

# **India's Battle against COVID-19: Analysis of the steps taken by state and Indian Government to combat the virus**

A Report

By

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MBA Pharmaceutical Management

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To Whomever it May Concern,

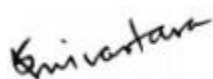
This is to certify that Mr. Sahil Malik, a student of IIHMR University, Jaipur has successfully completed three months (01st April 2020-30th June 2020) of summer training programme as 'Healthcare Marketing intern' at **HEAL Health Connect Solutions Pvt. Ltd.**

During this period of his training programme with us, he was found to be dedicated, hardworking, enthusiastic and inquisitive.

We wish her every success in life.

For HEAL Health Connect Solutions

Dr Swadeep Srivastava  
Founder & CEO



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Also, I sincerely want to thank my co- team members who've worked with me at Heal, their cooperation, ideas and cohesive working spirit is commendable.

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# OBSERVATIONAL LEARNING

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## INTRODUCTION:

With global burden of disease rising, India too is on the verge of ponderous burden of unfortunate health concerns. All leading stakeholders of India's system of healthcare should come together in order to contribute in improvising India's health.

HEAL foundation is a non-profit organization which has aimed primarily in modifying health pursuing functioning. They strive for wellbeing as priority for the enlarged group through accurate predisposing, captivating and unshackling influencers along with gross audience to have determined chosen informed decisions with respect to individual, society, community and national health.

The biggest strength of the foundation is to have a huge network of healthcare influencers:



Key Opinion Leaders



Healthcare Professionals



Health Writers



Health Bloggers



Health Media



NGOs



Policy Makers



Development Organizations

Heal foundation is an organization which is putting forward substantial amount of efforts in indulging all the key health stakeholders of the country in the mission of following:

1. Encouraging large no. of people towards healthy practice by disseminating correct knowledge and information for awareness regarding concerning relevant health issues.
2. Captivating and enforcing various health stakeholders via knowledge and ability establishing so, they can lead the country forward towards improvised health conditions.

3. Constructing association with medical bodies, institutions and policy makers to assist in designing policies which can better the health condition of the country.

The organization's leading objective is to alter the health seeking behavioral paradigm of the country by making health as priority for everybody, through this we can decrease the overall disease burden of the society along with better health status which will eventually ascend the path for India's growth.

Heal has been part of major health initiatives throughout the country for dissemination of appropriate information amongst various level populations, building cohesive interactions with various organizations and delivering right decision making amid national policy makers to bring out the positive change in the healthcare industry.

## GENERAL FINDINGS OF THE MAJOR PROJECT & PERSONAL LEARNING:

Following are some the highlighted projects of Heal foundation;

1. 6<sup>th</sup> National health writer's and editor's convention: Organized by Heal foundation where many health issues were emphasized like; upholding trust in healthcare, burden of respiratory diseases, combination of false health news, the advancement of Ayurveda and the frequent dynamics of food and nutrition.
2. Chiranjeev Hriday: It is a campaign planned and designed by HEAL foundation along with India Medtronic contrived with the key objective of creating and disseminating awareness regarding sudden cardiac arrests, provide training to thousands of people in cardio- pulmonary resuscitation on the occasion of Divya Kumbh 2019. There have been multiple activities too at Kumbh like; street acts, CPR Express, CPR training workshops etc.
3. Discernment of the rising diabetes cases in the country, HEAL laid out the property of diabetes blue fortnight. The initiative was a joint campaign of HEAL and Ministry of health & family welfare to disperse awareness concerning the escalation of diabetes epidemic. The program had subsequent follow up events too.
4. HEAL foundation has also done considerable efforts in bringing diabetes to the forefront for Indian audience. As, diabetes is a slow killer in silence, hence large no. of people remains unaware of their respective increased sugar level plus till the time it becomes a serious threat.
5. HEAL foundation had also conducted an IEC program for promotion of health awareness in EDMC school, amongst its students along with their parents. This joint initiative between east Delhi municipal schools and HEAL was supported by some of the corporate partners as well.

Main objectives of the program were; raising health cognizance among students and their parents through regular educational camps specially focusing on- hygiene & sanitation, healthy nutrition, general awareness to prevent child abuse. This program has become India's largest IEC designed program for children and parents, one of its own kind.

PERSONAL LEARNING: Experience with HEAL was a learning ride, as the whole internship was online so, there were many instances of exchanging information on web between team colleagues and industry mentor. Following are the major personal key learnings:

1. Learnt about various development organizations in India as worked in 'Development Organization mapping and CSR connect' project. Also, worked on a research study to analyze the steps taken by the state governments to combat the virus.
2. Attended and assisted in hosting the webinars with online experts of the organization covering the latest COVID-19 associated issues and concerns. Also, delivered presentations and content report for the same.

## CHALLENGES AND SUGGESTIONS:

1. It took little time to understand the organization's culture, so they should be more explanative in terms of their organization's cultural practice.
2. Hesitation and hierarchical differences due to which there was a problem in sharing and expressing views, so they should be more lenient and open for communication.
3. Working under pressure and sometimes on unexpected tasks. There should be planned structure of work and its distribution.

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## PROJECT REPORT

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### OVERVIEW:

During the end of December 2019, a new set of clustered pneumonia cases emerged which was caused by a foreign unfamiliar  $\beta$ - coronavirus, which prevailed in Wuhan, China. The virus was initially termed as 2019- novel coronavirus (2019-nCoV) but, in January WHO coined the term coronavirus disease 2019 (COVID-19). The Chinese scientists tried hard for isolating the virus from a patient within a short time but, were not fully successful.<sup>1</sup> It was identified that the sequencing of the genome of SARS-CoV-2 is 96.2% similar to a bat CoV RaTG<sub>13</sub>, where it contributes approx. 79.5% to SARS-CoV. On the basis of this virus genome sequencing results and evolutionary analysis, bat was found to be the real existential natural host of the virus genesis, the transmission may be from bats through some new unfamiliar intermediate in order to infect humans, it is understandable that it uses angiotensin-converting enzyme 2 (ACE<sub>2</sub>) the same receptor as SARS-CoV for causing infection in humans.<sup>2</sup> The virus transmission between human- to- human of SARS-CoV-2 occurred majorly between family members, counting close relatives and friends who came in close contact with patients or incubated carriers. It has also been reported that almost 50% of patients who travelled to Wuhan during that period have received the infection via nosocomial transmission. Also, direct intimate contacting with host animals or consumption of wild animals was conjectured to be the leading route of SARS-CoV-2 transmission.<sup>[3,4,5]</sup>

The pandemic condition of COVID-19 in various parts of the world had been a major concern for all administrative and governmental units of various countries. India too has an extremely tough task for containing and regulating the virus though somewhere it has managed to control the upsurge through taking some strict measures. Initially, India was being looked upon by different nations as a world leader and even WHO had conceded that world is somewhere looking at strategies by Indians to combat the pandemic upsurge.<sup>6</sup> As, India accounts for almost one-fifth of the world's population and it is the second most populated country of the world with strong economic growth rate.<sup>7</sup> For combating COVID-19, Indian states have been following a nationwide lockdown since 22-march-2020, earlier it was just a one day lockdown, followed by 21- days' lockdown. Ever since then all major ventures have been occurring from permission from diverse administration units, all the paramount domestic and international travels have also banned but the cases are rising continuously. This lockdown period has been impacted by two vital events which were associated with the mass exodus of laborers and workers from one state to another and administration of religious events in Delhi which ushered to spike in the no. of cases in all



states of India. It was observed nationwide lock-down and quarantine are the significant techniques to obviate the spread of disease.

## LITERATURE REVIEW:

| SOURCE                          | TITTLE                                                                                                       | KEY FACTS                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Website</b>                  | Coronavirus: Here Are the Steps Taken Across India To Control the Spread of COVID-19                         | Srinagar Municipal Corporation (SMC) to plan, sterilize and sanitize schools and colleges. Under a special set of statutory provisions, SMC has also ordered closure of all educational institutions, public clubs, sports clubs, indoor and open stadiums, coaching centre within Srinagar city limits till further orders.                                                                                                                                            |
| <b>Website</b>                  | Coronavirus: Here Are the Steps Taken Across India To Control the Spread of COVID-19                         | <ul style="list-style-type: none"> <li>- New regulations called 'Haryana Epidemic COVID-19 Regulations 2020' have also been issued</li> <li>- All hospitals in Haryana have been directed to create and maintain a data on all suspected cases and of those who have come in contact with such patients.</li> </ul> <p>Kerala continues to be on a high alert with more test results of COVID-19 suspects expected</p>                                                  |
| <b>State government website</b> | Major Steps taken by the state Govt. to fight COVID-19, You can also contribute and send in your suggestions | <ul style="list-style-type: none"> <li>- Social Security Pension to widows and disabled persons would be given at increased rate</li> <li>- State govt. has decided to extend the last date of depositing school fees</li> </ul> <p>relaxation in curfew by maintaining proper social distancing, to ensure that the people could purchase the essential commodities</p>                                                                                                |
| <b>PRS legislative research</b> | Madhya Pradesh Government's Response to COVID-19 (January 2020-April 17, 2020)                               | <ul style="list-style-type: none"> <li>- Early stages: Focus on screening international travelers</li> <li>- February and early March: Improving public health capacity, restricting social gatherings</li> </ul> <p>The government released a strategy document to contain COVID-19. This strategy places emphasis on identification of suspected cases, isolation, testing of high-risk contacts, and treatment (called the I. I. T. T. strategy)</p>                 |
| <b>Rajswasthya</b>              | Novel Corona Virus (COVID-19)-Guidelines                                                                     | <p>Release the guidance on</p> <ul style="list-style-type: none"> <li>- action to be taken on detection of suspect/confirmed COVID-19 case in a healthcare facility</li> <li>- on rational use of Personal Protective Equipment</li> <li>- for RT-PCR based Pooled Sampling</li> <li>- on appropriate management of suspect/confirmed cases of COVID-19</li> <li>- On Dead Body Management</li> </ul> <p>spraying of disinfectant on people for COVID-19 management</p> |

|                    |                                                                                         |                                                                                                                                                                                                                                                                          |
|--------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The Wire</b>    | How Chhattisgarh Was Able to Contain the Coronavirus                                    | <ul style="list-style-type: none"> <li>- A hundred bogies provided by the Railways have also been turned into wards which can accommodate up to 1,800 patients.</li> <li>- at the indoor stadium in Raipur, where nearly 3,000 patients can be admitted.</li> </ul>      |
| <b>News Report</b> | Andhra Pradesh government steps up efforts to ward off coronavirus threat               | <ul style="list-style-type: none"> <li>- State and district level surveillance teams were formed to track foreign returnees, travelers from abroad and contact them. House-to-house active search to identify all foreign returnees is taken up in the State.</li> </ul> |
| <b>News Report</b> | UK Deputy High Commissioner hails measures by Andhra Pradesh govt to tackle coronavirus | <ul style="list-style-type: none"> <li>- Screening of every household</li> <li>- Technological tools used against Covid-19</li> </ul> <p>Volunteer system for <b>multiple door-to-door surveys but also home-delivered essentials during the lockdown</b></p>            |

#### LITERATURE ANALYSIS:

The condition of India with respect to COVID-19 had been proven to be better than many countries who are affected with this virus. This condition prevails because of the constant efforts of the Indian government along with state governments, by adopting precaution measures in association with requisite safety measure. Steps taken by government to refrain community mobilization, awareness regarding social distancing and suspension of leading public transport facilities had been proven considerate and committed step by government. Though, measures adapted by government were significant, but the Indian government had also faced many challenges in terms of negligence towards poverty concerns with respective to economical issues, livelihood issues, religious gathering concerns and migrant workers concern. Meanwhile, Kerala and Madhya Pradesh were two states which had taken some essential significant steps for their people's everyday requirements.

#### RATIONALE:

Corona Virus Disease (COVID- 19), is an infectious disease caused by SARS-CoV-2 virus. It is a spectrum disease, spanning barely from symptomatic infection to critical illness. First case of COVID-19 was reported in 30th January 2020 in Kerala. From that day till today the nation has seen many changes in the policies and has put the leaders to meet challenges of their lifetime. It is very empirical to analyze and learn from the pandemic so as to effectively and efficiently use the learnt strategies in the future to reduce all kinds of losses caused by the global crisis.

## OBJECTIVES:

GENERAL OBJECTIVE: The aim of the study is to analyze the combating techniques of the Indian Government in coping with COVID-19 in India.

### SPECIFIC OBJECTIVES:

-  Study the overall impact of Corona Virus on different states and union territories of the country.
-  Rank top 10 states/ union territory that have combated the virus effectively.
-  To find out the best and innovative strategy adopted by the state/union territory
-  To find out the epidemiological trends of the pandemic

## METHODOLOGY:

STUDY DESIGN: It is a cross-sectional observation study

DATA COLLECTION: The study is a cross-sectional observational study, which was conducted through online self-administered questionnaire among various people, across India. The study took into consideration various aspects of steps taken by government of India; information regarding major involvement of different state governments was also collected, people's perception was also monitored, impact of COVID-19 pandemic on social and economic involvement of the Indian population was also measured and overall government's involvement in combating COVID-19 was studied. The data for the study was collected through two major mediums; Questionnaire and various media sources.

1. A self-administered questionnaire was disseminated among various common people to study and measure the techniques or strategies used by different governments in combating COVID-19 crisis. The questionnaire was constructed and shared by an IT expert of Heal Foundation; the dissemination was

done through mailing the questionnaire on email ids which was done by converting the questionnaire into a google form.

2. Data on steps taken by Indian and major state governments was collected through various media sources, WHO reports, empirical reports, authenticated articles and MoHFW reports (Ministry of Health and Family Welfare):

- Searched about the key terms related to Covid-19 along with the States and Union territories which are impacted.
- Monitored the WHO, the Ministry of Health and Family Welfare, COVID-19 website.
  - Monitored the guidelines provided by MHA and educational ministry with respect to state government and the implementation of these guidelines.
  - Fetched the latest Notification.
- Measured the average increase, decrease, recovery and average death rate of Covid patients.
- The mass coverage for the collection of data was recorded through Electronic/ Print / Digital media of different states.
  - News channels
  - Radio, Newspapers
  - Social Media
- Studied about unique innovation by Indian government:
  - From regions with different Start-ups, MSMEs, corporations and individual innovators across multiple challenge areas such as personal protective and critical-care equipment, large area sanitization, crowd tracking, logistics and also fake news detection.
- Get information on five categories: prevention, diagnosis, treatment, information and life and business adaptation.
- Monitoring exemplary performances by government with the adoption method of controlling the spread of the disease.
- Reviewing different methods adopted by government to tackle the pandemic.
  - No. of quarantine centers set up by states.

- No of patients getting admitted and discharged in quarantine centers on daily basis.
  - Rate of testing done in states.
  - Checking the date of announcement of lockdown in various states.
  - Relief measures.
  - To check the cases reporting are from inside the city or from migrants.
- The Implementation of lockdown whether the enforcement was stringent or lenient and how properly it was done.
  - Various Educational Awareness Programs must be conducted by the government.
  - Quarantine facilities offered by the government including;
    - Hygiene, best possible medication, isolation, ventilators, post Covid advices etc.

DATA ANALYSIS: Data fetched was analyzed and interpreted with experts from Heal foundation. Their inferences were interpreted, summarized and tabulated by Heal foundation's officials. Due to confidentiality concerns all summarized data is not tabulated in this study but, major results and findings from WHO reports and media sources are presented in this study.

Also, the study is still ongoing therefore analysis of the administered questionnaire is not yet completed.

ETHICAL VIEW: Mutual consent was made of trust that there will be no misconduct of plagiarism, data fabrication and falsification.

## RESULTS:

A total of 870 people participated in the study who responded to the questionnaire. All participants of the study responded according to their state initiative towards combating COVID-19 pandemic.

### WHO Report Data:

With sudden outbreak of new pneumonia cases in various parts of the world which had some similarity with earlier outbreaks of MERS and SARS caused a great panic among healthcare professionals. Then in January 2020 this outbreak was declared as novel coronavirus (2019-nCoV) by WHO which was later referred to as public health emergency of international concern.

### ► COVID-19 situation in India: **January 2020**

- First case of 2019-nCoV came into focus in Kerala when a student from Wuhan returned to India. After the first case, MoHFW started close investigation for the disease and its associated situation's severity for adequate requisite response preparedness.
- Surveillance started at various entry gates.
- Appropriate health preparedness at hospital and healthcare facilities are reviewed and planned along with proper monitoring of logistics and risk-mitigation communication by all Indian states authorities.
- In order to provide ailment to public queries, Indian government along with the national center for Disease Control had also started a helpline.
- Indian ministry of civil aviation along with MoHFW began a process of announcing feverish symptoms for travelers coming from China to India at 21 airports. Also, screening at entry of airports had also began after the first case emergence in Kerala.
- Indian States/Union territories and respective departments or institutions of these states, which actively participated in the early preparedness for COVID-19 were:

*Table 1: State wise departments/institutions, actively involved in the preparedness program for COVID-19.*

| Maharashtra       |                      | Karnataka              | New Delhi   | Kerala | West Bengal | Telangana    | Uttar Pradesh | Rajasthan | Tamil Nadu |
|-------------------|----------------------|------------------------|-------------|--------|-------------|--------------|---------------|-----------|------------|
| Mumbai            | Pune                 | Bangalore              |             |        | Kolkata     | Secunderabad | Lucknow       | Jaipur    | Chennai    |
| Kasturba Hospital | Nat.Inst of Virology | NIV, Victoria hospital | AIIMS, NCDC | NIV    | ICMR-NICED  | GMC          | KGMU          | SMS       | KIPMR      |

- All these states/Union territories had also adopted and improvised information dissemination through usage of local language IEC mediums for spreading awareness and information.

#### ► COVID-19 situation in India: **February 2020**

- For evidence-based research and for proper authenticated results, MoHFW has made ICMR NIV, Pune as the nodal institute for cohesive diagnostics for COVID-19. Government of India has also laid certain guidelines for travel advisories in the public interest to restrain the people from travelling to China and patients having any history of voyage since mid-January will be kept in isolation post- return.
- Also, provision of e-visa services has been put on halt for Chinese population, while validation has been suspended for existing Chinese passport holders. Along with these travel changes, continuous and consistent airport screening was adopted to screen passengers of flights coming from China to India.

*Table 2: Screening of COVID-19 at flights, with no. of passengers, no. of airports providing screening facility and no. of passengers who were home quarantined.*

| No. of flights Screened | Total Passengers screened | No. of airports provide screening | No. of passengers home quarantined |
|-------------------------|---------------------------|-----------------------------------|------------------------------------|
| <b>1108</b>             | <b>121000</b>             | <b>21</b>                         | <b>6000</b>                        |

- Various Indian states had also forwarded the hand of help for giving extra human power to take screening along with other logistic aid to these airports in combating COVID-19 circumstances.
- Indian states which does not have the facility of airports or seaports, had informed to be indulged in exceptional knowledge motive for people at their state's toll plaza, bus and railway stations.
- Amid this COVID-19 crisis, ministry of tourism of India had also collaborated with association of hotels in India to promote better expansion of self-responding by passengers travelling to India.

*Table 3: Aero bridge usage at seven international airports of India.*

| Designated aero bridges have been formulated for usage at seven international airports |         |        |        |           |           |         |
|----------------------------------------------------------------------------------------|---------|--------|--------|-----------|-----------|---------|
| Delhi                                                                                  | Kolkata | Mumbai | Cochin | Bangalore | Hyderabad | Chennai |

► COVID-19 situation in India: **Mid-February 2020**

In the mid-February, MoHFW investigated three confirmed cases of COVID-19 in Kerala. The patients were quarantined and were closely monitored in healthcare facility. The catastrophe of COVID-19 had been closely monitored by MoHFW along with cabinet secretary of India.

► COVID-19 situation in India: **March 2020**

- With increasing cases of COVID-19 daily, Prime minister of India laid orders to state/union territories ordering for nation lockdown in order to contain COVID-19 outbreak in the nation. Initially this lockdown period was of 2 days but extended for the period of 21 days with implementation effect from 25 March 2020.
- Globally, Indian government's involvement in responding towards containment of COVID-19 had been appreciated and said to be proactive with high-cohesive commitment from government.
- WCO (WHO country officer) for India worked along with MoHFW for strengthening monitoring, constructing potentiality of medical systems and give positive response for the opportunity created by the practice of social distancing.
- Indian government had also taken the step towards suspension of all international flights and a "force majeure" had been posed on Indian railways for putting a halt on their services. This step was taken basically to refrain people's mobilization including within state movement.

► COVID-19 situation in India: **April 2020**

- Indian government's representatives along with WHO's officer came together for meeting in an implicit conference session with health ministers of various Indian member states for exchanging information regarding precautions for confinement of COVID-19 in India.
- Government of India along with MoHFW had also taken steps for empowering the healthcare system of the country by igniting this step through launching of "India Seva". Which is a proactive medium to address various queries and concerns instantaneously regarding pandemic for combating the COVID-19 situation.
- Also, due to COVID-19's sudden outbreak healthcare professionals were treated as easy targets by many people and violence against them were on the verge of rise. Therefore, president of India promulgated the ordinance to amend epidemic disease act in order to shield healthcare officials against violence.
- For combating the COVID-19 crisis, WHO also worked with MoHFW for assisting aid to various regions for strengthening the contingency plans of these districts, which incorporated monitoring of hospitals dedicatedly working towards containment of COVID-19 alongside providing quarantine requisites.

► COVID-19 situation in India: **May 2020**

- With worsening of COVID situation in country, Home affairs ministry had laid out latest modified guidelines for combating COVID-19 situation along with reopening of regions which are separated from containment zones.
- Sero surveys were urged to be conducted in selected areas for certain population to measure the accuracy of COVID-19. WHO had also assisted technological aid to various states/union territories in construction of plans for conduction of sero surveys.

► COVID-19 situation in India: **June 2020**

- State Updates:

*Table 3: State wise involvement of Delhi, Andhra Pradesh, Madhya Pradesh, Tamil Nadu and Uttar Pradesh in combating COVID-19 pandemic.*

| Delhi                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| More than 10 thousand king sized beds are under construction at Radha Swami satsang Beas in south district of Delhi. Almost 5000 medical professionals had been provided by Indo Tibetan border police force, 1500 doctors and 3200 paramedical staff to handle this special facility service constructed specially for COVID-19 patients. |
| Andhra Pradesh                                                                                                                                                                                                                                                                                                                             |
| State government officials had formulated a strategy of screening all families residing in the state for COVID-19 in the future coming months.                                                                                                                                                                                             |
| Madhya Pradesh                                                                                                                                                                                                                                                                                                                             |
| WCO had decided to make Madhya Pradesh as part of the modified advisory team on technical matters in order to discuss the present testing, quarantine and medical norms that are being prominent in the state.                                                                                                                             |
| Tamil Nadu                                                                                                                                                                                                                                                                                                                                 |



The state is provided with requisite information and proofs on various surveillance engagements in non-confinement zones addition to COVID-19 associated aid.

#### **Uttar Pradesh**

After coming under containment zone, UP incorporated more than 11million houses and screened almost 52million personals.

#### ► COVID-19 situation in India: **July 2020**

- After head scratching involvement, Department of Biotechnology in India had started 1<sup>st</sup> and 2<sup>nd</sup> phased clinical trials for COVID-19 vaccine. It is the first vaccine indigenously developed for human administration.
- Government of India is still coping and trying to develop better improvised strategies for combating COVID-19 after observing its impact on nation's health system.
- Active respirator mask with extended nano sanitizer had been issued the order for mass production by national research development corp.
- State Updates:

*Table 4: State wise involvement of Delhi, Karnataka and Uttar Pradesh in combating COVID-19 pandemic.*

#### **Delhi**

Secretariat of the state had been provided with extra assistance for evaluation of epidemiological paradigm to measure the ability of the state in providing assisting for COVID-19 response preparedness and mitigation. Officer of WHO in collaboration with UNHCR had also established foot functioning hand-washing machines at various social places and hospitals.

#### **Karnataka**

An implicit training program was implemented by WCO in the state in order to supervise all district's DCH, DHOs etc. In the maintenance of adequate quality measure.

#### **Uttar Pradesh**

Strategies for planning measures toward confinement of COVID-19 was executed in collaboration with officer of WHO. These strategies basically were initiated for the monitoring of various houses to discover symptomatic and asymptomatic patients.

#### State wise Reports/Articles:

When MoHFW and government of India recognized the outbreak of COVID-19 epidemic in India from China, many states presented their reports and analysis in accordance with their state's condition in COVID-19 pandemic. Here are some of the state reports, presenting their combating strategies in containment of COVID-19 situation taken by the state government.

#### ► **Tamil Nadu**

First case of the state was confirmed in March and till April 2020, there were approx. 2000 cases in the state which was 7<sup>th</sup> highest in the country. Despite of this rise, efforts by state government can not be neglected towards confinement of COVID-19.

- At the initial phase the government of Tamil Nadu laid out certain measures which were; preparing RRTs (Rapid response teams), establishment of 27\*7 response room, establishment of thermal scanning techniques at airports for scanning travelers arriving from China.
- **Health Initiatives;** Construction of quarantine wards at hospitals and healthcare centers, containment norms at regions where positive cases had detected and essential 14-days isolation for asymptomatic travelers.
- **Travel and Movement Measure;** Halt on the services of anganwadis while making alter alternatives of providing dry rations to children, social places were asked to shut down, all academic institutions were also shut down.
- State borders were sealed off except the mobilization of some significant and utmost commodities, public transportation services were also refrained from stopping people from moving from one place to another.
- After, Janta Curfew the state extended its lockdown and right after proclaimed the implementation of state-wide lockdown.
- **Welfare Steps;** The state government initiated the step of providing Rs. 1500 per month to specially- abled people, transgenders were allowed to take ration even if they are without ration cards, further cash assistance of Rs. 1000 was given to all ration card holders, auto drivers, construction worker and workers of TN Cine welfare board.

### ► Rajasthan

Rajasthan government decided to formulate and implement Bhilwara model of 6 pillars to combat COVID-19 pandemic because of no evident source of information regarding accurate knowledge about the virus. This strategy of confining the transmission of COVID-19 was formulated on the basis of 6 pillars; -

- Pillar 1; Competent leadership from senior government administrators for proper and strict implementation of guidelines in order to refrain people movement within and intra- state.
- Pillar2; Confining the infectious source at the origin point e.g. the sealing of Brijesh Banger memorial hospital for halting the virus at its epicenter only, followed by contact- tracing. Immediate delineating the refrainment of the state initiated right after the set norms by MoHFW.
- Pillar3; Giving protection to the uninfected person against virus by following social distancing, screening the susceptible population. In view of the prevailing conditions of epidemic with highest risk of exposure at the health facility led to the continuous screening at each hospital gate.
- Pillar4; Rapid establishment of infrastructure especially for COVID-19 patients, this included construction of quarantine centers, building dormitories and special isolated wards for COVID-19 patients.

- Pillar5; Special provision of training to workforce for building their ability towards implying containment norms. Special training included professional doctors, nurses, paramedical staff, administrative staff etc. The hospital officials were also provided training for appropriate usage of PPEs.
- Pillar6; Committed and reliable intersectoral cohesion of administration and medical professionals towards converting a state of several COVID-19 cases to minimal case state in India.

### ► Kerala;

Proactive involvement in monitoring, establishment of various district monitoring rooms, skill training along with ability building, management of risk and efficient society engagement are some of the key planned intervening strategies implemented by Kerala government for containment of COVID-19 in the state.

- The first response was emphasized on screening and conducting of surveillances of all foreign travelers.
- There was a combined response from the state emergency operations center and the office of Kerala state disaster management authority which mutually aid with the collateral response efforts.
- With the onset of COVID-19 outbreak, the state government established at least 2 fully devoted COVID-19 hospitals in every district for providing necessary treatment to all COVID-19 patients.
- The state government prolonged the quarantine time span along with providing shelter to the migrant workers who were kept stranded post COVID outbreak.
- There had been adoption of an inclusive concept of special needs of mentally disturbed patients, children and specially abled personals by Kerala government amid COVID-19 pandemic.

### DISCUSSION:

With each passing day, the impact of COVID-19 pandemic on Indian population and society has been rising. Maharashtra and Tamil Nadu are the highest COVID patients holding states in India, with the overall contribution of 50% COVID cases by top- 5 states alone. COVID-19 pandemic has not only been a sole pandemic but, it has also given rise to many community concerns. Other shadow concerns which came into existence after emergence of COVID-19 are; financial crunches, employment issues, psychological constraints, increased cases of sexual abuse, negligence towards other health concerns etc. Thus, influencing every aspect of the state as well as whole nation in every way possible. With daily emergence of new cases of COVID-19 in various parts of the country despite putting forth several

combating strategies state wise and even nation wise, it seems a tedious task to contain COVID-19 virus. The most practical and reliable way is following requisite safety norms along with less travelling or travelling in the case of sheer urgency or emergency, otherwise India will be in a very critical situation, keeping in mind its population and societal conditions.

Different states in India had opted several different combating measures in battle against COVID-19. Some state districts had opted for consisted screening and strictly followed the norms of social distancing while, Gujarat on the other hand had been observing 20 deaths daily since May 2020. Gujarat has reported 2<sup>nd</sup> highest death record after Maharashtra. After facing traumatizing spike in the COVID-19 cases earlier in New Delhi, the condition is stable now. As the situation of the national capital is under control with availability of 4000 beds facility at government hospitals, New Delhi is all set to fight against COVID-19 battle.

After the elimination of nation- wide lockdown post 68 days, some state governments have still enforced lockdown strategy in their states for combating COVID-19 cases. Thus, majority of parts of the country are still facing lockdown.

Also, there were some states which experienced less than 5000 cases of COVID-19 and had done exceptionally well in containing the COVID-19 disease spread. These are;

1. Bihar
2. Andhra Pradesh
3. Karnataka
4. Haryana
5. Telangana
6. Jammu & Kashmir
7. Odisha
8. Punjab
9. Assam
10. Uttarakhand

With current situation, where there is no vaccination in the world right now for COVID-19 we are ushered towards other mitigation steps for resolving and refraining COVID-19 cases. Major technique adopted by Indian government towards combating COVID-19 was the method of social distancing of 1m approx. at minor social places like; ration shops, dairy, stationary stores etc. Though, this initiative

was good if people of India would have followed this. But many daily paid wagers and workers do not understand these measures leading to further rise in number of COVID-19 cases.

The Method of lockdown by Indian government had proven to be non-feasible in Indian society due to many workers indulged in the work which pay them on daily basis. Thus, for managing livelihood of such people it is very essential for the Indian as well state government to provide required knowledge and motivation to its people in overcoming the COVID crisis as soon as possible with adequate safety measure along with concerns of money deficit which stands as a major concern for the Indian government.

### CONCLUSION:

With rising cases of COVID-19 in India, overall, many state governments and Indian government had provided required facilities to almost all the people. There was new issuance of guidelines for hospitals and hospital staff. Amidst COVID-19 pandemic, along with safety measures it is very essential to provide motivation and guidance to infected as well non-infected people. Further, the duty medical staff which are serving COVID-19 patients, should be regularly monitored for the updating of their health status along with safety measures which should be considered before investigating COVID patients.

Definitely, COVID-19 has become a massive catastrophe for Indian population and the country. But with proper government's intervention it might end soon. The measures mentioned in the study might be useful in combating COVID-19 for lives and livelihood of Indian population.

### LIMITATIONS:

The study was conducted with only 870 respondents which is very less in comparison with India's population and only media sources and online report claims were studied. Secondly, the cross-sectional nature of the study restrains from making conclusions regarding causing factor of combating measures in each state of the country. Finally, the source of information were media sources and self-administered questionnaire resulting in insufficiency of adequate objective source in data collection.

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