



HEALTH CARE WORKERS' AWARENESS OF COVID-19 AND ANXIETY AT A TERTIARY CARE CENTER IN NORTHERN INDIA

Dr. Aparna P. Patange,

Associate Professor, Department of General Medicine,
Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth, "Deemed To Be University", Karad – 415110, Maharashtra

Mr. Mahendra Alate,

Statistician Krishna Vishwa Vidyapeeth, "Deemed To Be University",
Karad – 415110, Maharashtra

ABSTRACT

Introduction: The COVID-19 outbreak poses a significant threat to the physical and mental health of people all around the world. Every community on earth is being adversely affected by the pandemic. The effect of COVID-19 on psychological health, particularly among "Health-Care Workers (HCWs)", has not been adequately addressed as a result of pandemic fatigue, in part because HCWs are more fearful of contracting the disease, dying from it, experiencing increased work-related stress, and being over-saturated with news on social media and other platforms. The current survey analyses the anxiety and the level of knowledge among the HCWs in the current scenario of the COVID-19.

Material and methods: The knowledge and anxiety levels of 212 HCWs at a north Indian tertiary care hospital about the COVID-19 were assessed by an online survey utilising a specially created questionnaire. The questionnaire was constructed based on the previous studies that analysed the same among the various HCWs. All of the HCWs who were at the center received the questionnaire and an informed consent in order to evaluate their understanding of and anxiety about COVID-19. The observations made were presented as percentages.

Results: From the 201 finalised participants over 90% strongly agreed that the droplet infection is the main factor contributing to the COVID-19 pandemic's spread; that spreading an infection can always be avoided by keeping one's distance from others, washing one's hands properly, using hand sanitizer, and donning a mask; isolation and quarantine are crucial measures to stop the novel coronavirus's spread. In all, 93% of participants had adequate understanding of COVID-19-related topics. 13% of participants reported being the least concerned about COVID-19, whereas the majority of subjects only rarely expressed concern. 25% of the participants in total reported strongly feeling uneasy about getting the illness. 50% of patients strongly experienced chronic insomnia and sleep impairment. A total of >90% of health professionals reported feeling uneasy when approaching a patient from a high-risk location or contact.

Conclusion: Researching the psychological effects of the pandemic on HCWs is crucial, in light of this. The awareness effort must be intensified during this COVID-19 epidemic, and HCWs' mental health issues must be addressed. Tailored interventions in addition to the necessary structural modifications are needed.

Keywords: Knowledge, COVID-19, Anxiety, Mental Health, Health Workers.

INTRODUCTION

People all across the world are going to be affected by the unique corona viral infection that started in December 2019 in Wuhan, China. This infection was first discovered there. Pandemics typically provide a variety of obstacles to people of all ages and cultures, but their impact on the mental health of those working in health care is significant.^{1,2} The COVID-19 pandemic has resulted in a high mortality toll across the world, and it has infected thousands of people who work in the health care industry. HCWs are among the most vulnerable members of society due to the high risk of infection they face. This is primarily the result of repeated exposure to infectious agents, increased levels of stress brought on by their jobs, and the anxiety brought on by the worry that they will either become infected themselves or pass the disease on to their families.³⁻⁵ Because COVID-19 is a relatively new viral illness, a lot of the evidences continuously changing, and many myths are prevalent when it comes to the prevention and therapy of the virus. Studies conducted in Ethiopia have revealed that health care workers have a significant amount of information, attitude, and behaviours relating to COVID-19; nonetheless, it is possible that this is not enough to control the pandemic. 1 Past studies have demonstrated that being placed in quarantine can have a significant, far-reaching, and perhaps long-lasting impact on an individual's mental health.^{2,6,7} In the course of influenza pandemics that have occurred in the past, a wide variety of psychiatric problems have become more prevalent. Investigations that were carried out about the novel corona virus infection revealed a high level of anxiety, with a significant proportion of participants being obsessed with ideas linked to the infection.⁸⁻¹⁰ It is a vital necessity that these frontline healthcare workers, who are working with COVID patients, have the appropriate plans and also resources to carry out the multiple responsibilities they confront throughout the pandemic. This is because they are working with patients.¹¹⁻¹⁵ The major purpose of this research is to assess the levels of knowledge and anxiety around COVID-19 held by HCWs working in a tertiary care facility in the northern India. In addition to this, it seeks to determine the primary contributors to anxious feelings experienced by these HCWs.

MATERIALS AND METHODS

Study design and setting:

In a tertiary care facility in northern India, researchers conducted this cross-sectional observational study. The Institutional Ethics Committee and the Scientific Research Committee both gave their approval for the study. The design of the questionnaire is adapted from a similar study conducted in India by Lakshmi et al.¹⁵

Study subjects and methodology:

All the HCWs working at the hospital received the questionnaire and an informed consent. The sociodemographic information was gathered in the questionnaire's first section. The survey was done online by the help of the google forms and the language for the instructions was English. The following section includes 5 questions to test the study participants' understanding of coronavirus infection. Thereafter, 25 questions measuring the condition-related anxiety were asked. The last question on the survey asked respondents what most was worrying them about the corona pandemic. The survey was conducted for a period of 3 months in 2022 from April-June. The collection of data was later carried out and verified for any mistakes for 2 months. The study excluded those who declined to take part in it and those whose responses were not thorough.

Statistical analysis:

For analysis, IBM Corp.'s Statistical Package for Social Sciences, IBM SPSS Statistics for Windows, Version 25.0 (Armonk, NY: IBM Corp.), was used. Descriptive statistics were employed to assess the results after the data was analysed with the help of the SPSS programme. To estimate the outcomes, proportions, mean, and standard deviation were employed.

RESULTS

HCWs working in a tertiary care hospital in north India were asked to complete an online survey to determine how well-informed they were about the COVID-19 pandemic and how much anxiety, dread, and compulsive behavior they were displaying. 212 hospital employees that work in the health field took part in the study. All of the participants were over the age of 18, had access to the Internet, and were able to understand the questionnaires written in English. After the exclusion of the participants based on the study selection criteria, 201 participants were finalised.

Participants' characteristics

The study's participants were a mean age of 28.35 years. Around 80% of participants were female, and 20% were male. Majority of the participants were married and graduates. Over 80% of the participants were doctors and nurses. **Table 1**

Table 1: Demographics and other characteristics of the participants

Characteristic	N	%
Age		
• 20–25	30	15
• 26–30	82	41
• 31–35	48	24
• 36–40	20	10
• ≥ 40	21	10
Gender		
• Male	40	20
• Female	161	80

Qualification		
• Graduate	146	73
• Post graduate	42	21
• Speciality	13	6
Marital status		
• Married	121	60
• Unmarried	72	36
• Others	8	4
Profession		
• Doctors	52	26
• Nurses	112	56
• Physiotherapists	6	3
• Dentists	2	1
• Others	29	14

Assessment of the Knowledge

From the 201 participants 93% strongly agreed that the droplet infection is the main factor contributing to the COVID-19 pandemic's spread. A small percentage of people disagreed with this, nevertheless. A total of 93% of the participants agreed with the statement that spreading an infection can always be avoided by keeping one's distance from others, washing one's hands properly, using hand sanitizer, and donning a mask. Just 2% of individuals disagreed with this statement. A sizable portion (94%) of study participants felt that isolation and quarantine are crucial measures to stop the novel coronavirus's spread and believed that the disease is more harmful in those who also have comorbid disorders such chronic respiratory disease, cancer, diabetes, and so on. 6% of respondents thought that COVID-19 might be spread by both symptomatic and asymptomatic cases. In all, 93% of participants had adequate understanding of COVID-19-related topics. **Table 2**

Table 2: Responses from participants regarding their degree of knowledge (expressed in percentage)

Question	Always	Often	Sometimes	Rarely	Never
1. How much do you think droplet infection plays a big role in the COVID-19 virus's ability to spread?	61	32	4	2	1
2. Do you believe that keeping your distance from others, washing your hands frequently, and wearing	60	33	3	2	2

a mask can help you from being sick?					
3. To what extent do you think quarantine and isolation are necessary measures to stop the spread of new coronavirus disease?	63	31	4	2	1
4. To what extent do you think that those with major health issues are more at risk for the disease?	61	31	4	3	1
5. The risk of the new coronavirus spreading comes from both symptomatic and asymptomatic cases.	63	31	2	2	2

Anxiety Associated

13% of participants reported being the least concerned about COVID-19, whereas the majority of subjects only rarely expressed concern. 25% of the participants in total reported strongly feeling uneasy about getting the illness. 50% of patients strongly experienced chronic insomnia and sleep impairment. In contrast to a tiny percentage (20%) who were consistently impacted by the overabundance of news about the pandemic in social media, a sizable number of participants were only occasionally affected by the posts on social media about the virus. Only a fifth of participants felt the need to stock up on necessities at home. When chatting to someone who was wearing a mask incorrectly, a sizable portion (93%) of participants always described feeling anxious, while only 4% were unconcerned. A total of 60% were constantly concerned for themselves and their loved ones, and 33% were frequently concerned. Of the 201 individuals, 65 used hand sanitizer and a mask frequently, 32 constantly, and 1 person just occasionally. Nobody had demonstrated any reluctance to use sanitizer and masks. While a small fraction of the individuals had these symptoms when thinking about the COVID-19 difficulties, the majority of them did not. A total of >90% of health professionals reported feeling uneasy when approaching a patient from a high-risk location or contact, whereas 2% reported feeling uneasy never. While the majority of health professionals had little trouble managing their tension or worries, a small minority experienced emotional outbursts like crying or losing their temper. A total of 75% of persons never skipped working because they feared being sick, compared to 10% who always avoided work and 5% who frequently avoided working. Regarding the financial crisis brought on by the pandemic, 65% of respondents always felt concerned and a total of >15% of respondents felt depressed. 50% of individuals reported never going to events because of fear of

becoming sick. 10% of persons overall never avoided social engagements, whereas 2% never felt the desire to go out. While a small number of participants were never reluctant to attend, a total of 15% of participants always or frequently utilised justifications to avoid large gatherings, even in hospitals. Some people expressed hesitation while receiving packages or placing online food orders, but the vast majority never did. When a member in their social circle was reported to be ill, 10% of people never felt worried, whereas 50% did. Only 5 percent of the study participants always wore masks indoors in their homes, even when there were no symptoms or signs of infection, and 40 percent never cared about it. A total of 10% of respondents looked up local instances on social media and the Aarogya Setu website. A total of 30% felt the need to wash their hands multiple times and still worry about them after doing so. 10% of people, though, never became fixated on it. Upon encountering COVID-positive patients, 5% of people were always plagued with unsettling thoughts, compared to 30% of people who were unconcerned about it. **Table 3**

Table 3: Responses from participants regarding their degree of anxiety (expressed in percentage).

Question	Always	Often	Sometimes	Rarely	Never
1 How frequently do you worry excessively about COVID-19?	15	27	30	15	13
2 How frequently do you worry that you might catch a new coronavirus infection?	10	15	35	25	15
3 How frequently have you struggled to sleep or experienced insomnia because of the coronavirus pandemic?	20	30	30	10	10
4 How frequently do social media posts concerning coronavirus infections influence you?	10	10	20	35	25
5 How much do you think it is necessary to stock up on all necessities at home?	10	10	20	35	25
6 How frequently do you experience anxiety when conversing with someone wearing an incorrect or missing mask?	61	32	4	2	1
7 After learning about the spread of the COVID-19 illness, do you worry about yourself and your loved ones?	60	33	3	2	2
8 How frequently do you experience fear or anxiety after reading about the COVID-19 pandemic in the news or on social media?	63	31	4	2	1

9 When you read or hear news about COVID-19, do you feel lightheaded, woozy, or faint?	10	10	10	60	10
10 Do you experience nausea, indigestion, or other comparable symptoms when you think about COVID-19?	5	5	10	20	60
11 When you think about COVID-19, do you find it difficult to regulate the tension or anxiety that cause emotional outbursts?	61	32	4	2	1
How much do you feel uneasy when approaching a patient from a high-risk location or contact?	60	33	3	2	2
13 Have you ever avoided going to work out of fear of getting sick?	10	5	10	25	50
14 Do you experience any depression or anxiety as a result of the ongoing financial crisis brought on by the pandemic?	10	5	10	25	50
15 To what extent do you worry about your family's potential financial burden in the event of a COVID-19 hospital admission?	65	32	2	1	0
16 Have you ever stayed away from outdoor events out of fear of catching COVID-19?	10	5	10	25	50
17 Do you make sure to only leave the house when it is absolutely necessary?	60	33	3	2	2
18 Do you use excuse to avoid attending big meetings?	2	3	10	40	45
19 How frequently do you panic if someone in your social circle reports becoming ill?	30	20	20	20	10
20 Do you check Aarogya Setu or social media platforms to see if a case has been reported in your area?	10	5	10	25	50
How frequently do you have unsettling ideas that persons you've seen might be infected with the coronavirus?	5	10	15	30	30

22 How reluctant are you to buy food online or in packages?	60	33	3	2	2
23 How frequently do you experience the impulse to wash your hands, and does it still worry you afterward?	10	20	30	30	10
24 Do you frequently wear a mask indoors although showing no outward symptoms of an infection?	5	5	20	30	40
25 How often do you use hand sanitizer?	65	32	2	1	0

DISCUSSION

The pathogen and its effects on health are the main focus during an epidemic's breakout. The effects of pandemics and illnesses have a detrimental effect on the internal wellbeing of a given population. Pandemic and epidemic-related dread and anxiety also provide insight into public behaviour. Internal health and behavioural changes are typically regarded as secondary. In order to validate the impact of the COVID-19 on psychological health and behaviour, the study used an online check to assess knowledge of the COVID-19 epidemic, anxiety, and concern of HCWs on the epidemic.¹¹⁻¹⁵ This pandemic offers a unique opportunity to explore how psychological health and behaviour differ. An identical study that evaluated the Indian population's attitude, knowledge, and perceived need for internal health care during the COVID-19 outbreak demonstrated low but adequate awareness about the virus and its preventative elements.⁹ The study found a lot of high-anxiety scenarios. HCWs made up the majority of their inclusions. They were at a high level of attention regarding the signs and ways that the disease spread, while yet being reasonable conscious of the protective actions. Perhaps it was brought on by the government and media placing more emphasis on taking defensive measures. This information further upsets educated people and health care workers, who must continue to work because of their commitment to their job. In order for the institution to develop methods or sessions to address the concerns, it is critical to assess the level of anxiety and related issues that the HCWs are dealing with. This will help to promote the psychological well-being of the workers.^{16,17}

According to a previous study, health professionals frequently adopt an upbeat attitude towards pandemics and epidemics, have better mindfulness, and frequently experience low levels of anxiety.¹⁰ During the 2015 Ebola epidemic, a study from Ethiopia found that health professionals' incorrect beliefs and lack of knowledge led to intense training for them.¹¹ In current study, the HCWs had a high position of mindfulness. The study population had a noticeably reduced likelihood of having trouble falling asleep or restraining pressure or anxieties related to COVID-19. The majority of the study participants weren't impacted by social media posts, but the 2009–2010 swine flu pandemic, which resulted in high mortality globally and attracted international media attention, greatly increased public anxiety.^{12,13} One-fifth of the participants felt the need to stock up on all necessary items at home. Concerns over the COVID-19 infection's spread were expressed by half of them. After

learning about the spread of the COVID-19 infection, over half of the population felt bad about themselves and their loved ones. Most of the study's participants felt anxious when chatting to someone wearing no mask or a mask that was tied improperly. According to a research analysing the general population's concern during the COVID-19 epidemic in Iran, women, those between the ages of 21 and 40, and those who followed COVID-19-related news more closely all displayed higher levels of anxiety.¹⁴ HCWs had modest levels of preoccupation and dread, but they were nonetheless cautious to avoid settings like meetings where the disease might be contracted. Approximately half of them were forbidden from attending events, while the other half pledged to leave the house only in an emergency. In the end, those who had at least one friend, family member, or related who became infected with COVID-19 had a much higher level of anxiety. A third of them once worried that people in their social circle would notice their COVID positivity. 15% of people were painstakingly scouring social media to find the signs of neighbouring COVID outbreaks, and 5% of them planned to wear masks indoors. The fact that less than 50% of the study's participants thought they needed to wash their hands frequently and that doing so worried them thereafter shows that many participants still experience anxiety despite using the recommended procedures. Participants in the study mentioned sporadically using masks, hand sanitizers, and hand washing. This demonstrates the participants' awareness of and training in using personal aseptic procedures to prevent contracting COVID-19 infection.¹⁸⁻²⁰ Poor mental health was correlated with a heavy workload, being near COVID-19, whereas being knowledgeable about COVID-19, working in a supportive workplace, and having adequate PPE were protective variables in various studies.^{20,21} In order to safeguard our health and social care professionals from negative mental health consequences, it has been suggested that psychological resilience training tailored to each individual worker may be useful. Yet, this cannot absolve larger organizations and systems of responsibility. It is suggested that in order to create a productive, secure, and supportive work environment, a comprehensive strategy for the psychological wellbeing of HCWs is required. This strategy should include tailored interventions in addition to the necessary structural modifications. It is advised to conduct additional study that takes into account social workers and analyses larger societal structural problems.¹⁷⁻²¹

Limitation

The questionnaire is adapted from a single study done in south India. The same was adapted since this was based in India. Only those with Internet access and English language proficiency were allowed to participate in the study. Comparisons were not made for impact of the level of the profession or the age and the level of anxiety, knowledge.

CONCLUSION

It is critical to conduct research on the effects of the pandemic on the psychological health of healthcare employees. With the current COVID-19 pandemic, there is an imperative need to ramp up the awareness programmes and address the concerns that HCWs have with regard to their mental health.

REFERENCES

1. Gold JA. Covid-19: adverse mental health outcomes for healthcare workers. *BMJ*. 2020;369:m1815 <https://doi-org.knowledge.idm.oclc.org/10.1136/bmj.m1815>.
2. Petrie K, Crawford J, Baker STE, Dean K, Robinson J, Veness BJ, et al. Interventions to reduce symptoms of common mental disorders and suicidal ideation in physicians: a systematic review and meta-analysis. *Lancet Psychiatry*. 2019;6(3):225–34 [https://doi.org/10.1016/S2215-0366\(18\)30509-1](https://doi.org/10.1016/S2215-0366(18)30509-1).
3. Nguyen LH, Drew DA, Graham MS, Joshi AD, Guo C, Ma W, et al. Risk of COVID-19 among front-line health-care workers and the general community: a prospective cohort study. *Lancet Public Health*. 2020;5(9): e475–83. [https://doi.org/10.1016/S2468-2667\(20\)30164-X](https://doi.org/10.1016/S2468-2667(20)30164-X).
4. Chew NW, Lee GK, Tan BY, Jing M, Goh Y, Ngiam NJH, et al. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain Behav Immun*. 2020;88:559–65. <https://doi.org/10.1016/j.bbi.2020.04.049>.
5. Tawfik DS, Scheid A, Profit J, Shanafelt T, Trockel M, Adair KC, et al. Evidence relating health care provider burnout and quality of care: a systematic review and meta-analysis. *Ann Intern Med*. 2019;171(8):555–67. <https://doi.org/10.7326/M19-1152>
6. Ladds E, Rushforth A, Wieringa S, et al. Persistent symptoms after Covid-19: qualitative study of 114 “long Covid” patients and draft quality principles for services. *BMC Health Serv Res*. 2020;20:114-127.
7. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*. 2020;395:912-920.
8. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mentalhealthcare need in Indian population during COVID-19 pan- demic. *Asian J Psychiatr*. 2020;51:102083.
9. Mishra P, Bhadauria US, Dasar PL, et al. Knowledge, attitude and anxiety towards pandemic flu a potential bio weapon among health professionals in Indore City. *Przegl Epidemiol*. 2016;70:41-45, 125-127.
10. Singh K, Bhat N, Chaudhary H, Asawa K, Sharda A, Agrawal A. Knowledge, attitude, behavioural response and use of preventive measures regarding pandemic H1N1 influenza outbreak among dental students in Udaipur City, India. *Oral Health Prev Dent*. 2012;10:339-344.
11. Abebe TB, Bhagavathula AS, Tefera YG, et al. Healthcare professionals' awareness, knowledge, attitudes, perceptions, and beliefs about Ebola at Gondar University Hospital, Northwest Ethiopia: a cross-sectional study. *J Public Health Afr*. 2016;7:55-60.
12. Everts J. Announcing swine flu and the interpretation of pandemic anxiety. *Antipode*. 2013;45:809-825.
13. Gorbalenya AE, Baker SC, Baric RS, et al. The species severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-COV-2. *Nat*

Microbiol. 2020;5:536-544.

14. Moghanibashi-Mansourieh A. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian J Psychiatr.* 2020;51:102076.

15. Lakshmi KP, Prasanna P, Chandra S, Arya G K, Abhinandh B, Binil B, et al. COVID-19-Related Knowledge and Anxiety Among Health-Care Workers in a Tertiary Care Centre in Kerala. *Indian Journal of Clinical Medicine.* 2021;11(1-2):7-13. doi:10.1177/26339447221098464.

16. Xiang Y-T, Yang Y, Li W, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *The Lancet Psychiatry* 2020;7:228–9. doi:10.1016/S2215-0366(20)30046-8.

17. Halpin SJ, McIvor C, Whyatt G, Adams A, Harvey O, McLean L, et al. Postdischarge symptoms and rehabilitation needs in survivors of COVID-19 infection: A cross-sectional evaluation. *J Med Virol.* 2021 Feb;93(2):1013-1022. doi: 10.1002/jmv.26368. Epub 2020 Aug 17. PMID: 32729939.

18. Xiong S, Liu L, Lin F, Shi J, Han L, Liu H, et al. Clinical characteristics of 116 hospitalized patients with COVID-19 in Wuhan, China: a single- centered, retrospective, observational study. *BMC Infect Dis.* 2020;20:787-793.

19. Kumar A, Nayar KR. COVID 19 and its mental health consequences. *Journal of Mental Health.* 2021 Jan 2;30(1):1-2

20. Banerjee D. The COVID-19 outbreak: crucial role the psychiatrists can play. *Asian J Psychiatr* 2020;50:102014. doi:10.1016/j.ajp.2020.102014

21. De Kock JH, Latham HA, Leslie SJ, Grindle M, Munoz SA, Ellis L, Polson R, O'Malley CM. A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being. *BMC Public Health.* 2021 Jan 9;21(1):104. doi: 10.1186/s12889-020-10070-3. PMID: 33422039; PMCID: PMC7794640.