

Emergency Preparedness and Response for Corona virus Disease (COVID-19) in Hospitals of Kaski District

Sharmila Poudel¹, Deepti KC¹, and Surya Bahadur Hamal Thakuri²

¹Gandaki Medical College, College of Nursing Sciences, Pokhara, Nepal

²Pokhara Academy of Health Sciences, Western Regional Hospital, Pokhara, Nepal

Abstract

The pandemic condition due to COVID-19 has been increasing rapidly and led the world to health emergency. Preparedness planning is essential from every aspect individuals, community and the hospital in order to respond effectively to the outbreak. The objective of the study is to assess the emergency preparedness and response for corona virus disease in hospitals of Kaski district.

A cross sectional descriptive research design was used to conduct the study in all the hospitals of Kaski district. The information were collected from the Hospital administrators using a semi-structured interview schedule representing two points of time i.e., firstly when lockdown came into effect (end of March, 2020) and secondly during the study time (November-December 2020) of the research.

During initiation of lockdown, majority of the hospitals (74.1%) reported absence of core team, 37% had external and internal contact points, 29.6% had procumbent and stock management, 22.2% had proper staff management, 40.7% had appropriate laboratory management, and 14.8% had given trainings to staffs. After about seven months duration 55.6% had core team, 48.1% had external contact points, 66.7% had stock and material managements well as good triage, first contact and prioritization of patient, 70.4% had proper hand hygiene, PPE and Waste management. But the hospitals are at halt regarding post-mortem care in both phase of time.

The study shows that hospitals are in a step of improving the preparedness and response to tackle the increasing burden. However, it is inadequate and the progress is not satisfactory. As the cases of Covid-19 are increasing rapidly the hospitals need establish quick response and effective preparedness plan for appropriate management.

Keywords: Preparedness • Response • Corona virus disease

Introduction

After the outbreak of Coronavirus disease (COVID 19) which was first seen in China, the World Health Organization (WHO) declared the world in health emergency in December as the number of suspected victims increased rapidly and the number of death also raised [1]. COVID-19 is a pandemic condition transmitting from human to human through the air and droplet infections. The condition is devastating to all 213 countries till date [2].

Worldwide corona viruses cases have reached more than 20.7 million, above 12.8 million have recovered, and more than 7, 51,000 have died [3]. Nepal has 29,645 cases and 126 deaths till August 20, 2020. Kaski district, a part of Gandaki Pradesh with the population of 492,098 is also adversely affected by Corona Virus Disease. The district has altogether 26 non- governmental hospitals and 4 government hospital, with the facilities of triage system, fever clinic, separate hand washing corner and isolation room with sufficient human resources caring the covid patients. The provincial government has taken steps to prevent a widespread outbreak of the disease by procuring essential supplies, equipment and medicine, upgrading health infrastructure, training medical personnel, and spreading public awareness but there is the rapid increment of the cases of Covid-19. It has been recorded that cases of COVID-19 have been more common among the travellers specially returning from the neighbour nation India in context of Nepal [4].

It has been a great challenge for the world to fight against the COVID 19 as it has spread rapidly with unknown transmission pattern [5]. So, it is a critical issue for the government of Nepal to continue strengthen and sustain the nation's public and private health infrastructure. Hospitals should ensure

readiness to care for more patients, and maintain safety for healthcare workers who strive to save others life. There is the need of multi-disciplinary team effort with efficient leadership, quick pace in work for making effective implementation of preparatory measures before the actual arrival of the first infected patients, ensure modifications in plans as needed and address new upcoming demands to response pandemic [6].

Infection control, home-based diagnosis and screening, empowerment through information, public health surveillance, awareness campaign, thoughtful, concerted effort on existing experience and robusting the plan and policies of preparedness might have a substantive impact on the immediate and distal consequences of COVID-19 [7].

In order to meet the increasing challenge of health threats today and tomorrow health infrastructures should be accelerated, laboratory service should be advanced, strong work force and should strengthen the preparedness capacity [8].

Though, Preparedness planning is essential in order to respond effectively to outbreaks and epidemics, it is a matter of much more challenge due to unavailability of sufficient staff and supplies. So, to cope the challenging situation, preparation and hospital emergency planning must be given top priority focusing the core components staff, space and supplies as they determine the level of care that hospitals can provide [9].

Methods

The study was carried out among the general hospitals of Kaski district. Kaski district, a part of Gandaki Pradesh, is one of the seventy-seven districts of Nepal. All together 23 nongovernmental hospitals and 4 governmental hospital of Kaski district were included in the study. As 3 of the hospitals of Kaski district did not responded to the survey as they were either closed or not fully operating due to the disease, the non-response rate was 10 percent.

The study population consisted of the Hospital administrators of all the selected hospitals of Kaski district.

A semi structured interview schedule was used to collect the necessary data. Part I of the questionnaire assessed the background information of the hospitals

*Address for Correspondence: Sharmila Poudel, Gandaki Medical College, College of Nursing Sciences, Pokhara, Nepal, Tel: +977-9866346610; E-mail: sharmilapoudel1234@gmail.com

Copyright: © 2021 Poudel S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

whereas Part II assessed the Emergency Preparedness and Response for corona virus disease (COVID 19) in Hospitals of Kaski in 2 phase of time, before the initiation first lockdown(March,2020) in the country and at the study time(November/December, 2020). The Corona virus disease preparedness was assessed using an Centre for Disease Control (CDC) guideline i.e. Infection prevention and control and preparedness for COVID-19 in healthcare settings .The tool was translated in Nepali language through language experts and a Nepali version of the tool was used to collect the relevant data.

All collected data were reviewed and checked for completeness, consistency and accuracy. Collected data were transferred into statistical package for social sciences (SPSS) version 16 for further analysis. The entered data were analysed and interpreted according to the objective of the study by using descriptive statistics.

The study was approved by Nepal Health Research Council (NHRC). Informed written consent was obtained from all the participants.

Results

Results are shown in Figure 1 and Tables 1-3.

Table 1 shows the preparedness and Response carried by hospital while responding to the pandemic. Majority of the hospitals (74.1%) of the hospitals reported that they had not made core team, only 37percent had external and internal contact points, 29.6 percent had procurement and stock management, 22.2 percent had proper staff management. Only 40.7percent had appropriate laboratory management. Likewise only 14.8 percent had given trainings for the staff for covid-19 management.

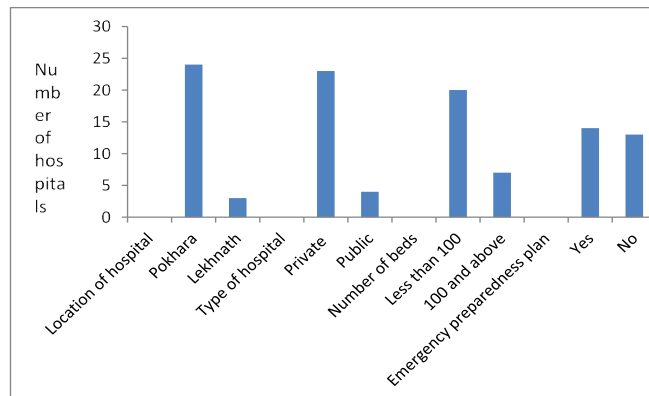


Figure 1. Reveals the background information of the hospitals. Out of the surveyed hospitals, most (88.9) of the hospitals were located in Pokhara. More than 90% of hospitals were non- governmental. Out of 27 hospitals, 74 percent were less than 100 bedded and 26 percent were 100 and more bedded. More than half (51.9%) of the hospitals had an emergency preparedness plan.

Table1: Emergency Preparedness and Response in Hospitals for Corona virus Disease before imitation first lock down.

S.N	Items	Completed	In progress	Not Started
1.	Written Plan and a Core Team	5(18.5)	2(7.4)	20(74.1)
2	Key Internal and External Contact Points	10(37)	5(18.5)	12(44.4)
3.	Procurement and stock management	8(29.6)	12(44.4)	7(25.9)
4.	Human Capacity	6(22.2)	9(33.3)	12(44.4)
5.	Facility and Material	9(33.3)	2(7.4)	16(59.3)
6.	Laboratory Capacity	11(40.7)	8(29.6)	8(2)
7.	Communication and data Protection	12(44.4)	7(25.9)	8(29.6)
8.	Trainings	4(14.8)	9(33.3)	14(51.9)
9.	Hand Hygiene, PPE and Waste management	12(44.4)	7(25.9)	8(29.6)
10.	Triage, first contact and Prioritization.	8(29.6)	10(37.0)	9(33.0)
11.	Patient Placement	6(22.2)	8(29.6)	13(48.1)
12	Moving patients in the facility ,visitors access	6(22.2)	9(33.3)	11(40.7)
13.	Postmortem Care	5(18.5)	5(18.5)	17(63)

Table 2: Emergency Preparedness and Response in Hospitals for Corona virus Disease at current time.

S.N	Items	Completed	In progress	Not Started
1.	Written Plan and a Core Team	15(55.6)	3(11.1)	9(33.3)
2	Key Internal and External Contact Points	13(48.1)	7(25.9)	7(25.9)
3.	Procurement and stock management	18(66.7)	4(14.8)	5(18.5)
4.	Human Capacity	17(63.0)	2(7.4)	8(29.6)
5.	Facility and Material	18(66.7)	4(14.8)	5(18.5)
6.	Laboratory Capacity	17(63.0)	4(14.8)	5(18.5)
7.	Communication and data Protection	16(59.3)	5(18.5)	6(22.2)
8.	Trainings	8(29.6)	11(40.7)	8(29.6)
9.	Hand Hygiene, PPE and Waste management	19(70.4)	3(11.1)	5(18.5)
10.	Triage, first contact and Prioritization.	18(66.7)	1(3.7)	8(29.6)
11.	Patient Placement	13(48.1)	4(14.8)	10(37.0)
12	Moving patients in the facility ,visitors access	14(51.9)	5(18.5)	8(29.6)
13.	Postmortem Care	5(18.5)	6(22.2)	16(59.3)

Table 3: Comparison of Emergency Preparedness and Response in Hospitals for Corona virus Disease before lockdown and in the Current Time.

S.N	Items	Completed before Lockdown	Completed At study time
1.	Written Plan and a Core Team	5(18.5)	15(55.6)
2	Key Internal and External Contact Points	10(37)	13(48.1)
3.	Procurement and stock management	8(29.6)	18(66.7)
4.	Human Capacity	6(22.2)	17(63.0)
5.	Facility and Material	9(33.3)	18(66.7)
6.	Laboratory Capacity	11(40.7)	17(63.0)
7.	Communication and data Protection	12(44.4)	16(59.3)
8.	Trainings	4(14.8)	8(29.6)
9.	Hand Hygiene, PPE and Waste management	12(44.4)	19(70.4)
10.	Triage, first contact and Prioritization.	8(29.6)	18(66.7)
11.	Patient Placement	6(22.2)	13(48.1)
12	Moving patients in the facility ,visitors access	6(22.2)	14(51.9)
13.	Postmortem Care	5(18.5)	5(18.5)

Table 2 reveals the Emergency Preparedness and Response in Hospitals for Corona virus Disease at the study time (November/ December, 2020) .More than Half of the hospitals had written plan with core team for managing the pandemic. 66.7 percent had adequate stock management and had provided facilities and materials for the staff and started triage and Prioritization. Till the date only 18.5 percent had proper preparedness for post-mortem care.

Table 3 illustrates comparative study of preparedness and response in hospitals for corona virus disease in two phase of time, i.e., before the first lockdown and at the current state. The hospitals had improved a lot in all the sectors like establishment of written plan, establishment of contact points, stock and manpower management whereas the hospitals are still not able to do adequate preparedness regarding the post-mortem care.

Discussion

The findings of the study are consistent with the findings of the study conducted in Nepal, a national level survey, which revealed that the hospitals in Nepal are not well prepared to meet the urgency brought by the pandemic. There is the need for improvement in every sector like preparedness plan development, patient placement, isolation room, trainings for the staff, laboratory services and more [10]. Likewise the study finding is also similar with the study carried in Germany which concluded that the covid pandemic had brought a limited capacities and preparedness for hospitals and health care systems [11].

The study findings contradicts with cross sectional survey conducted in 44 hospitals of Idhao on Covid-19 Preparedness among Hospitals in May 2020, only 73% responded which reported that they had their preparedness with respect to existing, formalized structures for managing infectious disease incidents as well as availability of resources, such as isolation rooms and personal protective equipment, for safely managing suspected and confirmed COVID-19 cases [12].

Though the surveyed hospitals in Kaski are marching forward to tackle the surge of pandemic, they need more preparedness in every aspect which is similar with the study with the conducted in Patan Hospital which concluded that there is difficulty with the available resources for hospital to manage large influx of patient or few patients continuously for many days [13-15].

Conclusion

Hospitals in Kaski district do not have adequate Preparedness and Response regarding the management of corona virus disease. The study shows that hospitals are in a step of improving the preparedness and response as compared to the situation before the initiation of first lockdown in all sectors to tackle the increasing burden of pandemic situation but the progress the unsatisfactory. As the cases of Covid-19 are increasing more tremendously the hospitals need to be alert and establish the preparedness plan for appropriate management.

References

- Habibzadeh, Parham, and Stoneman Emily K. "The novel coronavirus: A bird's eye view". *Int J Occup Environ Med* 11(2020):65-71.
- World Health Organization. "Coronavirus disease pandemic". 2020.
- <https://covid19.who.int/>
- <https://www.aseanbriefing.com/news/coronavirus-asia-asean-live-updates-by-country/>
- Shrestha, Ashis, Rajbhandari Piyush, and Bajracharya Sumana. "Hospital preparedness for outbreak at Patan Hospital: Lesson Learnt from COVID-19". *J Nepal Health Res Counc* 18(2020):142-143.
- Gupta, Shaili, and Federman Daniel G. "Hospital preparedness for COVID-19 pandemic: experience from department of medicine at Veterans Affairs Connecticut Healthcare System". *Postgraduate medicine* 132(2020):489-494.
- Mahmood, Sultan, Hasan Khaled, Carras Michelle Colder, and Labrique Alain. "Global Preparedness Against COVID-19: We Must Leverage the Power of Digital Health". *JMIR Public Health Surveill* 6(2020):e18980
- Smith, Nathaniel, and Fraser Michael. "Straining the System: Novel Coronavirus (COVID-19) and Preparedness for Concomitant Disasters". *Am J Public Health* 110(2020):648-649.
- <https://healthmanagement.org/c/icu/news/hospital-preparedness-during-covid-19>
- Shrestha, GS, Paneru HR, Acharya SP, and Shrestha SK, et al. "Preparedness for Coronavirus Disease in Hospitals of Nepal: A Nationwide Survey". *JNMA J Nepal Med Assoc* 58(2020):248-251.
- Wurmb, Thomas, Scholtes Katja, Kolibay Felix, and Schorscher Nora, et al. "Hospital preparedness for mass critical care during SARS-CoV-2 pandemic". *Crit Care* 24(2020):386.
- Kanwar, Anubhav, Heppler Susan, Kanwar Kalpana, and Brown Christopher. "A Survey of COVID-19 preparedness among hospitals in Idaho". *Infect Control Hosp Epidemiol* 41(2020):1003-1010.
- <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>
- Wong, Jolin, Goh Qing Yuan, Tan Zihui, and Lie Sui An, et al. "Preparing for a COVID-19 pandemic: a review of operating room outbreak response measures in a large tertiary hospital in Singapore". *Can J Anaesth* 67(2020):732-745.
- <https://www.ecdc.europa.eu/en/covid-19/preparedness-and-response>

How to cite this article: Poudel S. "Emergency Preparedness and Response for Corona virus Disease (COVID-19) in Hospitals of Kaski District". *J Infect Dis Med* 6 (2021).167