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The Impact of COVID-19 on the attending Resident doctors: A cross sectional study

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Abstract:

Manuscript Title: The Impact of COVID-19 on the attending Resident doctors: A cross sectional study.

Introduction: The COVID-19 pandemic had numerous impacts on the life of the attending resident doctors. This study was taken up to know the effect of the pandemic on the Resident doctors.

Objectives: To study the impact of COVID-19 on the Physical, Social, Mental and Academic health of the attending Resident doctors.

Results: 99 resident doctors participated in the study. Among them 81.4 % of individuals physical health were affected due to lack of proper sleep and the others were affected due to exhaustion. According to our study, it was found that amongst all the Health Care Workers (HCW's) attending the patients, resident doctors were most prone to burn out during their COVID -19 duties. In the study, it was found that 76% of individual's studies were severely affected during their COVID duties. It was also found that over 69.7 % of resident doctors had 6 hours of average duration of sleep during their pandemic duties. According to our study, it was found that 44.4% of individuals had worked 49-56 hours per week which negatively impacted their social life.45.5% of attending resident doctors preferred to try their hobbies and others preferred to talk to their family and friends to destress themselves. According to our study it was found that, amongst them 15.4 % of individuals suffered from COVID-19 even after the 2nd dose of vaccine.

Conclusion: COVID -19 had a negative impact on the resident doctors but they continued working by looking at the bigger and positive picture. To continue to provide uninterrupted quality care, the resident doctors must be empowered, encouraged and counselled regarding self-care, time management, emotional regulation, and practising few physical exercises in any form along with maintaining their academic activities.

Keywords: COVID 19, impact, resident doctors.

Introduction

1. The COVID-19 pandemic has resulted in significant burden globally. Major effects include high rates of infection and death, financial crisis faced by individuals and stress and fear of many uncertainties regarding the continued impact [1,2]. Healthcare workers (HCWs) being

at the heart of the unparalleled crisis of COVID-19, face challenges treating patients with COVID-19[1].

2. The impact on the HCWs in the threatening atmosphere of COVID-19 includes decline in the mental health and emotional exhaustion, which may further lead to errors in medical practices, decline in empathy while treating patients, and lower productivity which affects the patient management [2].

3. Simultaneously, beyond the new burden of psychosocial risk factors, COVID-19 brought few positive elements for a while that should be analysed. The public response toward HCWs had been globally heart-warming. This pandemic had put Health Care Workers in the spotlight, and for some it was encouraging and also been an important positive reinforcement [1].

4. Social stigma, in context of health, is the negative association related to the people or a group who have a specific disease in common. In an epidemic, this may mean that people are labelled stereotyped, and discriminated because of a perceived link to the epidemic. This is even truer when dealing with a highly infectious disease. This can produce a negative effect on those affected by the virus affecting even their recovery rate and also on the work of Health Care Workers. [3,4]

5. Healthcare workers (HCWs) are often prone to Burn out syndrome (BOS), However, wide variations in the prevalence of BOS have been reported with higher levels being reported among Health care workers working in an emergency department (ED) and intensive care units (ICUs) as they are exposed to a high level of job stress [2,5,6,7].

6. (HCWs) have had to contend with a range of significant stress factors including the risk of infection, workload changes, sleep deprivation, loss of colleagues and sometimes providing care in less than adequate settings.[8]

7. The objective of this study was the impact of COVID-19 on the Physical, Social, Mental and Academic health of the attending Resident doctors.

Materials and methods

Study design: A cross sectional study based on questionnaire. Study setting: Medical colleges in Central India.

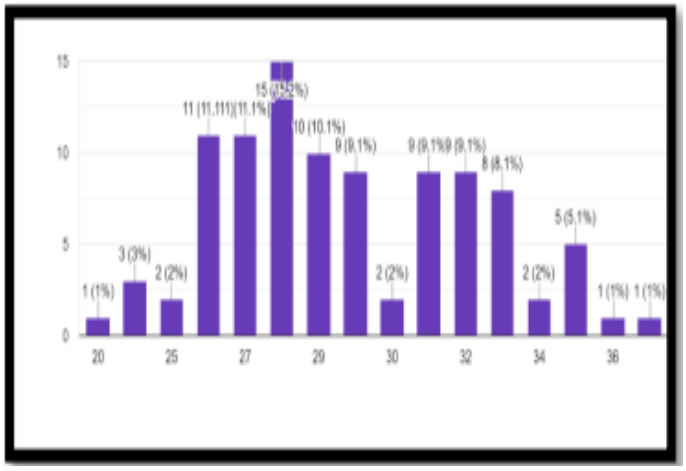
Study population: COVID-19 Duties Attending Resident Doctors.

Study period: 2 months.

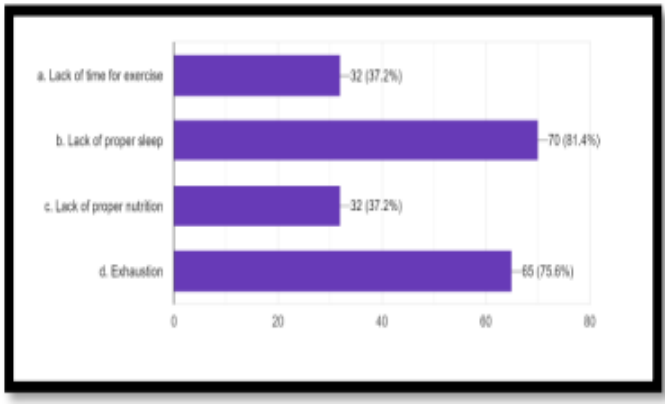
Sample size: 99 resident doctors selected by simple random sampling technique.

This study was based on personal experiences of individual Resident doctors working in COVID hospitals. The cross sectional study was carried out after approval of institutional ethics using the validated Questionnaire mode among the resident doctors, through Google forms. All the responses were analysed by using the SPSS version 20 software.

Results



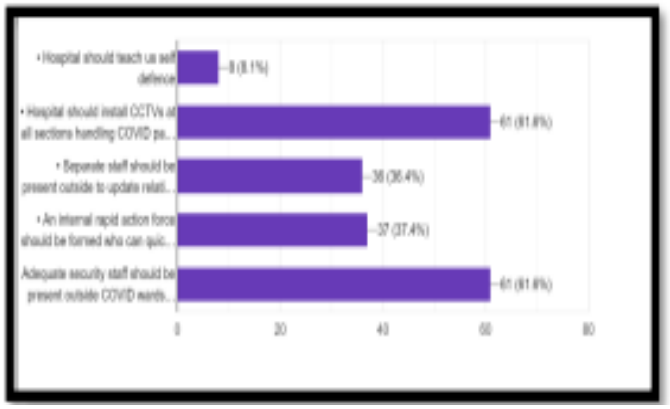
Graph 1: Age of responders.



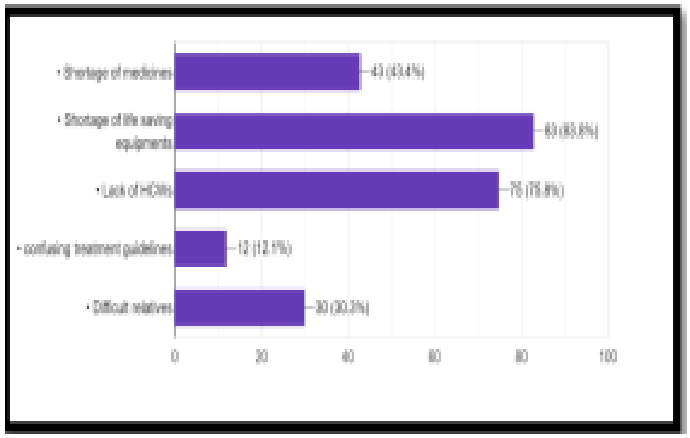
Graph 2: Main factors affecting physical health of Resident doctor while doing COVID duties.

Duration	Male respondents	Female respondents	Total respondents	Percentage
<6 hrs	29	29	58	58.6%
7 hrs	13	20	33	33.3%
8 hrs	01	03	04	04%
>8 hrs	02	02	04	04%

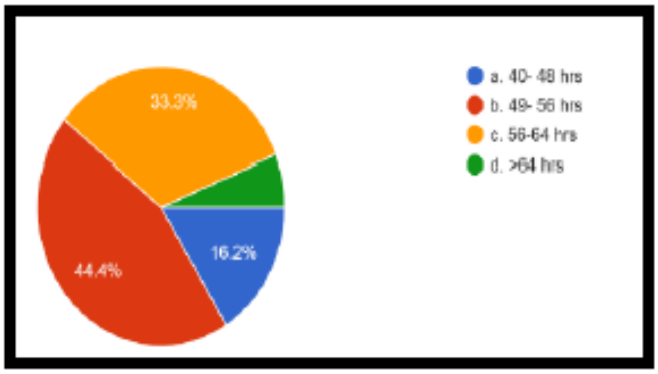
Table 1: Comfort of time period wearing PPE kits.



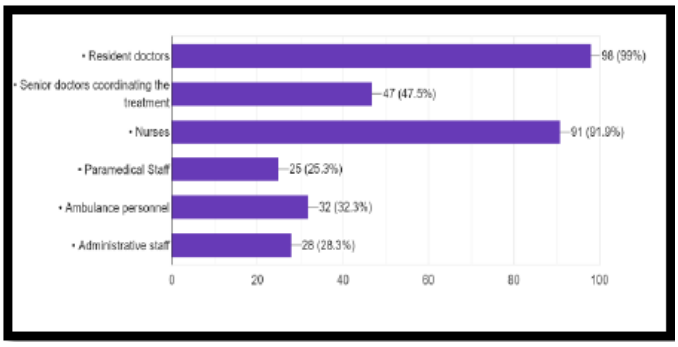
Graph 3: Important measures required to be taken to prevent getting attacked by mob when breaking bad news to COVID patient's relatives.



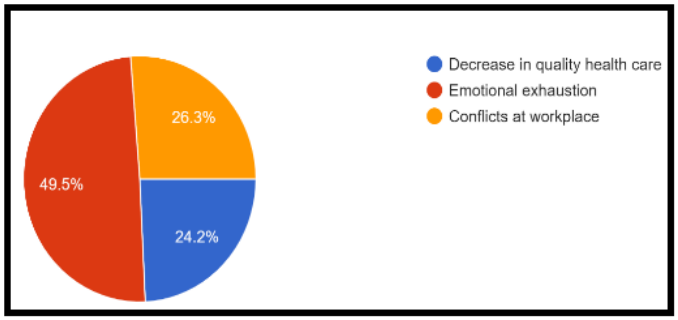
Graph 4: Difficult situations faced while carrying out COVID duties.



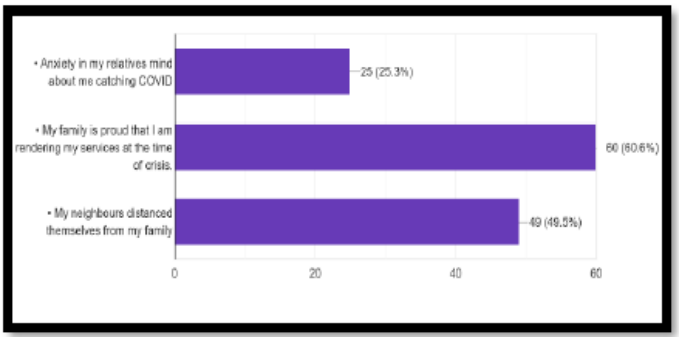
Pie chart 1: Number of working hours per week in COVID related areas.



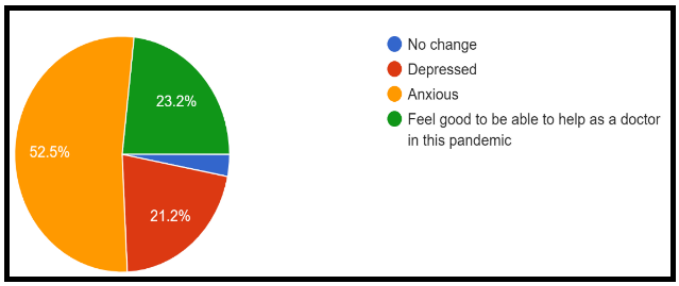
Graph 5: HCWs prone to get Burn out while performing COVID duties (according to our resident doctors).



Pie chart 2: Effects of Burn out Syndrome seen in HCW.



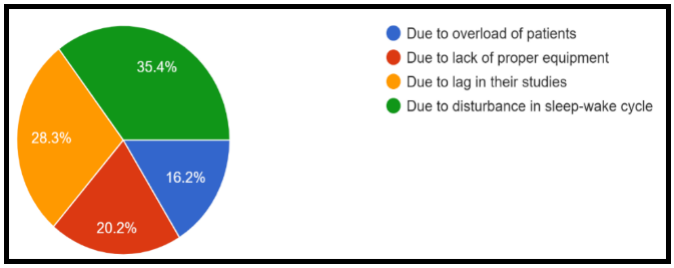
Graph 6: Effects of COVID duties on families of resident doctors.



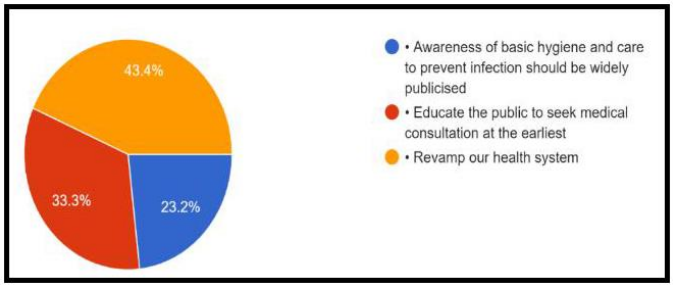
Pie chart 3: Impact of COVID duties on Resident doctor.

Duration	Total no. of respondents	In Percentage
>4 hrs	21	21.2
6 hrs	69	69.7
8 hrs	07	07.1
>8 hrs	02	02.0

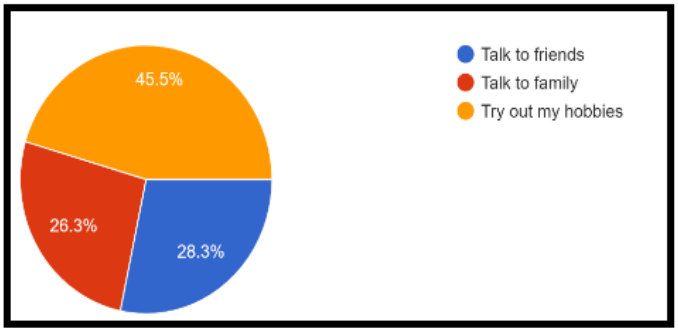
Table 2: Average duration of sleep (in hours) during COVID duties.



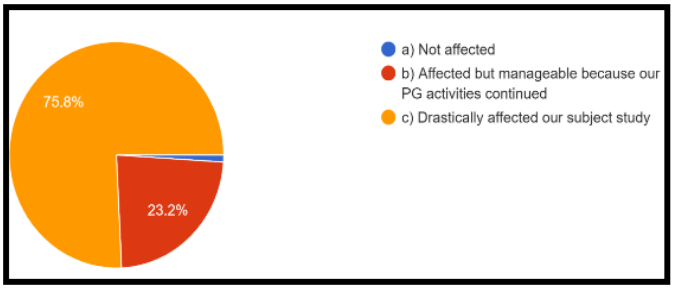
Pie chart 4: Reason of feeling stress during COVID duties.



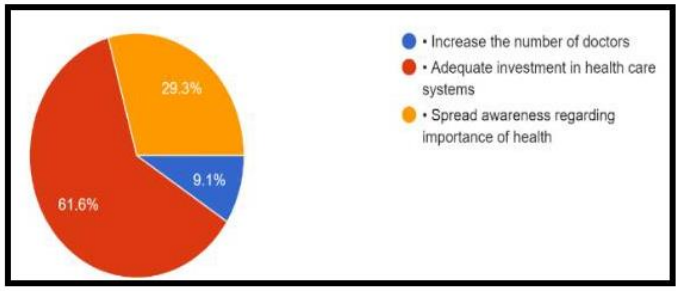
Pie chart 5: Measures taken to avoid such a pandemic situation in future.



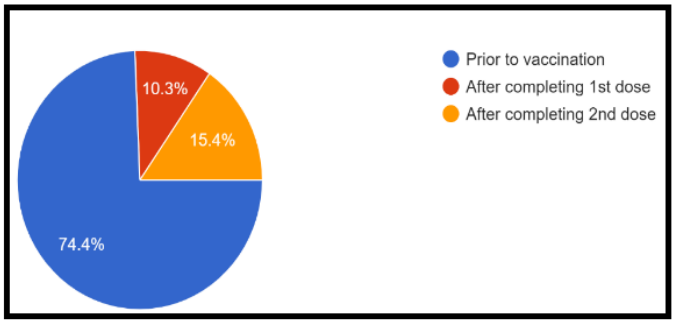
Pie chart 6: Preferred Ways to destress after COVID duties.



Pie chart 7: Academics of Resident doctors affected by COVID duties.



Pie chart 8: Lessons government should learn from this situation.



Pie Chart 9: Dose of vaccine after which they suffered from COVID.

Effects	Total no. of respondents
Mental	15
Mental and Academic	14
Social	06
Academic	06
Mental and Social	04
Physical and Mental	04
Social and Academic	03
Social and Mental	02
Physical and Academic	02
Physical and Social	02

Table 3: The most affected impact during COVID duties.

Discussion

1. The COVID19 pandemic has resulted in significant burden at the global level. This study intended to know the effect of COVID 19 on Resident doctors who attended the patients. 99 Resident doctors from various Medical Institutes volunteered as responders for the study. Amongst them 54.5% were female and 45.5% male and also 81.8% were practising from private institutes and 18.2 % from government institutes. The health care workers along with patients were also hit by this pandemic.[1]

2. According to our study, we found that the resident doctors were affected mainly in four areas which includes Mental, Academic, Social and Physical. Amongst them Mental impact was the greatest of all.

3.Due to sudden arrival of this pandemic and increase in number of patients, the duties of every HCW increased, due to which at some of the places the resident doctors had to manage an overload of work. Apart from their long COVID duties they also had to manage their academics. Hence, due to lack of time many difficulties were faced by them.[1,2,3]

4. According to our study large number of respondents reported stress followed by anxiety and depression due to constant care for COVID 19 patients. The main reasons for development of anxious behaviour in resident doctors during this isolation period was, apart from unfamiliarity with restriction in a personal and social freedom they had to constantly work with life threatening conditions of patients. It was also observed that anxiety was associated with stress and reduced sleep quality. [4,5,6]. This coupled with conflicting guidelines from various health agencies and governmental resources collectively created an impact on an individual [3,7].

5. A study by Cai et al measured the psychological impact of COVID-19 on frontline medical staff members and found that HCWs experienced anxiety about their own and their family's safety but maintained the professional obligation to effectively complete their work.[1]

6. Stressful experiences such as learning about the diagnosis of COVID-19, fear of infecting others, symptoms of the illness, hospitalization, especially admission to an intensive care unit, and loss of income may lead to the development of anxiety, depressiveness, and posttraumatic stress disorder (PTSD) [4,6,8].

7. According to our study, large number of resident doctors worked 49-56 hours in a week and hence, resulted in lack of performing other essential activities like maintaining physical fitness, proper diet, proper sleep, performing hobbies, etc. When asked about the most difficult situations faced by them while carrying out COVID duties large number of respondents reported of shortage of life saving equipment and shortage of HCW's. The other difficulties were shortage of medicines and difficult relatives.

8. Our study showed that the families of our resident doctors were proud of them regarding their service towards the nation at the time of crisis. Some of the respondents felt good to do their COVID duty as an opportunity to learn about the disease and its management.

9. Among our HCW's we found that resident doctors and nurses were prone to burn out syndrome (BOS) followed by senior doctors coordinating the treatment and least prone are the paramedical staff, ambulance driver and administrative staff.

10. In a study by Noha Selim Mohamed Elshaer et al, it was found that among the three burnout domains, high levels of emotional exhaustion were reported by the majority of participants (80%), while less than third of participants reported either high levels of depersonalization or low levels of personal accomplishment. Critical care HCWs who suffered from intragroup conflict reported significantly higher scores of emotional exhaustions compared with those who didn't. [2,6]

11. Italy was the first European Country to face the COVID 19 pandemic that started in Codogno (Lodi), declared "red zone" and isolated by February 20th 2020. Hence, after which to control the situation, apart from guidelines for their citizens a psychological first management service for emergency personnel was set up in Codogno (Lodi), with a psychiatrist and a psychologist, to address HCW's hyperarousal, irritability, trouble sleeping, psychological distress, and unwillingness to rest.[4]

12. Analysis of studies suggests that the negative work environment may account for not only burnout, but also poor patient outcomes.[7] Sleeplessness contributes to symptoms of depression and anxiety, and contrariwise, symptoms of depression and anxiety disturb sleep. Sleep disturbances are a stand-alone risk factor for suicidal behaviour. [1,6,8,9]

13. According to our study, the resident doctors reported the huge academic impact on them due to long COVID duties. Lack of time affected their time to relax which further caused the decrease in potential for study due to decrease in energy. This vicious cycle causes self- doubt and decrease in confidence within them leading to decrease in quality of health care and patient management.

14. COVID duties were considered an unnecessary burden on them despite accepting the fact that these

COVID duties provided them practical knowledge as well as to live life with modifications like learning and applying time management along with better management of patient load and also attending the emergency patients following triage.

15. Social stigma had also significantly affected the quality of life. The importance of stigma to quality of life (QOL)is well-recognised in HIV research and care as well as in venereal disease or any STDs. Stigma is included as a domain in the World Health Organisation's HIV-specific measure of QOL. Here the main reason for negative impact on the survivors is due to lack of proper or complete knowledge regarding particular disease or having false or unauthentic information. [3,10].

16. It was also seen that during the period of duties, the neighbours as well as their relatives distanced themselves from them and from their parents in fear of catching COVID. Hence the government should take appropriate steps to control this condition and protect the well-being of doctors and HCWs through appropriate measures as it is a crucial tool in national emergency public health response to fight the outbreaks. If timely measures are not taken, although this disease will subside eventually a new surge of patients suffering from psychological morbidity will emerge. [3,10].

17. Hence, psychological intervention support teams, psychological counselling, availability of helpline, establishment of shift systems in hospitals, online platforms for medical assistance, incentives, providing adequate breaks and time offs, providing a place to rest and sleep, leisure activities such as yoga, meditation and exercise, and motivational sessions can aid in management and decrease in impact of COVID19 on resident doctors. [1,2,5,11]

18. In our study, the responders reported that physical health is affected due to lack of time for exercise, proper diet and hobbies to relax and gain the drive towards their duty.

19. Access to appropriate PPE remains of paramount importance to help physicians feel physically safe. individuals feel more protected from infection, which may lessen fear of infecting their loved ones. It was also seen that prolonged PPE usage led to skin damage, with the nasal bridge being the most common site. [1,10].

20. Covid-19 has left health-care workers more visible—and vulnerable—than ever. Health-care systems across the world have struggled in recent years both with rising violence and the psychological toll on staff. The World Health Organisation estimates that as many as 38% of physicians worldwide have suffered physical violence at some point in their careers. One in seven NHS staff in England said they had been physically affected. One in three Australian doctors reported of similar abuse. Over 75% of India's physicians say they have faced the threat of violence at work. In response, health-care systems have taken extreme measures to protect their staff, some hospitals in China now teach them self-defence whereas Indian government updated its laws to deny bail to those accused of violence against HC staff. Some emergency rooms in America have installed metal detectors. Admins in Australia have started telling their staff not to wear scrubs outside hospitals. [11,12,13].

21. The Vaccination programme being one of the most important drives to halt or decrease the severity of symptoms is in process in most places with proper schedule. It was reported from the studies that resident doctors working in ICUs and COVID wards were most commonly and frequently affected with COVID 19 infections but fortunately they developed either mild or

moderate symptoms. These controlled symptoms were only visible in the patients who received COVID 19 vaccination. In most of the places the vaccination was done in a pattern resembling triage. In first slots front line workers including Senior doctors, Resident doctors, nurses and other health care workers, Police, etc. In the next slot the public with high-risk diseases such as Diabetes, CVDs and at the next slots were for people except included in above slots. According to our survey, 92% of resident doctors were completely vaccinated despite which they also suffered from COVID 19 infection out of them 10% people were affected after first dose and 15% were affected even after complete vaccination. It was seen that resident doctors getting infected with COVID 19 were mostly within a month of first dose of vaccination. The vaccine does not prevent all cases of infection therefore HCWs will need to continue to wear personal protective equipment while caring for all patients, observe physical distancing and other non-pharmaceutical measures in and outside work and continue to perform regular asymptomatic testing until COVID prevalence is considerably low.[14]

Conclusion

1. COVID has put many deep scars of negative impact on resident doctors but they worked seamlessly by looking at the bigger and positive picture beyond those circumstances.

2. Increase in HCWs and arrangement of shifts with adequate time between shifts where they can manage their personal life and can get proper rest which aids in boosting their energy and working with their complete potential could also boost up the health care management.

3. The government should also take few measures such as providing health care facilities to resident doctors and their families free of cost, increase their stipend and take strict actions against the persons attacking them. 4. To continue to provide uninterrupted, quality care, the resident doctors must be empowered, encouraged and counselled regarding self-care, time management, emotional regulation, and practising few physical exercises in any form along with maintaining their academic activities.

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