

# A Study of Perceived Stress, Burnout, and Job Satisfaction of Doctors and Nonmedical Staff in a Medical College of West Bengal during COVID-19 Pandemic

Arunima Chaudhuri, Suhrita Paul<sup>1</sup>, Tanushree Mondal<sup>2</sup>, Ayan Goswami<sup>3</sup>

Departments of Physiology and <sup>1</sup>Pharmacology, Burdwan Medical College, Bardhaman, <sup>2</sup>Department of Community Medicine, Medical College Kolkata, West Bengal, <sup>3</sup>Department of Physiology, Lady Hardinge Medical College, Delhi, India

## ABSTRACT

**Background:** The COVID-19 crisis has placed additional pressure on doctors and the health-care system in general, and the research shows that extra pressure brings a greater risk of psychological distress. **Aims:** To study perceived stress levels, burnout, and job satisfaction of doctors and non-medical staff in a medical college of West Bengal during COVID-19 pandemic. **Materials and Methods:** This cross-sectional, observational study was carried out on 105 doctors (Group A) and 64 non-medical staff (Group B) in Burdwan Medical College after taking institutional ethical clearance and informed consent of the subjects. An online semistructured questionnaire was developed, with a consent form attached to it. The specific instruments which were included in the survey were job satisfaction scale, perceived stress scale (PSS), and abbreviated Maslach Burnout Inventory. **Results:** PSS of Group A was  $18.68 \pm 4.248$  and of Group B was  $18.625 \pm 4.082$ ; *P* value: 0.931. There was no significant difference in the perceived stress score between the two groups, but perceived stress scores in both groups were significantly higher than average score. Average score is considered as 13. 44% in Group A had PSS 20 or above and 42% in Group B had PSS 20 or above; *P* = 0.775 and Chi-square 0.0816. Job satisfaction score in Group A was  $36.97 \pm 6.32$  and Group B was  $37.81 \pm 4.99$ ; *P* value: 0.346. In Group A, 22.12% had scores between 42 and 50 (indicates very high job satisfaction); 26.92% had scores between 39 and 41 (high job satisfaction); 36.54% had scores between 32 and 38 (average job satisfaction); 7.69% had scores between 27 and 31 (low job satisfaction); and 7.69% had scores between 10 and 26 (very low job satisfaction). In Group B, 31.25% had scores between 42 and 50 (indicates very high job satisfaction); 18.75% had scores between 39 and 41 (high job satisfaction); 37.5% had scores between 32 and 38 (average job satisfaction); and 12.5% had scores between 27 and 31 (low job satisfaction). PSS was negatively correlated with job satisfaction score in both groups with more negative correlation in Group A as compared to Group B (Group A – *r* value:  $-0.21069$ ; Group B – *r* value:  $-0.08197$ ); satisfaction with medicine scores was  $12.96 \pm 3.34$ ; depersonalization scores:  $5 \pm 2.3$ ; personal accomplishment scores:  $12.096 \pm 3.457$ ; and emotional exhaustion scores:  $6.66 \pm 3.42$ . **Conclusions:** Doctors as well as non-medical staff perceived high stress during the COVID-19 pandemic, but they were mostly satisfied with their jobs and burnout scores were not alarming.

**KEYWORDS:** Burnout, COVID-19 pandemic, job satisfaction, perceived stress

Submission: 26-07-2020,  
Decision: 16-12-2020,  
Acceptance: 29-12-2020,  
Web Publication: 19-05-2021.

## INTRODUCTION

Health-care workers play a major role during medical emergencies and push their limits every day. Doctors as the team leaders of the system take most

**Address for correspondence:** Dr. Arunima Chaudhuri,  
Department of Physiology, Burdwan Medical College, Burdwan,  
Kolkata, West Bengal, India.  
E-mail: arunimachaudhuri4u@gmail.com

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**How to cite this article:** Chaudhuri A, Paul S, Mondal T, Goswami A. A study of perceived stress, burnout, and job satisfaction of doctors and nonmedical staff in a medical college of West Bengal during COVID-19 pandemic. Med J DY Patil Vidyapeeth 2021;14:617-22.

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#### Quick Response Code:



Website:  
www.mjdrdyv.org

DOI:  
10.4103/mjdrdyvpu.mjdrdyvpu\_414\_20

of the brunt. The COVID-19 crisis has placed additional pressure on doctors and the health-care system, and the research shows that extra pressure brings about a greater risk of psychological distress.<sup>[1]</sup> Doctors have a high prevalence of mental health morbidities, but the topic has not been well researched till date. Doctors often experience high levels of work stress even under normal circumstances. However, most of the times, even doctors are reluctant to disclose mental health difficulties or seek help, and stigma has often been the cited reason.<sup>[1-3]</sup>

Perceived stress has been reported higher among health professionals.<sup>[4]</sup> A national survey conducted among physicians in Canada showed that doctors experienced high levels of occupational stress.<sup>[5]</sup> A study in a teaching hospital in Pakistan showed that 68% of the doctors were overloaded with their jobs and stressed.<sup>[6]</sup> Female doctors have been found to have significantly lower satisfaction with their workload in previous studies as they have to manage both household responsibilities and patient load.<sup>[4]</sup> The American Foundation for Suicide Prevention reported that death by suicide is about 70% more likely among male doctors as compared to other professionals and 250–400% higher among female doctors.<sup>[7]</sup>

High occupational stress along with burnout among physicians can lead to sleep problems, anxiety, depression, and even suicide.<sup>[2-7]</sup> An article published in the Indian Journal of Psychiatry concluded that 30% of Indian doctors go through depression, 17% experienced thought about ending their lives, and 80% of doctors face risk of burnout.<sup>[3]</sup>

Stress is a complex body response with emotional, cognitive, and biological factors. The stress responses differ according to the type of stress and the individual's physiological responses. These responses consist of neuroendocrine and behavioral responses, as well as the changes in the activity of the hypothalamo–pituitary–adrenal axis and immune function.<sup>[1-4]</sup>

The recent pandemic of COVID-19 has brought extreme challenges to health-care professionals. Hence, they are exposed to higher stress levels and anxiety, and this may affect their work output and the health-care delivery to the nation as a whole. Galbraith *et al.* advocated strongly on adding “health-care staff mental health support process” as an ongoing agenda item to high-level management planning meetings.<sup>[1]</sup>

COVID-19 has imposed an unprecedented threat to doctors' physical and mental health. A study was conducted by Chatterjee *et al.*<sup>[2]</sup> to explore the knowledge, attitude, and behavior of doctors regarding this pandemic and how it influences their depression, anxiety, and

stress level. Out of 152 study participants, 34.9% were depressed and 39.5% and 32.9% were having anxiety and stress, respectively. Significant predictors for psychiatric morbidities in the study were experience in health sector; duty hours; and use of protective measures.<sup>[2]</sup>

According to the report released by the Indian Medical Association in July 2020, 93 doctors have expired in India during the pandemic when treating patients and 1279 have been infected. The actual risk for these behavioral health problems in physicians has been seldom being explored in Eastern India.<sup>[2]</sup> The present study was conducted in Burdwan Medical college among doctors and non-medical staff to assess and compare their perceived stress levels and job satisfaction during the present crisis of COVID-19 pandemic. Burnout among doctors was also assessed as it may adversely affect patient care.

## MATERIALS AND METHODS

This cross-sectional, observational pilot study was carried out on doctors (Group A) and non-medical staff (Group B) of Burdwan Medical College after taking institutional ethical clearance (Memo No: BMC/I. E. C/125: Dated 12/3/2020) and informed consent of the subjects. 105 doctors and 64 non-medical staffs participated in this pilot study conducted in a time span of 2 months between April and May 2020.

### Inclusion criteria

Doctors and non-medical staffs of Burdwan Medical College and Hospital willing to participate in the study were included.

### Exclusion criteria

Subjects with qualification lower than graduation or who were not permanent employees were excluded.

Burdwan Medical College in West Bengal caters a huge load of patients from Burdwan district as well as adjacent five districts, so doctors of many clinical specialties are already overburdened. Due to the high infectivity of the present viral disease, treatment has posed an extra challenge to doctors in such a busy government hospital. The doctors who are taking care of patients are also medical educators. This COVID-19 pandemic has also forced them to continue medical education online. This is something very new to most of medical teachers. Sudden conversion of medical education to online mode with inadequate infrastructure and previous planning is adding a lot of stress on medical educators.

In the present study, an online semistructured questionnaire was developed, with a consent form attached to it. Google Form was used for conducting this survey. The link of the questionnaire was sent

through E-mails and WhatsApp. On receiving and clicking the link, the participants got autoredirected to the information about the study and informed consent. Once they accepted to take the survey, they filled up their demographic details followed by a set of several questions which appeared sequentially, and the participants had to answer all questions. The sampling method used was convenient sampling technique. There was no randomization done. In the present situation, randomization is not possible and all doctors and staffs are not technology-friendly. The survey was conducted online and convenient sampling technique was used.

There were no direct identifiers in any question in the study, so subjects felt free to express their opinion. We had posted the forms in different groups of Burdwan Medical College to prevent any selection and response bias. These were the measures taken to avoid selection and response bias in the present study. We had used only English version of the questions; no Bengali version was provided. All our subjects were permanent employees of the Department of Health and Family Welfare, the Government of West Bengal, and their place of work was Burdwan Medical College. Subjects with minimum qualification of graduation were only included in the study.

The invitation letter for participation stated that the participation was voluntary and completion of survey reflected their consent to participate. In addition, the letter explained the purpose of the survey. The survey was sent during the weekends for 4 consecutive weekends. In case someone did not respond at the first instance, weekly reminders were sent for the next 3 weeks. Confidentiality of the information was maintained and no personal information of participants was disclosed to anyone. The specific instruments which were included in the survey were job satisfaction scale,<sup>[8]</sup> perceived stress scale (PSS),<sup>[9]</sup> and abbreviated Maslach Burnout Inventory<sup>[10-12]</sup> (used only for doctors).

## Measures

### *Job satisfaction scale*

This validated scale<sup>[8]</sup> consists of 10-item questionnaire. Scores ranging between 42 and 50 indicates very high job satisfaction; 39–41: high job satisfaction; 32–38: average job satisfaction; 27–31: low job satisfaction; and 10–26: very low job satisfaction. Characteristics of higher scores included less sleeping problem, happy in personal life, don't feel worn out at the end of the day, and rarely worry. Job satisfaction reflects how happy a person is with his or her job.

### *The perceived stress scale of Sheldon Cohen*

The most widely used psychological instrument<sup>[9]</sup> for measuring the perception of stress was used to measure

perceived stress scores of the subjects. Items are designed to find how unpredictable, uncontrollable, and overloaded respondents find their lives. The questions in the PSS are asked about feelings and thoughts during the last month. It comprises 10 items; four of which are reverse scored and all are measured on a 5-point scale from 0 to 4. PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0) to the four positively stated items (items 4, 5, 7, and 8) and then summing all scale items. The total score ranges between 0 and 40.

Scores around 13 are considered average. High stress groups: Stress score of around 20 points.

### *Abbreviated Maslach Burnout Inventory*

It is a well-validated 12-item questionnaire<sup>[10-12]</sup> for measuring burnout. Burnout is defined as “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity,” and it is considered as an outcome of long-term exposure to occupational stress.<sup>[3]</sup> High scores indicate greater emotional exhaustion (and hence more burnout) (3 items included). High scores indicate greater depersonalization (and hence more burnout) (3 items included). High scores indicate greater personal accomplishment (and hence less burnout) (3 items included). Satisfaction with medicine high scores indicate greater personal accomplishment (and hence less burnout) (3 items included). There can be seven responses for each item with scores of each item between 0 and 6.

This scale is mainly for medical professionals who deal with patients. We had included non-medical staffs of the college as control group. Hence, we could only apply this scale to Group A. We had wanted to study out burnout among the doctors working during the present crisis.

## Statistical analysis

For analysis of data, “Statistical Package for the Social Sciences” (SPSS) version 16 (SPSS Inc., Released 2007, SPSS for Windows, Version 16.0. Chicago, IL, USA, SPSS Inc.) was used. The difference between the groups was considered significant and highly significant if the analyzed probability values ( $P$  value) were  $P < 0.05^*$  and  $P < 0.01^{**}$ , respectively.

## RESULTS

This pilot study was carried in a time span of 2 months in Burdwan Medical College. 105 doctors (Group A) and 64 non-medical staffs (Group B) participated in the study. Age of the subjects was between 30 and 60 years

and both the groups were age matched. In Group A, 25% of subjects were female and in Group B 30% of participants were female. Both the groups were gender matched ( $P$  value: 0.428; Chi-square 0.627). PSS of Group A was  $18.68 \pm 4.248$  and of Group B was  $18.625 \pm 4.082$ ;  $P$  value: 0.931. There was no significant difference in the perceived stress score between the two groups, but perceived stress scores in both groups were significantly higher than average score, which is considered as 13 [Table 1 and Figure 1]. 44% in Group A had PSS 20 or above and 42% in Group B had PSS 20 or above;  $P = 0.775$  and Chi-square = 0.0816.

Job satisfaction score in Group A was  $36.97 \pm 6.32$  and in Group B was  $37.81 \pm 4.99$ ;  $P$  value: 0.346. There was no significant difference in the job satisfaction score between the two groups [Table 1 and Figure 1]. In Group A, 22.12% had scores between 42 and 50 (indicates very high job satisfaction); 26.92% had scores between 39 and 41 (high job satisfaction); 36.54% had scores between 32 and 38 (average job satisfaction); 7.69% had scores between 27 and 31 (low job satisfaction); and 7.69% had scores between 10 and 26 (very low job satisfaction). In Group B, 31.25% had scores between 42 and 50 (indicates very high job satisfaction); 18.75% had scores between 39 and 41 (high job satisfaction); 37.5% had scores between 32 and 38 (average job satisfaction); 12.5% had scores between 27 and 31 (low job satisfaction); and no one in Group B had scores between 10 and 26 (very low job satisfaction) [Table 2 and Figure 2]. PSS was negatively correlated with job satisfaction score in both groups with more negative correlation in Group A as compared to Group B (Group A -  $r$  value:  $-0.21069$ ; Group B -  $r$  value:  $-0.08197$ ) [Figures 3 and 4]. Satisfaction with medicine scores was  $12.96 \pm 3.34$ . Higher scores indicate higher satisfaction (hence less burnout). Depersonalization scores:  $5 \pm 2.3$ . Lower scores indicate lower depersonalization (hence less burnout). Personal accomplishment scores:  $12.096 \pm 3.457$ ; high scores indicate greater personal accomplishment (hence less

burnout). Emotional exhaustion scores:  $6.66 \pm 3.42$ . Lower scores indicate lesser emotional exhaustion (hence less burnout). Emotional exhaustion scores were positively correlated with PSS;  $r$  value = 0.229; depersonalization scores were positively correlated with PSS;  $r$  value = 0.066; personal accomplishment scores were negatively correlated with PSS;  $r$  value =  $-0.142$ . For PSS with Mann-Whitney U-test: U value was 3245; Z score 0.20414;  $P$  value: 0.84148. Job satisfaction: U value was 3071; Z score =  $-0.83778$ ;  $P$  value: 0.409.

## DISCUSSION

Health-care executives and managers need to be made aware of the potential for the COVID-19 outbreak to elevate the risk of psychological distress and suicidal tendencies among doctors. Review of literature shows that health-care professionals place high value on provision of training and equipment during pandemics.<sup>[1,2]</sup> Effective leadership and managerial support for clinicians and their families are also highly protective against negative psychological outcomes as has been found in previous studies.<sup>[1,13,14]</sup> In the present study conducted in Burdwan Medical College and Hospital, we observed higher perceived stress levels

**Table 1: Comparison of perceived stress scale and job satisfaction score of both the groups**

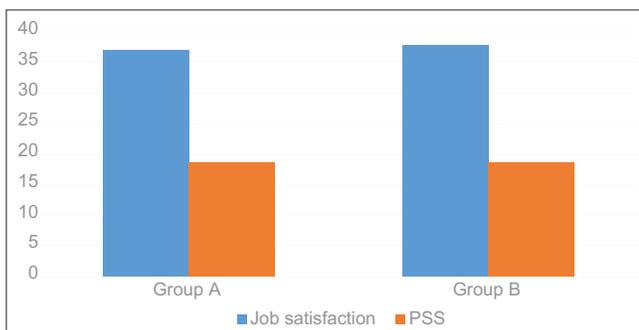
Parameter	Mean $\pm$ SD		P
	Group A (n=105)	Group B (n=64)	
PSS	18.68 $\pm$ 4.248	18.625 $\pm$ 4.082	0.931
Job satisfaction score	36.97 $\pm$ 6.32	37.81 $\pm$ 4.99	0.346

SD: Standard deviation, PSS: Perceived stress scale

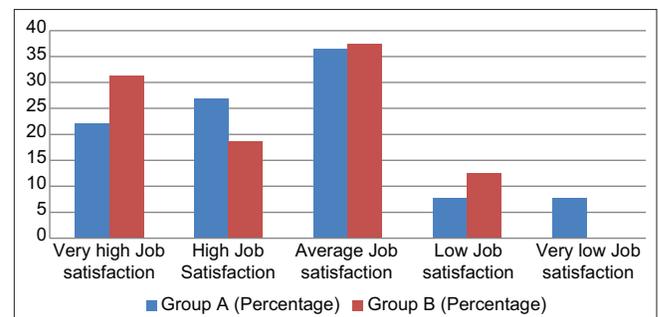
**Table 2: Job satisfaction of both groups**

Job satisfaction score	Group A (%)	Group B (%)
Very high job satisfaction	22.12	31.25
High job satisfaction	26.92	18.75
Average job satisfaction	36.54	37.5
Low job satisfaction	7.69	12.5
Very low job satisfaction	7.69	0

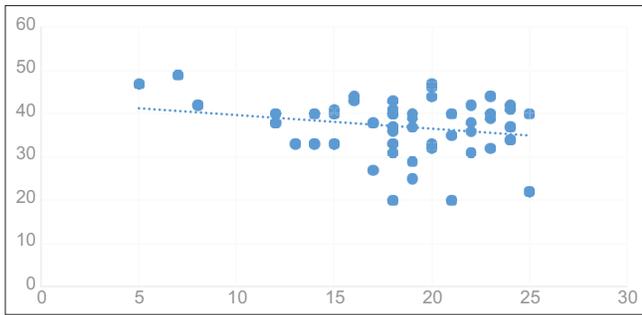
$\chi^2$ : 7.9,  $P$ : 0.09



**Figure 1: Comparison of perceived stress scale and Job satisfaction score of both the groups**



**Figure 2: Job satisfaction of both groups**



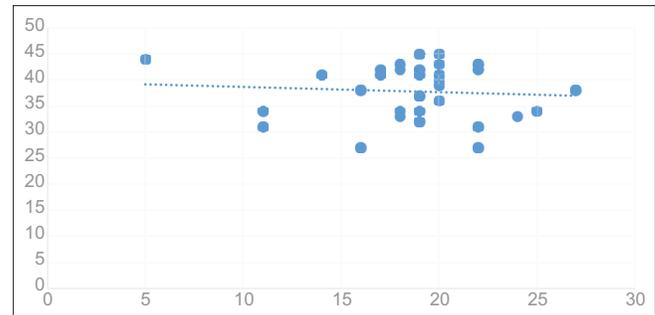
**Figure 3:** Perceived stress scale and job satisfaction scores were negatively correlated in Group A

among doctors, but they were having job satisfaction and suffered from less burnout. The support system provided by the institution, working atmosphere, and family support could have been the cause of this positive impact on their mental health.

In previous studies, it has been observed that whenever situations like these arise, health-care workers come to play a major role and push their limits every day.<sup>[2]</sup> Doctors, being in the frontline of the system, take the brunt the most. Doctors have a high prevalence of mental health morbidities.<sup>[15]</sup> Moreover, it affects their work output which, in the pipeline, affects the health-care delivery to the whole nation.<sup>[16,17]</sup>

Before conducting the study, we had thought that there would be significant differences in job satisfaction and PSS between the two groups. We had conducted studies previously on health-care professionals and found that they perceived more stress as compared to non-medical counterparts. Many previous studies also support this view.<sup>[15-17]</sup> However, our results showed that there was no difference between the two groups though we know their working pattern and duty hours are different. The present pandemic may be the cause of this. The non-medical staff are not able to go back home under prevailing lockdown and they are also coming in contact with COVID-19-positive patients during the present pandemic. They have to stay back in their work places and are isolated from friends and families. All these factors are increasing their stress levels. The doctors are already used to dealing with crisis and we had only included doctors who were permanent government employees and working in teaching institution. COVID-19-positive patients are not admitted in this Medical College and fever clinic duty is mainly done by residents. We had not included the junior doctors in the present study.

In the study conducted by Chatterjee *et al.*<sup>[2]</sup> during this pandemic, 50 (32.9%) doctors were stressed, and the mean stress subscale score was found to be  $11.92 \pm 9.66$ .



**Figure 4:** Perceived stress scale and job satisfaction scores were negatively correlated in Group B

In the present study, PSS was  $18.68 \pm 4.25$  among the doctor population. We had used perceived stress scores of Sheldon Cohen, whereas the previous study had used DASS-21. We had also used a control group and no significant difference in PSS was observed between the two groups. We had included only permanent government employees of the Medical College in the present study.

The recent pandemic of COVID-19 has thrown serious challenges to health-care professionals. This situation exposed them to higher stress level, anxiety, and apprehension.<sup>[1,2]</sup> An estimated 300 physicians die by suicide per year, and rates may be rising in the crisis of the present pandemic.<sup>[1]</sup> In the newspapers, we are observing multiple incidences of suicides among doctors during the present crisis. Individuals and institutions need to be aware that physician wellness is a priority and bring about tangible changes.

## CONCLUSIONS

Doctors as well as non-medical staffs perceived high stress during the COVID-19 pandemic, but they were mostly satisfied with their jobs and burnout scores were not alarming.

## Limitations

This was an observational cross-sectional pilot study conducted during COVID-19 pandemic and convenient sampling method was used for collection of data and the whole data were collected online, so doctors and other staffs who are not very technology-friendly failed to participate in the study, which adds a limitation to the present study.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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