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COVID 19: Impact and Response

Volume IV

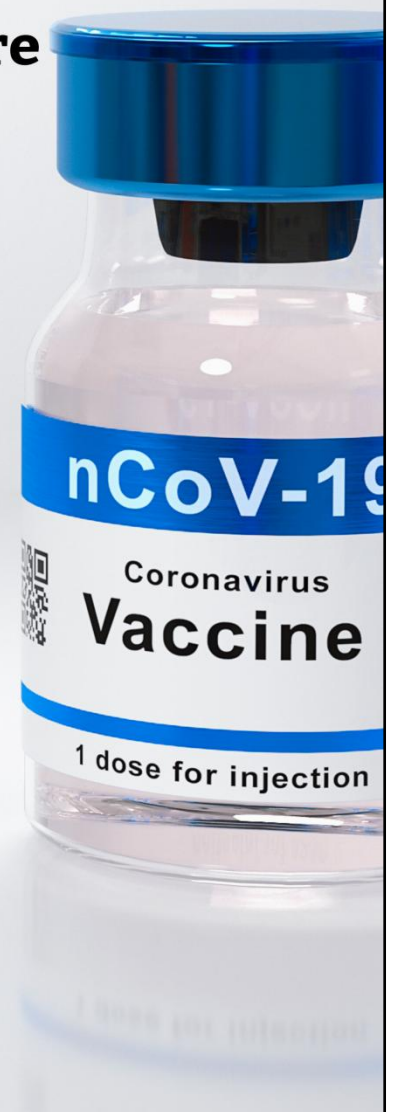
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PREFACE

The new respiratory pandemic disease i.e. COVID-19 has caused disruptions in the lives and customs of people with significant impact on the economies of nations. The outbreak of the disease is a global health emergency and of international interest. This global health challenge leads to the infection, morbidity and mortality of many people.

In the weeks since the World Health Organization manifest the corona virus (COVID – 19) episode a worldwide unstipulated wellbeing crisis, the COVID-19 pandemic has influenced 212 nations and forfeit increasingly than 400,000 lives. Still today there is no successful remedy to lockup the spreading of this infection. The pandemic is developing prior disparities, uncovering vulnerabilities in social, political and financial frameworks which are thusly intensifying the effects of the pandemic.

Governments of various nations adopted restrictive measures involving both within the countries and at international borders as effective response to the corona virus pandemic. These measures includes confinements of workers and order to work from home, banning of social and religious gatherings, closure of market places, closure of workplaces including airports, building or creation of testing and isolation centers, quarantining/isolation of suspected persons, self-imposed isolations, and the use of face masks whether surgical or cloth type in situations where there is a cogent reason to defy the restriction.

Academic communities were not left out as institutions of learning were requested to close in many countries since it is very easy to spread the virus among students and youths in tertiary institutions where socialization is an essential part of their lives.

To address the various issues related with the COVID – 19 we have published the present book. The interdisciplinary approach of the book will make the book useful and informative to the students, teachers, researchers, scientists and policy makers in India and abroad.

We thank all contributors, publishers and all our well-wishers for their blessings, without which this book would not have come into existence.

- Editorial Team

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DISCIPLINE ON ONLINE PLATFORM FOR GENERATION ALPHA – TUTORS AND PARENTS DILEMMA DURING COVID-19

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Abstract:

Purpose: The research explores the purpose of incorporating and emphasising the concept of discipline in an online education platform which is missing among students. From the lens of academic tutors and parents, the paper discusses on importance of discipline for the alpha generation to achieve better academic engagement through reinforcement learning strategies.

Design/methodology/approach: The data was collected from 20 samples belonging to two different focus group. The first focus group interview consisted of 10 teachers teaching students between the age group of 4 years – 6 years. The second focus group interview consisted of 10 working mothers of generation alpha between the age of 4 – 6 years working in the IT field.

Findings: The academic tutors were asked about the challenges faced during online classes. The mother focus group was asked about the positive and negative reinforcements during online sessions. The text has been coded into themes. The themes generated can be used by instructors on the online platform to ease their teaching-learning process.

Originality: Focus of discipline part in online teaching for generation alpha kids with the help of reinforcement theory of learning, especially in the current pandemic context.

Research limitations: The age covered was between 4 years – 6 years. Parents only mother's perspectives are covered, and sample size is limited to 20 as the study has adopted a focus group approach.

Practical implications: Tutors can create an effective strategies based on the research findings for better academic engagement of generation alpha during online sessions.

Social implications: It is said honest, disciplined and civilised civilian moulds society and this begins from school and its related activities. Thus, incorporating and developing discipline from early childhood aims at consciously developing and evoking future good citizens.

Keywords: Generation Alpha, Reinforcement learning Theory, Discipline, Covid-19, Academic engagement.

Introduction:

With the prediction of third wave of COVID-19 hitting the younger kids causing physical and mental stress among havoc in the minds of parents and caretakers. Many nurseries, kinder garten and pre-primary schools are deciding to continue with online schooling for an extended period. Though children younger than 11 years old often referred as digital kids, they require more assistance when it comes to online learning. Children require constant support from schools, academic tutors and parents and this is situation is creating a tension between schools and homes (Putri *et al.*, 2020). These shifts in learning pedagogy as brought a lot of issues related to online discipline and grooming of children. Thus, the current research focussed on the reinforcement strategies and disciplines to be implemented for generation alpha during the online classes.

Over the years, the education system has constantly been evolving and trying various options to give the best to the student community. The pandemic has affected the worldwide education system (Onyema *et al.*, 2020). Many tutors are experiencing difficulties in making the classes more systematic and organised. They are forced to change their teaching styles and strategies frequently especially when dealing with students from pre-primary and primary classes. Tutors worldwide are anticipating that the current online scenario soon would end and resume back to normalcy. The challenges faced by tutors, children and parents are dynamic, especially with technology. The focus of online classes is how to engage children effectively and give them the actual learning experience. This is one area all want to improve and succeed. The role of a teacher in early childhood development has been a prime focus on a traditional model. In the current scenario, the role of teachers in establishing online discipline lacks research attention which the current study aims to address.

Covid-19 and Generation Alpha:

Generational cohorts are earmarked by either commonality of the year or similar instances of any physical and mental change in history. Generation alphas social marker is the impact of the Covid 19 scenario and the disruption in their education system. Some articles have started naming this generation as 'Colonials'. Australian researcher McCrindle and his team, who have extensively studied the alpha cohort's, report the five characterises shaping these generations currently: social, mobile, global, visual and digital. Also, due to their engagement on the screen, they are fondly termed as 'Glass Generations'. The generation born on or after 2010 engaged with the emergence of Instagram, I Pods and associated with the word Applications. According to Hu *et al.* (2021), online preschool teaching must design tasks considering the age so that the children are able to engage maximum in learning and other related activities. As

mentioned by BenQ (2021) business resource trend report, generation alpha prefers learning through gamification delivered to them. Technology and education connection comes to them naturally, and most important it helps in active student engagement. Considering that this generation has stepped into the world of technology, their lives are shaped by technology (Fell, 2020). Platforms such as zoom are already devising a versatile and creative manner of approach in virtual world engagement. Fisk (2020) also emphasise that this scenario of Covid inevitably shapes children exposed to the pandemic and are at home.

Further, this situation is going to reflect in their work and future doings. The word discipline originated from Latin known as 'Disciplina', meaning pupil, who are crucial in the education sector. If discipline is not monitored at school level then these children can become a potential threat to society (Jean and Andala, 2021). Research has also shown that online learning lacks grounded pedagogical principles and learning theories that need to be restored.

Areas of research predominantly covered by previous researchers in the COVID-19 scenario for education:

Perception of online teaching from educator and students view during pandemic was studied by Chiu (2021) and Lei and So (2021). Chandrashekar and Venkatesh (2021) addressed the problems faced by Indian teachers and students in higher education concerning the Covid scenario. The study of general education and Covid impact on teaching learning process was carried out by Daniel (2020). Code *et al.* (2020) conducted a comparative study on traditional and non-traditional learning and prospects of education in future. Advantages and disadvantages of using the conventional and non-traditional modes of learning was described by Maatuk *et al.* (2021). The issues like importance of online digital literacy skills concerning higher education in India (Joshi *et al.*, 2020). Parent involvement in teaching the child (Milovanska-Farrington, 2021), the online discipline of teachers affecting the motivational areas of delivering better studies (Sa'diyah *et al.*, 2021) was studied by various researchers.

Research Gaps:

The youngest age group in the alpha category who are exposed to any formal learning is on an average of 2.5 years, being the smallest; this group has two limitations due to pandemics. They have never gone or seen a proper formal education. Also, they do not understand the meaning of an online platform if they are not exposed to technological pieces of equipment from early childhood. The gap is primarily identified as the literature shows how generation alpha should be constructively engaged are not studied on an online platform. The reinforcement theory of learning to better discipline at a very young age lacks literature and study

reinforcement and motivation many papers not on discipline part especially on online mode. Due to pandemic, the role of teacher baton passed on to parents so what they want from tutors on the online mode. The Abrupt paradigm shift from classroom learning to virtual learning has left many questions unanswered on child development and discipline aspects. The educational instructor often finds it difficult with generation alpha in communicating as they cannot be lenient or extremely strict. Hence the challenges posed from the perspective of the online classroom are highlighted.

Research question:

- What are the challenges educators of generation alpha face in elementary discipline for children learning online
- What is the perspective of mothers of gen alpha viewpoint to discipline their children?

Research Methods:

The data collection used a non-probability snowball sampling method. The first focus interview group consisted of 10 educational instructors who are involved in academic engagement through an online platform. Group 2 consisted of 10 mothers of generation alpha working in the IT sector. In the current Indian scenario where most mothers take a setback in their working careers, they find it far more complex to multitask their Work from home (WFH) and daily chores. The study aims to capture the response mainly of tutors and working mothers in The IT industry (Dogra and Kaushal, 2021; Farooq and Sultana, 2021). The age range of the kids identified is 4-6 years; they predominately fall under the age group when traditional learning transitioned from the classroom to a virtual platform. These participants of both groups for the study were contacted through the zoom platform at their convenient time to elicit a response as the questions were open-ended and required probing. All 10 participants of both groups were made aware that the call was recorded. All have willingly given their consent for participation. The time considered for the study was the pandemic online learning scenario. The sample justification is from the literature of (Menary *et al.*, 2021), who suggests that the persistent time of pandemic data collection is difficult given the relationship of knowledge and understanding of the topic. The ideal sample would be 6-12 also supported by the mini focus group emphasised by (Krueger and Casey, 2015) in their work. The methodology applied was a focus-group interview schedule that provided qualitative data, which was later transcribed and analysed, usually by searching for themes across interviews. The answers, which were shared and repetitive in nature, were combined to avoid overlap.

Findings and Results:

Table 1: Focused Group 1 interview schedule for participating teachers of generation Alpha

Q1. What are the challenges faced by you as a course facilitator with respect to teaching online for this particular age group

Answer	Theme generated
The student is often accompanied by a parent who is constantly monitoring, which creates pressure for the teacher	Pressure of Parents
Class decorum is not maintained as children join late and interrupt the class instructors. By either saying 'Good morning mam' or 'Hi sir'	Class Decorum
When the teacher is asking any questions, students are distracted by the things placed around them.	Distraction External
The remote learning-The expectation of personalised attention to be given to alpha kids.	Personalised learning
Few students do not wait for their turn and land up answering when not asked, creating confusion.	Interference
There is a constant disturbance with permissions being asked for washroom and water breaks.	Permissions
Engagement and attention span challenges	Attention
Troubleshooting problems to be assisted by teachers when faced by alpha children.	Troubleshooting assistance
Children are fiddling with all the buttons on the online learning platforms. exunmute,camera,captions,raise hand option etc.	Disturbance
The judgement of what is disruptive behaviour as measure by different teachers with different personalities (So one teacher tends to be more upset other teacher can handle the situation)	Judgement Clouding
The gadgets used by students are mobile, laptop, ipad, which makes the student entirely not visible, especially when exams are administered.	Technological Issues
Focus on concepts is very limited due to a lack of face to face interaction.	Mental absence scenario

Table 2: Focused group 2 interview schedule for participating mothers of generation Alpha

2. A Questions 1: Theme based on positive reinforcers

1. How do you want the teacher to ensure He/she is positively motivated in academic online learning?

Answer	Theme generated
Praise my child in front of others / Call out his/her name	Noticeability
Give a reward via marks	Marks
The small gesture of praise/clap/rain clap	Gesture
Emoji with smiley/Star	Visual indications

2. B Questions 2: Theme based on negative reinforcers

2. How do you prefer the teacher to discipline your child on an online platform?

Answer	Theme generated
Removing from class for a duration	Punishment
In specific calling out the name	Awareness
Stating what is wrong in sitting posture	Correction
Fiddling with things to be brought to the notice	Distraction
Call out students names and ask if parents close by	Attention

Implications of the study:

Strategies to the academic community:

Introduced by Skinner, the theory of reinforcement emphasises different learning styles to have the desired outcome. Very often and used widely in a subject such as organisational behaviour for employee motivation and enforcing learning of desirable results. This theory finds its place in today's online learning context as the challenges that lie ahead and face to face teaching is not happening. The theory emphasises that positive reinforcers are essential to increase the desired behaviour. Negative reinforcers are unlike punishment. They make you aware

of the consequences. Punishment is the result of negative behaviour, and Extinction eliminates the conduct and effects.

Table 3: Represents the implications from the perspective of the study conducted

<p style="text-align: center;">Positive reinforce</p> <ul style="list-style-type: none"> • Motivation with marks –generally, schools are doing away with ranking system as it sparks conflict of who is better than the other. Nevertheless, it is essential to understand the importance of receiving marks, especially for this tech-savvy generation. For example, awarding one mark for a quick and correct answer can be initiated. • Visual content badges for appreciation. • Creative emojis with animation. • Praise in front of other students as they will be noticeable online. • Positive reinforcement weekly or daily chart / a visual cue to the child to tell you to behave you get a star like that. • Involvement of puppets, especially for this age group-third party entrance apart from teacher. 	<p style="text-align: center;">Negative reinforce</p> <ul style="list-style-type: none"> • Teacher remaining silent-this has a tremendous impact even in the classroom. They are not letting the instructor speak the first kind of alienates the kid, disturbing the class. • When a teacher states mute mike, the student has to follow –To do this, the teacher can say silence and Teachers Counts1 to 3 and ask all the students to be quiet at the count of 3. • The teacher off the camera and waits until all students are on their camera. • online etiquette manual for communicating the expectations of an online class to be met.
<p style="text-align: center;">Punishment</p> <ul style="list-style-type: none"> • For students in type B personality, deducting one mark for not answering correctly or discipline in an online class can be the best award with negative marks. • Removing from the class for 5 minutes to enforce discipline. • Switching on camera to make them conscious of their surroundings and decorum. 	<p style="text-align: center;">Extinction</p> <ul style="list-style-type: none"> • Orientation- From the school to parents and children. • Ignoring children who often disturb the class. • Not providing attendance for the disturbed hour . • Orientation manual for explicit mention of netiquettes

Source: Prepared by the authors

Further research scope and limitation:

Further research can be carried out with larger sample size. The perception of the fathers also can be studied primarily in the Indian context. The idea of pandemics has made many working parents move from nuclear to the joint family system for support. The involvement of other family members also can also be studied. Siblings involvement who are elder their participation and involvement also can be considered. Learning style virtual involvement via Chabot's engagement can be checked where AI monitors the discipline aspects. Interactive online classroom model integration can be further investigated. Developing an online etiquette manual or instruction in detail needs to be emphasised weekly in classes. Further investigation can be done on the digital infrastructure provided state-wise, and country-wise analysis can be studied. It acts as a medium in facilitating online education to the intended group.

Conclusion:

Alpha was supposed to be in a formal education making friends currently. Unable to be on the field with peers and solely being on a virtual field makes it challenging for caregivers. Milovanska-Farrington (2021) stated that in the west, fathers spend more time teaching their children in education in the current scenario of pandemics. The ideology of equal parenting and the responsibility of children is often less debated in the Indian context. Online discipline is something that even teachers and parents do not understand what is at stake that could be impacted. Sometimes it's often seen that the child ends up in a tantrum just because you have asked him/her to pay attention online and not fiddle with things. That behaviour lingers the whole day, affecting the child and the parent. Children empowerment needs to be done without causing them despair, posing the most significant challenge to tutors and parents. Numerous studies conducted in the classroom context have emphasised that age-appropriate behaviour can be moderated with positive reinforcement and can reverse if not motivated positively (Diedrich, 2010). Hence it becomes imperative to understand from the light of online context also.

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SARS-CoV-2 AND COVID-19: DETAIL STUDY FROM VIRUS EMERGED

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Abstract:

Severe acute respiratory syndrome coronavirus2 (SARS-CoV-2) is highly communicable and pathogenic coronavirus that come out in December 2019 and has caused a pandemic of acute respiratory disease, named ‘coronavirus disease 2019’ (COVID 19), which intimidate public health and safety. According to World Health Organization (WHO), infection is known as COVID-19. In December 2019, many people from china (Wuhan) were hospitalized with symptoms like pneumonia. As the increasing number of patients admitted with the same symptoms started to increase, the causative agent was isolated from the sample, it was called 2019 novel corona virus (2019-nCoV), and then spread globally result was a pandemic situation occurs. The virus is spread from infected person to other healthy person very soon via a droplet of the respiratory tract during sneezing and coughing and even with touching any substance within 2-14 days to show the symptoms to the infected person after entering the virus into the body and in India pandemic situation on March 11, 2020. Now a day’s vaccine has been available for preventive approaches are the best way to treat against the COVID. It is all Indian responsibility to take vaccine without any worry for making India covid free and follow all safety guidelines which is given by government.

Keywords: COVID-19, SARS-CoV-2, Pandemic, Vaccine, Virus, Treatment, Medication

Introduction:

Coronaviruses is a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe acute Respiratory Syndrome (SARS). In 2019 a new form of coronavirus was identified in Wuhan, a city in Hubei Province of China. This newly discovered coronavirus named COVID-19 is an infectious disease Caused by Severe acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Which spread rapidly from Hubei to other parts of China and around the world and take a form of pandemic or say coronavirus pandemic? In 30 January 2020

the World Health Organisation (WHO) declared it a Public Health Emergency of International Concern and on 11 March 2020 declared it a pandemic and then leader of every country announced lockdown in their countries. In some countries it was for 2-3 months and in some for whole one year according to the condition of cases in their countries. This virus was mutating very rapidly and become dominant in many countries with Delta, Alpha and Beta variants which become a cause of second wave or another lockdown in 2021. Rapidly mutated form of this virus is making it one of the deadliest pandemics in history.

Symptoms and Cure of Disease:

The coronavirus (Covid-19) affects different people in different ways. People who infected with the COVID-19 virus experience mild to moderate respiratory illness and recover without requiring special treatment. But the people who are suffering with medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are affected more and faces serious illness or death. Most common symptoms of coronavirus are fever, dry cough, headache, diarrhoea, loss of taste and smell. Difficulty in breathing, chest pain and loss of speech are some serious symptoms which indicate covid-19.

Usually, peoples have different ideas and beliefs of healing. Some people prefer allopathic and some like to go with homeopathic. People with mild symptoms should cure themselves at home in 10-14 days with allopathic or homeopathic medicine or follow a healthy lifestyle including some exercise or nutritious food. But it seeks immediate medical attention for the person who is suffering from serious symptoms.

Precautions:

There are some simple precautions which everyone should follow to protect themselves from this deadly virus. We should keep maximum distance from the people even if they were not sick. Because there is a possibility that the virus is present in the human body but the human is asymptomatic. Wear mask in public places or in the closed place if it is crowded. Wash your hand properly or sanitized them timely with a sanitizer having 70% or more ethanol. And the most important one is being fully vaccinated.




























There are so many doubts in human mind regarding vaccines ,like is they are safe for us even some people have doubt of early availability of vaccine too. Most of the countries make their own vaccines There are two vaccines available in India and all our verified by WHO.

Vaccine:

We are aware of the fact that vaccination saves life on every stages. So in India we have two vaccines name COVAXIN and covishield, Both are equally affected and approved by World Health Orginasiation (WHO). COVAXIN is developed by Bharat Biotech using Whole-Virion

Inactivated Vero cell. Inactivated vaccines do not replicate and are therefore unlikely to revert and cause pathological effects. Covishield is developed by The Oxford-AstraZeneca using weekend version of common cold. These vaccines are 80-90% efficient of mutated form of virus. As more people become vaccinated it will decrease the chance of arising new variants of virus.

How some of the Covid-19 vaccines compare

Company	Doses	Storage
RNA		
 Pfizer (BioNTech)		 -80 to -60°C (6 months) and 2 to 8°C (for up to 5 days)
 Moderna		 -25 to -15°C (6 months) and 2 to 8°C (for 30 days)
Viral vector		
 Oxford-AstraZeneca		 2 to 8°C (6 months)
 Sputnik V (Gamaleya)		 -18.5°C (liquid form) 2 to 8°C (dry form)
 Johnson & Johnson (Janssen)		 2 to 8°C (3 months)
Inactivated virus		
 CoronaVac (Sinovac)		 2 to 8°C
 Sinopharm		 2 to 8°C
 Covaxin (Bharat Biotech)		 2 to 8°C
Protein-based		
 Novavax		 2 to 8°C

Source: Wellcome Trust, BBC research



First and Second wave of Covid-19:

Almost every country have seen **First wave of coronavirus** and most of them also faces 2 wave of covid-19. We started seeing the cases of covid 19 in 2019 but the first wave comes in 2020 during spring time (in India 22 march to June). First wave of covid-19 mostly targets the old age people (people above 65). Basically, this wave shows disaster in the countries where the population of old age people is more. During first wave hydroxychloroquine drug was used.

In **second wave** number of the cases are many more than first wave? On 10 February 2021 second wave started in India. This wave targeted the young age people more and the people who are suffering from any chronic diseases. This time most of the people affected with this virus and tested covid positive. Many of them recover at home with basic treatment and doctors advise then to isolate themselves. But there are large number of the people who got serious and need to be hospitalized. As the cases increases the health care system in India getting week, many hospitals are unable to handle the unceasingly intense inflow of patients, we are started facing shortage of health care professionals, beds, oxygen cylinders, Ventilators and other essential equipment.

Remdesivir/ Tocilizumba the antiviral drug is in demand during second wave. Because the data received from SIMPLE-Moderate, ACTT-1 and SIMPLE-Severe clinical trials demonstrated that treatment with remdesivir was associated with statistically reduction in time to recovery and has also shown clinical improvement in hospitalized COVID-19 patients though the drug was in demand so it is black-marketed by some dealers. Not only remdesivir all other required medicine along with oxygen cylinders are black marketed.

All this type of shortages and black-marketing shows the shortcoming of India's health care system. And lack of preparation of government. But at the time of crisis all the country stood up together and helped each other by fulfilling their requirement. US, Russia, Germany, Qatar and many other countries (approx. 35-40) helped India by providing oxygen concentrators, mechanical ventilators, N95 masks, remdesivir and Favipiravir.

According to the experts we are expecting **third wave of covid-19** in late of September 2021 or starting of October 2021. And Human careless behaviour will be the major factor behind the cause of again spike in coronavirus cases.

Dexamethasone: a drug relegated in CoVID-19 pandemic:

Dexamethasone is a corticosteroid which is usually used to treat rheumatic problem, asthma and chronic obstructive lung diseases. But now it is highlighted an effective drug against Covid-19 virus.

Having discussed entire ruckus caused by/for Remdesivir, one question which is worth to ask here is that why Dexamethasone was not given any primary importance in drug therapy of CoVID-19? With due respect to the loyal front-line health workers and other front-line staff, answer may lay in the fact that black marketing was not possible for dexamethasone (Cost 10.00 INR, on an average). Another reason being the fact that at some places, hospital staff & government officials were actively engaged in hoarding, diverging and black marketing of Remdesivir. Who could have lost such a lucrative opportunity?

Epidemic as side effects of pandemic:

Black fungus, yellow fungus, green fungus are the infections which are arises as the side effects of covid-19. Black fungus or Mucormycosis affecting mostly the people who are recovering form covid-19 or have steroid during the treatment of covid-19. Basically, these viruses are affecting the persons who have compromised immune system. Black fungus is treated by Amphotericin-B, which is an antifungal drug.

Effect of pandemic on society:

The pandemic has led to a huge loss of human life all over the world. Not only has the health crisis had this pandemic brought economic and social crisis too. This virus affected most to the aged persons, persons with disabilities and the people who are living in poverty situation. If we not addressed the nation properly about the safety rules so this social crisis can be converted into inequality, discrimination and unemployment.

COVID-19 affected every segment of life like education, employment, economy, religion, transport, tourism etc. Due to the closures of school, offices and factories millions of people lost their jobs. And thousands of people fallen below the poverty line. Youth are facing problems in quality of education and learning due to closure of school and universities, and they might have to face a long-term consequence for it. Tourism is one of the most important sectors for economy. And it is one of the most affected sectors for due to travels bans all the monuments, temples, public places and parks and close.

The fear of coronavirus and lockdown has led to a panic buying of essential stuff especially grocery items all over the world. Which causes shortage of supply in market? And when demand increase the black-marketing take place.

There is only positive news during pandemic is that global energy related CO₂ emission fell by 5.8%.

Conclusion:

The most dangerous virus is a negative mindset. We don't know when the crisis will end. But till then we can keep faith and hope because if you don't have faith you can lose your immunity to the virus.

We know the fact that virus life cycle is very short and it multiplies, most of the time mutation occurs to a less virulent form and this is the time when a pandemic slows down in society. In India all people need to well understand that this corona virus until a less virulent strain does not emerge from a virulent strain, all Indians need to exercise properly wearing a mask, avoiding a crowd and properly maintain social distancing. If we all Indians do not properly follow protection guidelines that we should be ready for 3rd wave which is more dangerous than 2nd and 1st wave. It is our all Indian duty to follow properly government protection guidance for stop the spreading chain of corona virus.

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COVID-19:- SARS-CoV-2 GENOME, DIAGNOSTIC TARGETS, SEROLOGICAL TESTS

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Introduction:

In late 2019, (November) an outbreak of pneumonia of unknown etiology, a new severe acute respiratory syndrome corona virus (Covid-19) emerged in Wuhan City, Hubei province, China, and quickly spread throughout the world, and also started mutating through various conditions and forming a huge number of strains ranging from (alpha-delta).

The alpha variant was called SARS-CoV-2.SARS-CoV-2 which belongs to the Coronaviridae, family of large, enveloped, positive-sense, single-stranded RNA viruses which was known to infect a wide variety of animals. Prior to 2002, these viruses are thought to cause only mild, common cold-like disease in humans.

Research gave an insight that SARS-CoV-2 is the seventh corona virus known to infect humans, including the 4 common cold corona viruses (229E,OC43,NL63 and HKU1) and 2 other strains, known to cause severe pneumonia associated respiratory disease that can become fatal.SARS-CoV, SARS-CoV-2 and MERS-CoV,all have zoonotic origins, emerging in human populations from spillover, which occur when a pathogen-carrying animal. Reservoir comes into contact with a novel host population i.e. humans.

SARS-CoV-2 Genome:

The genome of SARS-CoV-2 is approximately 30-kb in length and consists of 6 open reading frames (ORF's), which includes ORF1a/b, spanning 16 nonstructural proteins (nsp) relating to the replication-transcription complex, 4 structural proteins, spike (S), envelope (E), membrane (M), and nucleocapsid (N), along with several other non-structural, special structural, and/-r accessory ORF's.

The Centers for Disease Control and Prevention (CDC) developed the first diagnostic test approved for clinical detection of SARS-CoV-2 and diagnosis of COVID-19 in the United States (US). The CDC COVID-19 diagnostic panel is a real-time reverse transcription-polymerase chain reaction (qRT-PCR) test. In qRT-PCR, oligonucleotide primers are used to amplify pieces of nucleic acid, which can be detected by a fluorescently labeled probe. In the CDC diagnostic

test, 2 regions of the SARS-CoV-2 nucleocapsid (N) gene, as well as an internal control, the human RNase P gene (RP), are amplified. Detection of all 3 genes is considered presumptive positive for SARS-CoV-2, in conjunction with a patient's clinical signs/symptoms and/or epidemiological criteria for COVID-19 infection.

Early technical issues with this CDC-developed COVID-19 diagnostic panel, coupled with logistical and technical difficulties in large-scale manufacturing of diagnostic testkits for rapidly emerging COVID-19 diseases, has led to widespread shortages of diagnostic tests throughout the US. To address these shortages, the Food and Drug Administration (FDA) has given emergency use authorization (EUA) for 41 molecular diagnostic tests.

SARS-CoV-2 Diagnostic Targets:

Most diagnostic tests target a combination of structural (S,N, and/or E) and non-structural (ORF lab region) SARS-CoV-2 genes, along with positive and negative controls. This testing strategy ensures that the diagnostic targets include a nonstructural protein, highly conserved across corona viruses, as well as structural protein(s), highly specific for SARS-CoV-2.

S protein: Much of the literature has focused on understanding the mechanisms by which the clubbedshaped SARS-CoV-2 S protein allows the virus to enter host cells. The S protein of SARS-CoV-2 binds to the host cells and enters the cell using the angiotensin-converting enzyme 2 (ACE2) cell receptor to enter host cells; however, genetic analysis has demonstrated that the 2 viruses bind to the receptor at different amino acid residues.

N protein: The N gene encodes a ribonucleoprotein that contains the viral genome. There is little sequence diversity in the N gene between SARS-CoV and SARS-CoV-2 (9.6%). Further, the mechanism by which corona viruses replicate and transcribe their genomes results in a set of nested RNA's.

E protein: The E gene encodes a small polyprotein found in low amounts in all corona virus envelopes. There is little sequence diversity in the E gene between SARS-CoV and SARS-CoV-2 (5.3%). A recent report by Corman and colleagues has demonstrated high specificity for the E gene in COVID-19 diagnostic testing. During viral replication the E gene is present in such low abundance the replication of these sequences has high positive predictive value for infection with SARS-CoV-2.

ORF lab segment: ORFlab comprises two-thirds of the SARS-CoV-2 genome, encoding 16 nsp relating to the replication-transcription complex responsible for all the machinery associated with viral replication, such as the RNA-dependent RNA polymerase (nsp12; RdRp). And a 3'-5' exonuclease (nsp14; Exon). Exon is a unique feature of the replication-transcription complex

of all corona viruses. The essential role of the replication-transcription complex, in particular RdRp, in viral replication, makes targeting regions of ORF1ab desirable for diagnostic tests.

Therefore, access to accurate and timely testing and detection of the virus is essential to limiting the spread of SARS-CoV-2. Among the test authorized by FDA, these tests are done for a huge sum of people for the detection of Covid-19.

1. **RT-PCR:** PCR tests are used to directly screen for the presence of viral RNA, which will be detectable in the body before antibodies form or symptoms of the disease are present. This means the tests can tell whether or not someone has the virus very early on in their illness. The molecular test, commonly known as RT-PCR test, is a method of testing that is used to directly detect the presence of the virus in the sample. The tests detect the virus's RNA, the genetic material of the virus. The first step in this test is to convert this RNA to DNA using an enzyme known as the reverse transcriptase. The PCR testing then detects this DNA. These are also known as the diagnostic test and nucleic acid amplification test (NAAT). These tests are the most accurate. They have a high sensitivity and specificity.
2. **Lateral flow tests:** LFTs are similar to PCR tests, in that they're both types of antigen test, designed to pick up active Covid-19 infection rather than antibodies to the disease. With a Covid-19 LFT, a nasopharyngeal sample is placed on a small absorbent pad, which is then drawn along the pad via a capillary. Line to a strip coated in antibodies, which bind to SARS-CoV-2 proteins. If these proteins are present, this will show as a colored line on the test, indicating infection. The major benefit of LFT's over PCRs is that they do not need to be sent away for confirmation, and instead provide results within 15 to 30 minutes. However, what they gain in speed they sacrifice in accuracy with an average accuracy of 72%.

Serological test:

1. **Covid-19 Antibody test:** COVID-19 Antibody tests, also known as, Serology test or Serology blood test, are screening tests for COVID-19 antibodies in your blood. It tells if you were previously infected with the virus that causes COVID-19. The antibody test does not look for the active virus but checks whether your immune system has responded to the infection.
2. **COVID-19 Antigen test:** A COVID-19 antigen refers to any foreign matter or viral proteins in the body that triggers an immune response. This test helps identify the

antigens related to the COVID-19 virus. Antigen test, also known as rapid antigen test, is a rapid diagnostic test that gives results faster than molecular tests. But there is a drawback, antigen tests have a higher chance of missing an active infection. Rapid tests are usually highly accurate if you test positive however a negative result might need to be confirmed using a molecular test.

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WAYS OF COPING AND MATERNAL PERCEPTIONS ABOUT BEHAVIOURAL CHANGES IN CHILDREN DUE TO COVID-19 PANDEMIC

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Abstract:

In the history of Human Evolution, human race has witnessed multiple crisis and turmoil. COVID-19 Pandemic appears like one. It is research worthy to study and access the impact of this pandemic and long period of home confinement on growing minds. This chapter throw light upon how mother parents tried to cope up with this impact in multiple ways to lessen its impact and comfort their children. This is also an effort to note the behavioural changes mothers observed in children (Age Range - 3 to 10 years). It has been observed that mother parents took multiple efforts to engage their children in quality activities to comfort and accompany them. It is also noteworthy that pandemic has affected children in mix way- positive and negative, both.

Key Words: COVID-19 Pandemic, Behavioural Changes in children, Lockdown, Impact

Introduction:

The entire world has shaken with the attack of Novel Corona Virus in the year 2019 and 2020. Year 2021 has begun with the hope to getting away of this pandemic after first and second wave of pandemic. Lockdown due to global spread of COVID-19 led to school closure, work from home, home confinement due to restrictions on movements, shift to online teaching-learning, loosing job or working on half-pay, uprising health problems around in the community, exposure to various digital platforms, scarcity of resources, uncertainty and chaos and lot many changes in lifestyle. As this health crisis crushed the social-economical-education-familial systems across the world, it is essential to study physical, psychological, social, emotional, behavioural impact of this pandemic on different age groups.

Family is an institution with utmost importance to any child's development. Communication with parents, especially mother parent, starts since the day a new life came into

existence. Any child looks up to family for protection and to provide for their needs, too. As Family systems theory underlines, family is a place of most influential interaction among family members with special reference to the context family is embedded in (Becvar & Becvar, 2017). UNICEF, in its manual published in 2020 for parents and caregivers has also stressed upon role of parents in such times to promote an environment where children can feel safe and healthy. In the crisis time of pandemic when everyone has to inverted to home confinement, one has to adapt to the only social entity available to him/her, i.e. self and family. This is the only place where one finds solution-solace-satisfaction when feels out of place. Hence, it is important how family dwelled with this situation and coping ways where family come together are seem to be most effective. As lockdown due to pandemic continued for longer time and problems had intensified on health front, too, it is worth to study how families and adults in the family tried to cope with the situation and made it comfortable for children. Thus, this is an effort to note down how mother parents of children from 3 to 10-year age initiated different ways to cope with the situation and their perception about behavioural changes occurred in children during one year of pandemic i.e. May 2020 to May 2021.

Method:

The study was a cross-sectional survey across various regions of India. As it was not possible to contact participants physically due to restrictions, non-probability snowball sampling method was used for their recruitment. Thus, it was wide-spread across the country. Thus, 330 Mother Parents participated in this study.

A cross-sectional online survey was conducted through a well-structured closed ended questionnaire is designed by the investigator. It was shared and made available to parents from different communities in different part of India. Objective of this questionnaire is to record experiences, responses, observations and perceptions of Mother Parents with special reference to COVID-19 pandemic. This questionnaire is divided into 02 parts. First part is consisted of questions based on Demographic Details such as i) Area of residence, ii) Occupation, iii) Age of Mother Parent, iv) Age of children, v) Type of Family, vi) Extend of infection of COVID-19. The second part of the questionnaire covered 02 dimensions related to effect of COVID-19 Pandemic and coping strategies, mainly -

- a. What were the Psychological and Behavioural problems observed by them in children in the family?
- b. What were the efforts FAMILY put in to cope with the situation?

Result and Discussion:

This survey received responses from 338, out of which 330 responses were clear and complete. After cleaning and compilation of data collected from 330 Mother Parents participated from 4 major areas across India. Demographic details of this sample were tabled as follows:

Table 1: Demographic details of sample of Mother Parents (N = 330)

Demographic Variables	Type	%
Area of residence	North-East India	11
	North West India	18
	Southern India	31
	Central India	40
	Union Territories	0
Occupation	Homemakers	47
	In-Service	40
	Entrepreneurs	13
Age of Mother Parent	Below 30 years	27
	31 - 35 years	20
	36 - 40 years	32
	41 - 45 years	21
Type of Family	Nuclear Family	40
	Joint Family	38
	Triadic Family	12
	Single Parent Family	0
Age of children	3 - 5 years	58
	6 – 10 years	42
Impact on health of family members	Got COVID Infection	63
	Family Member/s home quarantined	52.5
	Family Member/s got hospitalised	13
	Death in the family	6
	No Loss and Death in Family	94
	Child got infected by CORONA	0.1

Mother Parents participated were across India from 04 major areas i.e., North-East India (11%), North West India (18%), Southern India (31%), Central India (40%), Union Territories (0%). Participants belonged to different socio-economic status like 44 % from Middle SES, 33% from Upper Middle SES and 23% from Lower-Middle SES. Whereas 47% Mother Parents were Homemakers, 40% were in-service and 13% were entrepreneurs. Moreover, 27% participants belonged to below 30 age group of years, 20% were from 31-35 age group of years, 32% from age group of 36-40 years and 21% were from age group of 41-45 years. 40% participants hailed nuclear family, 38% from joint family whereas 12% from triadic family. No participant reported from single parent family. 58% participants reported that their child/children belongs to 3-5 years age, 42% participants have their children from 6-10 years. 63 participants reported that no one in the family have got infected by Corona Virus, 52.5% participants' family members had got quarantined whereas 13% have experienced hospitalisation of one member in the family due to COVID infection. 94% participants reported that their family was lucky to have no loss or death due to Corona infection. On the other hand, 6% participants have witnessed death of dear ones in the family. 0.1 participants reported that their child got infected by corona virus.

Coping Ways adopted to lessen the pandemic's effect on children:

It is well noted that disruption due to COVID - 19 pandemic led all of us to break the set schedule and disciplined lifestyle and reframe it again as needed and required on personal and professional front. It has raised a question whether to enjoy the idle time or to invest and utilise for revisiting self-family-society, for building skills, reiterating priorities of one's life. Researches have suggested that young adults may consume all the out-of-school-time in idle activities, being lazy and disoriented and hence, it was suggested to adapt ways mitigate the consequences of lockdown and pandemic (Brooks, *et al.*, 2020; Kasturkar and Gawai, 2020; Adverse consequences of school closures, 2020, Sun *et al.*, 2021).

Family is the biggest support system for any growing child. It is the first smaller version of society before the child is introduced to school and larger society. In the crisis time of pandemic when everyone has to inverted to home confinement, one has to adapt to the only social entity available to him/her, i.e. self and family. This is the only place where one finds solution-solace-satisfaction when feels out of place. Hence, it is important how family dwelled with this situation and coping ways where family come together are seem to be most effective. As lockdown due to pandemic continued for longer time and problems had intensified on health front, too, it is worth to study how families and adults in the family tried to cope with the situation and made it comfortable for children. Participants were asked to report about the same.

Table 2: Responses by Mother Parents regarding coping styles adopted in their family to ease down children during pandemic

My family tried to cope up by-		%
a.	Children were made to learn survival skills	60
b.	Watched old tv serials, classic movies with children and enjoyed quality time	59
c.	We maintained social connect through calls and chats, whenever we felt alone	57
d.	Start playing indoor games with children	41
e.	Motivated children for extra reading	40
f.	Spend free time with children doing exercise	38
g.	Motivated children to cultivate their hobbies	37
h.	Kept discussing lot of things and event happening around	35
i.	Enjoyed long-pending recreational activities and other plans	34
j.	Adopted other ways	14

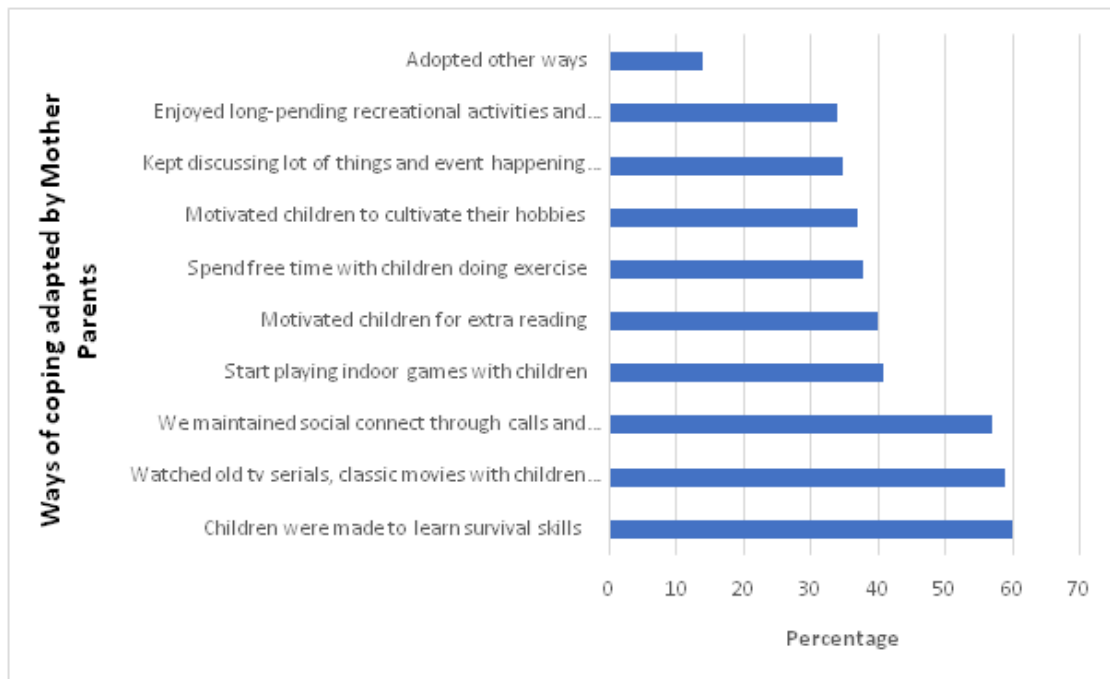


Figure 1: Percentage of Ways of Coping adapted by Mother Parents of children (Age-3 to 10 Years)

Most of the mother parents reported that in order to ease out the situation for children, they taught various survival skills to their children (60%), watched old tv serials, classic movies

with children and enjoyed quality time (59%), maintained social connect through calls and chats, whenever we felt alone (57%), and started playing indoor games with children in free time (41%). Other ways to handle and cope have been reported as motivating children for extrareading (40%), started doing exercises with children (38%), motivated children to cultivate their hobbies (37%), discussed what is happening around (35%), enjoyed long-pending recreational activities with children (34%).

It is very insightful how mothe parents tried to make their children invest their leisure and free time and transform recreational activities into learning opportunities. It can be specuated that these efforts in coping strategies must have direct and indirect effect on children as mentioned by various resaerch studies who stresses upon role of family members in lessening the ill effects of any negative condition around (D’Cruz and Bharat, 2001).

Behavioural Alterationsobserved in children due to pandemic and lockdown:

Participants were asked about dynamic psycho-social effect of pandemic they observed on children. Participants have responded that they observed mix effect of COVID pandemic. It obviously created chaos in personal-professional-social life, it also made almost all the families spend long hours together during lockdowns. There is a quote by Dalai Lama which says, “The time of greatest gain in wisdom and inner strength is often the time of greatest difficulty.” It surely underlines various instances in the history of mankind that every odd time creates opportunity for us. Similarly, though children were suffering due to negative effect of COVID-19 pandemic, it is evident that they surely learned out of their experiences during this crisis time. It’s like silver lining to the dark cloud. Mother parents have reported that during COVID-19 pandemic times their children witness uncertainties of life and experience how and why dynamics family system is worth having. As reported by participants, children they were happy seeing parents at home for all day around (50%), shared household chores by themselves (45%), managed to do their things on their own (45%), got an opportunity communicated with family members closely (38%), happy as they get some relaxation in daily routine (35%), plan their schedule for studies and other hobbies (36%), learned new skills (30%), managed to remained composed and patient though it was tough (13%). Such positive alterations in the behaviour of children have been anticipated by researchers in the field of social and medical sciences in the early months of COVID outbreak (Brooks *et al.*, 2020, Malhi, Bharati and Sidhu, 2021, Attekal and Aganas, 2020, Laila and Rahman, 2020).

Table 3: Responses by Mother Parents regarding their observation about behavioural alterations in children due to Pandemic

Children were		%
Positive Effect		
a.	Happy seeing parents at home for all day around	50
b.	Seen sharing household chores by themselves	45
c.	Able to do their things on their own	45
d.	Able to communicate with family members closely	38
e.	Happy with some relaxation in daily routine	35
f.	Able to plan their schedule for studies and other hobbies	36
g.	Seen learning new skills, giving time to develop their hobbies	30
h.	Seen being composed and patient though it was tough	13
Negative Effect		
i.	Missing their school and friends a lot	60
m.	Having mouth-watering snacks more often to get relief from stress	43
n.	Using gadgets very frequently other than online classes	42
o.	Wasting night time in watching online shows	37
p.	Felt irritated many a times	25
q.	Experiencing disturbed sleep routine	18
r.	Depressed and frustrated	12
s.	Anxious but did not express	14
t.	Experiencing less personal space	11
u.	Afraid of being social and get along with others	11
w.	Experiencing health problems and fatigue	9

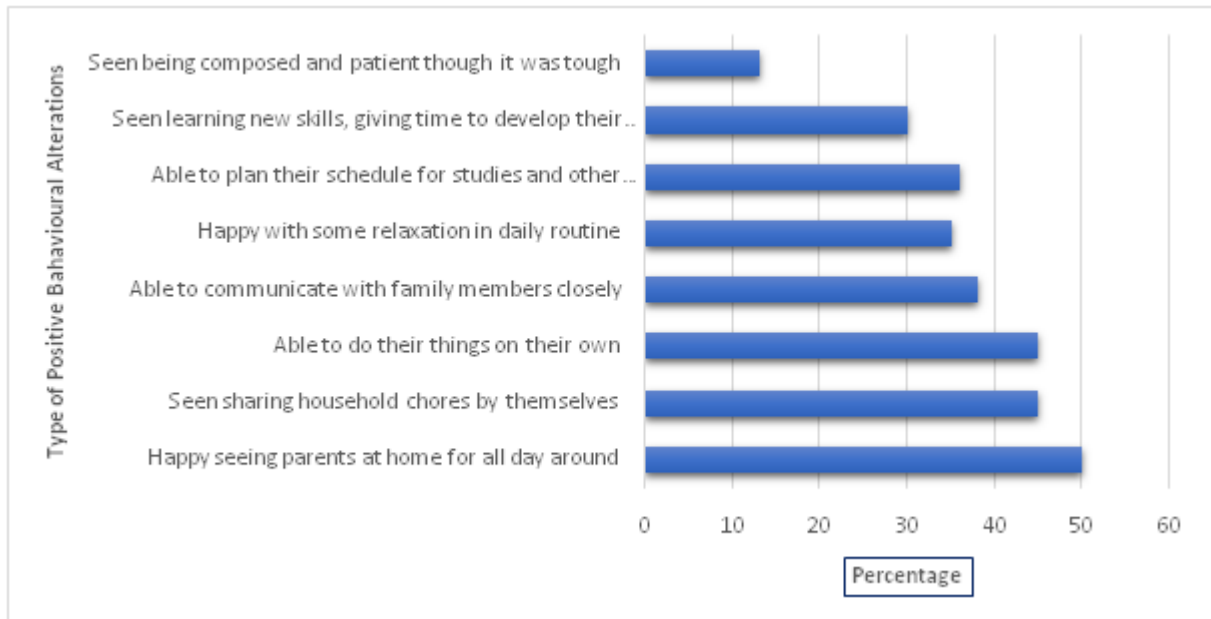


Figure 2: Percentage of Positive Behavioural Alterations observed in Children (Age-3 to 10 Years) as perceived by their Mother Parents

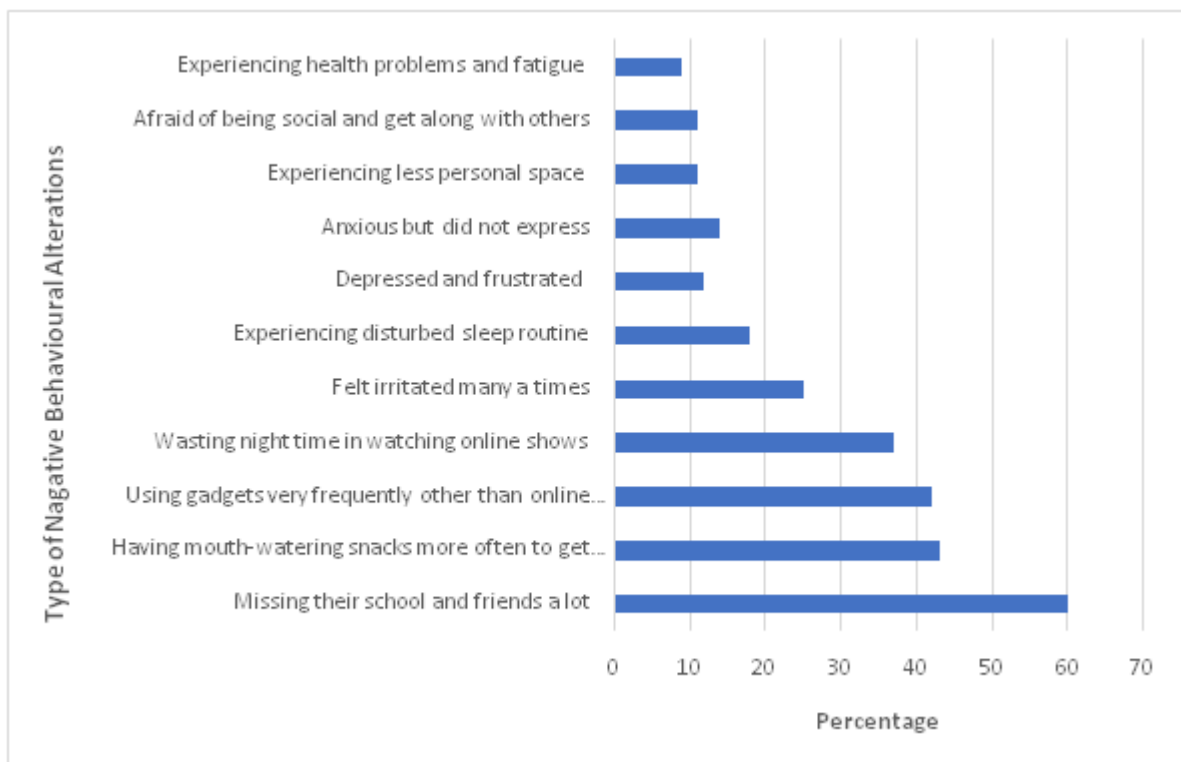


Figure 3: Percentage of Negative Behavioural Alterations observed in Children (Age-3 to 10 Years) as perceived by their Mother Parents

On the other hand, negative effect of the same have also been reported like they missed their school and friends a lot (60%), had eaten mouth-watering snacks more often to get relief

from stress (43%), used gadgets very frequently other than online classes (42%), watched online shows till late night (37%), irritated many a times (25%), had disturbed sleep routine (18%), depressed and frustrated (12%), felt anxious but did not expressed (14%), experienced less personal space (11%), afraid of being social and get along with others (11%), experienced health problems and fatigue (9%).

Similar results have been mentioned in various studies done at various places that this long-going pandemic is affecting young minds in detrimental way and its ill effects needs to be addressed cautiously (Imran *et al.*, 2020; Kumar *et al.*, 2020; Thavarajah and Mohandoss, 2020; Shaikh *et al.*, 2021).

Conclusion:

Novel Corona Virus attack means COVID-19 Pandemic has challenged all the systems we are surrounded with. It has not only altered our way of living, but also give us reality check. It is evident to note that it has made us think about modifying our ways to deal with personal, professional and social life. This research study accessed the responses of maternal parents about sensitising children about this pandemic, how they coped up with the situation and behavioural changes they observed in children. This research can be concluded as:

1. Mother parents adapted various ways to mitigate the consequences of lockdown and pandemic. Most of them tried to engage their children in meaningful activities, spending quality time and sharing the load with them.
2. Mother parents perceived that never before experience of COVID-19 pandemic has affected their children in mix way.

It has made them more aware, sensible, responsible about what is happening at domestic front, around the world. They get to know about how adults at home manage all domestic activities and balances professional and social activities, too. Children also come to know about importance of time management, digital media for teaching-learning, importance and role of society and school in one's life.

It is perceived by mother parents that COVID-19 pandemic has affected in negative way like children felt lonely, uncreatability and anticipation of health crisis in-house and around shaken them. It has affected them deeply with disturbing their daily schedule, sound sleep, discipline regarding their studies. Children became anxious and afraid of going out, too much involved in digital activities, and have become less communicative with the family members.

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PERCEIVED STRESS AND COPING STYLES: A STUDY AMONG DIFFERENT GENDERS

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Abstract:

COVID-19 and its upcoming waves are causing significant distress around the globe. Apart from the evidence of physical symptoms in infected cases, it is also impacting the mental health of the masses. The aim of this endeavor was to compare perceived stress and coping styles among male, female and LGBTQIA. Perceived Stress scale (Cohen, 1983) was used to measure perceived stress and Coping was assessed by using COPE inventory (Carver, 1989). For the purpose of present study, 60 participants (20 males, 20 females, 20 LGBTQIA) within age range of 8yrs – 30yrs were selected from Delhi NCR using purposive sampling. Proper consent was taken. Result indicated that there is no significant difference amongst male, female and LGBTQIA in Perceived stress. There is a significant difference on sub –scale religious coping between Male, female and LGBTQIA. The post- hoc test (Tukey's HSD) was applied. The result indicated that there is significant difference between Male and LGBTQIA group in religious coping. Suggestions, Limitations and implications were also discussed for future researchers.

Keywords: Perceived Stress, Coping, Gender, Problem Focused, Emotional focused

[**Abbreviation:** LGBTQIA: Lesbian, Gay, Bisexual, Transgender, Intersex, Queer and/or Questioning, and Asexual and/or Ally]

Perceived Stress and coping styles:

COVID-19 and its upcoming waves are causing significant distress around the globe. Apart from the evidence of physical symptoms in infected cases, it is also impacting the public's mental health. India, as different nations, executed a cross country lockdown to contain and control the transmission of the infection. Stress classically refers to "the bodily processes that result from circumstances that place physical or psychologic demands on an individual" (Selye, 1973).

In emergency lockdown everyone's life has changed because of limitations of development and social contacts. The COVID-19 pandemic had and keeps on affecting seriously on each part of what has been known as the 'ordinary' life. The pandemic has prompted

disturbances in everyday life, social connections, schooling, wellbeing, occupation/work, food security, wellbeing and sustenance, legislative issues, and monetary movement. The vulnerability related with this obscure health emergency, the tension of protecting family, the real factors of numerous guardians working from their homes while simultaneously self-teaching their kids, and attempting to meet their own family needs can make mental pressure. In such regards, LGBTQIA received very less attention on public health care during COVID – 19. LGBTQIA faced additional issues apart from losing a job, self – isolation, the biggest stressor for them is to remain in closet with their own families and facing conflicts on the basis of their identities. With this hardship they also felt restlessness and can't able to go out which creates a feeling of being trapped. As minority stress theory states that stigma and discrimination against LGBTQIA community leads to a negative outcome. As a result, this is more at risk to anxiety, depression, suicide behavior, substance abuse, and self-harm (Fish *et al.*, 2020).

Alateeq (2020) explored the perceived stress level among students during the Coronavirus Disease Outbreak. As a result, indicates more than half of the participants showed moderate levels of stress (55%), while 30.2% registered high levels. Females and university students showed a significant association with stress level.

Torales (2020), aimed to investigate the level of stress perceived by the general population during the current COVID-19 global pandemic and quarantine. Results indicates a moderate level of self-perceived stress. Significant association was found between higher levels of stress and female sex, being single, or reporting preexisting mental disorder, above all anxiety and depression.

While nations and networks have utilized various methodologies in adapting to the pandemic and lockdown, most families and people have needed to utilize particular coping strategies in managing their exceptional difficulties. Coping strategies are divided into two parts – Emotional focused and Problem focused (Folkman and Lazarus, 1985). The use of coping strategies is associated with reducing stress and increasing emotional wellbeing.

Shamblaw (2021) investigated coping strategies during covid – 19. Result indicated Avoidance coping was associated with higher depression, higher anxiety, and lower quality of life at baseline, and increased depression and anxiety over time. Approach coping was associated with lower depression and better quality of life at baseline but not over time.

As a researcher, I wished to analyze the Stress and Coping of LGBTQIA as well as to sensitize the community about their hardships and sufferings. This study is a small endeavor towards that goal. It aims not only to add to the potentially -existent literature in this area but also to bring attention to the mental health of this population, initiate an interest among the students and readers to take up the issues of the LGBTQIA and engage in using and creating

interventions with this community. With the plenty of researches, the current research is an attempt to understand the perceived stress and coping styles amongst different genders.

Objective:

To compare perceived stress and coping styles among Male, Female and LGBTQIA

Hypothesis:

H₁ : There would be a significant difference between the perceived stress among male, female & LGBTQIA.

H₂ : There would be a significant difference in the coping of males, females and LGBTQIA.

Methodology:

Participants:

For the purpose of present study, 60 participants (20 males, 20 females, 20 LGBTQIA) were selected using purposive sampling. Proper consent was taken. The participants age ranged from 18 years to 30 years. Data were collected from Delhi NCR. The data is collected via Google form. No incentives were provided to participants to participate in the research.

Measures:

Socio demographic questionnaire:

The sociodemographic questionnaire included personal questions (Name, contact no, gender, age, marital status) which is designed for research purpose only.

Perceived stress scale:

The Perceived Stress Scale (PSS; Cohen *et al.*, 1983) is a widely used self-report tool to assess the perceived stress in terms of degree to which situations in one's life are evaluated as stressful (Cohen *et al.*, 1983). The PSS (short form includes 10 items). The global PSS-10 score ranges from 0 to 40 with higher scores indicating higher levels of perceived stress. Cronbach's alpha ranges from 0.75 to 0.86 (Cohen *et al.*, 1983). Test-retest reliability for the PSS was 0.85.

COPE Inventory:

The COPE Inventory (Carver, 1989) is a multidimensional coping inventory to assess the different ways in which people respond to stress. This inventory aimed to assess problem focused (Active-coping, Planning, Suppression, Restraint-coping, Instrumental Social Support), Emotional – focused (Positive reinterpretation, Acceptance, Denial, Religion, Emotional social support) and recently developed scales are Humor and Substance use. Cronbach's alpha for the 15 scales of COPE ranged from 0.37 to 0.93.

Procedure:

The Perceived stress scale and COPE inventory were used to measure Perceived stress and Coping amongst Male, Female and LGBTQIA. The proper informed consent was taken. Data was collected through Google Forms platform, which exported data to an Excel spreadsheet. Data were then analyzed from SPSS. The ANOVA and Post Hoc test as a statistical tool applied and later on table were made.

Results:

Table 1: Gender and Perceived Stress scale

Sources	Df	Sun of Squares	Mean Square	F- ratio	Significance level
Between Group	2	61.4	30.7	0.566	Not significant
Within Group	57	3089.2	54.1		
Total	59	3150.7	53.4		

Table 2: Gender and Sub Scales of COPE

Sub -Scales	Male		Female		LGBTQIA		F- ratio
	Mean	SD	Mean	SD	Mean	SD	
Positive reinterpretations	11.95	2.258	12.1	2.63	10.35	1.41	3.01
Mental Disengagement	10.5	2.481	9.65	2.32	10.85	2.82	1.44
Focus on venting	9.7	3.096	9.55	3.08	10.2	0.70	0.27
Use of instrumental Support	9.5	2.837	9.05	2.98	9.25	2.82	0.109
Active Coping	11.25	2.61	11.1	2.19	10.4	4.94	0.701
Denial	6.85	2.084	6.75	4.12	6.7	3.53	0.011
Religious coping	10	3.21	8.9	3.71	6.75	1.37	4.21
Humor	9	3.479	7.45	3.26	9.4	7.07	1.733
Behavioural Disengagement	7.1	2.55	7.35	2.85	7.55	1.97	0.136
Resistant	10.45	2.163	9.8	2.30	9.65	2.12	0.601
Use of emotional support	7.9	2.61	8.55	2.76	9.15	1.41	0.868
Substance use	5.45	2.03	4.3	1.34	5.2	2.82	1.810
Acceptance	10	2.73	10.25	2.14	10.2	6.36	0.600
Suppression	10.8	3.13	9.9	1.68	9.15	1.897	2.597
Planning	12.15	2.43	10.9	2.48	11.05	1.869	1.77

Significance level 0.5

Table 3.1: Male, Female and LGBTQIA (Problem focused of COPE)

Source	Df	Sum of square	Mean square	F- ratio	P- value
Between group	2	231.633333	115.816667	2.397	0.100
Within group	57	2753.299734	48.3		
Total	59	2984.933067	50.5		

Table 3.2: Male, female and LGBTQIA (Emotional focused of COPE)

Source	Df	Sum of square	Mean square	F- ratio	P- value
Between group	2	84.900000	42.450000	0.694912	0.503297
Within group	57	3481.949981	61.086842		
Total	59	3566.849981	60.455084		

Discussion:

The objective of present study was to compare perceived stress and coping styles among males, females and LGBTQIA. It was hypothesized that there would be a significant difference between the perceived stress of Male, Female and LGBTQIA. To test this hypothesis one – way ANOVA was used which revealed that there is no significant difference between Male, Female and LGBTQIA on the measures of perceived stress. This may be because during covid-19, Almost everyone whether it is male, female and LGBTQIA everyone lost their routine and work schedules, confined to their homes, lack of facilities, lack of physical Exercise, coming out from closet, rise in domestic violence on males and female all these lead to rise in higher stress. Second hypothesis was that there would be a significant difference in the coping of males, females and LGBTQIA. To test this hypothesis one way ANOVA is used which revealed that there is a significant difference on sub –scale religious coping between Male, female and LGBTQIA ($F = 4.21$), $df = 2, 57$). The mean for the LGBTQIA group ($M = 6.75$) appears to indicate greater scores than males and female. Thus, hypothesis is accepted on the measures of religious coping and rejected on other sub scales of problem focused and emotional focused coping (15 sub scales). The post hoc test applied (Tukey’s HSD). The result indicated that there is significant difference between Male and LGBTQIA group in religious coping. These results are in tuned with the Donaldson, Prinstein, Danorsky and Spirits (2000) revealed that there were no gender differences in coping with stress.

Table 3.1 and 3.2, show the significance of gender difference on the measures of emotional focused and problem focused coping which shows that there is no significant gender difference exist on the measure of problem focused and emotional focused which may be because during COVID - 19 everyone was home isolated and thus, the stressors for three genders were similar and certainly they have to face and utilize similar type of coping mechanism.

This study has a number of limitations, which need to be taken into account the Sample size was small, findings are not generalizable to other professional groups and situations different from the current COVID-19 pandemic and Data is collected through online mode.

Implications:

- This research is a small attempt to focus on the LGBTQIA community and uncover the hardships.
- This study can be refer further to understand and study the stress and coping across all three genders during post COVID.
- This is a noble attempt to fill the gaps in literature, as it is the first study which focus on stress and coping styles of LGBTQIA community exclusively.

Conclusion:

The data were analysed by using one way -ANOVA for independent samples. It was found that there is no significant difference between Males, females and LGBTQIA in perceived stress. It is reasonably safe to conclude that there is no significant difference between perceived stress among males, females and LGBTQIA. The Obtained data were analysed by using one way -ANOVA. It was found that there is significant difference between Males, Females and LGBTQIA inreligious coping ($F = 4.21$, $df = 57$). The post hoc test – Tukey’s HSD test was used which indicated that there is a significant difference between males and LGBTQIA in sub scale of coping (religious). The obtained value of F is statically significant at 0.05 level.

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DIGITAL CONNECT AMID COVID-19

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Introduction:

The terrible situation caused by the COVID19 pandemic has left its mark worldwide, for example, from March 12, 2020, the time to work and study from home will have been introduced, initially to April 2020 and then possibly to January 2021 Continue to finance household chores with smartphones over the Internet during the crisis, as most people have their own smartphones without having to buy additional devices. Platforms that facilitate communication, for example via smartphones and even tablets; teenagers or adults who are still in college can easily transfer their work through them. You can use these tools to communicate, for example, Communicate through social networks. Platforms like WhatsApp, Telegram, Zoom, Microsoft Team and Edmodo to connect with friends and speakers. Students can share information on social media for work, especially platforms like Padlet or Google Drive. Students can do video assignments using applications such as Macromedia Flash, or Movie Maker. Teachers can use the above online platform to communicate and communicate with students if they have a wireless network from home using apps like Zoom or Skype. Employers and employees can interact by transferring technology and documents and exchanging information about their current work situation from using an opensource platform to easily communicate, read and get new ideas during the COVID19 outbreak, reducing travel abroad. Stay home and be more productive. For example, you can subscribe to an e-learning platform for free and switch easily. In formal courses, they can learn how to use information technology (IT) through various social media channels. Families, parents and housewives can learn knowledge such as cooking, gardening, financial management and more health, nutrition and exercise techniques on social media such as YouTube: Grandparents, their grandparents, their children and grandchildren can communicate via social media such as Skype or Zoom as well as digitally with transferable technologies. You can find lots of guides on how to use these social media apps on YouTube. You can easily and conveniently access your smartphone for materials such as the scriptures of the respective religions, the Quran and Hadith. Not only small children can open movies and apps, including games, but can also easily be carried around browsing and using social media apps and apps, how to learn a language, guessing, learning code with the help of parents. This

pandemic is making it difficult for people to travel for products like groceries so e-commerce can be used to buy groceries online without the crowds entering the market and avoiding going. Because bill payments and wire transfers can be made with all major online banking services, regardless of their location or location. Health provides reliable information and the latest data on the status of COVID19. However, this situation has temporarily paralyzed the tourism industry and the unemployed. It is increasing because tourism is an important source of employment for communities close to tourist destinations and for communities abroad. For other types of businesses that are feeling the effects of the COVID19 pandemic, during the COVID19 pandemic, communication and marketing models are more digital than today's digital media and social networks are an effective and efficient way to communicate with the community.

Digital marketing:

Digital Marketing is a marketing discipline that takes advantage of the Internet and digital technologies such as computers, mobile phones, websites, social media platforms, application software, email, and other digital technologies to implement marketing plans and strategies has changed), It's a marketing strategy that depends heavily on the Internet and other digital media to reach audiences through a variety of digital media channels and platforms. Devices, email, social media, search engines, video streaming platforms, and other similar channels to reach customers; However, some marketers believe that digital marketing should be treated as an entirely different activity and that starting over requires new and different ways of engaging, connecting with, and understanding customers. Connect with this customer base, social media platforms such as Twitter, Facebook, Instagram etc. and AI-based technologies such as chatbots, which include customer feedback marketing and enable two-way interactive communication between companies and customers with little effort and can also be used for different screen sizes can be optimized, eliminating the inconvenience of traditional advertising methods.

Few digital marketing tools:

As consumer responses to traditional marketing methods have decreased recently, consumer engagement with brands and companies has increased. Marketing with digital platforms has exploded.

Search engine optimization:

Through specialist search engine optimization, a website or web page's visibility and quality and quantity of visitors may be increased naturally (i.e., organic results). In contrast to OS, search engine marketing involves paying search engines to display their site links at the top of the list for relevant search queries. Digital marketing encompasses social media marketing as

a subset the marketing of your products and services through the usage of social media sites such as twitter, facebook, instagram, snapchat, etc

Video marketing and micro-video marketing:

Video marketing and micro-video marketing have gained large market shares from customers in recent years. It's a method that video streaming platforms like YouTube and Micro Video To reach customers, brands employ various streaming platforms.

Email marketing:

In order to build demand for the product being marketed, marketers utilise it as a tool to target customers directly to prospects via email, discounts, and other communications or a product or Each time a consumer visits the business's website and/or purchases items through an affiliate link, the firm pays a part of the commission to the affiliates.

Mobile marketing:

Companies are taking advantage of this opportunity by connecting with their consumers via mobile applications, email, mobile-optimized websites and social networks.) Marketing: This is one of the newest digital marketing techniques that firms utilise to promote their product advertising on their platforms by using social media influencers like YouTube celebrities etc.

Effects of covid19 on digital marketing:

The spread of Covid19 has had a strong negative impact on marketing activities in this sector, mainly due to the blockade. , this has opened the door to digital marketing as people are moving to digital media faster than expected. The following points explain the effects of Covid19 on digital marketing and advertising. Move from AI expectations to long-term value: Traditional digital marketing relies on analytics and key performance indicators (A.Is) to measure effectiveness and impact of digital marketing campaigns, it is and increases the importance of customer benefit in life. After the price fell, the arrival of Covid19 left people so free that they now have a lot of time to waste. As a result, the demand for video content on video streaming platforms such as YouTube has increased significantly. Demand for the platform has increased significantly, allowing marketers to invest in video and microvideo content to promote and promote their products and services.

Trends in digital social media:

In particular, in the case of informal courses, they can be used for further education in information technology (IT) through various social media channels as it is and implement methods of using social media such as YouTube. Grandparents and their descendants and their siblings can communicate through social networks such as Skype or Zoom, as well as digitally using transmitted technologies. Many tutorials on using these social media apps can. Those who need religious materials can easily and appropriately find them on their smartphones, such as the

scriptures of the respective religions, to access the Qur'an and hadith. By opening apps that include games, they can also take advantage of the opportunity to explore and use easily portable apps and social media how to learn the language, guess, learn the code with the help of parents. This pandemic is making it difficult for people to move around for goods such as food. In this way, e-commerce can be used to buy food online without going to the market and avoid crowding use the aforementioned online banking services without leaving the site and location. However, this situation has temporarily paralyzed the tourism industry and unemployment is on the rise because tourism is one of the public use platforms around tourist attractions and communities from abroad have experienced paralysis, but employees of other types of companies are feeling the impact of the COVID19 pandemic. During the COVID19 pandemic, more forms of communication and marketing will take place through digital channels. Today, digital media and social networks are an effective and efficient means of communicating with the community. Hence, changes in the structure and use of the media used by the community must be understood before taking steps to convey the security and usability during the COVID19 pandemic, such as working from home, bootstrapping, printing, process development, and doing online business in the digital ecosystem. Social media connects people around the world where they can stay connected and share their experiences. Different social media platforms have different features available for subscribers to use. Social media also makes it easier for people to do business by opening up the global marketplace and the cost of advertising is also cheaper. Both the government and the private sector are at the forefront of the use of social media, maintaining a good online presence is one of the important aspects that determine the success of startups, on the other hand, the use of social media is increasing day by day has brought new challenges when it comes to information security, so users need to protect their servers and technology from external and internal threats. One strategy is to use and encrypt passwords to enter the portal, where each person who has the right to access the portal is given a unique and unique password for a known user.

The role of social media in purchasing and post-purchase decisions:

In the fourth stage of the consumer decision model, the consumer makes a purchase decision. However, for many companies, the number of purchases on such platforms is disappointing. For example, Halzack (2016) found that only 1.8% of US online sales in the 2015 Christmas shopping season came from social media. However, it seems intuitive that as the power of social media platforms grows, their use for shopping will also grow. An important factor in purchasing decisions is the risk that the consumer will feel that a particular product will not be delivered as expected. , consumers often refer to their perceived risk by seeking approval

from family, friends, perception experts, and opinion leaders (Delener, 1990; Voyer and Ranaweera, 2015). Social media provides a way for consumers to express their purchase and satisfaction or dissatisfaction. Thus, social media provides businesses with a fast, efficient and relatively inexpensive means of collecting consumer feedback and thus provides a way to quickly resolve their problems. When making a purchase, consumers can use social media to showcase and / or discuss their new purchase. When consumers are satisfied, they can turn to social media to promote or support their business. For example, if a product is a luxury brand, consumers may post messages to demonstrate their ownership of the product in order to improve their peer standing. However, consumers can also report their dissatisfaction with a product or purchases.

Conclusion:

Virtual is at the core of every firm in current circumstances and digital advertising is a vital equipment for manufacturers and businesses to impose advertising methods. While the popular ad industry has been hit hard, the virtual advertising division has experienced a world-class boost and placed digital ads on Fast tune and paved the way for improvement and enhancement of virtual advertising activities.

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REVERSE MIGRATION AND FOOD SECURITY:

A VIEW THROUGH COVID-19 LENSES

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Introduction:

The Covid-19 pandemic and the subsequent lockdown in the country resulted in huge employment loss and income fallouts with the informal sector being most affected. Due to this, the availability and accessibility of food impaired in many parts of the country. The food production in the agriculture sector slows down due to migration to their native places. The food distribution scenario has been changed with poor affected the most. The global scenario is equally worrying with the Food and Agriculture Organization estimating the number of people with food insecurity to double by the end of 2020 (FAO, 2019).

Food security, as defined by the World Food Summit (WFS) and the Food and Agricultural Organization, 'exists when all people at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary and food preferences for an active life (Clay, 2002).

In South Asia, 37.6 percent of people in rural areas (465 million people) are multidimensionally poor compared with 11.3 percent (65 million people) in urban areas. According to Global MPI 2020 (Multidimensional Poverty Index), India is 62nd among 107 countries with an MPI score of 0.123 and 27.91 per cent headcount ratio, based on the NFHS 4 (2015/16) data. As per the World Bank report of 2012, 1 in 5 Indians is poor, with 80 per cent of the poor residing in rural areas.

Migration is part of the process of development as economies undergo structural transformation and labour shifts away from agriculture into manufacturing and services (Kuznets, 1966; Hnatkovska and Lahiri, 2014). In 2015, migration contributed an estimated USD 6.7 trillion worldwide, or 9.4 percent of global gross domestic product (GDP) (Woetzel *et al.*, 2016). Migration is a component of rural household strategies for risk mitigation to improve and diversify their sources of income (Groger and Zylberberg, 2016; World Bank, 2007). In this regard, migration can play an integral part in achieving food security and nutrition by addressing

one or more of the four pillars of food security and nutrition – availability, access, stability, utilization – for both migrants themselves and their household of origin.

Migration as a growing phenomenon is a critical determinant in shaping global economic, political and social policies. And while migration has been a source of economic and cultural benefits, the recent global trends are indicative of the travesties faced by populations, who migrate due to lack of food security and conflict. India is a vast country, and every year a substantial number of people migrate to larger cities of different states for seeking employment opportunities to earn bread and butter for their family.

The drivers of migration include economic and demographic factors, environmental considerations, and social and political dynamics. Migrants can move because of socio-economic factors, including poverty, food insecurity, lack of employment and income-generating opportunities, limited access to social protection, natural resource depletion, environmental degradation and the adverse impacts of climate change.

It is estimated that by 2050, more than 50 per cent of the Indian population would be residing in urban areas. Globally, just three countries China, India, and Nigeria are expected to add 900 million urban residents by 2050. Since migration in India is largely from rural to urban areas, the ways in which the expansion of urban areas are managed in future will be critical for ensuring agricultural growth and global food security.

The available data indicates a widely differing reality about migrants in India. While, as per Census 2011, the total number of internal migrants would be 450 million more than 30 per cent higher than 2001 the actual numbers perhaps are higher than what is captured by the census (Dandekar and Ghai, 2020).

First, the major area of work they are engaged in would be agriculture labour, brick kilns, construction sites, services (maids to watchmen to drivers) industrial non-skilled workers, small and tiny road side businesses (tea shops, dhabas, small eateries, hotels, restaurants, *etc.*). This entire workforce falls under the informal sector, which, of course, constitutes 93 per cent of India's total workforce (Dandekar and Ghai, 2020).

Furthermore, the shift in population centres arising from migration has accelerated the triple burden of malnutrition the coexistence of hunger (insufficient caloric intake to meet dietary energy requirements), undernutrition (prolonged inadequate intake of macro- and micronutrients), and over-nutrition in the form of overweight and obesity. Migrants to urban centres face challenges around accessing nutritious food, adequate employment, social protection, housing and, water and sanitation facilities. This poses additional challenges to the government to ensure not only livelihood security for the population but also tackle challenges pertaining to food and nutrition security.

However, during the present covid-19 pandemic, fast-spreading contagion, high case fatality rates, inadequate medical facilities, and a lack of vaccine cure (so far) have prompted societies to lock down, reduced business hours and practice social distancing. With the world coming to a standstill due to lockdown as a measure to combat COVID-19, limited employment opportunities, impending fear of unknown future and financial crisis, thousands of underprivileged people and labourers started to march back to their native places and home states.

Reverse internal migration refers to movement of people from place of employment to their native places. Courtesy, COVID-19, the country is beholding the second largest mass migration in its history after the Partition of India in 1947, where more than 14 million people were displaced (Cutts, 2000) and migrated to India and Pakistan respectively, depending on their religious faiths.

According to the Census of India (2011), Maharashtra and Delhi saw the maximum number of flow of migrants from the states of Uttar Pradesh, Bihar, Rajasthan, Odisha, West Bengal, Madhya Pradesh, Punjab and Assam with around 54.3 million migrating out of their origin state. According to a report by World Bank (2020), more than 40 million internal migrants have been affected due to COVID-19 and around 50,000–60,000 individuals migrated back from urban to rural areas of origin in a period of few days. This internal migration of reverse nature is reported to be two and a half times that of international migrants. China and India each have over 100 million internal migrants.

The other factors that might have some bearing on reverse internal migration are regional discrimination, high cost of livings, and lack of social identity, increasing crime rate, marital responsibility, MGNREGA and rural infrastructure development. COVID 19 is the latest trigger (Mohapatra and Jha, 2019).

When viewed through the migration lenses, the economic crisis induced by COVID-19 is deeper and more pervasive than any other pandemic-induced crisis since the 1900s.

With this reverse migration, COVID-19 crisis has created additional challenges in sectors that depend on the availability of migrant workers. The crisis has disproportionately impacted food and hospitality, retail and wholesale, tourism and transport, and manufacturing. As the farming season begins in many countries, there are emerging signs of labor shortages in the agriculture sector of industrial countries that rely on migrant workers. Given the seasonality of agriculture, worker shortages have given rise to concerns about food security later in the year (World Bank Group, 2020). During the global financial crisis in 2009, many migrant workers moved from construction to agriculture and retail. Under normal circumstances, migrants losing jobs would consider returning home. The number of internal migrants is about two-and-a-half

times that of international migrants. China and India each have over 100 million internal migrants.

This paper examines the impact of reverse migration on food security status at household level due to Covid-19 pandemic. The dimensions of food security *viz.*, food availability, food accessibility and food affordability were scrutinized from migration perspective.

Impact on agriculture:

The Covid-19 pandemic has added a new dimension to the agriculture sector's woes. Small and marginal farmers remain the dominant food producer and major workforce in India, and the country would rely on them to contribute to the post-pandemic revival. However, so far, they remain invisible in the current discourse, due to their informality, as well as political and digital inability.

Small and marginal farmers constitute more than 85% of farm household, cultivate about half of all farmlands as per Agriculture Census, 2015-16, and produce about 60% of farm goods, critical to India's food security. They also constitute the biggest group of India's poor and most food insecure. But, small farming remains adaptive, making this group the most important constituent of farm debate in the Covid-19 context. Agriculture workers represent half of the informal workforce.

The source villages where the migrants are have managed to return are experiencing agrarian crisis that strongly engraved in the varied agro-climatic zones of India. These villages are facing the problems of low productivity, water scarcity, and crisis of other livelihood options and competing claims of private capital on natural resource endowments.

It is now being discussed that a number of migrant workers who fled the big cities may never return, preferring to find work on their marginal farms or in nearby towns. Thus, reverse migration has created more hands during the ongoing sowing season which has likely to boost the acreage and will in turn increase the crop yield.

Unlike, the reverse migration from Northwestern states of Haryana and Punjab with estimates suggesting 1 million labourers, could pose productivity shortfalls which could have profound national level food security ramifications since these two states contribute around 50 per cent of staple food grains that are procured and distributed by Government of India (DFPD, 2020).

Balwinder Singh *et al.* (2020) highlighted that the labour shortage due to migration will likely to delay transplanting of rice in 2020. This will have very significant implications for food security through yield loss in both rice (7-18%) and wheat (10-23%) in Punjab and Haryana. In India, rice and wheat provides 60-70% calories and 50-55% protein intake. Hence, any reduction in production may directly or indirectly affect the food and nutrition security of resource-poor households.

Rural India, especially the farm sector, therefore, must prepare to productively absorb this additional labour. India's small farms may be able to productively engage them, as they are extended enhanced tenure security, which can trigger farm investments, 'sustainable' intensification and diversification.

The Food and Agriculture Organization noted in one of its policy briefs, "Migrants play a substantial role in the agri-food systems. Measures affecting the movement of people (internally and internationally) and resulting labour shortages will have an impact on agricultural value chains, affecting food availability and market prices globally (FAO, 2020).

Food Supply Chains (FSCs):

The Indian food economy now is mainly urban, fed by long rural–urban supply chains. It is now 80% composed of non-foodgrains and thus fed by perishable FSCs, 60% post-farmgate, and 85% dependent on small and medium sized enterprises (SMEs) that are dynamic and clustered near and in towns. It is 96% dependent on the private sector (with government managing only 4% of India's food). It is characterised by highly integrated rural hinterlands, peri- urban and urban areas, having tight and fluid connections in both directions.

Of all the food consumed in India, 60% is consumed by urban consumers. Of the 40% of India's food that is consumed in rural areas, 80 % (in value term) is purchased (while the rest is home produced on own farms) (NSSO, 2013).

The SMEs are in wholesaling (both on-market in mandis and off-market in rural towns), processing, logistics, retailing (for example, kiranas, haats), and food services (such as small restaurants and street meal vendors, or dhabas). The food system related SME sector is especially important to Tier 2 and Tier 3 cities and rural towns that constituted 58% of the urban population in 2011 (Tripathi, 2013).

The SMEs in the FSCs provide self-employment to large numbers of people and extensive casual employment for day labourers for loading and unloading the produce from trucks and carts in mandis and haats, for workers in numerous small mills and warehouses, and so on. The SMEs have higher labour/output and labour/capital ratios compared to the large firms.

Transitional supply chains in particular including informal small and medium food sector enterprises prevalent in Africa and Asia rely more on workers and less on machinery for activities such as processing, transport, and storage. The sustainability of their businesses is thus especially compromised by worker lockdowns (Reardon *et al.*, 2020).

The impact of Covid-19 induced lockdown on food supply and wholesale prices for 266 commodities traded at 1804 agricultural markets in 24 states of India revealed the fact that food arrival in wholesale markets dropped by 64% on average in month following the lockdown while wholesale prices rose by about 10% (Roth and Lowe, 2020).

With the increased ratio of unemployment coupled with inflation of food commodities made livelihood of poor people pathetic. The inflation of food commodities due to disruption in supply chain contributed to the overall raise in the cost of nutritious diet and is likely to increase further, resulting in less affordable diverse diets by rural poor thus compromising with the food security.

Impact on food accessibility and food affordability:

Covid-19 crisis is a “double-edge sword for the rural poor”. This short-term shift in demographic numbers is likely to lead to several possible consequences in rural areas. The food security status of people is significantly influenced by both the physical availability of and economic access to food products.

According to FAO’s most recent food security report, a key reason of growing food insecurity in developing countries is that many people cannot afford the increasing cost of healthy diets, while the nutritional status of vulnerable population groups has been deteriorated due to the economic impacts of COVID-19 (FAO, 2020).

Zurayk (2020) reports a global price increase in the food basket of 20% to 50% with the prices of dairy products, vegetable oils, sugar, and other food and agricultural products rebounded to multi-month highs.

FAO estimates that the cost of a healthy diet in 2020 has exceeded the international poverty line, making it unaffordable for the poor and thus fueling food insecurity in most developing countries, particularly in Sub-Saharan Africa and Southern Asia (FAO, 2020).

As per the latest NSSO consumer expenditure data (2011-12), on an average, rural and urban households in India spend about 48.6 percent and 38.5 per cent of their total monthly expenditure on food. This share, however, increases to 60.3 percent and 55 percent among the poorest households in rural and urban areas respectively. The higher share of food expenditure, in the total household expenditure, is indicative of the stress that households experience to acquire food and hence is a relative measure of food insecurity.

The dietary costs have increased substantially over 2001-2011 for both men and women, rural wage rates increased more rapidly, implying that nutritious diets became substantially more affordable over time. However, in absolute terms nutritious diets in 2011 were still expensive relative to unskilled wages, constituting approximately 50-60% of male and about 70-80% of female daily wages, and were often even higher relative to minimum wages earned from the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Since many poor households have significant numbers of dependents and substantial non-food expenditure requirements, it follows that nutritious diets are often highly unaffordable for the rural poor; The estimates says that 45-64% of the rural poor cannot afford a nutritious diet that meets India’s national food-based dietary guidelines (Raghunathan *et al.*, 2020).

Niles *et al.* (2020) found that lower economic access to food forced many food-insecure households to disrupt eating, cut meals, eat less to stretch their food, or even go hungry.

The COVID induced migration makes every household in rural areas likely to have a few extra members at home who will have to be fed and taken care. This would pose extra burden on poor households where income generation is becoming harder task during the pandemic.

The states of Bihar, Uttar Pradesh, Jharkhand Odisha, West Bengal, Madhya Pradesh, Chhattisgarh, and the Konkan and Marathawada regions of Maharashtra could see a rise in the number of marginal households facing a food-related crisis.

The empirical evidence shows that remittances play an important role in rural households' food security by improved purchasing power and enabling investments in land and agriculture in places of origin (Choithani, 2017).

The remittance economy is likely to remain depressed for some time, as job loss has been extensive and, in all likelihood, the persons responsible for the remittance money may not return to work soon. Lower incomes and more mouths to feed could cause stress within households in the high-poverty regions of the country that have also traditionally served as a source for migration.

Impact on economy:

The outbreak of COVID-19 has impacted nations in an enormous way, especially the nationwide lockdowns which have brought social and economic life to a standstill. There is a multi-sectoral impact of the virus as the economic activities of nations have slowed down. This COVID-19 pandemic affected the manufacturing and the services sector hospitality, tours and travels, healthcare, retail, banks, hotels, real estate, education, health, IT, recreation, media and others. The economic stress has started and will grow rapidly. While lockdown and social distancing result in productivity loss on the one hand, they cause a sharp decline in demand for goods and services by the consumers in the market on the other, thus leading to a collapse in economic activity.

Remittances account for a large proportion of monthly family incomes, estimated at 25-50%. In some states like Bihar, this income forms as much as one-third of state GDP.

Loss of jobs in the urban sector and the resultant reverse urban-to-rural migration will reduce or eliminate remittance incomes and increase the number of mouths to feed. The World Bank report projects a reduction of 23% in remittance income in India in 2020.

Driven by these income losses which are largest among urban households the global number facing acute food insecurity may nearly double, from 135 million in 2019 to 265 million and over 55 countries may face famines by the end of the year.

Conclusion:

The Covid-19 has created enormous changes in the lives of people around the globe. The pandemic has affected many sectors leading to unemployment, income loss and getting back to their native places due to lockdown. India has seen second largest reverse migration due to Covid-19 pandemic. This has worsen the food security status in the country with negative impact on its dimensions viz., food availability, accessibility, affordability and utilization.

Food availability, one of the parameter in food security includes the food production. The agricultural works were affected in terms of labour shortages due to mobilization of human resources back to their original places coupled with agrarian crisis in the agro-climatic zones of India. However, the small and marginal farms have bloomed with more hands to join for agricultural activities in villages.

The distribution of food through food supply chains have diminished with the inflation of food commodities. These in turn affected the rural poor who lost their jobs and resulted in less affordable diets. This was a big drawback to build food secure nation.

The Covid-19 induced reverse migration makes the rural poor to have additional member in their family to feed. The increased unemployment, economic distress, increases in the food prices with the diminished food supply have combined effect on poor to fight for their survival.

An integrated approach to eliminate food insecurity needs to be implemented quickly to uplift the poor from this crisis. Government should focus on introducing more number of poverty alleviation programmes to help poor to have economic accessibility. Public distribution system (PDS) needs to be more transparent and reliable. The government should stop treating the migrant workers as separate entity. The community needs to be educated on utilization of their free spaces for creation of household gardening/kitchen gardening so that they can be self-reliable in producing their own food. Community awareness programmes on importance of food, health, hygiene and sanitation needs to be arranged across the country.

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CORONAVIRUS DISEASE (COVID-19) IS UNIVERSAL PROBLEM: AWARENESS AND CONCERNS REGARDING PANDEMIC

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Introduction:

Universal Pandemic of Coronavirus (COVID-19) is caused by severe acute metabolic process syndrome coronavirus 2(SARS-CoV-2) (1). The novel virus was found in Dec 2019; a imprisonment in city and alternative cities in Hubei province didn't contain the irruption and it unfold to other elements of the world (2-4). the globe Health Organization (WHO) is functioning closely with world experts, governments and partners to speedily increasing knowledge base on this new virus, to trace the spread and virulence of the virus, and to produce recommendation to countries and people on measures to shield health and stop the spread of this outbreak (5). Variant virus have emerged or become dominant in several countries, with the Delta, Alpha and Beta variants (6) being the foremost virulent. As of fourteen August 2021, over 206 million cases and 4.34 million deaths are confirmed, creating it one amongst the deadliest pandemics in history. Covid-19 symptoms vary from unnoticeable to life threatening. counseled preventive measures embrace social distancing, carrying facemasks in public, ventilation and air filtering. many vaccines have been distributed in many countries since Dec 2020. Treatments specialise in addressing symptoms, however work is current to develop medications that inhibit the virus. Authorities worldwide have responded by implementing travel restrictions, lockdowns and quarantines, work hazard controls, and business closures. There are efforts to extend testing capability and trace contacts of the infected. The pandemic has resulted in severe world social and economic disruption, together with the biggest global recession since the Depression. Coronaviruses are a family of viruses that may cause disease in humans. They get their name, "corona," from the numerous crown-like spikes on the surface of the virus. Severe acute metabolic process syndrome (SARS), Middle East respiratory syndrome (MERS) and also the communicable disease are samples of coronaviruses that cause illness in humans. The virus has since unfold to all continents (except Antarctica). World Health Organization (WHO) and also the Centers for illness management and bar (CDC) (7) are gathering info and endlessly learning additional regarding this outbreak. The pandemic has raised problems with racial and geographic

discrimination, health equity, and the balance between public health imperatives and individual rights (8).

Overview:

Coronavirus disorder (COVID-19) is an infectious disorder as a result of a newly found coronavirus. Most human beings inflamed with the COVID-19 virus will enjoy slight to slight respiration contamination and get better with out requiring unique treatment (9). Older human beings and people with underlying scientific troubles like cardiovascular disorder, diabetes, continual respiration disorder, and most cancers are much more likely to broaden severe contamination. The quality manner to save you and gradual down transmission is properly knowledgeable approximately the COVID-19 virus, the disorder it reasons and the way it spreads. Protect your self and others from contamination through washing your arms or the use of an alcohol primarily based totally rub regularly and now no longer touching your face. The COVID-19 virus spreads usually via droplets of saliva or discharge from the nostril whilst an inflamed individual coughs or sneezes, so it's far crucial which you additionally exercise respiration etiquette (for example, through coughing right into a flexed elbow).

Prevention:

To prevent infection and to slow transmission of COVID-19 (10-12), do the following:

- Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.
- Maintain at least 1-metre distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

Symptoms:

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization.

Most common symptoms:

- fever
- dry cough
- tiredness

Less common symptoms:

- aches and pains
- sore throat
- diarrhoea
- Conjunctivitis
- headache
- loss of taste or smell
- a rash on skin, or discolouration of fingers or toes

Serious symptoms:

- difficulty breathing or shortness of breath
- chest pain or pressure
- loss of speech or movement

Seek immediate medical attention if you have serious symptoms. Always call before visiting your doctor or health facility. People with mild symptoms who are otherwise healthy should manage their symptoms at home. On average it takes 5–6 days from when someone is infected with the virus for symptoms to show, however it can take up to 14 days.

Role of mask:

If COVID-19 is spreading for your community, live secure through taking a few easy precautions, inclusive of bodily distancing, sporting a masks, retaining rooms nicely ventilated, fending off crowds, cleansing your hands, and coughing into a dishonest elbow or tissue. Check nearby recommendation wherein you stay and work. Do it all!

Masks need to be used as a part of a complete approach of measures to suppress transmission and store lives (14-16), using a masks by myself isn't enough to offer an good enough degree of safety towards COVID-19. The suitable use, garage and cleansing or disposal of mask are important to lead them to as powerful as possible.

Here are the basics of how to wear a mask:

- Clean your hands before you put your mask on, as well as before and after you take it off, and after you touch it at any time.
- Make sure it covers both your nose, mouth and chin.
- When you take off a mask, store it in a clean plastic bag, and every day either wash it if it is a fabric mask, or dispose of a medical mask in a trash bin.
- Do not use masks with valves.

Types of Face Masks for Coronavirus:

N95 respirators and surgical masks should be reserved for health care workers and first responders. Because there are not enough of these masks for everyone, it is important that they go to the doctors, nurses, and other medical staff who need them most.

- **N95 respirator masks** fit tightly around your face. They filter out 95% or more of the smallest particles in the air. However, they have to fit just right in order to work.
- **Surgical masks** are often blue with white borders. They fit loosely across your nose and mouth. These masks shield against the large droplets that come from a sick person's cough or sneeze, but they were too loose to protect against all germs and they cannot block the tiniest particles that may carry coronavirus.

- **Masks for non-health care workers**

Cloth masks are best for people who do not work in health care. Here are some tips to keep in mind when making your own or looking for handmade masks. You can sew the fabric, tie it around your face, or fold it around some hair ties for ear loops.

- Use at least two layers of material.
- You might add a pocket for a filter. Be sure to take it out before you wash the mask.
- Add a copper or wire ribbon on the nose of the mask to help it fit better.
- Neoprene masks can help stop the droplets that may carry the virus.

Boosting your immune system against coronavirus:

The meals you consume performs a key thing in figuring out your normal fitness and immunity (17, 18). Eat low carb diets, as this may assist manipulate excessive blood sugar and pressure. A low carb weight-reduction plan will assist gradual down diabetes and recognition on a protein-wealthy weight-reduction plan to maintain you in correct form and frequently eat greens and end result wealthy in Beta carotene, Ascorbic acid & different important vitamins. Certain meals like mushrooms, tomato, bell pepper and inexperienced greens like broccoli, spinach also are correct alternatives to construct resilience withinside the frame in opposition to infections.

You also can consume dietary supplements wealthy in omega 3 and 6 fatty acids on your each day dose, if stepping out to shop for groceries isn't always a choice at some point of social distancing. Some herbal immunity dietary supplements encompass ginger, gooseberries (amla) and turmeric. Some of those superfoods are not unusualplace elements in Indian dishes and snacks. Several herbs assist in boosting immunity like garlic, Basil leaves and Black cumin. Certain seeds and nuts like sunflower seeds, Flax seed, pumpkin seeds and melon seeds are wonderful reasssets of protein and nutrition E.

Don't compromise on sleep:

Good snooze time for 7-8 hours is the best way to help your body build immunity; lesser sleep will leave you tired and impair your brain activity. The lack of sleep will prevent the body from resting and this will impair other bodily functions that will have a direct impact on your immunity. Lack of sleep adversely affects the action of the flu vaccine.

Stay hydrated:

Drink up to 8-10 glasses of water every day, to stay hydrated. Hydration will help flush out the toxins from the body and lower the chances of flu. Other alternatives include juices made of citrus fruits and coconut water, to beat the heat.

Don't skip on exercise:

A good diet should be followed by an exercise routine. Remember to exercise regularly; even light exercise will go a long way in releasing the toxins from your body. It is recommended to exercise for 30 to 45 minutes, depending on your stamina. If you have not started exercising yet, then it is a good time to start. There are several YouTube channels and apps to help you exercise at home. Regular exercise improves metabolism, which has a direct correlation with body immunity.

Effective control of COVID-19 by vaccination:

Government of India is taking all necessary steps to make sure that we tend to are ready well to face the challenge associated threat posed by the growing pandemic of COVID-19 the Corona Virus. the foremost necessary think about preventing the unfold of the Virus regionally is to empower the voters with the proper data and taking precautions as per the advisories is issued by Ministry of Health & Family Welfare. Vaccines are currently wide available. In most cases, you are doing want an appointment.

Don't look forward to a selected brand. All presently approved and counseled COVID-19 vaccines: Scientists round the world are developing several potential vaccines for COVID-19. These vaccines were all designed to show the body's system to securely acknowledge and block the virus that causes COVID-19.

Several different types of potential vaccines for COVID-19 are in development, including:

- *Inactivated or weakened virus vaccines*, which use a form of the virus that has been inactivated or weakened so it does not cause disease, but still generates an immune response.
- *Protein-based vaccines*, which use harmless fragments of proteins or protein shells that mimic the COVID-19 virus to safely generate an immune response.

- *Viral vector vaccines*, which use a safe virus that cannot cause disease but serves as a platform to produce coronavirus proteins to generate an immune response.
- *RNA and DNA vaccines*, a cutting-edge approach that uses genetically engineered RNA or DNA to generate a protein that itself safely prompts an immune response.
- The COVID-19 vaccines produce protection against the disease, as a result of developing an immune response to the SARS-Cov-2 virus. Developing immunity through vaccination means there is a reduced risk of developing the illness and its consequences. This immunity helps you fight the virus if exposed. Getting vaccinated may also protect people around you, because if you are protected from getting infected and from disease, you are less likely to infect someone else. This is particularly important to protect people at increased risk for severe illness from COVID-19, such as healthcare providers, older or elderly adults, and people with other medical conditions.
- Serum Institute of India. COVOVAX. Phase 1. This vaccine has reached Phase 3 trials.
- Zydus Cadila. ZyCoV-D. Phase 1. This vaccine has reached Phase 3 trials. ...
- Serum Institute of India. Covishield (Oxford/AstraZeneca formulation) Phase 1. Approved in 45 countries. ..
- Bharat Biotech. Covaxin. Phase 1. Approved in 9 countries.
- The Pfizer-BioN-Tech vaccine is recommended for people 12 years and older.
- The Moderna vaccine is recommended for people aged 18 years and older.
- **Johnson & Johnson's** : Women younger than 50 years old should especially be aware of the rare risk of blood clots with low platelets after vaccination.

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TRACKING THE CORONA VIRUS AND OUT BREAK

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A study has reported that many viruses that exist today have very ancient evolutionary histories dated back to the first vertebrate or even the first prokaryote that existed, there are still many millions more viruses still to be discovered. The word *krimi* is used in Vedas more than 5000 years ago for different macroscopic and microscopic creatures. Two types of *krimi* viz. *Drishta* (Visible/Macroscopic) and *Adrishta/ aatisukshma* (Invisible / Microscopic) were described in Vedas. There are Hymns which describe *krimi* and diseases caused by them. Over 60% of Atharva Veda is devoted to Ayurveda, charak samhita describing the ways to combat epidemic. Various sages like Āngirasas, Sāmbu, Jamadagni, Kaṇva and Kaśyapa were well known for their expertise in discovering and recognizing new herbs for remedial purposes. The Charak Samhita's explains, *Sleshma Krimi* after settling in the respiratory system creates cough, severe congestion, and breathlessness and sometimes leads to death. Every description of disease and the medicines is written in texts of different religions but we are unable to decipher it.

Viruses are named based on their genetic structure to facilitate the development of diagnostic tests, vaccines and medicines. Virologists and the wider scientific community do this work, so viruses are named by the "International Committee on Taxonomy of Viruses" (ICTV). Scientists first identified a human corona virus in 1965, it caused a common cold. Later that decade, researchers found a group of similar human and animal viruses and named them after their crown-like appearance. Corona viruses are a big family of different viruses. Some of them cause the common cold in people and infect animals, including bats, camels, and cattle. SARS-CoV-2, the new corona virus that causes COVID-19, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first isolated from three people with pneumonia connected to the cluster of acute respiratory illness cases in Wuhan. All structural features of the novel SARS-CoV-2 virus particle occur in related coronaviruses in nature.

Seven corona viruses can infect humans. Studies have suggested that bats are the natural reservoir of a range of corona viruses (CoVs), and that Rhinolophid bats harbour viruses closely related to the severe acute respiratory syndrome (SARS) CoV, which caused an outbreak of respiratory illness in humans during 2002–2003 (Jie Cui, Naijian Han 2007). SARS emerged in

southern China in 2002 and quickly spread to 28 other countries. More than 8,000 people were infected by July 2003, of which 774 died. A small outbreak in 2004 showed only four cases. This corona virus causes fever, headache, and respiratory problems such as cough and shortness of breath. Studies in species other than bats have examined host-virus phylogeny and identified coevolutionary relationships (Lukashov and Goudsmit, 2001). There is also study of Host-pathogen divergence and host shifts in the recent evolutionary history of these viruses and their hosts. Other studies have demonstrated that the relationship between viral phylogeny and geographic location and identification of host's viral phylogeography (Holmes *et al.*, 2004) can yield information on the origin of emerging zoonoses (Chen *et al.*, 2006).

MERS started in Saudi Arabia in 2012,(Middle East respiratory syndrome coronavirus, or MERS-CoV) nearly 2,500 cases reported who live in or travel to the Middle East. This corona virus is less contagious than its SARS cousin but is more deadly, killing 858 people. It has the same respiratory symptoms, but can also cause kidney failure.

Learning through above literature this virus's family already existed and have harmed human species. There is host shift phenomenon. After reading the literature one can see the years of outbreak 2002, 2012, 2019-20 almost after gap of a decade their sudden upsurge, this shows the cyclic pattern.

The controversy is whether it was a part of the research work in Wuhan lab or had come from wet market of Wuhan.The investigations are at international level. The infection was quick spreading because the virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. These particles range from larger respiratory droplets to smaller aerosols. People get infected by breathing in the virus if they are near someone who has COVID-19, or by touching a contaminated, (through fomite), surface and then your eyes, nose or mouth. The virus spreads more easily indoors , in crowded settings, poor ventilated area. A recent review of the survival of human corona viruses on surfaces found large variability, ranging from 2 hours to 9 days.The survival time depends on a number of factors, including the type of surface, temperature, relative humidity and specific strain of the virus.Laboratory study showed that the coronavirus SARS-CoV-2 can persist on plastic and stainless steel for days (Van Doramalen *et al.*, 2020). Reports stated that Worker's spray disinfectant on a street in Shijiazhuang, China, in January 2020 (China News).

Goldman, a microbiologist at Rutgers New Jersey Medical School in Newark, took closer look at the evidence around fomites and found that there was little to support the idea that SARS-CoV-2 passes from one person to another through contaminated surfaces. The Lancet Infectious

Diseases in July, states that surfaces presented relatively little risk of transmitting the virus 2 (Goldman, 2020). Similar conclusions were drawn by other they seem to hold true, because during lock down from March 2020 to August 2020, with limited period of marketing essential commodities people hardly wore gloves the currency transaction was by hands, touching mobile screen, other goods. People did extensively use hand sanitisers.

In fact, the US Centres for Disease Control and Prevention (CDC) clarified its guidance about surface transmission in month of May, stating that this route is “not thought to be the main way the virus spreads”. It now states that transmission through surfaces is “not thought to be a common way that COVID-19 spreads”. The focus on fomites rather than aerosols emerged at the very beginning of the coronavirus outbreak because of what people knew about other infectious diseases. In hospitals, pathogens such as methicillin-resistant *Staphylococcus aureus*, respiratory syncytial virus and norovirus can cling to bed rails or hitch a ride from one person to the next on a doctor’s stethoscope. So as soon as people started falling ill from the coronavirus, researchers began swabbing hospital rooms and quarantine facilities for places the virus could be lurking, seemed to be everywhere.

In medical facilities, personal items such as reading glasses and water bottles tested positive for traces of viral RNA the main way that researchers identify viral contamination. Bed rails and air vents. In quarantined households, wash basins and showers harboured the RNA, and in restaurants, wooden chopsticks were found to be contaminated. An early study suggested that contamination could linger for weeks. Seventeen days after the Diamond Princess cruise ship was vacated, scientists found viral RNA on surfaces in cabins of the 712 passengers and crew members who tested positive for COVID-19. Surface transmission, although possible, is not thought to be a significant risk (Morb *et al.*, 2020).

How did the virus create pandemic situation? The mystery remains unsolved till date, Was it planned by some country as biological means of warfare, or to create economic collapse, whatever may be reason it actually broke down bones of even superpower nation. There is huge loss of human life and aftermath disaster. There are theories of virus from Wuhan virology centre, the theory is not yet proved. China being strong communist dictator ruled country nothing can be found out; they keep everything in tight secret. World Scientists donot have enough evidence about the origins of SARS-CoV-2 to rule out the lab-leak hypothesis, or to prove the alternative that the virus has a natural origin. Scientists found SARS-CoV-2's closest known relative, RATG13, in a horseshoe bat (*rhinolophus affinis*). SARS-CoV-2’s closest relative still has not been found in an animal. Another suggests it is no coincidence that COVID-19 was first detected in Wuhan, where a top lab studying coronaviruses, the WIV, is located, lab-leak

proponents contend that the virus contains unusual features and genetic sequences signalling that it was engineered by humans.

Several researchers have looked into whether features of SARS-CoV-2 signal that it was bioengineered. One of the first teams to do so, led by Kristian Andersen, a virologist at Scripps Research in La Jolla, California, determined that this was “improbable” for a few reasons, including a lack of signatures of genetic manipulation. The virus’s furin cleavage site a feature that helps it to enter cells is evidence of engineering, because SARS-CoV-2 has these sites but its closest relative’s do not. The furin cleavage site is important because it is in the virus's spike protein, and cleavage of the protein at that site is necessary for the virus to infect cells. Another feature of SARS-CoV-2 that has drawn attention is a combination of nucleotides that underlie a segment of the furin cleavage site: CGG (these encode the amino acid arginine). A Medium article that speculates on a lab origin for SARS-CoV-2 quotes David Baltimore, a Nobel laureate and professor emeritus at the California Institute of Technology in Pasadena, as saying that virus’s donot usually have that particular code for arginine, but humans often do a “smoking gun”, hinting that researcher might have tampered with SARS-CoV-2’s genome.

Virologist Andersen however has ruled out that, in SARS-CoV-2, about 3% of the nucleotides encoding arginine are CGG, further points out that around 5% of those encoding arginine in the virus that caused the original SARS epidemic are CGG, too. Baltimore agreed with - Andersen could be correct that evolution produced SARS-CoV-2, but adds that “there are other possibilities and they need careful consideration. The highly transmissible variant of SARS-CoV-2 first reported in India (B.1.617.2, or Delta) has mutations in the nucleotides encoding its furin cleavage site that appear to make the virus better at infecting cells (Peacock *et al.*, 2021).

During the WHO-led investigations origins probe earlier this year, WIV researchers told investigators that they cultured only three coronaviruses at the lab, and none were closely related to SARS-CoV-2. when researchers want to study or genetically alter viruses, they need to keep them (or synthetic mimics of them) alive, by finding the appropriate live animal cells for the viruses to inhabit in the lab, which can be a challenge.

Did coronavirus emerge from Bat food products- Since ancient times, people all over the world have eaten bats . Bats have also been used in traditional medicine. Bat meat consumption is most common in parts of Asia and the Pacific Islands. It is been confirmed that the outbreak stemmed from a wholesale meat market in Wuhan. The virus was found in the area where live animals were kept, according to a 2020 (from the journal Microbiology Australia). The outbreak

clearly began epidemiologically at the Wuhan market, and a number of environmental samples from around the live animal section of the market were subsequently found to be positive for SARS-CoV-2 (World Health Organization (2020) Novel coronavirus (2019-nCoV) (Situation Report February, 2020; Chinese Centre for Disease Control and Prevention, 2020). China's CDC detects a large number of new coronaviruses in the South China seafood market in Wuhan. (chinacdc.cn). Bats are the reservoir hosts of a number of additional novel coronaviruses, particularly Chinese horseshoe bats, and a number of these novel coronaviruses can efficiently use multiple orthologs of the SARS receptor, human ACE2, and replicate efficiently in primary human airway cells and achieve in vitro titres equivalent to epidemic strains of SARS-CoV (Menachery *et al.*, 2015)

Whatever may be the reason of out break of covid-19 -BUT

The economy slashed down at various sectors in all the countries. There was upsurge or rise in new industries like mask manufacturing companies, PPE kit, sanitizer manufacturer, oxygen suppliers, ventilator manufacturers, syringes manufacturing, pharma industry sector gained a lot, the paramedical staff demand increased like the CTscan, pet scan, X-ray, also medical staff was at toes. Thus this outbreak gave rise to new industries. India is using different fashioned mask irrelevant of its capacity to save from viral infection. This new upcoming trend in fashion industry of wearing matching masks as per the costume and moreover it is flourishing. Disinfectant factories worked around the clock to keep up with heavy demand. Thus the governments, companies and individuals continue to invest vast amounts of time and money in deep-cleaning efforts. By the end of 2020, global sales of surface disinfectant totalled US\$4.5 billion.

The loss of human life is huge, the cities, towns, village looked dead in the entire lock down. It was difficult to carry on with the life being caged in house like animals in zoos. There was upsurge in domestic violence cases all over the world. Keeping self in locked conditioned for months was creating unsound mental health, thus creating a war situation. Collapse in education sector till date, extensive use of online media, mobile phone, laptops. There is rise in the sale of the electronic gadgets like mobile, PC, head phone etc., tourism and hotel industry collapsed, till date they are unable to recop. Huge loss in rural sector industry of small vendors, and manufacturers. Outdoor activity stopped, public relation, physical meeting collapsed. Since physical meeting have collapsed difficult to get understand body language, gesture which human psychology. The children born in lock down were exposed to only parents, now when see many people around they are confused, unsecured and cry aloud seen the crowd.

Positive side of this massive impact is that people realised importance of healthy life style, doing exercise, yoga, consuming homemade food, new recipes invented, they started realizing importance of relationship, youth became aware of house hold cores.

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THIRD WAVE OF COVID-19: EXPECTEDNESS AND CONSEQUENCES

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Abstract:

Having claimed about 4,508,171 lives, in two waves, globally, till date, the CoVID-19 pandemic is one of the dreadful nightmares on the face of the earth. Today, the entire mankind is feeling threatened because of 3rd wave which about to come because of a mutant strain is named delta+ and theta variants. It is expected that just like 2nd wave attributed to delta variant, the third wave will have high spread rate and will have high capability of bypassing immune system and this can bring devastations.

Although there are no concrete evidence which can substantiate the expectedness, still learning from the past experiences, governing bodies have been putting public on alert on periodic basis. The vaccination drives have been expedited and people are being urged to use face mask, sanitisers and maintain social distancing since these are the only ways to prevent third wave. Notwithstanding any of the above measures may result in the consequences which mankind can never pay.

Keywords: CoVID-19, variation, mutation, delta variant, theta variant and 3rd wave.

Introduction:

Most of the time, a prokaryotic cell divides asexually and the daughter cells so formed are given equal amount of DNA by the parent cell [1]. But before this division could take place; DNA has to be duplicated within the parent cell. Duplication, itself, is not a very perfect process and any deviation in this process leads to variation and mutation [2].

Mutation is of specific concern with respect to novel corona virus. It has been propounded that corona virus actually was a pathogen in bat [3] but because of mutation it expressed some proteins which were capable of breaching human immune system and this virus became capable of infecting the human as well. This is how; the mutation started a whole new disease on the face of the earth called CoVID-19 or Corona Virus Disease-19 [4].

What are the implications of mutation in CoVID-19?

Although, life cycle of corona virus is very short and it divides rapidly in host cell. With each division, certain variation/mutation occurs which are mostly silent and are of no significance [5]. But for couple of month's two variants (formed by mutation) delta and theta have emerged as most challenging threats to the life of entire mankind [6].

Delta variant itself was attributed to be the cause of 2nd wave in Indian subcontinent which claimed 2.05 lakh death since march-2021 [7]. People ignored the warnings of the experts and ignorance led to disaster. Although different sources is having different opinions about the theta variant, still, the past experiences must not be ignored [8]. Third wave can be more dangerous and we must be prepared in advance to combat it [9].

What health experts say about third wave:

According to health advisors the coming third wave is more harmful than the other two waves. If no preparations are done in advances, the mankind cannot withstand the harmful consequences thereof [10]. Reports from All India Institute of Medical Sciences (AIIMS), New Delhi, states that the corona virus can emerge in a new form to and due to the development of resistance towards immune defence mechanism, this virus can wreak havoc in the form of third wave [11].

Third wave will come or not:

The third wave is a different possibility. It is likely to come, although scale or timing is not something that can be predicted. It is not compulsory that third wave will definitely come. As mentioned by principal scientific advisor, Vijay Raghavan, he revised his remark to clarify that the 3rd wave can be avoided if people continue to take drastic measures. It is also possible that this time around the fresh wave will be actually being much smaller than the previous one so that it causes much less pain and can be managed more efficiently [12, 13, 14].

How strong the third wave can be?

As the first wave came to an end, it was proposed that most of the people would have acquired immunity by the time and the second wave of corona virus disease would be very weak and slow [15]. However, this argument stood invalid when second wave strike Indian subcontinent and claimed much more lives as compared to the first wave [16].

Therefore, considering the previous estimates to stand invalid and learning from past experiences it would be very unjust and unwise to say anything about date of initiation of 3rd wave in India, its end date, number of lives it may claim and to say if it would be weaker than 2nd wave or not [17,18].

Will the third wave of covid-19 affect children?

According to the AIIMS director Randeep Guleria, there are no strong evidences to say that the children will be seriously infected in the 3rd CoVID-19 wave [19]. According to him the children infected in second wave had mild illness. Nearly 60- 70% of the children's who were admitted in the hospital during the second wave in India, either had co- morbidities or compromised immunity [20, 21]. Healthy children had got mild illness and they recovered without hospitalization. So, there is no evidence that if the third wave will come then it causes severe illness in children [22].

Which factors contribute the third wave of covid-19?

As people of Indian subcontinent are still recovering from the second wave of CoVID-19 pandemic, head of epidemiology and infectious disease at Indian Council of Medical Research (ICMR) [23, 24]. had suggested that the third wave, although, is supposed to be far less hazardous as compared to second wave still there can be 4 possible factors which can make 3rd wave much more dangerous:

1. A coronavirus variant that is capable of by-passing the acquired immunity of the humans
2. Expression of a mutant strain of virus which can spread more rapidly in humans
3. If the immunity gains in the first and the second wave of the covid-19 pandemic goes down then it could lead to a third wave of pandemic
4. If restrictions for containing novel corona virus are relaxed by the state governments, then disease may spread rapidly leading to 3rd wave [25- 29].

Conclusion:

It is most probable that the delta and delta + strain of novel corona virus will be the main variant behind the third wave of coronavirus pandemic. It has been told by the expert that the delta and delta plus both have already taken over the country. It is therefore a sole responsibility of ours to abide by the guidelines issued by the governing bodies from time to time. Using face mask, sanitising hands frequently, getting oneself vaccinated and maintaining social distancing is what can be done to prevent the spread of this disease to large extent after-all vigilance is safety for this disease [30-32].

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AWARENESS AND CONCERNS ABOUT COVID-19

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Abstract:

Today, the entire mankind has been left in destitute and devastations due to corona virus pandemic which has claimed about 4,508,171 lives, globally, till date. Originated in Wuhan provinces of China from a wet meat market, this new disease spread globally and WHO gave it name of Corona Virus Disease-19 or COVID-19 since it was first reported in 2019 and the cause was attributed to novel corona virus. There was no specific treatment available for this disease and in order to contain this disease, lockdowns were imposed, globally. Along with this intercontinental, inter-countries and ever inter-state migrations were restricted. As the first wave came to an end, vaccine was introduced but the rate of vaccination was slow due to which world witnessed a second wave as well. Today, just to get over it, experts have been urging people to exercise COVID-19 appropriate behavior and to adopt new normal. The governing bodies have also been urging people to get them vaccinated if the condition permits. Notwithstanding any of the aforementioned urges may lead to 3rd wave of COVID-19 disease and it must be us to decide if we are able to withstand human and capital loss which may incur due to it.

Keywords: COVID-19, pandemic, lockdown, vaccination, new normal and 3rd wave.

Introduction:

The corona-virus pandemic has created havoc in the whole world. Having left the entire world in the destitute and having claimed about 4,508,171 lives in the whole world [1, 2]. the COVID-19 pandemic was declared a pandemic by the World Health Organization or WHO. The disease was first seen in the Wuhan provinces of China in 2019 [3-6]. After this, the infection slowly spread throughout the world and the social, economic, mental and financial status of humans was drastically challenged by it. The entire scenario did not end in the first wave itself. In 2021, due to coronavirus second wave, the virus mutated and infection of this virus increased and the symptoms of corona also changed. This mutation claimed much more lives than the first wave. In order to prevent the spread of virus infection, a number of regulations were

implemented in all the countries. Lockdowns were imposed, social gatherings were banned and the crowd was not allowed to go on the rampage [7-9]. Apart from this, people were taught the importance of cleanliness and social distancing and encouraged to strengthen immunity. In India, even telephone caller tune was changed just to alert people that pandemic is not over yet and they have to continue exercising COVID-19 appropriate behavior [10 12].

What is Coronavirus disease?

COVID-19 is an infectious disease caused by a newly discovered coronavirus (also known as Novel Corona Virus) [13-15]. Most people infected with the COVID-19 virus experienced mild to moderate respiratory/breathing problems and recovered without requiring any specific treatment. Elderly people, and those with concurrent medical problems like diabetes mellitus, immune deficiency, respiratory illness, and cardiovascular disease and cancer are more likely to develop serious manifestations [16, 17]. According to experts, the best way to prevent and slow down transmission was to stay well informed about the COVID-19 virus, the disease it causes and how it spreads. It was suggested that in order to protect oneself and the others from infection of corona virus, one should be washing their hands with soap and water or by using an alcohol-based hand rub frequently [18, 19]. One should also follow good respiratory etiquettes and should maintain hygiene since the major mode of transmission of COVID-19 is through droplets of saliva or discharge from the nose when an infected person coughs or sneezes [20, 21].

Symptoms of Corona Virus Disease:

A main symptom in infected human includes fever, cough, weakness, breathing problem, loss of smell and taste. Apart from this, some people suffered from Gastro-intestinal hypermotility as well. However, during the coronavirus second wave the symptoms including headache, reddening and swelling of the eyes, skin infections, and generalized body pains etc. were also seen. The severity of COVID-19 symptoms ranged from very mild to severe. [22] Some people stayed asymptomatic while some people experienced worsened symptoms such as shortness of breath and even pneumonia (about a week after symptoms start). The risk of infection was very high in elderly patients and in those who have existing medical conditions (such as cardiomyopathy, coronary artery disease, hypertension, AIDS, SCIDS and cancer etc. to name a few) [23-26]

Methods to prevent COVID-19:

Since prevention is better than cure and due diligence is better than a regret, it is wise to exercise all the possible behavioral changes and practices which can curb the spread of COVID-

19. According to experts; practices such as exercising, healthy eating, maintaining physical distancing or social distancing, avoiding journeys in corona virus infected areas, maintaining good hygiene, not sharing personal items, avoiding hand-shakes, using sanitizers and alcohol-based hand rubs, wearing face masks and quarantining can prevent spread of this disease to a large extent [27-30].

Treatment of coronavirus disease:

In trials; it was found that some existing drugs may help hospitalized patients with COVID-19, so doctors used variety of treatments in order to over come COVID-19. Remdesivir, an antiviral drug that can kill SARS-CoV-2 in a petri dish under experimental conditions, was given Emergency Use Authorization (EUA) by the US-FDA in October. The EUA was for hospitalized patients who were 12 and older (even if they are not enrolled in clinical trials). A clinical trial of another antiviral drugs, EIDD-2801, began in late April 2020 [31-33]. Some patients with COVID-19 also develop bacteria-caused infections and therefore some antibiotics like azithromycin (Zithromax) were given to the patients for treating these infections [34-36].

Convalescent plasma therapy also began in 2020 when the FDA began allowing doctors to collect “convalescent plasma” from the blood of recovered patients; this plasma was then administered to sick patients via IV infusion. Although, U.S. clinical trials till date have thus far not provided conclusive evidence that convalescent therapy is more effective than the standard of care for patients with moderate, severe or critical COVID-19. However, under its EUA, doctors can administer antibody-rich convalescent plasma to hospitalized patients early in the course of the disease, in an attempt to prevent progression of the disease and in order to mitigate the need for mechanical ventilation [37, 38].

Some DMARDS (disease- modifying antirheumatic drugs) have also been suggested to mitigate and reduce the exacerbations of the symptoms of COVID-19 by tamping down widespread inflammation that occurs in severely ill patients. Standard guidelines include administering a combination of tocilizumab with dexamethasone to patients whose oxygen levels are rapidly declining. Tocilizumab, an inhibitor of the interleukin-6 receptor, may decrease the inflammatory response and control the symptoms of severe COVID-19. While the conclusive evidence was scarce, still this regiment was tried by several physicians globally in order to save the lives of the patients [39-42].

New Normal brought in society by COVID-19:

It is indeed worth to note the manner in which societies, globally, settled economically and socially, following the COVID-19 pandemic. The ways are certainly distinguished from the

pre-existing practices of the societies. An unprecedented shift has been witnessed by every human being on the face of the earth. Some of the new normal:

- Limitation in the number of persons who can attend marriage and funeral [43,44]
- Night curfews [45,46]
- Adoption of masks and gloves in day to day lives [47,48]
- Hike in the rate of adoption of online platforms for teaching and meetings [49,50]
- Office based jobs transformed to home based jobs, opening an entire new horizon for future jobs [51]
- Sanitizers, which were used in the hospitals only became the part of our routine [52]
- 6 feet or 2 yards distancing in queues [53]
- Traveling restrictions [54]

Conclusion:

Although experts, in advance, informed the people to stay on alert; still some people didn't take it seriously. Due to the ignorance of them, the entire world suffered which justifies the conclusion that ignorance can be fatal. Governments and stakeholders must learn from it and must draw some serious conclusions out of their plan of actions exercised by them in this period. There is a need to do the root cause analysis and understand what went wrong and what can be done in future to deal with such problems. Meanwhile, it is also an established fact that the second wave of COVID-19 is over but 3rd wave is expected in the case if people don't exercise COVID appropriate behavior.

There is a need that people should understand the trouble which 3rd wave may bring. They should still maintain social/physical distancing along with using a face mask (when appropriate) and wash their hands frequently. Meanwhile if the conditions permit, they should also get vaccinated since it is the only preventative measure available in the hand of mankind. Remember, if we unite than only, we can expect this virus will settle in the community in less virulent form.

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MANAGING ONESELF DURING COVID-19 PANDEMIC

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Abstract:

COVID-19 has caused major impact in our lives. It has changed the way, the people think, the norms that society follows and social structure which is used to promote. Till date, this pandemic, in two waves has claimed about 4,508,171 lives globally. People lost their jobs, their loved ones which led to mental anguish in them. On the other hand, government, in order to contain this virus, imposed lockdowns, curfew and travel restrictions which further added to the stress and loneliness in people. People must understand that this lockdown and the travel restrictions are there in place for couple of months only and once the things will get back to normal; they can enjoy their lives as usual. Meanwhile people must exercise, maintain healthy diet and weight, pray for mankind and follow COVID-19 appropriate behaviour. All these activities will help us in overcoming this pandemic soon.

Keywords: COVID-19 pandemic, lockdown, mental anguish, distress and COVID-19 appropriate behaviour.

Introduction:

The COVID-19 pandemic had a major impact on our lives. Many of us were faced with challenges that distressed us, made us feel overwhelmed and left us in devastations [1, 2]. Emotionally, people of all the age group suffered in one way or the other. Although, public health actions such as social distancing were stated necessary to reduce the spread of COVID-19, but such actions also made us feel isolated and lonely [3, 4]. This further added to stress and anxiety in people. While plans to contain COVID-19 continues, in the meanwhile, if we learn the ways to cope with stress in a healthy way then this will make us, the people we care about, and those around us more resilient [5-9].

Behavioural Changes seen in people globally during COVID-19 pandemic:

Sufferings of each and everyone were quite distinguished during this pandemic. Some people lost jobs while some people lost their beloved because of death caused by this disease [10]. Health care systems of all the developed and developing countries shattered since they were not able to cope up with such a huge demand of people [11]. This further added to anxiety of people who were sitting home since they started thinking of struggle that they might face if there near one gets infected with this disease [12].

Listed below are the changes in behaviour of people which happened during this pandemic:

- Feelings of fear, anger, sadness, anxiety, numbness or hopelessness [13,14]
- Changes in appetite, energy, desires and interests [15,16]
- Difficulty concentrating and making decisions [17]
- Difficulty sleeping or having nightmares [18,19,20]
- Physical reactions, such as headache, body aches, stomach problems, and skin rashes [21]
- Exacerbation of chronic health problems [22-24]
- Poor mental health and overall, well being [25]
- Excessive use of tobacco, alcohol and other substances [26,27]

Healthy ways to deal with stress attributed to COVID-19:

Mitigating stress becomes immediately prudential if the quality of life is challenged. Here are certain ways in which stress mitigation can be done during COVID-19 pandemic:

- Take a break from watching, reading or listening to the news related to pandemic and lockdown, including on social media. Constantly hearing about the pandemic can be upsetting [28]
- Exercise regularly, maintain a healthy diet and maintain a healthy body weight [29-31]
- Get plenty of sleep [32,33]
- Avoid excessive alcohol, tobacco and substance abuse [34-36]
- Continue with regular preventive measures (such as vaccinations, cancer screenings, etc.) recommended by your healthcare provider [37]
- If conditions permit, get vaccinated against the COVID-19 vaccine [38,39]
- Try doing some other activities that you enjoy [40,41]
- Connect with others, virtually —talk to people you trust about your concerns and how you're feeling [42-45]

- Connect with your community- or faith-based organizations —While social distancing measures are in place, try to connect online, via social media, or by phone or mail [46]

Consider connecting to your healthcare provider if your daily routine become stressful for couple of days in a row. Some of the people have lost jobs as well during COVID-19 pandemic which is the biggest cause of mental anguish in them. It must be understood that the lockdown is for a period of 3 to 4 months and once things will get back to normal, companies will be needing the employees back [47]. During this period, people should try to improve skills and keep an eye on job portals for temporary Work From Home (WFH) opportunities and also for other full time better options relevant to their area of interest [48].

What to do if a person finds himself suffering from COVID-19?

If a person suddenly feels any of the symptoms of COVID-19 such as cough, running nose, generalized body pains, malaise and difficulty in breathing then it is wise to get yourself tested for COVID-19. Meanwhile, such person should isolate himself/herself, wear mask and take rest [49].

It must be kept in mind that people who become ill with COVID-19 will experience only mild illness and may recover at home [50]. Symptoms can last for a few days, and people who have the virus may feel better in about a week. Elderly patients and patients of any age with existing medical conditions should call their doctor as soon as symptoms begin. These factors put people at greater risk of becoming seriously ill from COVID-19 [51].

Once the disease is established and home isolation is suggested by health care provide then these actions can be tried:

- Take More rest [52]
- Take warm drinking things [52,53]
- Follow COVID Treatment plan as suggested by healthcare provider [54]
- Use inhaler or humidifier for Sore throat and Cough related Problem [55,56]
- Eat fresh and healthy [57]
- Wash or sanitize your hands frequently [58-60]

Conclusion:

COVID-19 pandemic, although, has created significant stress and mental anguish in people, still, we must understand that containment and lockdown are going to last for few days or months. We must follow all the COVID-19 appropriate behavior in order to contain this virus. If the statute permits, we must also get ourself vaccinated since a pandemic settle in a less virulent state in any community. If someone gets sick then time frame for recovery, in general, for mild

to moderate patient 7 to 10 days. Only seriously ill patients need hospitalization. We must not create panic and stay calm since if we are good in managing ourself then society will itself be managed because it is we who makes the society.

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IMPACT OF COVID-19 LOCKDOWN ON MANKIND

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Abstract:

COVID-19 or novel corona virus disease has caused significant sufferings to the mankind. People of all age group have suffered in distinguished ways. The major impact of this disease is on lives and life style of the people. This disease, has so far, claimed 4,508,171 lives, globally, because of its ability to challenge the breathing process in humans. Financial sufferings have drove people towards subsistence crisis, since people have lost jobs in lockdown. Feeling of loneliness and anxiety because of restrictions in travelling, lockdowns and curfews have impacted the lives further.

This disease has also impacted the society and social structures to a large extent. The new normals have been introduced in the society which has now been well accepted not only because of the statutes but also due to easiness in which they can be exercised by humans.

Having discussed the impacts, it must be understood that there is a need to expedite the vaccination drives and there is a need to open systems with some restrictions. People must also abide by such restrictions. Notwithstanding this is a straightforward invitation to the 3rd wave of this disease and human would not be able to suffer the losses which may incur due to it.

Keywords: COVID-19, lockdown, impact, new normal and 3rd wave

Introduction:

COVID-19 or novel corona virus disease has caused significant sufferings to the mankind. Millions of people are left in destitute during this pandemic. The origin of this pandemic (COVID-19) has been traced down to Wuhan city of China in December 2019 [1]. On January 11, 2020 China declared first death of old citizen of 61 years old due to COVID 19. The disease, since then, has spread globally and people, world-wide, are facing threat to their survival and livelihood. This disease spread to approximately 216 countries of the world [2]. World Health Organisation or WHO declared COVID-19 as a public health emergency of international concern [3] and on 11-MAR-2020 this disease was declared as pandemic [4]. It has been

proposed that the novel corona virus has jumped in humans after mutation from bat. Today, this pandemic holds a record of claiming approximately 4,508,171 lives globally [5,6] and the toll is still rising due to increasing number of cases, worldwide, due to third wave [7].

Undoubtedly, the lives of people and norms of the society have been significantly impacted by this pandemic and in this chapter; we are going to discuss different ways in which this pandemic has caused devastations to the human lives [8].

Impact of COVID 19 on human health:

Since this virus mutated from a bat and jumped into the humans, mankind was the one which was most impacted by it. Symptoms of COVID-19 includes –

- Fever
- Dizziness
- Loss of smell or taste
- Chest pain
- Joint pain
- Cough
- Fatigue
- Shortness of breath etc. [9-11]

This virus primarily targets lungs followed by heart and brain also. Most of the sickness attributed to COVID-19 is due to shortness of breath and compromised breathing [12]. This virus can make RBC(s) to clump more often which leads to formation of clots specifically in pulmonary circulation culminating in low PO₂ levels [13, 14]. If the size of clots is high then this will culminate in either stroke or a heart attack (myocardial infarction). Novel corona virus can also weaken blood vessels and cause them to leak which causes long lasting problem with the liver and kidney. People who have very serious condition of COVID19 has to be treated in hospital ICU with medical assistance such as ventilator to breath [15, 16]. People who have recovered from COVID19 have also been reporting post COVID symptoms such as chronic fatigue and worse physical and mental [17, 18].

Impact of COVID19 on economy:

Till date we have no specific medicine available to treat or cure corona virus disease. All the treatments are symptomatic [19]. At the time when disease was first reported, governments across the globes had no idea of how to deal with it. It was suggested by the WHO experts that if the spread of virus has to be halted then masks and sanitizers should be used and mass migration should be stopped [20, 21]. In order to stop mass migration, lockdowns and curfews were

imposed. Even travelling restrictions were made. All of these activities badly impacted the economy of the countries [22]. The demand of frontline sectors those involved in the management of COVID19 was very strong as demonstrated by either a growing number of jobs advertise or a less steep deep line in posting relative to another sector [23, 24].

On the other hand, due to lack of funds, people were derived out of the jobs and therefore a state of subsistence crisis developed around the world. For the institutions which were capable of sustaining; they declared “work from home” as the business continuity plan [25-28].

Impact of COVID19 lockdown on society:

The pandemic has significant psychological impact on people of all age groups. Everyone has their own experiences of being impacted by COVID-19. Because of lack of migration and travelling restrictions the feeling of loneliness an anxiety was at zenith in everyone. Worth mentioning here is the fact that this pandemic has changed many well established normal of the society [29-32]. Nowadays, people don't visit to others houses for a long time. They are not going anywhere without mask and the people are not sending their children out of the houses due to fear of pandemic [33, 34]. Nowadays in society people are not playing together and not sitting together due to pandemic. Even number of people attending marriage and funeral ceremony have been limited to 100 and 20 respectively which is again a biggest alteration in the well-established normal of the society [35, 36].

Impact of lockdown on agricultural sector:

On Mar-2020, a nationwide lockdown was imposed in India in order to control and contain the spread of the COVID-19. This period overlapped with the harvesting time of kharif crops and due to this, agricultural sector suffered the most. Due to lockdown, labour and workers migrated towards their hometowns because of lack of food and financial support from their employer [37, 38]. This led to a shortage of agricultural workers to help with crop preparation and harvest, and restrictions on the transportation of produce, despite being exempted as essential services [39].

Impact of COVID-19 on lifestyle:

COVID-19 lockdown has totally changed the lifestyle of humans nowadays. This includes:

1. People are habitual of sanitizing their hands frequently [40]
2. Mask has become new accessory when we go out [41,42]
3. Maintaining physical/social distancing has become a part of life [43-45]
4. People stay more time with their families so this is the good impact of COVID-19 lockdown [46-48]

5. People like friends and relatives become virtually too close to each other except personally [49]
6. Nowadays people are not taking food from outside so the number of cases of vector borne disease specifically the one related to filthy food (food poisoning) have decreased [50-52]

Conclusion:

According to the present situation if the lockdown continues then the physical working process of human will retard and they become weak physically as well as mentally.

As far as the studies are concerned, not all the studies can thrive well in online mode. Specifically, if we discuss about technical subjects, where lots of practical training is required, the student's knowledge is suffering the most. Even the student's attention is very low in online classes and online classes are affecting their eyesight as well.

There is a need for us to understand that the lockdown is for safety of our lives but government should also understand the financial sufferings which a common man is facing. There is a need that vaccination drives must be expedited at the grass root levels and markets, schools and colleges must be allowed to open for education with guidelines. Notwithstanding any of the abovementioned suggestions can further drive mankind towards suffering with the impacts which are indelible in nature because mankind will not be able to pay for the losses which may happen due to third wave.

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