

SOCIAL AND BEHAVIORAL CHALLENGES ASSOCIATED WITH COVID-19

A Capstone Project

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Submitted by

Dr Satbir Kaur

Master of Public Health Cohort 7 (2019-2021)

Under guidance of

Prof (Dr) Nutan Prabha Jain

(Capstone Advisor)

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LIST OF ABBREVIATIONS

GOI	Government of India
PPE	Personal Protective Equipment
HCP	Health Care Professionals
COVID-19	Corona Virus Disease 2019
RNA	Ribonucleic Acid
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
WHO	World Health Organization
PHEIC	Public Health Emergence of International Concern
UTs	Union Territories
ICMR	Indian Council for Medical Research
MOHFW	Minister of Health and Family Welfare
NCT	National Capital Territory
USA	United States of America
FY2021	Financial Year 2021
GDP	Gross Domestic Product
CRISIL	Credit Rating Information Services of India Limited
UNESCO	United Nations Educational, Scientific, And Cultural Organization
RS-10	Resilience Scale Ten
FRAS	Family Resilience Assessment Scale
MERS	Middle East Respiratory Syndrome
MP	Madhya Pradesh
PHI	Public Health Intervention
AP	Andhra Pradesh
OC	Obsessive Compulsive
TN	Tamil Nadu

1.INTRODUCTION

COVID 19 disease is caused by a novel virus of the Coronaviridae group of RNA viruses of zoonotic origin. It originated in Wuhan, China, when there was a reporting of cluster of pneumonia cases of unknown origin.(1) During the initial period of 2020, countries worst affected by this virus were China, USA, Italy, Spain, Iran but subsequently, after May 2020, there was sharp rise in the cases in countries like India, Brazil, Peru, Russia, South Africa, Pakistan, Saudi Arabia, Mexico. Source of infection is infectious patients and asymptomatic carriers, transmitted through droplets and contact. All ages are generally susceptible, but many deaths are seen in the elderly with comorbid conditions. Possible aerosol spread can happen when people are exposed to prolonged high concentrations of infectious agent in relatively closed spaces. Estimated- mean incubation period to be 6.4 days (2-11 days).(2)

The government's role in controlling and preventing infection spread varies from country to country. Still, many of the interventions accepted and followed across the globe were travel restrictions, social distancing, lockdown, hand washing, use of sanitizers, and wearing masks.

2.RATIONALE

Mankind is possibly passing through one of the most important junctures of the era. At the same time, its survival is being disputed by the emergence of a novel virus that is invading different regions all over the world quite fast. With its high infection rate and mortality rate, Corona Virus Disease-2019 has produced worldwide psycho-social impact by triggering panic, economic load, and financial deficits. Fear of disease in general population is called as "corona

phobia, " that has created, a glut of psychiatric signs and symptoms within different sections of society.(3)

Currently, prime value is provided to the physical health that consist of plasma therapy and treatment of respiratory or gastrointestinal signs and symptoms. Thus, overlooking the deep significance of psychological health resulted from the infection, confined social movements, sleeping difficulty, lockdown, and fake information. Not only pandemic but even infodemic has caused severe obstacles (4) that may perhaps broaden the probability of psychological ailments.

3.APPROCH

Objectives of Capstone

The objectives of the Capstone are as follows:

1. Review Epidemiology of COVID- 19
2. Review Role of Public Health Intervention taken to Combat COVID-19
3. Review Psycho-Social Challenges Emerged during the Pandemic
4. Develop proposal on enhancing well-being and resilience with sustained psychosocial support

Methodology of Capstone

Study type: Review study using secondary quantitative data

Study Setting: Global data on COVID 19, India and Delhi data on COVID 19

Sample Size: Not applicable

Sample selection procedure: : Raw data for global was collected from Worldometer, for India data was collected from Covid19india.org and for Delhi data was collected from delhi.gov.in

Data Collection Technique: Data formats and Checklist for Review of-

- COVID Guidelines
- COVID related secondary data (number of cases per day/ month), recovery rate, death rate
- Literature review

Plan for data collection: Secondary data from the websites with key words - COVID 19, SARS, MERS, Spanish Flu, Social and Behavioral Challenges, management COVID 19, mental health during pandemic

Ethical consideration: There is no identifiers in the dataset, and analysis is done based on the complied data.

Analysis and expected outcome: Epidemic curve at the level of world, India, and Delhi for the period of March 2020 till May 2020, Recovery rate by globe, India, Delhi, Death rate by globe.

Proposal on Enhancing Well-being and Resilience with Sustained Psychosocial Support among school going children.

Search Strategy

Key words used- COVID 19, SARS, MERS, Spanish Flu, Social and Behavioral Challenges, management of COVID 19, mental health during pandemic, Psychosocial challenges, Public health interventions, Resilience, and Wellbeing.

Modifying Keywords-

- Phrase Searching -it involved placing with and without quotations marks (“ ”) around two or more word.

E.g.- “Psychosocial challenges” and Psychosocial challenge

- Truncation- It involved replacing of word ending with a symbol like asterisk (*), a question mark (?)

E.g.-If the truncation symbol is *, then the truncated word, recovery, the search result contained recovery, recoveries, recovered etc.

- Wildcards- It involved use of symbols include the question mark (?), the pound/hatch symbol (#).

E.g.- wom?n will search for information containing the words woman or women.

Combining keywords-

- Keywords are combined using: AND, OR and NOT.

Information sources-

- Specific fields- Author, Title, Subject, Abstract, Abstract and Keywords, Publication Name
- Library catalogue- Cochrane library, Dr D.A Henderson Library
- Database- Quantitative data from Global (Worldometer), India (Covid19india.org), and Delhi (delhi.gov.in) and Qualitative data from PubMed, Medline, and Google scholar
- Worldwide web – Newspaper articles, Blogs.

Methods

Inclusion Criteria

- Literature searched was in English language.
- Time of publication was from 2005 till 2020.

- No of publication reviewed for public health intervention for Global were 10 and for India 14.
- No of publication reviewed for Psychosocial Challenges were 8.
- No of publication reviewed for Resilience and Wellbeing were 6.
- No of publication reviewed for mental health issues in Covid 19 pandemic were 10.
- Advisory reports from Government of India and State Governments were 5.
- Newspaper articles from web search were 15

Exclusion Criteria

- Article type-Case studies, Conference papers, Technical papers.

4. LITERATURE REVIEW

4.1. SITUATION ANALYSIS

Analysis is done based on present literature and data available on Covid 19 pandemic.

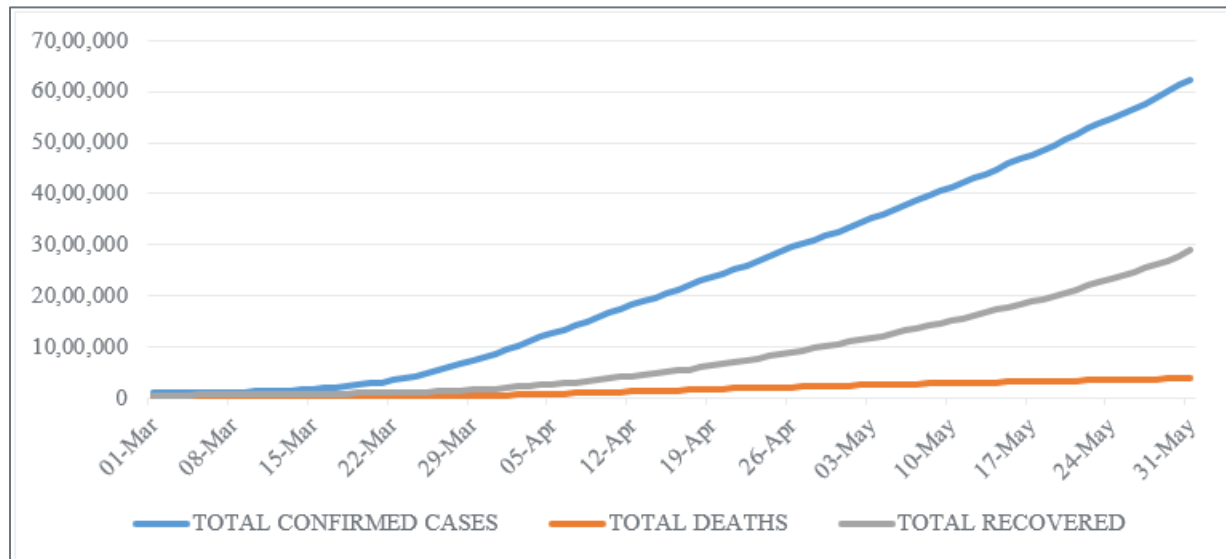
Considering, Global, India and Delhi a comparative situational analysis is done taking following epidemiological indicators like total no of confirmed cases, deaths, and recoveries together with fatality rate and recovery rate, from the period of 1 March till 31 May 2020.

GLOBAL

The Fig 1 represents an upward trend in confirmed cases and recovered cases over the course of three months with more than sixty lakh global population was infected by the end of May 2020.

No of deaths remained below ten lakhs.

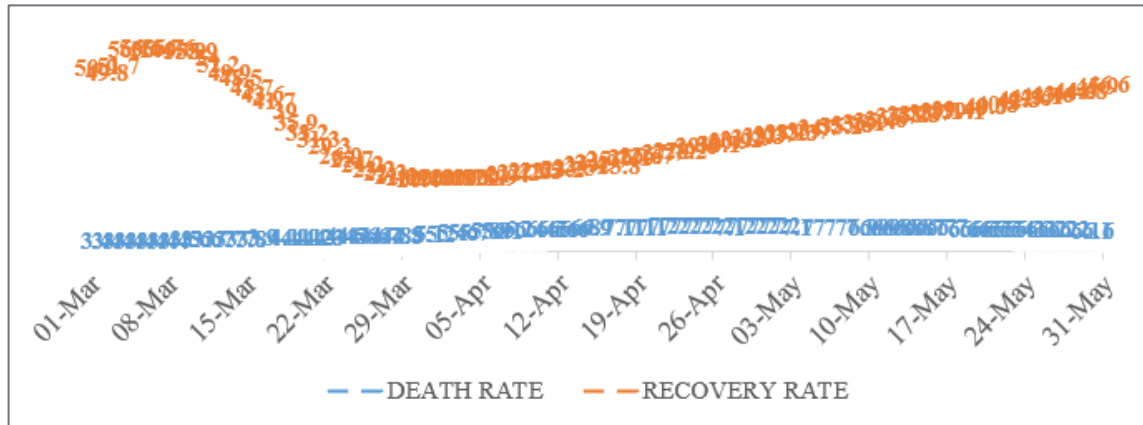
Figure 1: Total Number of COVID 19 Cases, Fatality and Recovered Global as of 31 May 2020



The advent of SARS-CoV-2 has again revealed the weaknesses and limitations of the global health system's readiness and its ability to reply to an infectious threat. The Coronavirus is creating havoc globally, with 593,4936 cases, 367166 deaths from 22 Jan to 31 May 2020, and the case fatality rate for this period being 6.18 percent so far attributed by WHO monthly situation report since January 2020. COVID-19 has been identified as PHEIC by WHO on 30 Jan 2020 (5), and the epidemic curves are still on the rise

Raw data was obtained from worldometer and analysis was done on excel sheet comparing death rate and recovery rate globally. The Fig 2 represents- sudden increase in the recovery rate during initial phase of March which was approx. above 50 percent but eventually drops by the end of the month and then again gradual increase in recovery rate is observed. The fatality rate remains approx. to 7 percent for the given period.

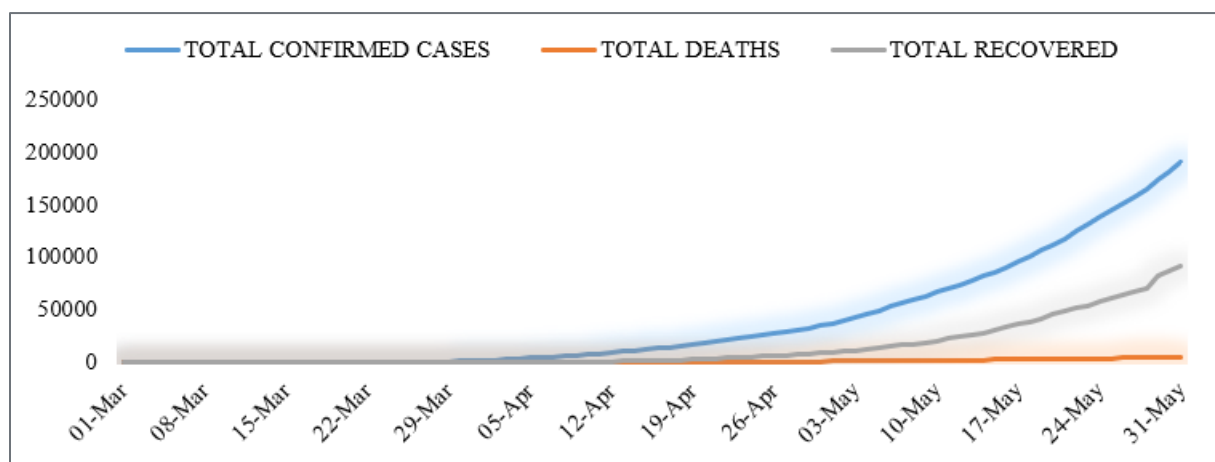
Figure 2. COVID 19 Fatality and Recovery Rates as of 31 May 2020



INDIA

The Fig 3 represents upward trend in no of confirmed cases and deaths from mid of March. By the end of May more than two lakh confirmed cases and around one lakh deaths occurred.

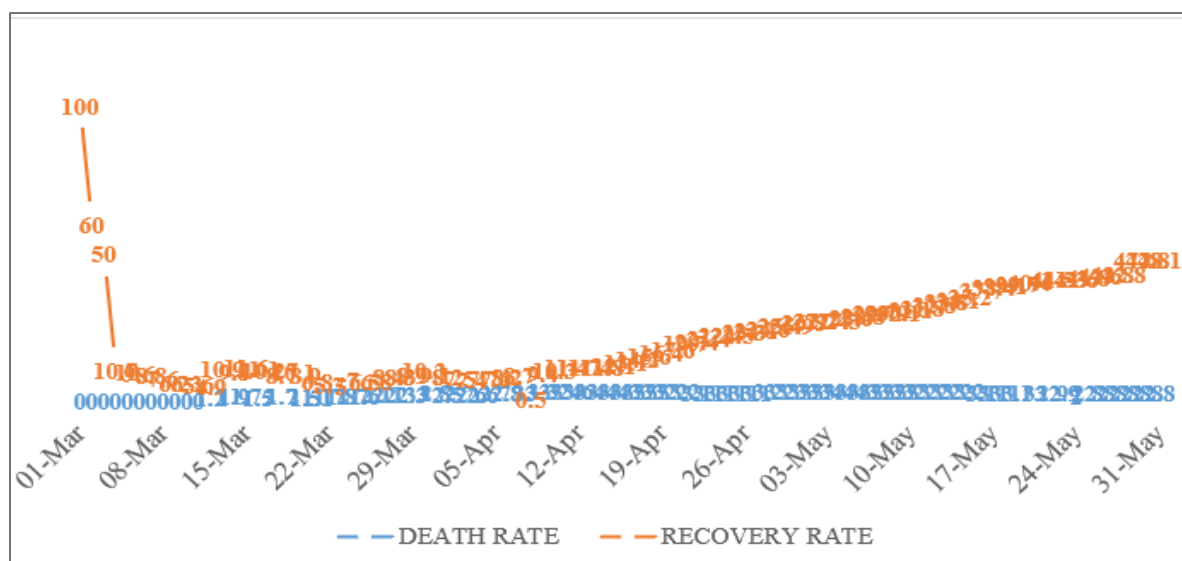
Figure 3. COVID 19 Cases, Death and Recovery Rates as of 31 May 2020 in India



A student who had traveled from Wuhan, then the focal point of infection was the index case reported on 30 Jan 2020 in India.(6) Though, no of cases in Feb was low, most of them were imported from different countries, no of cases began to increase rapidly in March. The first death

due to covid-19 was on 12 Mar 2020. On 15 Mar 2020, all borders were sealed, and international flights were cancelled.(7)

Figure 4: Fatality Rate and Recovery rate in India as of 31 MAY 2020



Raw data was collected from covid19 India.org is database for Covid-19 and analysis was done on excel sheet. Data present in the database are collected from central and various state agencies. The Fig 4 represents- During March, recovery rate was approx. 10 percent compared to fatality rate which was approx. 2 percent. By the end of May recovery rate increased up to 48 percent and there was mild increase in fatality rate of about 2.8 percent.

The total no of confirmed cases was 190649 with a 0.481 percent recovery rate (91862 recovered cases) and a 0.028 percent death rate (5406 death) from 30 Jan till 31 May 2020. Nine hundred thirty COVID devoted hospitals with 1,58,747 isolation beds, and 20,355 ICU beds were available. Central government provided 113.58 lakh N95 masks and eighty-nine lakh PPE kit to the States/ UTs. The diagnostic facilities also noticed rise in the country with 435 government laboratories functional, out of 624 labs, 189 private laboratories. Approximately no of samples

examined were 32,42,160, whereas 1,16,041 samples were tested as on 26 May 2020.(8) The covid-19 infection has shown different trends in all the 36 other states of India. Six mega cities accounted for nearly half of all reported cases —those were Pune, Ahmedabad, Mumbai, Kolkata, Chennai, Delhi, and Pune. Lakshadweep was the only state that did not report a single case even at the end of May.

The Table 1 illustrates the states with low, medium, and high range of confirmed Covid19 cases across India.

Table 1: Distribution of States/UTs by their status of Covid-19 as on 7 June 2020

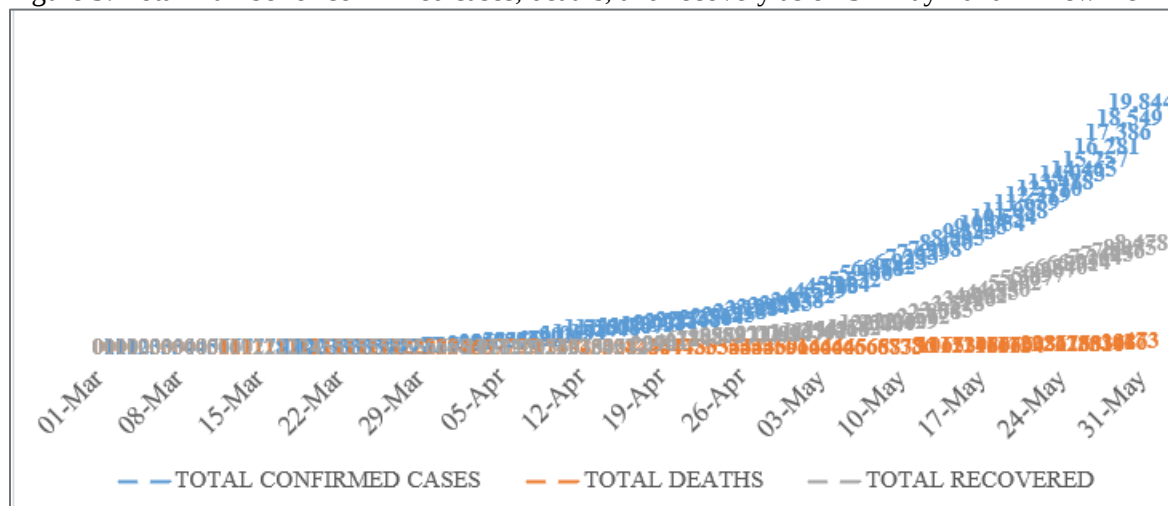
<i>No of confirmed Cases</i>	<i>STATES</i>
<i>LOW <1000</i>	Chandigarh, Dadra and Nagar Haveli Manipur, Meghalaya, Nagaland, Ladakh, Andaman and Nicobar Islands, Lakshadweep, Himachal Pradesh, Daman and Diu, Mizoram, Puducherry, Tripura, Sikkim, Arunachal Pradesh, Goa.
<i>MEDIUM 5000-1000</i>	Kerala, Andhra Pradesh, Telangana, Punjab, Assam, Uttarakhand, Jharkhand, Jammu and Kashmir, Chhattisgarh, Odisha, Haryana,
<i>HIGH >5000</i>	Delhi, Karnataka, Gujarat, Uttar Pradesh, West Bengal Maharashtra, Madhya Pradesh, Rajasthan, Tamil Nadu, Bihar, State Unassigned*

Source- * MoHFW website reports that these are the "cases that are being reassigned to state

DELHI

The Fig 5 represents upward trend in no of confirmed cases and deaths from mid of April. By end of May total positive cases reached up to twenty thousand and no of deaths up to nine thousand.

Figure 5: Total Number of confirmed cases, deaths, and recovery as on 31 May 2020 in New Delhi



A forty-five years old female from East Delhi, who has travel back to India from Italy, was the index case detected on 2 March 2020. Ninety-two contacts were traced from the index case. From ninety-two contacts, fourteen were from Delhi, and remaining seventy-four contacts were from different states.(9) The total positive cases reported as on 31 May 2020 was 19844, with 473 deaths and 8478 recovered cases.

The country was divided into three zones –Red Zone, Orange Zone, Green Zone,

Red zone (Hotspots) –It was an area where there is high no of active cases and high rate of doubling time.

Orange zone (Non-hotspots) – An area with less no cases

Green zone – An area where there are no active case present or no new cases has been reported in the last 21 days.

Delhi had 14-hour long restriction named as Janata curfew on 22 March 2020 together with 75 districts, as per the Prime Minister's directions, before the direction of countrywide 21- day lockdown after 24 Mar 2020.(10)

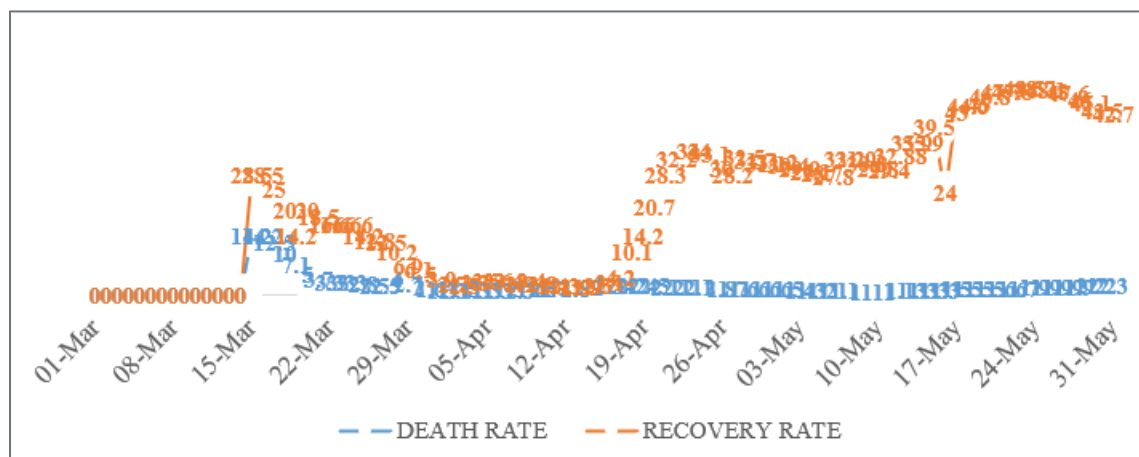
The state government declared SHIELD operation plan to limit the spread infection containment zones. Following is 6 levels plan was adopted.(11)

- **S** denotes for closing the infectious area,
- **H** denotes for home confinement of everyone residing in the area,
- **I** denote for isolation, quarantine, and contact tracing of the individuals,
- **E** denotes for the important supply of services,
- **L** denotes for local sanitization
- **D** denotes to checkup of people, door to door in the area.

The initial achievement of plan originated from the Dilshad garden, where the infection was widespread in March. The government announced in April that Shield operation plan, to be effective in fighting the spread of infections in that area. Deputy Chief Minister Manish Sisodia stated that “the operation was also successful in other two areas Khichripur and Vasundhara enclave” on 17 April.(12)

Raw data was obtained from official website of Ministry of health and family welfare. The analysis was done on excel sheet. The Fig 6 represents- wide variation in recovery rate ranging from 28 percent in March to 42.7 percent by the end of May. Fatality rate remained between 1.5 percent to 2 percent over the period.

Figure 6: Fatality Rate and Recovery Rate of New Delhi as of on 31 May 2020



4.2. ROLE OF PUBLIC HEALTH INTERVENTIONS TO COMBAT COVID 19

GOI responded well to the pandemic by executing lockdowns in different stages across the nation. Stringent, strong contact mitigation was applied at first, followed by phases of relaxation.

(13) India has been cautious and sensible in introducing precise PHI at the precise time, with closing of borders along with travel ban, withdrawal of visas, closing schools and colleges in certain states.

Table 2 two illustrates various intervention adopted by GOI to reduce the spread of infection

Table 2: Non-pharmaceutical intervention to control the spread Coronavirus Disease 19 by GOI

Intervention category	Date	Key Objective	Key features
Movement Restriction	17-01-2020	To control the infectious agent arriving from China.	Starting travel suggestions to individuals visiting China to follow certain rules.

Movement Restriction	05-02-2020	To control the infectious agent arriving from China.	E-visas to China suspended. Travel warning for the citizens travelling to China, will have isolate after 15 Jan onwards.
Movement Restriction	03-03-2020	To reduce the no of people traveling to, Iran, Japan Italy, and South Korea.	Central government halted issuing of new visas and formerly issued visas for the citizens of South Korea, Italy Japan, and Iran.
Public health measures	04-03-2020	To restrict spread of infection inside the country.	MOHFW declared obligatory check of all international travelers entering in India. Start of comprehensive inspection of international travelers.
Social Distancing	05-03-2020	To control the spread of infection in schools and large gatherings.	Primary school shut down in Delhi; Government recommended not to attend large meetings or rallies.
Public Health Measures	09-03-2020	To do compulsory testing for the people with signs and symptoms together with travel or contact history.	ICMR testing approach was released which states that “testing will be done for those people who are symptomatic people with travel history or contact history”.
Public Health Measures	11-03-2020	To evoke provisions related to the Epidemic Act 1897 act in all states.	Cabinet Secretary of India declared that- “all states and Union Territories should invoke provisions of Section 2 of the Epidemic Diseases Act, 1897”.
Curfew/ Lockdown	22-03-2020	To monitor the spread of infection.	Janta curfew, declared the was one day self-isolation at home. Along with Telangana and Delhi other twelve states declared lockdown until March 31.
Public Health Measures	24-03-2020	To monitor the spread of infection.	Micro-plan model for control of spread was issued.
Lockdown	25-03-2020	To monitor the spread of infection.	Legal action to be taken for the violation of lockdown, which was till 14 April.

Source: MoHFW-Ministry of Health and Family Welfare, Government of India.

4.3. PSYCHO-SOCIAL CHALLENGES EMERGED DURING THE PANDEMIC

Corona Positive Patient- a Stigma

Public health emergencies during outbreak of communicable diseases might cause distress and apprehension among individuals or communities. This kind of behavior might culminate into unnecessary social disruptions with increase in hostility and chaos

Cases have been reported that people affected by the disease as well as frontline workers like HCPs, and police, are facing discernment due to misinformation and fear about infection. The recovered individuals from COVID-19 also faces discrimination.(14)

Problem of isolation and quarantine

COVID-19 has obligated various nations to apply isolation and quarantine procedures as essential illness controller means. The insecurity of disease development, deficient supply of basic commodities, financial damages, enhanced sensitivity towards risk, which normally get overstated with confusing information and improper broadcastings in television.(15) Suspected cases could feel nervousness owing to the ambiguity surrounding their health and which might lead to development of OC signs, for instance frequent fever checks and sanitization.(16)

Frontline Workers- Health Care Providers

Stress, fear, and nervousness could be deep amongst the vulnerable groups, such as bankers, HCPs, armed forces, and policemen etc. From having been exposed to the cases in hospitals, to being isolate, or witnessing fatality or infection of friend or family member, can cause increase danger of self-perception initiated by the virus. The health care system in India is already burdened, with increase no of cases, which has provoked concern, frustration, and tension amongst HCPs.(17) This could be combined in accordance with the poor hospital supply of gloves and shortage of PPE. Many health care professionals who are engaged in the treatment of

confirmed or suspected patients had to isolate them and live lonely or are some have to live in hotels separately away from their family thinking that they might also get the disease.(18) A feeling of helplessness had been arisen among doctors due to absence of any standard therapy or prophylactic injections, as well as its possible asymptomatic transmission. There have been several reports in print and mass media about treatment of doctors by the society, who are risking their own lives for others. Incidents of many physical and verbal assault have been reported in social media also. Doctors who all living in any rented premises are forced to vacant houses (19) because landlord are afraid of getting disease if they keep doctors in there building. Such kind of factors can lead to severe mental trauma and many psychiatric diseases in future.

Invisible divers -migrant workers

The pandemic has prompted a huge opposite movement from cities to villages in many areas of the nation. After the sudden announcement of lockdown nationwide by the Prime Minister on 24 March, this reversal movement was one of the biggest migrations after the independence 1947. The following next days the whole nation saw some of most nerve-wrenching, shocking and disturbing news and images of these migrant workers going back to their villages. According to Census 2011, the general no of internal migrants would be 450 million the actual numbers might be higher than what is recorded in census. Bihar and UP are the leading supplier states, followed closely by Uttarakhand, Punjab, MP, West Bengal, Rajasthan and Jammu and Kashmir. The leading target states are AP, Gujarat, Delhi, TN, Kerala, and Maharashtra. Uncertainty over lost work, lack of food, hostile nature of the employee, loss of income are the prime causes of various social and psychological factors leading to anguish, apprehension, stress, in serve cases suicides too had occurred. Rough assessments reveal that more than 120 to 140 million people, moved

back to their villages, or stayed in various camps.(20) International Labor Organization assesses that “about 400 million workers in the informal economy are at the risk of collapsing profound into poverty throughout the catastrophe”.

Economic crisis

Economy growth of India was reduced to 3.1 per cent in the fourth quarter of fiscal year 2020, according to the Ministry of Statistics. According to World Bank, the disease has "exacerbating existing risks to India's economic prospects." Rating agencies first looked at India's growth in fiscal year 2021, setting the lowest record in 3 decades. However, following the declaration of the final package country's Gross Domestic Product values were further reduced to negative value in May, suggesting an intense recession. On May 26, CRISIL reported that it is possibly India's worst GDP in the first quarter of fiscal year 21. Job loss grew from 6.7 per cent to 26 per cent from March till April, and in mid-June, returned to the stages prior to closing. During the lockdown period, around 140 million people lost their jobs, while the wages of many others were cut.(21) More than forty-five per cent of family units nationwide reported a decrease in salary contrasted to former year.(22) The economy was likely to suffer the loss of more than thirty-two billion rupees i.e. 4.5 billion each day during the first 21 days of the shutdown.(23)

Figure 7: GDP growth projections for world comparing June 2020 from Jan 2020



Children and Stress due to COVID 19

Young children are under pressure from their parents and caregivers can express their experiences in a way that defines bad behavior, opposition or defiant behavior is a strategy. Parents have noticed that their children and preschoolers are fussier and winning. Trying to concentrate or participate in a game they may sometimes can become more violent. Several children might begin to exhibit classic deteriorating actions, such as bottle listening, thumb sucking, toilet bumps, unwillingness to dress up or eat by their own, being more

demanding, wanting to carry, and sleep problems. Sleep changes include falling asleep, waking up in mid night, getting repeated night bad dreams. These stressful reactions in children can cause parents to feel insecure and inadequate, may have trouble recognizing and sympathizing, may increase feelings of sorrow, despair and absence of power, insomnia. Parental withdrawal or disconnection may lead to parental distress or tension.

Older children and adolescent might frustrated over missing birthday parties, school plays, dance events, meeting friends, sporting activities like playing cricket with their friends, as well as being unable to visit their other family members like grandparents, uncles, aunts, and cousins. As stated by Erik Erikson, “Identity vs Role Confusion is the fifth of eight stages of psychosocial development that takes place between the ages of twelve and nineteen”.(24) Key incident during this stage is social relationship. Adolescents have magnified strength, invention, purpose, interest, and excitement that makes difficult for them to isolate or quarantine at home. Teens may feel irritated, anxious, detached, bored and nostalgic because they become socially is located due to pandemic.

To combat these challenges related to children and adolescent’s mental health status due to Covid 19 would like to present a proposal which will on enhancing the resilience of through psychosocial support.

5.PROPOSAL-

Title- Enhancing Well-being and Resilience among school Children

5.1. Background

In past, there have been outbreaks of Asian flu, SARS, MERS, Ebola, but the pandemic of COVID-19 is unique. It has stunned the whole world and generated universal panic. The impact and challenges this disease impose has varied from being clinical diagnosed and going for treatment to various other dimensions like social, psychological, education, economic burden, and financial loss. During the lockdown and even at present children are staying at home. Their studies, sports, interaction with peers are not the same way as it was earlier. There may be death due to COVID 19 in the family or external families all such situations affect children. Amidst of pandemic, where burdened students are facing the stress of the education system, mental healthcare is more important than ever. Schools in India does not have enough polices for handling mental health issues, resulting in long-term impacts on development, quality of life, and learning outcomes.

According to the UNESCO report, it had affected more than 87 per cent of total world's student population till mid-April 2020 (25) including both the levels of primary and secondary education. Though it is a unique situation in the history of education, COVID-19 has created many prospects to come out of the meticulous classroom teaching model to a new era of digital model. Situation in India is negative from the beneficiary side as not every student is well equipped with the high-speed internet and digital gadgets. Numerous advanced educational institutions in India are not also equipped with digital facilities right now to cope up with sudden change from traditional education set up to the online education system. Lack of knowledge and skill about the teaching on digital platform has widened the gap of proper delivery of educational material to students.

In India, “320 million students have been affected by COVID-19 school closures”, though the government rapidly suggested change to "online teaching," ignoring the fact that India has huge problem in digital learning, with many other factors like gender and class which can also hinder the whole process. According, to National Sample Survey report 2017-18 just twenty four percent of Indian households had accessibility of internet connection. In rural households which comprises of sixty six percent of the total population of the country, just fifteen percent had access, and in urban households just forty two percent had access. Thirty Six percent of men as compare to sixteen percent of women have internet access.(26)

The education disruption will remain to have significant consequences. Education institutions also provide platforms to prevent, diagnosis, and counsel the student if they are encounter any issues. Therefore, vulnerable groups like children are subjected together with- failure to get vital services and absence of social security.

5.2. Rationale

Children are the future of any nation. They need broad nurturing care which comprises decent health, adequate nutrition, primary education chances, open caregiving, safety, and security. Avoidable unsafe activities which can generate deficits to society can reach up to billions. On the contrary, negative behavior reduces socio-economic growth as well. Investing in children must be focused as their life-long patterns of behavior are at stake. Failing to invest in children may result in negative outcomes such as early school drop-out, unsafe sexual behaviors, substance abuse, violence, and crime.

Children morbidity and mortality due to COVID 19 is very limited. Closure of schools has created disturbance in students learning, and therefore, it is hard to estimate what effect has been made on the development of their human capital. In addition, household income loss may allow many children to drop out from school. It can easily be imagined that the already vulnerable children like differently abled living in hard-to-reach areas, malnutrition and many other factors made them more vulnerable. COVID related challenges to traumatic events will more lasting impact.

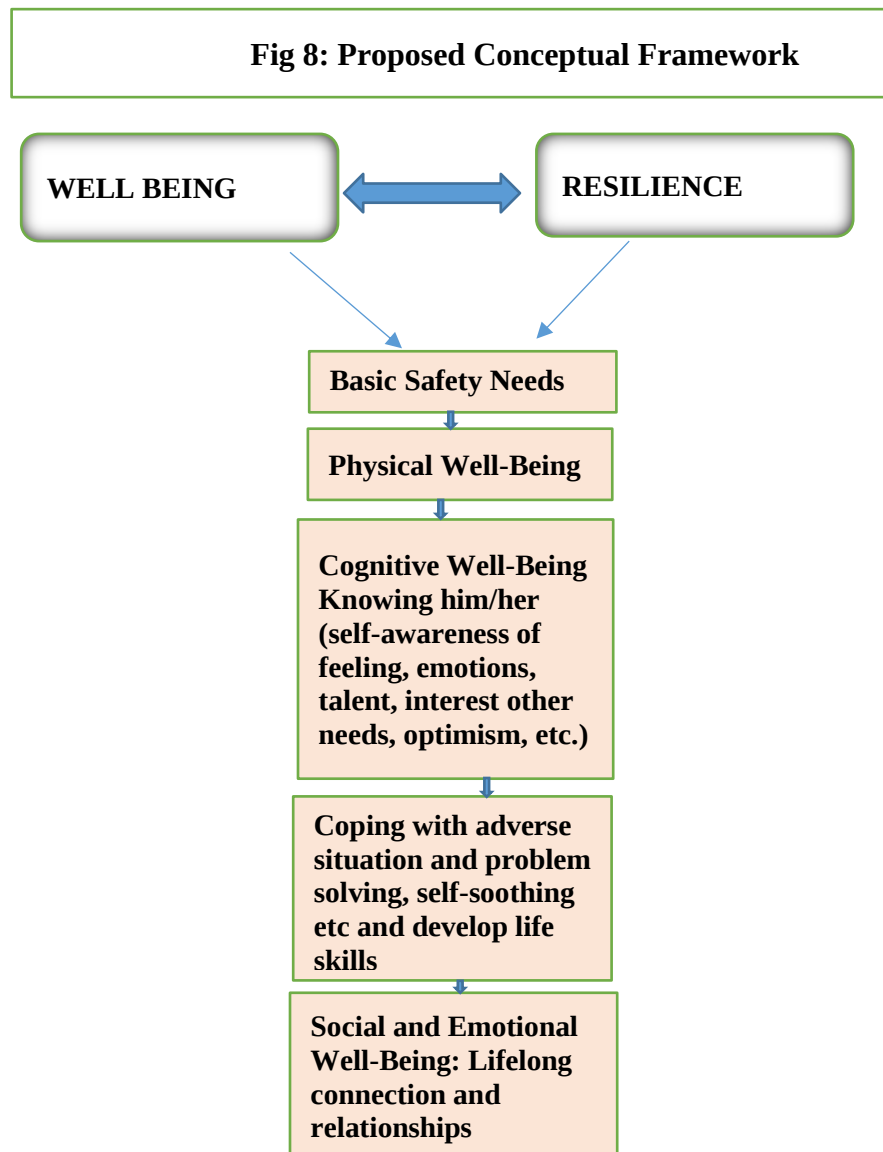
Various studies on resilience in developing psychological medicine has concentrated on the question that why some adolescents and children preserve constructive adaptation.(27) Even though understandings the concept of experiences "distressing life conditions and demanding societal conditions" children can face crime, poverty, strain, disturbance, scarcity, and domination. Research on ways to cope with psychological stress and stress attracts great attention, as these considerations are important in the models of resilience.(28)

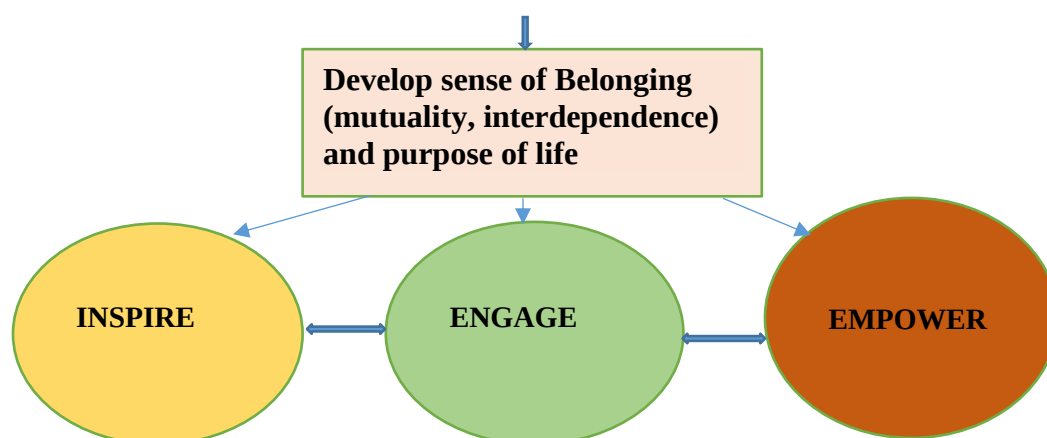
5.3. Well-being and Resiliency: A Conceptual Framework

Life is full of hassles not only in COVID 19 time but any time a person may face adversities. For the wellbeing of children, it is important to have psychological fitness to adapt well in the face of adversity. After reviewing the literature and the frameworks document by Government of Alberta, Canada, children services Ministry March 2019 and Department of Education and Communities, New South Wales Australia April 2015, policy brief on education during Covid 19, the association between “well-being’ and “resilience” is presented in Fig 8.

Definition of Well-being – “it encompasses physical, cognitive, social, emotional, and spiritual health, as well as factors like safety and security, supportive and nurturing relationships, a sense of purpose and belonging within a family and a community”.

Definition of Resilience – “ability to maintain or quickly return to a state of well-being, even in the face of significant hardship, adversity, or stress. Developing resiliency starts at infancy and continues through young adulthood”.





5.4. Aim

This proposal aims at enhancing resilience with psychosocial support for school going children.

5.5. Objectives

- a) To review various approaches to assess resilience and strategies to overcome it after other pandemics or disasters
- b) To assess (pretest) mental health and stress load among the children
- c) To design interventions in consultation with children and other key stakeholders (parents, teachers, etc.)
- d) To pilot test the intervention in select schools
- e) To posttest mental health and stress load among the children
- f) To document and disseminate the intervention model and lessons learned

5.6. Methodology

Study Area- The study will be conducted in the government schools of north district of New Delhi, India.

Study Population -

- School girls' and boys' children (10-19 years/ 6-9 standard),
- Parents of children
- Teachers

Study Design- The proposed research is a quasi-experimental "Study and Comparison Group Pre-test/Post-test Design". Diagrammatic presentation of the study design is as under:



O1 = Pretest before the intervention in the intervention block

O2 = Posttest after the intervention in the intervention block

O3 = Pretest before the intervention in the comparison block

O4 = Posttest after the intervention in the comparison block

Sample and sample size for pre-test–

Assuming, that each class will have four sections, and, in each section, there will be 40 students at least. One section of each class (6, 7, 8, 9) will be taken randomly (or in consultation with the class teacher) to administer the pre-test tools.

Therefore, a total of 160 students will be covered in one school.

There will be a total of four schools:

Two Intervention schools x 160 = 320

Two non-intervention schools x 160 = 320

Therefore, a total sample size proposed is 740.

Data collection Methods- A mix method of data collection will be used. Quantitative method in which data will be collected through self-administered questionnaire in the classroom situation for students. The student who has filled the questionnaire will be asked to bring his/ her parents and they will be administer family resilience scale. The teachers who used to teach 6-9 standard will also be administered the Teacher resilience scale.

Qualitative method will include in-depth interviews with teachers, and focus group discussion with parents, children, and teachers.

Data collection tools- For psychometric assessment of resilience the following tool will be used.

Resilience scale for children (RS10)

It is a 10-item scale survey that measure a child's capability to respond in an encouraging way, due to all the hardships or anxiety an individual has gone through any traumatized condition. It has been previously used for children who has suffered stress and depression due to natural disasters or calamities.(29) Its questions will be prepared in context of Covid -19 and its impact on psychological and emotional health on children and adolescents.

Family resilience scale-

The Family Resilience Assessment Scale, which is based on Walsh's model, includes 6 subscales, which are meant to reflect Walsh's 9 processes. The FRAS includes 54 items and 6 scales, to which respondents will be asked to rate the extent that each item describes their family

based on a 4-point Likert-type scale ranging from 'Strongly Disagree' (1) to 'Strongly Agree'

(4).(30)

Teacher's resilience scale-

Incorporating two scales, Connor Davidson scale and resilience scale for adults, a common scale for teachers will be develop. The questionnaire will by evaluating the following dimensions- of quality of life after the pandemic belief in one's feeling, acceptance of negative effect, consolidating effects of stress, optimistic acceptance of modification and secure relationships with their students and spiritual influences. The respondents will be asked to give responses on a scale of 1 to 15 with 20 questions.

The following tools will be developed for-

Parents and Teachers- In depth Interview.

Children, parents, and teachers- Focal group discussion

5.7. Operational plan

The study will be conducted in phased manner.

- Recruitment and Training of the staff

Phase 1: Two months

This phase will include two major planning activities:

- Selection of schools (case and control), taking approval from the respective authorities
- Getting ethical approval from the appropriate authorities

Phase 2: Four months

Tools will be developed, translated, pre-tested and finalized to administer.

Data collection will be done using printed tools.

Data analysis

Sharing key findings with the school principal, teachers, and parents

Designing of intervention and finalization

Phase 3: 12 months

The intervention will take place in two government schools of North district New Delhi. The intervention will focus on enhancing well-being and resilience of children through different activities as planned and approved in the designed intervention.

Phase 4: Two months

Post-test will be conducted as proposed in the pre-test. The key findings will be disseminated widely.

5.8. Ethics related concerns-

The following issues will be taken care of:

1. Voluntary participation of the schools and respondents will be ensured.
2. Keeping in view the COVID 19 and any other adverse situation, if the child or parent or teacher was found in discomfort or stress, counselling services will be arranged. The study team will also consist of psychologist and counsellors.

3. Data confidentiality will be maintained by keeping it password protected.
4. Participatory approach will be used to design and implement the intervention.
5. Ethical approval will be sought from appropriate authorities.

Study Team

Position	Essential Qualifications	Role and responsibilities in the study
Study Coordinator	MBBS, MPH	Co-ordinating the activities and overall supervision of the study
Co-coordinator	PhD in Clinical Psychology	Supervising with the field staff and reporting to study co-ordinator
Research officer	Postgraduate in Psychology/ Social Work	Researching about various implication of Covid on children
Counsellors	Postgraduate in Clinical Psychology with diploma in counselling	Conducting counselling session with children, parent, and teacher
IT personnel	Postgraduate in Information technology and allied courses	Compelling and analysis of the data
Accounts/ admin person	Postgraduate in accountancy or postgraduate in business administration	Supervising different management tasks

5.9. Timeframe

	Activities	Phase 1 (Month)		Phase 2 (Month)				Phase 3 (Quarter)				Phase 4 (Month)	
S.no		1	2	1	2	3	4	Q1	Q2	Q3	Q4	1	2
1.	Selection of schools (case and control), taking approval from the respective authorities												
2.	Getting ethical approval from the appropriate authorities												
3.	Tools will be developed, translated, pre-tested and finalized to administer.												
4.	Training of the staff												
	Data collection will be done using printed tools.												
5.	Data analysis												
6.	Sharing key findings with the school principal, teachers, and parents												
7.	Designing of intervention and finalization												
8.	Implementation intervention												
9.	Dissemination												

5.10. Budget

S No	Head	%Time	Unit	Duration	Rate (INR)	Total Amount (INR)
A	Human Resources					
1	Study Coordinator	0.25	Months	20	80,000.00	4,00,000.00
2	Co-coordinator	0.25	Months	20	60,000.00	3,00,000.00
3	Research officer	2	Months	20	50,000.00	20,00,000.00
4	Counsellors	2	Months	20	50,000.00	20,00,000.00
5	IT personnel	1	Months	20	40,000.00	8,00,000.00
6	Accounts/ admin person	1	Months	20	40,000.00	8,00,000.00
	Sub Total A					63,00,000.00
B	Training of the staff (5-day)				90,000.00	90,000.00
	Pre-test (printing tools, purchase of tools, pre-test of tools travel, snacks for FGD participants, audio recorders, etc)				2,00,000.00	2,00,000.00
	Post-test (printing tools, snacks for FGD participants, etc)				2,00,000.00	2,00,000.00
	Sub Total B				4,90,000.00	4,90,000.00
C	Intervention and post intervention Phase (Local conveyance, workshop, stationary, other items)			20	10,000.00	2,00,000.00
	Sub Total C					2,00,000.00
	Total (A to C)					69,90,000.00
	Institutional overhead @10%					6,99,000.00
	Grand Total					76,89,000.00
	GST as per the Govt rules					
	Office will be established in school only					

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