COVID-19-Related Knowledge and Anxiety Among Health-Care Workers in a Tertiary Care Centre in Kerala

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Abstract

Introduction: The COVID-19 pandemic has posed an immense threat to both physical as well as mental health globally. The outbreak is immeasurably affecting all the communities worldwide. The pandemic fatigue has led to inadequate addressing of the impact of COVID-19 on mental health especially among the health-care workers (HCWs), mainly due to the fear of disease contraction, mortality of the condition, raised work stress, as well as the saturation of news on media and other social platforms. Prolonged confinement at home may also adversely impact mental health.

Method: An online survey was conducted using a developed questionnaire to evaluate the knowledge and anxiety among 118 HCWs regarding the COVID-19 pandemic in a tertiary care hospital. Since the study was conducted during the period in which no standard questionnaires were available, an online questionnaire was developed based on a few articles published in indexed journals on the similar topic which was further approved by 5 experts in the field. The questionnaire along with an informed consent was sent to all the HCWs employed in the hospital to assess their knowledge and anxiety related to COVID-19.

Result: A total of 92.47% of participants were strongly aware that the major mechanism in COVID spread is droplet infection. An equal percentage of participants had good knowledge that the infection can always be prevented by maintaining social distance, appropriate hand washing, hand sanitizing, and using a mask. However, around 40.67% of participants avoided large meetings even in hospitals due to fear of the pandemic.

Conclusion: It is important to study the mental health impacts of HCWs during the pandemic. There is a need to intensify the awareness program and address the mental health issues of HCWs during this COVID-19 pandemic.

Keywords: Mental health, knowledge, anxiety, COVID-19

Introduction

The novel corona viral infection that began in December 2019 in Wuhan, China has an impact on the well-being of people all around the world. Pandemics usually place various challenges on people of all age groups and cultures, but their influence on the mental health of the health-care personnel is severe. COVID-19 pandemic has caused a heavy global death rate and thousands of health-care workers (HCWs) were infected. While we consider the mental health impact of pandemics, HCWs are a mostly susceptible group due to the high risk of infection, mainly due to repeated exposure, increased work stress, and the fear of contracting the infection or spreading the infection to their relatives. Being a relatively new viral infection, a lot of evidences keep changing and many myths are prevailing regarding the prevention and management of COVID-19 infection. Some studies from Ethiopia have shown that HCWs have considerable knowledge, attitude, and practices with regard to COVID-19, but this may not be enough to control the pandemic. Previous research has documented that the psychological effect of quarantine is substantial, wide-ranging, and can be long lasting. Influenza epidemics in the past have seen an
incidence of a wide range of psychiatric issues related to it. Studies conducted concerning novel corona viral infection have shown a high level of anxiety with a large percentage of participants being preoccupied with thoughts related to the infection. It is absolutely necessary that these frontline HCWs, who are working with COVID patients, have the necessary plans and also resources to undergo numerous tasks they face during the pandemic. The primary objective of this study is to estimate the knowledge and anxiety related to COVID-19 among the HCWs in a tertiary care center in Kerala. It also aims to estimate the major factors associated with anxiety in these HCWs.

Materials and Methods

This is a cross-sectional observational study conducted in a tertiary care center in Kerala. The study was approved by the Scientific Research Committee and the Institutional Ethics Committee. Since the study was conducted during the period in which no standard questionnaires were available, an online questionnaire was developed from various reliable sources and was approved by 5 psychiatrists independently. The questionnaire along with an informed consent was sent to all the HCWs employed in the hospital. The initial part of the questionnaire collected the sociodemographic details. The next part contained 5 questions to assess the knowledge of the study participants regarding coronavirus infection. This was followed by 25 questions, assessing the anxiety related to the condition. The questionnaire concluded with a question on the greatest cause of their worry during this corona pandemic. The study was conducted during the month of November 2020. The study excluded those who withheld consent to participate in this study and also those whose responses were incomplete. Data was analyzed using SPSS software and descriptive statistics was used to analyze the findings. Mean, standard deviation, and proportions was used to estimate the results.

Results

An online survey related to assessing the knowledge, anxiety, fear, and obsessive characteristics related to the COVID-19 pandemic was conducted among the HCWs in a tertiary care hospital in Kerala. A total number of 118 health workers employed in the hospital participated in the study. All the participants were above 18 years of age and had access to the Internet and understood the English questionnaires. The mean age group of the study participants was 27.74. Females were the predominant participants with about 83.89%, and 16.10% were males (Figure 1).

Knowledge About the COVID-19 Pandemic

Fifty one out of the 118 (66.2%) study participants strongly opined that the major mechanism involved in the spread of COVID-19 pandemic is the droplet infection. However, a small minority disagreed with this. A total of 66.2% of the participants had good knowledge that the infection can always be prevented by maintaining social distance, appropriate hand washing, hand sanitizing, and by using the mask, while 1.64% disagreed with this. A considerable number of study subjects agreed that isolation and quarantine are important steps to stop the spread of the novel coronavirus and thought that the disease is more dangerous in people with comorbid conditions like chronic respiratory disease, cancer, diabetes, and so on. A total of 6.2% of people also believed that COVID-19 can be transmitted by both symptomatic as well as asymptomatic cases. Overall, around 92% of participants had sufficient knowledge regarding COVID-19 aspects. The participants who responded as always and often regarding knowledge are illustrated in Table 1.

| SI No. | Items                                                                 | Percentage of Response (Always + Often) N = 118 |
|--------|-----------------------------------------------------------------------|-----------------------------------------------|
| 1      | To what extent you believe that the major mechanism involved in the spread of COVID-19 is droplet infection? | 66.20 + 26.27 (92.47%)                        |
| 2      | Do you have belief that infection can be prevented by maintaining social distance, handwashing, and using mask? | 66.20 + 26.27 (92.47%)                        |
| 3      | To what extent do you believe that isolation and quarantine are important steps to prevent the spread of novel coronavirus disease | 66.20 + 26.27 (92.47%)                        |
| 4      | To what extent you believe that the disease is more dangerous in people with cancer, diabetes, and chronic respiratory disease | 66.20 + 26.27 (92.47%)                        |
| 5      | Risk of spread of novel coronavirus is from both symptomatic as well as asymptomatic cases | 66.20 + 26.27 (92.47%)                        |
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A total of 6.77% of patients always and 18.64% often felt the need to buy and stock essentials at home. A considerable number of subjects always expressed feeling anxious when speaking to someone with an improperly donned mask while 3.38% were not concerned. A total of 22.28% were always and 28.81% were often worried about themselves and closed ones when hearing about the rapid spread of the pandemic. Fifty nine out of the 118 people used sanitizer and mask quite often while 33 use them always and 1 subject was found to use them rarely only. No one had shown any reluctance in using masks and sanitizer. Most of the subjects didn’t feel dizzy and lightheaded or faint when thinking about the COVID-19 problems while a small percentage felt so. A total of 23.73% of health workers were sometimes apprehensive while approaching a patient from a high-risk area/contact while 5.08% were never apprehensive.

Most of the health workers didn’t feel any difficulty in controlling tension/worries while among a small percentage it lead to emotional outbursts like crying or getting angry. A total of 63.56% of people never avoided working thinking of the condition while a small percentage felt so. A total of 14.41% were unconcerned about the crisis and 12.02% were worried about the crisis to the family in the unfortunate circumstances of COVID-19.

A total of 19.49% of people always avoided visiting gatherings due to the fear of contracting the disease. A total of 5.08% of people never avoided gatherings while 2.54% never ensured the need of going out. A total of 40.67% of participants always or often used excuses to avoid large meetings even in hospitals always or quite often while a few people were never reluctant to attend. Only a few people showed hesitance in ordering food online or taking parcels while the majority of them never showed any hesitance. A total of 4.24% of people never got afraid when someone from their social circle was reported of being sick and 11.02% were always afraid. A small portion of the study subjects (5.08%) always wore masks indoors in their houses even without any signs and symptoms of infection while 55.93% were never worried about it. A total of 4.24% enquired in social media/Aarogya Setu website whether any cases have been reported in their proximity. The participants who responded as always and often related to COVID-19 anxiety is combined and illustrated in Table 2.

A total of 45.76% felt the urge to wash hands repeatedly and is concerning them even after hand wash. However, 13.56% were never obsessed with this. A small minority of 3.39% were always affected with disturbing thoughts on seeing COVID-positive patients whereas 35.59% were not concerned about this. The significant results regarding anxiety related to COVID-19 are illustrated in Figure 2.

Table 2. Combined Responses of Always and Often Regarding Anxiety Assessment Related to COVID-19.

|   | How often do you excessively worry about COVID-19? | 14.41 + 19.49 (33.9%) |
|---|-----------------------------------------------|------------------------|
| 2 | How often do you feel suspicious about contracting the novel coronavirus infection? | 8.47 + 16.10 (24.57%) |
| 3 | How often do you have had difficulty sleeping or insomnia being worried about the coronavirus pandemic? | 1.69 + 2.54 (4.23%) |
| 4 | How often do you get affected by the post on social media about coronavirus infection? | 3.39 + 9.32 (12.71%) |
| 5 | To what extent do you feel the necessity to buy and stock all essentials at home? | 6.78 + 18.64 (25.42%) |
| 6 | How often do you feel anxious while speaking to someone with no/improperly worn mask? | 33.90 + 26.27 (60.17%) |
| 7 | Do you feel worried about yourself and closed ones on hearing about the spread of COVID-19 infection? | 22.88 + 28.81 (51.69%) |
| 8 | How often do you feel afraid or anxious hearing the talks on COVID-19 pandemic in social medias or newspapers? | 3.38 + 11.86 (15.24%) |
| 9 | Do you feel dizzy, light headed, or faint when you read or listen to news about COVID-19? | 1.69 + 3.39 (5.08%) |
| 10 | Do you feel nauseous, stomach upset, or similar problems when you thought about COVID-19? | 0.85 + 2.54 (3.39%) |
| 11 | Do you feel difficulty in controlling tension/worries leading to emotional outburst when thinking about COVID-19? | 1.69 + 5.08 (6.77%) |
| 12 | To what extent do you feel apprehensive while approaching a patient from high risk area/contact? | 5.08 + 16.10 (21.18%) |
| 13 | Do you ever avoided work thinking of contracting infection? | 1.69 + 3.39 (5.08%) |
| 14 | Do you feel any low mood or anxiety related to current financial crisis related with the pandemic? | 14.41 + 18.64 (33.05%) |
| 15 | To what extent do you feel worried about the financial burden that may happen to your family in the circumstance of COVID-19 hospital admission? | 17.80 + 21.19 (38.99%) |
| 16 | Have you ever avoided going to outside gatherings due to worry about contracting COVID-19? | 19.49 + 32.20 (51.69%) |

(Table 2 continued)
|   | Question                                                                 | Yes (%) | No (%) |
|---|--------------------------------------------------------------------------|---------|--------|
| 17 | Do you ensure to go out only if it’s absolutely necessary?              | 38.98%  | 17.80% |
| 18 | Do you find excuses to avoid large meetings even in hospital?           | 18.64%  | 22.03% |
| 19 | How often do you get terrified if anyone in your social circle reports of being sick? | 11.02%  | 27.12% |
| 20 | Do you enquire in social media/Aarogya Setu websites whether case have been reported in your locality? | 4.24%   | 13.56% |
| 21 | How often do you have disturbing thoughts that certain people you saw may have the coronavirus? | 3.39%   | 4.24%  |
| 22 | How reluctant are you in taking food online/parcels?                    | 5.93%   | 10.17% |
| 23 | To what extent do you feel the urge to wash hands repeatedly and is it concerning you even after that? | 19.49%  | 26.27% |
| 24 | Do you have the habit of using mask indoors without any apparent signs and symptoms of the infection? | 5.08%   | 2.54%  |
| 25 | How frequently you use sanitizer?                                       | 27.97%  | 50.00% |

*(Table 2 continued)*

*Figure 1. Knowledge Assessment Among Study Participants.*
Discussion

Throughout the outburst of an epidemic, the main emphasis is on the pathogen and its impact on physical health. The internal well-being of a given population is negatively affected by the impacts of the pandemics and afflictions. The behaviour of public are also told by fear and anxiety related to pandemics and epidemics. Behavioral changes and internal health are frequently considered secondary. In this study, an online check was conducted using a developed questionnaire to estimate knowledge about COVID-19 epidemic, anxiety-associated fear, and preoccupation of HCWs regarding the COVID-19 epidemic to demonstrate the influence of the COVID-19 epidemic on mental health and behavior.

COVID-19 epidemic provides an exclusive opening to examine how internal health and actions diverge. An analogous study, assessing anxiety, attitude, knowledge, and perceived internal health care need in the Indian population during the COVID-19 epidemic showed acceptable knowledge about COVID-19, a modest position of knowledge about the infection and its preventative aspects. The anxiety situations observed in the study were high. Utmost of the participants in our study were HCWs. They had an advanced position of alertness regarding the symptoms, mode of spread,
and yet acceptable mindfulness about the preventative measures. It was maybe due to the media and government stressing further on the defensive measures. HCWs and educated people get further set by this info, and due to their professional commitment they will have to continue to work. It is important to estimate the anxiety and affiliated issues that the HCWs are facing so that the institution can come up with strategies/sessions to address the concerns, thereby promoting the internal health of the workers.

It was found that the health professionals frequently have optimistic approaches toward pandemics/epidemics better mindfulness and they constantly witness low situations of anxiety from a former study. During the Ebola contagion outbreak in 2015, a study from Ethiopia reported incorrect believes of health-care professionals and poor knowledge redounded in intense training of the health-care professionals. In our study, the HCWs had a high position of mindfulness and they’ve entered primary training and the study participants generally had a positive attitude toward the epidemic, and anxiety situations were low. A significantly low chance of the study population had difficulty in sleeping or controlling pressure/worries regarding COVID-19. Majority of the study population weren’t affected by the posts on social media but the swine flu epidemic of 2009 to 2010, redounded in high mortality worldwide, also gathered global media attention and convinced anxiety among the public vastly.

One-fourth of the participants felt the need to buy and stock each essentials at home. Half of them were upset about the spread of COVID-19 infection. Half of the population feel upset about themselves and closed ones on hearing about the spread of COVID-19 infection. Majority of the study actors were anxious while speaking to someone with no/inapty tied mask. A study for assessing the anxiety position of the Iranian general population during COVID-19 outbreak suggests that the position of anxiety was advanced among people who more followed COVID-19-related news, women, and the people of age group of 21 to 40 years. Ultimately, the position of anxiety was significantly advanced among people who had at least 1 friend, family member, or relation who contracted COVID-19 infection. While fear and obsession were low in HCWs, they were still conservative to avoid circumstances like gatherings that could lead to contraction of the disease and about half of them were restrained from going to gatherings whereas the other half assured to go out only if absolutely necessary. One-third of them used to worry about recognizing the COVID positivity in their social circle. A total of 17% were laboriously searching in social media to understand the determinants if there are COVID cases in close proximity and a minority of 8% wanted to wear masks indoors. Lower than 50% of the study population felt to wash hands constantly and it concerned them indeed after washing hands which indicates that numerous participants are still anxious despite following the adequate practices. The study participants reported intermittent use of masks, sanitizers, and hand wash. This indicates the mindfulness and training of participants toward individual aseptic measures to avoid constricting COVID-19 infection.

**Limitation**

The study was conducted during the period which no standard questionnaires were available. Only participants with Internet access and English language knowledge became part of the study.

**Conclusion**

It is important to study the mental health impacts of HCWs during the pandemic. There is a need to intensify the awareness program and address the mental health issues of HCWs during this COVID-19 pandemic.

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**Author Contributions**

LKP, DTS, and MM was involved in project conceptualization, manuscript reviewing, and editing. MM, LKP, and DTS were involved in implementing the study. PP and SC were involved in data collection and follow-up. AGK and BA were involved in literature search, manuscript writing, and reference writing. BB was involved in data collection and analysis.

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