

Short Communication

Factors responsible for delay in the provision of care to suspected COVID-19 patients presenting in surgical emergency and ways to combat it

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Abstract

Introduction: Health care workers are found to be at three times greater risk of getting infected as compared to the general public. Scientists and doctors all over the world have agreed upon the use of PPE including gloves, masks, head covers, face shields, goggles and jumpsuits in protection against COVID-19.

Materials and Methods: This observational prospective study was conducted in the surgical emergency of Holy Family Hospital, Rawalpindi over a period of 2 months and 21 days. Patients included all those who presented to surgical emergency with suspicion of being positive for COVID-19 and time taken by first-line health care workers in attending them. 157 patients were observed for this purpose and 23 first-line surgeons including general, orthopedic, and neurosurgeons were interviewed regarding their fears and concerns about contracting COVID-19 and infecting their families.

Results: It was observed that a surgeon took on an average of 10 minutes (+/-3 minutes) in wearing all the personal protective equipment and a total of 14minutes (+/- 5 minutes) in reaching a patient in the trauma room with symptoms suggestive of COVID-19. This was in contrast to a patient presenting to a trauma room who had no respiratory symptoms or fever, in which case, the patient was seen within 3 minutes (+/- 2 minutes) of presentation to a surgical emergency. Out of 23 surgeons, 15 had reasonably aware of the disease while 7 were knowledgeable up to the mark. 17 surgeons were extremely fearful about contracting the disease and infecting their friends and families. 7 surgeons confessed to avoiding COVID-19 patients and 9 surgeons confessed that they commanded their junior surgeons to see suspected COVID-19 patients in the emergency room.

Conclusion: We concluded that delay in attending trauma patients suspected of being positive for COVID-19 was a worrisome problem that needed to be addressed. Numerous local and regional circumstances served as a factor for this delay, most important of which came out to be an inadequate provision of PPE, time consumed in collecting and wearing PPE, fear of the disease, and anxiety provoked due to this fear among surgeons.

Keywords: COVID-19, Medical Surgery.

Introduction

Covid-19 first case was identified in Wuhan, China in Dec 2019 which later on took the form of an epidemic. This epidemic spread to a number of countries including Pakistan in no time and WHO declared it as a pandemic on 11 March, 2020.¹

The coronavirus is an enveloped, positive, single-stranded RNA virus from the genus beta coronavirus. Four of these species cause respiratory systems out of which SARS-CoV and MERS-CoV cause life-threatening respiratory diseases. The SARS-CoV is the nCoV-2019, the culprit of worldwide pandemic starting in 2019.^{2,3}

In this unforeseen and unpredictable situation of global emergency, health care workers are the frontline warriors against COVID-19 and are undoubtedly at a greater risk of contracting the disease as compared to the rest of the population.⁴ Health care workers are found to be at three times greater risk of getting infected as compared to the general public.

Surgical practice constitutes elective and emergency procedures and is a fundamental part of any health care system.⁴ Covid-19, though directly coming under the domain of infectious diseases, has its important effects on surgical practice.⁵ This article is designed to highlight the delay in the provision of care to suspected patients of COVID-19 presenting to the surgical emergency and ways to combat it.

The fragile economy of a third world country like Pakistan is already striving hard to meet both ends. In a contemporary time where the world's largest economies like the USA have collapsed due to the sudden insult⁵, our meager resources have failed to provide us adequately with the equipment required to fight against the novel disease. Scientists and doctors all over the world have agreed upon the use of PPEs including gloves, masks, head covers, face shields, goggles, and jumpsuits in protection against COVID-19.^{6,7} In addition to this, using proper hand hygiene and maintaining adequate distance is also being considered as an important measure against the disease.^{6,7}

Based on this practice we decided to study the delay in the provision of health care influenced by the limited supply of PPE, lack of proper guidance leading to fear of coronavirus, avoidance in seeing suspected patients, and what possible measures can be taken to correct it.

Materials and Methods

This observational prospective study took place in the surgical emergency of Holy Family Hospital, Rawalpindi, Pakistan. The research period started from 10th March 2020 to 31st May 2020 and constituted a period of 2 months and 21 days.

This study included all those patients who presented to surgical emergency for any surgical cause including trauma (both sharp and blunt), abdominal emergencies, chest trauma, limb emergencies, and head trauma, who had a history of fever, cough or any other respiratory symptoms within the last 5 days of presentation, irrespective of age, gender, comorbidities, and COVID-19 status.

We observed the average time taken by a resident or a junior surgeon in reaching a patient with suspected coronavirus disease presenting to our emergency department for any surgical cause. A total of 157 patients were observed over a research period of 83 days.

We also interviewed a number of junior surgeons and surgical residents working on the frontline in a surgical emergency about their fears and reservations regarding COVID-19. 23 surgeons including general surgeons, orthopaedic surgeons, and neurosurgeons were interviewed. Their level of fear and avoidance was scored on the LIKERT scale from 0-5.

The average time is taken for a surgeon to reach a trauma room to see a suspected COVID-19 patient was observed and compared to the average time taken for reaching a patient with no symptoms of COVID-19.

Following questionnaire was used to assess the perspective of surgeons using Likert score 0-5

0 = minimum score

5 = maximum score

Table 1. Questionnaire

<i>How much informed and knowledgeable you think you are regarding COVID-19?</i>	
How fearful are you about contracting COVID-19 from seeing patients?	
How much fearful are you about infecting your friends and family?	
How satisfied are you with the cooperation of hospital administration?	
How much satisfied are you with the quantity of personal protective equipment provided?	

<p>How will you score the concern of the government in facilitating doctors during this pandemic?</p> <p>Have you experienced a lack of interest in attending suspected COVID-19 patients?</p> <p>How often have you avoided seeing a suspected COVID-19 patient?</p> <p>How often have you tried to convince your junior to see a suspected COVID-19 patient?</p>	
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Results

Based upon the observations it was concluded that a surgeon took on an average of 10 minutes (+/-3 minutes) in wearing all the personal protective equipment and a total of 14minutes (+/- 5 minutes) in reaching a patient in the trauma room with symptoms suggestive of COVID-19. This was in contrast to a patient presenting to a trauma room who had no respiratory symptoms or fever, in which case, the patient was seen within 3 minutes (+/- 2 minutes) of presentation to a surgical emergency.

Out of 23 surgeons who have interviewed from different specialties 1 had no absolute knowledge about the mode of spread and transmission of coronavirus, 15 were reasonably aware of it while 7 were knowledgeable up to the mark. 17 surgeons were extremely fearful about contracting the disease and infecting their friends and families. 11 surgeons were highly dissatisfied with the hospital administration and provision of PPEs, 8 were moderately satisfied while 4 were adequately satisfied. 13 surgeons thought that the government is highly indifferent towards the problems faced by health care professionals during this COVID-19 pandemic. 7 surgeons confessed to avoiding COVID-19 patients and 9 surgeons confessed that they commanded their junior surgeons to see suspected COVID-19 patients in the emergency room.

Discussion

In light of our results, it is evident that inadequate supply of PPE, lack of knowledge about COVID-19, and fear of contracting the disease are the major factors responsible for causing a delay in the provision of care to trauma patients.

Inadequate supply of PPE is a major factor which needs to be addressed, as discussed by Megan and Griffeth, who concluded in their study that

unavailability of adequate number of PPE has to lead to not only the increased rate of infection and death among doctors but also has to lead many doctors to plea and arrange their PPEs by themselves.⁵

In a country like ours where the health budget is quite small and climate is hot and humid, it is not possible for doctors to change the whole set of PPEs particularly the insulating gown after seeing every patient or to keep wearing a jumpsuit and a face shield over the whole day. So, whenever there is suspicion of a COVID-19 positive patient PPE is worn, the patient is seen and that PPE is discarded after seeing the patient. This is in conjunction with the findings of Marco who stated that wearing PPEs including gloves, face masks and insulating suits for prolonged periods of time has a negative impact on health workers' physiology and psychology. He also proposed measures to fight simultaneously against the disease and changing climate which includes; starting their shift with keeping their core body temperature low, keeping oneself hydrated, wearing little clothing under PPE, and working in shifts.⁸

An important issue to be highlighted here is that we have no proper anterooms or areas for donning and doffing of PPE and there are no lockers provided to health care workers where they can keep their extra set of scrubs or PPE. So, every time a suspected COVID-19 patient enters a trauma room, time is consumed to decide who will see the patient, after that the particular doctor who has to see the patient has to arrange PPE for himself either from hospital administration or from the senior doctors, then time is consumed to wear the complete set of PPE and after that, the surgeon reaches the trauma room. So, in reality, the time taken to reach a patient exceeds much more than the time consumed in wearing PPE alone. This practice is in contrast to what was observed and suggested by Flemming, he proposed that a trauma team should be selected beforehand where each member should be selected based on proven technical expertise, medical or surgical experience, calm and thoughtful work ethic, teamwork and adaptability.⁹

The grim and hideous state of affairs is worsened by the lack of knowledge and fear among surgeons. The panic created by a little-known disease leads to avoidance in seeing patients and hence surgical negligence. An important factor for this lack of knowledge is the novelty of disease and also the lack of guidance from senior doctors, administration, and government personals. Here we cannot forget the salient role played by social media websites such as Facebook, Twitter, Instagram, and WhatsApp. The

half-truth spoken at these sites and the fabrication of the prevailing situation has a major role to play in creating an environment of chaos and misleading not only the general public but also the health care professionals. This is in agreement with what is stated by AR Ahmed that COVID-19 is the first true infodemic because the combination of true and false information is responsible for creating panic and fear among people.¹⁰

Another point needs to be addressed here is, once surgeons are in trauma room they are reluctant to touch the patients with symptoms suggestive of COVID-19. This is another barrier that hampers the primary and secondary survey and leads to the omission of valuable findings. This situation becomes even more detrimental when a patient needs emergency endotracheal intubation or chest intubation or is bleeding. In such cases, 13 minutes, a period after reaching a tertiary care hospital could be critical in saving the lives of the patients. This delay in providing care to the patients especially in a tertiary care center is an alarm and prompt measures need to be taken to avoid this. Unfortunately, this delay has not been directly studied and mentioned in literature.

We have observed that fear of contracting the disease and transmitting it to near and dear ones prevails among health professionals. A similar observation was made by Daniel who not only reported that doctors are worried about catching the infection and infecting their families and friends but also suggested that health workers should work in the form of 3 teams with one team directly seeing the patients and the other two teams completing their 14 days of quarantine after suspected exposure to COVID-19 patients.¹¹

Suggestions and Proposals

In the light of our discussion we have designed a proposal with the combined effort of our trauma team to combat the issues of delay in provision to trauma patients with suspicion of COVID-19 and to reduce fear among health professionals about contracting the disease and infecting near ones:

- Seniors, professors, and heads of departments should take their junior doctors into confidence and guide them regarding the prevailing situation
- Junior surgeons should open up about their reservations and fears and their concerns should be addressed

- Doctors should be provided with adequate personal protective equipment
- Doctors should be guided properly about donning and doffing of PPE and there should be rooms specified for this purpose
- Doctors should be provided with clean bathrooms where they can take showers before leaving and proper anterooms for donning and doffing of PPE.
- Working hours for doctors should be made convenient and only the on-call team should be called to the hospital
- Online video conferencing and telemedicine can be a helpful tool in the current state of social distancing.
- It should be inculcated in surgeons that our little negligence can be the cause of a major loss

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