

# Impact of Lockdown for Researchers

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# Synopsis

This book consists of a glimpse of many researchers' ideas towards the impact of lockdown due to the pandemic situations. The books discussed various impacts faced in the researcher's life. A collection of book chapter are presented over here has the main intention to share their personal experience during the lockdown as a researcher. Around 21 articles were contributed all over India. Notably, 7 articles were accepted and presented in this book.

# Summary

The book on "**Impact of Lockdown for Researchers**" is a very good effort in bringing novel ideas at the time of the pandemic. The engagement with the research community leading to this wonderful outcome is laudable. As the editors of this book, we are fortunate to go through every article and found few interesting impacts of lockdown in researchers career. Congratulations and wishes to authors and publishers for bringing out this productive outcome in the most critical transition time of this pandemic.



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# Chapter 1

## COVID Lockdown – A boon or a bane for Researchers

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### Abstract

The paper is to bring into light the major advantages that the researchers have got as a part of the COVID-19 Lockdown and also the demerits of the same. It talks about the experiences that many of the researchers had faced during the pandemic. This paper has tried to bring in the varied ways by which the researchers had tackled the pandemic lockdown. They could make use of the time in a very fruitful manner. The researchers were also getting a lot of opportunities to increase their critical thinking and innovative thinking in the area of research.

### Introduction

Research is very well known to be one of the major pillars of academia. We have seen a lot of important discoveries that have been the result of research. In almost many fields research has brought up a fundamental progress and has also supported a vast range of industries and communities. The COVID – 19 and the lockdowns that were resulting from it has created a major impact on the research area across the world. It was bringing the research activity into a dormant situation. Many of the researchers who were undergoing researches in different disciplines found it difficult to continue with it and they were also forced to abandon the ongoing projects. The researchers who were mainly into experimental research studies which required the hands-on-laboratory work were finding it difficult to proceed with their research studies which resulted in the termination or delaying of the research projects.

### Was the Lockdown a boon for the researchers?

Well, this was a question which had varied answers from researchers of

different fields. There were researchers who were able to continue and progress in their research studies because of the advancement in technology. As we all know, for a research to be carried on data pertaining to it is really vital. And so with the help of technology which enabled the researchers to pool the required data from different parts of the world, it was really making the research possible for many. The researchers could generate data and they could also get valid answers which were helpful in solving their research questions.

Even with technology it was easily possible for the researchers to collaborate with other researchers and carry out their studies. Many of the researchers could find scope for even collaborating with researchers from other countries. It could be seen that there has been an unprecedented move towards a stronger cooperation and collaboration between different researchers across the world. There were also a lot of initiatives which were most importantly carried out through multi-disciplinary or trans-disciplinary collaborations.

Social media was actually building up a favourable platform for the researchers which enabled them to create connections and to even form groups which could help them to stay connected with each other and to also further connect with others which could be helpful in gathering the required data. Many of the researchers had a large number of opportunities which were enabling them to come up with research studies in varied areas and it was even creating a spirit of compassion among them to explore more and more in-depth.

Another most remarkable impact that the lockdown had on the researchers was the massive explosion of large number of research studies that were conducted based on the COVID – 19 pandemics on different areas across different disciplines. It was very well understood that the pandemic had really affected every sector either positively or negatively. The research studies were mainly done to analyze the impact of the pandemic and more than 50000 articles were published based on this topic within the last one year.

We could even see that the lockdowns were also paving way for many young and aspiring researchers to conduct studies and many of them could also publish their articles in journals which could enable the communication of new information and facts to the global public. Even the students who were having to undergo research as a part of their graduation were having to take up the initiative to come up with innovative projects. This was also helping them to learn better and work smarter, thereby enabling them to refocus and to prioritize.

## **COVID 19 Lockdown – an Opportunity to Redefine Research Problems**

For many of the researchers this pandemic was a challenge which forced them to break out from the conventional research problems and to think differently. It was motivating the researchers to utilize their knowledge base, training and experience to solve the different problems that the society was facing at the present moment. And it was the tireless efforts of the scientific research community that we were able to



develop the vaccines and therapeutics to keep safe from the pandemic.

Some of the researchers also emphasized that it is the time to collaborate and not to compete. It was also commented that redefining our research problems and collaborating were considered to be the key solutions to overcome the present adverse situation.

### **COVID 19 Lockdown – a Bolt from the Blue**

For some of the researchers the lockdown was a complete surprise and totally unexpected situation. Many of the young researchers could fruitfully utilize this time to explore their career paths. There were many of those who could come up with their articles and get the same published within no time. As researchers, normally major interactions happen within a niche of subject experts and so there emerged a lot of groups and forums which were demonstrating the importance of networking and interactions among the members. So, it could be seen that the lockdown had supported and allowed the researchers to explore, engage and experience the ‘new normal’.

### **COVID 19 Lockdown – Breaking the Boundaries and Building the Bridges**

The lockdown had forced many of the researchers to work from home and so for an experimentalist being away from the lab for a very long period of time is unfathomable. This was also a time that was enabling many of the researchers to dive deep into the literature and finish writing or submitting manuscripts. Many virtual journal clubs and seminar series were created to keep the research community abreast of the latest research. More surprisingly, the virtual conferences have reflected up to three times participation and it included people from countries across the globe. This is a move towards more inclusive and high-quality online research communities that are continuing to grow in the post COVID-19 world.

### **COVID 19 Lockdown – Reinventing Laboratory Life**

The lockdown was bringing in a positive outlook for many of the researchers as it created an opportunity for them to plan and prepare themselves for moving ahead with their research process. It was helping the researchers to start planning and get done with their pending assignments. They were able to utilize the time in reviewing scientific papers and to boost up their knowledge by keeping aside the negative thoughts. It has also enabled the researchers in enhancing their power of scrutiny and critical thinking process.

So, from all the above experiences it is evident that the COVID 19 Lockdown was a boon for many of the researchers as they could enhance their knowledge base in research as well as their area of interest. The researchers could move on with a proper schedule which could help them in getting along with their research. They could draft a lot of articles which were related to their interest. The publication was

also happening on an increased basis. A huge number of research workshops and webinars were conducted and organized across the country which had increased the participation from many people across the globe.

### **Now, was the Lockdown a Bane for the Researchers?**

One of the first and foremost demerit of the COVID 19 Lockdown was the Economic crisis. As the lockdown was bringing the whole country into a halt the economy of the country was very much affected. The researchers were also facing a lot of issues which was due to the pandemic that had occurred. Those of the researchers who usually used to conduct a one-to-one personal talk with their research guides had to be satisfied by online meetings. The lockdown was also creating certain adverse effects on the mental health of the researchers as they were not able to consult with the subject experts or to even get the advice to create and compile data collection tools. Many of the researchers have also not been able to consult their research guides due to the COVID 19 pandemic.

### **Conclusions**

The researchers were actually having to consider the COVID 19 pandemic as a boon as well as a bane. But to come out with a conclusion it could be clearly seen that there were researchers who has really benefitted from the COVID 19 Lockdown. Many of the researchers were trying hard to get along with the Lockdown, but it was very difficult as they were to make arrangements to carry on their viva voce and also to consult with the authorities to initiate such matters. But to say for sure that the lockdown has given a wide number of advantages also to the researchers by way of the knowledge base that they could attain, by way of the workshops and seminars they could attend. So, in one way we can say that the COVID 19 was a real boon for the researchers and to some extent it was also a bane for the researchers. So as a researcher let's take up the challenge and move ahead so that we do not get stressful and bored with research but we get to understand and enjoy it with an urge and zeal within ourselves. We get ready to take up research with more enthusiasm and passion that could be useful for the country as a whole

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# Chapter 2

## COVID Driven Problems Faced by Indian Research Scholars

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### Abstract

The article is centered on the major problems faced by the research scholars and young researchers during the COVID 19 pandemic. The article is unique by the way in which the problems are enlisted as they are a collection of various thoughts shared by such research scholars and young researchers with the author. The thoughts shared with the author have been woven into an article with three major dimensions namely Methodology, Infrastructure and Psychology. Thus, the paper is a humble attempt made to report the quintessential problems faced by the said communities in South Asia, specifically from the Southern cities of India.

### Introduction

India is a country of diverse thoughts and high held values which get translated into literary works and academic contributions. However, research in India is always considered as a cumbersome and profitless area to most of the youngsters. The teachers and professors at the Government Universities are paid well, however there are very few vacancies arising every year for thousands of doctorates in the country. Given this clumsy situation, researchers have also witnessed unique situations during the COVID pandemic (Joshi, Vinay, & Bhaskar, 2020). (1) Some of the researchers were able to leverage research opportunities from the pandemic but most of them faced problem in continuing their research projects. This article categorizes the problems into three main heads namely the methodological problems, the infrastructural issues and other psychological problems.

### Methodology

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The author has engaged in casual conversations with selected research scholars from his contact list and has woven his thoughts into this article. Some of the conversations took place in LinkedIn and WhatsApp platforms and some of them were face to face interactions.

## **Methodological Problems faced by the Researchers**

### **i) Revision of Statement of Problem**

Amidst of the umpteen problems that are of usual nature, the scholars faced peculiar problems because of the pandemic. Those scholars who have completed their course work right before the pandemic had to consider the pandemic situation also, while framing their 'Statements of Problem'. On the other hand, the scholars who were ready with their 'Statements of Problem' have to reconsider the same, as the situation was unique to any given research context in Social Sciences. New approaches were evolving to cater the needs of such research scholars (Dodds & Hess, 2020). (2) This was creating stress in the minds of those research scholars who were reserved for enacting such changes as it would magnanimously affect the research plan of the scholar.

### **ii) Reconsideration of Variables**

The identification and deployment of dependent and independent variables in a research is inevitable. The very nature of any variable is to change and to create a substantial impact on the conceptual framework which in turn will reflect on the recommendations and suggestions made by the researcher. The process of identifying the variables does not begin separately, in certain cases the variables are identified by the researchers along with the research problem and in other few cases the variables are identified after detecting the research problem and its context. The pandemic brought so many repercussions to various fields and sectors. And, in the field of research, it paved a new avenue of research problems. These research problems introduced new variables and these variables revealed that they have high potentiality to redefine the perceptions of theories, concepts and models in certain fields like Medicine, Humanities and Business.

The research guides were highly distracted by the new variables and were curious to change the conceptual framework of their scholars. Though some of the scholars, who were also equally fascinated and distracted, have agreed to change the variables and the framework, most of the scholars were reluctant. This reluctant nature of some of the scholars was apparently affecting the relationship between the scholars and their respective guides.

### **iii) Proliferation of Variables**

None of us were expecting such a situation where we will be having new

avenues of research, new problems demanding research and new opportunities demanding or favoring research. These new avenues, problems and opportunities were also bringing new range of variables and new faces for the existing variables. For instance, a study conducted in South Korea intended to discover the Korean media's framing of COVID 19 and its impact on the support rendered by the people to the government(Jo & Chang , 2020). (3) Contrastingly, this newness in the world of variables was creating a situation of proliferation. Rather assuring clarity and confidence, the newly born or the newly identified variables were creating a state of confusion. Such a state of confusion can be easily compared to the term proliferation. Proliferation in any environment is a state which refers to overpopulation of an element which will further create an imbalance in the environment. Thus, the overpopulation of variables in umpteen numbers of fields ranging from Medicine to Humanities to Business has created a state of confusion and an imbalance, which in turn has affected the confidence level of scholars and budding researchers.

#### **iv)Hammered Variables**

While new set of variables were getting discovered during the pandemic, there were a lot of variables which were conceptually disappearing or displacing. For instance, the scholars and researchers of the tourism management and hospitality domain were finding it difficult to recognize and understand the presence of even major variables as the industry was completely shut. The problems faced by such scholars and researchers in the areas of data collection and field work were easily understood by their research guides and supervisors. However, this unique problem of missing the existence of variables in the industry was not easily identified by the researchers themselves, and even if identified they were not easily accepted as a reason for the lag in research progress by the supervisors.

#### **v) Lack of Scales and Questionnaire Templates**

Handful number of scholars in each and every Indian University who agreed to make changes in the conceptual framework, were finding difficult to find suitable scales and questionnaire templates for proceeding with their data collection. Though including the pandemic as a dimension or at least as a variable in the context of research problem statement has created a new avenue and scope of research, finding a suitable scale was cumbersome. The reasons are very obvious, as the country or the world has not seen such a worst pandemic in the recent past. Though the countries have witnessed worse pandemic situations in the past they were of different political, economic, social, legal, environmental and technological setting. Hence the scholars and researchers have to construct new scales or at least have to redefine their questionnaires accordingly.

## **vi) Lack of Expertise in Exploratory Research**

This article has already discussed the arrival of new set of variables or the change in the role of existing variables in the fields of Medicine, Humanities and Business. Some of these variables were paving way for multidisciplinary researches also. Though the scholars and researchers were showing curiosity and enthusiasm towards this new set of variables, most of them were lacking expertise in leveraging these variables for their research projects (Bora, 2020). (4) For instance, the new range of variables can be associated with the existing variables to formulate a new research problem, but for which the scholars and researchers were not having prior exposure to such leverages.

On the other hand, the scholars and researchers were lacking expertise to explore and identify the newly born variables. Indeed, most of them were not used to these kinds of situations ever before in their life. However few researchers who were able to explore new variables had opportunities to construct new sub-domains in their respective areas of research.

## **Infrastructural Issues faced by the Researchers**

### **i) Inaccessible Laboratories**

When the pandemic was at its peak the scholars were not able to continue their experiments at their designated workstations and laboratories in almost every university (Bakker & Wagner, 2020). (5A) Even after the pacification of COVID cases, and even when most of the other sectors have resumed, the researchers are finding it very difficult to find subjects for their experiments. In my own case, where I need to conduct a neuropsychological experiment with 30 to 40 subjects, I am facing certain problems which are mainly evolving around the COVID protocols and other related safety norms. And because of which, I had to change my research design. This has caused inordinate delay in the execution of subtasks of the research.

Generally, the subjects are still skeptical about the safety arrangements existing at the laboratories as they are visited by hundreds of students in a given day. The researchers are also feeling helpless as they cannot afford such equipments and laboratory arrangements at another exclusive and secluded place for conducting their experiments.

### **ii) Unreachable Work Cubicles**

Most of the researchers and scholars in India have cultivated a habit of spending their quality research time at their work cubicles or laboratories. If laboratories are ensuring research mindset for a researcher in Science, it is the work cubicle for a Social Science researcher or a Linguistic researcher. The ambience, serenity and the positivity that is rendered by a work cubicle cannot be replaced by any other infrastructure for a researcher. For most of the scholars their cubicles are the

places where their brains have been tuned for research related thought processes.

### **iii) Dilution of Institutional Support**

The wholesome support that was rendered by the institutions was not continuing to the researchers in the same way it was (Bakker & Wagner, 2020). (5B) The institutions and the apex management authorities themselves were finding it tougher to cope up with the pandemic situation and they have stopped rendering their usual support to the researchers. Some of the institutions in South Asia were not able to pay the research stipend for their research scholars and salary for their researchers and research assistants. Research scholars who were solely dependent on the institutional libraries were left abandoned when the universities and colleges closed their libraries (El-Hamed Diab & Elgahsh, 2020). (6)

## **Psychological Challenges faced by the Researchers**

### **i) Work from Home Issues**

Most of the homes in India do not come with an exclusive space for office chores or research chores. Because of which, the researchers were having a lot of hindrances in pursuing and continuing their research chores from their homes. The hindrances primarily include the acoustic issues, lighting and ventilation related issues, lack of exclusive space, and mismanagement of time, lack of power backup facilities and lack of strong internet connectivity. The researchers like any other pool of employees were not able to differentiate between their office and domestic chores which was creating mental stress to them. The stress was also provoked by the slope of the COVID related statistics and anxiety.

### **ii) Lack of Moral Support**

Face to face interactions with the guide was implicitly providing moral support to the scholars and to the budding researchers. The accountability on the part of scholars was also high during such interactions and delegations. The scholars were more connected to their research guide and their department which held this accountability at heights. But the online meetings and interactions have resulted in less accountability which was indeed a major resultant of poor moral support rendered from the research mentor's end (Gautam & Sharma, 2020). (7)

### **iii) Sense of Anxiety, Insecurity and Depression**

When every other corner of the World was bothered about the pandemic, we cannot expect a researcher to sit and work on his operational definitions and hypotheses. Every sphere of the economy was affected by the pandemic and every institution in the educational industry was also hit. Such economic repercussions

further affected the monetary pays of the employees, teachers and especially the research scholars and assistants. This was creating anxiety, job insecurity and mental depression in their minds(Prasad , Vaidya , & Mangipudi , 2020). (8) Few organizations stopped paying their salaries and few other organizations had pay-cuts. The stipends feeding the families of research scholars were also stopped by most of the institutions which have turned their lives miserable (Prasad , Vaidya , & Mangipudi , 2020). (8)

## Conclusion

The article makes a humble attempt to enlist the problems faced by the research scholars in India. These problems shall be immediately addressed by the research guides and other authorities of the institutions for effectively handholding the budding researchers, who are indeed the future faces of the academic world.

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# Chapter 3

## Impact of Lockdown on Medical Research: My Perspective

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### Abstract

Pandemics like those created by COVID 19 or Corona virus are unexpected and unprecedented situations which are likely to severely disrupt the normal routine of life and necessitate disruption of normal protocols and creation of newer ways of dealing with such situations. Health care related research works in particular is dependent on utilization of various resources like inflow of patients, handling of the patients, investigations, therapeutic agents and follow up of the patients. This chapter outlines some of the difficulties which were faced in carrying out research during the COVID 19 pandemic, in the form of transport problems, administrative directives from regulatory authorities, enhanced precautions which were necessitated to be implemented, while handling the patients, financial implications and other aspects which influenced the progress of the research work during this period. Awareness of these problems it is anticipated will enable future research workers and their supervisors in planning to be prepared to handle such situations in a more effective manner by better collaborative efforts

### Introduction

Research work as such involves various methodologies and steps and possibilities of hurdles and difficulties in carrying out these activities are an expected part of the academic journey of a research scholar. Preparing the Gantt Chart and timelines provide guidelines for the research scholars and the supervisors to identify the progress of the work and to become aware of the delays if any and implementing remedial measures for resuming the progress of the research.

Research work planning also involves identifying possible difficulties which may possibly occur and ways and means to avoid or circumvent these problems.

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Research Supervisors and the monitoring committee are expected to guide the research scholars about possible pitfalls and ways and means of overcoming them.

Unusual and unprecedented conditions of the magnitude of conditions like the COVID 19 pandemic however are not possible to anticipate and can really throw a spanner in the progress of the research work.

This chapter will be focusing on problems faced during health care related research work on a personal basis and in general on account of COVID 19 pandemic situation.

## Timeline of COVID 19 Pandemic, in India January-September 2020<sup>2,3</sup>

Timeline	Decisions Taken
30 <sup>th</sup> January 2020: 1 <sup>st</sup> Corona Positive Case	First Case of COVID-19
31 <sup>st</sup> January 2020 – 1 <sup>st</sup> February, 2020	Medical evacuation of 637 Indians & 7 Maldivians from Wuhan, China, the epicenter of Coronavirus
15 <sup>th</sup> February, 2020 - 03 Positive Cases	All incoming travelers, including Indian nationals from COVID-19 nations – China, Italy, Iran, Republic of Korea, France, Spain and Germany – shall be quarantined for a minimum of 14 days.
6 <sup>th</sup> March, 2020- 31 Positive Cases	Universal Screening at Indian Airports
10 <sup>th</sup> March, 2020-50 Positive Cases, 1 death reported	India's 1 <sup>st</sup> COVID-19 Fatality in Bengaluru “Holi” Festivals of Colors – Cancelled
13 <sup>th</sup> March, 2020, 81 Positive Cases, 1Death	India quarantine itself from World. Suspends all existing visas except Diplomatic/ UN/ Official/ employment and project visas. Visa free travel facility granted to OCI card holders, kept in abeyance till April 15 <sup>th</sup> 2020
14 <sup>th</sup> March to 16 <sup>th</sup> March,2020 Positive Cases 118, Deaths 02	Central Government decided to treat COVID-19 as “Notified Disaster” Various States have placed Residents under travel, work & movement restrictions until March 31 in 75 districts across the country, including in major cities such as the capital New Delhi, Mumbai, Bangalore, Chennai, Hyderabad, and Kolkata. Schools & Universities shut – Entertainment Industry Suspended shootings, - Padma Awards Ceremonies postponed – Movie releases postponed – BCCI Postponed Domestic Cricket tournaments – Examinations postponed – Government instructed administration not to grant permissions for Big Events or Gatherings Indian evacuates 211 students & 7 others from Milan & 236 from Iran. All Quarantined

## Impact of Lockdown on Medical Research: My Perspective

	<p>-Ministry of Health, Government of India along with State Governments started working on increasing Bed capacities in various hospitals to tackle sudden increase number of cases</p> <p>-Private Hospitals asked to reserve beds for isolation</p> <p>-Indian Council of Medical Research (ICMR) allowed private laboratories to conduct COVID-19 tests with the restriction that it should be advised by concerned doctor along with capping of price of Rs 4500/- per test</p> <p>-Made 111 labs operational with a per week testing capacity of 60,000 to 70,000 and around 60 more private labs are in the process of being approved</p> <p>-Some Private Laboratories offered that they won't charge anything, if test kits given free of cost.</p>
17th March, 2020 Positive Cases – 137, Deaths - 03	<p>All Malls, Multiplexes, Museums, Gyms, Pubs &amp; Restaurants, Zoos, Public places, Religious places and closed down till further notice</p> <p>Courts – Supreme Courts, High Courts and District Courts ordered to take up only urgent and stay related matters. □ All other cases to be taken up after 31st March, 2020.</p> <p>A COVID-19 Economic Response Task Force formed</p> <p>Accredited private labs allowed to test for COVID-19</p> <p>Private sector to allow employees to work from home wherever feasible</p> <p>Students advised to stay at home.</p> <p>Online education to be promoted</p> <p>Ensure Social distancing of 1 meter</p> <p>Extended travel ban beyond affected countries and prohibited entry of all travelers including Indians from 14 days isolation for those European Union, European Free Trade Association, Turkey and United Kingdom wef 18th March</p> <p>Compulsory quarantine for minimum of 14 days for those coming UAE, Qatar, Oman and Kuwait</p>
18 <sup>th</sup> to 21 <sup>st</sup> March, 2020 Positive Cases 283, Deaths- 04	<p>Many Districts in various states Locked down completely.</p> <p>Exempt from the order are essential services such as grocery stores, hospitals, pharmacies, petrol stations, telecoms, postal services, food delivery restaurants</p> <p>Government of India announced No international flights will be allowed to land from 22nd March, 2020 onwards</p> <p>Few states banned public transport</p>
22nd March, 2020 Positive Cases – 360, Deaths - 07	<p>14- Hour voluntary public curfew 7:00 am to 9:00 pm – Highly Successful</p> <p>Government asks Public and Private Hospitals and other medical institutions to set aside beds as cases rises</p> <p>3700 hundred railway trains cancelled</p> <p>Metro Railways cancelled operations</p> <p>Display of public solidarity expressing thanks and motivating Health care workers by applauding, clapping, ringing bells and blowing conch shells, from doorways, balconies, roofs, roads or wherever by everyone at 5:00 pm – Whole country participated</p>

## Impact of Lockdown on Medical Research: My Perspective

	<p>Restrictions were extended across large parts of the country late Sunday, effectively forcing millions of workers in India's huge technology and financial sector to work from home for the rest of the month.</p> <p>Railways cancelled all passenger train services across its vast network (760 million km that carried 8 billion passengers in 2018-19) until 31st March, 2020. □ Adequate arrangements were made for the passengers, who have commenced their journey during the travel and at their destinations</p>
23rd March, 2020 Positive Cases – 434, Deaths – 09	<p>India announced sudden lockdown for 21 days till 15th April, 2020</p> <p>- Curfew imposed in the state of Punjab</p>
23rd March, 2020 Positive Cases – 434, Deaths – 09	<p>1st Indian testing Kit for COVID-19 designed by private laboratories approved by ICMR, India</p> <p>- Cost Rs. 1200/- Test can be done in 2.5 hours</p> <p>- Advisory to all States/Union Territories to use Cess fund for welfare of construction workers about Rs 52,000 Crores</p>
25 <sup>th</sup> March	Nationwide Lockdown Announced till April 14 <sup>th</sup> 2021
26th March, 2020 Positive Cases – 694, Deaths – 16	<p>Caravans of Migrant Workers to reach their Native places.</p> <p>Central Government announced economic package worth Rs 1.70 lakh crore as relief for various sectors, especially the poor and vulnerable ones to help them tide over the coronavirus crisis</p>
29th March, 2020 Positive Cases – 1024, Deaths - 27	Central Government set 11 highly empowered groups for ensuring a comprehensive and integrated response to COVID-19 and to formulate plans & to take all steps necessary for their time bound implementation and to plan strategy for post lock down period.
30th March, 2020 Positive Cases – 5000, Deaths – 33	<p>Nizamuddin Markaz, International Headquarters of Tablighi Jamaat, emerges as COVID 19 Hotspot</p> <p>Ministry of Health and Family Welfare (MOHFW) issued training resources for COVID-19 Management</p>
5 <sup>th</sup> April 2020	PM Modi's call for Solidarity with Health care workers
6 <sup>th</sup> April 2020	Death Toll Crosses 100 Mark
14 <sup>th</sup> April 2020	Lockdown Extended till May 3rd
29 <sup>th</sup> April 2020,	1000 Confirmed Deaths
1 <sup>st</sup> May 2020	<p>Lockdown Extended 2 weeks</p> <p>Shramik Trains for Migrant Workers started</p> <p>Divides districts into red, orange and green zones</p>
7 <sup>th</sup> May 2020	1 <sup>st</sup> Phase of Vande Bharat Mission to Evacuate Indians Stranded Abroad
12 <sup>th</sup> – 16 <sup>th</sup> May 2020	Atma Nirbhar Packages Announced
17 <sup>th</sup> May 2020	MHA Extends Lockdown till 31 <sup>st</sup> May, Allows Inter State Movement of vehicles
19 <sup>th</sup> May 2020	COVID 19 cases crosses One Lakh in India
5 <sup>th</sup> June 2020	WHO Advises use of Face Masks by Public
8 <sup>th</sup> June 2020 2,50,000 COVID-19	Unlock 1.0 Guidelines Issued, Re Opening of Hotels, Restaurants, Places of Worship & Malls

cases and 7200 deaths	
12 <sup>th</sup> June 2020	More than 3 Lakh COVID 19 Cases
27 <sup>th</sup> June 2020	More than 5 Lakh COVID Cases
1 <sup>st</sup> July 2020	Unlock 2.0 Guidelines Issued
6 <sup>th</sup> July 2020	6.97 Lakh COVID 19 Cases
15 <sup>th</sup> July 2020	Phase 1 Clinical Trials of Covaxin in India
17 <sup>th</sup> July 2020	COVID19 Cases cross 10 Lakh, Death Toll 25,600
1 <sup>st</sup> August 2020	Unlock 3.0 Guidelines Issued
26 <sup>th</sup> August 2020	Covishield Vaccine Trials begin
29 <sup>th</sup> August 2020	Unlock 4.0 Guidelines Issued
30 <sup>th</sup> August 2020	India reports World wide record for daily new cases of 78,761 infections.
7 <sup>th</sup> September 2020,	41.13 lakh confirmed COVID19 Cases
16 <sup>th</sup> September 2020,	50 lakh confirmed COVID19 Cases
22 <sup>nd</sup> September 2020,	1 Lakh Recoveries in a day with recovery rate to 80.86 per cent
27 <sup>th</sup> September 2020	India's Covid-19 tally goes past 60 lakh, with total recoveries crossing the 50 lakh milestone
30 <sup>th</sup> September 2020	Unlock 5.0 Guidelines Issued
26 <sup>th</sup> January 2021	Total COVID Cases 10, 677, 710; Recovered 10,345,985; Deaths 1,53,624

My thesis is a double blind, multicentric study which entails my regular travel to the cancer hospitals for collection of data with the help of my research assistants & study supervisors at the centers & compilation of the data collected, their scoring, analysis, and interpretation.

Sudden imposition of lockdown across the country was like sudden Brake applied to the smooth flow of work, requiring gathering of all possible resources for completing the scheduled work. This had many pitfalls and encumbrances which I will be narrating in the follow up.

Fear of contracting COVID 19 from the cancer patients was imminent on the minds of my research assistants and also their supervisors, compounded by restriction of their movements by police authorities.

Lack of clear guidelines along with various theories and myths propagated like nobody's business using the various apps and social media created a situation of panic even among the well-educated including doctors who were all highly scared of the situation.

Concern and fear among their family members about their wellbeing and whether they could return safely if they went about treating patients created a terrible situation for the healthcare givers.

Insufficient & prohibitively costly personal protection equipment was adding to their woes with circulating news of a number of healthcare workers being adversely affected in spite of using them doing the rounds putting many of the healthcare workers in a near panic and desperate situation.

Similarity between COVID 19 symptoms and those of conditions like common cold, sinusitis and pharyngitis were giving nightmares to the healthcare workers as well as the patients, with people not knowing how to react and whether they should get themselves tested & if yes, then where and what would happen to them in case they got tested and were found positive.

Confusion and chaos prevailed in the minds of the police and state administrative authorities as to who should be allowed and who should be prevented from moving freely. Since the guidelines were gradually being evolved, even the administrative authorities and health authorities were having a lot of confusion which was compounding the situation.

Gradual evolving of the guidelines and awareness among the administrative and healthcare authorities as to the urgent need for addressing the healthcare needs of the cancer patients helped in slowly improving the situation.

Communication with the cancer hospital authorities and my research work supervisors therein, resulted in their taking responsibility for carrying out the work and keeping the records for me along with their developing protocols for handling the COVID 19 patients, helped a lot in easing the situation for me.

Cancer patients who were undergoing treatment, were having a lot of problem in reaching the cancer hospitals and receiving their due treatments owing to movement restrictions and problem of lack of availability of suitable public transport which was aggravated by fear of contracting the COVID 19 infection during their travels.

High cost of private transport and difficulty of the vehicle owners and drivers in getting passes for transporting the patients was also a major factor affecting the cancer patients who could afford the private vehicles. These were major problems resulting in difficulty in recruiting the cancer patients for the control group and the study group.

Most of the cancer patients in Andhra Pradesh belong to the lower socio-economic strata and receive the subsidized cancer treatment under Arogyasri Scheme of the state government.

Inability of the state government employees to reach their offices along with closing down of the offices by the government as a part of the lockdown measures prevented them from being able to verify the documents required to give authorization for the reimbursement under the Arogyasri scheme resulting in withholding of the cancer treatments for the patients.

In the offices, where half or one third of the staff were permitted to be on duty, only half or one third of the work could be done and the rest of the work, could be completed only when their counterparts resumed their half of the duty.

In some of the centers, malfunctioning of the thumb print scanners and difficulty arising due to closure of Xerox centers where the necessary documents could be Xeroxed were also major problems for the cancer patients in getting Arogyasri

authorization done. This was also one of the major limitations in recruiting the patients.

The material which was to be supplied to the control arm patients as a part of the standard protocol was manufactured by a well-known Indian company which had to import one of the major ingredients.

Lack of international flights and other modes of cargo transport as well difficulties in custom clearance, difficulties in transportation of the ingredients to the manufacturing factory were major procurement problems for the manufacturing company.

Difficulty of getting the workers and finally transporting the finished product to the company dealers resulted in severe paucity of the material which also resulted in delaying the research study and increasing of the suffering of the cancer patients, even though we had paid for the material much in advance.

Most of the research centers where the samples could be analyzed were closed down during the lockdown preventing the samples from getting analyzed. Some of the lab assistants and supervisors themselves were down with COVID 19 infection forcing them to be under quarantine.

Lack of postal and courier services were also a major problem in sending the research samples to the research labs for testing and getting the test results from them. Research labs also had a major problem in getting their equipment serviced which caused them difficulty in getting calibration of the equipment and difficulty in getting the necessary research reagents for carrying out the tests.

My research was self-funded, and I was not receiving full salary during the lockdown, which was affecting my ability to carry out the research work effectively. However, one good outcome of the lockdown was the ample time available for carrying out literature search and literature review. Closing down of the offices of the network service providers was again a problem since it affected network connectivity and lack of internet was a major problem in effectively carrying out the research work.

The lockdown helped in doing a lot of introspection and doing a critical self-appraisal and ensuring better quality of the research work.

## Conclusions

Having good collaboration and regular contact with entire research team, planning for contingencies and ways of working with the existing problems can help the research scholars to effectively complete their research work. Since research in health care setting involves patients, we also need to think from patient perspective and appropriately guide them and take their cooperation to successfully carry out the research.

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# Chapter 4

## Impact of COVID19 Lockdown on Anatomical Research – A Reflection

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### Abstract

The ongoing COVID 19 pandemic has impacted every avenue of human life directly or indirectly. The world is slowly coming to terms with “New Normal” behaviors. The scientific community at large is awakening to necessity of reinventing and reorganizing itself to overcome the equivocal effects left by COVID 19 crisis. The field of anatomical research faces unprecedented shortage of cadavers and histological specimens that will affect the research outcome in the coming years. Moreover, the human resource crunch following diversion of man power to tackle COVID 19 induced health care emergency has eroded the dedicated research hours. Yet, the exponential collaboration and sharing exhibited by community of researchers globally bears the torch for our way out from the impacts of this COVID 19 darkness.

### Introduction

World is slowly learning to co-habit and live with COVID-19. After shocks of lockdown impact is still being felt universally. In spite of it, we are adapting to lead both a professional and personal “new normal” life. The health care system, health research and health education witnessed wide ranging impact due to this pandemic and resultant lockdown. Restriction in terms of funding, time and reach to needed resources have been reported to negatively impact the progress of scientific temper. (1) Extensive collaboration, sharing of data and innovative inventions hallmarked the positive influence of this pandemic upon the research community. (2) Thus, COVID 19 pandemic has shown the necessity to believe in human resilience and undying spirit to fight against any threat to survival amongst encountering difficulties.

## **Detrimental Effect of COVID19 on Anatomical Research**

Anatomy sans cadaver is like life without water. The essence of anatomical science lies with the exploration of human body by anatomical researcher with an intention to orient and visualize different structures and its variations for the surgeons to apply clinically. The surgical, histological and molecular research based on cadaveric organs and specimens forms the base for advanced clinical research in health care system and development of biomedical instruments for surgeries and imaging. (3,4) Access to anatomical laboratories got restricted to anatomist due to COVID 19 lockdown which severely affected the progress of research.

Ministry of health and family welfare, Government of India issued a guideline in the wake of COVID 19 pandemic for handling of dead bodies of COVID patients. These guidelines clearly directed to avoid embalming or autopsy of dead person. (5) Data Suggest that the frequency of male cadaver donation exceeds that of females. Meanwhile, global trends shows that mortality due to COVID infection is more in male gender. (6,7,8) All these associated factors discourage cadaver donation and acceptance for anatomical research as the risk associated with contact with the novel corona virus through handling of cadavers remains undefined till date. (9) COVID19 pandemic now has raised the possibility that anatomy research laboratories might go without cadavers in future. (10)

Publication forms the crux of any research. This covid 19 lockdown has extended its undesirable effects, with most of the journals prioritizing COVID19 related studies to other non-COVID research works. This bias has deprived many anatomical research findings their due sharing and recognition. (11,12) Influx of countless scholarly publications on covid 19 that has bypassed peer review process and having incomplete data, inappropriate methodology and incorrect conclusions proved to undermine the entire research community. (13,14,15) Finally, International lockdown and other travel restrictions had severely restricted the progress of anatomical research work in many places. The diversion of funding from research towards patient care in many countries globally including India has inadvertently influenced the outcome and progress of research at many laboratories. (16,17)

The obligatory duty as medical doctors, to lend services to patient care in COVID ward to meet out the deficiency in clinical man power has taken away the research time for many anatomical researchers. Increased focus upon COVID 19 related health issues had inadvertently pushed the much need attention towards other much more serious health issues which might have long drawn consequences in overall health care delivery system.

## **Positive Impact of COVID 19 on Health Care Research**

We are standing a chance to end this pandemic, thanks to extensive research collaborations, effective data and technology sharing among different research establishment to fight against COVID 19. This has established the scientific temper

and versatility of researchers around the globe. (18,19,20) Consolidation of research experiences on viral life cycle and genome over 50 years by multitude of researchers across the world resulted in faster vaccine development against COVID-19. (21) This fast tracking of vaccine research was achievable due to unprecedented research cooperation and sharing. (21)

Apart from this much acclaimed vaccine development there were multitude of research innovations inspired by COVID19 pandemic. The translational research resulted in usage of 3D printing technology, artificial intelligence and production of low-cost effective ventilators were some of them. (22)

## Conclusions

The COVID 19 has put the researchers at cross roads between the question of whether to continue with research work and affirmation of need to do carry on with research in this context. With all the negative impacts due to COVID 19 upon research notwithstanding, anatomical research will move forward with implementation of ideas to overcome the shortcomings due to cadaver shortage as it survived different pandemics over centuries.

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# Chapter 5

## Impact of Lockdown for Research Scholars

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### Abstract

This covid 19 pandemic affected many research scholar's life. Many researches not able to enter to their research lab. Their course work examination become virtual and their doctoral committee to thesis submission held in online. Many researchers undergo various challenges and this need a quick reform in future research guidelines. In this article the problems faced by the researchers is discussed and this will help the researchers to be ready for any pandemic occurs in future.

**Keywords:** lockdown, COVID-19, research scholars

### Introduction

Research scholars during pandemic affected much without doing any kind of research, even though extension in PhD is available in many universities. Some research scholars are currently in the last year and they are undergoing many challenges in research. Many researcher scholars worried about their future. The covid 19 Lockdown also instigated encouraging changes in personal life of research scholars [1]. The impact of UG and PG students in universities is studied. An online questionnaire used to collect the information using google form [2]. In academia, there are many practical issues for the reading habits during COVID-19. On what frequency the academican is reading, why they are reading, from where academic staff are reading and how much time they are spending to read during lockdown [3]. The new SARS-CoV-2 coronavirus gave an alarm to many universities for virtual teaching

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learning process. The current confinement on the teaching- learning process effects student community from various institute of the application of Emotional Intelligence [4]. In Malaysian students has more financial problems and poor academic performance. An online survey is to examine the anxiety level of student community.

In the present study impact of research scholars during the pandemic situation were shared and how scholar can be careful in future.

### **Researchers' Family**

- During lockdown many researchers were taking care of their family, spending time with children's, teaching to children's.
- Doing exercise/ jogging inside the home.
- Research scholars learned cooking and learned many new software's/tools.
- To manage their families many young researchers suffered a lot.

### **Research Events**

- Many research scholars planned for live events in conference, webinar, seminar, workshop and training programs in other countries and state were cancelled.
- Many scholars learned to organizing/ attending various events online during pandemic situation

### **Research work**

- During pandemic many researcher's publication were increased.
- Many started writing literature review article and their earlier project works they written and published.
- Many scholars started writing their thesis.
- Scholars not able to work in their lab for doing experimental investigation.
- Many live data collections for research purpose have been changed to online.

### **Conclusion**

From this study, the impact on various problems faced by the research community during lockdown based on their research work, research events and about researcher's family is observed. Many researchers learned a lot during this pandemic period. The preparedness for researchers also been shared in various literatures.

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## Chapter 6

# Covid-19 Lockdown: A Study on the Effect of the Pandemic on Engineering Researchers in Kerala

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## Abstract

The motivation for the work is to assess the current scenario of research works after the effect of the pandemic. The article presents the state of functioning of research scholars coming under the engineering fraternity in Kerala. The study focused on analysing the effect of lockdown on the progress of research works of the researchers, the disruptions caused to the researchers reflecting on their research works, researchers' concern on the future of their research and job, the factors that affected their research during this lockdown period, and their expectation to work after the lockdown period. The study focused on contextualizing the work status of the researchers in the situation of catastrophe.

**Keywords:** Covid-19 Impact, Engineering, Lockdown Impact, Researchers, Survey

## Introduction

The Covid-19 pandemic has impacted almost every human activity in one or the other way. Significant transformations occurred in various organisations, business processes, operational technologies to adhere to the change in the panorama in line with the pandemic aftermath. The lockdown due to the pandemic outbreak has made momentous interferences in almost all human activities [9]. Psychologists advocate that the psychological impacts of the pandemic lockdown will remain for an indefinite period of time [7]. The pandemic forced the mode of teaching-learning experience to shift to the digital one. The pandemic also caused a quantum jump in the learning experience due to the availability of different types of digital learning platforms and

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easier assessment means. Nevertheless, the lockdown has affected the productivity of young minds. Though technology has advanced enough to cope up with the threat posed by the pandemic in terms of slowing down academic activities, several students are reportedly facing varied issues related to depression, anxiety, poor internet connectivity, and an unfavorable study environment at home. [6]

A study on the assessment of the fragility of digitally immature organisations during the pandemic leaves behind the reflection of the need for digital literacy not only for organisations but also for various other sectors like students, academics, etc. The study suggests digital maturity as a necessity rather than an option or add-on in any organization and recommends to make it in main agenda for meeting the required level of digital maturity [4]. Researchers also suggest that the opportunities for digital technologies are noteworthy in this pandemic-stricken period since digital technologies are the major platform of service for various sectors [2,3].

Kerala state has not yet relieved from the pandemic effect significantly. Even though the business activities have started in the state, the level of business has not yet returned to the previous level as before the lockdown. According to GoK Direct – Kerala app that provides information from Kerala state government straight to state's residents, as of 31.01.2021, out of various districts in Kerala, 2,18,874 people are under Covid19 observation, in which 2,07,392 are on home/institutional quarantine and 11,482 people are on observation at the hospital. 375 places are declared as hotspots in Kerala [5]. Research not directly related to Covid-19 has been on a slow pace during the lockdown period. The remote working practice that was suddenly imposed on the researchers has placed substantial restrains on the efficiency of the operations [8]. For a wider understanding of the work done by the research fraternity of the state, it is to be analysed whether the research activities will pass the test of time.

India declared lockdown in the prospect of the pandemic on 23<sup>rd</sup> March 2020 due to which there has been a drastic change in the research activities. For analysing the existing scenario of research activities an online-based survey was conducted among research scholars in Kerala in January 2021. Survey-based studies on the impact of lockdown on various focal groups have been conducted by various researchers. The methodology of survey adopted in the study is enthused from a UK based study on relatively similar grounds [1]. A survey has been conducted to assess the impacts of the pandemic lockdown on the research activities of the research scholars in Kerala. The observations from the responses from the participants are described in the paper.

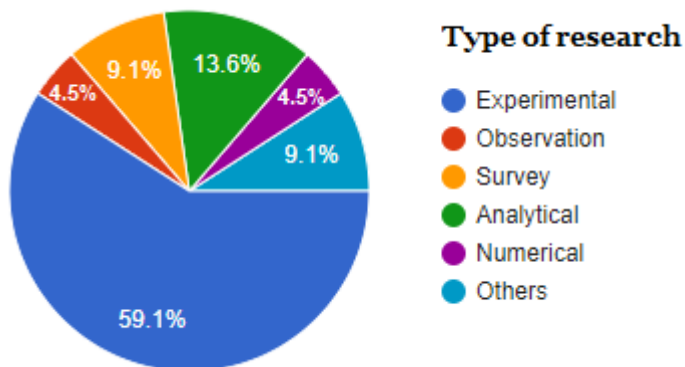
## **Outline of the Survey**

The data was collected on assessing the impact of lockdown on researchers in Kerala. Questions asked were to cover the individual researcher's perspectives on the lockdown. An online survey was conducted relying on the researchers who were willing to respond. The data has been collected to assess the current and expected impact of Covid-19 on research activities and the researcher community of the state.

The study could be helpful for the potential interventions of concerned authorities, Government, and others to support researchers in Kerala, research institutions, and facilities. The survey provides indicative data. The data do not represent the entire research fraternity in Kerala. However, it is a snapshot of views from researchers concerning their level of experience in research activities.

## Background of Participants

The participants who responded were predominantly part-time and full-time research scholars from the engineering fraternity across Kerala. 59.1% of the participants were females and 40.9% of the participants were males. 54.5% of the participants were part-time scholars and 45.5% of the participants were full-time scholars. 77.3% of the participants had crossed the early stages of their research and the rest that comprise 22.7% of the participants were beginners in research. Figure 1 represented below shows the type of research of various participants, expressed in percentage. A majority of 59.1% of participants were doing experimental research. The participants with research types as observation, survey, analytical, and numerical consisted of 4.5%, 9.1%, 13.6%, and 4.5% respectively (see figure 1). Among the participants, a majority of 77.3% of participants had caring responsibilities. The caring responsibilities involved the role of a primary or secondary carer for a child, disabled, or older person. All the female participants and 44.4% of the male participants had caring responsibilities.



**Figure 1.** Graph showing the type of research of participants

## Impact of Lockdown on Researchers

The Covid-19 lockdown has affected the researchers in many means. Few focal areas of impact on researchers were studied and described as follows

Progress of Research

Many of the participants expressed that the pace of progress of research works was less than expected during the lockdown period. 9.1% of the participants responded that they had no progress in their works during the lockdown period. 77.2% of participants reported that they had progressed within 10%, and 13.7% reported to have progressed between 10% to 30%. All the participants reported having an increase in work from home research activities and a decrease in non-work from home activities. About 22.7% of participants reported having no involvement in non-work from home activities during this period. All the participants faced a decrease in academic activities. Researchers were able to devote more working hours on preparation of articles and project proposals for research grant during the lockdown period when compared to the pre-lockdown period.

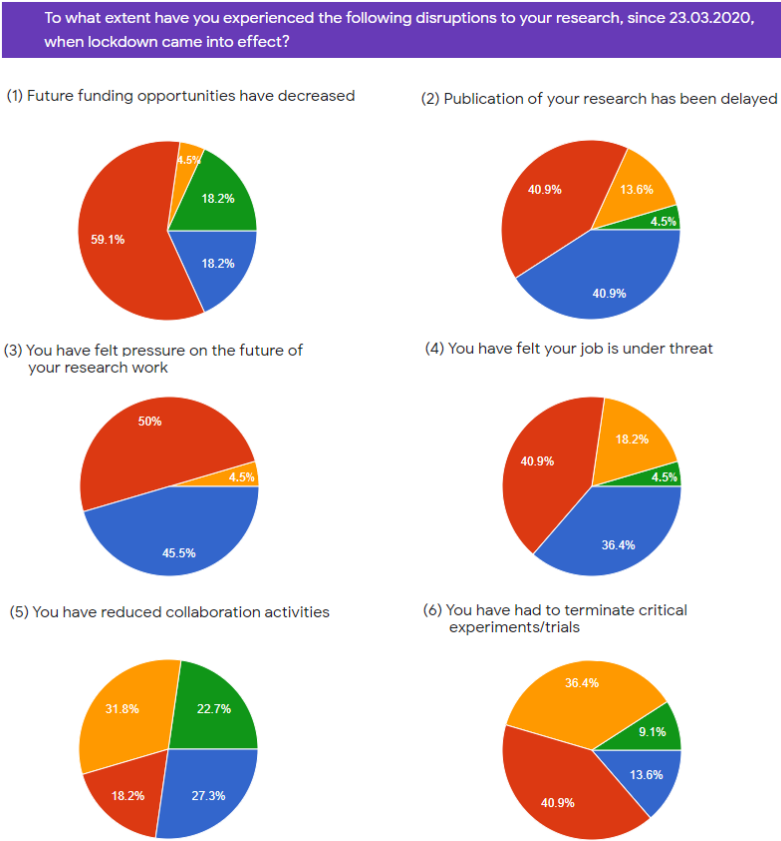


Figure 2. Participants response on the extent of disruptions in research due to lockdown (questions 1 to 6)

Disruptions in Research

The survey covered a few questions to investigate the disruptions caused to the researchers during the lockdown period. The responses to the questions asked to the researchers are depicted in figures 2 & 3. 77.3% of the researchers indicated the chances for a decrease in future funding opportunities as a result of the lockdown. 81.8% of the participants recorded that they have experienced a delay in the publication of research articles. 95.5% of researchers expressed their concern on the future of their research work. 36.4% of the participants indicate a threat of job loss to a significant extent whereas, 40.9% fear the threat of job loss to some extent. 18.2% of the participants do not experience this distress. 27.3% and 18.2% of the participants experienced a decline in collaboration activities to a significant extent and some extent respectively. 54.5% of participants had to terminate critical experiments/trials as an aftermath of the pandemic (see figure 2).

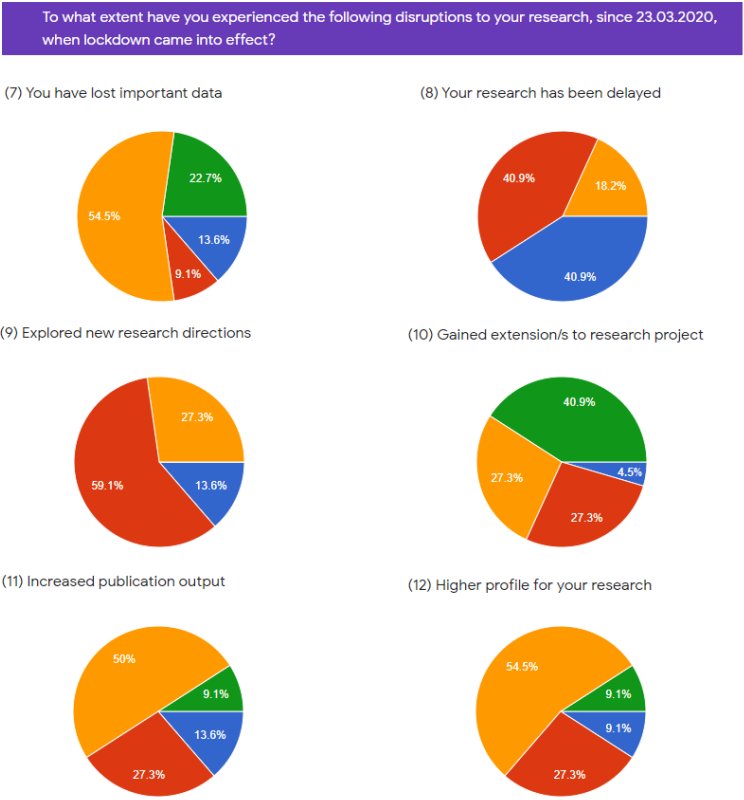


Figure 3. Participants response on the extent of disruptions in research due to lockdown (questions 7 to 12)

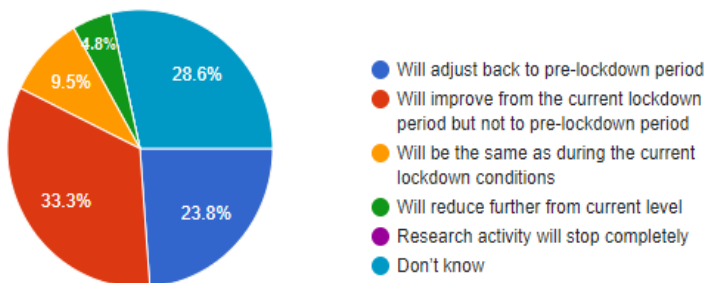
22.7% of the participant researchers have lost important data and 81.8% of the participant's research has been delayed. 13.6% of the participants discovered new research directions to a significant extent and 59.1% of the participants discovered new research directions to some extent. 31.8% of participants gained an extension to their research project and 40.9% increased their publication output during the period of lockdown. 36.4% of participants responded that they have come across a higher research profile (see figure 3).

Since lockdown researchers have postponed important meetings and conferences, have been unable to access laboratory facilities and archives, and reported an unfavorable work atmosphere at home. Scholars associated with teaching activities experienced reduced research time due to increased teaching load. The switching to a digital platform for teaching has demanded more of their time. Researchers on the verge of completion (18.2%) were allowed to extend the Ph.D. registration. No researchers indicated the cancellation of their research during this period. 4.5% of researchers received support from government schemes and 9.1% of researchers received an extension for research grant activities. 77.3% of the researchers were able to attend various research-oriented workshops and seminars.

### The Expectation of Researchers Towards Returning to Work After Lockdown.

A question was put forward to the research scholars to know their expectation of the future of their research works after returning to work within Covid-19 protocol and social distancing. 23.8% of the participants recorded that they will be adjusted back to the pre-lockdown period. 33.3% of participants expect an improvement than the lockdown period but not up to the level of the pre-lockdown period. 9.5% of participants envisaged the research activities to be the same as before. 4.8% of participants expressed concern about the reduction of activities further from the current level (see figure 4).

Returning to work within Covid protocol and social distancing, how may your research works be affected?



**Figure 4.** Expectation of researchers towards work after lockdown

## Inferences

The study was able to bring out a comprehensive idea on the effect of lockdown on the research scholars in the engineering fraternity in Kerala. The investigations to find out the challenges to sustain the research activities has led to the following presumptions: It has been observed that the pandemic has highly affected the researchers irrespective of the gender experience level of the participants. Researchers have developed the flexibility to work from home conditions to some extent. Sudden retraction of access to laboratories, archives, and working spaces has been the biggest challenge for the researchers. The researchers had to undergo mental agony, anxiety, and fear in various cases. Unsuitable home environmental conditions including lack of office equipment, inability to access appropriate digital platforms, and caring responsibilities were observed as a barrier to progress in research. The increment in the work-from-home research activities denotes an increase in flexibility and adaptability of working. Even though the researchers experienced several disruptions during the lockdown period, the fact that this period gave the researchers a chance to be more resourceful cannot be overlooked. As a result, few researchers explored new research directions. Researchers have tried to improve their research profile during the lockdown period by preparing research articles and gained knowledge and experience through a greater number of research-oriented workshops and seminars. However, the uncertainty of researchers on the future of their research is prevailing.

## Conclusions

The Covid-19 pandemic has produced erratic changes to almost all aspects of lives. The study attempted to learn the impact of the pandemic lockdown on the research scholars in the engineering fraternity. The study was an online survey that focused on the research scholars in Kerala. The study reveals that the researchers have been affected by the pandemic lockdown in many aspects like disruptions to research work culture, a pattern shift in research activities, reduced access to laboratories and archives depressingly. At the same time, the lockdown period allowed several researchers to explore newer research directions, and opportunities were allowed for improving one's research profile. Even though the post lockdown period may not bring back the level of research activities within the Covid-19 protocol, it is expected of the researchers to carry out their work with a new research direction.

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## Chapter 7

# Negative impact of lockdown for Researchers

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## Abstract

In present study, negative impact of lockdown for researchers has been investigated. In addition, how the impact can be eliminated from researcher's career. Some of the key factors for negative impact is doctoral committee (DC) meeting, fear in research, research admissions, research materials and research meetings were discussed. The study discussed the researcher to mitigate the negative impact of lockdown positively.

## Introduction

The pillar of academia is research, in all scientific field the progress and findings were reduced and now it is in been started again with the positive impact. Many researches' projects work has been delayed, the researchers used computational work and analytical work without any delay during lockdown too [1]. The university students in UAE had a psychological effect due to lockdown is investigated. The questionnaire is prepared to access the mental state and to create awareness towards health care apps [2]. A global perspective on lockdown for students during their higher education. The lockdown has led to the acceptance of each students to wear mask, washing hands and shaking hands [3]. The COVID 19 made many restrictions for

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researchers, in Japan self-reported questionnaire with 10000+ participants. The reduction in research motivation is observed for women which lead to anxiety [4]. From march 10 to May 3<sup>rd</sup>, 2020 covid pandemic in Italy. The psychological stress among the students made to worsening of sleep [5].

In the present study, the negative impact of researchers during lockdown is shared. This suggestion will helpful for the research community to be prepared for any pandemic situation occurs in future.

## **Doctoral Committee (DC) Meeting**

For many researchers, even though they made the DC meeting in online, the scholars research work to be presented to the panel members is reduced. There is a huge difference between online and offline meeting. Mainly because due to lockdown the scholars not able to do experiment and laboratory works in their labs. For the first-year scholar to prepare course work and literature review, lockdown provide more time to learn the basics of their research topic.

## **Fear in Research**

- Many researchers feared about their research work and completion of their PhD program during their time limit.
- During lockdown, no income for the parent of researchers and how to pay their tuition fee
- The first-time researcher feared to attend the virtual exam for course work
- To do experiments in various research labs, students were afraid to go offline

## **Admissions**

For research admission, all the process conducted online, as many universities did this for the first time, various institute has various procedures, for example: the offline interview is conducted online and selecting guides.

## **Materials**

The materials used for research purpose has been expired and many researchers has to buy new material for their research work.

## **Meetings**

During offline many research meetings will be conducted within the working hours, but during lockdown research meeting conducted after the working hours also.

## Conclusion

The covid 19 lockdown is a tough time for many researchers and also their personal life. The focus on the research of researchers were affected. Doctoral committee meetings, fear in research, materials used for research and meetings. To build a resilient community of researcher, these negative impacts should be mitigated. In future, when researchers facing any pandemic situation be prepared for the above-mentioned impacts to be avoided in researchers' career.

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