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Perspective of medical graduates from Patan Academy of Health Sciences on the management of COVID-19, during the initial phase of pandemic in Nepal

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Abstract

Introduction: Nepal, with a poor health infrastructure and resources, when hit by the COVID-19 pandemic in 2020, the health system and the health workers were not well prepared to handle the crisis.

Method: A survey was conducted during the initial phase of the pandemic (July-October, 2020) to understand the perspective of PAHS medical graduates on the management of COVID-19. A survey questionnaire was prepared in Google Form and circulated through official group emails.

Result: A total of 80 graduates participated in the survey. Of the participants, 35(66%) reported that their health facility was only partially prepared and 8 (15.1%) reported that their site was not at all prepared to take care of COVID-19 patients. The local government and the community of their workplace were reported as supportive of the efforts of the pandemic management by 30(37.7%) and 33(41.5%) respondents respectively. The graduates working during the pandemic were involved in activities like swab collection (8), screening (30), critical care (37), patient education/counseling (41), managing non-COVID-19 patients (47), and administrative work (17). Inadequate planning of service delivery was identified as major lacking nationally while the human resources, logistics, PPE and lack of motivation were reported as the major lacking locally by the participating graduates.

Conclusion: The fresh PAHS graduates were found to be contributing at their respective workplaces fitting into both the clinical and non-clinical roles during the initial phase of the pandemic in Nepal. They reported that one or more of the components of PAHS training helped in the readiness to work in this pandemic.

Keywords: COVID-19 pandemic, Nepal, PAHS graduates, Pandemic preparedness,

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Introduction

Patan Academy of Health Sciences (PAHS) is an academy established with a social accountability mandate. The Academy started enrollment of undergraduate medical students under its school of Medicine in 2010 and to date, five batches of students have graduated and been working. The admission policy of recruiting students from a remote, rural background, the innovative teaching-learning tools including community-based learning and education, training at primary level health facilities/hospitals, sessions on disaster management, ethics, and communication skills are some of the examples of doing things differently at the school.[1-4] More than 50% of its graduates are currently working at the primary level government health facilities in different parts of the country including very remote areas.

At the beginning of the COVID-19 pandemic in Nepal, with the first case reported on 13 January 2020, and the declaration of the countrywide lockdown on 23 March 2020, most health facilities were not prepared to see, treat or admit COVID-19 cases.[5-7] We decided to track our graduates where they are working, whether the health facilities, they are working at, were prepared to receive and manage COVID-19 cases, and what has been their role in the situation. We also wanted to understand their perspective on the pandemic as young doctors at the beginning of their careers. For this purpose, a study was planned and ethical approval was obtained from the PAHS Institutional Review Committee.

Method

This was a survey conducted on medical doctors graduating from the Patan Academy of Health Sciences. The study was conducted between July to October 2020 during the initial peak of the COVID-19 pandemic in Nepal, and by this time only four batches of medical students had graduated from PAHS. The objective of this study was to understand the perspective of medical graduates on the management of COVID-19. By the time of this survey, there were 220 graduates from the first four batches (graduated between 2016 to 2020). A survey questionnaire was prepared in Google Form and circulated in the group emails (official PAHS email of each batch). The enrollment was voluntary and informed consent was taken on the Google Form before proceeding to the questions. A timeline of 3 months was given with every 2 weekly reminders in the same emails.

The questionnaire consisted of closed questions with single and multiple responses and a few open questions. Qualitative and quantitative methods were used for analysis. Closed questions were analyzed quantitatively using frequency and proportion and thematic analysis of open questions was done. The findings were triangulated and deductive analysis was done.

Result

A total of 80 graduates out of 220(36.4%) participated in the survey. The highest number of participants, 25(31.65%), was from the first batch and the least number 15(18.99%) was from the third batch. There were 56(70%) male and 24(30%) female participants. The median age of the participants was 29.5 y with a minimum of 23 and a maximum of 36 y.

Out of 80 participating graduates, 55(68.75%) were working in the country during the pandemic and 7(8.8%) were enrolled into different post-graduate residency programs and working as Residents within the country, Table 1. Of those 55 working graduates, 36(65.45%) were working in the government health system, out of which 19(52.77%) were working at district hospitals, 8(22.22%) in Primary Health Center (PHC), and 9(25%) in central level hospital.

Regarding whether or not the hospitals/health facilities, where the graduates were working, were taking care of COVID-19 patients, there were 53 responses,

out of which 36(67.9%) stated that their health facility was taking care of COVID-19. Out of the 63 responses received on how prepared their health facility was for the pandemic, 35(66%) and 10(18.9%) reported that the health facility was partially or fully prepared for the pandemic respectively while 8(15.1%) reported that their site was not at all prepared. Upon query on their role in the pandemic, 79 responses were received and one or more roles were reported. Forty-seven (59.4%) reported that they were also involved in taking care of non-COVID-19 patients, Figure 1.

In terms of how supportive was the local government (of their current workplace) for the efforts of the pandemic management, out of 53 respondents, 20(37.7%) reported supportive, 27(50.9%) reported little supportive and 6(11.3%) reported not supportive at all. Regarding the support from the local community in the pandemic management, it was reported supportive by 21(39.6%), very supportive by 1(1.9%), little supportive by 23(43.4%), and not supportive at all by 8(15.1%).

Only 2(2.53%) respondents said that they were very comfortable working in the pandemic, 13(16.5%) reported somehow comfortable, 23(29.1%) not comfortable at all, and 41(51.9%) responded difficult to say. For those who were not comfortable working, 5(38.5%) reported Personal safety and fear, 3(23.1%) reported lack of information, and 2(15.4%) reported lack of personal protective equipment (PPE) to be the main barrier.

Out of 53 responses, regarding the question on the willingness of other medical staff to work during the pandemic, it was reported as 'most are willing' by 30(56.6%), 'only a small number of staff willing' by 20(37.7%), and 'not willing at all' by 2(3.77%)' while only 1(1.89%) reported 'everyone willing to work'. For the non-medical staff 24(45.3%) reported that 'most are willing to work' while 26(49.1%) reported that only a small number were willing to work during the pandemic.

While rating the most important and least important barriers at their respective workplaces, 26(49.1%) reported Personal safety and fear as the most important and 19(35.8%) reported restrictions from the family/community as the least important barriers, Figure 2.

Among the 54 participating graduates who were working during the pandemic, 35(66%) reported taking some actions in addressing this issue of 'unwillingness to work' through various activities. Some reported taking more than one action/activity in addition to their clinical work, Figure 3.

In response to the question of what the biggest lacking in the current pandemic management was globally, nationally, and locally, the following responses were obtained: Out of 61 responses to the question on biggest lacking globally, 27(44.2%) said inadequate planning. The specific areas highlighted were logistic supplies (mainly PPE), communication and coordination between various agencies involved, risk communication to the public, financial management, human resources, and delegation of responsibilities. There were 12(19.6%) responses on lack of awareness. The rest of the responses included poor leadership, lack of testing, inadequate contact tracing, lack of motivation, research, training, and insufficient investment in the health care system.

Out of 69 responses to the question on biggest lacking nationally, 45(65.2%) mentioned inadequate planning which included planning of service delivery, testing facility, experts, finance, risk communication, and resources. There were 13(18.8%) responses stating lack of PPE and human resources and 10(14.4%) responses stating lack of delegation and acceptance of responsibilities.

Out of 58 responses to the question on biggest lacking locally, 20(34.4%) mentioned the shortage of human resources, logistic supply, and PPE while 8(13.7%) mentioned

lack of motivation of healthcare workers mainly due to poor financial remuneration. Out of 43 responses to the question on what actions were taken by the graduates to mitigate the perceived lacking at their local levels, 18(41.9%) mentioned lobbying with local authorities, 12(27.9%) mentioned conducting training on Infection prevention and/or PPE use.

Out of 55 responses on lessons learned from the pandemic, 24(43.6%) highlighted preparedness as the key to success, 16(29.1%) mentioned the importance of awareness regarding infection prevention and safety measures. A few mentioned that the mental health and risk communication needed to be strengthened. Of the 80 participating graduates, 76(96%) reported one or more of the components of PAHS undergraduate training helped in the readiness to work in this pandemic. Infection control training and disaster drills were rated highest by 63(79.7%) and 58(73.4%) respondents respectively, followed by good exposure to the national health system by 49(62%) and community orientation by 45(57%) of the respondents.

Table 1. Work status of PAHS graduates during the initial phase of COVID-19 (N=55)

Status			N	%
Currently Working			55	68.75%
	In the government health system Under Service bond (30) In contract without bond (6)	36		
	In a Private health facility	14		
	As an independent private practitioner	3		
	In Community hospital	1		
	In research organization	1		
Not working and preparing for PG/Residency			18	21.25%
	In the process of USMLE & Residency matching	9		
	Preparing for PG Entrance	9		
PG Resident			7	8.75%

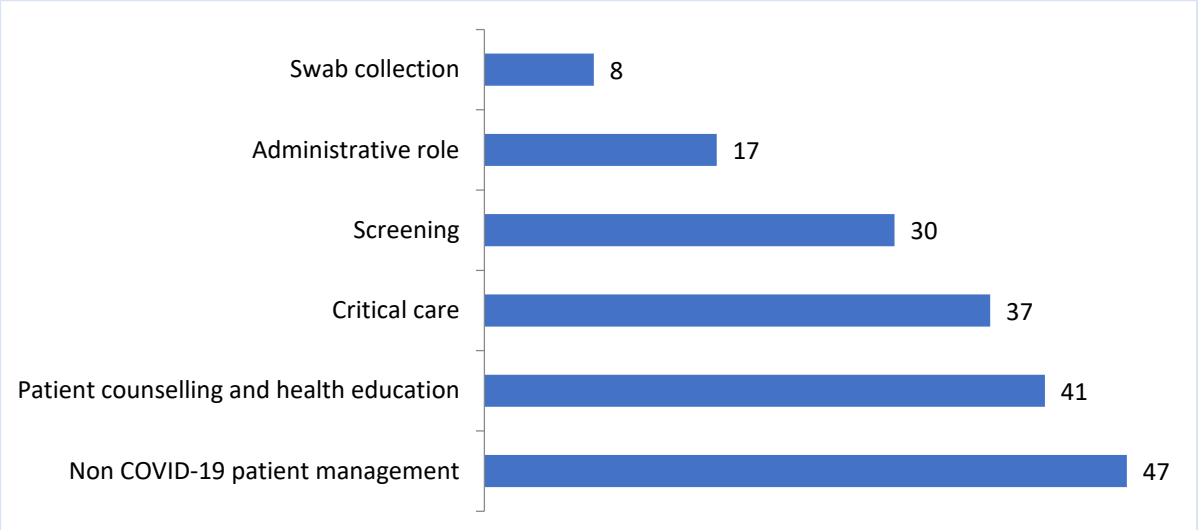

Figure 1. PAHS graduates in different roles during the first wave of COVID-19 (N=79)

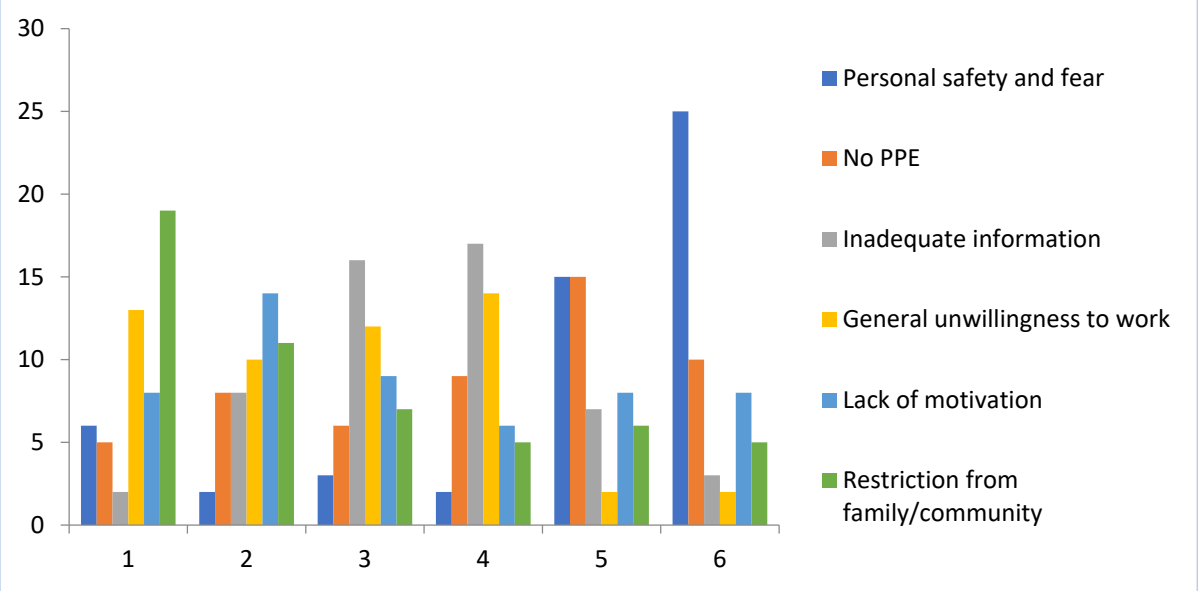

Figure 2. Most important to least important barriers as rated by the graduates (X-axis: rating 1-6, 6=most important, 1=least important; Y-axis: number of responses)

Figure 3. Various activities taken by the graduates in addressing the issue of 'unwillingness to work' (N=54)

Discussion

This study, carried out during the initial phase of the pandemic in Nepal, showed that 67.9% of the participating graduates reported that their site was taking care of COVID-19 patients. The majority of the study participants reported that their health facility was only partially prepared (66%) or not prepared at all (15%) to manage COVID-19 patients. In Nepal, failure to initiate anticipatory control measures at the early stages of the outbreak has been reported by both the healthcare workers and the policymakers in the country's COVID-19 response.[8] A few studies, also conducted in the early phase of the pandemic, reported that most of the hospitals in Nepal were not well prepared for the management of COVID-19 patients and the supply of personal protective equipment (PPE) was inadequate.[6,9]

A significant number (29.1%) of the respondents in this study reported that they were not comfortable working in the

pandemic while more than one-third of the respondents mentioned that only a small number of the medical and non-medical staff at their health facilities were willing to work. Personal safety and fear, lack of information, and lack of PPE were reported as the main barriers. It has been said that health workers in low and middle-income countries are put at high risks when the pandemic hits these countries with poor healthcare systems.[10] In a nationwide cross-sectional survey done in Nepal, it was reported that laboratory staff, paramedics, public health workers, and nurses/midwives were found more willing to work than doctors.[10] A study conducted in a low-resource setting showed that awareness and preparedness for the pandemic were low among frontline workers and only 20.6% of doctors and 26.3% of nurses felt that they were personally prepared for the outbreak.[10] A direct correlation has been observed between the lack of understanding of a new condition and the preparedness among healthcare professionals.[11] Moreover, willingness to work also depends on the type of disaster and the risk associated with it. A study showed that most (61.97%) healthcare workers were ready to work in a natural disaster while least were ready in Ebola (27.7%) and nuclear incidents (24.88%).[12] Training and educational programs will help healthcare workers to understand the new conditions better which will increase willingness to work in such conditions. This was also concluded in a study done with nurses, showing a positive relationship with willingness to work and knowledge while a positive relationship with monetary compensation was also observed.[13] In our study, out of 58 responses to the question on biggest lacking locally, 8(13.7%) responses mentioned lack of motivation of healthcare workers mainly due to poor financial remuneration. This issue of monetary compensation as one of the factors to work in COVID-19 was also raised in another study.[14]

Less than 40% of our participating graduates reported that the government was supportive of the pandemic management activities. In a nationwide survey in Nepal during the early phase of the pandemic, it was reported that more than 60% of health workers considered government response to the COVID-19 pandemic unsatisfactory. It was found that health workers with adequate knowledge of COVID-19 were more likely to consider government response satisfactory and were more prepared to work than those with inadequate knowledge.[9] Local community was reported supportive or very supportive by 41.5% of the respondents in our survey. The supportive local community can play a vital role in managing this pandemic while good preparedness and proper resource allocation can help better planning and community integration.[11] Therefore, as Nepal is under a federal governance system[15], support from the central level as well as the local level is very essential. It was reported in one of the studies that the healthcare workers feel safe upon having government support. [16]

Of the participating graduates who were working during this pandemic, 65.45% were working within the government health system and among them, 75% were working at the primary level health facility/hospital outside Kathmandu valley. Student selection, admission policy, scholarship scheme, and performance bond at PAHS have played important role in deploying the competent health workforce at these facilities during this pandemic.

The PAHS graduates participating in the survey were also found to be involved in various other important pandemic-related activities like community engagement motivating the staff, planning, team building, liaising with the government, ministry/ local authorities, community engagement, and leading the pandemic management team at their health facility. Through frequent exposures to community engagement activities, preparing reports on community needs and strategic planning, working in resource constraint settings during their course, PAHS graduates attain the competency of 'community orientation'.

Disaster medicine courses in medical school were felt necessary internationally after events like 11 September 2001 in the US and the 2004 Tsunami in Southeast Asia.[17,18] So, as part of undergraduate training PAHS has been involving and exposing students to disaster drills and flip classrooms on disaster management. All the four batches of graduates, participating in this survey, had participated in the disaster drills and/or were actively involved in the disaster management of the 2015 earthquake that affected Nepal with thousands of casualties. This goes along with the suggested format of the disaster medicine courses for the medical student consisting of mixed modalities of didactic sessions, case studies, practical hands-on training, and simulation experiences.[19]

The PAHS undergraduate medical curriculum has a good emphasis on population health, demographics, and disease epidemiology. Integrating population health into medical education and making 'pandemic preparedness' a specific population health topic in the medical curriculum, has become more important following the H1N1 influenza pandemic.[20] It is said that implementing disaster training programs for medical students improves preparedness, knowledge, and skills that are important for medical students during times of pandemics.[19] The curricular model of PAHS could have motivated and facilitated our graduates to be actively involved in pandemic management activities. The widespread fear among health professionals, having seen the high infectivity and mortality could otherwise have potentially led to demotivation and reluctance to work in our settings with many limitations.

Limitation

As the participation was voluntary and only 36.4% of the graduates enrolled themselves in the study, it is likely that more of the graduates working within the country's health facilities taking care of COVID-19 have participated in the survey and therefore the percentage/proportion may not represent the whole cohort of PAHS graduates.

Conclusion

As the COVID-19 pandemic hit Nepal, it challenged the existing health care system of the country and its ability to respond to the crisis while the lack of pre-empting planning and preparedness has put the healthcare workers at high risk. In such a situation, the fresh PAHS graduates working at different parts of the country at different levels of health facilities were found to be contributing significantly in the pandemic management at their respective workplaces fitting into both the clinical and non-clinical roles. The admission policy, scholarship scheme, and performance bond at PAHS have played important role in deploying the competent health workforce during this pandemic while the curricular model could have a positive impact on preparing the graduates to become clinician leaders and managers.

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Conflict of Interest

None

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Author Contribution

Concept, design, planning: SS, AS, BA; Literature review: SS, AS; Data collection: SS, BA; Data analysis: SS, AS, BA; Draft manuscript: SS, AS; Revision of draft: SS, AS, BA; Final manuscript: SS, AS, BA; Accountability of the work: SS, AS, BA

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