

Original Research Article

COVID 19: concerns and preparedness among healthcare workers

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ABSTRACT

Background: Coronavirus is emerging as a major threat to the global economy and psychology. The survey aims to know the concerns and preparedness of healthcare workers in the region of Punjab.

Methods: An online anonymous survey of 22 item questionnaire was conducted over 124 frontline medical professionals in the region. Linear snowball sampling was done.

Results: The major bulk of the study population were doctors and psychological unpreparedness and fear of increased exposure and contracting infection to the family came out to be the main concerns. While lack of enough skilled staff, essential protective equipment, and adequate support from authorities came out to be major loopholes in management strategies of the novel coronavirus.

Conclusions: The authorities should provide enough encouragement and assistance mentally as well as in the form of diagnostic, protective, and remedial pieces of equipment. On the other hand, the up-gradation of preparedness plans cannot be ignored either.

Keywords: Coronavirus, Concerns, Preparedness

INTRODUCTION

The coronavirus outbreak is foreshadowing major global challenges in the form of the scarcity of resources and the probability of worst circumstances cannot be excluded. Despite much higher case fatality rates for SARS and MERS, COVID-19 has led to more total deaths due to a large number of cases. SARS-CoV transmission is occurring in hospital settings, as reported by a study with over 3000 cases of hospital-acquired infections in mainland China.¹ These cases highlight the vulnerability of healthcare settings for the introduction and spread of CoV-19.²

One cannot expect victory over an enemy with only passion and obsession but enough armamentarium and manpower are a necessity too. It is to be taken into consideration that healthcare workers are working as the frontline in this pandemic. Opinions and apprehensions of medical staff should be taken care of to know the ground-zero reality. Although measures like the shutting of public transport, educational institutes, and shops except essential goods done but these lockdown measures are needed to be reinforced by the protection of medical staff both mentally and physically.

Lately, enough anecdotal evidence is available of healthcare workers getting exposed and turning positive

to COVID-19 infection crediting to a large number of symptomatic, pre-symptomatic, and asymptomatic carriers across the world.³⁻⁶ So this study aims to acquire the knowledge about concerns and preparedness of doctors, nurses, and medical students (interns) in our region and judge its impact on future containment policies of the virus.

METHODS

This study was conducted among 128 frontline health workers of coronavirus pandemic infection in Government Medical College, Amritsar. We used an anonymous, online questionnaire developed using surveymonkey.com. The questions were meticulously selected from an earlier survey used in concerns, perceived impact, and preparedness in published literature.^{7,8} Participation was voluntary and informed consent of the respondents was obtained. This study employed a cross-sectional research design. The survey was online between 12 to 18 April 2020. We used chain-referral sampling among frontline doctors, nurses, and interns. 128 participants responded. A 22 items questionnaire was categorized into 3 sections. Section A comprised of demographic characteristics of the participants-gender, age, profession, and work sector, and consent. Section B on concerns of healthcare workers on COVID-19. Section C on the preparedness of the medical staff of the pandemic situation.

Validity and reliability of study tool

This 22 items survey was obtained after reviewing the scientific literature and also by taking the valuable feedback of healthcare professionals regarding the situation.^{7,8}

Data collection method

The submission of the response was made online through survey monkey, and was in English. The link to the survey was sent to the doctors, nurses, and medical students of Government Medical College, Amritsar through email, web-link, social media, and they were requested to forward the survey link to their colleagues working on the frontline. While the link was online, daily reminders were sent to them to speed up the response rate.

Statistical analysis

The data was checked thoroughly for comprehensiveness to ensure accurate analysis. It was exported to statistical package of social sciences version 20.0 and analyzed for descriptive statistics using frequencies and proportions. Qualitative data was processed by categorizing responses for an item according to intended objectives and data was coded numerically. Pearson chi-square test was used to study the association, amongst variables.

RESULTS

This survey was conducted among frontline health care workers in the region of Government Medical College, Amritsar. Nearly 128 people participated and out of which 4 people consented out for the research. So eventually 124 primary care workers were taken. As the workload is quite a lot for our frontline health workers, we were not able to collect a large sample size because of the busy schedules of our dear colleagues.

Table 1: Demographic characteristics of the participants.

Variables	Percentage
Gender	
Male	34.40
Female	65.60
Age (in years)	
<20	8.73
20-40	86.51
40-60	3.97
>60	0.79
Profession	
Doctors	69.49
Nurses	21.19
Interns	9.32
Healthcare sector	
Government	53.60
Private	46.40
Consent to fill survey	
Yes	89.52
No	10.48

The majority of the medical workforce i.e. about 86.5% belonged to the age group of 20 to 40 years. Two-third of respondents were female. There was not much difference in sample size with the government and private sector. Doctors (69.49%) formed the bulk of the study population followed by nurses (21.19%) and medical students/interns (9.32%).

It is of great concern as nearly 95% of medical professionals are aware of increased risk of exposure to coronavirus and accept this risk as part of the profession but are scared to contract infection to their near and dear ones. Although resigning from the job occurred to the minds of only one in 5 medical care workers. It can be due to a lack of confidence that concerned authorities will give any monetary or psychological security if they fall ill as believed by 62.73% of medical personnel. While there is mixed opinion about if one or its related ones are avoided when people get to know the nature of their profession. 60% of medical workers believe that there is not enough skilled staff to handle the demand if the workload increases.

Table 2: Concerns of health care professionals.

Concerns of health care professionals	Yes (%)	No (%)	P value
Does being a health care worker increase your exposure risk to coronavirus infection?	95.54	4.46	0.029 (S)
Do you accept the risk of exposure as a part of your job?	95.54	4.46	0.029 (S)
Did it ever occur to your mind to quit the job because of risk?	20.54	79.46	0.001 (HS)
Are you confident that the concerned authorities would look after your needs if you fall ill due to coronavirus infection?	37.27	62.73	0.001 (HS)
Are you afraid of transmitting the infection to your family members?	94.69	5.31	0.001 (HS)
Do you think the general public is avoiding you and your family members because of your increased exposure to infection?	51.33	48.67	0.439 (NS)

S-significant, HS-highly significant, NS-not significant.

Table 3: Preparedness of health care professionals for coronavirus pandemic.

Preparedness of COVID-19	Yes (%)	No (%)	P value
Is there sufficient skilled staff at your workplace to handle the increased workload, if the need arises?	40	60	0.001(HS)
Are you trained to transfer suspected coronavirus swab samples to the laboratory?	32.67	67.33	0.002 (S)
Are the suspected patients well isolated from confirmed coronavirus patients at your workplace?	70.30	29.70	0.001 (HS)
Have u received/participated in any infection control training?	44.55	55.45	0.045 (S)
Is there any preparedness plan for a major outbreak in your hospital and have you been informed about it?	51.49	48.51	0.84 (NS)
Are you mentally prepared if a large-scale community spread of coronavirus occurs?	65.35	34.65	0.001 (HS)
Do you have enough hand sanitizers, N95 mask, personal protective equipment, medicines, and ventilators in the hospital?	25.74	74.26	0.007 (S)
Do you think fumigatory or disinfecting measures are adequate in your hospital?	42.57	57.43	0.07 (NS)
Do you think medical students and retired medical professionals would show up for assistance if called upon?	62	38	0.001 (HS)
Is there enough psychological support from the government authorities to deal with this crisis?	27	73	0.005 (S)
From where have you obtained maximum information about the coronavirus outbreak?			
Newspapers and magazines	2.97		0.003 (S)
Tv and internet (non-scientific commentary)	36.63		
Scientific research papers	13.86		
Doctor colleagues	18.81		
WHO and MHFW websites	27.72		

S-significant, HS-highly significant, NS-not significant, WHO-world health organization, MHFM-ministry of health and family welfare, TV-television.

It's also at the back of mind that retired medical professionals and medical students would not show up if called upon at their respective institutes. So, they are the only ones who will be working overtime and this can be a cause of increased conflicts at the workplace and home.

There were variable viewpoints on training programs, preparedness plans, and adequate disinfection measures to contain the virus reasonably depends on a particular institute, and results vary accordingly. Surprisingly about 75% believe there is not enough equipment to combat the disease presently and sufficient psychological motivation is lacking from the side of authorities. Only about one-

third of medical personnel are trained and are confident about the safe handling and transfer of swab samples to laboratories. It is to be noted that nearly 34% believe that they are not ready mentally to control the large scale spread of disease and astonishingly 29.7% believe that enough precautionary measures are not taken to flatten the curve as suspected patients are not isolated well from confirmed cases. This type of mismanagement is risky for our health care providers and can cause nosocomial infection too.

Keeping aside the general population, our medical staff is withdrawing maximum information about the pandemic

pathology, spread, and management strategies from non-reliable sources like Television and the internet. About 27% are visiting WHO and MHFW websites and only 13.86% are getting information from scientific research papers (Figure 1). Television media and the internet many times allegedly present news, videos, and gossips from unverified sources. This could be the cause of the propagation of false information among the general public and health care workers.

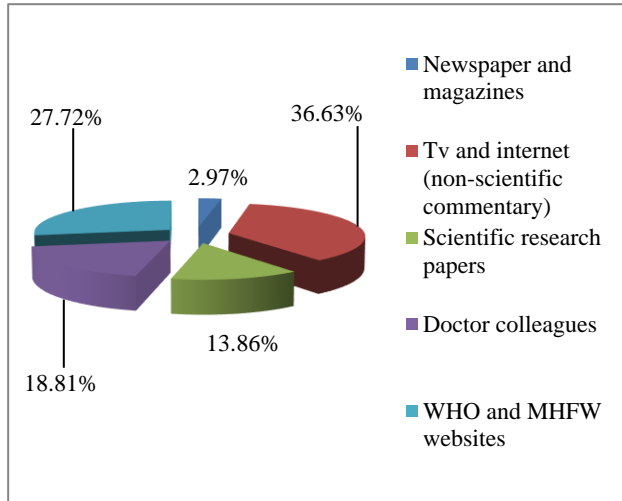


Figure 1: Survey responders obtained maximum information about the coronavirus outbreak from these sources.

WHO-World Health Organization, MHFM-Ministry of Health and Family Welfare.

DISCUSSION

This study assessed the concerns and preparedness of healthcare staff in Punjab in this frightening situation of a health emergency. They perceive that their occupation puts them at higher risk than others. It's clear from results that just like any other outbreak in any country medical professionals are willing to take this risk to save the lives of their patients.

In China, 3.8% of all cases of COVID-19 were in healthcare workers, but 14.8% of those had severe or critical diseases.⁹ Danger to personal health was found as one of the most prevalent concerns amongst Singaporean based healthcare workers during SARS.¹⁰ Similarly, other studies during the influenza pandemic found that health care workers were willing to provide care and accepted the increased risk of contracting the illness as part of their job.^{7,8,11-13}

The study conducted by Wong et al found that over 95% of health care staff were concerned about their family which corroborates well with our study.⁷ While Ki et al found only 60% of interviewed staff showed concern for their family members.¹⁴

Early non-scientific data sources from Wuhan showed how this unprecedented situation impacted the mental health of frontline HCWs, who reported mental problems such as anxiety, depressive symptoms, anger, and fear.¹⁵ Our results found that more than 70% believed that there is not enough psychological support by authorities and management would not take any responsibility if they fall ill. Tackling the mental health of HCWs during this pandemic is essential, and will strengthen healthcare systems' capacity and decision making.¹⁶

A systematic review that investigated the efficacy of PPE for protection against respiratory viruses suggested that PPE is highly effective at preventing the spread of SARS.¹⁷ There was no contentment among staff regarding the availability of PPE kits and other medical equipment as three fourth of respondents believed that it is deficient. More than 50% of medical personnel have not received any infection control training nor are they happy about the current norms of fumigatory measures taken in their institute.

So, it should be noted that our study primarily found that the trust of medical professionals is lacking over the concerned authorities and government as there is not enough mental preparation as well as equipmental support during the catastrophe. Not many are hopeful of an increase in staff by any volunteer skilled workers. The apprehension of well-being of their family is a major concern as their risk to increased exposure to infection is part of their duty and responsibility. They are frontline workers and not everyone has received training or any preparedness.

Nearly 70% have no idea of transferring swab to laboratories safely. Astonishingly one third perceived that suspected patients are not isolated well from confirmed ones. Moreover, tv and the internet have become an information hub for our medical colleagues whose reliability cannot be predicted well. So urgent and timely research work is required so that it can increase the evidence-based work and meager ignorance does not herald the process of virus containment.

CONCLUSION

It's the need of the hour that authorities should take the proper responsibility of their staff and encourage them so that it does not lose its precious workforce at the hands of mismanagement and inadequate equipment. Apart from ample medical supplies, moral support is required as a stress booster which can be gained by educational training and discussion of preparedness plans in case major and an uncontrollable outbreak occurs. We must look after ourselves so that can continue to look after our patients. Mutual support, both within and between departments, and global information sharing are essential to get through these difficult times.

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