



# Health sector corruption in the times of COVID-19 pandemic in Bangladesh: Newspapers as mirrors of society

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## ABSTRACT

**Objective:** This paper aimed to identify and explore the major areas of health-sector corruption during COVID-19 pandemic as revealed in the print media. Findings are expected to mitigate health sector corruption in the country and contribute to strengthening the health systems.

**Method:** 2588 news articles on health topics were identified through scanning six leading newspapers in Bangladesh during Mar. 2020 to Mar. 2021. Of these, 97 news articles focusing on corruption in health system were selected for analysis.

**Findings:** Findings reveal an all-embracing corruption at every stage, starting from procurement of medical supplies, to testing for COVID-19 to treatment and management of COVID-19 cases. The news papers reported about the low quality and general-purpose masks given to the frontline health workers, putting their personal protection from the virus at risk. Due to lack of stewardship and an effective monitoring system, quite a few private facilities were providing fake COVID-19 certificates, medicines and medical equipment at very high prices. For example, one particular hospital provided almost two thousand COVID-19 test certificates without testing. Although PPEs were originally sold at BDT 2000 per piece, double the amount was proposed for buying PPEs. Meropenem injection of the same quality was purchased by different government hospitals at unusually high prices. Among the measures taken to contain corruption during COVID-19 included filing cases, issuing arrest warrants and asking for submission of wealth statement and source of income of the accused persons. However, some of the accused eventually got released on bail.

**Conclusion:** The media, as a mirror of the society, successfully made visible the underhand corruption that was happening even during the pandemic, fulfilling its obligations to the society. They faced quite some challenges in revealing related news, especially from the government whose initial reaction was of denial and indifference. Due to lack of transparency and accountability in the sector, the patients as well as the healthcare providers had to suffer a lot.

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## 1. Introduction

The emergence of the novel coronavirus (SARS-CoV-2) and the associated COVID-19 pandemic challenged health systems globally, whether delivering health care services or adopting preventive measures [1]. During the crisis, the governments were under pressure to act fast (e.g., in procuring relevant supplies) in many countries and thus, opening the floodgate of corruption. Forty-five per cent of the global citizens believed that in the face of the pandemic, the healthcare sector proved incompetent, corrupt or very corrupt [2]. The situation was worse in LMICs like Bangladesh [3]. In Bangladesh, the first confirmed case of COVID-19 was reported on 8 Mar. 2020 and the first death on 18 Mar. 2020. It currently (October 2021) ranks 35th in terms of overall deaths [4]. Here, the corruption started right from procuring essential safety gear like masks, sanitizers, and personal protective equipment (PPE) to fake testing for COVID-19 to increased cost of medicines for treating the condition [5]. While developed countries were fighting high death tolls from COVID-19, Bangladesh was fighting the double burden of a poorly resourced health system and an all-pervasive corruption in the health system [3].

Globally, media and newspapers played an important role in building awareness among the people on COVID-19 pandemic through regular updates on the evolving COVID-19 situation, dissemination of personal hygiene practices and expert opinions, advice to educate the people, and critical assessment of the government's COVID-19 response [6,7]. Bangladesh's news media was no exception in these activities [8]. In early 2020, it mainly covered international news on the pandemic. However, from the second week of March, attention turned to the situation in Bangladesh to match readers' demand for news on the pandemic and how to contain it. Online versions of mainstream newspapers helped reach the maximum possible number of readers as most readers avoided print copies from fear of contracting the virus. By this time, the pandemic had become a significant issue in the public life of Bangladesh, both in terms of lives lost and also, government's poor COVID-19 response. During this period, breaking news of several large-scale corruptions came to light through different newspapers.

This paper aims to identify and explore the major areas of corruption in the health systems of Bangladesh and its low accountability as revealed in the online versions of the print media, termed as a 'mirror of the society' [9]. To our knowledge, no such study has been done to date in Bangladesh during the COVID-19 pandemic. The findings of this study are expected to reflect on the nature and extent of corruption occurring under the pandemic condition and provide key learnings for the future strengthening of the health systems through mitigation of health sector corruption in the country.

## 2. Methods

For this study, health-sector corruption-related news was extracted and analyzed. Data were collected in two steps. First, health-related articles published during the period Mar. 2020 to Mar. 2021 were scanned from six selected newspapers. From these articles, those related to 'corruption' were identified in the second stage. A data-extraction template was developed and populated with relevant data from the 'corruption' articles.

The newspapers were selected ( $n = 6$ ) based upon the coverage, credibility, and volume of readership. Among the six selected newspapers, three were in Bangla and three in English (Table 1). Each newspaper had its own presentation style to make the content reader-friendly and easily understandable. Except for *Bangla Tribune*, all five have both online and print versions. Health issues are regularly covered; however, *Samakal*, *Kalerkantho*, and *Daily Star* only have a special weekly publication on health issues. These included '*Daktar Bari*' (Doctor's house) of *Samakal*, '*Daktar Achen*' (There is a doctor) of *Kalerkantho*, and 'Health' of *The Daily Star*. The *Prothom Alo*, *New Age*, and *Bangla Tribune* have a special segment for health coverage in their lifestyle section (Table 1).

**Table 1**  
Selected newspapers with websites and rationale for selection.

Name of the Newspaper	Websites	Reasons for selection	Special segment on health	Language
<i>Prothom Alo</i>	<a href="https://www.prothomalo.com/">https://www.prothomalo.com/</a>	<i>Prothom Alo</i> is one of the most read and influential newspapers with a circulation of 500,000+ copies in total [10] and a total of 24.9 million visits to its online portal [11]	<i>Pro Shasthya</i> (Pro health)	Bangla
The Daily Star	<a href="https://www.thedailystar.net/">https://www.thedailystar.net/</a>	<i>The Daily Star</i> is the most credible English daily, with a circulation of 44,814. This occupies 77 % of the total English circulation in Bangladesh [10].	Health Bulletin	English
<i>The Daily Samakal</i>	<a href="https://samakal.com/">https://samakal.com/</a>	<i>The Daily Samakal</i> is one of the most reputed Bangla newspapers, with a circulation of 2,71,000 [12].	Shasthya (Health)	Bangla
<i>Kaler Kantho</i>	<a href="https://www.kalerkantho.com/">https://www.kalerkantho.com/</a>	<i>Kaler Kantho</i> is one of the most influential Bangla dailies [13], with a daily circulation of about 290,200 copies [10].	<i>Shasthya o prescription</i> (Health & prescription)	Bangla
New Age	<a href="http://www.newagebd.net/articlelist/302/Bangladesh">http://www.newagebd.net/articlelist/302/Bangladesh</a>	<i>New Age</i> , established in 2003 is regarded as one of the most outspoken dailies in Bangladesh [14]. It has a circulation of 38,600 [10].	Health	English
Bangla Tribune	<a href="https://www.banglatribune.com/">https://www.banglatribune.com/</a>	<i>Bangla Tribune</i> is an online daily, publishing news that reaches people of all classes in Bangladesh [15]. As of Nov. 2021, it has a ranking of #14 in Bangladesh [16].	<i>Shasthya</i> (Health)	Bangla

2.1. Patient and public involvement

There was no patient or public involvement in the study.

3. Result

In all, there were 2588 articles on health and health-related issues published during the study period (1 March 2020 to 31 March 2021). We used the following condition to identify relevant articles for this study (n = 2588): “selecting articles that have the keyword ‘corruption’ at least in two places” either in their title or the text. After excluding other articles (Fig. 1), this search yielded 97 articles for final analysis, the highest number being recorded for Sept. 2020 (Fig. 2).

3.1. Data collection and analysis

Data were extracted from the selected articles, grouped under separate themes and sub-themes, analyzed and interpreted thematically (Table 2).

Of the news items on corruption selected for analysis, there were 86 news articles, six expert opinions, three editorials, and two interviews. In the analysis of news items, there were 21 articles on corruption in treatment and supply of medical equipment for COVID-19 cases, 33 rule breaking practices were identified in health sector during the COVID-19 pandemic, 12 articles found on corruption in terms of masks, PPE and seven articles mentioned about unauthorized COVID-19 testing and providing false certificates. 24 articles were found highlighting the corruption containment measures taken by the government.

3.2. Safeguarding frontline health care workers (FLWs): masks, sanitizers, PPE (n = 12)

The government was supposed to provide personal protection to FLWs i.e., doctors, nurses, staffs coming in direct contact with a

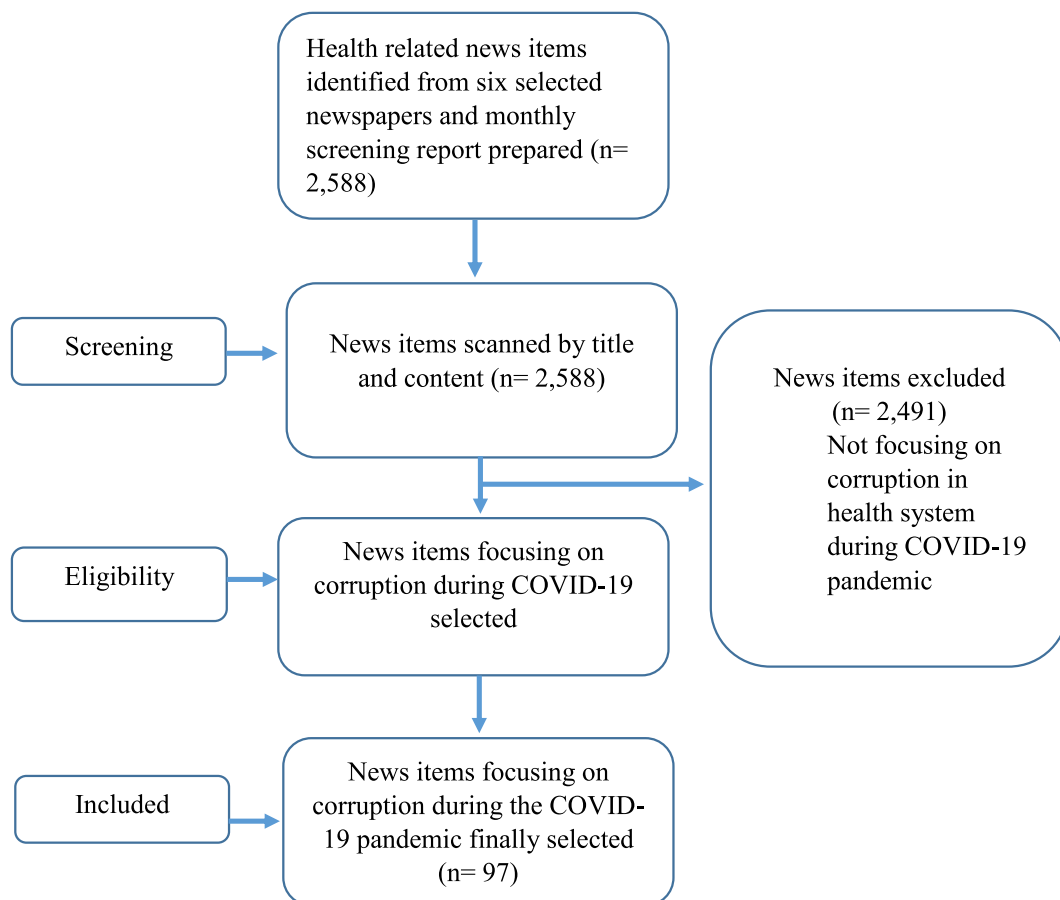


Fig. 1. Flowchart showing the selection process of the news items

Legend 2: Number of corruption related news published in the six selected newspapers from Mar. 2020 to Mar. 2021. X Axis indicates the months and Y axis indicates number of news articles published on corruption.

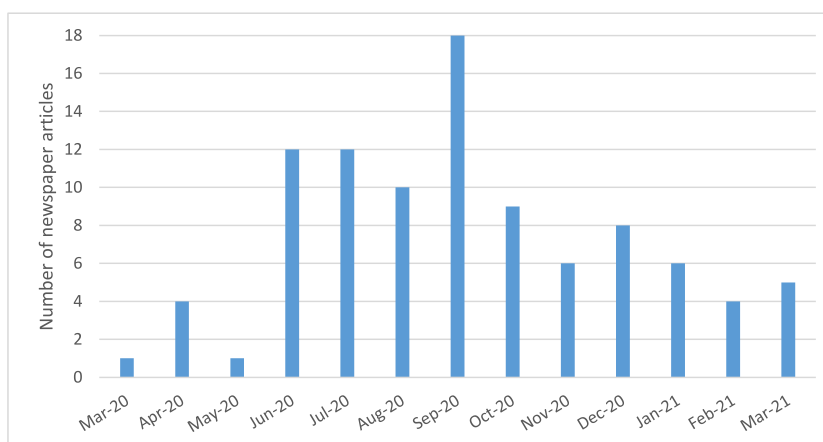


Fig. 2. Distribution of news articles on corruption in the health sector Mar. 2020 – '21.

**Table 2**  
Identified themes and sub-themes.

Themes	Sub- themes
Safeguarding frontline healthcare workers	<ul style="list-style-type: none"> <li>• Availability of masks; quantity and quality of the available masks</li> <li>• Procurement of PPE</li> </ul>
Treatment of COVID-19 cases	<ul style="list-style-type: none"> <li>• Medical equipment for the treatment of patients</li> <li>• Availability of an adequate number of staff</li> </ul>
Testing for COVID-19	<ul style="list-style-type: none"> <li>• Medicine distribution</li> <li>• Fake COVID-19 certificates</li> <li>• Unauthorized testing</li> </ul>
Corruption in the health sector in times of COVID-19 pandemic	<ul style="list-style-type: none"> <li>• Corruption in the supply of necessities</li> <li>• Corruption within the health system</li> </ul>
Investigations to contain corruption during COVID-19 pandemic	<ul style="list-style-type: none"> <li>• Measures taken by ACC</li> </ul>

confirmed or suspected COVID-19 patient in hospitals for treatment and management. These included PPE and appropriate quality masks and sufficient quantity, among others. Newspapers reported corruption in purchasing medical supplies and the overall procurement process [17].

**Quality of face masks supplied:** The hospital authorities questioned the quality of the masks given as 'N-95' masks at a certain COVID-19 dedicated hospital in the capital, thereby risking the lives of the FLWs, the newspapers reported [18]. A certain organization supplied general purpose masks in cartoons labelled as KN-95 masks. A large hue and cry broke out in the media [19]. Similar occurrences were reported from many other hospitals such as the BSMMU, where doctors doubted that the masks supplied as N95 masks were real [20]. In April 2020, the news of the supply of low-quality masks was published in *Prothom Alo* [18]. An investigation by the Ministry of Health and Family Welfare later found the allegations to be true [21]. News revealed that the Department of Health supplied N-95 masks for doctors and health workers in different parts of the country which were supplied by a specific company, who were allegedly supplying fake N95 masks [22]. According to another report, more than 20,000 fake N95 masks were supplied in 10 different hospitals without quality check [23].

**Procurement of PPE:** Under the project 'Emergency Assistance in Coronavirus' funded by the World Bank, a total of 100,000+ safety goggles were planned to be purchased. Each safety goggles were found to be purchased at a price of Tk 5000 only although its market price varied from Tk 500 to Tk 1000 only depending upon quality [24]. There was also a lack of supply of adequate PPE for FLWs; the FLWs complained about inadequacy and corruption in the supply of the PPE [25].

### 3.3. Treatment of COVID-19 cases: procurement and supply of medicines, equipment high-flow nasal cannula, oxygen generator etc. (n = 21)

Reportedly, there was a lack of an effective monitoring system which led to corruption in the purchase of medicines, surgical equipment and other equipment during COVID-19 pandemic [26].

**Medical equipment for the treatment of patients:** Medical equipment for COVID-19 patients were purchased at higher prices amounting to more than Tk 13 crore [27]. High flow nasal cannulas were ordered at double the market price [28]. While dealing with medical equipment, misappropriation worth Tk 8.28 crore occurred [29]. UNICEF and WHO was supposed to provide medical equipment to Bangladesh, but the equipment didn't reach the facilities within the stipulated time [30]. There were reported cases of supplying fake medical products at different places [31]. Transparency International Bangladesh (TIB) said that corruption in purchases of medical supplies and lack of transparency in procurement processes were common in the initial stage of the COVID-19 pandemic [17], which

didn't improve during the latter period either [32].

**Health workforce:** Beside physicians and nurses, there was acute shortage of trained technologists during the pandemic period, especially during the first wave. During this time, Tk 10 lacs was asked for each recruitment of medical technologist [33]. Rapid Action Battalion (RAB) Bangladesh have caught many fake doctors and other frauds during the early part of 2020 [28].

**Distribution of medicines:** There had been allegations in the newspapers that manufacturing and marketing of counterfeit medicine, savlon and detergent was taking place in the Mitford area (the largest wholesale market for medicines) of Dhaka city [34]. Medicines that were kept for providing free treatment to people during the COVID-19 pandemic were stolen and sold at Rangpur Civil Surgeon's office [35]. Reportedly, Meropenem injection (a high-end antibiotic) of identical quality and standard had been purchased by eight government hospitals at sky-high prices. Some government hospitals have bought medicines priced at Tk 180 to Tk 2210. In addition to buying at unusually high prices, there have also been cases of abnormal stocks [36]. A list of reported corruption during the pandemic is listed below, with references (Table 3).

#### 3.4. Testing for COVID-19: fake testing and fake certificates (n = 7)

There was mismanagement regarding testing and other facilities during the pandemic [41]. Several newspapers highlighted this issue in July 2020.

**Fake COVID-19 certificates:** A hospital owner and a few of his accomplices were involved in issuing fake COVID-19 test certificates for money in Dhaka. As an unregistered organization, this hospital has provided over 1900 fake COVID-19 certificates, most of these were even without collection of samples [38]. Further investigations by the media revealed similar incidents elsewhere e.g., 76 Metrorail workers were given false certificate [42].

**Unauthorized testing:** The DGHS could not show any document regarding the approval of COVID-19 sample testing by this organization when they were contacted by the media. DGHS, however, said they gave permission to that hospital only for voluntary services – i.e., to set up booths and collect samples from the booths [43]. Managing Director of another Medical College Hospital along with two others were convicted for using unauthorized COVID-19 test kits and forging COVID-19 test reports at the hospital [44]. Similar cases of forging COVID-19 test certificates in exchange for money were reported in media from Pabna, Sylhet, and Rajshahi Medical College Hospital [45].

#### 3.5. Corruption in the health sector in times of COVID-19 pandemic: (n = 33)

Whilst the health sector was already in a weak state before, the pandemic has added an increased burden because of corruption occurring in different levels of the health system [46]. According to the Anti-Corruption Commission report, corruption took place during the purchase of medicines, surgical equipment and other machines due to the absence of proper monitoring by the government [26]. Hence, a great amount of money was lost in corruption [47]. Initially, no measures were taken by the relevant authorities because of the pandemic, leading to the recurrence of different forms of corruption [29,41]. Mismanagement, forgery, and theft took place within the health sector, putting a strain on it [47]. According to the ED of TIB, corruption during the pandemic was much higher in Bangladesh compared to any other place [48].

**Corruption in the supply of necessities:** Much of these corruptions were taking place surrounding the supply of necessities during the pandemic. An automobile company escaped after receiving payment and without supplying protective equipment [49]. Another electronic equipment supplier misappropriated about tk. 8.28 crore [29]. Experts questioned the huge number of medical supplies stuck in ports [48].

**Corruption within the health system:** there were money laundering cases against an accountant at the DGHS during the pandemic

**Table 3**  
Some examples of corruption in the health sector during the COVID-19 Pandemic in Bangladesh.

Areas of corruption	Specification
Safety goggles	The proposed expenditure was BDT 5000/piece, and the market price was BDT 100/piece [24].
Medical supplies	An automobile company fled after making a contract worth Tk 9 crore. An electronic equipment supplier misappropriated about Tk 8.28 crore, after securing a deal to supply medical products without delivering the items [37].
Website development	Tk 10.5 crore was quoted as four websites development cost against the highest market price of Tk 2 lakh for developing each website [17].
Computer software	Besides, Tk 55 crore was quoted for five pieces of computer software in place of average unit price of Tk 28 lakh [17].
Audio-video	The price for 30 audio clips was proposed at Tk 11.5 crore whereas a movie cost Tk 1 to 2 crore [17].
Personal protective equipment	The proposed expenditure was BDT 4700, although the original market price was BDT 2000 [24].
JKG Health Care scam	Approved by Directorate General of Health Services, JKG Health Care set up 44 booths for sample collection. They provided 1925 COVID-19 certificates without collecting samples and testing anything [38].
Recruitment process of medical Technologist	It is found from an audio phone call record that it will cost a minimum of BDT 10 lac for each appointment [33].
Procurement at Shaheed Suhrawardy Medical College Hospital	Shaheed Suhrawardy Medical College Hospital has been involved in financial irregularities amounting to Tk 6 crore 40 lakh 31 thousand 800 in the purchase of three types of equipment [39].
Procurement in Health Department	Since 2014, the Anti-Corruption Commission (ACC) has identified corruption worth around Tk 300 crore in the procurement of 19 projects and hospitals in the health sector, among which 10 cases occurred during the COVID-19 situation [40].

[50]. Even a fourth-class employee at health education bureau amassed a fortune in wealth [51]. A car-dealer, without any experience, got a deal worth Tk. 32 crore to supply PPE [52]. The corona disaster has been used as an opportunity to raise various types of trade, leading to a fragile health system [53]. People had to wait for a very long time to get tested for COVID-19 [54]. Tk. 30 crores of fraudulent was happening in different hospitals in Rangpur district [55]. Meanwhile, journalists were having a hard time getting sued for publishing news of irregularities and corruption [56]. Anyone who spoke against the COVID-19 response of the government, got arrested [25].

The parliamentary committee held no emergency meetings during the first nine months of the pandemic [57]. There were complaints from the health workers against corruption taking place, which has made people lose their trust over the health system. The DG of DGHS mentioned that the government could not be blamed alone for the corruption and wanted to focus more on tackling COVID-19 rather than corruption [58]. Although ACC has been, and still is, investigating the corruption, support from Govt. is required [59].

### 3.6. Investigations to contain corruption during COVID-19 pandemic: (n = 24)

*Measures taken by Anti-corruption commission (ACC):* Newspapers also reported about the various measures taken by the government in response to allegations of corruption in different incidents. For example, a case was filed by the ACC against the former civil surgeon, Patuakhali, with allegations of embezzlement of government funds and the court issued an arrest warrant [60]. JKG Health Care chairperson's bail was denied in COVID-19 certificate forgery case. Though the case was filed against the Chairperson of JMI Limited for supplying fake N-95 masks, he got out on bail [61]. The Directorate General of Health Services assigned this hospital to collect swabs for coronavirus tests. But, they forged samples, results and even provided results with fake email accounts without having any test, in many cases [62]. As an anti-corruption measure, at least 20 more employees in the health sector were asked to gradually submit statements of their wealth as the commission's detectives found primary evidence of inconsistencies between their declared assets and known sources of income [63].

ACC declared to take actions against those who misbehaved with doctors/nurses during this hard time [64]. It sought information from the health ministry about the doctors who had been transferred from their workplaces on various grounds since late Mar. 2020 [65]. Doctors were transferred during this period as they raised questions about the quality of PPEs supplied [64]. ACC was investigating both private and public sectors for any forms of corruption [66]. They directed to lodge complaint against a private hospital for charging high prices for ICUs, and the high court finally directed to have a fixed price for oxygen [67].

The Directorate general of Drug Administration (DGDA) has filed a case against the owner of Elan Corporation for importing "substandard" KN-95 masks by showing "fake documents". The Anti-Corruption Commission (ACC) formed a probe committee to investigate the alleged anomalies in COVID-19 pandemic safety gears' procurement at Central Medical Stores Depot (CMSD) [68,69]. However, no action was taken against the alleged supplier [70]. After nine months since the first cases of coronavirus were detected in the country, the Health Watchdog, a parliamentary body directed the health ministry to ensure that no irregularities and corruption took place centring on the COVID-19 pandemic, like those of Regent Hospital and JKG healthcare over testing [71].

## 4. Discussion

The results of this study reveal instances of corruption during the critical period of pandemic, not unlike other times, related to the procurement of masks, sanitizers, and PPEs for healthcare workers. While the quality of these supplies was compromised, the stocked amount was not enough either. The situation reflected a lack of effective monitoring in the system regarding supplies in general. Accusations of high medicine prices, fake certificates and counterfeit medicines were common. Misappropriation of funds, forgery, and money laundering cases were reported throughout the pandemic. However, there were various restrictions and barriers in reporting these, and the media faced quite some challenges. Human Rights Watch alleged that the Bangladesh government used the COVID-19 pandemic as a pretext to censor free speech and crack down on critics' [72]. According to the report, health workers reported insufficient PPE and alleged corruption in accessing critical services by the patients. The government responded by censoring media, silencing healthcare workers, arresting those who spoke out, and increasing surveillance for containing pandemic rumours. Arrests under the Digital Security Act increased dramatically, and, in an instance, the police arrested a child for "defaming" the prime minister in a Facebook post [25].

The results highlighted corruption in procuring and supplying hygiene and personal protection gears, both in quality and quantity [73]. "The situation was similar to the neighbouring country where medical professionals also were concerned about the shortage of masks, gloves, and PPEs since the surge in COVID-19 cases was ongoing [74,75]. Since the start of the pandemic WHO has warned about the shortage of PPEs which would leave health workers at a risk, but failed to elicit proper response from the member countries [76].

Another major area of corruption was COVID-19 testing and reporting e.g., fake RT-PCR reports and issuance of fake certificates, not unlike India's Kerala and other states [77,78]. It was already hard to track the positive cases and control the spread in the country; the provision of fake certificates from certain government-approved hospitals made it even harder. A similar situation was observed in private labs and hospitals of Nepal, Afghanistan, Indonesia and Vietnam [79–82]. Interestingly, issuing fake COVID-19 certificates was reported in news outlets of European countries like Spain, Switzerland etc. as well [83,84].

The overall *treatment of COVID-19 cases* was also flawed, and there was misappropriation of funds for medicines and other materials, including a lack of transparency of procurement, especially high-cost equipment like central oxygen plant, PPEs and ICUs [29]. In a country where the number of health workers per 10,000 people was already low, the problem of delivering quality services intensified during the pandemic [73,85]. Since critical patients needed immediate care, many had to suffer due to a shortage of

appropriately skilled healthcare workers. Counterfeit medicines were traded freely all over the country [86]. All these issues combined together to increase people's suffering.

From the very start, the government played a 'hide-and-seek' approach regarding the number of COVID-19 test positives and confirmed cases. This might be because no rigorous method was followed to collect representative samples from across the country's different regions following a uniform protocol [87]. Due to lack of transparency and accountability of the system, the case numbers kept increasing drastically, and the initiatives were weighed down. At the same time, limitations in hospital capacity and mistrust of the health sector only increased people's misery [88]. For example, people within the health system were accused of money laundering; outside suppliers were charged with fraud and embezzlement [89].

During this time, the efforts and actions taken by the ACC were slow and inadequate, and political commitment was absent to take drastic measures [90]. Compared to this situation in Bangladesh, the outcome was totally different for similar corruption allegations, e. g., in Zimbabwe. According to The Guardian, a few months after COVID-19 pandemic began to spread globally, there was an allegation of misappropriation of a multimillion-dollar contract to procure COVID-19 medical supplies against the Zimbabwean health minister along with some government officials; he was sacked by the president of Zimbabwe for inappropriate conduct by a public official [91]. Being amongst the world's top 25 most corrupt counties in the world [92], and being a presidential system of Government, Zimbabwe could make such an example of taking disciplinary actions against members of their own ruling party. In Bangladesh, despite the rampant irregularities and corruption, the government restricted law enforcement agencies from conducting raids at hospitals. This directive came as a surprise to many when law enforcement agencies were unmasking irregularities in COVID-19 testing and treatment in the country [93].

#### 4.1. Limitations

Due to constraints in time and resources, we included limited number of newspapers to elicit the news materials, which thus may not be representative of all newspapers in the country. However, these being the top circulated newspapers in the country, we are confident to have captured the most relevant articles for analysis. Beside using the search engines PubMed, and Google Scholar, we also searched institutional websites to retrieve relevant grey materials.

## 5. Conclusion

Health sector corruption is a major concern for the government health systems and a frequently reported phenomenon in Bangladesh [94]. The pandemic was no exception. The newspapers as a 'mirror of the society' dutifully and relentlessly reported various bids of corruption occurring during the pandemic. Some of these prompted the government into action, but the nation is yet to see the ultimate results as newspapers continue to report corruption to date. Containment of corruption is essential not only to improve health outcomes of the poor and marginalized but also for optimum use of resources for effective and efficient pandemic response. It is high time that government pays attention to this, especially to reach its commitment of achieving UHC by 2030.

## Recommendations

The lack of transparency and accountability led to widespread corruption that pervaded the entire health system. Inter-sector collaboration is needed to monitor and improve the system, which can be facilitated by utilizing Information and Communication Technology (ICT) tools and digitizing transactions. Moreover, efforts to boost health literacy and empower communities to demand accountability can help mitigate corruption. Appropriately skilled staff and public health experts should be recruited and positioned in command to give life to the prioritized anticorruption efforts. This approach is particularly crucial during pandemics like COVID-19, ensuring that anticorruption measures remain a top priority.

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## Data availability statement

Data will be available on request.

## CRedit authorship contribution statement

**Mahruba Khanam:** Conceptualization, Data curation, Formal analysis, Writing – original draft. **Noshin Sayiara Shuchi:** Data curation, Formal analysis, Methodology. **Raihana S. Kamal:** Data curation. **Syed Masud Ahmed:** Conceptualization, Writing – review & editing.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Annexure.

### Annex 1

Summary of selected articles exploring different dimensions of 'corruption' (references from 95 to the end are in the annex table below)

Themes	Finding	Month published	Newspaper
Treatment of COVID-19 cases	<ul style="list-style-type: none"> <li>Allegations of corruption amounting to around Tk 13 crore 16 lacs by selling equipment at higher price</li> <li>Case filed by The Anti-Corruption Commission (ACC) against Uttam Kumar Barua, director of Shaheed Suhrawardy Medical College Hospital, and Aftab Ahmed, owner of a business called Messrs. ASL</li> </ul>	20 Mar. 2020	Kaler Kantho
	Lack of proper monitoring has led to corruption during medicine, surgical equipment and other equipment purchase, according to the ACC	27 Jun. 2020	The Daily Star
	In recruiting medical technologist, a cost of 10 lacs asked for each appointment	29 Jun. 2020	Samakal
	<ul style="list-style-type: none"> <li>87 public representatives suspended due to alleged corruption in relief management [95]</li> </ul>	6 Jun. 2020	The Daily Star
	<ul style="list-style-type: none"> <li>According to ministry sources, most of them are from the ruling committee</li> <li>Corruption in purchasing medical supplies and procurement processes found by Transparency International Bangladesh.</li> </ul>	16 Jun. 2020	New Age Bd
	<ul style="list-style-type: none"> <li>Purchase of 500 high flow nozzle cannulas ordered at double market price</li> <li>RAB have caught many fake doctors and other frauds</li> </ul>	14 Jul. 2020	Kaler kantho
	14 contractors blacklisted due to misappropriating more than 100 crores [96]	10 Jul. 2020	The Daily Star
	<ul style="list-style-type: none"> <li>Allegation of mismanagement against Dhaka Medical College authority. [97]</li> <li>20 crore expenditures to be investigated [98]</li> </ul>	1 Jul. 2020	Prothom alo
	RAB has been conducting operations in the Mitford area of the capital after receiving allegations of manufacturing and marketing counterfeit medicine, Savlon and Detergent Mahiganj police has arrested six people of the Rangpur Civil Surgeon's Office, on charges of stealing and selling medicines to provide free treatment to patients at various government hospitals	09 Jul. 2020	Bangla Tribune
	Authorities at Sheikh Hasina Medical College have disbursed nearly Tk. 4.5 crore; ACC sued principal and supplier [99]	22 Jul. 2020	Bangla Tribune
	Electronic equipment supplier misappropriated Tk 8.28 crore while dealing to supply several medical equipment	17 Aug. 2020	The Daily star
	<ul style="list-style-type: none"> <li>Chittagong Field Hospital and 2 isolation centers have aided helpless people</li> <li>But no information found on how much money was collected and spent on what sector [100]</li> </ul>	28 Aug. 2020	New Age BD
	UNICEF and WHO provide medical equipment to different countries including Bangladesh Still, equipment not provided within the dedicated time [101]	13 Sep. 2020	Samakal
	25 crore taken for Stem cell therapy unit at Dhaka Children's Hospital, but no actions taken [102]	01 Sep. 2020	Kaler kantho
	More than Tk. 6 crore spent at Shaheed Suhrawardy Medical College Hospital	04 Sep. 2020	Kaler kantho
	Irregularities in money spent	12 Sep. 2020	Kaler kantho
	<ul style="list-style-type: none"> <li>TIB found corruption in medical equipment supply</li> <li>Total expenditure over medical equipment not mentioned, but corruption present</li> </ul>	30 Oct. 2020	Prothom Alo
Injections sold at high prices while the govt hospitals got them at a cheaper price	07 Oct. 2020		
Fake medical products supplied causes negative impact in the country's overall system	11 Nov. 2020	New age BD	
<ul style="list-style-type: none"> <li>Some news spread in social media by adding other baseless information</li> <li>Quality of masks provided by CMSD at different hospitals raise questions</li> <li>300 masks provided at Mugda hospital having n95 written on the packaging didn't seem reliable</li> </ul>	05 Feb. 2021	Kaler Kantho	
Committee created in order to analyze the supply of fake n95 masks at several hospitals in Dhaka city.	10 Feb. 2021	Samakal	
<ul style="list-style-type: none"> <li>World bank to fund one lac safety goggles</li> </ul>	21 Apr. 2020	Bangla Tribune	
	26 Apr. 2020	Prothom Alo	
	20 Apr. 2020	Bangla Tribune	
	04 Jun. 2020	Kaler Kantho	

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## Annex 1 (continued)

Themes	Finding	Month published	Newspaper
Containing the corruption during COVID-19 pandemic	<ul style="list-style-type: none"> <li>Although market price is set at 500–1000 tk, these safety goggles are priced 5000 tk each.</li> </ul>		
	N95 provided at BSMMU were fake according to the doctors	20 Jul. 2020	The Daily Star
	Owner of Jadid Automobiles accused of fraud with masks, PPE and taken by ACC [103]	04 Sep. 2020	The Daily star
	More than 20,000 fake N95 masks supplied in 10 different healthcare facilities [104]	30 Sep. 2020	Bangla Tribune
	<ul style="list-style-type: none"> <li>2 Health officials accused of manufacturing and supplying fake N95 masks</li> <li>ACC took them in custody</li> <li>More than 20,000 fake N95 masks supplied in 10 different hospitals</li> <li>CMSD didn't check quality of masks before supplying</li> <li>Allegations against chairman of JMI for supplying fake N95 masks</li> <li>The High Court questioned the bail of chairman</li> <li>Health workers reported corruption and insufficient PPE</li> <li>Investigation of Sharmin Jahan, accused of providing fake N95 masks, has been postponed</li> </ul>	8 Oct. 2020	Newage BD
	Anti-Corruption Commission (ACC) to take legal actions against those who misbehave with doctors/nurses during this hard time	01 Oct. 2020	The Daily star
	Two contractors accused in a corruption case involving Tk 10 crore in supplying machines and equipment to Faridpur Medical College Hospital (FMCH) and was denied bail by The High Court [105]	30 Nov. 2020	Bangla Tribune
	A total of Tk 2492 crore has been allocated for a project and the COVID-19 Response Emergency Assistance programme.	14 Jan. 2021	New Age BD
	With increasing coronavirus cases, the proposed government schemes will only be able to fight coronavirus if corruption and inefficiency is rooted out of the process [106]	09. Mar2021	Bangla Tribune
	Case filed against Elan Corporation for importing "substandard" KN-95 masks by showing "fake documents"	16 Apr. 2020	Prothom Alo
	Probe committee formed by ACC to investigate the alleged anomalies in COVID-19 safety gears' procurement-Legal actions expected	20 May. 2020	The Daily Star
	No action taken against alleged supplier of regular masks in n95 packaging	04 Jun. 2020	The Daily Star
	The Anti-Corruption Commission (ACC) sought information from the health ministry about the doctors transferred from their workplace due to raising questions	09 Jun. 2020	The Daily Star
	Expenditure worth 20 crore for Dhaka Medical College workers to be investigated [107]	19 Jun. 2020	
	<ul style="list-style-type: none"> <li>ACC directed to lodge complaint against a private hospital for charging high price for ICU</li> <li>High court directed to have a fixated price for oxygen</li> </ul>	21 Jun. 2020	Bangla Tribune
	ACC to be cross checking statements to identify those behind corruption [108]	22 Jun. 2020	
	Proprietor of Aparajita International taken into remand for supplying fake n95s at BSMMU [109]	30 Jun. 2020	
	Health service protection laws needed for the rights of people, service providers and managers [110]	6 Jul. 2020	Bangla Tribune
	Mugda hospital to provide information regarding expenditures for doctors and nurses [111]	09 Jul. 2020	The Daily Star
<ul style="list-style-type: none"> <li>ACC is investigating both public and private sectors for corruption.</li> <li>Efficient supervision needed from govt.</li> </ul>	26 Jul. 2020		
ACC investigated information for accommodation and foods against allegations at Kuwait-Bangladesh Friendship Government Hospital [112]	12 Jul. 2020	Prothom alo	
<ul style="list-style-type: none"> <li>Driver Malek was held accountable and was arrested for corruption [113]</li> <li>DG Afzal Hossain on remand for interrogation by the ACC</li> </ul>	03 Aug. 2020	Prothom Alo	
Ministry of Health took 22 steps against corruption in hospitals, private clinics, fees or gifts taken by private doctors [114]	18 Aug. 2020	The Daily Star	
<ul style="list-style-type: none"> <li>Money lost in corruption to be deposited within 2 months [115]</li> </ul>	06 Sep. 2020	Newage BD	
<ul style="list-style-type: none"> <li>Information are being collected for unauthorized private institutions [116]</li> <li>Appropriate legal actions will be taken</li> <li>The High Court directed to implement 25 point recommendation from ACC [117]</li> <li>Three doctors given national compensation</li> </ul>	23 Sep. 2020	Newage BD	
ACC sued 12 fake doctors showing fake MBBS certificate [118]	24 Sep. 2020	Samakal	
Health ministry to ensure to misconduct taking place, directed by a parliamentary body to ensure that no irregularities and corruption take place centring the Covid-19, like those of Regent Hospital and JKG healthcare over testing.	05 Nov. 2020	Bangla Tribune	
JMI chairman, accused of supplying fake N95 masks, on bail	16 Nov. 2020	Bangla Tribune	
Instead of taking punitive measures against the 21 officials for COVID purchase, railway ministry promotes one of them [119]	11 Nov. 2020	Kaler Kantho	
<ul style="list-style-type: none"> <li>Initially, no measures taken by the health department for COVID-19</li> <li>There was a mismanagement regarding testing and other facilities</li> <li>Wrong message given to people</li> <li>500 Tk spent after the food for doctors and healthcare workers</li> <li>Doctors not related to corruption in health sector</li> </ul>	02 Dec. 2020	Newage BD	
	31 Dec. 2020	The Daily Star	
	19 Jan. 2021	Prothom Alo	
	18 Feb. 2021	The Daily star	
Corruption in health sector in times of COVID-19	09 Jun. 2020	Prothom Alo	
	01 Jul. 2020		

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## Annex 1 (continued)

Themes	Finding	Month published	Newspaper
	According to DGHS Director General Dr Abul Bashar Mohammad Khurshid Alam, govt can't be blamed alone for the corruption	26 Jul. 2020	The Daily Star
	COVID-19 tackling to be prioritized rather than corruption [120]	28 Jul. 2020	
	Govt needs to take actions against corruption in health sector [121]	18 Aug. 2020	Newage BD
	Incidents of corruption keep happening within the COVID-19 outbreak. Electronic equipment supplier misappropriated about Tk. 8.28 crore.	28 Aug. 2020	
	Proper investigation needed for the incidents happened. Jadid automobiles escaped after receiving payment, without supplying protective equipment.	19 Aug. 2020	
	<ul style="list-style-type: none"> <li>Health ministry failed to meet the annual expenditure target</li> </ul>	09 Aug. 2020	The Daily star
	<ul style="list-style-type: none"> <li>Health sector was already in a weak state</li> </ul>		
	<ul style="list-style-type: none"> <li>CMSD directors put allegations against ' Mithu Group' for corruption [122]</li> </ul>	13 Aug. 2020	Prothom alo
	<ul style="list-style-type: none"> <li>The head of the group migrated</li> </ul>		
	Money laundering cases against an accountant at DGHS, Sent to prison by Dhaka court	27 Aug. 2020	The Daily star
	The mismanagement, corruption of the health sector was exposed during the pandemic. A great portion of the money was lost in corruption	07 Sep. 2020	Newage BD
	Corruption in overall health sector, including forgery with COVID-19 certificates increased peoples' mistrust [123]	05 Sep. 2020	The Daily star
	<ul style="list-style-type: none"> <li>Corruption in health system and its weakness has made it hard to deal with the pandemic. [124]</li> </ul>	08 Sep. 2020	Prothom Alo
	<ul style="list-style-type: none"> <li>Actions need to be taken against everyone, including instructors [125]</li> </ul>	23 Sept. 2020	
	<ul style="list-style-type: none"> <li>Experts questioning the huge amount of medical equipment that are stuck within ports</li> </ul>	07 Sept. 2020	
	<ul style="list-style-type: none"> <li>According to ED of TIB, corruption rate is much higher in Bangladesh compared to any other places</li> </ul>		
	<ul style="list-style-type: none"> <li>Allegations against Nazim Uddin of Health Department for wealth</li> </ul>	5 Oct. 2020	Samakal
	<ul style="list-style-type: none"> <li>Fourth class employee at Health education bureau to accumulate a lot of wealth</li> </ul>		
	PDs of World Bank and Asian development bank to be relieved from duties and allegations due to mental and physical issues	8 Oct. 2020	Newage BD
	ACC report said that corruption in health sector stems from 11 sources including recruitment, transfers, promotions, medicines, medical equipment and purchases. The corona disaster has been used as an opportunity to raise various types of trade.	28 Nov. 2020	Samakal
	<ul style="list-style-type: none"> <li>Journalists sued for publishing news of irregularities and corruption</li> </ul>	28 Dec. 2020	Prothom Alo
	<ul style="list-style-type: none"> <li>Publishing information quite difficult while having job crisis</li> </ul>		
	<ul style="list-style-type: none"> <li>Low quality masks supplied by JMI</li> </ul>	31 Dec. 2020	
	<ul style="list-style-type: none"> <li>JKG institution to give result and certificate even before testing</li> </ul>		
	<ul style="list-style-type: none"> <li>Health department driver to own a lot of wealth</li> </ul>		
	<ul style="list-style-type: none"> <li>Car dealer with no experience, took Tk 32 crore to supply PPE</li> </ul>		
	<ul style="list-style-type: none"> <li>People have to wait for a long time to even get tested</li> </ul>	31 Dec. 2020	The Daily star
	<ul style="list-style-type: none"> <li>Disparities and corruption show weakness of the health sector</li> </ul>		
	<ul style="list-style-type: none"> <li>Two cases lodged over illegal wealth</li> </ul>	27 Aug. 2020	
	<ul style="list-style-type: none"> <li>Abzal and his wife accused of laundering over Tk. 36 crore</li> </ul>		
	<ul style="list-style-type: none"> <li>Health department employees asked to provide wealth statement</li> </ul>	23 Sep. 2020	
	<ul style="list-style-type: none"> <li>Lack of attention making health sector vulnerable</li> </ul>		
	<ul style="list-style-type: none"> <li>Dhaka Metropolitan judge denied bail of JKG's Sabrina</li> </ul>	08 Mar. 2021	
	<ul style="list-style-type: none"> <li>JKG to have provided 1985 fake certified</li> </ul>		
	<ul style="list-style-type: none"> <li>Some DGHS and health ministry to be involved</li> </ul>		
	<ul style="list-style-type: none"> <li>Healthcare system put under strain</li> </ul>	29 Dec. 2020	
	<ul style="list-style-type: none"> <li>No emergency meetings held by the parliamentary committee during nine months of pandemic</li> </ul>		
	<ul style="list-style-type: none"> <li>New machine damaged only after few uses</li> </ul>	25 Oct. 2020	Samakal
	<ul style="list-style-type: none"> <li>Tk 30 crore of fraudulent in different hospitals in Rangpur</li> </ul>		
	<ul style="list-style-type: none"> <li>Government arrested anyone that spoke against the COVID-19 response</li> </ul>	14 Jan. 2021	Newage BD
	<ul style="list-style-type: none"> <li>TIB demanded to check against all sorts of corruption</li> </ul>		
	<ul style="list-style-type: none"> <li>Government must be transparent in vaccine procurement</li> </ul>		
	Government must work against corruption and misappropriation during vaccine management [126]	07 Jan. 2021	The Daily star
	Arrest warrant against former civil surgeon on charges of withdrawing money from government fund	21 Mar. 2021	Bangla Tribune
	DGHS driver Malek and his wife sued for allegations of manipulating funds [127]	16 Feb. 2021	The daily star
	DGHS driver Malek was arrested for alleged involvement in crimes, illegal firearms. He was also involved in recruiting class III and IV govt employees [128]	11 Mar. 2021	New age BD
	ACC interrogated DGHS driver's wife Nargis Begum over huge amount of wealth [129]	23 Dec. 2020	New Age BD
	Health official and wife accumulated Tk 1.20 crore by taking money for fraudulent work.	22 Mar. 2021	Bangla Tribune
	ACC asked them to present all information regarding invalid money [130]		
Testing for COVID-19	Regent hospital employees placed in remand for Illegal charges on patients and providing fake COVID-19 certificates	18 Aug. 2020	The Daily star

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## Annex 1 (continued)

Themes	Finding	Month published	Newspaper
	<ul style="list-style-type: none"> <li>Mobile court sealed Regent hospitals Uttara branch for issuing fake COVID-19 reports</li> <li>The events termed as unfortunate and wrong</li> </ul>	15 Jul. 2020	The Daily Star
	Managing director of Regent Hospital's Uttara branch, was placed on a 10-day remand, in a case filed over issuing fake Covid –19 certificates to 76 labourers of Dhaka Metro Rail	25 Jul. 2020	Prothom Alo
	Managing director of Shahabuddin Medical College Hospital Faisal Al Islam and two others were sent to jail in a case filed over using unauthorized Covid –19 test kits and forging Covid –19 test reports at the hospital	28 Jul. 2020	The Daily Star
	Fake COVID-19 certificates provided in private clinic in Pabna, in Rajshahi	29 Jul. 2020	Prothom Alo
	an unregistered organization and provided over 1900 fake Covid-19 certificates even without collecting samples, and just merely based on observing symptoms, detectives find.	31 Jul. 2020	Newage BD
	Although DGHS only gave them permission for voluntary services – to set up booths and collect samples from the booths	15 Jul. 2020	The Daily Star

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