COMPARATIVE STUDY OF INDIA, ISRAEL, AND USA IN MANAGING COVID CRISIS

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

Rupal Jain

Under the Supervision and Guidance of

Dr. Piyusha Majumdar

Assistant Professor

2021

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Comparative Study of India, Israel, and USA in Managing Covid Crisis** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Rupal Jain

Date: 25/06/2021

CERTIFICATE

This is to certify that Rupal Jain in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her/his internship at guidance of Dr. Piyusha Majumdar, Assistant Professor during March 22, 2021 to June 19, 2021.

Place:
Jaipur

Preceptor/Head of the Organization Name of the organization

CERTIFICATE

This is to certify that dissertation titled **Comparative Study Of India, Israel, And USA In Managing Covid Crisis** is a record of the research work undertaken by Rupal Jain in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Dr. Piyusha Majumdar,
Assistant Professor
Faculty Guide
IIHMR University, Jaipur
Date – 25th June 2021

Dr.Dhirendra Kumar

School Dean
IIHMR University, Jaipur
Date – 25th June 2021

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This work was carried out at the **School of Health & Hospital Management, IIHMR University, Jaipur**.

It is a delightful moment for me, to put into words all my gratitude to my esteemed guide and preceptor Dr. **Piyusha Majumdar**, Assistant Professor alongwith our President Dr. P.R. Sodani, for their inestimable guidance, valuable suggestions and constant encouragement during the course of this study. It is with affection and reverence that I acknowledge my indebtedness to them and their outstanding dedication, often far beyond the call of duty.

At this moment, last but not least, express my heartiest regards to my family and friends for their energetic, moral and economical support that boosted my spirits. It was the blessing of them that gave me courage to face the challenges and made my path easier. It is because of them I have reached the place where I am today.

Dr. Rupal Jain

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ABBREVIATIONS

OECD	Organisation for Economic Cooperation and Development
HCWs	Health Care workers
FLWs	Front Line Workers

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CHAPTER 1- BACKGROUND

1.1 INTRODUCTION

COV-19, the continuous contamination is set off by new SARS-CoV-2, another Covid which has gotten one of the deadliest illness of the decade. The primary case was accounted for by WHO was on 31st, December, 2019 which was trailed by a report of numerous instances of 'Viral Pneumonia' in Wuhan, a city in China. From that point forward there were numerous instances of COVID-19 revealed by all nations around the world.

The indications affirmed for COV-19 are fever, dry cough, and weakness for certain further side effects like loss of taste and loss of smell, serious migraine, an irritated throat, and rashes over various piece of body and so on The vast majority who experienced the infection create had gentle to direct respiratory disease which doesn't needed any uncommon treatment. Individuals in more seasoned age with co-morbidities like cardiovascular infection, diabetes, persistent respiratory illness, and malignancy are more inclined to foster genuine side effects. The COV-19 infection transmission for the most part happens through drops of spit through hack or the drops release from nose while sniffling of the tainted individual.

To forestall and moderate the transmission of Covid-19 infection the best practice is to be very much aware about it. A decent hand cleanliness practice by washing hands routinely and utilizing sanitizers with liquor base is one of the avoidance procedure. Other than this is covering mouth and nose and keeping 2 meter distance with someone else while hacking and sniffling. WHO additionally prescribed to abstain from smoking, keeping yourself separated if fostering any indications, and rehearsing physical removing by staying away from superfluous travel. What's more, presently getting immunized is a standout amongst other preventive thing from Covid-19. (WHO, Oct 2020)

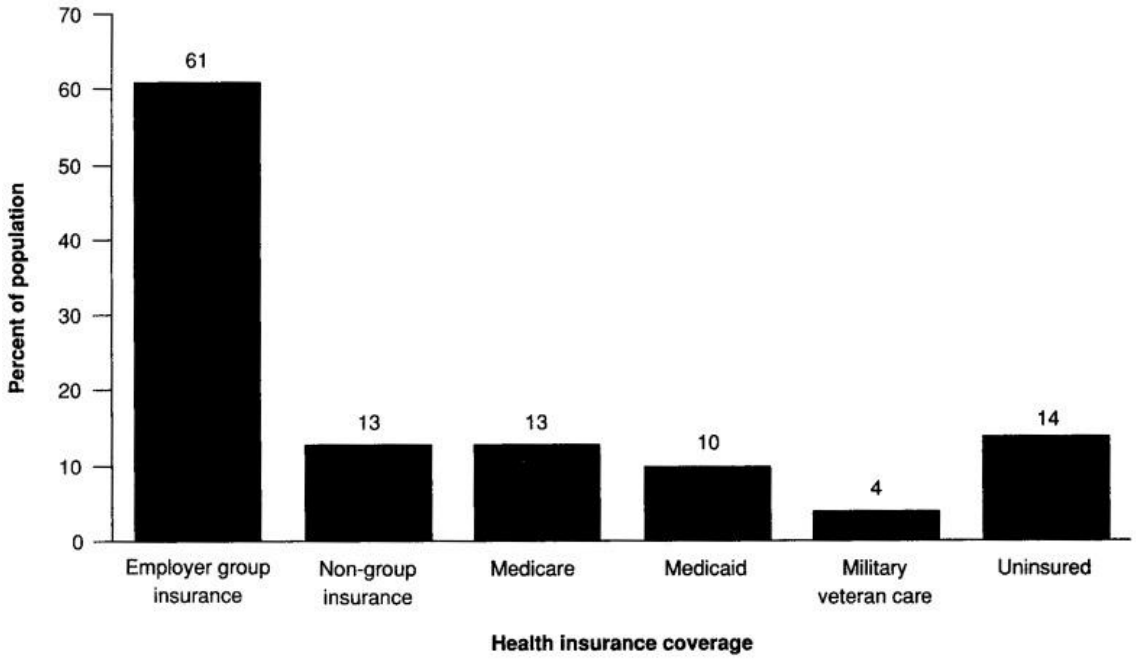
Various nations accomplished various strategies to back off Covid episode. Some achieved cross country lockdown, some shut its line, some encouraged individuals to keep away from public get-together, and some put cross country limitations on movement

separated from food stores and drug stores. What's more, from last a long time of 2020 numerous nations began immunization drive. Likewise, India and USA were most noticeably awful Covid hit nations on the planet and Israel become first country on the planet to get its resident completely inoculated. USA controlled Covid episode by carrying out certain strategies and beginning immunization. While India dispatched the world's biggest immunization drive.

1.2 COUNTRY'S PROFILE

USA- The United States of America, is considered one of the most powerful country because of its largest economy and biggest military budget. It comprises of 50 states, five major territories, 326 Indian reservations and some minor possessions. According to U.S. Census Bureau 2020, there are 331,449,281 residents in USA. The United States more expenditure on healthcare services as compared to any other nation. If calculated, it is more than twice as much per person does in the other OECD countries on average basis. USA spends 12.2% of its GDP on Healthcare (OECD,2019). The 74 percent population is covered by private health insurance, which is a vast majority of population.

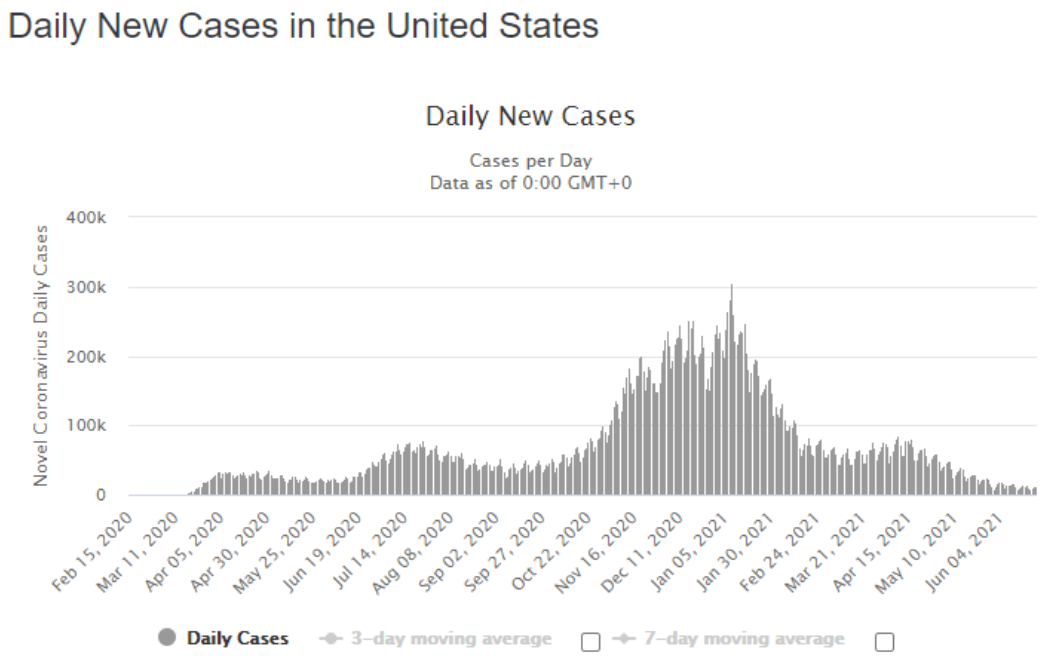
Figure 1.1- Percent of Population Covered By Health Insurance in USA



NOTES: Persons with more than one coverage are included more than once. Non-group is insurance purchased by individuals. Military includes dependents.
SOURCE: (U.S. Bureau of the Census, 1991b).

According to COV-19, the first instance of infection was accounted for on January 20, 2020 and on January 31, US proclaimed the episode a general wellbeing crisis. In excess of 33 million populace in the U.S. has been affirmed as Covid tainted and more than 600,000 have passed on of the sickness.

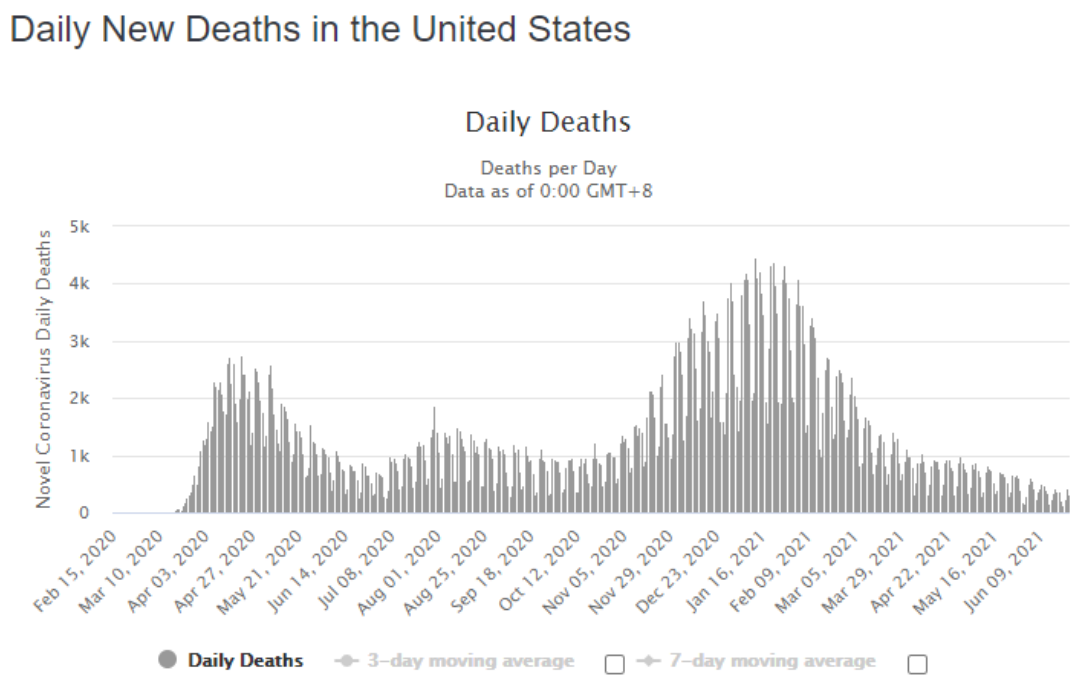
Figure 1.2- Daily New Cases in USA



1. Source: https://www.worldometers.info/coronavirus/country/us/

The new cases numbers diminished accordingly in the scope of some control estimates that were set up by the public authority. There was ascend in contamination because of financial exercises and second wave for USA began in Mid-June of 2020 and topped during fourth seven day stretch of July. It bit by bit declined by the stricter anticipation measures. US likewise encountered a deadlier third wave in first seven day stretch of October 2020 and crested in first seven day stretch of January 2021, which additionally declined and Covid-19 inoculation accelerate. The second wave in USA went on for 45 days.

Figure 1.3- Daily Deaths in USA



- Source: https://www.worldometers.info/coronavirus/country/us/

Policies for Covid-19 Transmission Control

Coronavirus mass inoculation began on December 14, 2020 under administration of Donald Trump and proceeding under administration of Joe Biden from January 20, 2021. Immunizations were Pfizer/BioNTech, Moderna and Johnson and Johnson COVID-19 antibody. An objective of 100 million shots was accomplished on March 19, 2021.Policies taken by USA government were:

- In USA, multiplying the quantity of testing locales and doing examination through home and moment tests increased the testing limit in the country by significant degrees.
- Establishment of a Public Health Jobs Corps in U.S. to perform suitable methodologies for contact following and for forestalling the populace in danger.
- Full use of Defense Production Act was there for expanding creation of covers, face safeguards, and other individual Protective Equipments to surpass request and to renew hard-hit regions.
- Promoting social separating and giving the extra assets to schools that they need to adjust productively to battle COV-19.
- USA put $25 billion in assembling of immunizations opportune and furthermore circulation of them on an assurance to offer it to Americans, at sans cost.
- The more seasoned Americans and other populace in danger was ensured.
- The re-dispatching and fortifying of Agency for International Development's in America for following of microbe program called PREDICT was one drive.
- Keeping cover wearing required cross country even while with lead representatives and civic chairmen too. Also, ultimately, by requesting individuals from America to do what they can do best to battle the pandemic.

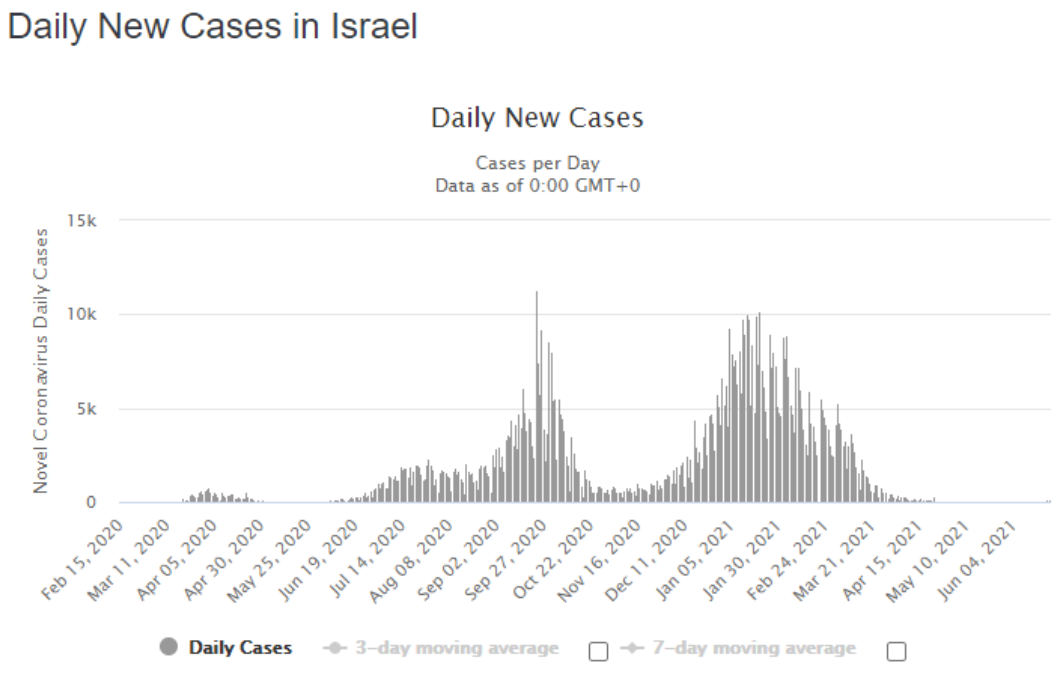
ISRAEL- It's anything but a country in Middle-East comprises of six regions and three areas. Israel has a populace of around 9 million resident. The world's second-biggest number of new businesses after the United States are in Israel. The nation's major financial area are innovation and mechanical assembling. Israel is focus of world's communities for jewel cutting and cleaning, prompting 2.3% of all fares.

In Israel, National Health Insurance (NIH) System furnishes bundles with advantages to the populace. The framework is financed from public sources through finance and general expense incomes. Roughly 8% of GDP is utilized in medical care. Israel is the country which gives general wellbeing inclusion to its all residents and lasting inhabitants living in the nation as a piece of public health care coverage law. The public

government or focal government, through Ministry of Health is liable for the strength of populace and for by and large working of medical care framework in the country.

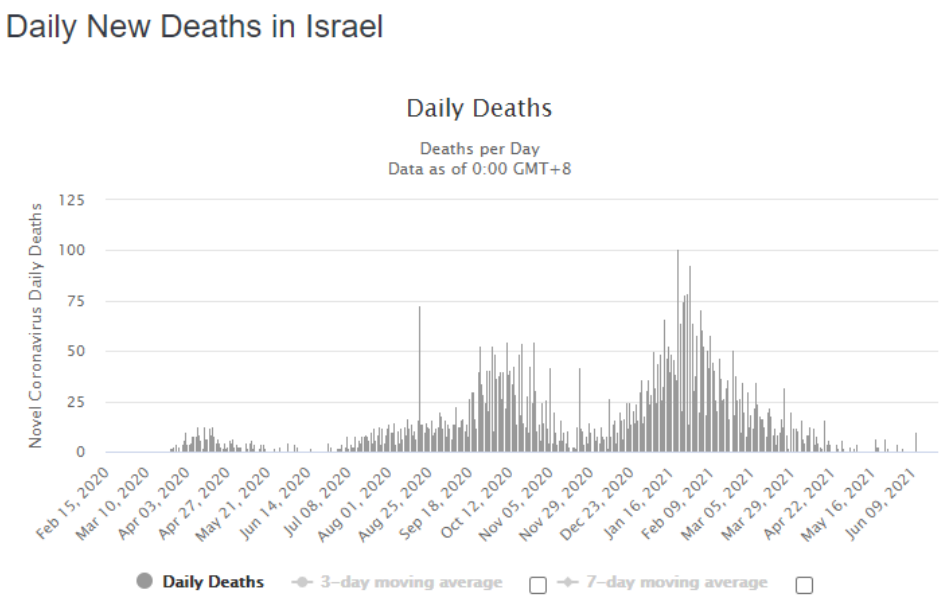
In Israel, the extremely first instance of COV-19 was affirmed on February 21, 2020. Nation carried out the lockdown. When there was decline in disease, in May, most organizations, public places and schools were returned. Again a flood in cases started in June prompting top in the event that in September. The public authority chose to present another lockdown beginning eighteenth September.

Figure 1.4- Daily New Cases in Israel



Source: https://www.worldometers.info/coronavirus/country/israel/

Figure 1.5- Daily Deaths in Israel



Source: https://www.worldometers.info/coronavirus/country/israel/

Policies for Covid-19 Transmission Control

An assortment of activities to cover and decrease the spread of infection was executed by the Government. In response to COV-19 flare-up measure taken were contained really testing, travel limitations, social separating. Furthermore, Israel become first country on the planet to get its resident completely immunized. Israel inoculation program was not without issue, the underlying period of the drive was successful and quick. Elements which contributed in early accomplishment of Israel in battling Covid-19 were:

•In Israel, first factor included minor space of the country, a moderately youth populace. It's anything but a focal public arrangement of government with all around assembled structure that aides in applying moment reactions to gigantic size of public crises.

•Secondly, the elements incorporate are the hierarchical, Information Technology and calculated limits of medical services suppliers grounded out at local area level, accessibility of prepared local area based medical care labourers.

•Third factor incorporate the coordination or cooperation among the public authority, proposed medical services strategies, clinics and crisis care suppliers during the public emergency.

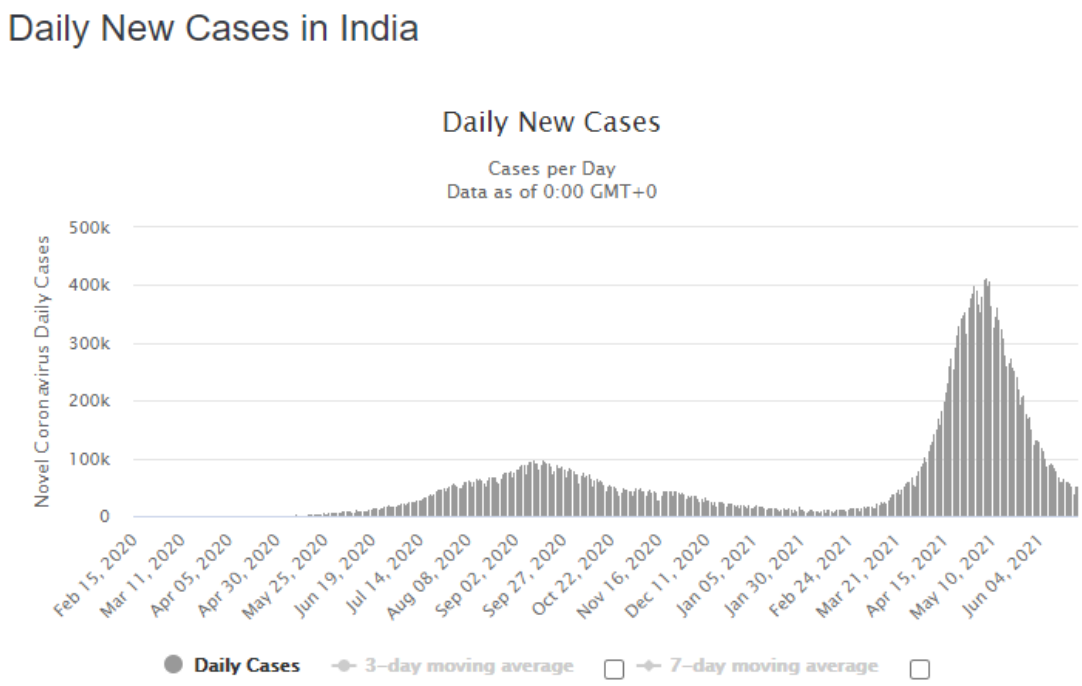
•Fourth factor incorporates the mobilizing of unique government financing for the acquisition of antibodies and conveyance of a lot of immunization on an agreement premise comparative with Israel's populace.

INDIA- India is a country arranged in South Asia. It is second most long distance nation of the world with second significant nation and most crowded vote based system on the planet. India has around 1.21 billion populace (Census, 2011).There are 28 states and 8 association domains in India. These states and association regions have region into locale and more modest managerial regions. India is one of the world's significant maker of nonexclusive medications, and its drug area defeats more than half interest on the planet. India burned through 3.6% of GDP on medical services (OECD, 2019).

India medical care framework comprises of public and private medical care both. The private medical care suppliers are amassed in Urban India for the most part, giving optional and tertiary consideration medical care administrations. In India, general medical services framework is created as a three level framework and is by and large based out in rustic region. The space of administration and of activities of wellbeing framework in India have been split between two governments' for example association and state government. Association government has Ministry of Health and family Welfare which is answerable for execution of different projects on public scale. Then again, spaces of general wellbeing, emergency clinics, disinfection go under state government. The vast majority of Indians are not canvassed in Health Insurance Plan. India has a National Health Protection Scheme likewise, which covers 10 crore poor and weak families in the nation and gives inclusion of up to 5 lakh rupees for each family each year for optional and tertiary consideration hospitalization.

India announced its first instance of Covid-19 on January 30, 2020. At the same time, because of flood in cases on March 25, 2020 India forced cross country lockdown which reached out till Mid May. June onwards, India's opening cycle occurred in seven stage which endures till December. The principal wave of Coronavirus likewise most elevated flood in cases in a day was estimated 96 thousand and in second wave the most elevated flood in cases in a day was surmised 4 lac cases.

Figure 1.6- Daily New Cases in India

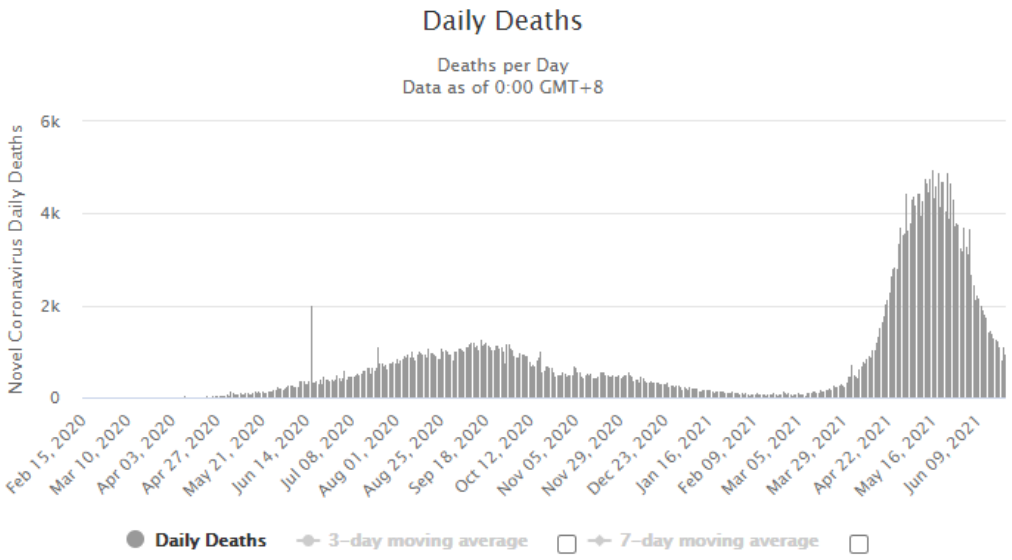


Source: https://www.worldometers.info/coronavirus/country/india/

There are around 3.5 deaths in India from March 2020 to May 2021. In first wave of Covid around September one thousand death cases were reported, while in second wave around May 4 thousand death cases were reported.

Figure 1.7- Daily Deaths in India

Daily New Deaths in India



Source: https://www.worldometers.info/coronavirus/country/india/

Policies for Covid-19 Transmission Control

- Heavy screening was conducted and quarantine of incoming International travellers become mandatory and all visas except for diplomats and employment were suspended.
- All cross-national borders were sealed and railway operations were suspended.
- To curb panic, government provided authentic information through online portals and applications on the virus for general public.
- The government designated various testing centres across the country and converting railway coaches into isolation stations in absence of proper healthcare system.
- Centres also took steps for developing a vaccine for the pandemic.
- Launching of covid-19 vaccination strategy was on January 16th,2021 and prime focus was to protect Health Care workers(HCWs) and Front Line Workers(FLWs).
- In India, government coordinated and worked with research institutes, private companies for increasing vaccine manufacturing capabilities.
- Government of India (GoI) also ensured the proper participation of public and private sectors in the vaccination drive.
- From 1st May 2021, liberalised Pricing and Accelerated National Covid-19 Vaccination Strategy has initiated for distribution of vaccines.

The rationale behind taking Israel is because of effective execution of vaccination drive, health care facilities for Covid patients and effective policy execution while for USA being such a large nation managing crisis, political changes and managing covid crisis at a large scale necessitates the need for understanding the healthcare model at a large. While India being the most populous nation with extremely complex demography and complicated federal structure, it is imperative to understand the policy development and deployment at a large scale to manage COVID crisis. The study of different countries would enable us to strengthen the pandemic management with good practices deployed and mitigate the shortcomings for future.

1.3 RESEARCH QUESTION

Is USA and Israel managed covid crisis effectively than India? What are the reasons for this?

1.4 AIM and OBJECTIVES

- **Aim-** To carry out the comparative study among INDIA, USA and ISRAEL in managing Covid-19 crisis
- **Objectives-** The main objective of the study is to carry out the comparative study among India, USA and Israel and understand the factors responsible for effectively addressing Covid-19 crisis in these three countries. Other specific objectives are-

❖ To study the Healthcare Model of three countries used during the pandemic
❖ To study the functioning of Covid vaccination program.

CHAPTER 2- REVIEW OF LITERATURE

Sr No	Authors (Published Year)	Study Location	Sample Size	Sampling Technique	Salient Feature

1	**Title-** Israel's rapid rollout of vaccinations for COVID-19 **Year-** 2021 **Author-** Bruce Rosen, Ruth Waitzberg, Avi Israeli	Israel	Population	Secondary data	Israel has an all around created framework for arranging and execution of between sectoral reactions for fighting huge scope public crises. The country contracted with different drug organizations at for immunization improvement be forehandedly. There is basic clear and effectively implementable rules for assurance of whom should had need for getting antibodies in the beginning stages of the dissemination interaction
2.	**Title-** What we can learn from Israel's rapid roll out of Covid 19 vaccination **Year**- 2021 **Author**- Martin McKee, Selina Ranjan	Israel	Population	Secondary data	Israel had a well-developed information systems for helping different organisations indulged in vaccination process Israel has the squad of well-trained nurses with long experience who can serve community in vaccination
3.	**Title-** Modeling of Future COVID-19 Cases, Hospitalizations, and Deaths, by Vaccination Rates and Nonpharmaceutical Intervention	USA	Population	Secondary Data	There were four scenarios which were considered in each model: •High vaccination with moderate NPI use, •High vaccination with low NPI use,

	Scenarios — United States, April–September 2021 **Year-** April–September 2021,using data available through March 27, 2021 **Author**- Rebecca K. Borchering, Cécile Viboud, Emily Howerton,1 Claire P. Smith,Shaun Truelove, Michael C. Runge, Nicholas G. Reich, Lucie Contamin, John Levander, Jessica Salerno, Wilbert van Panhuis, Matt Kinsey, Kate Tallaksen, Freddy Obrecht, Laura Asher, Cash Costello, Michael Kelbaugh, Shelby Wilson, Lauren Shin,Molly E. Gallagher, Luke C. Mullany, Kaitlin Rainwater-Lovett, Joseph C. Lemaitre, Juan Dent, Kyra H. Grantz,Joshua Kaminsky, Stephen A. Lauer, Elizabeth C. Lee, Hannah R. Meredith, Javier Perez-Saez, Lindsay T. Keegan, Dean				•Low vaccination with moderate NPI use •Low vaccination with low NPI use (public health policies which can include physical distancing and masking)

	Karlen, Matteo Chinazzi, Jessica T. Davis, Kunpeng Xinyue Xiong, Ana Pastore y Piontti, Alessandro Vespignani, Ajitesh Srivastava, Przemyslaw Porebski, Srinivasan Venkatramanan, Aniruddha Adiga, Bryan Lewis, Brian Klahn, Joseph Outten, James Schlitt, Patrick Corbett, Pyrros Alexander Telionis, Lijing Wang, Akhil Sai Peddireddy, Benjamin Hurt, Jiangzhuo Chen, Anil Vullikanti, Madhav Marathe, Jessica M. Healy, Rachel B. Slayton, Matthew Biggerstaff, Katriona Shea, Justin Lessler,				
4.	**Title**- Comparing COVID-19 vaccine allocation strategies in India: A mathematical modelling study **Year**-2020 **Author**- Brody H. Foy, Brian Wahl, Kayur Mehta, Anita Shet,	India	10 Most Populous states in India	Secondary Data	Simulation of four vaccine strategies under variations in : •Dosage availability •Target group coverage •Vaccine efficacy •Effect on transmission and the

	Gautam I. Menon, Carl Britto,				implementation of other control measures
5.	**Title**- The world's largest COVID-19 vaccination campaign **Year**-2021 **Author**-Sanjeet Bagcchi	India	Population	Secondary data	India aimed for vaccinating 300 million people by August 2021, including 30 million health workers and frontline workers (including police, soldiers), and 270 million elderly people (ie, aged over 50 years) and people with co-morbidities

CHAPTER 3- RESEARCH METHODOLOGY

Literature Collection Online databases like science direct, Google Scholar and Pubmed were used to search for articles and published literature, newspaper article will also be used.

Data Type: Secondary Data

Inclusion Criteria: Articles published in peer- reviewed journals are included. All articles written and published in English language will be included; any article that talks about Covid-19 management in three countries will be included.

Exclusion Criteria: Articles that did not fulfil any of the specified inclusion criteria were excluded.

Plan of Analysis: Literature screening and Data extraction using suitable process.

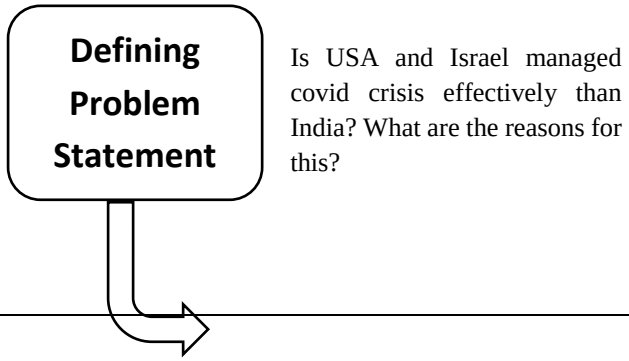
Research Design & Plan

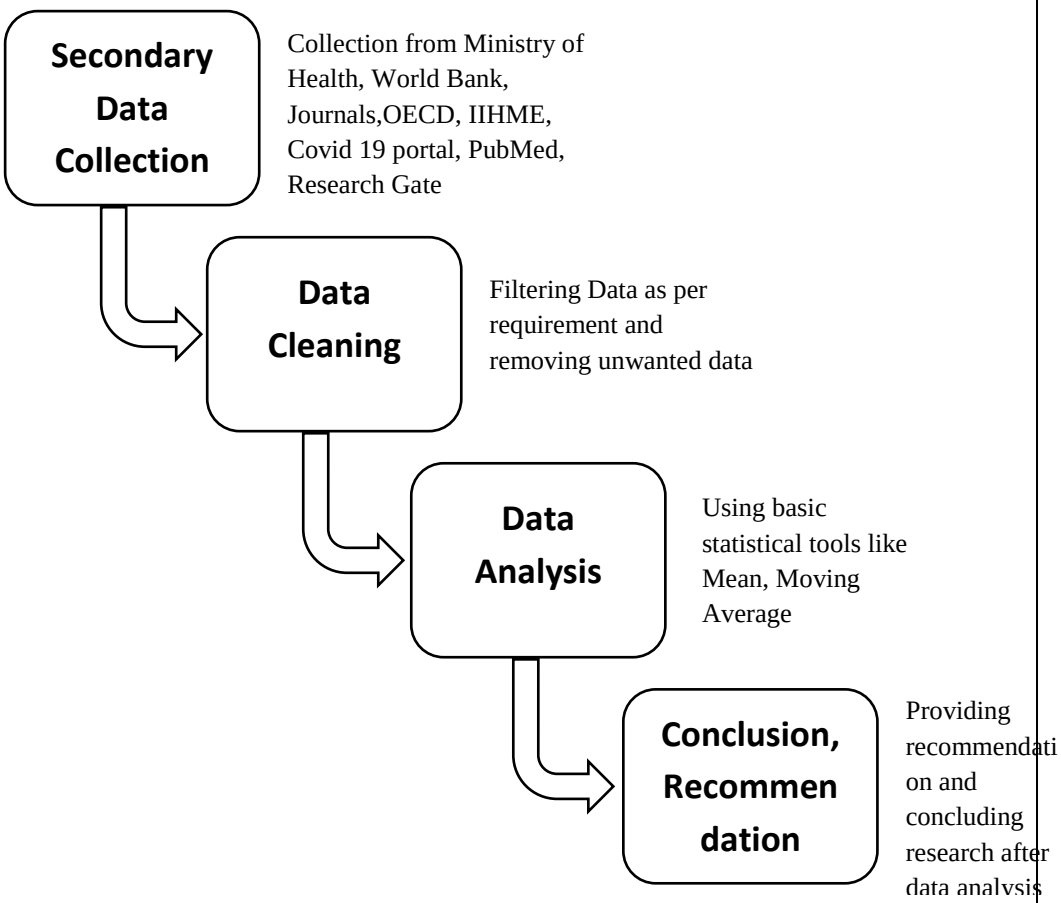
After thorough understanding of the problem statement through in-depth study of different articles published in research journals, articles about Covid-19 management in three countries from different newspapers and also after analysing demography of three countries, the research was carried out by collecting secondary data from government database and World Health Organisation. The data has been collected from following sources:

- Ministry of Health and Family Welfare, Government of India.
- Israel Journal of Health Policy Research
- Centres for Disease Control and Prevention
- The Lancet Journals
- The Institute of Health Metrics and Evaluation (IIHME)
- The White House Portal
- International Monetary Fund
- The World Bank Data
- Organisation for Economic Cooperation and Development (OECD) Library
- Statista Portal
- Covid19 India Portal
- Articles from PubMed and Research Gate
- Articles from Newspapers like Times of India, Economic Times, New York Times

The data from the above mentioned sources is collected and analysed for Covid-19 trend and measures taken by government to combat it with inbuilt different healthcare model in three countries. After analysis of the data, concluding remarks and recommendations were provided. The flowchart of the research is given in the figure.

Figure 1.8- Research Design





CHAPTER 4- DATA ANALYSIS AND INTERPRETATION

Table 4.1 – Demographic Profiling

S No.	INDICATORS	ISRAEL	USA	INDIA
	Area	21,671 sq.km	9.83 million sq.km	3.28 million sq.km
	States and Provinces	6 Districts and 3 Provinces	50 states, five major unincorporated territories, 326 Indian reservations and minor possession	28 states and 8 union territories
	Population	9 Million	328 Million	1.36 Billion
	Gender	Females-50.26% Males-49.73%	Females-50.51% Males-49.48%	Females-48.03% Males-51.97%
	Age	0-14 yrs-27.89% 15-64 yrs-59.91% 65years and older-12.21%	0-14yrs-18.55% 15-64yrs-65.24% 65 years and older-16.21%	0-14yrs-26.62% 15-64yrs-67% 65 years and older-6.38%
	First Case Of Covid	February 21,2020	January 20, 2020	January 30, 2020
	Cumulative confirmed Cases of Covid per million people (Till May 31,2021)	96,987	**100,505**	20,416

	Source: ourworlddata.corg			
	Cumulative confirmed Deaths due To Covid per million people(Till May 31, 2021) Source: ourworlddata.corg	1795	**740**	**240**

Above given information is general segment profiling of the nations giving. From the above information, it is demonstrated that Israel is the country with least populace for example 9 million and India is the country with biggest populace for example 1.36 Billion. Region astute USA is having biggest region and Israel is having littlest region. Females are more than Males in USA and Israel when contrasted with India.

The First Case of Covid was accounted for on February 21, 2020 in Israel while in USA and India it was January 20, 2020 and January 30, 2020 individually. Combined affirmed Cases of Covid per million individuals (Till May 31, 2021) are – Israel (96,987), USA (100,505), India (20,416).Cumulative affirmed Deaths because of Covid per million people (Till May 31, 2021) are-Israel (1795), USA (740), India (240).

Busy time of Covid Cases: In Israel flood in cases started in June prompting top in cases in September. In USA, new cases declined after a scope of control measures were taken by the public authority however contamination rose again because of financial exercises and second wave for USA began in Mid-June of 2020 and crested during fourth seven day stretch of July. It continuously declined by the stricter counteraction measures. US additionally encountered a deadlier third wave in first seven day stretch of October 2020 and topped in first seven day stretch of January 2021, which likewise declined and Covid-19 inoculation accelerate. While in India, the main rush of Coronavirus which came around has most noteworthy flood in cases in a day was rough 96 thousand in August and in second wave the most noteworthy flood in cases in a day was estimated 4 lac cases in Mid-May.

Table4.2. - Healthcare Model of different Countries

S No.	INDICATORS	ISRAEL	USA	INDIA
	Insurance Coverage	94.5 percent Population 29	92 percent population (Census,2019)	35 percent population (Statista,2018)
	Number of Physicians per 1,000 population Source:data.worldbank.org	4.625	2.6	0.587
	Number of beds available per 1000 people(2017) Source:data.worldbank.org	3.02	2.87	0.53

Model/Health Care System: In Israel, National Health Insurance (NIH) System gives bundles advantages to the populace. The framework is financed from public sources through finance and general duty incomes. Roughly 8% of GDP is utilized in medical care. Israel is the country which gives general wellbeing inclusion to its all residents and lasting inhabitants living in the nation as a piece of public medical coverage law. The public government or focal government, through Ministry of Health is liable for the strength of populace and for by and large working of medical care framework in the country.

In USA, there is no single cross country medical coverage framework. Health care coverage is bought in the private commercial center or is given by the public authority of USA to certain qualified gatherings. The United States essentially depends on the organizations or managers to give health care coverage inclusion to their representatives deliberately and government programs which are given are simply restricted to the older, the incapacitated, and a portion of poor people.

In India, general medical care framework is created as a three level framework and is for the most part based out in country region. The space of administration and of tasks of wellbeing framework in India have been split between two governments' for example association and state government. Association government has Ministry of Health and family Welfare which is liable for execution of different projects on public scale. Then again, spaces of general wellbeing, clinics, disinfection go under state government. The vast majority of Indians are not shrouded in Health Insurance Plan. India has a National Health Protection Scheme likewise, which covers 10 crore poor and weak families in the nation and gives inclusion of up to 5 lakh rupees for every family each year for auxiliary and tertiary consideration hospitalization.

Policies attained by Country's to handle Covid-19:

In Israel, first factor included little size of the country, a generally youthful populace. It's anything but a concentrated public arrangement of government with very much created framework that aides in executing moment reactions to huge size of public crises. The second gathering of variables incorporate the hierarchical, Information Technology and strategic limits of medical services suppliers based out at local area level, accessibility of prepared local area based medical services labourers. Third factor incorporate the coordination or participation between the public authority, proposed wellbeing plans, clinics and crisis care suppliers during the public crises. Fourth factor incorporates the mobilizing of extraordinary government financing for the acquisition of immunizations and dispersion of a lot of antibody on an agreement premise comparative with Israel's populace.

In USA, multiplying the quantity of testing locales and doing examination through home and moment tests increased the testing limit in the country by significant degrees. Foundation of a U.S. General Health Jobs Corps to perform fitting methodologies for contact following and for securing the populace in danger. Full use of Defence Production Act was there for expanding creation of covers, face safeguards, and other individual Protective Equipments to surpass request and to recharge hard-hit regions. Advancing social removing and giving the extra assets to schools that they need to adjust adequately to battle COVID-19. USA put $25 billion in assembling of antibodies convenient and furthermore dispersion of them on an assurance to offer it to Americans, at sans cost.

The more established Americans and other populace in danger was secured. The re-dispatching and fortifying of U.S. Organization for International Development's microorganism following system called PREDICT was one drive. Keeping veil wearing obligatory cross country even while working with lead representatives and civic chairmen too. Also, finally, by requesting that the American public do what they can do best to battle the pandemic.

In India, weighty screenings were led and approaching International voyagers were obligatorily isolated and all visas with the exception of negotiators and business were suspended as an action in beginning stage. Additionally, all public boundaries were fixed and rail route tasks were suspended. To control alarm, government gave valid data entryways and stages on the infection for overall population.

Table4.3.-Vaccination Indicator of Different Countries

S No.	**INDICATORS**	I**SRAEL**	**USA**	**INDIA**
	Vaccination Initiated on	December 19,2020	December 14, 2020	January 16, 2021
	Number of people Vaccinated(Till May 31,2021) Source: ourworlddata.org	62.99%	50.15%	12.12%

Policies attained by Country's for vaccination: In Israel, energizing for extraordinary government financing for antibody buy occurred and distributional agreement for a lot of immunization conveyance considering Israel's populace was the approach accomplished.

USA put $25 billion in assembling of antibodies ideal and furthermore dispersion of them on an assurance to offer it to Americans, at sans cost.

In India, government composed and worked with research establishments, privately owned businesses for expanding antibody producing abilities. Legislature of India (GoI) likewise guaranteed the legitimate cooperation of public and private areas in the inoculation drive. From first May 2021, changed Pricing and Accelerated National Covid-19 Vaccination Strategy has started for conveyance of immunizations.

INTERPRETATION

When we compare the demography of all the three countries there is a varying distribution of population/ km among the three countries. Density of population is quite varying along with different political arrangements. For instance, USA and Israel have a centralized system to run the vaccination program being Israel totally dependent on government funds and USA has factored in employee employer partnership while India has bilateral system in which policy level decision was carried by central government and execution was carried out at state level.

After understanding the healthcare model of three countries, following interpretations are coming out –

1. Israel's work in collaborating with different vaccine makers at an early stage, procuring vaccines centrally and distributing across districts is commendable. Being a small and less populated country compared to India and USA, planning to execution, all stages went well.
2. USA, on the other hand has extensively collaborated between employer and government functionaries to transfer the cost burden. Although the initial planning was commendable along with tie-ups, but data indicates that execution in the beginning was not as per target. Later on vaccination drive got streamlined and coverage was commendable but faster response at an early stage would have reduced the chance of second wave.
3. India on the other hand had worked tremendously on fund allocation, collaboration with vaccine makers, price determination and execution. But, considering huge population and demographic challenges, the execution became a challenge and till 20th June 2021, they could vaccinate only 20% population with first dose. On the other hand, lack of coordination between central and state governments, the delay has been extended further. People negligence and carefree attitude led to further elongation of vaccination drive and second wave. But considering all the above challenges, vaccinating 142 million people in 100 days is itself a big milestone and the drive itself stands out globally.

Overall, different countries have different policies, federal structure, demography, climate and culture. Challenges and actions are different for different countries as evident in the review of literature and secondary data and therefore the action taken by respective countries seems appropriate at that given time frame to mitigate risk. Few recommendations which could cater the situation better is provided in the upcoming chapters.

CHAPTER 6 - CONCLUSION

Conclusion

Israel could manage COVID crisis effectively due to centralized policy implementation and execution. The lesioning with vaccine makers at an early stages gave them a competitive advantage over other in procuring the same timely which resulted in eliminating the devastating impact of second wave. On the other hand, USA has effectively managed the crisis through Public Private Partnership and Healthcare funding for its citizens. The early execution of vaccination drive is added advantage for them which reduced the adverse impact of second wave. While India has put significant efforts,

the findings after reviewing the literature of different countries as mentioned above and carrying out the analysis, it implies we could be in a better position if Co-ordination between Central and State Government was transparent and smooth. Timely fund allocation for infrastructure establishment and vaccination program and the Health insurance partners enrolment for servicing clients at home would have further strengthened the program. Coordination for procuring raw material for vaccines could further be streamlined and Engagement with private companies as public private partnership would have made it an engaging and collaborative effort with better efficiency and effectiveness.

CHAPTER 5- RECOMMENDATIONS

1. India at a policy level would have taken a call to have a tie up with foreign vaccine makers as well as it would have reduced the dependency on Indian manufacturers.
2. Proper fund allocation in the beginning to vaccine makers would have enabled them faster manufacturing of vaccines.

3. Pricing of the vaccines to be determined by the government centrally rather than having both approaches
4. Public Private partnership pertaining to vaccine execution would have given additional advantage to India in terms of speed and infrastructure
5. Vaccine makers got certain raw materials at a later stage which delayed the manufacturing and trial process. Government of India would have anticipated and act at the early stages to mitigate the risk.

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