

## Original Research Article

# Impact of COVID-19 pandemic on mental health and well-being of resident doctors in Jammu and Kashmir: a cross-sectional study

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## ABSTRACT

**Background:** After its first detection in China SARS-COV-2 which is also known as COVID-19 has imposed significant impact on healthcare system. Not only has this affected the mental health of young resident doctors who work as the primary contact to these patients and frontline workers during this pandemic it has also significantly increased their psychological distress among them. Aim of our study was to evaluate the adverse impact of COVID-19 pandemic on mental health and well-being of resident doctors working in the major tertiary care hospitals of union territory of Jammu and Kashmir.

**Methods:** This cross-sectional study was conducted in 4 major tertiary care hospitals of North India. This study was based on a questionnaire form filled by 400 resident doctors who are presently undergoing training in above mentioned hospitals. Psychological impact was assessed using depression, anxiety and stress scale-21 (DASS-21). The final results were based on the inference drawn these forms and analysed using SPSS version 26.

**Results:** Total of 400 questionnaire forms handed over 391 residents reverted back. Among these 391, 47% were females and 53% males. 32% of the total respondents were senior residents and 68 were working as junior residents. Regarding the working during pandemic a total of 54.6% worked overtime and 23.6% were in direct contact with RTPCR confirmed COVID patients. Statistically significant number of residents were categorized as having anxiety and stress levels with statistically non-significant data related to depression.

**Conclusions:** Resident doctors are adversely affected during these difficult times of COVID pandemic taking into the consideration both psychologically and academically. A similar study at the larger scale especially at national level may give us more effective understanding of the working conditions of frontline warriors and necessary steps which should be taken to reduce the long-term consequences.

**Keywords:** COVID-19 pandemic, Resident doctors, Mental impact

## INTRODUCTION

COVID-19 was first discovered in Wuhan city of China at the end of year 2019.<sup>1</sup> It is a virus of corona family which are known to affect the respiratory system of humans. SARS in 2003 and MERS-COV in 2015 have

already caused epidemics in Asia.<sup>2</sup> Corona virus have high transmission potential, hence COVID-19 which was an epidemic in China within a short span of time spread globally and was announced as a pandemic in 2020.<sup>3</sup> The clinical signs and symptoms of patients affected by COVID-19 have led to the vast number of deaths, hospital admissions and a major hit to the health care

systems since it first appeared. Depression, anxiety and stress are very common among the population who contracted COVID-19 and resident doctors who work at the frontline and are in direct daily contact with these patients are no exception to that.<sup>4</sup> Despite the governments best possible efforts including nationwide lockdowns, work from home, international and national travel ban the virus continues to spread.<sup>5</sup> And hence due to this continued increase in number of infected cases and infected health care workers including nursing staff, assistants in hospitals the resident doctors who are the primary contact to these patients have to work overtime and this affects their physical, mental health and they are also suffering academically. Also the severity among few infected colleagues or a family member of a resident doctor make a negative impact on his mental health and wellbeing. Almost all the resident doctors who stay with their family have psychological stress of putting their families at risk of infection especially their elderly and co-morbid parents.<sup>6</sup>

It seems evident that at this time there is a lack of studies which address and evaluate the current working conditions of resident doctors in various hospitals. Hence our study was a small step towards solving a big and scary issue, which aimed to evaluate the impact of COVID-19 pandemic on mental health and well-being of resident doctors working in the major tertiary care hospitals of union territory of Jammu and Kashmir.

**METHODS**

This was a cross-sectional study conducted between August-October 2021, a form with 10 questions was developed by primary author along with other authors, the form was prepared by modification of questionnaire form used by Saho et al in their study of COVID-19 lockdown impact on orthopaedic surgeon.<sup>7</sup> The modifications and additions in preparation of questionnaire form were mainly done by authors taking into consideration the purpose of our study and the relevance of questions for more accuracy of the results. A

hard copy or e-copy of documents including above mentioned questionnaire form, a copy of DASS-21 scoring (to be filled by the resident) and a consent form were distributed among 400 resident doctors working in 4 major hospitals of Jammu and Kashmir including GMC Jammu, GMC Srinagar, SKIMS Srinagar and ASCOMS Jammu. All of them were explained the nature of the study and also the purpose of it via telephonically or in person. A total of 391 residents responded back to our study. Collected data was further compiled for statistical analysis.

**Statistical analysis**

After categorizing the above collected data, total and percentages underwent descriptive analysis and numerical data were analysed through mean and standard deviation. P value of <0.05 was taken as significant and category variables were analysed using Chi square. The final results were based on the inference drawn these forms and analysed using SPSS version 26.

**RESULTS**

All the residents were asked to fill and sign the consent form attached to the questionnaire form. 391 residents reverted back with their response. Residents were instructed to send the final filled forms back via Whatsapp to the mentioned contact numbers on the top of the form or as a hard copy as per their convenience (Figure 1). Residents from 12 different specialties reverted back to us with their responses with maximum number from the department of general medicine (16%) and least from the departments of ENT and psychiatry (3% both) (Figure 2). Among these 391, majority were males and junior residents (Table 1). Regarding the working during pandemic a total of 54.6% worked overtime and 23.6% were in direct contact with RT-PCR confirmed COVID patients. Statistically significant number of residents were categorized as having anxiety and stress levels with statistically non-significant data related to depression (Table 2).

**Table 1: Demographics.**

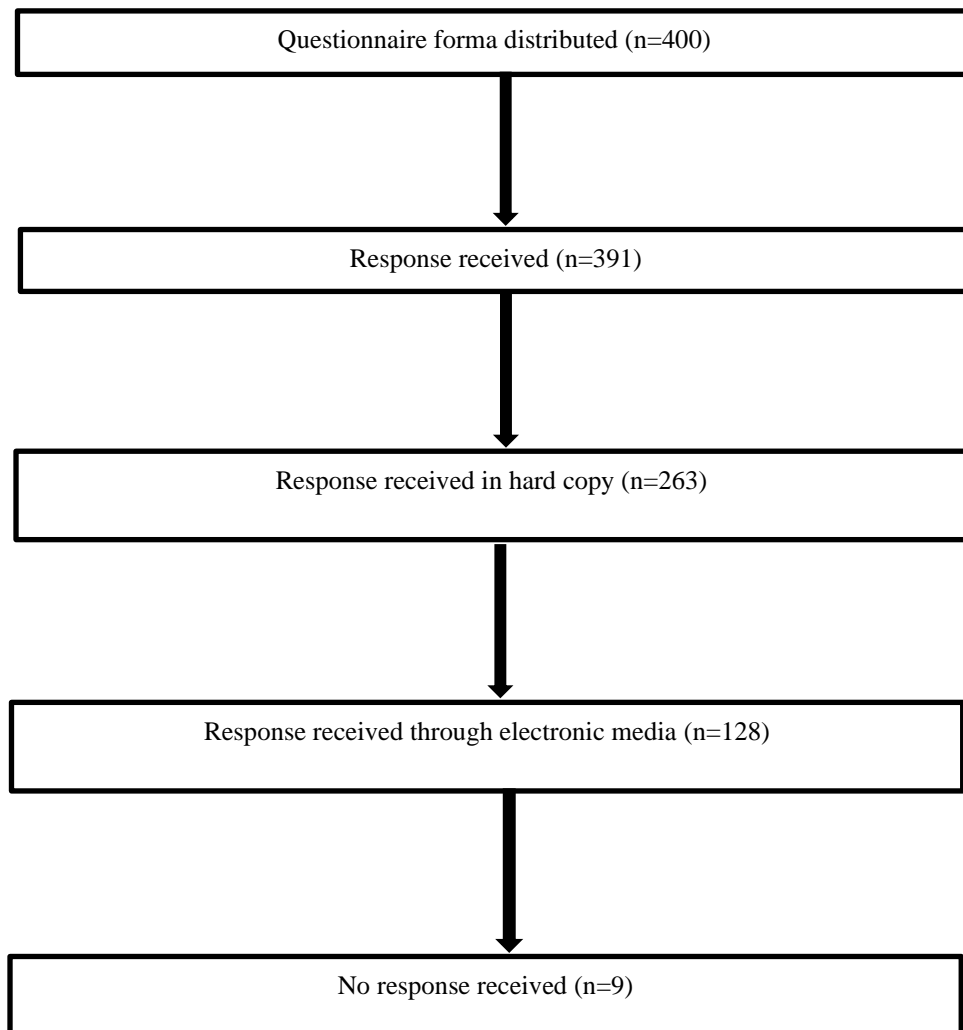
Demographics	Total	Percentage
<b>Gender</b>	Male	208
	Female	183
<b>Level of training</b>	Junior	264
	Senior	127

**Table 2: Psychological assessment using DASS-21 questionnaire.**

Questions	Total			
	0	1	2	3
<b>I found it hard to wind down</b>	335	48	7	1
<b>I was aware of dryness of my mouth</b>	279	105	7	0
<b>I couldn't seem to experience any positive feeling at all</b>	188	160	40	3
<b>I experienced breathing difficulty (e.g. excessively rapid breathing,</b>	228	146	15	2

Continued.

Questions	Total			
<b>breathlessness in the absence of physical exertion)</b>				
<b>I found it difficult to work up the initiative to do things</b>	98	123	170	0
<b>I tended to over-react to situations</b>	21	148	149	73
<b>I experienced trembling (e.g. in the hands)</b>	309	78	3	1
<b>I felt that I was using a lot of nervous energy</b>	344	46	1	0
<b>I was worried about situations in which I might panic and make a fool of myself</b>	85	302	2	2
<b>I felt that I had nothing to look forward to</b>	29	319	28	15
<b>I found myself getting agitated</b>	6	183	201	1
<b>I found it difficult to relax</b>	2	58	323	8
<b>I felt down-hearted and blue</b>	50	309	27	5
<b>I was intolerant of anything that kept me from getting on with what I was doing</b>	39	299	53	0
<b>I felt I was close to panic</b>	260	102	28	1
<b>I was unable to become enthusiastic about anything</b>	33	340	18	0
<b>I felt I wasn't worth much as a person</b>	361	30	0	0
<b>I felt that I was rather touchy</b>	200	161	25	5
<b>I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)</b>	311	71	8	1
<b>I felt scared without any good reason</b>	183	201	7	0
<b>I felt that life was meaningless</b>	328	55	5	3



**Figure 1: Data collection flowchart.**

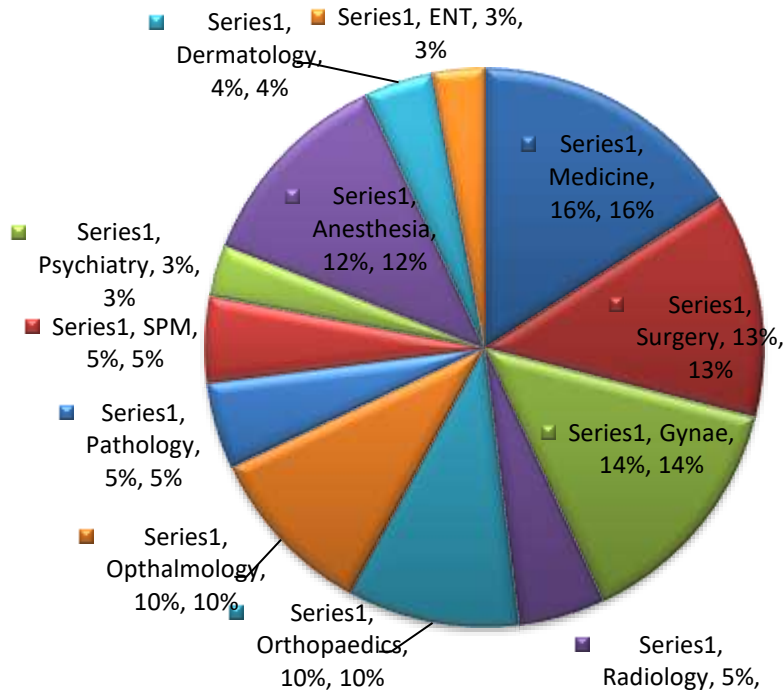


Figure 2: Specialty distribution.

It was found that the significant impact was found among female and junior residents in comparison to other residents, no other variable was found significant.

**DISCUSSION**

Not only the infection and increased workload had negatively impacted the residents working in tertiary care hospitals but also the phobia of their families getting infected because of them, reduced social interactions due to overtime working, lockdowns and quarantine cycles. All this led to a very negative impact on their mental health and wellbeing.<sup>8</sup> In our study 34% of residents had to work overtime during the pandemic.

Statistically significant number of residents were categorized as having anxiety and stress levels especially among medicine resident. Females and junior residents were highly impacted groups. This correlated to various previous studies concluding female doctors as most negatively impacted groups during COVID-19 pandemic.<sup>9</sup> Similarly significant levels of anxiety was already reported in US residents especially among females.<sup>10</sup>

Negatively affected academics of resident doctors during the COVID times despite virtual visits and webinars were not enough and may lead to a compromised patient care in near future.<sup>11</sup> Our study also examined about the academic training impact of COVID-19 by asking various questions in the form. Most of the residents were

not able to attend the ongoing web seminars due to excessive work burden and mental exhaustion.

The current study had certain limitations as this study was from a small region only and the study needed to be done on much larger area involving many more tertiary and super specialty hospitals. This study and the results were just tip of an ice-burg which needed further larger group studies to address the issue and implement possible solution.

**CONCLUSION**

Resident doctors are adversely affected during these difficult times of COVID pandemic taking into the consideration both psychologically and academically. A similar study at the larger scale especially at national level may give us more effective understanding of the working conditions of frontline warriors and necessary steps which should be taken to reduce the long-term consequences.

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**ANNEXURE**

**Questionnaire proforma (sample)**

Name: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Position: \_\_\_\_\_ Year: \_\_\_\_\_

1. Have you been in direct contact with COVID-19 patients?

Yes \_\_\_\_\_ No \_\_\_\_\_

2. Have you been diagnosed with COVID-19 anytime?

Yes \_\_\_\_\_ No \_\_\_\_\_

3. Have you been suspected to have COVID anytime since pandemic?

Yes \_\_\_\_\_ No \_\_\_\_\_

4. How many times have you undergone COVID-19 testing?

\_\_\_\_\_

5. Do you think COVID-19 has negatively affected your academics?

Yes \_\_\_\_\_ No \_\_\_\_\_

6. Have you been working overtime during this pandemic?

Yes \_\_\_\_\_ No \_\_\_\_\_

7. How much do you think covid-19 has affected your social life?

Significant \_\_\_\_\_ Not significant \_\_\_\_\_

8. How much time you have spent in isolation/quarantine (in weeks)?

\_\_\_\_\_.

9. Are you worried that your family is in danger of COVID exposure because of you?

Yes \_\_\_\_\_ No \_\_\_\_\_

10. Do you feel overburdened/isolated/socially cut-off?

Yes \_\_\_\_\_ No \_\_\_\_\_

Thank you

Signature