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Impact of Coronavirus and Lockdown on Science and Research Studies

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Abstract:

The purpose of this study was to provide the impact of outburst of COVID-19 and enforcement of lockdown after it on research and science related studies all over the world. The nature of this study was in review form as the scholar has reviewed numbers of articles, papers, and investigations based on the pandemic and its impact on science studies and research studies. The span of publications was from 2020 to 2021. As per the report of WHO today, the confirmed cases of COVID-19 are 143184614 while confirmed death cases are 3047322. Impact of Coronavirus disease is observed on educational institutes and students. According to the report of UNESCO, 1.5 billion students of 165 countries are out of schools due to the pandemic. This situation of pandemic forced people to stay at home and do their works from their natives, it also forced teachers and students to learn online or distance education. It has been observed from the studies and articles that pandemic of COVID-19 has both positive and negative impact on the science studies and the research works. Positive in the sense, many researchers consider it as an opportunity to utilize time for better and negative in the sense as many of scientist loss their jobs, young scientist and researcher find obstacle in the early career as no direct communication was there.

Keywords: Novel Corona Virus, SAARS-COV-2, Global Pandemic, Online and Distance works, Work from Home.

Introduction:

A pneumonia- like illness disease erupted in Wuhan city of China in December 2019. Later, on 7th January 2020, the a pneumonia- like disease in the country was titled as Novel Coronavirus (nCoV), further again renamed as Sever Acute Respiratory Syndrome Coronavirus-2 (SAARS-COV-2), COVID-19 , became a pandemic when on 11th March 2020, WHO declared it as a pandemic. World has witnessed the epidemic of SAARS in 2003, took over 800 lives- affecting 8000 individual, in 2020 spread its roots what is known as SAARSCOV-2, has already infected 88 million people and took lives of 1.9 million people by September 2020 (Report of WHO). As per the report of WHO today, the confirmed cases of COVID-19 are 143184614 while confirmed death cases are 3047322.

Impact of Coronavirus disease is observed on educational institutes and students. According to the report of UNESCO, 1.5 billion students of 165 countries are out of schools due to the pandemic. This situation of pandemic forced people to stay at home and do their works from their natives, it also forced teachers and students to learn online or distance education. This staying situation has proven challenging for both students and educators, who must deal with emotional, physical and economic situation. Furthermore, United Nations Academic Impact indicated that researchers and educators of different institutes in the world out how this pandemic of Coronavirus has affected them and how they are coping with the situation that has been forced on them. The series of the UNAI has also highlighted the situation of lockdown; positive learning outcomes from both learners and educators of higher education.

The global pandemic of COVID-19 has affected researchers and scientist as well research and academic activities to great extent including several challenges imposed on the research and science studies as well as clinical and surgical series. Campbell Bannock, in his study, 'Unlike Anything Seen in Peacetime', stated that fury of pandemic has certainly made people to think the glory of past and present. Though his concern is with economic one; has certainly made us to think as to how people have been made economically orphan by slowing down their manufacturing and daily wages of works. Service sectors are not being able to provide their proper service which suffer people form the immediate needs. It hammers our mind when we read lines of Abid Haleem and Mohd Javid where they state that in the name of Social Distancing, it is as if parents are enemies to their children. Declaration of curfews, and lockdowns worldwide forced people to stay at their home. Some of the scientist working on life sciences managed to stay with their family members and were worrying and caring about children and their education. But many of them continued their working and doing scientific projects by working from home. Technology and Virtual Meetings like EMBC, Symposium etc. have provided opportunities to people who continued their projects form their platforms. This study attempts to investigate the impact of pandemic of coronavirus and lockdown enforced on researchers and science studies with reference to the evidences and studies conducted earlier. There is an attempt to review studies on this issue and how positive attitudes among these sectors can bring positivism for better preparation to face the challenges of pandemics.

Impact on early career development:

According to the study of Subramanya Supram and his colleagues, the outbreak of Coronavirus has made negative impact on the science research community. Because the pandemic has forces research centers and laboratories as well as research universities to be closed due the lockdown and some rules and regulations of pandemic. It has affected on the brainstorming events of science related national, international conferences as most of them either postponed or cancelled.

And these Scientific events are beneficial to the new researchers and scientist. Christina Termini and David Traver (2020), in their study argued that through not all science researchers or scientist will equally be affected with the pandemic and enforcement of living away from the laboratories, but the junior scientist may not benefit as greatly from the rich training environment offered by a traditional laboratory. Social distancing lacks exchange of ideas that occurs during the course of formal conversation with the experts in the laboratories. These conditions lack the rich training environment as situated in the traditional form of working.

Impact on Financial Aspect:

Impact of Covid-19 has not only stressed financial loss of life science industry but also all projects and industries in the world. Survey of Kobel and Stegle revealed that 58% of their respondents lost their work. 25% respondents reported that laboratory remained closed for one to six months. Consequently, level of productivity dropped to face financial crisis.

A Newmark report on May, 2020, indicated that during the period between 2010 to 2019, 19% growth in employment registered in life science industry. According to this report, since the revolution in life science industry, investment in research and development, manufacturing practice, and venture capital increased substantially and reached to \$9.1 billion. Overall employment of this industry has been affected due to the pandemic. There has been 14% dropping in employment from February to April 2020. Research and Development of life science has fallen to 2.5% in the same period. What this report of Newmark and survey of Kobel and Stegle reveal that Pandemic has made financial loss in this branch of science.

Impact on Publications of Research works:

The outburst of Coronavirus on the globe restricted human life and their all activities as lockdown and closing enforced them to stay at home. Christina and David further also added that the impact of COVID-19 has restricted all kind of publications as lockdown was enforced to keep people away from each other. Consequentially, restrictions imposed on researchers extended the publication of their research works by preventing submission and resubmission of their manuscript due to the incomplete experiment as they were away from the laboratories. The impact of loss of knowledge to other will have a long in term. Philip Soloman and Sheryl Zimmerman (2021), in their study 'The impact of the COVID-19 Pandemic on Scientific Publication', revealed that every year, they had increase of publishing by 15% to 17%, in the 2019, their increase in publication was 18%. But the pandemic of COVID-19 decreased this growth by 37%. The timeline of studies and their submission rate was slow as researchers couldn't collect data within a specific period of time as no laboratories remained open due to the lock down low attendance of laboratory personnel.

Covid-19 Protocols and Slowing down Scientific Enterprise:

Implication of COVID-19 as a pandemic on 11th March 2020 by W.H.O., number of policies

was executed by the authorities and the government itself. What US government calls it as ‘flexibility of grant condition.’ In the survey of Kyle, R. Myers, and his colleagues, having response of 4.535 members from U.S. to Europe institutions, they concluded that pandemic of COVID-19 slow down their scientific researches on life sciences. According to their survey, from 61 hours in a week to 42 hours in a week during pandemic was the working span which certainly slow down their projects, research and planning. 55% respondents of them accepted the decline of time that slow down their enterprise.

Daniella Barron, in her article for The Irish Times, shared with reference to Mckinsey Report that almost 40 to 50 percent of researchers’ time is utilized on crisis management rather than the actual work. What this management is busy with is of clinical trials, employee health, sanitizing, social distancing, and other responsibilities only. Further she quoted the views of Damien Flanagan that their enterprises and research department is engaged in COVID-19 protocols like temperature check, arrival time, restrict access to few designations, work from distance etc. She also felt worry for life science and medical technology for their long-term impact with their business.

Positivism from Researchers:

To view this pandemic and situation around after it, it would be noteworthy to have an introduction of France Cordova, who has just finished her six-year term being a director of National Science Foundation, being an astrophysicist, she inspired us by stating the report of American institute based on the impact of pandemic with reference to the career of researchers. According to her, Science is always a mirror of hope where though not literary different faces but people of same academic and interest work together. Science also teaches us how to emerge from the stronger and better prepared with the next pandemic situation.

Another boost to this perspective is observed in the statement of Randy Kez, vice-chancellor for research at UC Berkeley. Having reference of lockdown from March to June in 2020, he observed number of changes in his university; before pandemic he and his colleagues used to work hard with innovation and research. Now they have to work in single shift in research towards Coronavirus in systematic and disciplined way. According to him, the changing lifestyle after the pandemic and lockdown has made him to cope with the situation for living and making work for the globe to stand again. He further also stated in his opinion that universities had become microcosms and testing labs for societal changes and life science.

Conclusion:

To conclude, the ongoing pandemic of COVID-19 has been a matter of abstraction to all human activities. Science related studies and research is an advance form of these activities. The outburst of virus and lockdown imposed on the scientists and the researchers not only delayed the scientific and innovations but also had a deep impact on the mindset of these people as they had

direct influence of these activities and restriction on their knowledge. The continuous lockdown and restriction on scientists and laboratories has negative impact on research works and science studies as no innovation could come due to the restriction. It can also be concluded from the above evidences and research works that pandemic of COVID-19 has psychological, physiological, intellectual, financial, social, as well as moral impact on the scientists and researchers. But many of them view this circumstance from positive point of view as they took it as opportunity.

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