

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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