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Original Article

Psychological Response of Healthcare Workers and Stigma Experienced during Early Covid-19 Pandemic Period in Kerala

Anil Bindu Sukumaran[1,*], Manju Leelavathy[1], Meghana Narendran[1], Regi Jose[1], Deena Divakaran Sreelatha[1], Nazeema Beevi[1], Divija Vijith[1], Beena Kumari[2], Benny Purantharan Vasanthamani[1]

ABSTRACT

Introduction: During the COVID-19 pandemic the healthcare workers are most valuable resource for every country. They are going through a tough time exposing themselves at risk while working at hospitals and clinics. Along with the concerns for their own personal safety, they are anxious about passing the infection to their families. Health-care workers who care for elderly parents or young children will be drastically affected by school closures, social distancing policies, reverse quarantine needs and disruption in the transport facilities, food and other essentials. This study aimed to identify the psychological response of Healthcare workers and stigma experienced during initial phase of COVID-19 Pandemic in Kerala. **Materials and Methods:** A cross-sectional study conducted among doctors, nurses and other paramedical hospital staff in Kerala during May-June 2020. About 605 healthcare providers from different districts participated in the study by filling an online semi structured, self-administered questionnaire in Google forms. Data were analyzed by SPSS18 software, using descriptive statistics and chi square test used as test of significance. **Results:** About 70% reported that COVID-19 had a significant impact on their life. More than half (315) of the participants are worried about the "uncertainty about how the pandemic will progress and who will get infection next". About half of the health care workers are worried about "Being exposed to COVID-19 at work and taking the infection home to your family". And 10.6% of health professionals reported they experienced some form of stigma. About 38.8% experienced a change in sleep pattern. **Conclusion:** While nearly half of the participants are worried about the uncertainty about how the pandemic will progress, nearly half are confident that we can control the pandemic. Around 10% healthcare workers experienced stigma from neighborhood as they are exposed to COVID19.

Key words: Psychological response, Mental health, Stigma, Kerala, Health care providers.

Anil Bindu Sukumaran[1,*], Manju Leelavathy[1], Meghana Narendran[1], Regi Jose[1], Deena Divakaran Sreelatha[1], Nazeema Beevi[1], Divija Vijith[1], Beena Kumari[2], Benny Purantharan Vasanthamani[1]

[1]Department of Community Medicine, Sree Gokulam Medical College and Research Foundation, Venjarammoodu, Trivandrum, Kerala, INDIA.
[2]Department of Physiology, Sree Gokulam Medical College, Venjarammoodu, Thiruvananthapuram, Kerala, INDIA.

Correspondence
Dr. Anil Bindu Sukumaran
Professor of Community Medicine, Sree Gokulam Medical College and Research Foundation, Venjarammoodu, Trivandrum, Kerala 695607, INDIA.
Mobile no: +91 9447699423
Email: dranilbindu@gmail.com

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INTRODUCTION

The 2019 novel Corona virus outbreak was declared a PHEIC (Public Health Emergency of International Concern) on January 30, 2020, by WHO (World Health Organization).[1] The pandemic of COVID 19 has spread across as many as 206 countries. While trying to work in a pandemic response stage of COVID 19, people may feel stressed or face different psychosocial issues. In the fear of the pandemic, when the general public is asked to stay safe at home, the health care workers are doing dedicated work in the frontline to manage COVID19 control programs. Health care workers being involved in the screening, investigating and treating the patients with infectious disease, have lots of concerns and worries. The health care providers who are involved directly in the care of a COVID patient who have a high potential of contagion, may experience stigma. Even though Kerala had a previous experience of tackling Nipah virus epidemic in the recent past, the threat of COVID-19 pandemic gave a more life-threatening experience for the healthcare personnel affecting their mental health. The high morbidity and mortality rates of this pandemic, the fear of they or their family members becoming infected, the concerns regarding availability of adequate personal protective equipment along with lack of an effective treatment and the lockdown for the control have changed normal mindset of healthcare personnel. There could be many other reasons for adverse psychological outcomes among the health care workers like excessive work hours, inadequate personal protective equipment, over-enthusiastic media news, feeling inadequately supported.[2,3] The sudden reversal of role from HCW to a patient may lead to frustration, helplessness, adjustment issues, fear of discrimination when the health care workers becomes infected with the COVID19.[4] Also, they are worried about being stigmatized and discriminated by public. When they are exposed to an unexpected life-threatening situations like the current pandemic, they are more likely to experience much mental distress. However, most HPs have chosen to take care of patients with COVID-19 infections despite the risk to themselves and their families.

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Certain initiatives were taken by WHO, recognizing the importance of psycho-social and mental health issues. WHO has come out with a "Basic Psychosocial Skills Guide" prepared by the Inter-Agency Standing Committee Reference Group on Mental Health and Psychosocial Support in Emergency Settings.[5] The health authorities in each country have to plan interventions at different levels to provide the psychological support to health professionals who are involved in screening, management and care of patients. Though at one side the health care providers are given encouragement and appreciation, they are more vulnerable to the infection especially those primary care workers, such as nurses, paramedical workers and medical doctors who are in direct contact with patients and their body fluids of diagnosed or suspected cases. There is also evidence supporting efficient asymptomatic human-to-human transmission of SARS-CoV-2 during incubation period showing strong infectivity.

Kerala is a small state in the southern end of India with a high literacy status and good health indicators. The first case of COVID 19 was reported in Kerala on 30th January, which was the first case in the country India too. The state has a population of nearly 37 million.[6] This study is conducted to find out the feelings, worries, change in sleep pattern, emotional support received and stigma experienced by health care providers in the initial pandemic period in Kerala.

MATERIALS AND METHODS

A cross-sectional study was carried out among health care personnel including doctors, nurses and other paramedical staff from Kerala making use of an online platform. An online semi-structured questionnaire was developed by using Google forms and a consent form appended to it. The link of the questionnaire was sent through emails, WhatsApp and other social media to the contacts of all the investigators. The participants were encouraged to roll out the survey to as many people as possible. Thus, the link was forwarded to people apart from the first point of contact and so on. After receiving and clicking the link, the participants are auto directed to the information about the study and informed consent. Once they agreed to participate in the survey, they filled up a self-reported questionnaire. Only participants with Health care personnel who are able to understand English and access to the internet could participate in the study. The study period was between May–June 2020. We were able to collect data from across various districts of Kerala. The socio-demographic variables included age, gender, profession, whether they are frontline workers or not, level of experience, marital status, area of residence. The data on history of any chronic medical illness, living with children <12 years or presence of elderly at home also collected. The online self-reported, semi structured questionnaire developed by the investigators contained questions on their experience, their worries, main feelings, change in sleep pattern, any type of stigma and their experiences during COVID 19 pandemic was included.Data in the excel sheet was analyzed using SPSS. Frequency and proportions were calculated to describe categorical variables. Chi square test is used for comparison of groups for categorical data. Further binary logistic regression was done for the variable by categorizing emotional or social support as dichotomous and keeping profession (Doctors, Nurses, Others) as the independent variable. *P* value <0.05 is taken as statistically significant.

RESULTS

A total of 611 healthcare providers from Kerala responded to the online survey which was conducted during the COVID pandemic. Out of the 611 responses obtained, six didn't give consent. The mean age of the participants was 30 with a standard deviation of 10.8 years. Among the participants 401(66.3% were females and 33.55% were males and 1(0.17%) belonged to other gender. 46.6% were frontline workers who are directly involved in the diagnosis and management of patients with COVID19 symptoms in COVID hospitals or fever clinics. Among the respondents, 72.9 % were doctors, 11.1 % nurses and 16 % other paramedics. About 53.4% (323) were frontline workers engaged in treating or diagnosing or providing care to suspected or confirmed cases of COVID 19. Among the participants 42.64% were currently married. Out of 605, 397(65.6%) were from tertiary care hospitals, followed by 114(18.8%) from primary care hospitals and rest were from secondary care hospitals. Medical illnesses were reported by 121 participants. Among the total 121, 20% was hypertension, 14% was diabetes mellitus, 28% was bronchial asthma, 7% was mental illness. Out of the total 312 (51.6%) health care workers have an elderly at home and 162 (26.6%) has a child less than 12 years at home. About 70% reported that COVID 19 had a significant impact on their life. The distribution is shown in Figure 1.

About 64 (10.6%) reported that they suffered some type of stigma or discrimination from other people. (e.g., people treating differently because of your identity as a health care provider, as a source of infection for COVID-19).

Main feelings of study participants are summarized in Table 1. About half of the participants reported that they are confident that we can control the COVID19 pandemic in our state.

About half of participants reported that they are confident that we can control the COVID 19 pandemic in our state. Nearly half of the health care workers feel that they are contributing to the greater good to society by involving in COVID control Activities.

Out of the 605 participants, 513 reported that they obtained good social and emotional support from family and colleagues (Figure 2).

Out of the 605 participants, 46 didn't respond about the emotional or social support from health authorities. The distribution is given in Figure 3.

As per Table 2, Sleep pattern is varies with category of experience (Chi-Square=19.28, *p*-value=0.004), age (Chi-Square=20.09, *p*-value=0.017) and whether the person is a front line worker or not (Chi-Square=10.685, *p*-value=0.014)).

COVID-19 impact on day-to-day life is associated with age (chi square =22.63, *p*-value=0.031) and marital status (chi square =15.05, *p*-value=0.02), but no significant association with gender, chronic illness and type of hospital.

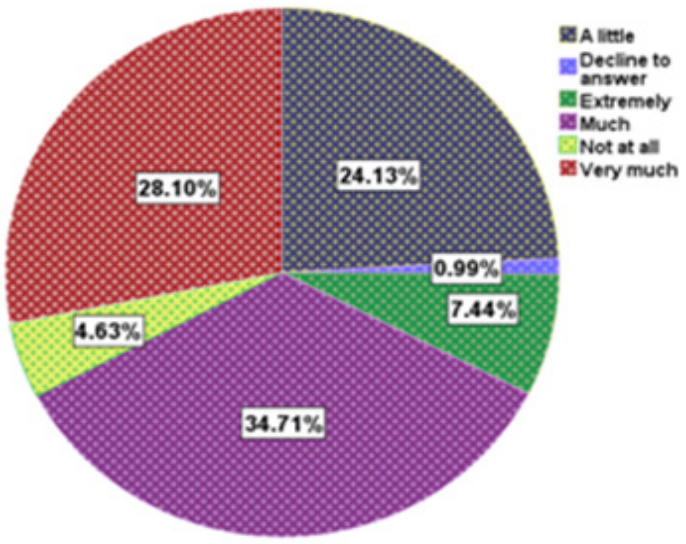

Figure 1: Self-reported impact of COVID19.

Table 1: Main feelings in the COVID pandemic situation (N=605).

Feelings in the pandemic period	N (%)
Confident that we can control the pandemic	313(51.7)
Feeling that I am contributing to the greater good to society by involving in COVID control Activities	298(49.3)
Getting emotional or social support from family, colleagues, friends, partners, or someone else as I am part of COVID control activities	141(23.3)
Feel more anxiety	79(13.1)
Feel more depression	28(4.6)
Fear of violence—from patients and their families	25(4.1)
Feel Occupational burnout	44(7.3)
Fear of getting COVID	108(17.9)
Fear of being discriminated	42(6.9)
Is there any change in your sleep now?	Number (%)
More sleep	82 (13.6)
Less sleep	107 (17.7)
Any other changes to your normal sleep pattern	46 (7.6)
No change	370 (61.2)

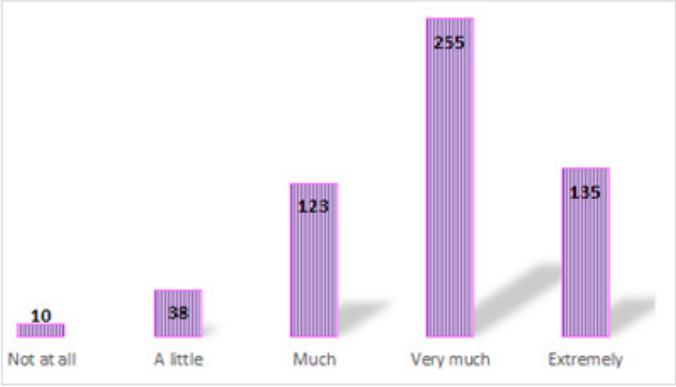

Figure 2: Levels of emotional or social support from family and colleagues.

Emotional or social support from health authorities is significantly associated with age (Chi-Square=27.34, *p*-value=0.007) and profession ((Chi-Square=24.18, *p*-value=0.002). When analysed further by categorizing emotional or social support as dichotomous and did the binary logistic regression by keeping profession (Doctors, Nurses, Others) as the independent variable and by taking others as the reference category, doctors have got a significant odds ratio (OR) of 0.421 (95% CI: 0.215 - 0.825, *p*-value=0.011). The doctors report of getting 68% more emotional or social support from health authorities when compared to others. No significant association was observed for Nurses.

Experience of Stigma

A total of 64 (10.6%) of health professionals reported they experienced some form of stigma against them and/ or their family members, from people mostly in the neighborhood, grocery stores and also in the workplace. Some of the quotes from those experienced stigmas are as follows. "Denied access to Govt. office because of the possible exposure", "Discrimination at grocery store," "problems were there for getting essential needs like food, got mistreated by local people.co doctors got mentally harassed by neighbors". "People are doubting if I am infected by COVID-19 and if I might be a carrier"

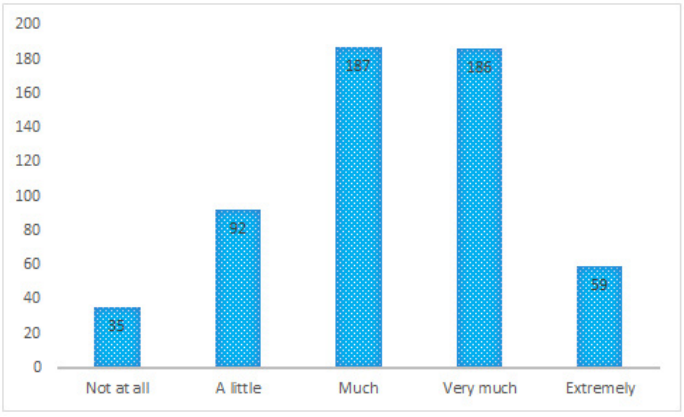

Figure 3: Levels of emotional or social support from health authorities (N=659).

Table 2: Association between Sleep pattern and selected variables.

Variables	Sleep pattern *n*(%)					Chi-square (*p*-value)
Age	Less sleep	More sleep	No change	Any other change In normal sleep pattern	All	
<30	63(58.9)	68(82.9)	257(69.5)	32(69.6)	420(69.4)	
30-40	21(19.6)	8(9.8)	49(13.2)	10(21.7)	88(14.5)	20.093 (0.017)
40-50	10(9.3)	2(2.4)	39(10.5)	2(4.3)	53(8.8)	
>50	13(12.1)	4(4.9)	25(6.8)	2(4.3)	44(7.3)	
Category of experience						
Intermediate	28(26.2)	13(15.9)	89(24.1)	11(23.9)	141(23.3)	
Junior	49(45.8)	60(73.2)	222(60.0)	30(65.2)	361(59.7)	19.289 (0.004)
Senior	30(28.0)	9(11.0)	59(15.9)	5(10.9)	103(17.0)	
Frontline worker						
Yes	48(44.9)	56(68.3)	196(53.0)	23(50.0)	323(53.4)	10.685 (0.014)
No	59(55.1)	26(31.7)	174(47.0)	23(50.0)	282(46.6)	

"People are scared to talk with my family; because I am a medical professional, social stigma is there, not only for me, it also affects my family". Another quote was "I stay in flat and all the neighborhood was tensed whether I will transmit the infection as I go to hospital every day." Some others commented that "Maid, friends and neighbors stopped coming near stopped interacting ", "People see us with respect at a distance and we are not welcome even to buy a packet of milk from the shop nearby when we are back from the hospital. They don't need us anywhere in their vicinity."

DISCUSSION

In this study it is evident from Table 3 that nearly half the health care workers are worried about being exposed to COVID-19 at work and taking the infection home to their family. In a study by Cai *et al.* in China also, perceived risk of infection to them-selves and their families was one of the important factors associated with stress among Healthcare workers. According to David Koh, health care workers globally have a higher risk of acquiring COVID-19 as compared to others, even then the majority (97 %) of HCWs have not been infected.[7] Although HCWs working with COVID-19 patients (e.g., in intensive care units) are at greater risk of exposure to SARS-CoV-2, they are protected by personal protective equipment (e.g., face masks, gloves, visors), which reduces the risk of infection to minimal levels.[8]

The other most important concerns among HCW were the uncertainty about how the pandemic will progress and inadequate access to appropriate personal protective equipment. Mohindra *et al.* also reported that in India, the Healthcare providers have certain personal fears and worries like the possibility of being sources of infection, being isolated/quarantined, putting family members and other staff at risk, fear of improper use of personal protective equipment, fear of household problems due to lockdown and medical insurance.[9] He suggested an increase of manpower in health care setting and measures to improve community awareness to reduce stigma as the possible solutions.In our study, the doctors were found to be getting 64% more emotional or social support from health authorities when compared to others. Around 13.1% of health care provider's self- reported that they feel more anxious and

Table 3: Reasons for worries/ concerns COVID-19 Pandemic (N=605).

Worries /concerns during COVID-19 Pandemic	Number (%)
Uncertainty about how the pandemic will progress, who will get infection next	315(52.1)
Being exposed to COVID-19 at work and taking the infection home to your family	300(49.6)
Inadequate access to appropriate personal protective equipment	252(41.7)
Uncertainty about who will support/take care of your personal and family needs if you develop infection	175(28.9)
Not having rapid access to testing if you develop COVID-19 symptoms and concomitant fear of propagating infection at work	142(23.5)
Whether being able to provide competent medical care if deployed to a new area (eg: non-ICU nurses /doctors have to function as ICU staff)	84(13.9)
Lack of access to up-to-date information and communication	35(5.8)

38.8% reported a change in sleep pattern in which 17.7% reported less sleep. Lai *et al.* reports that a third of HCW (34.0%) reported insomnia, 44.6% of them reported anxiety symptoms in a study in China.[10] In a meta-analysis conducted by Pappa *et al.* reported the prevalence of insomnia as 38·9%.[11] The lower prevalence of anxiety and insomnia and anxiety in our study could be due to low prevalence of COVID 19 during the study period in Kerala. The study was designed as a cross-sectional study using an online platform and was conducted in the early pandemic period (May-June 2020) when the COVID cases were at a lower rate in Kerala.

In a study done by Benjamin Y Q *et al.* in Singapore, it was found that anxiety was higher among non-medical health care workers than medical personnel. But in our study the anxiety was found to be more among doctors than others. This may be probably because of the fact that most of the study participant were doctors and also the emotional and social support from family and health authorities.[12]

In this study 10.6% of participants reported that they had to face stigma and discrimination from others at the workplace and neighborhood. According to WHO, as the number of COVID-19 cases are increasing, the number of health care providers involved in managing crisis is also increasing accordingly. The frontline health care workers are facing challenges including stigma and discrimination both at workplace and from surroundings.[13]

We found a significant association between age and sleep and category of experience and sleep. Another recent study from China on insomnia among health professionals (using the Insomnia Severity Index) reported that 36% of the health care workers had reported sleep disturbances. Another possibility is the emergency nature of work during the COVID-19 pandemic, which may interfere with sleep. Poor sleep quality, stress and mental health problems among health care workers could impair their cognitive abilities and their clinical decision- making.[14,15] Thus, increasing the likelihood of making medical errors that may increase the risk to patients.

CONCLUSION

Nearly half of health care workers feel confident that we can control the disease epidemic and that they are contributing to the greater good to society by involving in COVID control activities. At the same time one in ten health care workers experienced stigma and discrimination from others at the workplace and neighborhood.

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