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WORK STRESS AMONG HEALTH CARE PROVIDERS (HCPS) WORKING ACROSS INDIA DURING COVID – 19

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Abstract

Stress is a body's natural reaction to a challenge or demand. It can be positive, such as when it helps to avoid danger or meet a deadline. But it become negative if lasts for a long time, deteriorates individual's physical as well as psychosocial aspects of life. Work-related stress is a potential cause of concern among health care providers universally. COVID-19 has placed health care providers in quite stressful circumstances. Several studies have revealed the significant increase of the work related stress among the health care providers and its negative impact on their health. The current study concluded that health care providers suffer from mild to moderate degree of work stress thus become sensitive to criticism (67%), exhausted, irritable or frustrated (18.6%), feeling sad or depressed (18.6%), easily getting tired or fatigued (17%), find difficulty in not to think about job when off work (16%). Persistent work overload, discrimination since giving care to COVID patient, and loneliness due to quarantine, witnessing frequent loss of life, disruption of work-life balance, pushed beyond training, inadequate supply of PPE, are some of the underline reason of work related stress among the health care providers. Therefore, strategies should be developed for the health care providers so that they can better cope with such work stress.

Keywords*: Work stress, Health Care Providers, COVID – 19.*

INTRODUCTION

Stress is the body's response to pressures from a situation or life event. Factors contributing to stress may vary hugely from person to person according to the social and economic circumstances. Some common things that make someone feel stress may include something new or unexpected that threatens self-control. [1]

Sometimes, this stress response may be appropriate, and even beneficial. Individuals able to deal with a certain level of stress without any lasting effects. However, there may be some times stress becomes difficult to deal with. If it persists over time can result in wear and tear on the body and make the individual overwhelmed or unable to cope. It may impact on both physical and mental health.[2]

Stress among health care providers has been extensively studied and documented over the past couple of years and evidence suggests that health care providers susceptible for experiencing various level of stress[3-25]

The rise of stress prevalence among healthcare providers in recent years have been well noticed since COVID-19 has an explosive and unstable situation in health care settings. Health care providers are the primary sector in direct contact with patients and unavoidable source of exposure to infected cases in health care settings. Large numbers of health care providers having to self-isolate or withdraw from the front line due to illness or exhaustion and this is

further exacerbating the already shortage of workforce. The unpredictable nature of the new COVID-19 pandemic has a significant impact on the psychological well-being of the staffs.[3]
The current study was a cross-sectional study on the healthcare providers working across India aimed to explore the prevalence of various level of stress among HCPs and its association with demographic characteristics and various allied factors.

METHODOLOGY

A cross sectional study with qualitative approach was conducted among health care providers working across India from 1st of February–30th of March 2021.
The dependent variable was workplace stress and independent variables were socio-demographic characteristics and allied factors.
Health care providers, specially the doctors and nurses the target population. A total of 188 health care providers participated in the study.
A structured survey questionnaire (pre validated) was constructed in Google forms and made accessible through link for self-administration. The survey was open for two months. Convenient snowball sampling (nonprobability sampling) technique was used to send the survey to relevant participants (doctors and nurses) and the link was sent via instant messaging and social media and the connections were requested to share as much as they can within their connections and to request the same to their connections.
The questionnaire has three parts socio-demographic characteristics, allied factors and stress indicators.
The socio-demographic characteristics comprise of 8 items such as, marital status, gender, profession, experience, education, type of family, zone, working in Covid unit.
Allied factors comprise of 12 items such as, overloaded with work all the time, witness frequent loss of life, disruption of work-life balance, discrimination, inadequate supply of PPE, psychological support, specific COVID-19 training, pushed beyond training, perceive personal danger due to the high mortality rate associated with COVID-19, work impacting household activities, lonely and isolated and fear of transmission of infection to family.
The stress indicators comprise of 21 items such as, body aches or, headache; upset stomach or, indigestion, decreased or increased appetite; difficulty in sleep; tensed or nervous; difficult to start or engage in important task; exhausted, irritable or frustrated; tingling or pinning sensation on your limbs or body; difficult to make routine decisions; check things over and over; sad or depressed; preoccupied with negative or emotionally painful thoughts; thoughts that life is worthless; deterioration in concentration or, performance; see or hear things that are not present; feel faint or dizzy; bad dreams or nightmares; sensitive to criticism; sleeping too much; find it difficult not to think about job when off work; memory loss and easily getting tired or fatigued. Each answer is scored on a Likert scale from 1 to 3 in a way that, score 0= never, 1= sometimes, and 2= often. The final score was obtained by summing the scores of all questions. The higher score represents a greater level of stress. The total score between 0-14 represents a mild or no stress, 15-28 represents moderate stress, and 29-42 represents severe stress. The scale showed very good internal consistency and high positive correlation with test - retests value 0.94 in the present study.

An informed consent scripted briefly explaining the objective of the study was provided at the beginning of the questionnaire. HCPs who responded to the survey were assumed to have agreed to participate. To maintain confidentiality, personal details, and potential identifiers of

HCPs are not collected.

To understand correct respondents and to ensure data quality, the link was shared with the HCPs fulfilling the inclusion criteria (the doctors and nurses connected with the researcher and the snowball had started from there.

The collected data were analysed using the SPSS version 26. Descriptive analysis used to determine the frequencies, and percentages while chi-square tests used to determine the association between level of stress and demographic characteristics and allied factors. The statistical significance level was set at $p < 0.05$.

RESULT

A total of 188 health care providers participated in the study from across India (16 states). More than 50% subjects participated from east zone.

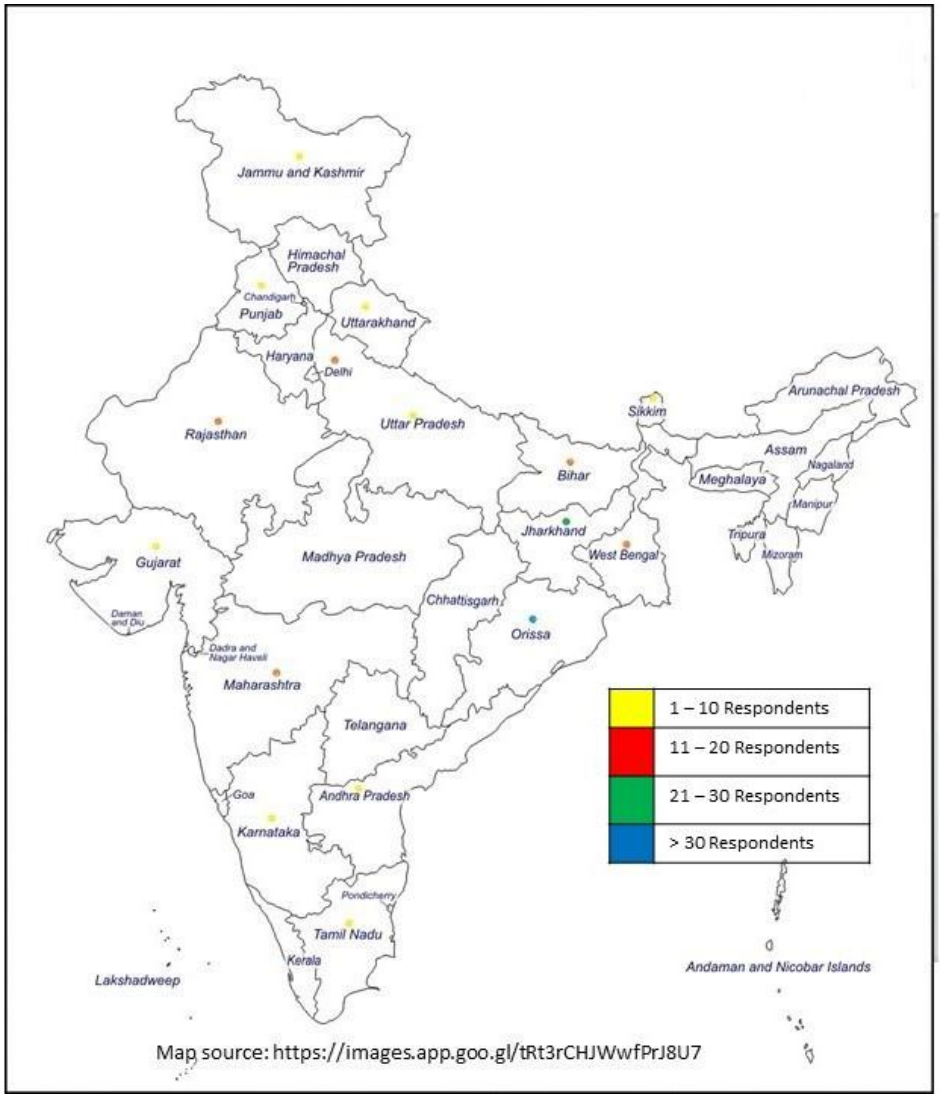
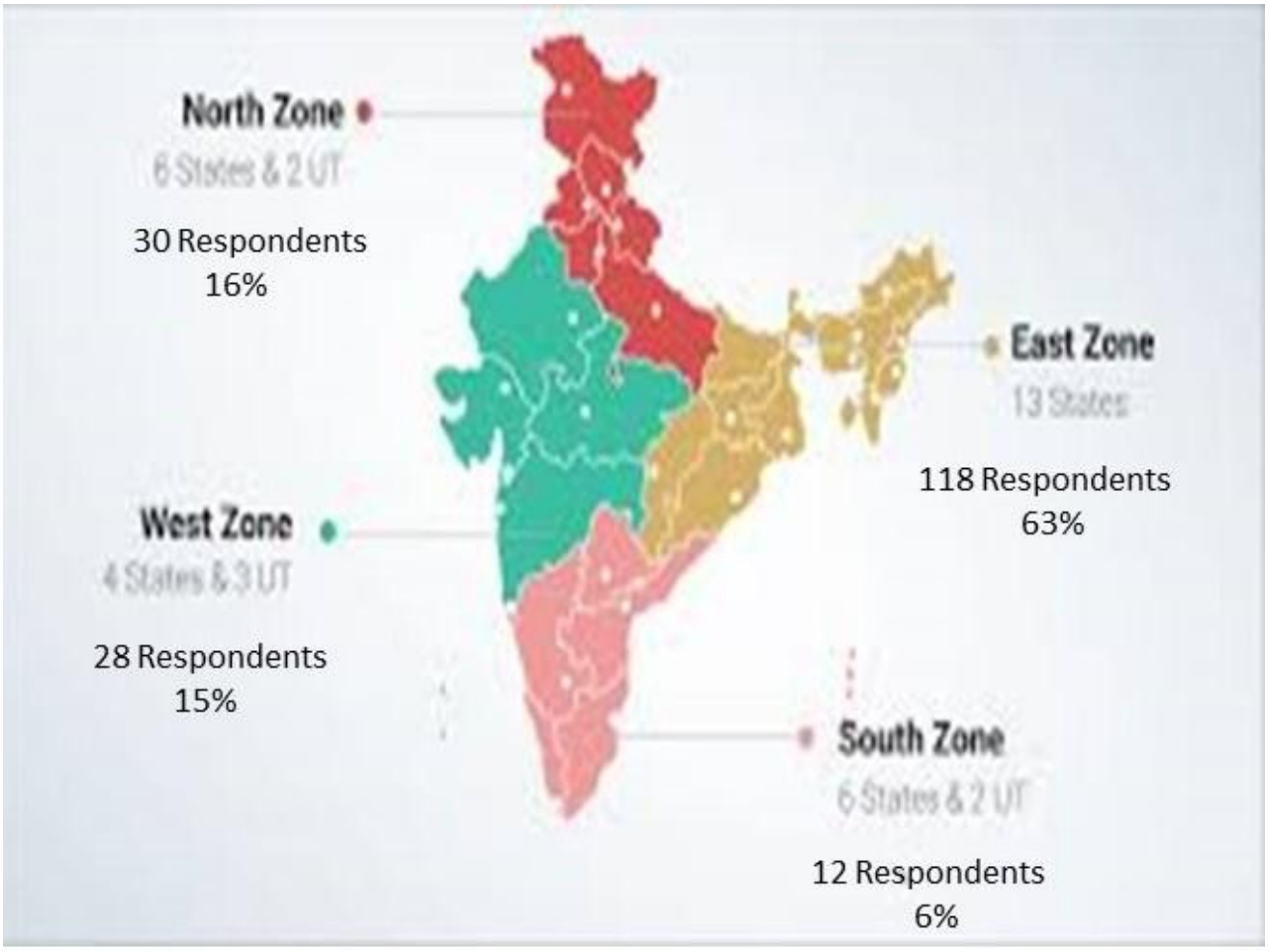


Figure - 1 Map of India showing geographical distribution of respondents. n = 188



Map source: https://images.app.goo.gl/hiU58283BE4NDNfe7

Figure – 2. Map of India showing zone wise distribution of respondents. More than 50% respondents were from east zone. n = 188

Table- 1. Prevalence of various level of stress among HCPs n = 188

Level of stress	Stress criteria Score	Frequency n	Percentage %
Severely stress	29 - 42	06	3
Moderate stress	15 - 28	81	46
Mild stress	0 - 14	91	51

Table showing 3% of HCPs were severely stressed, 46% moderately, 51% mildly stressed.

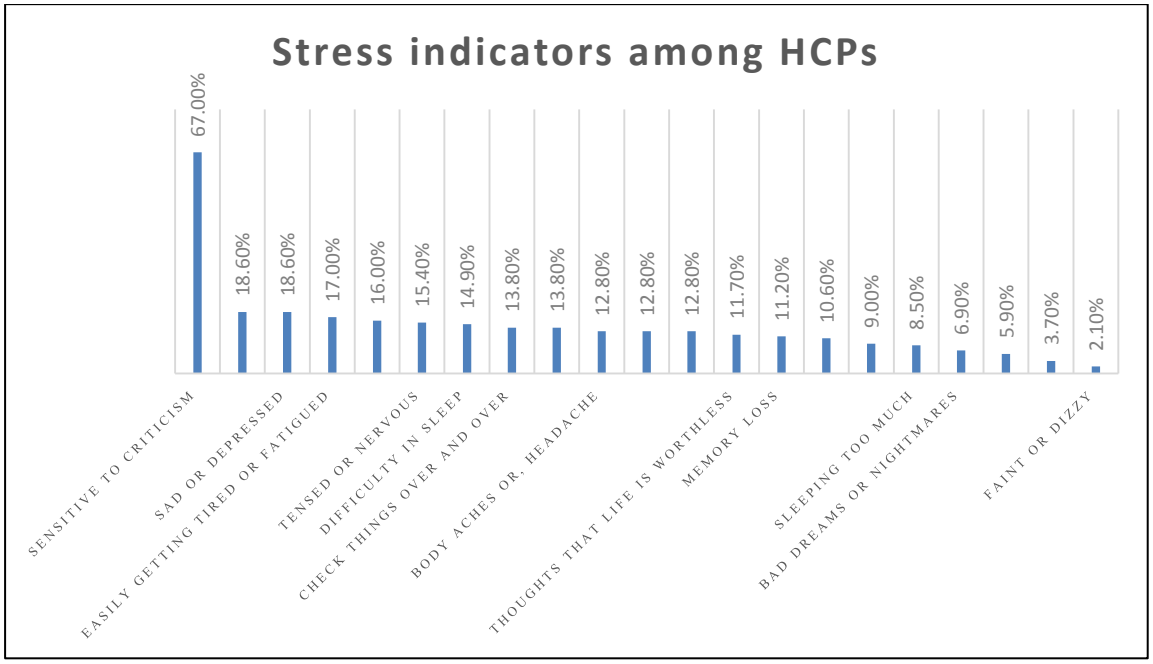


Figure – 3. Bar diagram showing stress indicators among HCPs. n = 188

Figure showing the five most common stress indicators among HCPs were, sensitive to criticism (67%), exhausted, irritable or frustrated (18.6%), feeling sad or depressed (18.6%), easily getting tired or fatigued (17%), find difficult not to think about job when off work (16%) and five least common stress indicators were sleeping too much (8.5%), bad dreams or nightmares (6.9%), see or hear things that are not present (5.9%), tingling or pinning sensation on limbs or body (3.7%), feeling dizzy (2.1%).

Table-2. Demographic Characteristics of HCPs with work stress. n = 188

Socio demographic variables	**Various level of stress**				**Chi square**
	Total N (%) 188 (100)	**Mild n (%) 91 (51)**	**Moderate n (%) 81 (46)**	**Severe n (%) 6 (3)**	**p Value**
Marital status					
Married	107 (57)	56 (52.3)	48 (44.9)	3 (2.8)	0.4
Single	81 (43)	35 (13.2)	43 (53.1)	3 (3.7)	
Gender					
Male	66 (35)	35 (53)	30 (45.5)	1 (1.5)	0.4
Female	122 (65)	56 (46)	61 (50)	5 (4)	
Job category					
Doctors	41 (21.8)	12 (29.3)	27 (65.9)	2 (4.9)	
Nurses	147 (78.2)	79 (53.7)	64 (43.5)	4 (2.7)	**0.02**
Experience (in yrs.)					
0 – 10	130 (69)	55 (42.3)	70 (53.8)	5 (3.8)	
11 – 20	36 (19)	20 (55.6)	16 (44.4)	0(0)	**0.05**

>20	22 (12)	16 (72.7)	5 (22.7)	1 (4.5)	
Education					
Diploma	43 (22.9)	28 (65.1)	13 (30.2)	2 (4.7)	
Bachelor	88 (46.8)	40 (45.5)	45 (51.1)	3 (3.4)	0.08
Masters & above	57 (30.3)	23 (40.4)	33 (57.9)	1 (1.8)	
Family type					
Nuclear	113 (60)	53 (46.9)	56 (49.6)	4 (3.5)	0.8
Joint	75 (40)	38 (50.7)	35 (46.7)	2 (2.7)	
Zone					
East	118 (62.8)	55 (46.6)	59 (50)	4 (3.4)	0.8
Others	70 (37.2)	36 (51.4)	32 (45.7)	2 (2.9)	
Working in Covid unit					
Yes	113 (60)	59 (52.2)	51 (45.1)	3 (2.7)	0.4
No	75 (40)	32 (42.7)	40 (53.3)	3 (4)	

Chi – square test performed to assess the association between demographic characteristics and various level of stress and revealed that, profession (0.02) and working experience (0.05) significant with various level of stress.

Table-3. Association of various allied factors with various level of work stress among HCPs. n = 188

Allied variables	**Various level of stress**				**Chi square**
	Total N (%) 188 (100)	**Mild n (%) 91 (51)**	**Moderate n (%) 81 (46)**	**Severe n (%) 6 (3)**	**p Value**
Feel overloaded with work all the time					
Yes	81 (43)	26 (32)	51 (63)	4 (5)	**<0.001**
No	107 (57)	65 (60.7)	40 (37.4)	2 (1.9)	
Witness frequent loss of life					
Yes	89 (47.3)	33 (37.1)	50 (56.2)	6 (6.7)	**0.001**
No	99 (52.7)	58 (58.6)	41 (41.4)	0 (0)	
Experience disruption of work-life balance					
Yes	118 (62.8)	45 (38.1)	67 (56.8)	6 (5.1)	
No	70 (37.2)	46 (65.7)	24 (34.3)	0 (0)	**0.001**
Experience discrimination					
Yes	88 (46.8)	29 (33)	54 (61.4)	5 (5.7)	
No	100 (53.2)	62 (62)	37 (37)	1 (1)	**<0.001**
Having inadequate supply of PPE					
Yes	77 (41)	28 (36.4)	46 (59.7)	3 (3.9)	
No	111 (59)	63 (56.8)	45 (40.5)	3 (2.7)	**0.02**
Having psychological support					
Yes	142 (75.5)	75 (52.8)	63 (44.4)	4 (2.8)	0.1

No	46 (24.5)	16 (34.8)	28 (60.9)	2 (4.3)	
Received specific COVID-19 training					
Yes	93 (49.5)	51 (54.8)	42 (45.2)	0 (0)	**0.02**
No	95 (50.5)	40 (42.1)	49 (51.6)	6 (6.3)	
Pushed beyond training					
Yes	63 (33.5)	19 (30.2)	42 (66.7)	2 (3.2)	**0.001**
No	125 (66.5)	72 (57.6)	49 (39.2)	4 (3.2)	
Perceive personal danger due to high mortality rate associated with COVID-19					
Yes	83 (44)	35 (42.2)	46 (55.4)	2 (2.4)	
No	105 (56)	56 (53.3)	45 (42.9)	4(3.8)	0.2
Work impacting household activities					
Yes	121 (64.4)	46 (38)	69 (57)	6 (5)	**<0.001**
No	67 (35.6)	45 (67.2)	22 (32.8)	0 (0)	
Feel lonely and isolated due to quarantine					
Yes	79 (42)	20 (25.3)	54 (68.4)	5 (6.3)	**<0.001**
No	109 (58)	71 (65)	37 (34)	1 (1)	
Fear of transmission of infection to family					
Yes	144 (76.6)	65 (45)	75 (52)	4 (3)	0.1
No	44 (23.4)	26 (59.1)	16 (36.4)	2 (4.5)	

Table showing overloaded with work all the time, discrimination and feeling of lonely and isolated due to quarantine have strongly significant association with work stress among HCPs, since p = <0.001. Witnessing frequent loss of life, disruption of work-life balance, pushed beyond training also have significant association with various level of work stress, since p = 0.001. Having inadequate supply of PPE and received specific COVID-19 training also have significant association with work stress, since p = 0.02.

DISCUSSION

In the current study nearly 50% (3% severely and 46% moderately) health care providers suffering from work related stress. Similar findings, found in the study conducted by Gebeyehu and Zeleke[4] , Sathiya N, et al.[5] Abdulghani HM [6] and sagar s [7]

The five most common stress indicators among HCPs were, sensitive to criticism (67%), exhausted, irritable or frustrated (18.6%), feeling sad or depressed (18.6%), easily getting tired or fatigued (17%), find difficult not to think about job when off work (16%) and five least common stress indicators were sleeping too much (8.5%), bad dreams or nightmares (6.9%), see or hear things that are not present (5.9%), tingling or pinning sensation on limbs or body (3.7%), feeling dizzy (2.1%).

Nurses were found more stressed than doctors. This finding is consistent with the findings of other similar studies conducted by Gebeyehu and Zeleke, [4] Sathiya N, et al.[5] and Safaeian M.[8]
Working experience found significant with various level of stress is supported by the study conducted by Arvind k. [9]

Overloaded with work all the time, discrimination and feeling of lonely and isolated due to quarantine have strongly significant association with work stress among HCPs, since p = <0.001. Witnessing frequent loss of life, disruption of work-life balance, pushed beyond training also have significant association with various level of work stress, since p = 0.001. Having inadequate supply of PPE and received specific COVID-19 training also have significant association with work stress. Similar finding observed in the study conducted by Sathiya N, et al.[5] , Menon A [10] and Thian JHM [11]

CONCLUSION

This concludes that, health care providers are suffering from considerable amount of stress at workplace. Work experience, persistent work overloaded, discrimination, quarantine, witnessing frequent death, disrupted work-life balance, pushed beyond training, inadequate supply of PPE and lack of specific COVID-19 have significant association with work stress. Thus, the study recommends further large scale research in this field and health care providers should adopt some strategies to strengthen their coping ability with the work stress.

LIMITATION

There are several limitations like the study has self-response bias. Collecting data through online is a potential selection bias resulting in overrepresentation of HCPs more active on social media forums. The study is underpowered because of the small sample size, which reducing the generalisability of the study findings. National-level studies need to have a national-level presentation. For a country like India, a sample size of tens of thousands of HCPs require. More authors or participants with research interest from all the regions need to be included to get a good sample size.

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Competing interests

No competing interests.

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Non

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