

COVID-19 As A Challenge For Healthcare Workers: Exploring The Barriers To Patient Care In Government Healthcare Sector Of Islamabad, Pakistan

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Abstract

This study identifies some of the challenges faced by healthcare workers during the COVID-19 Pandemic which began at the start of 2020. The COVID-19 virus wreaked havoc in the world being highly transmissible with a high rate of mortality. This study aimed to explore the challenges faced by the healthcare workers for patient care during COVID-19 and it highlights multiple challenges that were faced by the frontline healthcare workers. Moreover, this study also shares some recommendations that can help to overcome mentioned challenges in the discussion part of this paper. It also sheds light on the underlying causes which posed numerous obstacles for healthcare workers in providing patient care during the COVID-19 emergency crisis. For this study, qualitative data collection tools and techniques including key informants, rapport building, semi-structured interview guides, in-depth interviews, and convenient sampling were used. Moreover, interviews were recorded and transcribed. The research was conducted at the District Health Office (G9) and Pakistan Institute of Medical Sciences (PIMS) Hospital Islamabad. It was identified that weak governance, lack of political will, fragile healthcare policies, an underfunded healthcare system, inadequate human resources in the health sector, and lack of updated tools and technology were the major contributing factors resulting in the challenges for frontline healthcare workers to provide quality care to patients. The recommendations of this study are to bring good

governance in the healthcare sector, improve funding especially to manage a pandemic, develop new health policies, provide modern diagnostic technology, and show the political will to combat any pandemic. Through these measures, the government can make itself prepared for fighting against any pandemic in the future.

Keywords

COVID-19, Pandemic, Challenges, Healthcare Workers, Resources

Introduction

The year 2020 began with the COVID-19 pandemic, with the first case of coronavirus originating in China's Wuhan City in the Hubei province in December 2019 (WHO, 2020). COVID-19, caused by the novel coronavirus (SARS-CoV-2) is an infectious disease that results in mild to severe respiratory illness in human beings (Tesini, 2022). The World Health Organization (WHO) declared the COVID-19 outbreak a global health emergency on the 30th of January 2020 after the first case of COVID-19 was reported to the WHO on the 31st of December 2019. COVID-19 spread throughout the world at an alarming rate and was declared a pandemic by WHO on the 11th of March, 2020 (WHO, 2020). Ever since its outbreak, millions of people have been infected by the COVID-19 virus resulting in millions of mortalities (WHO, 2022c). According to (Harvard, 2014) patient care refers to health-related services delivered by healthcare providers that include prevention, treatment, and management of an illness, ensuring physical and psychological human wellbeing. These facilities, required for patient care, were missing in Pakistan owing to poor management and lack of financial resources. Pakistan's healthcare system consists of both, private and public sectors. The public health care system is hierarchical i.e. divided into three tiers including primary, secondary, and tertiary levels (Kumar & Bano, 2017).

Pakistan's healthcare system provides healthcare services for patient care through curative, precautionary, and rehabilitation services. Federal and Provincial governments are responsible for healthcare delivery in Pakistan (WHO, 2022c). Since Pakistan has a hierarchical healthcare system, the first level of healthcare services delivery for patient care is through Primary care, where patients are provided with preventive, curative, and promotive services through Rural Health Centers (RHCs) and Basic Health Units (BHUs). The second level is the Secondary healthcare (intermediate) which deals with the delivery of therapeutic, diagnostic, and technical services at the district and tehsil level in addition to first and second referral facilities which provide acute, ambulatory, and inpatient care through District Headquarters (DHQs) Tehsil Headquarters (THQs). On the third level, is a tertiary care, where more specialized care is provided to the inpatients. Tertiary healthcare provides more specialized care for inpatients and for referrals from primary or secondary healthcare professionals (Hassan et al., 2017).

As a consequence of the presence of both private and public sector healthcare services, Pakistan's health sector suffers from the mixed health systems syndrome. A study conducted by (F. Khalid et al., 2021) claims that historically healthcare system of Pakistan has been underfunded i.e. less

than 5% of government expenditure on healthcare and less than 1% of GDP through public spending. Adding fuel to the fire, lack of coordination between the federal and provincial governments, underfunded healthcare system, unequal distribution of existing resources, poor resource base, weak policies, lack of implementation at the district level, weak health systems in addition to high population make Pakistan fall in the category of countries least prepared for epidemics and pandemics (Iqbal & Zahidie, 2020).

The first case of COVID-19 in Pakistan was reported in Karachi, Sindh, on February 26, 2020 (Abid et al., 2020). COVID-19 spread throughout the country like wildfire. Primary care was the initial point of contact with the health system for the COVID-19 infected patients in the early phases of the COVID-19 pandemic in Pakistan. However, the system was not effective enough owing to the poor administration, lack of standard operating procedures (SOPs) and personal protective equipment (PPEs), and weak governance and policymaking which led to inefficient healthcare delivery to the infected patients. Suspected patients or patients with mild symptoms were treated at the first level of contact with the healthcare system i.e. primary care whereas, critically ill COVID-19 patients with other illnesses and underlying health conditions received treatment in ICU, COVID-19 wards and were placed on Ventilators depending on their condition in the Secondary and Tertiary care hospitals (NIH, 2021).

Methodology

Qualitative data collection tools and techniques were utilized for collection of data for this study. In-depth interviews, non-participant observation, semi-structured interview guides, and informal discussions were qualitative tools and techniques that were used for this research. Purposive sampling technique was used for identifying the respondents and a sample of 15 health care workers from PIMS hospital along with the administrative staff of the District Health Office was selected. The selected sample fell between the age group ranging from 22 to 45 years of age which included both men and women.

All ethical considerations of social research were followed. Field ethics were ensured i.e. data collection activities were commenced after receiving permission from the District Health Office and Medical Superintendent of PIMS Hospital. The data was collected during this research by keeping in view all ethical considerations such as ensuring the availability and consent of the research participants. A consent form was signed by the respondents to ensure their consent for sharing information. Three key informants were selected, two from the District Health Office (DHO) and one from PIMS Hospital. The key informants aided in developing an understanding of the research participants, rapport building, and providing access to the required respondents and data.

Discussion

Healthcare services are provided through health care systems by efficient and effective methods as indicated in a study by (Kumar & Bano, 2017). However, the effectiveness of the methods and services along with accessibility relies heavily on the availability of the resources and the effective

management, usage, and organization of the existing resources. An efficient healthcare system is recognized by the proficient disease diagnosis, treatment, curative services, health promotion, prevention, administration, and rehabilitation services throughout the different levels of care provision within the healthcare system under the changing needs over the course of time (Cylus et al., 2016). In Pakistan, according to the 18th amendment, the provincial governments in the provinces and the federal government in the federal capital are responsible for providing healthcare services to the people (Rana, 2020). Conventionally, districts are responsible for the delivery of healthcare services with the healthcare provision being administered by the federal and provincial governments in coordination with each other (WHO, 2022).

In the world with regard to population, Pakistan falls in the sixth position (Qasim, 2018). As per the needs of the population, according to (M. A. Abdullah et al., 2014) human resource in Pakistan's health sector is inadequate which is a cause of concern as Pakistan is on the list of the 57 countries with severe health workforce deficits. As indicated in the research carried out by (Khan, 2019), Pakistan has a 1:1300 doctor-to-patient ratio, 1:20 nurse-patient ratio, and doctor-nurse ratio is 1:2.7 as opposed to WHO's suggestion of 1:1000 doctor-to-patient ratio and 1:4 doctor-nurse ratio. At federal and provincial levels there is a lack of programs for non-communicable diseases along with insufficient regulatory arrangements for medicine. Lack of training, health diagnostic facilities, and technical knowledge exacerbate the situation (Punjani et al., 2014). As a consequence of the underfunded healthcare system of Pakistan, about 78% of the population has to pay out of their own pockets for receiving healthcare facilities and services (F. Khalid et al., 2021).

The government has limited capacity to increase health finance and expenditure. Pakistan's health system lacks institutions related to health information and has inadequate resources e.g. drugs, tools, supplies, and technologies. An efficient health system depends wholly on updated health technologies, however, Pakistan has a weak healthcare service provision for patient care owing to the limited utilization of information technology, improper infrastructure, and record keeping (Punjani et al., 2014).

On top, Pakistan's underfunded health sector has an absence of a proper Health Management Information System (HMIS) which raises concerns as well (Kumar & Bano, 2017). The inefficiency of the government to formulate well-defined plans and policy for technology execution, infrastructure development, and telemedicine to overcome the problem of inadequate resources crucial for better healthcare provision pose risks to the health sector. Absence of a well-functioning HMIS at primary and secondary levels of care provision results in an inability to evaluate and enhance the quality of services provided.

A key factor in the lack of pandemic or epidemic preparedness and training among healthcare workers in Pakistan is the outcome of a great number of healthcare educational institutions having limited access and availability of instruments and updated technology. Moreover, (Kurji et al., 2016) explained in their research that Pakistan is a highly populated country, where the challenge

of insufficient number of healthcare workers in on top, but the available healthcare workers are untrained, underpaid, and there is a lack of medical research, limited technology and equipment for patient care.

Health policies in Pakistan are flawed i.e., the primary emphasis of health Policies is curative services e.g. enhancing the number of laboratories, health facilities, updated technology, and tools without taking into account the fact that untrained healthcare workers will not be able to operate modern tools and technologies (Nisa et al., 2021). Higher disease burden, scarce human resources, lack of technical expertise, lack of training, vertical and horizontal service delivery structure, illiteracy, high population coupled with poverty are some of the primary factors that hamper the provision of patient care and quality healthcare service delivery by healthcare workers in Pakistan (WHO, 2022b).

Weak healthcare policies result in the inadequate provision of healthcare services to the masses that are a consequence of the incapability of policymakers to formulate policies based on the knowledge and resources present in their country (Kurji et al., 2016). They take the knowledge and outcomes of the developed countries and hope to achieve similar outputs from a developing country like Pakistan, however, taking the religious, cultural values, ground realities, and social dimensions into consideration for formulating health policies can prove to be beneficial.

Similarly, a lack of monitoring and evaluation in health policies results in inefficient health systems (Nisa et al., 2021). There is an absence of a proper system to collect, evaluate and use data for assessment and policy reforms. Research, leadership, technology, service delivery, healthcare workforce, and finance are the building blocks of any healthcare system. Thus, monitoring and evaluation are central to a healthcare system to deliver quality services and provide coverage and access to healthcare services to the masses (Hassan et al., 2017).

At the beginning of the year 2020, Pakistan's underfunded and weak healthcare system had to deal with the COVID-19 pandemic which placed a higher burden on the already vulnerable healthcare system. How can a weak healthcare system with an untrained and inadequate workforce contain a pandemic? According to (Jaffery, 2020), disease outbreaks in a developing country like Pakistan pose a serious threat to the healthcare system. Lack of basic health facilities, ill administration, inadequate health policies, and the non-cooperation of the public due to their indifferent attitude in following the SOPs exacerbates the situation. To contain the COVID-19 pandemic, the Test, Trace, and Isolate strategy (TTI) was recommended by the WHO, however, Pakistan's testing capacity was half of what was recommended by the WHO (Hashim, 2020).

Discussion and Analysis

The findings of this study identified the multiple challenges faced by healthcare workers during the COVID-19 Pandemic in Pakistan. The in-depth interviews and informal discussions with the respondents during this research provide insight into the problems experienced by the healthcare workers in providing patient care amid the COVID-19 crisis.

In a healthcare system, the workforce plays a central role in patient care. The provision of better patient care requires a higher health workforce as it reduces the patient burden. Nonetheless, in Pakistan, during the COVID-19 pandemic, the lack of human resources has been a constant challenge for healthcare workers. The low availability of the healthcare workforce resulted in a higher burden and workload for the present healthcare workers. During in-depth interviews, the respondents highlighted the most common problems. One of the respondents described how inadequate human resource is a major challenge. He said,

“Throughout the pandemic, there has been a lack of Staff. There is the shortage of staff as the workload increases and there’s a lot of burden so we can’t work efficiently or provide well to the patients. Right now we have 13 critical COVID-19 patients and we are only two people here taking care of them. When COVID-19 started we had around 37 patients and had only 3-4 nurses covering the entire work. In addition, we also had an ICU and there were patients in the ICU and we also had to oversee them even though for an ICU patient you need one doctor and one nurse per patient. It was hard but we managed more than we could.”

This sheds light on a common problem in Pakistan’s healthcare system i.e. lack of human resources in the health sector which is a contributing factor to Pakistan’s weak healthcare system. The low workforce was not only a problem in itself but also gave rise to several other problems such as higher workload, untrained staff, longer working hours and the list goes on. As COVID-19 virus was highly transmittable and infectious, the number of people getting infected every day was increasing, resulting in an increased in the number of people being admitted to the COVID-19 ward. Iterating the problems faced, a doctor from one of our respondents stated,

“Initially, there was a huge burden of patients coming in for PCR tests. The numbers exceeded 400-500 per day. We (Doctors) had to perform the tests ourselves. We didn’t have anyone to assist us then. No support from the laboratory, initially I only had 3-4 people with me as everybody was scared and nobody was willing to work. I had a small team and the workload was so immense that my husband and I had to leave our clinics as my husband was assisting me as well.”

Healthcare workers had to spend extensive hours in the COVID-19 wards, dealing with COVID-19 patients as a consequence of the higher workload. Working hours for the healthcare workers extended beyond the normal working hours depending on the amount of COVID-19 positive patients coming in and the number of COVID-19 patients getting admitted to the COVID-19 ward. With regards to the working hours, a doctor from the administration in the District Health Office responded,

“After the pandemic, the working hours exceeded from the normal 8:00 AM - 2:00 PM to 8:00 AM to 8:00 PM and so on depending on the workload. Daily working hours were extended a lot. My schedule was messed up. I couldn’t even visit my home. I would only go home to sleep.”

Another respondent from the District Health Office was a doctor in his late thirties who had been working as a part of the administration in the District Health Office. When asked about the working hours he shared,

“We had to put in a lot of hours. We didn’t have any day off for the initial 9 months of COVID-19. We ran multiple COVID-19 centers. After screening processes and a lot of work we would only get one day off.”

Ever since the COVID-19 virus spread in Pakistan, healthcare workers including doctors, nurses, and administrative staff along with surveillance teams had to put in strenuous working hours to reduce the spread of the COVID-19 virus. In an emergency crisis like the COVID-19 pandemic, untrained workforce can come off as a nightmare. One of the respondents mentioned in her interview,

“We had to train new staff members every time as we didn’t have fixed staff members for the covid ward. Different people were being brought in from other departments, and training new members every time was challenging and time-consuming.”

The healthcare workers faced a great challenge when the pandemic struck as they highlighted in their interviews that they had not received training regarding pandemic preparedness. Moreover, there weren’t enough healthcare workers to be working in a designated department. Healthcare workers from other departments were brought in to work in COVID-19 wards. These healthcare workers from other departments had to be trained only to have them replaced by new staff members being brought in from other departments. Lack of healthcare workers and every time training untrained staff posed a serious challenge for healthcare management teams and workers. In addition to other obstacles, training a new batch of healthcare workers every time amid the pandemic worsened the situation for the frontline workers.

Pakistan’s healthcare system has been emphasized as an unstable system not capable of sustaining new systems or curbing a higher degree of patient load. Many respondents complained that there is a dire need to allocate a proper budget to Pakistan’s healthcare system and improve it. One of the respondents explained that the healthcare system of Pakistan is not capable of catering to a higher load of patients or operating a new system if put in place.

“A huge change needs to be brought to Pakistan’s healthcare system. There is a lack of isolation units (wards) and dedicated trained staff. I am talking about dedicated people, not people from different departments but people particularly dedicated to a certain unit. In the future we might have more pandemics e.g. there is a dengue outbreak but do we have a dedicated unit or staff to cater particularly for such outbreaks? No, we don’t. There is no surveillance system, data-keeping, or record-keeping. No sign of research units. We (doctors) have to do this all by ourselves which is very wrong. Even during the pandemic, there hasn’t been any infrastructure improvement even though we went through a pandemic; there is no

system in place, no user-friendly software, and no dedicated workforce. I think if a pandemic strikes again we will face the same challenges again as there has been no significant improvement.”

A respondent from the District Health Office briefly explained the state of the surveillance system in Pakistan. He gave an overview of why surveillance systems in Pakistan are not sustainable owing to multiple factors.

“Sustaining a system is a continuous process for which you need resources, provision of training, and a dedicated workforce. There was a system named DEWS-disease early warning system, which is the best example of the best surveillance systems in the world. Which had Notifiable diseases. At the health facility level, any unusual increased frequency of cases would result in the generation of an alert from that certain facility notifying concerned authorities. Quick action would then be taken accordingly but the problem was that it wasn’t sustainable. When funding from WHO ceased, the DEWS system couldn’t be sustained. Therefore, the surveillance system should be sustained i.e. even if external partners cease funding, the government should be able to sustain it. I don’t see the system as sustainable.”

A certain level of unfair treatment has been observed concerning the provision of incentives (COVID-19 allowance) for healthcare workers. All of the respondents in this study complained that they had to face unfair treatment ever since the COVID-19 pandemic struck Pakistan. One of the respondents shared his feelings after facing this injustice and said,

“We didn’t get any incentives. A lot of people got incentives but compared to them we got nothing even though we worked the most. There was a lot of biasness’ and unfair treatment. People who didn’t work got incentives and people who worked got incentives as well. People who sat at home got incentives and people who put their lives in danger got the same incentive which was very wrong. What difference did it make for those who worked? It only made a difference to those who didn’t work at all but still got the incentives.”

There was not any justice for allocation of COVID-19 allocations and this situation was giving rise to feelings of demotivation and disappointment among the healthcare workers. The bias-ness of the government towards the provision of incentives to the healthcare workers resulted in giving rise to feelings of distrust.

In addition to the administrative challenges, there were more obstacles in the way of fighting the COVID-19 pandemic for healthcare workers. Lack of information regarding the virus hindered the process of mitigating the virus and preventing the spread of the virus. As COVID-19 was a new strain of the virus that was highly transmittable, it was declared a global pandemic by the WHO.

A respondent from the District Health Office explained,

“It was an evolving thing (COVID-19) and nobody was prepared for it in any way around the globe. There wasn’t any information available. There wasn’t any system

in place. It was all designed and implemented there and then, on the go. Each day we would discuss how to establish and run the system. We had daily meetings in the District Health Office for putting a system in place.”

Initially, during the first two waves of the COVID-19 pandemic, there wasn't much information available regarding the COVID-19 virus. This lack of information posed an obstacle for the healthcare workers as initially there wasn't a system in place particularly designed to reduce the transmission of the virus. However, a new system was developed as time progressed. One of the biggest challenges for the healthcare workers was performing PCR tests and later on vaccinating people as there had been a lot of myths and misinformation regarding the virus. People misbehaved with healthcare workers and wrongly accused them of spreading the virus. As one of the respondents stated,

“People would say that the healthcare workers make people covid positive, they inject the virus into people under the excuse of performing PCR tests, get people hospitalized, kill them and ask for money in returning the dead bodies. . . . So for us (DHO and Hospital) the major challenge was to convince people who weren't getting vaccinated for multiple reasons. Not to mention Pakistan it has been a challenge in other developing countries too. The biggest challenge was convincing people. Certain people were convinced that this was a hoax and the vaccine was going to do harm. It was hard to locate them and get them tested and vaccinated.”

Of the many challenges imposed on healthcare workers, the public behavior towards the pandemic was highlighted as the most taxing. People blamed healthcare workers for the death of the COVID-19 positive patients. Doctors and nurses were accused of killing people. Healthcare workers were mistreated and wrongfully accused. A doctor, who was working in the COVID-19 ward of PIMS, during an informal discussion, said,

“Patients' families misbehaved with us. They would blame us for the death of the patients, accusing us of injecting the patients with poison or administering the wrong injections. They would fight with us when we wouldn't hand over the dead bodies to them, which was because of the policy for controlling the COVID-19 transmission. Policies have changed and things are better now but back then people would beat up the doctors, make videos, and put them up on social media falsely accusing the doctors and healthcare workers for the death of the patients. People were dying of the virus, not us. if people had been following SOPS there wouldn't have been so many deaths.”

Getting people vaccinated or performing PCR tests was one thing but the treatment of the general public towards healthcare workers during the pandemic came off as extremely concerning. People blamed the healthcare workers for the COVID-19 virus and accused them of the death of the COVID-19 infected patients. The myths, misconceptions, and misinformation among the masses led them to even harm healthcare facilities and frontline workers. Repeat

Analysis

The COVID-19 pandemic has highlighted the utmost need of fixing the healthcare system of Pakistan and providing adequate resources to healthcare workers for the delivery of healthcare services and patient care. The existing literature on Pakistan's healthcare system and the data gathered through this study suggest that Pakistan's healthcare system is not prepared to respond to another pandemic. A study conducted by (Iqbal & Zahidie, 2020), and the analysis of this paper claims that Pakistan falls in the category of countries least prepared for epidemics and pandemics.

A deeper understanding of the research problem that was developed through in-depth interviews with the healthcare workers suggests that the leadership ought to ensure better provision of security, updated equipment, and technology to healthcare professionals. Healthcare workers ought to be provided with maximum protection at any rate before any healthcare emergency would wreak mayhem in the healthcare system with regards to infections and mortalities as observed during the COVID-19 pandemic where the healthcare workers were mistreated by the public and were blamed for the death of the COVID-19 patients (A. Khalid & Ali, 2020). It is the role of the Government to educate the general public and address their concerns in emergencies. The government should allocate a proper and adequate budget for the underfunded healthcare system (Arshad et al., 2016).

As stated above, it is highly significant to improve the healthcare system of Pakistan by financing the underfunded healthcare system and fairly distributing the resources but it is far more important to scrutinize the existing healthcare structure. As pre-existing research indicates that there exists an imbalance in-between and within public and private healthcare setups in terms of the burden on patients (F. Khalid & Abbasi, 2018).

As primary and secondary levels of care have an absence of adequate healthcare staff and doctors or unavailability of basic medication and equipment it results in higher strain on the tertiary levels of care (Bari, n.d.). As a consequence, there is a further increase in the workload and limitation of services in the tertiary care hospitals which adds to the list of challenges faced by the healthcare workers as disease burden and the overall costs increase. The absence of a proper monitoring and evaluation system at multiple levels of care leads to low-quality healthcare provision and limited accessibility for the masses (O'Neill et al., 2016).

Fully functioning HMIS systems need to be put in place at the primary and secondary levels of care with monitoring and evaluation systems to assess the quality of services provided (WHO, n.d.). Moreover, to reduce the burden on the healthcare workers in public and private sectors, provincial as well as the federal government needs to speed up the slow process and update the healthcare programs at the primary and secondary levels of healthcare, formulate improved health interventions particularly in the rural areas, finance the health sector and improve the tertiary levels of healthcare (Akram & Khan, 2007).

Pakistan has to adopt a holistic approach to improve its health sector. When forming health policies, the social, societal, cultural aspects and ground realities need to be taken into account.

Decentralized policy-making with power delegated to relevant authorities will increase the effectiveness of health policies (Zaidi et al., 2019). Capacity building and training of healthcare workers have been identified as highly significant to the efficiency of healthcare service delivery and providing patient care.

Furthermore, measures to control the high rate of population, increasing the health budget and literacy rate hiring adequate human resources in the health sector, and equipping with technical knowledge and updated tools are some of the methods to make the health sector of Pakistan more efficient according to (Hassan et al., 2017). As a result, healthcare workers will be able to better provide patient care with efficiency and effectiveness to the masses. Pakistan needs to vamp up its healthcare to be better prepared to respond to any emergency crisis. As incurred from the data collected, having a dedicated workforce designated to a particular department, better governance, pandemic preparedness, updated systems, and financing of the healthcare sector to sustain the existing systems and programs in place are central to making Pakistan's healthcare service provision more effective.

Conclusion

The study was aimed at identifying the challenges faced by healthcare workers during the COVID-19 pandemic in providing patient care and curbing the spread of the COVID-19 virus. The existing literature claims that weak governance, ineffective policy-making, an underfunded healthcare system, inadequate healthcare workers, lack of training, updated tools, and technologies with technical expertise are some of the vital factors adversely affecting the healthcare system of Pakistan. The respondents of this study identified key challenges and shared the problems they faced during the COVID-19 pandemic. The lack of political will to form better policy decisions, equally distribute resources, and finance the healthcare sector pose serious implications for the healthcare system of Pakistan and its people.

An overburdened healthcare system is incapable of delivering quality services to the masses. Developing a monitoring and evaluation system and better health infrastructure is vital to improving the health sector in Pakistan. In order to enhance the quality of healthcare services provided, it is crucial to evaluate them by setting up HMIS at the primary and secondary levels of healthcare. Pakistan, with its limited resources, was able to respond to the COVID-19 pandemic better than most developed countries. However, a lot of work has to be done at a faster pace to regulate the existing healthcare system in terms of cost, quality, human resources, and resource distribution. In the presence of regulatory authorities during the COVID-19 Pandemic like the District Health Office and the National Command and Operation Center (NCOC), healthcare workers were able to persevere and get through the pandemic even though they had to face numerous challenges.

Emergency preparedness, provision of incentives or increasing the wages of healthcare workers for long working hours, and hiring a dedicated healthcare staff are deemed as crucial for enhancing the efficiency of the health sector. In Pakistan, project-based hiring of healthcare workers and outbreak-based training has placed immense stress on the healthcare workers and resulted in an

unstable healthcare system. Healthcare workers should be hired and trained not based on projects or outbreaks but to establish an adequate healthcare workforce dedicated to a particular department. There ought to be more provision of trainings and not just outbreak-based trainings to create an efficient workforce capable of performing well in any emergency.

However, this study has highlighted that even though Pakistan was able to contain the COVID-19 pandemic better than most countries, Pakistan's healthcare system is still not prepared to respond effectively to another pandemic. If no significant changes are brought to the healthcare system, frontline healthcare workers would have to face the same set of challenges in any future healthcare crisis. There is a dire need for the government to formulate better healthcare policies, form a dedicated healthcare unit, set up a monitoring and evaluation systems in place, and finance the healthcare system to sustain the surveillance systems to make Pakistan's health sector more efficient and effective to respond to any emergency healthcare crisis. The surveillance system that has been put in place e.g. COVID-19 surveillance system during the COVID-19 pandemic needs to be sustained by the government even if external partners cease funding.

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