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Non-COVID and COVID emergency department healthcare workers' perception of COVID-19 at Patan Hospital, Nepal

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Abstract

Introduction: Patan Hospital (PH), Patan Academy of Health Sciences (PAHS) has separated non COVID and COVID emergencies for the safety of health care workers (HCWs). This study was conducted to assess the safety perception of healthcare workers working in emergency departments during the outbreak of COVID-19.

Method: A cross sectional descriptive study was conducted among HCWs in non COVID and COVID emergency departments at PH, PAHS, Nepal, in April 2020 during COVID-19 outbreak. Questionnaires containing open and closed questions were used. Ethical approval was obtained.

Result: Out of 72 HCWs, 58 (80.5%) responded, 47 (81%) felt need to have separate non COVID and COVID emergencies, 27 (46.6%) answered they were not comfortable working with the partial PPE (masks, gloves), 29 (50%) felt the need of having primary and secondary triaging.

Conclusion: Emergency staff expressed need of having separate non COVID and COVID emergencies, and importance of primary and secondary triage.

Keyword: COVID-19, emergency, primary and secondary triage

Introduction

Severe acute respiratory syndrome coronavirus (SARS-CoV-2) has emerged as a pandemic affecting healthcare services worldwide leading to 152000 deaths till 20 April 2020.¹ Health care worker (HCWs) in emergency departments are at high risk of infection.² Moreover, as cases of coronavirus disease 2019 (COVID-19) has been rising and the lockdown imposed, the care of non COVID emergencies can't be overlooked.

The Patan Hospital (PH), Patan Academy of Health Sciences (PAHS) is one of the centers in Nepal for admitting patients with suspected and confirmed cases of COVID-19. For the safety of health care workers, emergency department has been separated as non COVID and COVID. For safety, primary and secondary triaging has been put in place. There is lack of publication on safety of HCWs on this issue from Nepal as per Google Scholar, PubMed and WHO COVID-19 database.³ This study aim is to assess safety perception of HCWs in non COVID emergency during outbreak of COVID-19.

Method

A cross sectional descriptive study was conducted among HCWs working in the emergency departments at PH, PAHS, Nepal, in April 2020 during COVID-19 outbreak. All HCWs from emergency departments (doctors, nurses and support staff) were included. Anyone not giving consent and not replying within the given time limit were excluded.

Three general practice/emergency medicine residents and one faculty who were conducting this research were also excluded. The study proceeded upon ethical clearance from institutional review committee of PAHS (IRC ref no drs2004251366). Questionnaires were sent to the study population by online google form and was requested to fill-up within 24 hour. We had hardcopy of questionnaire for support staff. Anyone not responding within the first 24 hours was requested individually. Open and closed questions were used. Content validity of the question was done by discussion amongst the researchers. Thematic analysis of open questions has been done. Closed questions were given a five grade Likert scale. Individual questions were analyzed and presented in proportion.

Result

Total 58 staff from emergency (out of 72, a 80.5% response rate), 47 (81%) felt the need to have separate non COVID and COVID emergencies, Figure 1.

On working with the partial PPE (face masks, gloves), 27 (46.6%) answered they were not comfortable, Figure 2.

Half of the participants 29 (50%) felt the need of having primary and secondary triaging, Figure 3.

Out of 58 participants, 4 (6.9%) did not have the knowledge about the separate emergencies that we were running, Table 1.

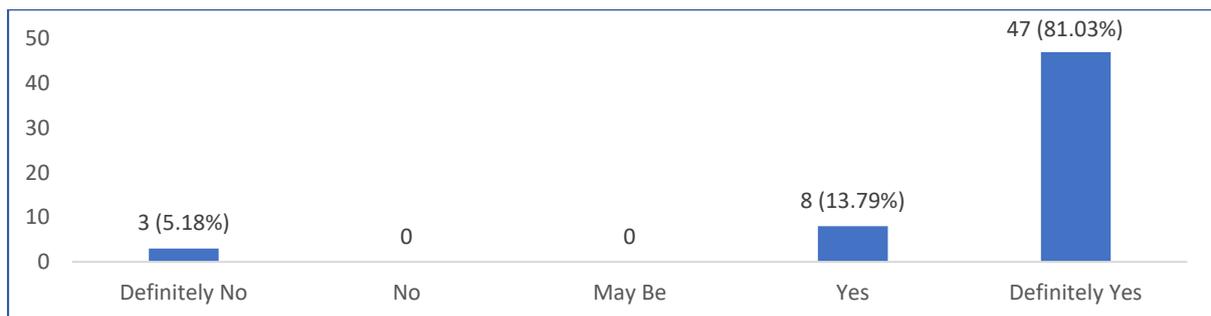


Figure 1. Perception of health care worker about COVID non COVID emergency (N=58)

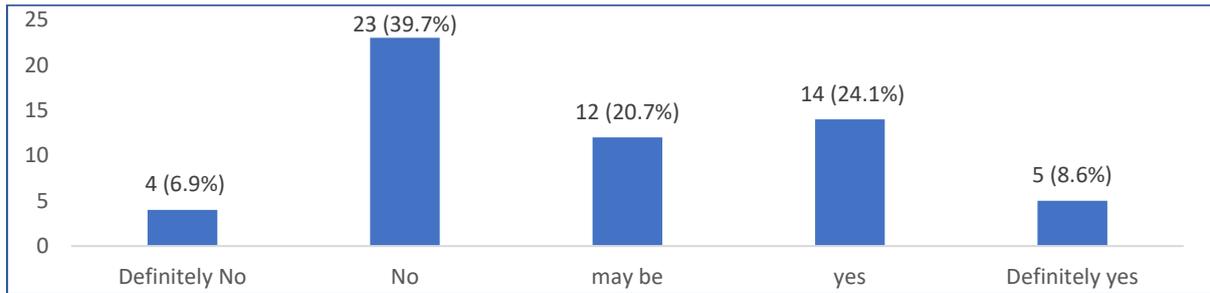


Figure 2. Perception of health care worker to work in non COVID emergency (N=58)



Figure 3. Perception of health care worker on primary and secondary triage (N=58)

Table 1. Thematic analysis if open question (N=58)

Theme	Keyword	Response (N)	%
Understands why COVID emergency is established	For safety, different	13	22.4%
Does not understand why COVID emergency is established	No idea, Need training	4	6.8%
Feels safe while working in non COVID emergency with appropriate PPE (Mask, Gloves)	Feels safe, as per WHO guideline, safe because of triage	23	39.6%
Feels unsafe working in non COVID emergency with mask and gloves	Not enough PPE, don't know status of patient, need more training	21	36.2%
Areas of improvement required in non COVID emergency	Separate respiratory emergency, need full PPE, maintaining social distance, visitor control, strengthening triage, improvising ventilation, hand washing areas	32	55.5%

Discussion

In this study 47 (81%) felt the need to have separate non COVID and COVID emergencies. This is an important step in preventing HCWs from getting infected. Infection to HCWs has been reported to be 2.3% in January in a study published from China.⁴ A hospital in Wales had nearly half of the emergency workforce tested positive.⁴ In a retrospective study from a hospital in Wuhan 41% of

patients acquired infection in hospital.⁵ Separating non COVID and COVID emergency decreases rate of infection amongst health care workers, and the rate of infection has been observed as low as 0% in a hospital where triaging and separation along with categorization of COVID was made and moved to predefined areas.⁶ Moreover, it is also our professional obligation to take care of non COVID patients.

In a report from China on impact of COVID-19 outbreak on patients hospital visit, there was a longer median time difference from symptom onset to medical contact for ST Elevation Myocardial Infarction.⁷ Thus, emergency care including obstetrics and other critical areas for non-COVID patients should be functioning with proper triage and safety precautions.

Out of the 58 participants, 32.7% were comfortable working in non COVID emergencies. Similar study done during an Influenza pandemic in Canada showed that 4% of the HCW were absent from work as they didn't trust the safety measures at their hospital.⁸

Health care workers working in non COVID emergencies felt that providing full PPE would increase their level of safety. However, we need to use PPE rationally, as per uninterrupted supply. This will be guided by the level of transmission. At present Nepal has sporadic cases.⁹ This means during the phase of community transmission with a surge of patients in the emergency, the concern that is raised in this study that "we do not know the status of patients" holds true. At this point all patients with respiratory problems should be considered as COVID-19. However, making this decision before time will consume resources unnecessarily.

Better the knowledge of disease, the easier it is for HCWs to work during outbreaks. In our study, a higher percentage of participants knew about non-COVID and COVID emergencies. Similar study done in 2010 during influenza A pandemic (H1N1-2009) showed good basic general knowledge regarding pandemic.¹⁰ Safety perceptions while working in non COVID emergencies, some felt safe whereas others felt that wearing a mask, sanitizing/washing hands or wearing gloves were not enough. Adding caps, providing full PPE and running infection prevention training were some of the suggestions from participants. A study done in Japan in 2005 showed that 55% of participants were afraid to work and out of

those, 92% of HCWs wished to avoid patients with SARS.¹¹ Many participants could be aware of asymptomatic carriers spreading infection and hence the fear of working in busy emergency rooms. Amongst many improvisations regarding safety, needing full PPE seems to be the most common suggestion.

In view of the current pandemic going on, our participants have highlighted the importance of ensuring triage and felt it is one of the strategies to ensure the safety of the health care workers and the patients. During SARS outbreak in 2003, due to lack of triaging in many hospitals, it became the instances for transmission.^{12,13} Separating non and COVID emergency is important one of safety measures; ensuring effective triaging seems more important as a barrier against cross-contamination. Our finding shows the need of having primary and secondary triage as a priority safety measure. With the surge of cases, we will be lacking in resources (PPE), but our practice and skill on ensuring triage will not be in short-supply. Moreover, our participants felt the need for improvisation in some areas to confirm better safety. Maintaining social distancing, distance between beds, having different hand wash areas for staffs and patients, hand wash area outside, providing full PPE to the staffs in non COVID area, improvising on the ventilation, strengthening triage as some of the safety measures.

Some of the limitations of our study include questionnaire did not measure understanding or knowledge (measured only their perception), hence no statistical tool was applied to generalize our findings. We used proportion where applicable.

Conclusion

Our finding show HCWs in emergency department understand the need of having separate non COVID and COVID emergencies, and the importance of primary and secondary triage and are comfortable with the current safety measures. Potential

improvements mentioned include, improvising the department set-up, ensuring triaging for every patient and providing PPE and infection prevention and control training.

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We thank the staffs in Emergency Department for participating in this research.

Conflict of Interest

None

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None

Author Contribution

All authors read and approved final draft; SA designed the study, performed literature review, analyzed data and contributed in the preparation of the final manuscript and is the guarantor; AG collected, analyzed data, and prepared the final manuscript; KM collected data, performed literature review, and contributed in data analysis; DD collected data, performed literature review, analyzed and interpreted the data.

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Supplement

Questionnaire

Answers

1=definitely no, 2=No, 3=May be, 4=Yes, 5= definitely yes

Questions:

1. Do you think COVID-19 and non COVID (clean) emergency needs to be separated?
2. Do you think safety precaution taken at COVID-19 emergency is sufficient?
3. Do you think safety precaution taken at non COVID emergency is sufficient?
4. Are you comfortable to work in non COVID emergency with partial PPE (Mask)?
5. Are you comfortable to work in non COVID emergency with partial PPE (Gloves)?
6. Do you think Primary triage is necessary?
7. Do you think secondary triage is necessary?
8. Do you think the safety precaution taken at primary triage is sufficient?
9. Do you think the safety precaution taken at secondary triage is sufficient?
10. Do you think overall preparation of covid-19 is adequate in hospital? Yes, no.

If yes, why -

If no, why -