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Pandemic lessons on essential healthcare services for the urban poor: a qualitative perspective of users and providers in Bangladesh

A M Rumayan Hasan, Md Zahid Hasan, Mohammad Wahid Ahmed, Mohammad Abdus Selim, Md Golam Rabbani, Sabrina Rasheed, Daniel D Reidpath, Shehrin Shaila Mahmood

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Health Systems and Population Studies Division (HSPSD), International Centre for Diarrhoeal Disease Research Bangladesh, Dhaka, Bangladesh

Correspondence to
A M Rumayan Hasan;
rumayan@icddrb.org

ABSTRACT

Objective The COVID-19 pandemic imposed unprecedented challenges to health systems globally. This study explored slum dwellers' experience of receiving essential health services during the pandemic and the challenges faced by healthcare providers in urban areas of Bangladesh.

Design The study followed a cross-sectional study design using qualitative methods.

Setting The study was conducted in Dhaka and Gazipur City Corporations during November 2020–February 2021.

Participants 17 key informant interviews were carried out with healthcare providers and policy-makers and 22 in-depth interviews were carried out with slum dwellers. Thematic analysis was performed.

Results The study identified challenges to the provision of essential healthcare in selected areas of Dhaka and Gazipur City Corporations during the COVID-19 pandemic. The lack of information on the availability of functional healthcare facilities, fear of contracting COVID-19 and restrictions on movement and transportation, resulted in delays in seeking essential healthcare during a pandemic. Access to healthcare facilities was further hindered by various hospitals' decision to refuse care to general patients without valid, negative COVID-19 test results. Healthcare providers identified patients' tendency to hide COVID-19 symptoms as a barrier to providing healthcare services to general patients. Conversely, patients concealed their symptoms to avoid COVID-19 tests and gain access to required treatment. In addition, the reallocation of human resources for COVID-19 treatment disrupted the delivery of essential health services.

Conclusion The pandemic affected the accessibility of the slum population to essential healthcare and disrupted health service delivery. The findings of the study have highlighted gaps in the health system during an emergency response period like COVID-19. The study will assist the government and other stakeholders in designing tailored interventions and allocating resources in a more efficient manner to ensure universal health coverage in the face of health emergencies.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This study employed a comprehensive approach, incorporating interviews with diverse stakeholders, aimed at exploring the nuanced impacts of COVID-19 on the provision of essential healthcare services in urban poor communities.
⇒ The study identified loopholes and complexities in implementation of the COVID-19 infection control mechanism in urban areas of Bangladesh.
⇒ This study captured the views of the major stockholders in accessing and delivering essential health services during the pandemic in the health systems of Bangladesh.
⇒ The study was limited to a small number of public health facilities and excluded private facilities.
⇒ Interviews were conducted over phone calls which limited our ability to respond to visual cues that are crucial for qualitative research.

INTRODUCTION

Globally, the COVID-19 pandemic posed unprecedented challenges and threats to human life and health systems.[1 2] The health system's response to tackle COVID-19 has impacted the provision and utilisation of essential healthcare across the world.[3 4] In many countries, health services including maternal, neonatal and child health (MNCH), adolescent health, sexual and reproductive health, mental health, communicable diseases, non-communicable diseases (NCDs) and nutrition services were partially or completely disrupted during the onset of the pandemic.[5–7] Cancellation of elective services, closures of health facilities, staff redeployment to support COVID-19 services, a lack of staff and a decrease in public transport available caused the disruption of health service provision.[6 8] Furthermore, movement restriction, financial difficulties during

lockdown and fear of contracting COVID-19 hindered people's access to health facilities.[9]

Like the rest of the world, the pandemic badly affected Bangladesh and the government adopted policies to contain and minimise the transmission of COVID-19 in accordance with the WHO guidelines. The health system of Bangladesh suffers from a lack of equipment, medicines, adequate human resources and an overall lack of governance.[10] In both public and private hospitals, there are too few beds or ventilators, and a serious lack of intensive care unit places. The outbreak of COVID-19 was expected to have terrible effects on the health system and worse for the urban health system, which is even more fragile and fragmented.[11] There is also the fundamental concern of the large informal settlements (slums) which house 39% of Bangladesh's urban populations.[12] Limited attention is paid to slums, and the delivery of basic healthcare is poor.[13]

The high concentration of people in urban poor settlements and socioeconomic disparities make poor and marginalised groups more vulnerable to pandemics in urban environments.[14 15] Evidence shows that lockdown measures (eg, movement restrictions, closure of offices, schools and shops) disproportionately affected the residents of urban informal settlements in Bangladesh.[16] Further, COVID-19-induced shutdown disrupted millions of livelihoods in the informal sector (as they are unemployed or working part time) living in the slums with scarce financial protection for healthcare.

The acute urgency of the pandemic is fading, but there remain health system lessons to be learnt for Bangladesh and for other countries with large populations living in urban informal settlements. Until today, there remains a dearth of evidence around the impact of COVID-19 on utilisation of essential healthcare services and its provision, particularly for the low-income and marginalised population.[17] To address this gap, the study aimed to explore the experience of slum dwellers in accessing essential health services during the pandemic, as well as the challenges faced by healthcare providers in delivering these services. The views of slum dwellers, healthcare providers and policy-makers were explored to identify challenges and complexities of healthcare delivery at the time of an ongoing global pandemic. The lessons learnt from the study will help policy-makers and programme managers, particularly those in low-resource settings, to identify key gaps in service provision in emergency situations, the intended and unintended complexities that may arise from the implementation of infection control measures and the challenges of resource prioritisation and allocation which will better equip them to develop a resilient health system.

MATERIALS AND METHODS

Study design

The current study adopted a cross-sectional study design involving qualitative methods. The study was part of a larger, mixed-method study designed for a rapid assessment of the health system impacts of COVID-19 on the urban poor living in the slums of Dhaka and Gazipur City Corporations.

Setting and study participants

The study was carried out from November 2020 to February 2021. Data were collected from three major stakeholders: the slum dwellers, policy-makers and healthcare providers using in-depth interviews (IDI) and key informant interviews (KIIs). The IDIs were conducted with adult male and female slum dwellers from five slums: Korail, Mirpur, Shampur, Dholpur of Dhaka city and Tongi-Ershadnagar of Gazipur city where an Urban Health and Demographic Surveillance System is operated by icddr,b.[18] KIIs were carried out among healthcare providers from five non-governmental organisations (NGOs)-run health facilities located in or nearby slums and one tertiary-level public health facility. In addition, we conducted KII with policy-makers at the national level involved in COVID-19-related policy formulation in Bangladesh. Considering the state of the COVID-19 pandemic at the time, all KII and IDI were conducted via telephone at the convenience of the respondent. Additionally, researchers from different countries also reported using phones to collect data during the pandemic.[19 20]

Data on challenges in delivering essential healthcare during COVID-19 provision and utilisation were collected through the KIIs and the IDIs. The government imposed an extended general holiday with movement restrictions (or 'lockdown') on 26 March 2020; the restrictions were relaxed on 1 June 2020.[21 22] The IDIs and KIIs of our study explored the experience of the healthcare providers and the recipients during the period of this strict lockdown and the 4 months following the strict lockdown when the government encouraged people to stay home.

Data collection

We used a purposive sampling approach to select and recruit both the IDI and KII respondents. We conducted 22 IDIs to explore the utilisation of essential health services for MNCH service and one major chronic illness, for example, diabetes, arthritis, asthma, cardiovascular disease and hypertension among the adult slum population, and their access to healthcare facilities during the pandemic. The existing surveillance workers of icddr,b initially assisted us in identifying IDI respondents. They provided a list of male and female respondents who visited health facilities to seek essential healthcare during the pandemic. From the list, we selected 10 participants purposefully. To identify other IDI respondents in the area based on our criteria, we used the snowball technique. After conducting the IDIs, we made a list of healthcare facilities where respondents visited or sought treatment. Following this, we obtained approval from the respective health facilities and sought assistance in communicating with the healthcare providers. As part of our selection process, we explained our criteria to the directors, who assisted us in contacting the potential providers.

We then communicated with the healthcare providers to schedule phone interviews based on their availability. We conducted 13 KIIs with the healthcare providers to understand the challenges they faced providing general healthcare services and service provision at their facilities during the pandemic. Furthermore, we carried out four KIIs with national-level health policy-makers and technical experts to seek their opinions and suggestions about health system preparedness to respond to the COVID-19 pandemic. One policy-maker and three physicians refused to take part in the interview. Data collection and analysis were performed iteratively. We collected data until saturation was reached. We initially conducted 20 IDIs but continued with two more to reach saturation of data. The duration of the IDIs was 40–50 min while the KIIs lasted 30–40 min. IDIs and KIIs were conducted by four experienced qualitative researchers supervised by a trained researcher. Prior to data collection, data collectors were trained by the principal investigator (SSM) and a qualitative researcher (AMRH) and informed about the study objectives, consent process, data collection tools and the importance of the quality of data. The training programme lasted for 3 days. IDIs and KIIs were carried out using separate open-ended guides (online supplemental file 1) which were finalised after pretesting. The KII guide covered topics pertaining to essential health service provision, challenges while providing general services, and the availability of safety equipment, and human resources. The IDI guide covered topics related to health-seeking during the pandemic and challenges in accessing health facilities. Data collection stopped at the point of data saturation.

Data analysis

All IDIs and KIIs were audio recorded and then transcribed verbatim in Bengali by the researchers. The data were analysed using thematic and inductive procedures. The analytical procedures were carried out as follows[23]: data familiarisation through repeated reading, generating initial codes and collating data under each code, identifying and reviewing themes, refining and labelling themes and finally summing up. All transcripts were coded independently by three researchers under the supervision of a topic expert. They cross-checked each other's coded transcript and discussed and resolved any issues that arose during the coding process. Several strategies were used to ensure the quality and integrity of qualitative data, such as triangulation, peer debriefing and member-checking.[24] Data from IDIs and KIIs were compared and contrasted for data triangulation. Debriefing sessions were held regularly to discuss, clarify and interpret findings. In our study, however, we could not conduct member-checking due to the pandemic.

Patient and public involvement

Patients or the public were not involved in the design, or conduct, or reporting or dissemination plans of our research.

Table 1 Characteristics of the participants

Characteristics	IDI (n=22)	KII (n=17)
Age in years		
19–28	11	
29–38	6	8
39–48	4	5
48+	1	4
Sex		
Male	10	11
Female	12	6
Education level		
No education	3	
Primary	3	
Secondary	11	
Higher secondary certificate and higher (including bachelor of medicine and bachelor of surgery)	5	17
Profession		
Housewives	9	
Service	3	
Small business	4	
Day labour	2	
Unemployed	1	
Student	1	
Garment workers	2	
Physician (NGO)		7
Physician (government)		4
Health worker (NGO)		2
Policy-makers		4

IDI, in-depth interview; KII, key informant interview; NGO, non-governmental organisation.

RESULT

Characteristics of respondents

Table 1 shows the characteristics of the participants. Among the IDI participants, 10 were males and 12 were females. Most of the female participants were housewives (n=9), and a few of the male participants were unemployed or students (n=2). The majority IDI participants were in the age group 19–28 years (n=11) and had secondary education (n=11). The majority of the healthcare providers (n=8) were in the age group 29–38 and were male.

Healthcare use and provision

Healthcare seeking of slum dwellers during pandemic

Many of the participants visited public, private and non-government health facilities to receive treatment for chronic diseases, fever and cough. During the pandemic, a few women reported receiving antenatal care (ANC) from facilities run by NGOs. Some participants reported

delayed healthcare seeking for chronic diseases and delayed ANC uptake. This delay in seeking healthcare was attributed to a combination of factors, including the fear of catching COVID-19 infection and a lack of information about healthcare facilities' availability during the lockdown. One of the IDI respondents expressed:

> First, I did not know where to seek help or which physicians to consult. Because many people visit hospitals and I do not know who is infected with Corona virus and who is not infected. As this is an infectious disease, I was concerned. I could not decide whether to visit a hospital for antenatal care. In addition, I was not sure whether I would get proper care at hospitals during lockdown. Consequently, I received my consultation with the doctor five months after my due date. (IDI-12)

Reduced patients flow

Healthcare providers reported that during lockdown (compared with prepandemic times), they had fewer patients with general health problems. including NCDs, maternal, neonatal and child health issues. A physician in a general ward in a tertiary hospital stated:

> The rate of patient admissions at our hospital decreased during lockdown, especially, in the first two months (of lockdown). People who live in Dhaka city or adjacent to Dhaka city, they came to the hospitals. The number of patients receiving treatment was significantly lower than before the lockdown. (KII-10)

Challenge in accessing health facility

Movement restrictions

Transportation constraints and restrictions on movement during the pandemic posed barriers to accessing healthcare facilities. Some respondents reported that the problem was aggravated when they had to travel to a distant location for healthcare. As one respondent said:

> I needed to visit hospital but there was lockdown and lack of public transport. Some rickshaws were available, but the fare was high. I could not afford it, so I decided not to visit the facility. (IDI-22)

Provider refusal

Hospitals, both public and private, refused to treat general patients without certificates of COVID-19 negative status, restricting patients' access to healthcare. A few respondents reported that hospital security personnel had refused to allow them entry without a COVID-19 negative certificate. One respondent opined:

> I need regular check-ups as I have diabetes and kidney disease. During Corona (lockdown), I visited a government hospital. At the gate, the guard asked me to show the Corona negative certificate. Their statement was that they would not provide the services without a Corona certificate (COVID-19 test report). I did not have Corona symptoms. If I do not have Corona symptoms, why do I have to take the Corona test? They referred me to another government hospital very far away. (IDI- 10)

Healthcare providers at public hospitals, on the other hand, claimed they usually did not turn patients down. However, they referred patients suffering from NCDs to other public hospitals during the lockdown because their medicine unit (where NCD patients were treated) had been converted into a COVID-19 treatment centre. According to one physician:

> When the government declared our hospital a COVID-19 dedicated hospital, we had to re-arrange space within our hospital. Our medicine unit was temporarily closed and this space was dedicated to COVID-19 treatment. Patients who sought treatment in the medicine unit were referred to other government hospitals. We did not refuse, but we recommended them to other hospitals. Actually, those patients did not have information about current health service provision. Later we started treating [general] patients in the medicine unit. (KII-8)

Furthermore, physicians at the public health facility noted that during the initial stage, before declaring a dedicated COVID-19 hospital, highly suspected COVID-19 cases were referred to other hospitals, in consideration of the well-being of non-COVID-19 patients at the hospital.

A lack of screening of COVID-19 symptoms among general patients at the facility was cited by policy-makers and healthcare providers as one of the factors contributing to patients being referred to other hospitals. A physician in the obstetrics and gynaecology unit said:

> There is no provision of screening or administering COVID-19 tests for all patients who come to seek treatment at our hospital. In Bangladesh there are many asymptomatic COVID-19 cases. Therefore, we have to provide treatment to COVID-19 positive and negative both cases. We are at risk. Many physicians and nurses have been infected and died across the country. Therefore, we often suggested to the patients with elective surgery to come later. We currently do not perform such operations. We only perform emergency surgery. (KII-10)

Challenge to provision of general healthcare

Hiding symptoms

Healthcare providers from public and NGO-run facilities described their experiences treating patients who hid COVID-19 symptoms while receiving general treatment. On exposure to patients who did not disclose the symptoms of COVID-19, healthcare providers were infected with COVID-19, resulting in the closure of a facility or unit A physician of one paediatric unit shared his experience in the following way:

It is a common problem that the majority of patients or their attendants do not want to disclose fever symptoms while getting treatment. In one case, a guardian brought his son to our unit in order to get him admitted. In the beginning, the child did not appear to be feverish, but after a few hours, we discovered that he had a fever. Soon after we sent the child to the Corona unit for his test and he tested COVID-19 positive. As a result of this exposure, other children admitted to the unit and health care providers were also affected. Our unit had to be closed for a week and some of our colleagues also tested positive for COVID-19. (KII-13)

Nevertheless, several patients felt that if they informed their healthcare provider that they had COVID-like symptoms, they would not receive treatment or would be referred to another health facility. Therefore, they sometimes conceal their symptoms. As one participant said:

I had chest pain. It was necessary for me to consult with a doctor. When I visited the hospital I only told the physician about my chest pain and did not mention my previous cough and fever. I feared that if I shared my history of fever and cough, the doctor might refuse to provide treatment or refer me to another hospital. (IDI-18)

The avoidance of the COVID-19 test was identified as another reason for hiding symptoms while seeking general healthcare. Their reasons for not testing for COVID-19 included losing their jobs or their employment and becoming stigmatised.

A healthcare provider confirmed that stigma associated with COVID-19 could be a reason for patients not testing.

In the course of performing an ultrasound, I discovered that the patient was coughing. I asked him whether he had a fever or not. He did not want to answer my question. His response was that he did not want to disclose his fever for fear of being avoided by the community if he tested positive for COVID-19. He may even lose his job. (KII-8)

Safety equipment and prioritisation

Healthcare providers faced challenges in providing treatment for general patients because there was a lack of high-quality safety equipment. Healthcare providers in government hospitals claimed that the government made every effort to ensure there was high-quality safety equipment in the COVID-19 unit. However, the non-COVID-19 units in the hospitals did not get such equipment. The staff on non-COVID-19 units felt that the low-quality safety equipment put them at risk of contracting the virus. As a consequence, some healthcare workers did not provide health services. As one physician said:

Nurses and physicians working on the COVID-19 unit get all the quality equipment they need from the office, but we (physicians working on the general unit) do not receive quality equipment from the office. Offices usually provide us with a surgical mask which is not adequate for a health care provider providing health services at facility levels. We need to use a N95 masks. As there is no supply of such masks, we have to buy them on our own. We are not even allowed to enter the health facility without a mask, so we must buy one before we can enter. The low quality of safety equipment is one of the reasons for physicians contracting COVID-19. (KII-10).

Furthermore, healthcare providers at both public and NGO facilities reported that patients' failure to adhere to safety protocols posed a risk to their health. They expressed difficulties in ensuring that visitors and patients followed safety guidelines, as many were reluctant to maintain social distancing or wear masks during their visits. A physician said:

Once, In our unit, eight patients were found to have covid-19. Our assumption was that these were hospital acquired infections as they did not have any symptoms during admission. Each patient had an attendant, and their relatives or friends often visited them on the ward. Here (at the hospital), it is impossible to maintain social distance. Furthermore, attendants and visitors rarely use masks. The insufficient staff struggle to monitor this and ensure safety protocol compliance. For the high covid-19 infection in the ward, we had to close our unit for one week at that time. Other patients suffered (KII-9).

Shortage of healthcare providers

Lack of reserve human resources

The lack of reserve human resources was identified as a problem causing disruptions in the delivery of healthcare to the people in urban slums. Healthcare providers from NGO-run facilities said they had sufficient healthcare providers to offer routine health services during pandemics. However, they faced a shortage of reserve human resources when their staff got infected with COVID-19. One NGO physician observed:

Once, two employees at our facility were infected with COVID-19. All of us were placed in isolation for 14 days. There was no one to operate our facility, so we were forced to cease operations. People could not receive treatment at our facility at that time. (KII-12)

Resources reallocation

Healthcare providers in public facilities that had established COVID-19 units reported that the redistribution of resources, particularly human resources, compromised the quality of healthcare for non-COVID-19 patients. Shortage of physicians has been an ongoing crisis in health system of Bangladesh for long and the crisis was exacerbated when COVID-19 units were established and physicians were transferred from general medical units to COVID-19 units. According to one physician:

> Our unit had serious difficulties continuing to provide services when some physicians were deployed to the COVID-19 unit. We had to perform double shifts and attend to more patients at a time with limited physicians. A physician had to work day and night shifts. Service was definitely compromised. When the condition of four or more patients on a ward deteriorates, how will one or two physicians treat them all at the same time? Some patients need to be checked every hour. It became difficult to support them all. We could not maintain quality services due to staff shortages. (KII-13)

Unavailability of specialised physicians

The senior physicians at public facilities did not administer medical care to patients during the lockdown period in order to minimise their own health risks. The junior medical officers and nurses were subjected to additional pressure as a result. A policy-maker stated:

> During the COVID-19 pandemic, the government had difficulty operating health facilities. Most experienced, senior, and specialized physicians did not attend the patients. Many senior physicians stopped working. Frontline health providers faced the battle. Besides them, nurses and field workers were in the frontline. Patients in both the public and private sectors suffered tremendously. (KII-17)

A physician stated:

> Most senior physicians are older, and we all know that older people are more susceptible to contracting COVID-19. Therefore, they did not visit the facilities regularly, and we had to assume additional responsibilities and pressure when they were absent. (KII-11)

Few healthcare providers at government hospitals claimed they encountered difficulties providing treatment without senior physicians. According to another physician at government hospitals, they received support from the senior physician over the phone or video call.

DISCUSSION

This study investigated the pandemic-induced challenges in accessing healthcare facilities from the perspective of slum dwellers as well as the challenges in delivering essential health services from the perspective of healthcare providers and policy-makers in urban areas of Bangladesh. Further, the findings identified the loopholes and systems-related complexities in implementing infection control measures and its impact, particularly on the marginalised population.

Delayed care seeking was reported as one of the major effects of the pandemic on access to healthcare. Fear of contracting COVID-19 infection, lack of information about the availability of functional healthcare facilities during peak infection periods, restriction on movement and a lack of transportation were among the significant impediments to timely care seeking. Earlier studies conducted in Bangladesh and other countries reported similar reasons behind delayed healthcare seeking during the pandemic.[25–27] Remote access to healthcare through telehealth services has been tested in many places to narrow this gap in access.[28 29] A well-structured telehealth service has the potential to enhance access to healthcare for patients with certain conditions in times of restricted movement and increased risk of infection.[30] Furthermore, effective and timely dissemination of health information at the community level in times of health emergencies can ensure patients go to the right place at the right time.

In addition to the supply-side challenges, there were challenges evolving from a lack of demand for healthcare in the community. The delay in care seeking also resulted from financial hardship people faced due to the ongoing economic crisis. Strict movement restrictions, lack of access to markets and loss of jobs severely affected the livelihood of people in low-income countries during the pandemic including people in Bangladesh.[31 32] Empirical evidence shows that in times of emergencies and economic crisis, marginalised and low-income groups prioritise their livelihood over their health.[33] The government should invest in providing social protection for health, particularly for the poor and marginalised.

Limited medical supplies and protective equipment also posed significant challenge to provision of essential healthcare provision during the pandemic. The management authority of the health facilities prioritised the emergency needs of COVID-19 units in terms of personal protective equipment (PPE) and other supplies over the other units. Like Bangladesh, this lack of prioritisation in resource allocation for general units at the health facilities was observed in other countries.[34] A triage system at the point of care and timely and adequate supply of PPE could have enhanced access to healthcare for general patients and ensured protection of healthcare providers at the same time.

The urban poor people faced challenges in availing essential health services due to the requirement of showing a COVID-19 negative certificate and hospital's strategy of diverting patients to other facilities. This access barrier resulted in delayed or even in some cases no care utilisation. In other countries, there were multiple reports of patients being denied access to health services without valid COVID-19 test results.[34 35] The requirement for a COVID-19 test result before admitting patients varied among different countries, leading to delays in health services. Patients often had to wait about 5–7 days to receive services due to a shortage of available tests.[36 37] In addition, the results of several studies indicate that medical clinics and hospitals ceased providing emergency services, cancelled elective procedures and postponed semielective procedures and operating rooms were converted into temporary intensive care units for COVID-19 patients as a consequence of attempts to contain the virus in hospitals and clinics or a shortage

of resources during the pandemic.[38 39] Researchers and scholars, however, considered refusing admission to patients to be unethical conduct by the healthcare system as this may have a potentially fatal effect on patients.[38–40] An established effective referral system would have helped to avoid this situation and for this, in future, while developing emergency preparedness plans for healthcare facilities ensuring effective referral will be crucial.

Patients' tendency to hide symptoms of COVID-19 was identified as a barrier to providing healthcare to general patients by healthcare providers. On the other hand, patients concealed their symptoms in an effort to avoid COVID-19 tests and avoid being turned away from treatment for those symptoms. Although it is imperative that patients have autonomy and the right to keep their medical records private in order to maintain a successful physician–patient relationship, this cannot be maintained during a pandemic, like COVID-19, when the privacy can cost infecting others at the health facilities.[41]

The healthcare providers, on the other hand, reported a lack of a triage system and safety equipment as major reasons for referring patients to other health facilities during the pandemic. For patients, it was the fear of losing their jobs or the stigma associated with COVID-19 that led participants to hide symptoms when seeking medical care. As noted by the healthcare providers, this strategy puts the safety of the providers at risk as well as that of other patients. Other studies observed a strong relationship between disease outbreaks and stigma, which accelerates the spread of infection and threatens the lives of healthcare providers and other patients.[27 42]

The study also indicated that the reorientation of the services from general medicine to COVID-19 management adversely affected the provision of essential health services to the urban poor. Our study findings showed that human resources for general health services shifted to COVID-19 wards which compromised services to general patients. A study conducted in Ethiopia also found that human resources for TB were shifted to COVID-19 units, which then affected the TB case detection and care.[43] Many other countries experienced similar difficulties in delivering essential health services due to the redeployment of the health workforce to COVID-19 relief.[6] For Low- and middle-income countries (LMICs) health systems, like that of Bangladesh, which chronically struggle with an acute shortage of health workforce, the reallocation during the pandemic had a significant negative impact. In an attempt to build a responsive and resilient health system, policy-makers should work towards minimising the gap in health human resources and strengthen the surge capacity to absorb shocks resulting from health emergencies in future.

Limitations

This was a relatively small-scale qualitative study. Given other studies, however, the results appear to be consistent and cannot be easily dismissed. Many hospital authorities refused to allow healthcare providers to participate in this study during the pandemic. Therefore, we were able to include only a limited number of public health facilities and exclude the views of private healthcare providers. Due to the strict movement restriction and institutional safety measures, the interviews were conducted over phone calls, which limited our scope to respond to visual cues that are crucial during qualitative data collection. In addition, our approach was limited to those with mobile phones missing the perspective of those without mobile phones. However, we made appointments for the phone calls at a convenient time for the respondents such that we could spend adequate time understanding their views.

Conclusion

The pandemic affected the accessibility of the slum population to essential healthcare and disrupted health service delivery. The findings of the current study highlight the need for ensuring adequate and timely supply of medical resources for uninterrupted provision of healthcare in all departments of health facilities during the pandemic. The pandemic has also highlighted the gaps in health systems as well as loopholes and complexities of infection control mechanisms and identified sectors where resources and efforts need to be channelled in times of emergencies. Documenting the challenges around solving them can support countries with weak health system to be more resilient and responsive, particularly in times of health emergencies.

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Contributors AMRH was involved in conceptualisation of the research idea and study design, recruitment of respondents, data acquisition, analysis and interpretation. He wrote the manuscript and approved the final manuscript. AMRH also agreed to be fully accountable for the integrity and accuracy of the work. MZH was involved in conceptualising the research idea and study design, writing and revising the article and agrees to be fully accountable for the integrity and accuracy of the work. MWA recruited the respondents, contributed to data collection and analysis and provided final approval of the manuscript. He agreed to be accountable for the integrity and accuracy of the work. MAS was involved in data acquisition and management and contributed to data analysis. MAS also approved the final manuscript and agrees to be fully accountable for the integrity and accuracy of the work. MGR contributed to the conception and design of the study, critical revision and final approval of the manuscript. He agreed to be fully accountable for the integrity and accuracy of the work. SR was involved in conceptualisation and designing the study, critical revision and final approval of the manuscript. She agreed to be fully accountable for the integrity and accuracy of the work. DDR made contributions to the conception of the study, critical revision of the paper and final approval of the paper. DDR agreed to be fully accountable for ensuring the integrity and accuracy of the work. SSM contributed to the study conception and design, and data interpretation. She wrote the manuscript and approved the final manuscript. SSM also agreed to be accountable for the integrity and accuracy of the work. AMRH acts as guarantor and accepts full responsibility for the work and conduct of the study, had access to the data, and controlled the decision to publish.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Ethical Review Committee (ERC) of International Centre for Diarrheal Disease Research, Bangladesh (icddr,b) (protocol # PR-20092). The procedure to obtain verbal informed consent was obtained from the ethical review committee of icddr,b. Respondents were interviewed after giving verbal informed consent and their consent was audio recorded. Written consent could not be taken as the interviews were conducted over phone. Efforts were made to ensure that all respondents were properly informed about the study and thoroughly understood what their participation in the study involved. Interviews were conducted according to the respondents' convenience. We did not collect any personal identification from the participants and for data analytical purposes a non-identifying code was assigned to each participant.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available on reasonable request.

ORCID iDs
A M Rumayan Hasan http://orcid.org/0000-0001-7800-5432
Md Zahid Hasan http://orcid.org/0000-0002-3824-8947
Md Golam Rabbani http://orcid.org/0000-0003-3166-0397
Sabrina Rasheed http://orcid.org/0000-0002-7444-200X
Shehrin Shaila Mahmood http://orcid.org/0000-0002-6546-9120

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