

Psychological distress, challenges and perceived needs among doctors and nurses during the COVID-19 pandemic, in a tertiary care hospital in Sri Lanka

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Abstract

Introduction

Studies done around the world since the onset of the COVID-19 pandemic have shown high levels of psychological morbidity among healthcare workers (HCW). To our knowledge the psychological impact of COVID-19 on HCW in Sri Lanka has not been assessed.

Objectives

To assess the psychological distress, challenges and perceived needs among healthcare workers during the COVID-19 pandemic in a tertiary care hospital in Sri Lanka.

Methods

A cross sectional descriptive study was conducted among 394 HCW. A specifically designed questionnaire was used to assess socio-demographic details and challenges faced by HCW. The depression, anxiety stress scale (DASS-21) was used to measure psychological impact.

Results

Anxiety was the most commonly seen psychological-sequela. High levels of anxiety were present in 15.7%,

and 4.8% had severe anxiety. High levels of depression were seen in 13.9%, with 4.3% showing severe symptoms. Of the participants, 11.4% were experiencing elevated levels of stress, with 2.6% experiencing severe stress. Females, nurses and those aged between 25-34 years had higher levels of depression, anxiety and stress ($p < 0.05$). HCW in units with a higher risk of exposure to COVID-19 had greater levels of stress and anxiety ($p < 0.05$). Difficulty in obtaining food (61.4%) and lack of transport facilities (41.8%) were the main difficulties reported by the HCW. The main requirement identified by HCW was better availability of PPE (85.0%). Stigma due to working with COVID-19 patients was experienced by 29.7%.

Conclusions

Screening for psychological consequences among HCW and provision of appropriate psychological support for HCW is required.

Key words: depression, stress, anxiety, Sri Lanka, COVID-19

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Introduction

On 30th January 2020, the World Health Organization (WHO) declared the coronavirus outbreak (COVID-19) to be a Public Health Emergency of international concern (1). The pandemic brought significant challenges to healthcare systems around the world. During the pandemic, health care workers (HCW) have to work long hours in high pressure environments, with limited resources, isolated from their family and friends. Mental health difficulties can be further augmented by factors such as quarantine, uncertainties about the

mode of transmission of infection, rapidity of spread and lack of definitive treatment protocols or vaccines (2).

The pandemic has been shown to be associated with high levels of psychological morbidity among HCW worldwide. Studies suggest that nearly half of HCW may experience depression, with the levels of anxiety being as high as 44% (3). Stress disorders have been shown to affect nearly 71%. Females, nurses and those working in the frontline were found to be more affected (3-6).



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The first Sri Lankan national tested positive for COVID-19 on 10th March 2020. The number of cases has increased to 30072 as of 09.12.2020 and 144 deaths have been reported so far in Sri Lanka, at the time of writing this article. All tertiary care hospitals are recommended to have triage and isolation areas for suspected COVID-19 patients and a respiratory ward to treat patients with acute pneumonias where COVID-19 is yet to be confirmed.

Similar to other lower middle-income countries (LMIC), the healthcare system in Sri Lanka is characterized by limited resources, with a critical shortage of intensive care beds and lack of personal protective equipment (PPE) (7). Therefore, even though the number of those infected in Sri Lanka is less compared to most countries, HCW are likely to suffer psychological distress due to the adverse working conditions and limited resources.

To our knowledge there are no studies examining the psychological impact of COVID-19 among HCW in Sri Lanka. Assessing the psychological distress of HCW is vital in order to design support strategies for HCW. Hence, this study aimed to assess the psychological consequences, challenges and perceived needs of HCW in a large tertiary care hospital in Sri Lanka.

Methods

This was a cross sectional descriptive study conducted among HCW of Colombo South Teaching Hospital (CSTH), from May to August 2020. CSTH is the second largest hospital in the capital of Sri Lanka, with a bed strength of 1101. In April 2020, a separate unit was established at the CSTH to cater for patients suspected of suffering from COVID-19. Doctors and nurses from all units of the hospital were assigned to this unit on a roster basis. At the time of this study, the Colombo South Teaching Hospital was not a designated COVID treatment center and all patients who were identified as COVID positive were transferred to COVID treatment centers. Only 3 confirmed cases of COVID-19 were detected from the Colombo South Teaching Hospital during the period of study.

A minimum sample size of 385 was calculated at 5% significance levels, which included approximately 50% of each doctors and nurses. The participants were randomly selected from the staff register. A specifically designed questionnaire was used to collect socio-demographic details, challenges faced, perceived needs and perceived stigma. The validated Sinhala translation of the 21 item Depression Anxiety Stress Scale (DASS-21) was used to assess the psychological consequences (8). The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The

depression scale assesses for dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and the subjective experience of anxious affect. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable /over-reactive and impatient. The scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. This questionnaire has been validated for use in the Sri Lankan population (8). A score of 5 or more for depression, 3 or more for anxiety, and 7 or more for stress indicates high/elevated levels of depression, anxiety and stress respectively. The scores are further divided into mild, moderate, severe and extremely severe. In the depression category, a score of 5-6, 7-10 and 11-13, indicates mild, moderate and severe depressive symptoms respectively; a score of 14 or more indicates extremely severe depressive symptoms. In the anxiety category, a score of 4-5, 6-7, and 8-9 indicates mild, moderate and severe levels of anxiety symptoms, respectively; a score of 10 or more indicates extremely severe anxiety symptoms. With regard to stress, a score of 8-9, 10-12 and 13-16 indicates mild, moderate and severe stress, with a score of 17 or more indicating an extremely severe level of stress.

The Chi square test was used to analyze categorical data and the t test and ANOVA were used to identify difference in means between groups.

Ethical clearance for the study was obtained from the University of Sri Jayewardenepura and permission for the study was obtained from the director, CSTH. Only participants who gave written informed consent were included in the study.

Results

Study participants consisted of 394 HCW (194 doctors and 200 nurses). The majority were females (73.4%, n=289), Sinhalese (85.5%, n=337), aged between 25-34 years (51.3%, n=202) and had less than 10 years of work experience (68%, n=268). The highest percentage was from medical wards (16.2%), gynaecology and obstetric wards (11.4%) and paediatric wards (9.4%). A history of psychiatric illness was present in 3% (n=12), and 52.5% (n=207) had dependent children.

The majority did not feel safe when working during the pandemic (74.9%, n=295) and were not satisfied with the availability of PPE (69.3%, n=273). Approximately half of the participants (49.2%, n=194) were worried about getting infected with COVID-19 and 54.6% (n=215) were worried about being a carrier. Doctors were more likely to be worried about contracting COVID and being a carrier of the infection (p<0.05). A significantly higher number of nurses compared to doctors had difficulty in

obtaining food and essential items, difficulty in finding transport during the lockdown and difficulty in homeschooling of children ($p<0.05$). The challenges faced by HCW and their perceived needs are displayed in table 1.

Stigma was experienced by 29.7% of HCW ($n=117$); 8.1% ($n=32$) were not accepted into supermarkets, 3% ($n=12$) were asked to leave from their place of accommodation and 15.5% ($n=61$) felt their family was discriminated against. Perceived stigma did not differ between doctors and nurses.

Anxiety was the most common psychological sequelae, with high levels of anxiety being present in 15.7% ($n=62$). In 4.8% ($n=19$) the anxiety was severe. High levels of depression was seen in 13.9% ($n=55$), with 4.3% ($n=17$) showing severe symptoms. Elevated stress was seen in 11.4% ($n=45$), with 2.6% ($n=10$) experiencing severe stress (table 2).

Females ($p<0.05$), nurses ($p<0.05$), participants less than 35 years ($p<0.05$), those who did not have children ($p<0.05$) and whose permanent residence was outside Western Province ($p<0.01$) were more likely to have

depression, anxiety and stress. Participants with no physical comorbidities had significantly higher levels of anxiety ($p<0.05$) and stress ($p<0.05$), but not depression. Staff working in medical, paediatric, gynaecology and obstetrics and surgery wards had higher levels of stress ($p<0.01$) compared to staff working at the blood bank, and higher levels of anxiety ($p<0.01$) than those working at the blood bank and forensic medicine units. There were no significant differences in stress and anxiety among other units.

Rates of depression did not vary among any of the units. Higher levels of depression ($p<0.05$) and stress ($p<0.05$), but not anxiety, was associated with a past history of psychiatric illness. Anxiety, but not depression or stress, was significantly higher in participants with a work experience of less than 10 years, compared to those with a work experience of 10 or more years ($p<0.05$). Presence of perceived stigma was associated with higher levels of stress ($p<0.05$), but not with depression or anxiety. Depression, anxiety or stress was not associated with marital status, ethnicity, having a partner working in essential services or availability of PPE. Other factors associated with psychological impact are displayed in table 3.

Table 1. Difficulties faced and perceived needs of healthcare workers

	Number		Percentage		Significance*
	Doctors	Nurses	Doctors	Nurses	
Challenges faced					
• Lack of availability of PPE	56	65	28.8	32.5	p<0.01 p<0.05
• Lack of transport to get to work	68	97	35.0	48.5	
• Difficulty in obtaining food	108	134	55.6	67.0	
• Problems with accommodation	56	48	28.8	24.0	
• Difficulties with assisting with distant learning of children	53	76	27.3	38.0	
Perceived care needs					
• Availability of better PPE	173	162	89.1	81.0	p<0.05 p<0.1
• Availability of transport facilities to/from work	93	144	47.9	72.0	
• Provisions to purchase food and essential items within the hospital	126	119	64.9	59.5	p<0.01
• Additional financial benefits for working during the pandemic	82	102	42.2	51.0	
• Availability of accommodation within/near hospital	88	98	45.3	49.0	
• Flexible working hours allowing to assist with distant learning of children	64	38	32.9	19.0	

*Significance indicated when $p<0.05$ only

	Normal	Mild	Moderate	Severe	Ex. severe
Depression	86% (339)	5.1% (20)	4.6% (18)	2.3% (9)	2% (8)
Anxiety	84.3% (332)	3.8% (15)	7.1% (28)	2% (8)	2.8% (11)
Stress	88.6% (349)	5.1% (20)	3.8% (15)	1.8% (7)	0.8% (3)

	Depression		Anxiety		Stress	
	Mean score	p	Mean score	p	Mean score	p
Gender						
Male	2.27	<0.01	1.94	<0.01	3.10	<0.01
Female	4.76		3.82		7.03	
Designation						
Doctor	3.14	<0.01	5.22	<0.05	4.44	<0.01
Nurse	5.02		6.00		7.48	
Age						
Less than 35 years	4.77	<0.05	3.97	<0.01	6.61	<0.05
35 or more years	3.21		2.46		5.16	
Residence						
Western province	3.47	<0.01	2.78	<0.01	5.11	<0.01
Outside Western Province	6.13		5.06		8.82	
Past history of psychiatric illness						
Yes	11.17	<0.05			15.17	<0.01
No	3.87				5.70	
Presence of physical comorbidities						
Yes			1.92	<0.05	3.71	<0.01
No			3.52		6.31	
Dependent children						
Yes	3.21	<0.01	2.48	<0.01	5.05	<0.01
No	5.08		4.24		7.02	
Difficulty in obtaining food and essential items						
Yes	4.67	<0.05			6.81	<0.01
No	3.18				4.67	
Worried about contracting COVID-19						
Yes	3.31	<0.05			4.99	<0.01
No	4.86				6.95	
Feeling safe during the pandemic						
Yes			2.35	<0.05		
No			3.64			
Work experience						
Less than 10 years			3.76	<0.05		
10 or more years			2.38			
Stigma						
Yes					7.16	<0.05
No					5.49	

Discussion

Even though less than 3500 cases were reported in Sri Lanka and only 3 positive cases were reported from CSTH at the time of completion of the study, psychological consequences were seen in 11-15% of HCW. The rates of depression and anxiety were comparable with findings from India where approximately 786 000 cases were reported at the time (11). The rate of depression was also comparable with Nepal, where 40 000 cases were reported at the time (12). One explanation for this may be because the study was done during the early period of COVID-19 infection in Sri Lanka, where PPE was not available in adequate amounts, the understanding about the modes of transmission of COVID and prevention was poor, and there was a lack of guidelines about management of COVID positive patients and healthcare personnel in Sri Lanka. Other reasons for HCW in Sri Lanka to have a relatively high psychological consequences despite the low number of patients at the time of the study, needs to be explored further.

Consistent with previous literature, the current study found nurses and females to be at a higher risk of developing psychological distress (5,9,10). The higher number of female nursing staff, and the higher probability of exposure to COVID-19 due to longer hours and more direct contact with patients, may contribute to the higher risk of psychological consequences in nurses (13).

Similar to finding by Babore et al and Evanoff et al, our study found that HCW with children had significantly less depression, anxiety and stress compared to those without children (4,14). Children could represent a “break” and a distraction from exhausting working hours, and the frustration of dealing with patients and fatigue, which may be a protective factor for psychological distress.

Worldwide literature reports that frontline HCW who are directly in contact with COVID-19 patients experience more psychological distress (3, 9, 10). This was also supported by our findings, as HCW in units such as the blood bank and forensic medicine, who had less direct contact with patients, demonstrated significantly less anxiety and stress compared to those working in units with higher risk of contact, such as medicine and paediatric wards.

Our study showed that participants younger than 35 years experienced a greater psychological impact compared to those who were older. This has also been reported in previous literature, where an inverse relationship has been demonstrated between age and psychological distress among HCW (14). We also found that those with physical comorbidities were less likely to

suffer from depression, anxiety and stress. As the physical comorbidities are more likely with increasing age, older age may explain the reduced psychological distress seen in those with physical comorbidities. The present study also revealed that HCW's with a work experience of 10 years or more had less anxiety compared to those with less experience. Previous literature has suggested that those with longer work experience are more likely to have more expertise and are likely to be more confident in facing unforeseen circumstances, which may explain why this group appeared to have a less psychological impact (14).

The psychological consequences experienced by HCW's whose permanent residence was outside Western Province, had higher psychological distress. Being away from family at a stressful time may make much needed social support less accessible, which may explain this finding.

We found that those who denied being worried about contracting COVID-19 had higher rates of depression and stress. This may indicate using denial as a coping mechanism is associated with higher rates of psychological morbidity.

Availability of better PPE (85%) was the main need expressed by HCW. Around half of the HCW reported a lack of PPE, during the time of the study. Studies have shown a link between inadequacy of PPE and increased psychological morbidity in HCW (13, 16, 17). However, this association was not confirmed in our study.

Stigma and discrimination against healthcare workers have been described worldwide during this pandemic (18,19). In the present study, 29.7% experienced stigma due to their work in healthcare. Stigma has been shown to increase psychological distress, stress and burnout among HCW. In our study, stigma was associated with higher levels of stress. Therefore, initiatives should be taken to minimize stigma against HCW in Sri Lanka.

Several initiatives have been taken to support the mental health of HCW in Sri Lanka. The Sri Lanka College of Psychiatrists established a 24-hour helpline for HCW in April 2020. At institutional level, the HCW in the hospital under study were encouraged to contact the psychiatry unit of the hospital if needed. However, screening of HCW for psychological distress was not done. Given that 11-15% of the HCW experienced psychological distress, screening of HCW, especially those in high risk units, could be included as a part of psychological support programmes for HCW in Sri Lanka. Given that a history of psychiatric morbidity indicated a higher risk of developing psychological consequences, such persons should receive additional psychological support during this period. In our study, HCW who had difficulty in obtaining food and other essential items experienced

more psychological problems, and therefore, addressing the practical needs of HCW is also important in alleviating psychological distress faced by HCW's.

Limitations

This study was carried out in a major tertiary care hospital in the capital of Sri Lanka, where the resources and facilities available to HCW may be substantially higher than in the secondary care hospitals. Therefore, the psychological distress among the HCW in the current study may be lower than that experienced by the HCW in other settings in Sri Lanka. In addition, the study was conducted in the period between May to August 2020, whereas the highest peak in the number of cases was and is being experienced subsequently. This is a limitation to our findings.

Conclusions

Given the high prevalence of psychological distress among HCW, nationwide systematic screening and psychological support programmes to support the mental health of HCW should be initiated. These programmes should provide extra support to those identified as being at greater risk, such as nurses, HCW with a past history of psychiatric disorders and those working in units with high risk of exposure to COVID patients.

Statement of contribution

All authors were responsible for the conception and design of the work. SP analyzed and interpreted the data and drafted the work. All authors revised it critically for important intellectual content, approved the final version to be published and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Declaration of interests:

None declared.

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