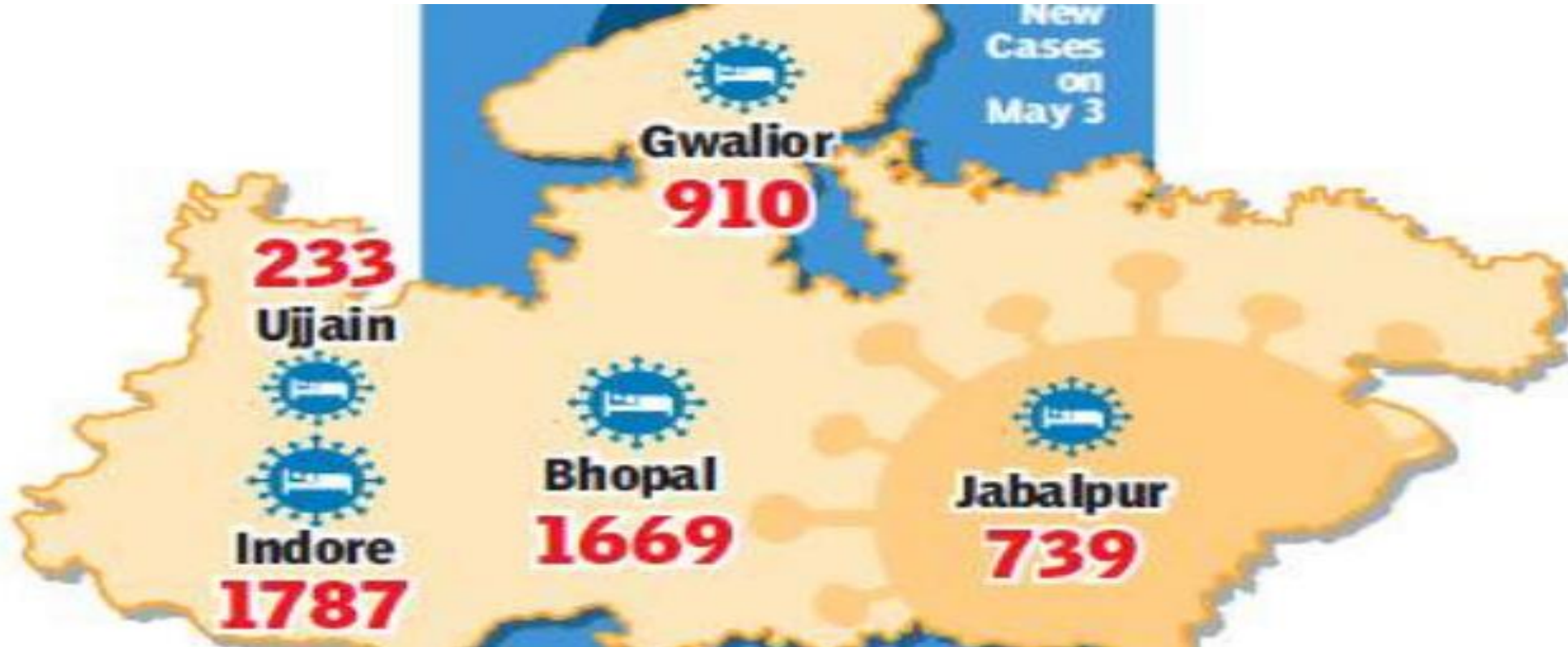
COVID 19 PANDEMIC IN INDIA IN 2ND WAVE



* ▲ indicates increase in the number in the last 24 hrs

* 'Recovered' and 'Active' bar plots (for states) are to scale; the 'Deaths' plot is NOT to scale

COVID 19 PANDEMIC IN MADHYA PRADESH 2ND WAVE



AMONGST THE 28 STATES IN INDIA, MADHYA PRADESH WAS THE 5TH STATE IN THE COUNTRY WITH HIGHEST CASE ON 14TH APRIL 2020 (i.e in first phase of covid-19) AND 12TH STATE IN THE COUNTRY WITH HIGHEST CASE ON 19TH MAY 2021 (i.e in second phase of covid-19).

Timeline	Steps taken by government of Madhya Pradesh	Findings
March 2, 2020	Emergency Measures	The government has taken emergency measures to combat the widespread covid-19. The government of Madhya Pradesh has issued an order for private and government institutions to set up flu corners.
March 21, 2020	Social Security Relief	Following the CM's direction, the state's finance department released a budget of Rs. 296 crore for social security pension to 24.70 lakh beneficiaries for the months of January and February 2020.
March 21	Lockdown	To combat the covid 19 pandemic, the administration of M.P. has ordered a state-wide lockdown beginning March 21 under Section 144.
March 29	Comittees	To deal with covid -19, committees were formed to deal with agriculture and food health sector response and procurement, media and communications, and lockdown implementation.
April 8	Testing Strategy	The Madhya Pradesh government procured four RNA extraction machines and five RTPCR machines for testing.

April 10	Exit Strategy Taskforce	A multidisciplinary task team devised an exit strategy for a progressive reduction of curfew/lockdown in M.P. The report was due in 10 days.
April 12	Procurement infrastructure	A total of 3691 purchase centres were established, with 280 sub yards, 153 major yards, and 1434 purchase centres adding 1824 yards of rice mills.
April 24	Telemedicine	to deliver a "complete primary health care service" The telemedicine concept was implemented in 300 health and wellness centres located on people's doorsteps in rural areas.
April 26	State-wide Curfew	In the state, all 52 districts have been placed under curfew. Essential services, such as MNREGA projects, were, nevertheless, allowed to continue in the state.
April 30	Compulsory quarantine	Both cases were claimed to be under compulsory quarantine when they returned to Madhya Pradesh (positive or negative).
May 4	Child Rights In COVID	The state government of M.P. appointed a vice chairman and four non-official members to protect children's rights.

May 10,2020	Compensation	Ex-gratia compensation of Rs. 50 lakhs to dependants/legal heirs of government personnel who die in harness while on duty.
May 13, 2020	Movements and Migrants	The M.P. government spent more than Rs. 5 crores to provide cash for migrant movements in the state.
May 14, 2020	School tuition fees	The government of M.P. enacted a rule stating that school giving online classes to students could only charge tuition fees.
May 16, 2020	Curfew replaced with lockdown	Because the number of instances has decreased in recent days, the government of Madhya Pradesh has decided to replace the harsh curfew with a lockdown until May 31, 2020.
May 17, 2020	Free medicines for Co-morbidites	MOs and RMOs encouraged the government to make hypertension and diabetic medicines free of charge. As a result, the government of M.P. took action in favour of advice.
May 18,2020	Investment during COVID-19	The state's investment in the IT/ITeS industry has reached Rs 605 crores, which is around 50% higher than the investment number for the 2019 financial year.
May 19, 2020	House and Property Tax	The Madhya Pradesh government has agreed to extend the deadline for paying overdue house tax or property tax without penalty until June 30, 2020.

May 19, 2020	Maternity leaves	The Madhya Pradesh government has agreed to extend the deadline for paying overdue house tax or property tax without penalty until June 30, 2020.
May 19, 2020	Subsidies to SC Beneficiaries	To assist SC beneficiaries in recovering from the COVID crisis, the Madhya Pradesh Land Development and Financial Corporation has given a subsidy of Rs.140.40 lakh.
May 23, 2020	Recovery rate	With only 145 current cases, Madhya Pradesh achieved a success rate of almost 65 percent.
May 30, 2020	Curfew extended in containment zone	The state administration has declared a containment zone in the district having the highest number of positive cases.
June 14, 2020	Wedding criteria	Only 50 individuals are invited to the wedding ceremony, and if the number of guests exceeds 50, the government authorities should take harsh action against those who break the law.
June 16, 2020	Funeral criteria	Only 20 people are allowed at a death funeral; if this rule is broken, the government should take strong action.
June 30, 2020	Lockdown unlock	The state has been unlocked, but the number of current cases has decreased. and it can be opened with the right instructions.

July 1, 2020	Kill Corona Campaign	A total of 11458 survey teams were sent across the state to conduct door-to-door interviews.
January 16, 2021	Covid vaccination	The state received covid vaccine on January 16, 2021. Only frontline personnel will be vaccinated first, according to the state government.
January 21, 2021	Fever clinic	The fever clinic was established to provide patients with rtPCR and antigen sample tests, as well as counselling on covid 19 precautions.
February 9, 2021	Vaccination centres	Vaccination centres were being constructed for the general public to receive vaccinations.
March 31, 2021	Vaccination for 45 years and above	Vaccinations were first administered to persons aged 45 and above.
April 8, 2021	Lockdown in some districts	Lockdown has begun in some districts, such as Jabalpur, Gwalior, and Sagar, where the number of positive active cases is increasing.
April 10, 2021	Mukhyamantri covid-19 jan kalyan yojana	The yojana provides assistance to workers in the unorganised sector through a number of public welfare initiatives.
April 24, 2021	Vaccination for below 45 and above 18	Vaccination began for those aged 45 and under, but not for those aged 18 and up.
May 21, 2021	2 days lockdown in weekend	lockdown on Saturday and Sunday was in the state after the lockdown was lifted
June 1, 2021	Lockdown unlock	As the number of positive active cases decreases, the state unlocks. in accordance with the government's rules

AUTHORS (YEAR)	STUDY LOCATIONS	SAMPLE SIZE	SAMPLING TECHNIQUE	SALIENT FINDINGS
(2020) Ram Lakhan, Amit Agarwal, Manoj Sharma	INDIA	N = 113285	Peer-reviewed Data- Based Journal	This study states that uncertainty and quarantine had been affecting people's mental health. This study also talks about that prevalence rate of all forms of depression, anxiety, stress, sleep problems, and psychological distress in general population was found to be higher during COVID-19 pandemic
(2020) Blessy Elizabeth David, Sanjay Kumar	INDIA	N = 1894 (from 17 states)	Online questionnaire	This study states that lockdown had been affecting mental health and causing stress and depression
(2020) A S Sameer, M A Khan, S Nissar	GLOBALLY	N = 418 (from 17 countries)	Questionnaire based on DASS-42, Employing a snowball sampling technique.	This study states the strategies among general population living under imposed COVID lockdown across the world.
(2020) Tatjana Schnell, Henning Krampe	GERMANY	N = 1538	Cross - sectional survey was conducted online	This study states to the buffering effect of two psychological resources :- Meaningfulness and self -control - with regard to the relation between acute COVID-19 stress and general mental stress.
(2021) Terence Moriarty, Kelsey Bourbeau, Fabio Fontana, Scott McNamara	US MIDWEST UNIVERSITY	N = 550	An online survey with measures of psychological stress, physical activity and exercise and sleep and social connectedness was distributed	This study talks about to implement health-promotion strategies directed at preventing reductions in exercise and sleep duration, especially in those at greater risk of perceived stress such as economically disadvantaged students.

(2020) Rajib Acharya, Akash Porwal	INDIA	N A	Based on journals, articles, NFHS, Census of India 2011, National Health Profile 2019.	This study states the vulnerability index presented and identified a no: of vulnerable districts in India, which currently do not have large no: of COVID-19 cases but could be strongly impacted by the epidemic. In this study the index aims to help planners and policy makers effectively priorities regions for resources allocation and adopt risk mitigation strategies for better preparedness and responses to the COVID-19.
(2020) Kalpana Thapa Bajgain, Sujan Badal, Bishnu B Bajgain	Madhya Pradesh (Districts Hospitals)	N = 22753	Comprehensive Systematic Search was performed on PubMed, Google Scholar, Medline	This study states that the individual with hypertension followed by diabetes and cardiovascular diseases were the most common comorbidity seen in COVID-19 positive patients.
(2021) Kelly M Griffin, Maria G Karas,	New York	N A	N A	This study states the preparedness of Hospital as COVID CARE CENTRES.
(2020) Balbir B Singh, Mark Lowerison, Baljit Singh	INDIA	N A	Google Mobility Data	This study states that the public health interventions slowed but did not halt the spread of COVID-19 in India
(2020) Indranil Chakraborty, Prasanjit Maity.	GlobALLY	N A	WHO website	This study states that almost all the nations are struggling to slow down the transmission of the disease by testing patients, quarantining suspected persons through contact tracing, restricting large gatherings, maintaining complete or partial lockdown.

PUBLIC HEALTH STRATEGY BY MADHYA PRADESH DURING COVID-19:-

- Political and Administrative Commitment
- Preparedness
- Surveillance (Trace – Test – Treat Principle)
- Capacity Building
- Intersectoral Coordination

Regular Surveillance for Early Detection

- 1) Surveillance of ILI (Influenza Like Illness)
- 2) Surveillance in Large Outbreaks
- 3) Surveillance in Cluster Areas

PROTOCOL DEVELOPED TO HANDLE COVID 19 SITUATION IN MADHYA PRADESH:-

- Guidelines and checklists have been made to establish and operate COVID CARE CENTRE.
- Guidelines have been set up regarding sanitizations of oxygen cylinders, hospital furniture, ambulances, x-ray Machines, and other equipment.
- Guidelines for infection prevention and control.

METHODOLOGY

Research Methodology is the way of using procedures and techniques to identify, select, process and analyse the information

Two types of data collection methods are:-

➤ Primary data collection method :-

The person himself/herself collects the data or arrange the third party to gather information.

➤ Secondary data collection method :-

That are used in the report to follow the information presented on government websites.

MATERIAL AND METHODS:-

Articles, journals on the internet and commercial information sources like newspaper, radio etc.

STUDY DESIGN:-

Descriptive cross - sectional study

DATA COLLECTION PROCEDURE :-

Secondary research based on available literature on the internet.

LOCKDOWN DATES IN MADHYA PRADESH (1ST WAVE)

Phase 1:	25 March 2020 – 14 April 2020
Phase 2:	15 April 2020 – 3 May 2020
Phase 3:	4 May 2020 – 17 May 2020
Phase 4:	18 May 2020 – 31 May 2020
Phase 5:	1 June 2020 – 30 June 2020 (only for containment zones)

176 NEW CORONAVIRUS CASES REPORTED IN M.P ON APRIL 11, 2020
(1ST PHASE)

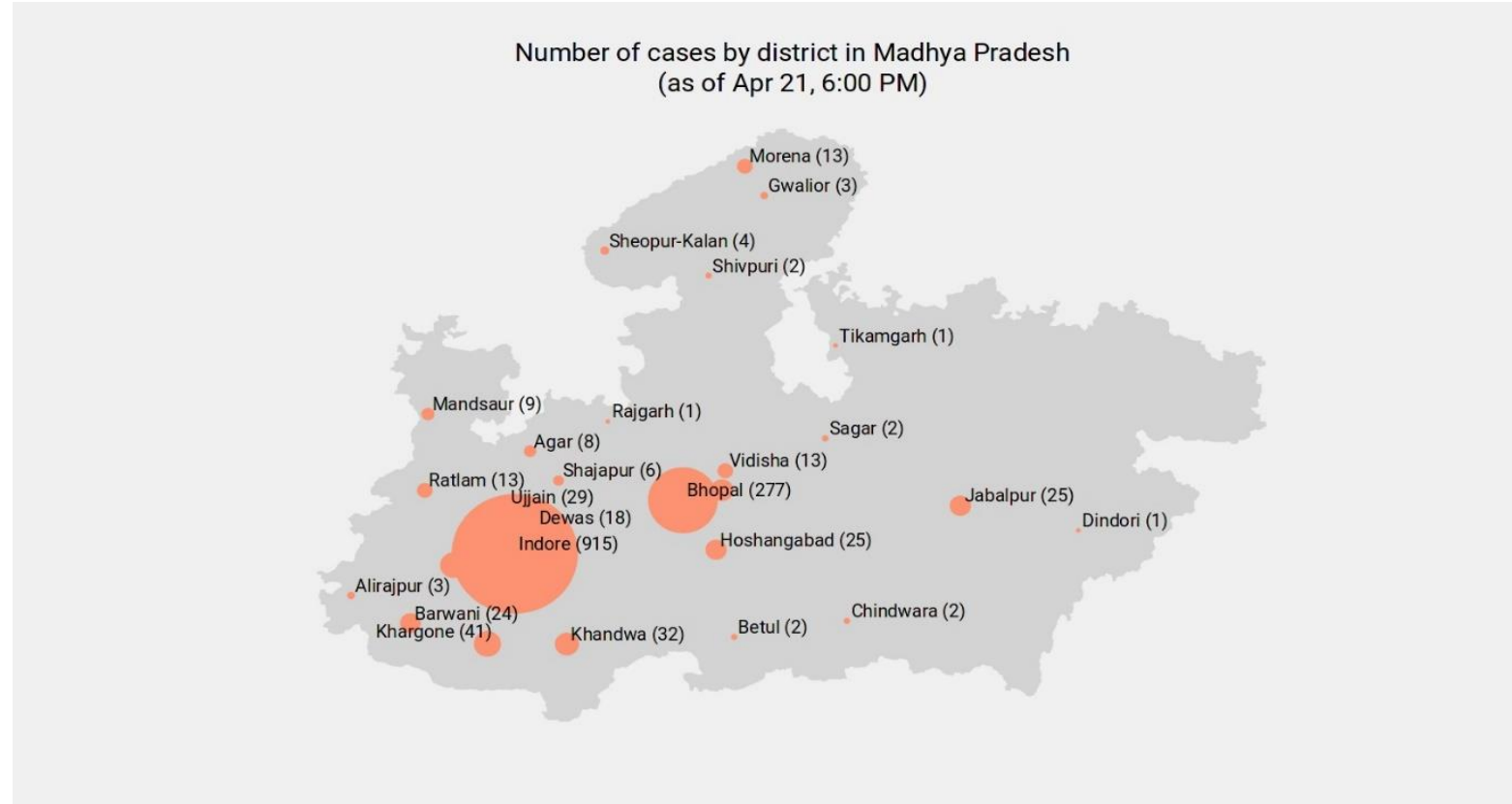
District	Confirmed cases
Indore	123
Bhopal	83
Morena	13
Ujjain	13
Jabalpur	8
Gwalior	6
Khargone	4
Barwani	3
Shivpuri	2
Chindwara	2
Betul	1
Vidisha	1

166 NEW CORONAVIRUS CASES REPORTED IN M.P ON MAY 1ST, 2020 (2ND PHASE)

District	Confirmed cases
Indore	110
Bhopal	19
Morena	14
Jabalpur	8
Ujjain	7
Shivpuri	2
Gwalior	2
Chindwara	2
Khargone	1

This brings the total reported cases of coronavirus in MP to 2,846. Among the total people infected as on date 3RD MAY 2020, 624 have recovered and 151 have passed away.

1469 NEW CORONAVIRUS CASES REPORTED IN M.P ON MAY 17, 2020 (3RD PHASE)



This brings the total reported cases of coronavirus in MP to 4,789. Among the total people infected as on 17 MAY 2020, 2,315 had recovered and 243 have passed away.

This brings the total reported cases of coronavirus in MP to **196 NEW CORONAVIRUS CASES REPORTED IN M.P ON MAY 25TH, 2020 (4TH PHASE)**

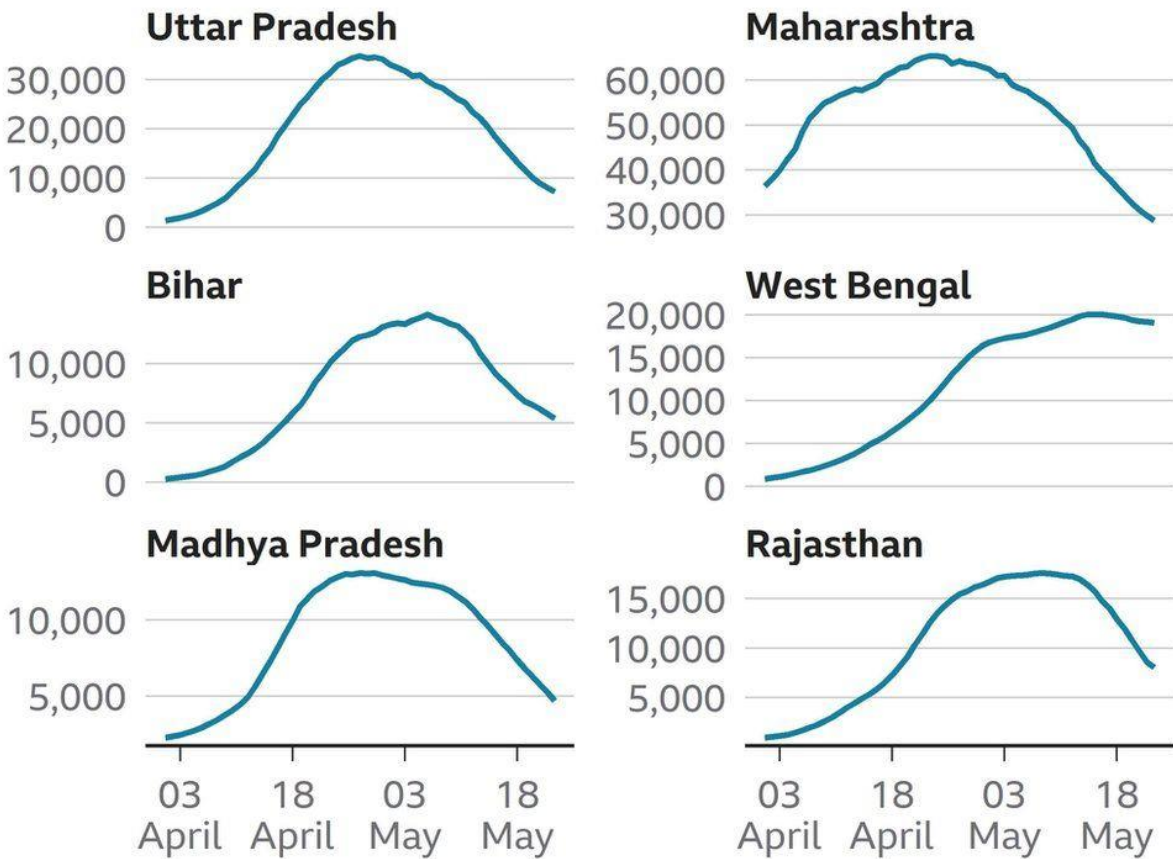
VIRAL LOAD		NEW CASES ON MAY 25			
Indore	56	Balaghat	3	Shahdol	2
Bhopal	32	Umariya	3	Khargone	1
Ujjain	22	Neemuch	2	Mandsaur	1
Morena	12	Rewa	2	Raisen	1
Gwalior	9	Vidisha	2	Bhind	1
Sagar	9	Betul	2	Barwani	1
Khandwa	8	Ashoknagar	2	Satna	1
Burhanpur	7			Datia	1
Dindori	7			Chhatarpur	1
Jabalpur	3			Rajgarh	1
Dewas	3			Narsinghpur	1



6859. Among the total people infected as on 31 MAY 2020, 3021 had recovered and 384 have passed away.

Madhya Pradesh is one of the most devastated state in India.
In the 2nd wave of COVID-19.
(FROM APRIL 2021 – MAY 2021)

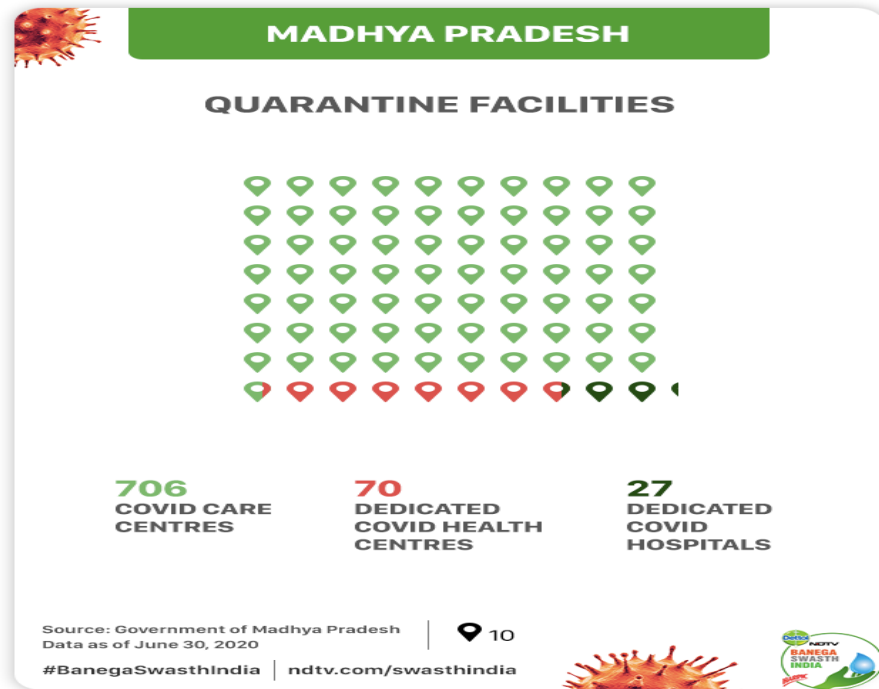
Case trajectory in 6 most populated states
7-day average of daily new cases



Note: Data up to 23 May 2021

Source: covid19india.org

QUARANTINE FACILITIES



In the preparation regarding COVID -19 as per the sources that is from Government of India, there are 803 centres/hospitals were given for quarantine facilities.

GUIDELINES FOR SETTING UP ISOLATION FACILITY/WARD TO HANDLE COVID- 19 OUTBREAK ISSUED BY THE NATIONAL CENTRE FOR DISEASE CONTROL INCLUDED:-

- Quarantine and isolation
- Setting up isolation facility/ward
- Checklists for isolation rooms
- Wearing and removing Personal Protective Equipment (PPE)
- Transport of infectious patients.

DISCUSSION/ ANALYSIS

According to the research, confinement in Covid-19 has a significant impact on people's everyday lives as well as their mental health. The state administration had issued a directive for private and government institutions to set up flu corners in the first wave. The state government of M.P. has ordered a lockdown to battle the covid-19 virus after four index cases were discovered in the Jabalpur area. In the state all 52 districts were placed under curfew.

on April 30th, 2020, the state government decided that both instances were said to be under mandatory quarantine (positive or negative). Dependants/legal heirs of government officials who die in harness while on duty receive ex-gratia compensation of Rs. 50 lakhs. And the government also spent about Rs. 5 crores to provide cash to migrant workers in the state.

They also enacted a rule stating that school giving online classes to students could only charge tuition fees. Understanding that people are unable to pay their house taxes or property taxes during a lockdown, the government took a step forward in their favour by extending the due date without penalty until the lockdown is lifted. GST, lottery, property registration, and petroleum did not produce a single rupee throughout the more than 30-day lockdown.

Fever clinics were established for the covid sampling test, and doctors also provided pharmaceutical kits to the patients, as well as covid counselling. The state government has also established vaccination clinics for the general public. The kill corona campaign was developed for the benefit of the public in order to raise awareness of the dangers of covid 19.

Psychological and health impact on Madhya Pradesh due to COVID-19

- People have experienced a mental shock as a result of health issues, financial repercussions, home confinement, and lifestyle changes.
- In the second wave, the fear of being admitted to the hospital has the greatest impact on mental health.
- People with pre-existing psychological problems, such as depression or dementia, have a difficult time adjusting to lockdown.

Results/Findings

According to the above analysis the Madhya Pradesh COVID Timeline has been specified, as well as the demographic, migration, health, and economic elements.

The installation of a state-led lockdown in Madhya Pradesh in order to attain a good recovery rate of 65%. The state's Health Minister, Shri Narottam Mishra, stated that the fight is still ongoing because many people are trapped in different regions of Madhya Pradesh. According to the statistics in the preceding numbers, more than 10,000 persons were affected until May 31, 2021, with approximately 7500 recovering and around 1871 dying.

The scope of COVID-19 in the state and the preparation of relevant plans were done from time to time, according to the infrastructure and other facilities reports. In an attempt to contain the issue, the Madhya Pradesh government conducted a survey across the state. The poll included health frontline workers, health workers, farmers, police officers, municipal corporation employees, doctors, industrial workers, persons with confinement zones, and those with weakened immunity.

The state has been shocked by a rise in confirmed COVID-19 instances since Unlock 1.0 was released, prompting the decision. This brings the total reported cases of coronavirus in MP to 4,789. Among the total people infected as on 17 MAY 2020, 2,315 had recovered and 243 have passed away. The MP government was left to fend for itself in terms of setting up its health infrastructure to successfully combat the COVID 19 epidemic after looking at a high number of fatalities. To obtain financial support, the state administration addressed requesting Rs 293 crores in funding to improve healthcare services. This money, however, was sent to them on the National Health Mission's account (NHM). This fund was set aside to improve the state's deteriorating health infrastructure. The government of Madhya Pradesh established Intensive Care Units at district hospitals. The state government responded by testing high-contact government employees, such as health, revenue, police officers, mandi boards, procurement agencies, urban local government, food and civil supplies, and high-contact persons in harvesting and sowing operations, as well as interstate travellers, as a result of the increase in cases.

CONCLUSION

According to the findings, the state took a number of efforts to prepare for the lockdown and to try to resolve the challenges that the general public would confront. Pandemic epidemics such as swine flu, SARS, Ebola, and MERS have afflicted people from all walks of life. Healthcare emergency have been integrated into these scenarios to restrict the spread of infection. The first objective for extension should be to do research into the best techniques that the state, as well as the entire country, should employ in order to address the problem.

The following are some of the best practises:

1. Geographically marking affected areas
2. The central government has offered mental encouragement and advice.
3. Follow the directions to the letter.
4. Maintenance and cleaning of “high-risk” surfaces
5. Researching the travel history of NRIs
6. The use of mobile vans to stack samples slowed the mobility of suspicious cases.
7. Adherence to COVID-19 safety rules exclusively.
8. Tracing of contacts
9. Providing food and shelter to those in need.



THANK YOU