



## Burnout Professional Fulfilment and Sleep Quality in Indian Healthcare Workers in Times of the Covid-19 Pandemic

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### Abstract

**Aim and Background:** With more than 210 nations affected, the SARS-COV-2 became the most widespread worldwide pandemic. As of 14 April 2022, over 500 million cases were confirmed globally. Given these numbers, it was hardly surprising that the Covid-19 epidemic significantly strained healthcare systems worldwide. This study aimed to evaluate the degree of Burnout, Professional fulfilment, and Sleep quality across various groups of healthcare professionals working during the Covid-19 pandemic and looked for any correlation between these three variables.

**Methods:** This study employed a cross-sectional observational research design and gathered data from respondents across various regions of India through an anonymous online or paper-based questionnaire tailored to the preferences of each participating Healthcare Worker (HCW). The assessment of professional fulfilment was conducted by employing the Stanford Professional Fulfilment Index and the sleep quality of healthcare workers was determined via the use of the Pittsburgh Sleep Quality Index. The variables were analyzed using statistical tools; Chi-square test, Fisher's Exact test, Kruskal-Wallis One Way Analysis of Variance and Spearman's rank correlation.

**Results:** Burnout was notably higher among the HCWs with poorer Sleep quality and lower in HCWs with higher Professional Fulfilment. Correlations further revealed that Burnout scores positively correlated with Work exhaustion and Interpersonal Disengagement.

**Conclusion:** This illustrates that HCWs with poorer sleep quality and lesser professional fulfilment experienced greater burnout at work during the COVID-19 pandemic.

**Clinical significance:** These insights guide healthcare providers and policy markers to optimize the well being of Healthcare Workers and foster informed preparedness in case of future pandemics.

**Keywords:** COVID-19, PSQI, HCW, SPFI, Burnout, Professional Fulfilment, Sleep Quality.

## Introduction

With more than 210 nations affected [1], SARS-COV-2 became the most widespread pandemic witnessed by the world. The World Health Organization (WHO) has confirmed 776 million cases of COVID-19, resulting in 7.1 million fatalities worldwide as of September 2024. [1] India had 3,691,166 positive cases and 65,288 fatalities by September 1st, 2020, itself [2] Given these numbers, it was hardly surprising that the Covid-19 pandemic significantly strained healthcare systems worldwide.

While the primary focus remained on avoiding infection, reducing transmission, and creating therapies to save lives, there was a lack of attention to the essential concerns of burnout and sleep quality among healthcare personnel [2]

Although Physician Burnout has been extensively studied before [3] [4] and during [5] [6] the pandemic and a few studies examined depression, anxiety, hopelessness, and stress among healthcare workers [7] [8] [9] during the pandemic, this study further investigates the relationship between burnout, professional fulfillment, and sleep quality among healthcare workers during the pandemic. Furthermore, this research was the first to analyze these factors in Hospital Labor Staff and Covid-19 volunteer medical students (to the best of the authors knowledge)

The study offers valuable insights into the degrees of burnout, professional fulfillment, and sleep quality across various groups of healthcare professionals working during the Covid-19 pandemic and its questionnaire also provides thoughtful insights to key HCW behavior during the pandemic.

By doing this, the study hoped to provide invaluable information that could aid the development of new strategies, encouraging the adoption of methods to promote enhanced mental well-being among frontline healthcare

personnel working during future instances of worldwide healthcare emergencies.

## Methodology

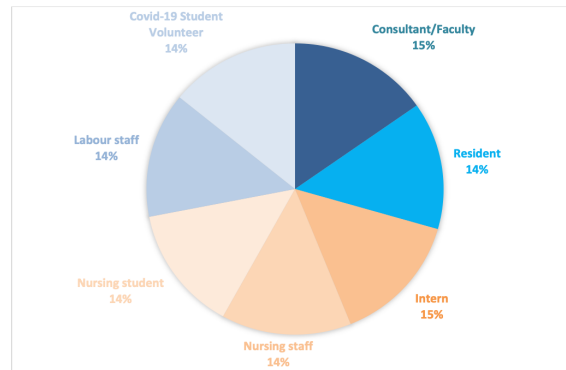
This study employed a cross-sectional observational research design and gathered data from respondents across various regions of India through an anonymous online or paper-based questionnaire tailored to the preferences of each participating Healthcare Worker (HCW). The complete questionnaire examined the Sociodemographic Profile and Impact related to Covid-19 (Topics covered included weekly work hours, frequency of monthly leave, experiences of encountering societal stigma as frontline responders during the pandemic, instances of personal or close-contact Covid-19 diagnoses, and other pertinent factors). The questionnaire also comprised of the 16-item The Stanford Professional Fulfillment Index with a minimum average item score of 3.0. and the 13-itemed short Pittsburgh Sleep Quality Index on which score exceeding 4 indicated poor sleep quality.

Institutional ethical committee approval was obtained with reference number ECARP/2020/120, prior to the study.

The target population of all adult (aged 18 years and above) HCWs falling under the seven mentioned categories (Consultants/Faculty, Residents, Interns, Nursing Staff, Nursing Students, Labor Staff and Covid-19 student volunteers) who have served Covid-19 positive and high risk patients during the pandemic since the beginning of lockdown i.e. 24th March 2020 were contacted by the investigators on social media or approached in person at workplace with a paper based questionnaire. Participants who voluntarily gave permission were recruited for the research and asked to fill the questionnaire. Interested participant HCWs were also cordially invited to share the survey questionnaire form link

with their network. There were 360 HCWs participated in the study. Figure 1 depicts the breakdown of number of participants from each category of HCWs. 95.3% (343) of those surveyed claimed they had been actively participated in Covid-19 tasks, compared to

4.7% (17 who said they hadn't). The preceding inputs underwent a thorough assessment and were documented in the case record forms which were then translated to MS-Excel format.



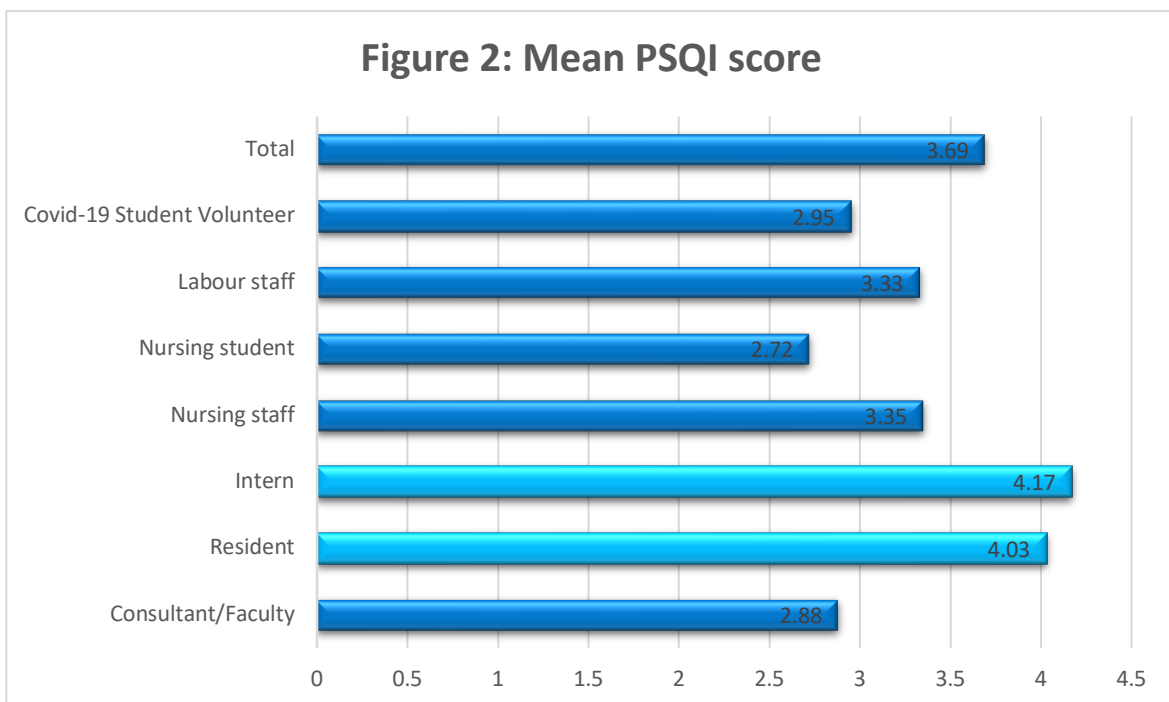
**Figure 1: Distribution of HCW Participants**

**Results**

The study investigated the Sleep Quality of adult Health care workers falling under the seven mentioned categories who have served Covid-19 positive and high-risk patients during the pandemic using the Pittsburgh Sleep Quality Index. PSQI assessed the sleep, sleep duration, habitual sleep efficiency, sleep disturbances and related daytime dysfunction

in the HCWs. Lower scores denote a healthier sleep quality. A cut-off scores above 4 was indicative of poor sleep quality.

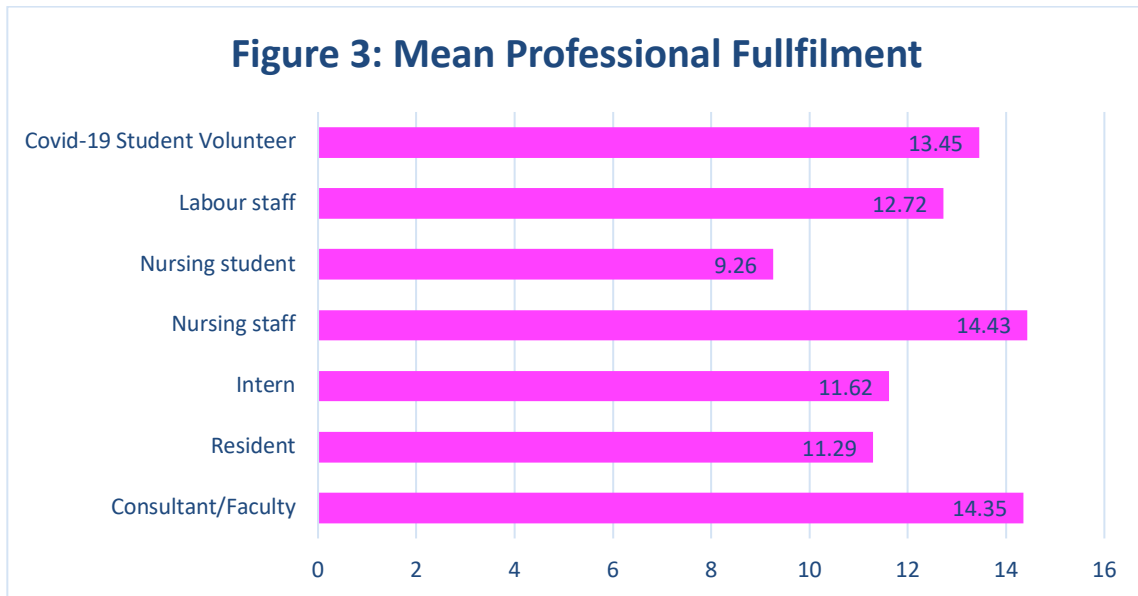
Sleep Quality was notably poor for Interns (mean± SD 4.17±2.4) and Residents (mean± SD 4.03±2.04) Fig 2 demonstrates the mean PSQI for subjects belonging to each category of HCWs



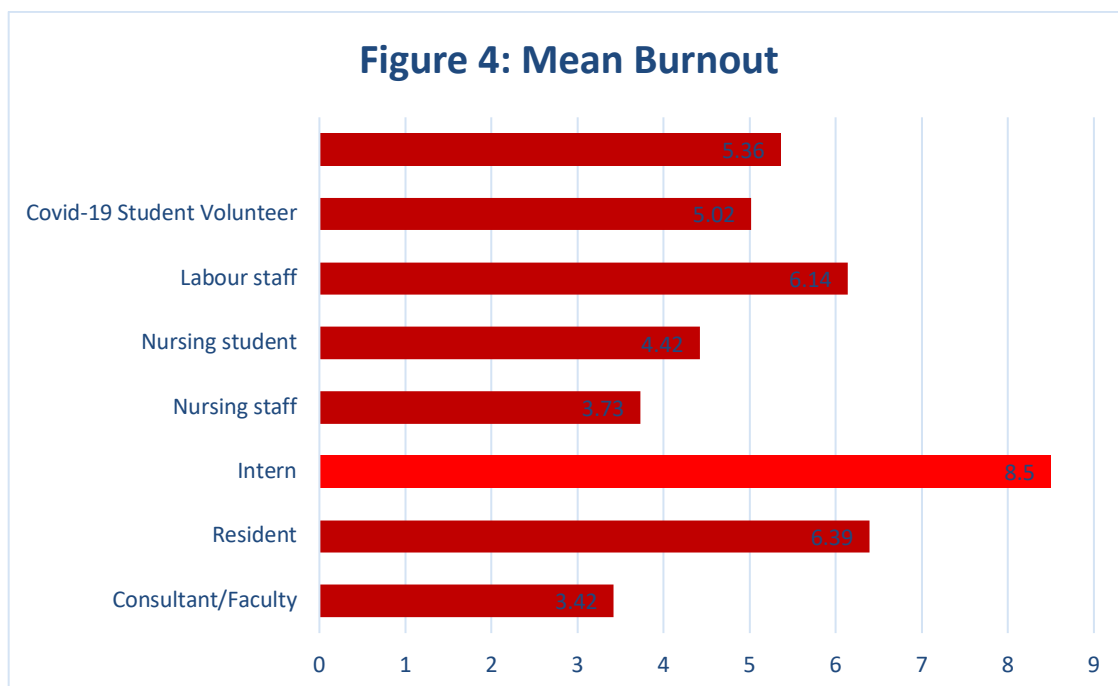
The study also assessed the Professional Fulfilment (items 1-6) and Burnout including work exhaustion (items 7-8) and interpersonal disengagement (items 11-16) via SPFI.

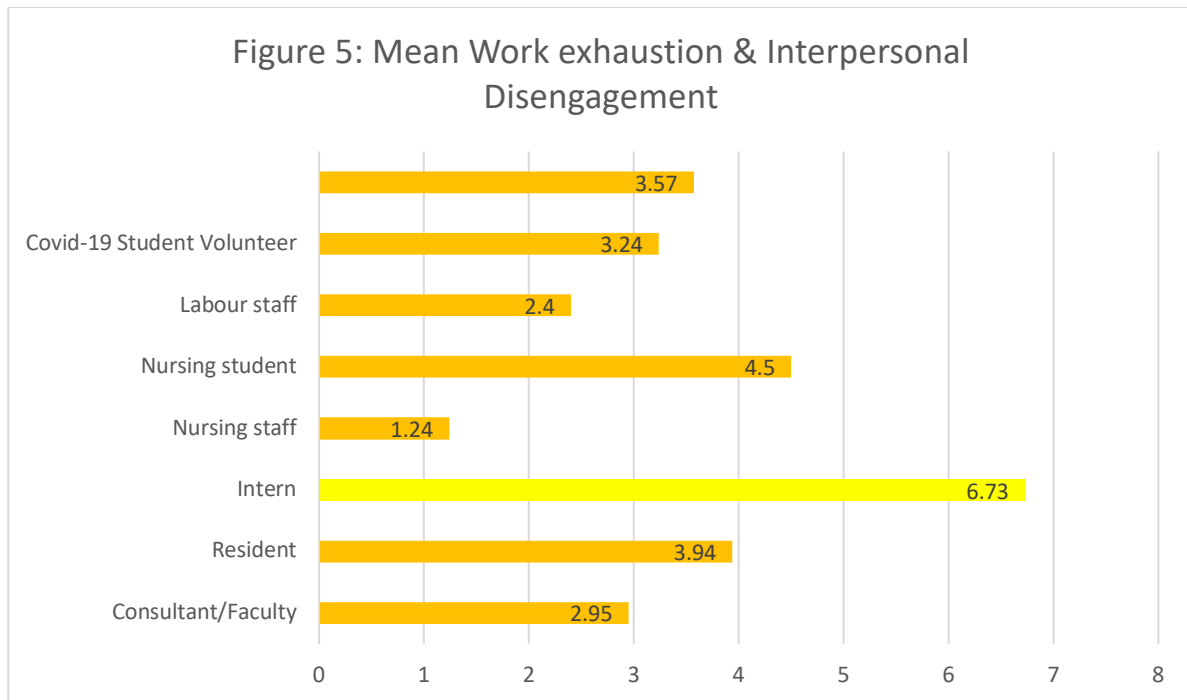
A Higher score on the professional fulfilment scale is more favorable. Dichotomous

professional fulfilment is recommended at an average item score cut point of >3.0. The mean for all categories of HCWs was above this cut point



In contrast, higher scores on the work exhaustion or interpersonal disengagement scales are less favorable. Figure 4 indicates highest rates of Mean Burnout, Work exhaustion and Interpersonal disengagement among Intern doctors





Further Burnout was notably higher among the HCWs with poorer Sleep quality and lower in HCWs with higher Professional Fulfilment. Correlations further revealed that Burnout scores positively correlated with Work exhaustion and Interpersonal Disengagement. The same is elaborated in Figure 6. This illustrates that HCWs with poorer sleep quality and lesser professional fulfilment experienced greater Burnout at work during the COVID-19 pandemic

	Short PSQI Score	Professional Fulfilment	Burnout	Work exhaustion & Interpersonal Disengagement
Short PSQI Score	1	0.09	.411(**)	.441(**)
Professional Fulfilment	0.09	1	-.150(**)	0.011
Burnout	.411(**)	-.150(**)	1	.605(**)
Work exhaustion & Interpersonal Disengagement	.441(**)	0.011	.605(**)	1

\*\* Correlation is significant at the 0.01 level.

**Figure 6: Spearman rho Correlation of Burnout**

## Discussion

The study findings highlight the significant positive correlation between Physician Burnout and poorer Sleep quality and significant negative correlation between Physician Burnout and Professional Fulfilment. Correlations further revealed that Burnout scores positively correlated with Work exhaustion and Interpersonal Disengagement. The study used the PSQI and SPFI to exhibit this correlation.

Thus results further sheds light on the relation between sleep quality and physician burnout which should be studied further even in the absence of pandemic like conditions.

These insights have far-reaching implications for healthcare providers and can aid formulation of interventions to optimize the well-being of Health Care Workers in the case of future worldwide medical emergencies.

Certain limitations of the study must be acknowledged to aid future studies on the

matter. While participants belonged to various groups of health care workers most (>90%) of the participants were from various departments of one institutional hospital located in Mumbai City. Also, the study only discovered the correlation between three parameters however causation cannot be clearly determined by the data obtained. Further studies must be encouraged to find answers to these limitations. Also identifying other parameters of physician well being can provide more dimensions to the perspective obtained in this study.

### Ethical considerations

Informed consent and institutional ethical committee clearance was taken. Confidentiality and privacy of the patient is maintained throughout the study.

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