

ORIGINAL ARTICLE

A study on Instinctive Feelings, Perceived Stressors and Factors that helped in reducing Stress during COVID 19 pandemic among Health Care Workers

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Abstract

Background: Healthcare workers at the forefront of the battle against COVID 19 are not only putting their own health and lives at risk but are also fighting to keep their own worries and emotional stress at bay. **Aim & Objective:** To evaluate emotions, perceived stressors, and factors that helped in reducing stress of healthcare workers who worked during a COVID19 pandemic. **Settings and Design:** This cross sectional study was conducted among Health Care staff involved in COVID 19 duty in tertiary care hospital of Gujarat. **Methods and Material:** Google form link was shared through what's up and mail. The questionnaire was completed online. Consent for voluntarily participation was also obtained through online Google form. **Statistical analysis used:** Data was entered and analysed through Microsoft Excel 2010. **Results:** Total 106 participants responded to the questionnaire. It was extremely stressful for health care workers to see their colleagues getting infection, as well as the fear that they could transmit the disease to their families or friends. Main factors that helped to reduce the stress were positive attitude from colleagues, improvement of patients conditions and availability of protective equipment. **Conclusions:** Personal safety, the protection of family members and unpredictability of pandemic were the main concerns. Hospitals should prioritise stress monitoring for health care workers and provide targeted psychological guidance for HCWs during the pandemic.

Keywords

COVID 19; Emotional Stress; Health Care Worker; Pandemic; Positive Attitude

Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. This COVID19 first reported from Wuhan, China to the WHO Country Office in China on 31 December 2019.(1) This outbreak of COVID19 was declared as Public Health Emergency on 30 January 2020 of International Concern. WHO announced a name COVID-19 for the new coronavirus disease on 11 February 2020.(2)

The disease has since spread worldwide, leading to an ongoing pandemic.(3) The coronavirus COVID-19 is affecting 223 countries and territories. There are almost

418,186,917 confirmed cases of COVID19 reported worldwide with death of 58,69,101 till 17th February 2022. USA has surpassed 7.7 crore confirmed cases with 952,603 deaths, highest worldwide. India is on 2nd position with 4.25 crore cases & 510441 deaths.(4)

Clearly, this COVID19 pandemic situation is critical and cannot be taken lightly. Lockdown was placed by government, restricted people from stepping out of their homes. Institutes, industries and hospitality services were suspended. On the other side, healthcare workers at the forefront of the battle against COVID 19 are not only putting their own health and lives at risk but are also fighting to keep their own worries and emotional stress at

bay. Their efforts to combat pandemic should be appreciated instead many instances we found discrimination and harassment.

Aims & Objectives

To evaluate emotions, perceived stressors, and factors that helped in reducing stress of healthcare workers who worked during a COVID 19 pandemic.

Material & Methods

This cross sectional study was conducted among Health Care staff involved in COVID19 duty in GMERS medical college and hospital, Dharpur during June 2020 to November 2020 after getting approval from institutional ethic committee. Health Care Staff such nurses, intern doctors, junior residents, senior residents, medical officers, and super specialists were enrolled. Staffs with low risk of getting infection such as housekeepers, unit clerks etc. were excluded from the study. Informed consent was taken from each participant.

A comprehensive questionnaire was derived and modified from study conducted by Imran Khalid et al.(5) for health care staff during the 2015 MERS Cov outbreak. We termed it as “COVID 19 health care staff questionnaire” consist of 3 sections and 30 Questions. This tool was used to evaluate feelings, perceived stress and factors that helped in reducing stress during COVID19 pandemic. Google form was created consist of 30 questions.

The first section consisted of 10 questions regarding instinctive feeling of Health Care staff during COVID19 pandemic. Each question had 4 points scale to measure severity of instinctive feeling (0 for not at all, 1 for slight, 2 for moderate and 3 for very much).

The second section consisted of 10 questions to evaluated possible factors that might be responsible for stress among the Health Care staff. Each question had 4 points scale to measure severity of the stress factor (0 for very minimal, 1 for slight, 2 for moderate & 3 for very much).

The third section consisted of 10 queries (facilities and various interventions that were provided to the Health Care Staff in effort to reduce their stress). These questions sort of queries also had 4-point scale (0 for not at all effective, 1 for mildly effective, 2 for moderately effective and 3 for extremely effective).

Health Care staff were informed about the study and google link was shared with them and asked to complete the questionnaire, link was shared though what's up and mail. The questionnaire was completed online through mobile, tablet or personal computer. Information regarding study and study procedure was provided through text appeared at the start of google form and consent for voluntarily participation was also obtained through online google form. Cronbach's alfa was calculated to measure internal consistency of various scales. Cronbach's alfa for severity of feeling, stress severity and coping strategies was 0.83, 0.89 and 0.81.

Statistical analysis: Data was entered and analysed through Microsoft Excel 2010. Qualitative data was expressed in frequency and percentage and quantitative data was described as mean \pm standard deviation (SD).

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Results

Demography profile: Total 108 participants responded to the questionnaire. Of which 107 gave consent and one response was found to be incomplete. Therefore, two participants were excluded from the study. Total 106 participants were included in final analysis. Mean age of the participants was 42.2 ± 8.9 years. Male constituted 50.9%. Majority of the participants were unmarried (77, 72.6%) and 56 (52.8%) were living without families.

Instinctive feeling of HCWs: More than 90% of staffs were doing job because of responsibility and proud to be a doctor who drove them to work enormously and dedicatedly during the COVID 19 pandemic. Similarly, 90% health care staff felt appreciated special recognition from people. Such a wonderful gesture from people would definitely motivate staff to work enormously. ([Table 1](#))

COVID 19 situation is very fearful for the health care staff. Many times staffs (89%) felt exhausted and overburden and sometimes (67%) felt helpless. About 91% feeling worried about their personal safety and the chances of contracting the disease. However, many of them 72% will continue their job because of appreciation and recognition given by patients and patients' relatives and as a job responsibility.

Factors that cause stress among HCWs: In questionnaire of section 2, we looked for the different stress factors that cause stress among Health Care staff during COVID19 pandemic. Main stressors were fear of transmitting COVID 19 infection to family members or friends (94%), non-availability of protective measures, (90%), health care staff or colleagues became positive for COVID 19 infection (89%). No definitive treatment available for COVID 19 and not knowing when the COVID 19 outbreak would be under control also put health care staff under enormous emotional burden and stressful situation. Take care of colleagues also induce stress among health care providers. ([Table 2](#))

Factors that reduce stress among HCWs: Many factors contribute directly or indirectly to reduce stress during the pandemic of COVID 19 disease. Improvement on patient's condition (97%), improvement in colleagues' condition (96%) and positive attitude in the workplace (94%) were the biggest impact in reducing stress among health care staff. Moreover, enough protective equipment, Proper guidance and No overtime eased the anxiety of the health care staff. ([Table 3](#))

Discussion

The viral pandemic, as a massive source of negative pressure, offers significant challenges to people's mental

health, especially health care workers.(6) During the COVID 19 pandemic, front line health-care workers are under a lot of stress. This stressful condition could have long-term psychological effects on health-care workers. This observation was also found during the Ebola virus outbreak and the Severe Acute Respiratory Syndrome outbreak. However, the geographical location, aetiology, transmissibility, infectivity, and fatality of each infectious disease outbreak vary.(7,8) The present study provides insights into psychological status of health-care workers during the COVID-19 Pandemic. During a COVID 19 outbreak, all hospital personnel are at risk of infection, but the severity of this risk is not evenly distributed. Emergency room and critical care health care workers are more likely to be at risk than those in unrelated or non-acute specialties. As a result, we included HCWs from these high-risk domains, such as nurses, respiratory therapists, and physicians in our research. Other employees, such as housekeepers and unit clerks were not enrolled as they were not regularly allocated to these high-risk regions.

Among the various stressors related to COVID 19 in our study, safety was the main concern for the staff. It was extremely stressful for them to see their colleagues getting infection, patients dying in front of them, as well as the fear that they could transmit the disease to their families or friends. The HCWs were also concerned about the duration of the epidemic and lack of treatment for the disease. Their ethical and professional obligations to their profession were the most powerful motivators for them to continue working. Our employees' anxiety and nervousness are frequent in epidemics, however their intensity varies. These factors were present in HCWs who were exposed to SARS, but to a lesser extent.(9)

During the early stages of the COVID-19 pandemic, Batra K et al conducted meta-analyses on 65 studies with a total sample size of 79,437 people. Anxiety, depression, stress, and insomnia were shown to be prevalent in 34.4 %, 31.8 %, 40.3 %, and 27.8 % of the population respectively.(10) Cai Z et al.(11) conducted an online study of emotional and cognitive reactions among health care workers in Wuhan, China. The infectivity of COVID-19, the lack of appropriate therapy, the insufficient understanding of the virus, and poor support from society and patients were all identified as reasons of psychological burden on health care worker in this study. Such exposure has been shown to be cognitively injurious in pandemic scenarios.(12,13) According to Rose S et al.(14), important stressors included guilt for spreading the disease to their family and friends, uncertainty about when the pandemic will stop, and seeing people die from COVID-19.

Alnazy E et al.(15) also observed that factors associated with health-care workers' psychological distress were male, married, 40 years and older, having more clinical experience, and working directly with patients diagnosed with COVID-19. The risk of severe respiratory distress as a

result of COVID-19 increases with age and older people can have health issues that make them more prone to complications.(16) Man M et al.(17) Rose S et al.(14) and Batra K et al.(10) observed that nurses were more likely experience symptoms of stress from emotional weariness and fatigue than physicians and other HCWs. They have to spend more time and efforts to these critically ill patients. This combined with stressful work, sleep deprivation, limited freedom, heavy responsibility, and a high level of cooperation increases vulnerability to the disease.(18) In the present study, main factors that helped to reduce the stress of were positive attitude from colleagues, improvement of patients or colleagues conditions and availability of protective equipment. Positive attitude at work leads to better quality of care.(19) The extraordinary caution they used may be seen in the uses of stringent protection measures, use of disposable scrubs at work, and the use of semi-quarantine to limit outside exposure. This level of caution is essential when dealing with any outbreak.(20) During the MERS-CoV outbreak in Saudi Arabia in 2015, a survey found that variables like as safety, disease knowledge, special compensation, and recognition were the most important motivators for HCWs to continue work in the epidemic.(5)

Cai Z et al.(11) found that training on infection prevention and control guidelines, rest in shifts for medical workers, and timely delivery of medical protective equipment helped to alleviate stress among HCWs to some extent. Although this is true, to reduce potential unnecessary exposure to the virus, the hospital discouraged staff from interacting with each other both inside and outside the hospital, and staff meetings were generally all held virtually. This is a time when individuals may wish to seek support from each other but cannot do so, thus potentially increasing the burnout and psychological burdens our HCWs carry. Above finding was also line with previous studies which reported that the willingness to participate in a second wave of the pandemic or future outbreaks is strongly driven by adequate PPE, financial recognition of efforts and recognition from management as reported in other disease outbreaks.(9)

The literature has promoted educational and behavioural interventions emphasising social support, positive thinking, a sense of coherence, and the relevance of self-care. Some treatments, such as mindfulness therapies, can be implemented quickly to improve the mental health of healthcare professionals. Work-based interventions, such as reducing work hours, having buddy support systems, having listening sessions between administration and health-care functionaries, increasing coverage of tele counselling through employee assistance programmes, having mental health consultants available to staff via telehealth, and other similar measures can go a long way in reducing the negative psychosocial impact of COVID-19.(10)

Conclusion

The COVID 19 pandemic caused emotional anguish among the HCWs. Personal safety and the protection of colleagues and family members were the main concerns, followed by the unpredictability of pandemic, positive attitudes in the workplace, the availability of stringent infection control guideline and equipment, recognition, and monetary recompense. It is critical to recognise psychological health needs as an important component of response to such pandemic.

Recommendation

Hospitals should prioritise on psychiatric preparedness and stress monitoring for HCWs and as well as provide targeted psychological guidance and intervention for HCWs during the pandemic and afterward. HCWs should be given additional social support and understanding, so as to protect the solid “defense line” during infectious disease outbreaks.

Limitation of the study

The sample size was insufficient to distinguish responses based on workplace and profession. It was carried out 6 months after the outbreak ended, which could lead to recall bias (this could underestimate or overestimate response) and selection bias. The responses of employees who departed job during the outbreak could be missed. This tertiary care hospital is COVID 19 nodal centre of the district with high patient load. The results could vary in smaller non-accredited hospitals.

Future studies should focus on elaborating further on our findings by increasing the sample size in any future COVID 19 outbreaks, incorporating other professions like housekeeping, and categorizing the experiences based on profession. This might give insight to unanswered topics such as whether nurses get more worried than physicians, or whether those with prior epidemic experience or better training are less concerned than those with limited training. Also, what illness characteristics do staff find most concerning (e.g., mode of transmission, case fatality rate, etc.)? These would further help hospitals mitigate potential challenges they face with staff protection, retention, and satisfaction during these difficult events. Future research directed on establishing the efficacy of interventions to support the mental health of HCWs.

Relevance of the study

This study aided in the identification of factors associated with psychological distress among health care workers during a COVID 19 pandemic.

Authors Contribution

PS & NS contributed in conception, literature search, study design, manuscript editing and manuscript review. AC & PP contributed in data analysis, interpretation of data and manuscript preparation.

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Tables

TABLE 1: INSTINCTIVE FEELING OF HEALTH CARE WORKERS WORKING IN COVID 19 DUTY DURING PANDEMIC (N=100, MAX SCORE 3)

Sr No	Instinctive feeling of Health Care Workers	Answered Yes (%)	Mean of average score (max 3)
1	Are you feeling proud and satisfied with your profession as Corona worrier?	99 (93.4%)	2.15 (72%)
2	Reason for doing job as Job responsibility?	100 (94.3%)	2.2 (73%)
3	Have you felt Appreciated special recognition for your Job from people?	96 (90%)	2.1 (70%)
4	Are you feeling worried about your personal safety and the chances of contracting the disease?	97 (91%)	1.9 (63%)
5	Are you feeling exhausted and overburden?	95 (89%)	1.8 (60%)
6	Have you felt Helpless?	71 (67%)	1.2 (40%)
7	Are you feeling avoided by people as you are working in COVID 19 duty?	64 (60%)	1.1 (37%)
8	Are you thinking of quit your Job?	30 (28%)	0.4 (13%)
9	Are you going to quit your job after over of COVID19 pandemic?	28 (26%)	0.38 (13%)
10	Are you feeling irritated because of frequent changing guidelines, too many webinars?	92 (87%)	1.8 (60%)
	Average		1.5 (50%)

Scoring for Level Of Feeling ; 0=Very Minimal; 1=Slight ; 2=Moderately ; 3=Very Much

TABLE 2 QUESTIONS RELATED TO FACTORS THAT CAUSE STRESS AMONG HEALTH CARE STAFF DURING COVID19 PANDEMIC (N=100, MAXIMUM SCORE 3)

Sr No	Factors that cause stress among Health Care staff	Answered Yes (%)	Mean of average score (max 3)
1	Fear of transmitting COVID 19 infection to your family members or friends	100 (94%)	2.2 (73%)
2	You are staying away from your family for long	88 (83%)	1.8 (60%)
3	Your staff or colleagues become positive for COVID 19	94 (89%)	1.7 (57%)
4	You developed respiratory symptoms and feared that you had COVID 19	81 (76%)	1.6 (53%)
5	You could get COVID19 infection from a unknown as well as known patient	82 (77%)	1.6 (53%)
6	You felt there were not adequate protective measures	95 (90%)	1.7 (57%)
7	News of death of COVID 19 patients as well as of Health Care Staff	84 (79%)	1.5 (50%)
8	News of new cases of COVID 19 also including Health Care Staff	91 (86%)	1.9 (63%)
9	No definitive treatment or vaccine available for COVID 19	92 (87%)	1.9 (63%)
10	Not knowing when the COVID 19 outbreak will be under control	93 (88%)	1.9 (63%)
	Average		1.78 (59%)

Scoring for Level of Stress; 0=Very Minimal Stress; 1=Slightly Stressed; 2=Moderately Stressed; 3=Very Much Stressed

TABLE 3 FACTORS THAT HELPED IN REDUCING STRESS DURING COVID19 PANDEMIC (N=100, MAXIMUM SCORE 3)

Sr. No	Factors that helped in reducing stress	Answered Yes (%)	Mean of average score (max 3)
1	Positive attitude from colleagues in your workplace	100 (94%)	2.1 (70%)
2	Improvement in your patient's condition & getting nice feedback from them	103 (97%)	2.3 (77%)
3	Your colleagues who were infected getting better	102 (96%)	2.3 (77%)
4	Enough protective equipment available to you at your workplace	99 (93%)	2.1 (70%)
5	Proper guidance on preventive measures by Authority through guidelines & training.	99 (93%)	1.9 (63%)
6	Improvement in COVID19 situation by decrease in number of cases & mortality	96 (90%)	2.0 (67%)
7	Extra pay & insurance for COVID19 exposure.	95 (89%)	1.9 (63%)
8	Confidence that you will get care nicely by authority in case of you get infection	94 (88%)	2.0 (67%)
9	No overtime	98 (92%)	2.2 (73%)
10	Recognition of Employee Dedication and appreciation of work by higher authority	96 (90%)	2.1 (70%)
	Average		2.09 (70%)

0=Not At All effective; 1=Mildly Effective; 2=Moderately Effective; 3=Extremely Effective in Reducing Stress