

Fear and level of preparedness of medical care workers post lockdown in the realms of COVID-19 pandemic

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ABSTRACT

The COVID-19 outbreak had placed an exceptional demand on the health system. They were flooded by an overabundance of activities related to controlling the pandemic. There was a need to conduct a study which acknowledged the fear and requirements of medical care workers to handle the patient load and not compromise on delivering health services to the public. This study was cross-sectional, observational with an online questionnaire based on framework provided by the centres for disease control and prevention, preparedness tools for healthcare professionals, facilities and how to cope with stress and build resilience during the COVID-19 pandemic. Majority of healthcare workers were doctors, interns and nurses under age group of 18-24. There was a significant association between health profession and preparedness of situation and preparedness of workplace. Majority were aware of COVID-19 treatment guidelines, received training in using personal protective equipment and were ready to isolate if there was contact with COVID-19 patient. Doctors held a fear of contacting the disease. Frontline workers, aged 45 years and less, females and married individuals expressed greater concerns of fear of disease at their workplace. Medical care workers at the frontline fighting the pandemic are more vulnerable and preparedness of the staff in health-care settings are crucial.

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1. INTRODUCTION

World Health Organization (WHO) declared the occurrence of a new coronavirus disease, COVID-19, to be of a public health emergency of international concern in the month of January 2020 and by March 2020, COVID-19 was considered a pandemic. This time of crisis generated stress throughout the population and healthcare workers. Department of Mental Health, WHO conveyed messages that can be used in communications to support the mental and psychosocial well-being of vulnerable populations during the outbreak [1].

The COVID-19 outbreak affected the healthcare system to a greater extent. An overflow of operations linked to containing the pandemic overburdened the health facilities and people. There was a risk that basic health services that communities expect from the health system would be jeopardized. It was likely that seeking medical help was delayed due to social and physical constraints. There was societal apprehension due to fears that health institutions could be affected. During the COVID-19 pandemic, it was

important to provide essential services to maintain people's faith in the health system and to reduce an increase in morbidity and mortality from other health conditions. Particular attention towards ensuring the safety of health workers during the delivery of essential healthcare services was needed [2].

To control the transmission of the disease and flatten the epidemic curve nationwide lockdown was instilled on 24th March 2020. Undoubtedly, it led to the containment of the infection and reduced the sudden COVID-19 patient load in the hospitals. However, at the same time, it compromised the health care services to non-COVID patients. To tackle this, the government had imposed phasing out of the lockdown and encouraged maximum functioning of hospitals and private health care centers including dental clinics and laboratory services [3].

At that time, extraordinary precautions and staff preparedness in healthcare facilities were critical. Medical personnel were fearful and concerned about how to safeguard themselves and their families in the fight against COVID-19. If issues like the need for personal protective equipment (PPE) and adequate social distancing were addressed it would have drastically lowered transmission rates and saved lives [4]. There was a need to undertake research that recognized the needs of doctors and paramedical workers during such periods in order to handle the patient load and not compromise on providing adequate health care to the people.

COVID-19 infection contributes significantly to anxiety, depression, stigma, insomnia, and exhaustion among healthcare workers. As patient loads continue to rise and coworkers became infected with COVID-19, numerous studies were conducted to investigate the psychological well-being of our medical workers [5], [6]. This global crisis had created fear among healthcare workers for their co-workers, their families, friends, communities, and the country. This can be overcome by creating awareness among medical workers, improving interpersonal communication, and providing administrative support [7]. Even though research has happened to assess fear at the level of the general public [8], [9]. One must recognize that medical workers, having a broader and deeper understanding of the disease and pandemic would have fears which would undoubtedly differ from those of the general public. This study would fill the research gap by assessing the fears and concerns that the pandemic has laid onto the medical care providers and eventually frame policies to aid them in their counseling services. This would also consider effective measures to care for their mental and physical well-being.

2. RESEARCH METHOD

This study was approved by the Institutional Ethics Committee of Kasturba Hospital, Manipal- IEC: 441/2020. The study was registered under the clinical trial registry of India- CTRI/2020/08/027082. The study was a prospective, observational, cross-sectional study conducted online targeting medical care workers across the state of Karnataka in both private and government institutions. The data from 152 healthcare workers were collected by a Snowball sampling technique. The link to the questionnaire was developed through Google Forms and sent through emails and social media to the healthcare workers. They were encouraged to roll out the survey to as many participants as possible. On receiving and clicking the link the participants got directed to the information about the study and informed consent. After accepting to take the survey they filled up the demographic details and a set of questions appearing sequentially. The inclusion criteria included doctors, dentists, interns, nurses, laboratory technicians, pharmacists, and paramedical staff. Medical care workers not giving informed consent were excluded from the study.

The CDC's Centers for Disease Control and Prevention provided the basis for the questionnaire [10]. Medical workers' preparedness for the phasing out of lockdown and the reopening of all healthcare services in India during the COVID-19 pandemic was assessed with 20 questions based on the preparedness tools for Healthcare Professionals and Facilities Responding to Coronavirus (COVID-19). Healthcare professionals' fear and concern about COVID-19 were assessed by 10 questions framed by referring to How to Deal with Stress and Build Resilience during the COVID-19 Pandemic. The questionnaire was designed and piloted among doctors for general feedback on the design and questions.

Descriptive statistics were used in the study to analyze the findings. Mean and standard deviation and proportions were used to estimate the results of the study. Scores of the questionnaire were compared between and within the groups by independent sample *t*-test, one-way analysis of variance (ANOVA), or Chi-square test as appropriate.

3. RESULTS AND DISCUSSION

Studies conducted during the Ebola pandemic demonstrated impaired knowledge, lack of preparedness, and reluctance of many healthcare workers to attend to the pandemic [11]. Supportive guidance, peer support systems, and enhanced use of communication tools were the measures followed to manage the pandemic then [12]. Hence a descriptive questionnaire-based study was designed to address and

acknowledge the fears and the level of preparedness of healthcare workers to provide their services in such dire times. Such a study would help design better management strategies, ensure the safety of both parties, and serve as a bench for evaluating plans for the future.

Of 152 health workers who participated in the study, the majority belonged to the age band of 18-44 years. This bodes well with the fact that this age group was actively involved as front-line workers in the COVID-19 pandemic, with the older age groups, due to higher risks of mortality and morbidity, being exempted from COVID-19 duties. Both male and female healthcare workers were equally represented in the study. In terms of professions, the following categories of healthcare workers participated in the study: allopathic doctors, interns, nursing staff, pharmacists, laboratory staff, dentists, and paramedical staff. Among them, 80 percent of the healthcare workers participating in the study practiced in private hospitals as shown in Table 1. A similar cross-sectional study on front-line healthcare workers was conducted in England to assess their confidence and level of preparedness for the virus. Most of the front-line healthcare workers were doctors, nurses, and clinical practitioners from areas most likely to treat cases of COVID-19 [13], [14].

Table 1. Sociodemographic characteristics

	Frequency (%)	Profession	Frequency (%)	If hospital set up	Frequency (%)
Age group					
25-34	39 (25.7%)	Doctor	64 (42.1%)	Others	20 (13.2%)
35-44	32 (21.1%)	Interns	32 (21.1%)	government	4 (2.6%)
45-54	24 (15.8%)	Laboratory staff	11 (7.2%)	private	122 (80.3%)
55-64	5 (3.3%)	Nursing staff	15 (9.9%)	semi private	6 (3.9%)
> 65	3 (2.0%)	Nursing lecturer	1 (0.7%)		
Gender		Paramedical	10 (6.6%)	Place of practice	
Female	78 (51.3%)	Pharmacist	12 (7.9%)	Urban	31(20.4%)
Male	74 (48.7%)	Institution		Semi urban	118 (77.7%)
Marital status		Pharmacy	7 (4.6%)	Rural	3 (.9%)
Married	82 (53.9%)	Clinic	23 (15.1%)		
Separated	1 (0.7%)	Hospital set up	122 (80.3%)		
Unmarried	69 (45.4%)				

Figure 1 represents the association between the preparedness of healthcare workers with profession during the pandemic. In our assessment of preparedness for the situation, more than 98% of the healthcare staff were aware of the COVID-19 situation in their community. Around 69.7% of the healthcare workers were aware of the number of COVID-19 patients admitted in the hospital and more than 86% had sound knowledge of the treatment guidelines and standard operating procedures (SOPs) related to COVID-19 in their institution and workplace as presented in Table 2. Our results are comparable to studies done in Ethiopia, where 75% of healthcare workers had sufficient knowledge of the COVID-19 situation [15], [16]. These findings conclude that a major proportion of the healthcare staff was prepared to deal with the situation in an orderly regulated manner and had appropriate knowledge of the severity of the condition as well as of the guidelines regarding the treatment and management of COVID-19 cases (Figure 1(a)). Based on our data, allopathic doctors followed by interns and nurses were the most prepared to handle the situation as presented in Table 1. This can be associated with their level of knowledge and skills acquired during their training years. Studies have shown that type of health institution, level of education, and training on COVID-19 were strongly associated with knowledge of healthcare workers about COVID-19 [17].

In our study, 90% of the hospital and clinic patients were screened for fever and respiratory symptoms and most of the facilities were equipped to handle COVID-19 cases. From our assessment, the preparedness of the workplace to combat the COVID-19 situation depicted that 78.3% of the healthcare staff had received adequate training in terms of the use of PPE and 68.4% had information regarding the PPE kit availability in their workplace as presented in Table 2. This was significantly better than a study done in low-resource settings where only 25.7% had adequate knowledge about PPE [18]. Also, there was a significant association (p -value = 0.02) between the kind of hospital setup (private or government) and the preparedness of the workplace, with the private sector being better prepared as shown in Figure 2. Similar analysis was done on physician's preparedness where studies showed a disparity between the provision of PPE and the method of swab collection between the private and public sectors [19]. Thus, there is a need for sound collaboration between the private sector hospitals and government healthcare policymakers to work during a pandemic. Also, a significant association (p -value = 0.01) was found between profession and preparedness in the workplace. Nursing staff followed by doctors, interns being the most aware in terms of knowledge of PPE kit usage and screening of patients before admission as presented in Figure 1(b). This could be possibly explained as nurses being the frontline workers are better trained for the COVID-19 pandemic. A study

conducted in a low-resource setting like Libya, showed more nurses (54.7%) received adequate training on how to effectively use personal protective equipment in comparison to doctors (47.3%) [20]. In the workplace preparedness assessment, 63% gave an affirmative response on their opinion on telehealth service and virtual care during the pandemic, while the remaining were either unsure or not in favor of virtual clinical practice as shown in Table 2. This can be attributed to the type of work where physical presence is required for those involved in laboratory work and pharmacy. Regarding the use of telehealth services by healthcare professionals, only around 51.3% had attended to non-urgent cases through virtual assistance (telephone or social platforms) as presented in Table 3. Lack of resources, internet connectivity, and lack of sufficient knowledge of technology hampers telehealth services. Many healthcare workers agreed to virtual health services, however around 23% of them were not in favor due to the legal issues that could arise in virtual patient care (Table 2) A study conducted in Ontario to explore the opinion on virtual visits in providing primary care, 66.4% of them have conducted virtual visits and anticipated continued use post-pandemic [21].

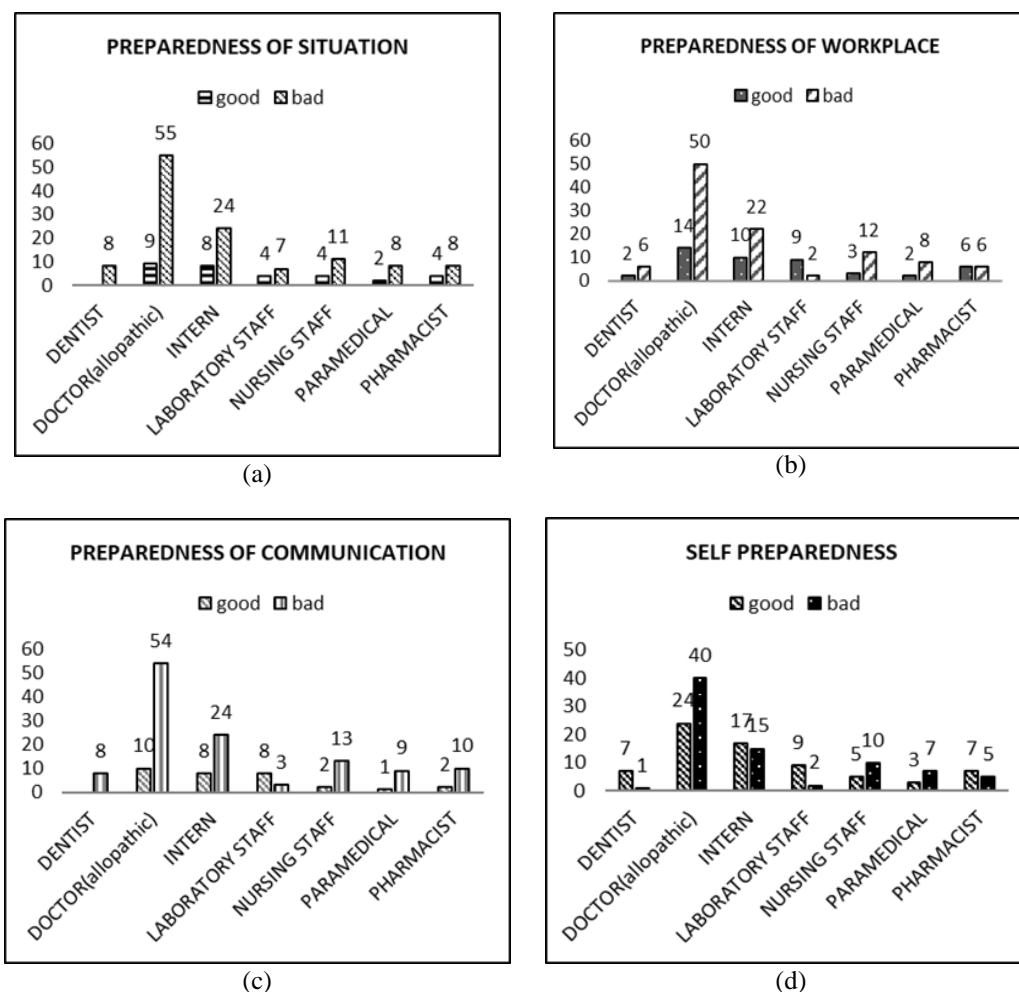


Figure 1. Preparedness of health care workers during the pandemic.

(a) Preparedness of situation vs profession, p-value-0.03, fisher's exact-22.45, df-11. (b) Preparedness of workplace vs profession, p-value-0.01, fisher's exact-33.6, df-11 (c) Preparedness of communication vs profession, p-value-0.07, fisher's exact-16.6, df 11 (d) Self-preparedness vs profession, p-value-0.03, fisher's exact-42.2, df-11

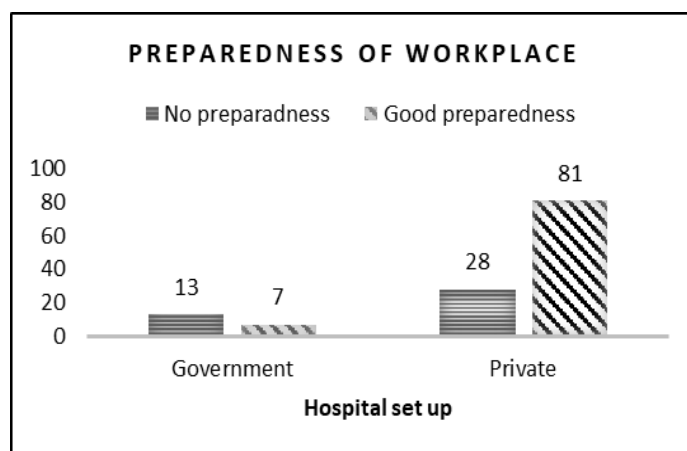
While assessing the preparedness of communication, 83.6% of healthcare staff felt that there was an efficient communication channel in their team that would help in quick and easy dissemination of information regarding COVID-19 which proves of great value in such emergency situations as it helps staff from different sectors to engage better and share ideas, resources for bettering the conditions [22]. Patients were also informed to follow COVID-19 preventive guidelines such as wearing masks and use of sanitizers when attending a healthcare facility. Besides, the healthcare staff were well informed by their authorities to not report to work in case of fever or any respiratory symptoms. More than 90% of the healthcare staff was

ready to take up extra responsibility in case anyone in their team was infected as presented in Table 3. However, a communication strategy was not associated with the profession as shown in Figure 1(c). A similar study had 43.4% of individuals complaining about ineffective communication and no triage system in their departments [18]. With the development of the COVID-19 pandemic, hospitals were forced to develop new methods, install proper triage systems to screen suspected patients, and establish complete communication between hospital management, departments, and front-line healthcare staff [23].

While 69.7% of the staff was willing to attend to COVID-19 patients, only around 34.9% of them felt confident enough to treat them. Another study found that roughly 76% of front-line healthcare staff were confident in isolating and treating suspected cases [13]. The low confidence level was indicative of the level of knowledge, attitude, and practice of the healthcare staff in the management of the disease. For better control of the situation, we need the majority of the healthcare staff to be competent enough in terms of knowledge and skill to treat the patients as presented in Figure 1(d). However, due to the sudden outbreak and lack of sufficient data to support it, the management of COVID-19 was based on mainly trial and error and hence the lack of confidence in the staff. In terms of self-preparedness, it was gathered that 90.8% of healthcare staff were willing to self-isolate in case of contact with a COVID-19 patient. This is essential as the healthcare staff being the first line in the pandemic control are bound to be exposed to the disease and if infected it could further spread to their family and the public deteriorating the situation. In our study, 36.8% of healthcare workers felt the workload in this pandemic period was affecting their family life as shown in Table 3. From a study conducted in Sri Lanka from the nurses' perspective COVID-19 pandemic, had a negative impact on their family life as they faced separation and rejection and there was always a fear of being potential carriers and transferring disease to the close ones [24].

Table 2. Response of health care workers for preparedness of situation and workplace

	May be	No	Yes
Preparedness of situation			
Are you aware of the local COVID-19 situation in your community?	2 (1.3%)	0	150 (98.7%)
Are you aware of the number of COVID-19 patients admitted in the hospital?	10 (6.6%)	36 (23.7%)	106 (69.7%)
Are you aware of treatment guidelines for COVID-19?	9 (5.9%)	12 (7.9%)	131 (86.2%)
Are you aware of the standard operating procedures/plan of action related COVID-19 in your institution?	10 (6.6%)	11 (7.2%)	131 (86.2%)
Is there a separate well-ventilated waiting area for the patients and the visitors in your workplace?	9 (5.9%)	21 (13.8%)	122 (80.3%)
Preparedness of workplace			
Whether the facility you are working is equipped to handle COVID-19 cases?	10 (6.6%)	17 (11.2%)	125 (82.2%)
Whether patients with fever, respiratory symptoms screened before entering the hospitals/clinic?	7 (4.6%)	8 (5.3%)	137 (90.1%)
Have you received adequate training in terms use personal protective equipment (PPE)?	5 (3.3%)	28 (18.4%)	119 (78.3%)
Do you have sufficient information on the availability of PPE in your facility?	16 (10.5%)	32 (21.1%)	104 (68.4%)
Are you ready to consider telehealth services to provide virtual care during the pandemic?	20 (13.2%)	35 (23%)	97 (63.8%)



Significant association, p-value<0.05 i.e 0.02, chi-square value 12.3,df 1

Figure 2. Association between different hospital setup and preparedness of workplace during the pandemic

In the assessment of fear in the workplace and fear of disease with respect to COVID-19, an association was drawn between the profession and the level of fear as shown in Figure 3. Based on the responses obtained 64.1% of the allopathic doctors held fear of contracting the disease in attending clinics/hospitals and 65.6% of allopathic doctors held fear of becoming carriers and communicating it to close ones as presented in Table 4. The same trend could be seen for nurses as well as interns and laboratory staff. This can be related to their nature of work which requires direct interaction with infected patients as well as infectious patient samples. There was significant fear of the disease observed in frontline workers (including allopathic doctors, interns, and nurses) at the workplace in comparison to the non-frontline workers (Figure 3(a)). Many studies have well-described fear in the healthcare professionals working on the front line during the pandemic [25]. A high load of patient interaction and lack of adequate knowledge of the disease and management could be the greatest factor leading to fear among healthcare professionals (Figure 3(b)).

Table 3. Response of health care workers for preparedness of communication and towards self

	Maybe	No	Yes
Preparedness of communication			
Whether there exists a proper communication channel among your team, for delivery of information on COVID-19 accurately and adequately?	11 (7.2%)	14 (9.2%)	127 (83.6%)
Have the authorities communicated with colleagues not to report to work if they develop symptoms of COVID-19?	7 (4.6%)	9 (5.9%)	136 (89.5%)
Are you ready to take up the extra responsibilities if a medical care provider among your team gets infected with COVID-19?	11 (7.2%)	3 (2.0%)	138 (90.8%)
Have you communicated to the patients and fellow visitors to follow all the preventive measures of sanitization, and face masks.	4 (2.6%)	6 (3.9%)	142 (93.4%)
Have you attended to patient for non-urgent services (being appointment based), via telephone and through social platform.	5 (3.3%)	69 (45.4%)	78 (51.3%)
Self- preparedness			
Are you willing to attend to a COVID-19 patient?	27 (17.8%)	19 (12.5%)	106 (69.7%)
Are you confident enough to treat/attend a case of COVID-19?	53 (34.9%)	35 (23.0%)	64 (42.1%)
Are you willing to be isolated if there is contact with COVID-19 patient?	12 (7.9%)	2 (1.3%)	138 (90.8%)
Do you feel your workload in this pandemic period is affecting your family life?	28 (18.4%)	68 (44.7%)	56 (36.8%)
Are you prepared for financial restraints and setbacks due to crunches in the patient practice?	38 (25%)	41 (27.0%)	32 (21.1%)
	not applicable		

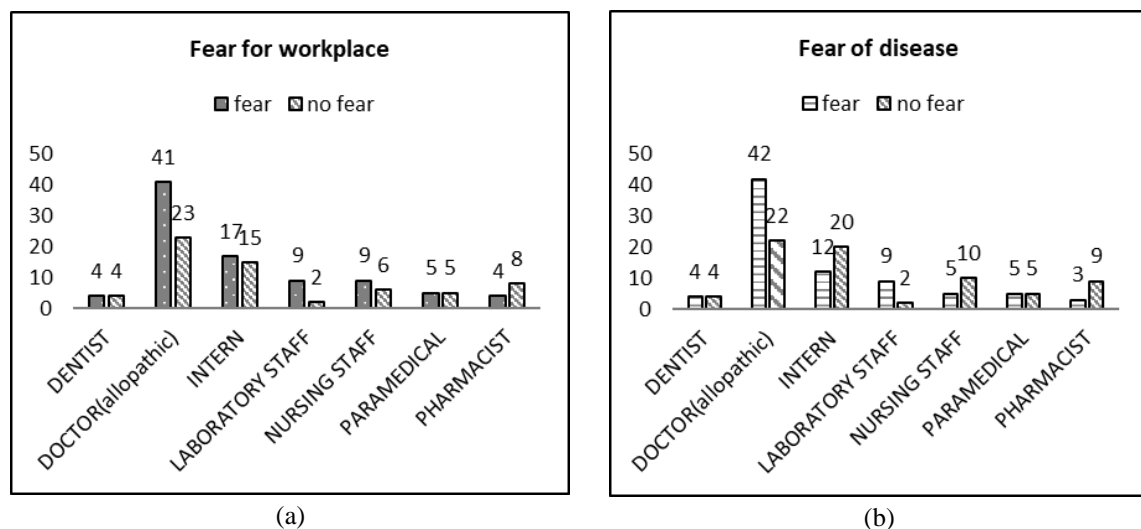


Figure 3. Association between fear of health care workers with profession during the pandemic, (a) Fear for workplace vs professionals, p-value is 13.1, df 11 and fishers exact value 13.1, (b) Fear of disease vs profession with p-value is 0.468, fishers' exact value 10.6 and df 11

A cross-sectional study performed to get out the personality trait in healthcare professionals revealed age as a significant factor with older professionals in healthcare experiencing more fearful detachment and emotional reactions during the pandemic [26]. In this study health care workers who were under 45 years and married expressed greater concerns of fear of disease and fear of workplace. It can be

explained that the majority of frontline healthcare workers were younger as older professionals were exempted from duties due to the already increased risk of disease incidence in them. Married healthcare professionals had responsibilities not for themselves alone but for their families. Female health workers expressed greater concerns about fear of workplace and disease as presented in Table 5 and Table 6. This is again a reflection of the fact that female healthcare professionals have greater family interaction, especially with the children and elderly. Moreover, in most households, women bear the responsibility of managing the majority of household tasks. Thus, with them being infected not just the health of family members but the entire organization of the household gets compromised. A nationwide survey conducted to assess the worries and fear revealed that healthcare workers continued to provide services despite the lack of information and fear of risking it to their families, with a similar observation in our study also [27].

Lastly, the majority of healthcare staff was of the opinion that information from media and social platforms was responsible for increasing fear in the healthcare community. Due to a lack of adequate knowledge of the nature of the disease, social media was flooded with speculation from all sources with a lot of information having no scientific background to support it. However rampant spreading of such information led to a lot of fear in the community. No check and balance system was in place to confirm the authenticity of data being circulated that led to false information in regards to treatment, symptoms, etc being spread to the general public as well [28], [29]. Also, when asked if mental health and psychological support was required to combat the fear in the medical workers, the majority responses were in favour. The healthcare staff were working under immense pressure and stress during the pandemic. The disease due to its uncertain nature was a source of immense confusion and fear. Long working hours, managing emergencies, and seeing casualties were responsible for taking a toll on the mental health of the healthcare professionals, especially the frontline workers, and hence psychological support to the staff is of paramount importance in dealing with a pandemic.

Despite the fact that medical personnel play a critical role during a pandemic, they are vulnerable to the psychological effects of COVID-19 management. Front-line healthcare personnel such as nurses, laboratory technicians, and primary care physicians who dealt with these patients are at a higher risk than others. Excessive labor and work hours, insufficient personal protective equipment, overblown media news, and lack of support from higher authorities were leading to negative psychological effects in them. Another significant factor influencing such psychological effects is the infection rate among medical personnel and there was always a fear and stigma of sudden transition to a patient [30].

Table 4. Responses of healthcare workers for assessment of fear in workplace and disease

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Fear of workplace					
I believe that due to the current COVID-19 situation post lockdown there is a fear in attending the clinic/hospital	8 (5.3%)	9 (5.9%)	55 (36.2%)	41 (27%)	2 (5.9%)
I fear that longer the duty hours can increase chance of disease transmission	2 (1.3%)	9 (5.9%)	40 (26.3%)	51 (33.6%)	50 (32.9%)
I believe that the frontline staff: nurses and additional medical staff (besides doctor)-are more exposed or at greater threat	0 (0%)	0 (0%)	31 (20.4%)	42 (27.6%)	79 (52%)
I have developed fear of contacting the disease from patients who are asymptomatic	8 (5.3%)	35 (23%)	61 (40.1%)	29 (19.1%)	19 (12.5%)
I believe that due to fear of contacting the disease, every symptomatic case must be treated as COVID-19 case	4 (2.6%)	21 (3.8%)	51 (33.6%)	36 (23.7%)	40 (26.3%)
Fear of disease					
I am afraid of becoming a carrier of the virus and then communicating to the others	8 (5.3%)	20 (13.2%)	53 (34.9%)	46 (30.3%)	25 (16.4%)
I am worried about transferring the disease to the family and close ones.	6 (3.9%)	13 (8.6%)	51 (33.6%)	38 (25%)	44 (28.9%)
I fear that the lifting of lockdown by the government has added to the number of cases	6 (3.9%)	8 (5.3%)	51 (33.6%)	42 (27.6%)	45 (29.6%)
I believe that the information from media and social media has increased the chances of spreading fear in the healthcare community	4 (2.6%)	3 (2.0%)	32 (21.1%)	53 (34.9%)	60 (39.5%)
I believe that there is a need of mental health and psychological support to combat fear among the medical workers.	3 (2.0%)	1 (0.7%)	31 (20.4%)	38 (25.0%)	79 (52.0%)

Table 5. Comparison of demographic features with fear of COVID-19 at the workplace

Features	Level	Yes 102 (100%)	No 50 (100%)	Total count 152 (100%)	p-value
Age group	<45 years	74 (72.5%)	46 (92%)	120 (78.9%)	0.03*
	>45 years	28 (27.5%)	4 (8.0%)	32 (21.1%)	
Gender	Female	54 (52.9%)	24 (48%)	78 (51.3%)	0.04*
	Male	48 (47.1%)	26 (52%)	74 (48.7%)	
Marital status	Married	62 (60.8%)	20 (40%)	82 (53.9%)	0.02*
	Separated	1 (1%)	0 (0%)	1 (1%)	
	Unmarried	39 (38.2%)	30 (60%)	69 (45.4%)	
Profession	Frontline workers	74 (72.5%)	40 (80%)	114 (75%)	0.01*
	Non-frontline workers	28 (27%)	10 (20%)	38 (25%)	
Institution	Pharmacy	6 (5.9%)	1 (2%)	7 (4.6%)	0.06
	Clinic	12 (11.8%)	11 (22%)	23 (15.1%)	
	Hospital setup	84 (82.4%)	38 (76%)	122 (80.3%)	
Practice of place	Metro	5 (4.9%)	6 (12%)	11 (7.2%)	0.781
	Semiurban	91 (89.2%)	44 (88%)	35 (88.8%)	
	Urban	6 (5.9%)	0 (0%)	6 (3.9%)	

Comparison between groups formed on the fear at workplace assessment. Values expressed as n (%).

*p <0.05 being considered significant.

Table 6. Comparison of demographic features with fear of the disease COVID-19

Features	Level	Yes 102 (100%)	No 50 (100%)	Total count 152 (100%)	p-value
Age group	<45 years	91	75.8%	29	0.03*
	>45 years	29	24.2%	3	
Gender	Female	61	50.8%	17	0.02*
	Male	59	49.2%	15	
Marital status	Married	67	55.8%	15	0.01*
	Separated	1	0.8%	0	
	Unmarried	52	43.3%	17	
Profession	Frontline workers	87	72.5%	27	0.02*
	Non-frontline workers	33	27.5%	5	
Institution	Pharmacy	7	5.8%	0	0.17
	Clinic	16	13.3%	7	
	Hospital set up	97	80.8%	25	
Practice of place	Metro	6	5%	5	0.81
	Semiurban	108	90%	27	
	Urban	6	5%	0	

Comparison between groups formed on the fear of disease assessment. Values expressed as n (%).

*p <0.05 being considered significant





REFERENCES

- [1] W. World Health Organization, "Interim report 27 August 2020 1," *Pulse Survey on Continuity of Essential Health Services During the COVID-19 Pandemic*, vol. 74, no. 12, pp. 3156–3159, 2021.
- [2] WHO, "Operational guidance for maintaining essential health services during an outbreak," *World Health Organization*, no. March, pp. 1–10, 2020.
- [3] S. Krishnan, S. Deo, and S. Manurkar, "50 Days of lockdown : measuring India ' s Success in Arresting COVID-19," *Observer Research Foundation*, no. 107, pp. 1–12, 2020.
- [4] E. Jaffe *et al.*, "The role of emergency medical services in containing COVID-19," *American Journal of Emergency Medicine*, vol. 38, no. 7, W.B. Saunders, pp. 1526–1527, Jul. 2020, doi: 10.1016/j.ajem.2020.04.023.
- [5] N. Sun, L. Wei, S. Shi, D. Jiao, R. Song, and L. Ma, "A qualitative study on the psychological experience of caregivers of COVID-19 patients," *American Journal of Infection Control*, vol. 48, no. 6, pp. 592–598, 2020, doi: doi.org/10.1016/j.ajic.2020.03.018.
- [6] T. Ramaci, M. Barattucci, C. Ledda, and V. Rapisarda, "Social stigma during COVID-19 and its impact on HCWs outcomes," *Sustainability (Switzerland)*, vol. 12, no. 9, pp. 1–13, 2020, doi: 10.3390/su12093834.
- [7] S. Gupta and S. Sahoo, "Pandemic and mental health of the front-line healthcare workers: a review and implications in the Indian context amidst COVID-19," *General Psychiatry*, vol. 33, no. 5, p. e100284, 2020, doi: 10.1136/gpsych-2020-100284.
- [8] D. Roy, S. Tripathy, S. K. Kar, N. Sharma, S. K. Verma, and V. Kaushal, "Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic," *Asian Journal of Psychiatry*, vol. 51, no. April, p. 102083, 2020, doi: 10.1016/j.ajp.2020.102083.
- [9] D. K. Ahorsu, C. Y. Lin, V. Imani, M. Saffari, M. D. Griffiths, and A. H. Pakpour, "The fear of COVID-19 Scale: development and initial validation," *International Journal of Mental Health and Addiction*, vol. 20, no. 3, pp. 1537–1545, 2022, doi: 10.1007/s11469-020-00270-8.
- [10] C. for D. C. and Prevention, "Strategies to mitigate healthcare personnel staffing shortages," *Coronavirus Disease 2019 (COVID-19)*, pp. 1–5, 2021.
- [11] A. A. Annan *et al.*, "Health care workers indicate ill preparedness for Ebola Virus Disease outbreak in Ashanti Region of Ghana," *BMC Public Health*, vol. 17, no. 1, pp. 1–7, 2017, doi: 10.1186/s12889-017-4474-6.
- [12] S. W. J. Raven, H. Wurie, "Health workers' experiences of coping with the Ebola epidemic in Sierra Leone's health system: a qualitative study," *BMC Health Services Research*, vol. 18, no. 1, p. 251, 2018, doi: 10.1186/s12913-018-3072-3.





- [13] K. Prescott, E. Baxter, C. Lynch, S. Jassal, A. Bashir, and J. Gray, "COVID-19: how prepared are front-line healthcare workers in England?," *Journal of Hospital Infection*, vol. 105, no. 2, pp. 142–145, 2020, doi: 10.1016/j.jhin.2020.04.031.
- [14] Y. Luo, X. Feng, M. Zheng, D. Zhang, H. Xiao, and N. Li, "Willingness to participate in front-line work during the COVID-19 pandemic: A cross-sectional study of nurses from a province in South-West China," *Journal of Nursing Management*, vol. 29, no. 6, pp. 1356–1365, 2021, doi: 10.1111/jonm.13309.
- [15] M. A. Asemahagn, "Factors determining the knowledge and prevention practice of healthcare workers towards COVID-19 in Amhara region, Ethiopia: A cross-sectional survey," *Tropical Medicine and Health*, vol. 48, no. 1, 2020, doi: 10.1186/s41182-020-00254-3.
- [16] M. Yesse *et al.*, "Assessment of knowledge, attitude and practice toward COVID-19 and associated factors among health care workers in Silte Zone, Southern Ethiopia," *PLoS ONE*, vol. 16, no. 10 October, pp. 1–7, 2021, doi: 10.1371/journal.pone.0257058.
- [17] B. A. Kassie, A. Adane, Y. T. Tilahun, E. A. Kassahun, A. S. Ayele, and A. K. Belew, "Knowledge and attitude towards COVID-19 and associated factors among health care providers in Northwest Ethiopia," *PLoS ONE*, vol. 15, no. 8 august, pp. 1–12, 2020, doi: 10.1371/journal.pone.0238415.
- [18] M. A. Alao, A. O. Durodola, O. R. Ibrahim, and O. A. Asinobi, "Assessment of health workers' knowledge, beliefs, attitudes, and use of personal protective equipment for prevention of COVID-19 infection in low-resource settings," *Advances in Public Health*, vol. 2020, no. May, 2020, doi: 10.1155/2020/4619214.
- [19] L. Hashim *et al.*, "Physician preparedness in response to the coronavirus disease 2019 pandemic: a cross-sectional study from a developing country," *Cureus*, vol. 12, no. 9, 2020, doi: 10.7759/cureus.10383.
- [20] M. Elhadi *et al.*, "Assessment of healthcare workers' levels of preparedness and awareness regarding COVID-19 infection in low-resource settings," *American Journal of Tropical Medicine and Hygiene*, vol. 103, no. 2, pp. 828–833, 2020, doi: 10.4269/ajtmh.20-0330.
- [21] H. T. Mohammed *et al.*, "Exploring the use and challenges of implementing virtual visits during COVID-19 in primary care and lessons for sustained use," *PLoS ONE*, vol. 16, no. 6 June, pp. 1–11, 2021, doi: 10.1371/journal.pone.0253665.
- [22] A. Finset *et al.*, "Effective health communication – a key factor in fighting the COVID-19 pandemic," *Patient Education and Counseling*, vol. 103, no. 5, pp. 873–876, 2020, doi: 10.1016/j.pec.2020.03.027.
- [23] J. B. T. Herron, A. G. C. Hay-David, A. D. Gilliam, and P. A. Brennan, "Personal protective equipment and COVID 19- a risk to healthcare staff?," *British Journal of Oral and Maxillofacial Surgery*, vol. 58, no. 5, pp. 500–502, 2020, doi: 10.1016/j.bjoms.2020.04.015.
- [24] S. Rathnayake, D. Dasanayake, S. D. Maithreepala, R. Ekanayake, and P. L. Basnayake, "Nurses' perspectives of taking care of patients with Coronavirus disease 2019: A phenomenological study," *PLoS ONE*, vol. 16, no. 9 September, pp. 1–17, 2021, doi: 10.1371/journal.pone.0257064.
- [25] K. A. Cawcutt, R. Starlin, and M. E. Rupp, "Fighting fear in healthcare workers during the COVID-19 pandemic," *Infection Control and Hospital Epidemiology*, vol. 41, no. 10, pp. 1192–1193, 2020, doi: 10.1017/ice.2020.315.
- [26] A. Troisi, R. C. Nanni, A. Riconi, V. Carola, and D. Di Cave, "Fear of COVID-19 among healthcare workers: The role of neuroticism and fearful attachment," *Journal of Clinical Medicine*, vol. 10, no. 19, 2021, doi: 10.3390/jcm10194358.
- [27] Y. Sahashi *et al.*, "Worries and concerns among healthcare workers during the coronavirus 2019 pandemic: A web-based cross-sectional survey," *Humanities and Social Sciences Communications*, vol. 8, no. 1, pp. 1–8, 2021, doi: 10.1057/s41599-021-00716-x.
- [28] A. R. Ahmad and H. R. Murad, "The impact of social media on panic during the COVID-19 pandemic in iraqi kurdistan: Online questionnaire study," *Journal of Medical Internet Research*, vol. 22, no. 5, pp. 1–11, 2020, doi: 10.2196/19556.
- [29] A. Anwar, M. Malik, V. Raees, and A. Anwar, "Role of mass media and public health communications in the COVID-19 pandemic," *Cureus*, vol. 12, no. 9, 2020, doi: 10.7759/cureus.10453.
- [30] M. S. Spoorthy, "Mental health problems faced by healthcare workers due to the COVID-19 pandemic–A review," *Asian Journal of Psychiatry*, vol. 51, pp. 1–6, 2020, doi: 10.1016/j.ajp.2020.102119

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