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Public opinion on COVID-19 pandemic in Bangladesh: Disruption to public lives and trust in government's immunisation performance

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Abstract

Objectives: The COVID-19 pandemic has stretched Bangladesh government's capability for disaster engagement. As normalcy is interrupted, people's confidence in the government in ending the crisis needs evaluation, especially considering the past vaccination successes in Bangladesh and growing worldwide vaccine hesitancy amidst the COVID-19 misinfodemic. This study assessed the level of public life disruption due to the pandemic at the micro-level and how much impact it had on people's trust in the government's capacity for successful national immunisation.

Methods: Given the infectious nature of the pandemic, the study conducted an online survey of 2291 respondents, distributed proportionally across sex and income groups. We conducted bivariate analyses and fitted generalised linear models to assess disruption to respondents' lives, and their trust in the government's immunisation ability, which were measured using multiple parameters.

Results: Nearly 50% of the respondents reported multi-faceted disputations in their daily lives, with 90% suffering financially. Trust in the government was very low at the time of the survey as only 11.3% of respondents had faith that the government could successfully conduct a mass vaccination campaign. Rural residents and non-earning members

of families found their lives to be less disrupted. Comparatively higher income families and highly educated individuals had lesser confidence in the government's inoculation capabilities.

Conclusions: For the vaccine campaign to be successful, effective risk communication and timely display of data-driven decision-making efforts targeting the groups who are more sceptical of immunisation campaigns could be of significance to the Bangladesh government.

KEYWORDS
Bangladesh, COVID-19, health policy, immunisation campaign, pandemic, public opinion, vaccine hesitancy

Key points

- People's trust on the government's capability for inoculation in Bangladesh was assessed.
- Nine out of the 10 sampled respondents suffered financially.
- Only one in 10 respondents had faith on the Bangladesh government's successful national vaccination campaign.
- Life disruptions and opinions varied across different sociographic groups.

1 | INTRODUCTION

The rapid spread of COVID-19 from its inception in Wuhan, China, in December 2019 has generated shockwaves in all spheres of growth and development.[1–3] Furthermore, COVID-19 has contributed to exposing the flaws in health system security across borders, leading to a global pandemic declared by the World Health Organization within three months of the first case detection.[4] Characterised by typical symptoms like fever, dry cough, sore throat, and fatigue along with documentation of its asymptomatic nature, COVID-19 is often difficult to distinguish, leading to its under-reporting in the healthcare infrastructure with limited diagnostic capabilities.[5]

A reported total of 178 million confirmed COVID-19 cases with 3.9 million deaths as of June 2021 resulting from contact-based transmission and multiple waves of infections across the borders ([6]). The unavailability of proven therapeutic options resulted in the uptake of preventive measures in the form of isolation, restricted movement, and complete lockdowns at the core of the global COVID-19 response.[7] However, the efficacy of these preventive measures was often questioned in terms of effectiveness and timing to the reduction of overall case numbers along with the trust in the public authorities.[8] Furthermore, a sustained period of economic shutdown resulted due to the implementation of these preventive measures, leading approximately 100 million people to extreme poverty on account of shrinkage of per capita income, and this number is expected to rise to nearly 150 million by the end of 2021.[9]

As a response, the global community has been pushing for mass vaccination at an accelerated rate for protecting public health and resuming economic activity at the earliest phase. After the initial publication of the genome sequence of SARS-COV-2, manufacturers and the scientific community have undertaken an unprecedented effort to develop effective vaccines.[10,11] The accelerated approval of COVID-19 vaccines within a year is a landmark success, overtaking the previous record of a four-year approval period for mumps vaccine in the history of vaccination manufacturing.[12]

However, with the emergence of the newer COVID-19 variants and the circulation of dubious information in the social and electronic print media, the public is often in doubt about the necessity and efficacy of these vaccines.[13,14] Many of the health system determinants in the development of public trust in vaccination service include paucity of trained health workers, fragile infrastructure, limited storage capacities and insufficient funding to sustain the immunization programs.[15] Additionally, past adverse experiences in accessing health services and the growing distrust in institutions and healthcare providers in the context of corruption, weak governance and limited capacity seem to be key determinants in vaccine acceptance and the resulting hesitancy.[16,17] Moreover, with the availability of limited vaccination with regard to the population's health needs, the negotiation power of the individual states in the availability of vaccines from multiple sources will be crucial in improving access and building public trust in the efforts to deliver safe and effective vaccination.[18,19]

Initial early assessment from the World Bank has demonstrated that only 30% of the countries have the capacity to develop an adequate process for training the large number of vaccinators needed for the vaccination and only 27% of the countries have strategies in place for public engagement and social mobilization needed for vaccination.[20] This is quite surprising given that around 85% of the countries are said to have vaccination plans and 68% with vaccine safety systems.[20]

Bangladesh, a country with a fragile, inadequate, and fragmented health system, was no exception regarding the availability of information, evidence-based decision making and supply chain logistics during the pandemic.[21,22] As of 7 July 2021, a reported total of 977,568 COVID-19 cases with 15,593 deaths in the country have not only exposed the flaws in the healthcare infrastructure but also contributed to the erosion of public trust as evidenced by the non-adherences to various public health measures.[23] An effective immunization system has been one of the notable public health progresses with respect to expanded programs of immunization in developing effective vaccine storage and distribution capacity in Bangladesh in recent times.[24] However, the existing expanded programme on immunization (EPI) infrastructure and vaccine distribution capacity are built in conformation with the vaccines employed in combating childhood major infectious diseases. This involves having cold storage facilities of 2–4° across the countries that limited the options for deploying COVID-19 vaccines excluding Moderna and Pfizer-BioNTech vaccines from the planning schedules at the earliest of the COVID-19 vaccination campaign. Additionally, as the routine EPI vaccination is focused on the vaccination effort focused on the childhood population, there is a dearth of expertise in human resources and vaccination in delivering a large-scale vaccination involving the adult population as required in COVID-19 vaccination in Bangladesh. Despite such progress and confidence, a ripple effect over the potential erosion of trust in the government and public health authorities during the COVID-19 response is built upon the limited utilization of clear contingency planning and lack of coordinated informed decision-making is likely to be translated into the deployment of the COVID-19 vaccination.

Furthermore, the vaccination campaign was started with exclusive sourcing from the Serum Institute in India with no liability clause stemming from a tug of vaccine-diplomatic relations between India and China. This contributed to the halting of the vaccine delivery after the surge of the Delta variant in India during April-May 2021, resulting in a delay in receiving second dose of a dosing schedule. The government, therefore, made diplomatic efforts through utilizing existing diplomatic relations with China, Russia, United States of America to receive vaccine dosage in a bid to curb the vaccine shortage in Bangladesh and the delayed dosing schedules in between the dosage regimen. The COVID-19 vaccination campaign eventually resumed in July 2021, resulting in delayed dosing schedules of more than 2 months after receiving the first dosage risking the efficacy of COVID-19 vaccination in preventing SARS-COV-2 infection in Bangladesh. Furthermore, many of these agreements also resulted in receiving vaccine COVID-19 vaccines global access facilities as late as August 2021. Therefore, many of these recipients were given the second dose with other sources of vaccination like Sinopharm linked with limited evidence of similar efficacy resulting in potential vaccine cocktailing risking in the development of potential vaccine-related COVID-19 side effects. The delayed action on procuring vaccines employing global diplomatic relations can be clearly linked to the anticipated erosion of trust in delivering COVID-19 vaccination by the government even in the availability of strong immunization backbone in the country due to succinct and relevant contingency planning in availing COVID-19 vaccination campaign without major disruptions.

To evaluate the micro-level impact of the COVID-19 pandemic in Bangladesh, particularly their health, economic and lifestyle changes, this study conducted an online survey. Additionally, the level of trust in the government's immunization performance given the recent changes was investigated. The objective is to assess the disruption in micro-level lifestyle in Bangladesh due to the pandemic and its subsequent impact on people's trust in the government to fully inoculate the public.

2 | THEORETICAL FRAMEWORK

Trust is a vital factor for good governance.[25] Trust, in the context of this research, refers to an efficient means required in building any social, economic, and political relationship,[26] which underpins the interaction between human and political institutions where the individual holds a favourable perception towards the government and its activities.[27] Trust in the government allows and drives the citizens to adhere to the stringent measures taken by the government in times of crisis. Trust in political institutions is often cultural and deeply rooted as an extension of interpersonal trust.[28,29] However, as per institutional theories, the level of trust varies with the performance of the institutions.[30,31] During crisis and post-crisis scenarios in developing countries, both social trust and political trust play key roles, as higher dissection with political elites or representors can lead to deleterious consequences for policymakers and worsen the ramifications.[25]

Most theories underpin political trust with financial crisis,[32,33] which places the public health crisis in a new paradigm. Certainly, in the complex global political order, a non-financial international crisis has hardly ever been experienced in recent decades let alone a public health mayhem. This paper engages itself in explaining the propensity of causing disruption to life by a global public health crisis, the COVID-19 pandemic in this context, and trust in the government. As trust in the government, even within the context of public health, is a vast discourse, this study focused on the aspect of immunisation performance as vaccination is commonly regarded as the best-known answer to any infectious disease pandemic.

3 | METHODOLOGY

3.1 | Data overview

The data for this study was based on a cross-sectional online survey that took place from 6 December 2020 to 17 January 2021. The online survey platform provided by the University of Southern Queensland (UniSQ) based on LimeSurvey was utilised to create and facilitate the survey. A total of 8 data collectors helped mobilise the questionnaire through popular social media outlets employing a snowball sampling procedure and no in-person interviews were conducted. To include a larger variation of participants without limiting the contact of the data collectors, the survey was circulated via Facebook ads as well, which obtained 90,079 impressions. The ad targeted Facebook users in the geographical border region of Bangladesh of all ages and sexes who speak Bangla. No additional filter was given. As Facebook is widely popular in Bangladesh with around 44.7 million users and in the top three sources of growth in daily active users worldwide in 2022 compared to the previous year,[34] this platform was considered the best possible alternative to face-to-face data collection. Additionally, many of the individuals not using Facebook are residents of remote areas with limited internet connectivity where any face-to-face data collection activities will be cost and resource-intensive to maintain the quality of the collected data even without any pandemic-enforced lockdown situation. The questionnaire included questions regarding public opinion regarding the disruption to normal life during the COVID-19 pandemic, trust in the Bangladesh government to handle the crisis as well as their preference for vaccination.

The self-reporting questionnaire was translated to Bangla (English version added as supplemental file 1), the native language of Bangladesh, to encourage unrestricted participation and ensure a better understanding of the

questions asked for the survey. A total of 2309 willing participants, aged 13–71, completed the survey questionnaire who were currently living in Bangladesh. The collected sample had balanced representation across both sexes (female 46.5% and male 53.5%). The study employed a complete records analysis approach and after cleaning the data, a total of 2291 complete observations were retained for analysis.

3.2 | Ethical statement

The survey questionnaire was formally reviewed and approved by the ethical review committee at the UniSQ (H20REA274). The participants were asked to provide their informed consent before participating in the survey and were duly notified of the research purpose, type of questions, and confidentiality of individual information before being provided with the opportunity to respond to the survey questionnaire. The respondents were also provided with contact details of multiple independent support organizations, had they felt distressed and decided to seek help at the time of responding to the survey questions regarding their personal experience with COVID-19.

3.3 | Independent variables

The independent variables considered in this study were mostly sociodemographic in nature. Respondents' age (continuous), sex (female, male), geographic area of residence (urban, suburban, rural), type of living arrangement (family residence, group-housing, single resident), monthly family income range (below, 20,000 Bangladesh Taka (BDT), 20,000–35,000 BDT, 35,000–50,000 BDT, and 50,000 BDT or above), level of education (graduate/undergraduate, up to higher secondary level), religion (Muslim, others) were considered among the independent variables. Furthermore, respondents' participation in economic activities was considered through the binary variable 'economic contributor' (non-earner, earner). Here health workers, police and first responders, bank officials, essential community workers, government employees, private-sector jobholders, teachers, transport workers, businesspersons, freelancers, farmers, chefs, and people of similar professions were considered as earners, while people belonging to occupations without a fixed paycheck such as students, retired employees, and homemakers were considered in the non-earner category.

The level of self-assessed knowledge regarding COVID-19 and hygiene guidelines of the respondents was considered by the variable "self-reported COVID-19 knowledge score" (below median, above median). This variable was created based on the following three questions: (a) "How would you grade your general knowledge on COVID-19?" (b) "How closely are you following the news of COVID-19 in print or digital media?" and (c) "How closely are you adhering to the COVID-19 precautions?" Those who reported having no or very little knowledge, and not following either the news or the health guidelines were given a score of 0 (zero) in each case. Those who responded with having some or moderate knowledge and maintaining adherence to news and health guidelines were assigned a score of 1 (one) in this case. Finally, those who claimed to have good knowledge, regularly followed the news and sincerely maintained health guidelines were assigned a score of 2 (two) in each case. Then all the assigned scores were summed for each respondent and the total scores were categorised into the categories 'below median' and 'above median'. Here the median score obtained by respondents was 4 (four), on a scale from 0 (zero) to 6 (six).

3.4 | Outcome variables

There were two binary outcome variables in the study. The first variable assessed whether the respondents experienced disruption to their lives due to the pandemic, and the second variable was concerned with appraising whether they had sufficient trust in the government's immunisation ability and performance. Whether or not the respondents' lives were disrupted was dichotomised based on responses to the following four questions: (a) whether the respondent had tested positive for COVID-19 at some point, (b) whether anybody they personally knew died of COVID-19, (c) whether they failed to attend work/classes from home during the pandemic-induced lockdowns/restrictions and (d) whether they were financially affected by the pandemic. Those who responded affirmatively to any one of these variables were considered to have their lives disrupted (coded as binary 1), and those who responded negatively to all four questions were considered to have their lives "not disrupted" (coded as 0).

The second binary outcome variable, pertaining to the trust in the government's immunisation performance, was constructed based on the responses to the following three questions: (a) whether the government conducted sufficient tests daily, (b) how confident the respondent felt about all citizens of Bangladesh getting a vaccine jab in due time, and (c) if the respondent thought the health system of Bangladesh is sufficiently equipped to successfully conduct countrywide immunisation. If anyone responded affirmatively to any two of these three questions, they were considered as having trust in the government (coded as 1), otherwise, the respondents were considered as not having trust in the government" (coded as 0).

3.5 | Statistical analyses

The statistical analyses for this study were conducted in two stages. First, the descriptive statistics were assessed along with estimating the primary associations of the sociodemographic factors with the two outcome variables of interest using chi-square tests of associations. For the variable age, considered continuous, we conducted two-sided *t*-tests to check whether the mean age was different for one group compared with the other for both outcomes. Then the outcome variables were fitted to the independent variables using generalised linear models in the form of two binary logistic regressions, one for each outcome variable, to estimate the effect sizes (odds ratios) and their subsequent significance levels on the outcome of interest. All data curation and analysis procedures were performed in *R* (version 3.6.0).

4 | RESULTS

4.1 | Life disruption

The results show that 52.0% had their life disrupted with 7.9% tested positive themselves before the survey, 40.7% had someone known died, 14.6% could not work from home and 89.4% were financially hampered (Table 1). Respondent's age, marital status, area of residence, monthly family income, and respondent's earning status and self-reported COVID-19 knowledge showed primary association with life disruption. The average age was slightly higher for the group whose life was reportedly disrupted by the COVID-19 pandemic. Although the sample was heavily represented by unmarried respondents, 60.2% of married respondents claimed to have their lives disrupted. Similarly, 36.1% of the respondents from rural areas reported to have their lives disrupted as opposed to 50.3% in the urban areas. Apart from those whose family incomes were above 50,000 BDT, over 50% of respondents from all other income groups reported that their lives were not disrupted. Higher proportion of income earners (59.6%) reported having their lives disrupted, whereas those with below median self-reported COVID-19 knowledge claimed to have their lives not disrupted.

The results from the regression model, reported in Table 2, showed that life disruption during the pandemic was associated with area of residence, religion, earning status, and self-assessed COVID-19 knowledge. Rural residents were found to be associated with 39% lower odds of being impacted by the pandemic compared to urban residents. Muslims seemed to have their life disrupted than other religious groups with 30% higher odds. The income earners in the family reported that their lives were more impacted (OR 1.38) compared to non-earners. Similarly, the odds of disruption to lives for those who claimed to have above median knowledge on COVID-19 were 1.42 times to those who had below median knowledge.

4.2 | Government's immunisation performance

The proportion of respondents who expressed trust in the government's immunisation performance was only 11.3%. About 4 out of every 5 respondents opined that there were insufficient tests; 86.8% were unsure or had no trust in a

TABLE 1 Distribution of reported life disruption during pandemic by the sociodemographic and relevant variables among study participants.

		N (%)			Chi-square
Variables	Categories	Total	Life not disrupted	Life disrupted	p-value
Age[a]			23.5 (5.93)	25.2 (7.62)	<0.001
Sex	Female	1066 (46.5)	572 (53.7)	494 (46.3)	0.157
	Male	1225 (53.5)	620 (50.6)	605 (49.4)	
Marital status	Not married	1952 (85.2)	1057 (54.1)	895 (45.9)	<0.001
	Married	339 (14.8)	135 (39.8)	204 (60.2)	
Type of living arrangement	Family residence	2028 (88.5)	1061 (52.3)	967 (47.7)	0.108
	Group-housing	182 (7.9)	98 (53.8)	84 (46.2)	
	Alone	81 (3.5)	33 (40.7)	48 (59.3)	
Area of residence	Urban	1758 (76.7)	873 (49.7)	885 (50.3)	<0.001
	Rural	244 (10.7)	156 (63.9)	88 (36.1)	
	Suburban	289 (12.6)	163 (56.4)	126 (43.6)	
Monthly family income	Below 20,000 BDT	415 (18.1)	229 (55.2)	186 (44.8)	0.003
	20,000–35,000 BDT	570 (24.9)	317 (55.6)	253 (44.4)	
	35,000–50,000 BDT	537 (23.4)	287 (53.4)	250 (46.6)	
	Above 50,000 BDT	769 (33.6)	359 (46.7)	410 (53.3)	
Education level	Undergraduate/Graduate	1755 (76.6)	893 (50.9)	862 (49.1)	0.053
	Up to higher secondary	536 (23.4)	299 (55.8)	237 (44.2)	
Religion	Others	346 (15.1)	196 (56.6)	150 (43.4)	0.071
	Muslim	1945 (84.9)	996 (51.2)	949 (48.8)	
Financial contribution to family	Non earner	1739 (75.9)	969 (55.7)	770 (44.3)	<0.001
	Earner	552 (24.1)	223 (40.4)	329 (59.6)	
Self-reported COVID-19 knowledge score	Below median	813 (35.5)	477 (58.7)	336 (41.3)	<0.001
	Above median	1478 (64.5)	715 (48.4)	763 (51.6)	
Total sample size	N	2291	1192 (52.0)	1099 (48.0)	

[a]For continuous variable, mean (SD) and *t*-test *p*-values were reported.

speedy government immunisation operation; 46.6% had no confidence in the government's ability to successfully run an immunisation campaign. Primary association between the outcome variable 'trust in the government's immunisation performance' was found with age, marital status, level of education, and self-reported knowledge of COVID-19. The average age of the respondents who had trust in the immunisation performance of the government was significantly higher (26.2 vs. 24.1). Although most of the respondents, both married and unmarried, claimed to have no faith in the government, the proportion was slightly higher in the case of unmarried (90%) than married (81%) respondents. Those who completed graduation had less trust (10.3%) than others with education up to the higher secondary level (14.4%). Non-earning respondents and respondents who reported below median knowledge of COVID-19 expressed to have less trust in the government's immunisation performance (Table 3). Disruption to lives reportedly did not affect the respondents' trust in the government's immunisation performance.

According to the regression results, the trust in the government's immunisation performance was associated with respondents' living arrangement, family income, level of education, earning status and self-assessed COVID-19 knowledge (Table 4). Those living in group housing was associated with a 46% lower odds of trusting the government's immunisation performance than those living in family residences. In case of education, those who completed

TABLE 2 Generalised linear regression model fitted to the binary outcome variable "life disrupted in pandemic" (not disrupted, disrupted) with the sociodemographic and relevant study variables.

Variables	Odds ratio	95% CI*	*p*-value
Age	1.02	1.00, 1.04	0.040
Sex			
Female	1.00	—	
Male	1.10	0.92, 1.31	0.285
Marital status			
Not married	1.00	—	
Married	1.03	0.75, 1.43	0.835
Type of living arrangement			
Family residence	1.00	—	
Group-housing	0.91	0.66, 1.25	0.543
Single resident	1.23	0.77, 1.99	0.387
Area of residence			
Urban	1.00	—	
Rural	0.61	0.44, 0.82	0.001
Suburban	0.85	0.66, 1.11	0.240
Monthly family income			
Below 20,000 BDT	1.00	—	
20,000–35,000 BDT	0.82	0.63, 1.08	0.156
35,000–50,000 BDT	0.86	0.65, 1.14	0.306
Above 50,000 BDT	1.04	0.80, 1.37	0.760
Education level			
Undergraduate/Graduate	1.00	—	
Up to higher secondary	0.94	0.77, 1.15	0.572
Religion			
Others	1.00	—	
Muslim	1.30	1.03, 1.65	0.029
Financial contribution to family			
Non-earner	1.00	—	
Earner	1.38	1.06, 1.79	0.017
Self-reported COVID-19 knowledge score			
Below median	1.00	—	
Above median	1.42	1.19, 1.70	<0.001

up to higher secondary level education was associated with a 70% higher odds of having trust in the government's vaccination campaign compared to those in undergraduate level or graduate level education. Similarly, respondents who were earning members of the family were associated with 69% higher odds of trusting the government compared to those were non-earners. Respondents with self-reported above median knowledge on COVID-19 was associated with nearly twice the odds of trusting the government's capability to run a successful immunisation campaign than their less knowledgeable counterparts. However, in consistent with the result from the bivariate analysis, disruption to public life seemed to not significantly affect the trust in the government's immunisation performance.

TABLE 3 Distribution of the reported trust in the government's immunisation performance by the sociodemographic and relevant variables among study participants.

Variables	Categories	N (%)			Chi-square
		Total	Has trust	No trust	p-value
Age[a]			26.2 (8.59)	24.1 (6.55)	<0.001
Sex	Female	1066 (46.5)	108 (10.1)	958 (89.9)	0.126
	Male	1225 (53.5)	150 (12.2)	1075 (87.8)	
Marital status	Not married	1952 (85.2)	195 (10.0)	1757 (90.0)	<0.001
	Married	339 (14.8)	63 (18.6)	276 (81.4)	
Type of living arrangement	Family residence	2028 (88.5)	234 (11.5)	1794 (88.5)	0.159
	Group-housing	182 (7.9)	13 (7.1)	169 (92.9)	
	Alone	81 (3.5)	11 (13.6)	70 (86.4)	
Area of residence	Urban	1758 (76.7)	198 (11.3)	1560 (88.7)	0.314
	Rural	244 (10.7)	33 (13.5)	211 (86.5)	
	Suburban	289 (12.6)	27 (9.3)	262 (90.7)	
Monthly family income	Below 20,000 BDT	415 (18.1)	56 (13.5)	359 (86.5)	0.098
	20,000–35,000 BDT	570 (24.9)	70 (12.3)	500 (87.7)	
	35,000–50,000 BDT	537 (23.4)	62 (11.5)	475 (88.5)	
	Above 50,000 BDT	769 (33.6)	70 (9.1)	699 (90.9)	
Education level	Undergraduate/Graduate	1755 (76.6)	181 (10.3)	1574 (89.7)	0.012
	Up to higher secondary	536 (23.4)	77 (14.4)	459 (85.6)	
Religion	Others	346 (15.1)	30 (8.7)	316 (91.3)	0.118
	Muslim	1945 (84.9)	228 (11.7)	1717 (88.3)	
Financial contribution to family	Non earner	1739 (75.9)	165 (9.5)	1574 (90.5)	<0.001
	Earner	552 (24.1)	93 (16.8)	459 (83.2)	
Self-reported COVID-19 knowledge score	Below median	813 (35.5)	62 (7.6)	751 (92.4)	<0.001
	Above median	1478 (64.5)	196 (13.3)	1282 (86.7)	
Life disrupted in pandemic	Not disrupted	1192 (52.0)	140 (11.7)	1052 (88.3)	0.486
	Disrupted	1099 (48.0)	118 (10.7)	981 (89.3)	
Total sample size	N	2291	2033 (88.7)	258 (11.3)	

[a]For continuous variable, mean (SD) and t-test p-values were reported.

5 | DISCUSSION

The objective of this study was to assess the scenario of disruption to the public's lives in Bangladesh due to the COVID-19 pandemic and the public's level of trust in the government in conducting a successful immunisation campaign. Almost half of the sampled respondents reportedly faced disputations in their daily lives during the pandemic, and most of them were hampered financially (nearly 90%). Trust in the government was very low at the time of the survey as only one in 10 could rely on the government to successfully run the mass vaccination campaign. The sample was heavily skewed to the urban privileged class. This shows the manifestation of the immediate adversity due to the pandemic in Bangladesh even among the affluent section of the society. Although the income earners and those with self-judged more knowledge on COVID-19 claimed to have their lives more disputed than the others, they also kept higher faith in the government.

Arguably, the ongoing pandemic has disrupted the lives of every living being. However, inadequate tests, lack of contextual contingency planning, and ambiguities involved in decision making including imposing lockdowns with

TABLE 4 Generalised linear regression model fitted to the binary outcome variable "trust in the government" (does not trust, has trust) with the sociodemographic and relevant study variables.

Variables	Odds ratio	95% CI*	*p*-value
Age	1.01	0.99, 1.04	0.260
Sex			
Female	1.00	—	
Male	1.13	0.86, 1.50	0.372
Marital status			
Not married	1.00	—	
Married	1.37	0.86, 2.15	0.179
Type of living arrangement			
Family residence	1.00	—	
Group-housing	0.54	0.29, 0.96	0.047
Single resident	0.92	0.44, 1.76	0.818
Area of residence			
Urban	1.00	—	
Rural	1.05	0.66, 1.62	0.833
Suburban	0.75	0.47, 1.15	0.204
Monthly family income			
Below 20,000 BDT	1.00	—	
20,000–35,000 BDT	0.82	0.55, 1.23	0.336
35,000–50,000 BDT	0.77	0.50, 1.18	0.226
Above 50,000 BDT	0.52	0.34, 0.80	0.003
Education level			
Undergraduate/Graduate	1.00	—	
Up to higher secondary	1.70	1.25, 2.30	<0.001
Religion			
Others	1.00	—	
Muslim	1.50	1.01, 2.30	0.051
Financial contribution to family			
Non-earner	1.00	—	
Earner	1.69	1.15, 2.48	0.007
Self-reported COVID-19 knowledge score			
Below median	1.00	—	
Above median	1.91	1.41, 2.62	<0.001
Life disrupted in pandemic			
Not disrupted	1.00	—	
Disrupted	0.79	0.60, 1.03	0.082

limited testing capabilities in metropolitan areas have kept the numbers for Bangladesh low.[35] Despite that, over 40% of the sample have reported having known someone who died related to COVID-19 causes (immediate family members, relatives, or neighbours). Furthermore, 8% of the respondents reported having tested positive before the survey. These issues lead to severe underreporting in this region.[36] An overwhelming number of respondents (89.4%) reported that they suffered financially due to the pandemic. While financial damage is expected to some extent,[37]

the interesting finding here is that it has affected earners or non-earners, students or non-students, and residents in urban or rural areas indiscriminately. Thus, one could argue that the large-scale impact of COVID-19 includes both economy and health, not limited to any financial or working cohort, which challenges policymakers of small economies to find damage-mitigating interventions.

While two-thirds of the study sample was from urban residents, almost half of them were observed to have their life disrupted compared to one-third of the rural residents. There are two possible explanations. One, rural areas are less densely populated than the urban cities, such as Dhaka or Chattogram, where there is a lesser scope for the spread of viral infection.[38] Moreover, livelihood in rural areas allow social distancing as most of the rural population, unlike metropolitans.[39] Thus, life continued relatively smoothly without major deterrents in rural areas, and they reportedly did not experience a major outbreak or deaths. The explanation exercises more caution in interpretation of lower prevalence of life disruption the sense that there has not been adequate testing in rural areas to feasibly conclude if viral infection was ever present at large in rural areas. Biswas et al., 2020[40] provided instances where testing was limited to major towns and no testing capacity in peripheral districts. Also, regional lockdowns in Bangladesh were strictly implemented in major cities such as Dhaka, which attempted to cut off infection spread from cities to the suburban areas and villages, which might have helped in barring massive spread in outer regions.[41] However, instead of considering them individually, a combination of these hypotheses perhaps explains the greater impact of pandemic on urban residents.

The proportion of Muslims in the sample matches national distribution and they reportedly had life more disrupted than people belonging to the other religions or those who are non-religious. Expectedly, earning members of the household experienced greater damage from the pandemic than those who are not financially active. There exists an extensive literature on how viral transmission and subsequent control measures lead to economic slowdown, resulting in loss of jobs, business closures and income stagnation.[42] In the case of Bangladesh, studies have reported that 14.75% of the people were pushed into poverty due to the pandemic alongside existing 20.5% who are already in poverty[43] and some research hypothesised how it would take years for Bangladesh to recover from the damage despite ongoing growth.[44] However, the current study has found that even the relatively privileged cohort in urban areas has suffered during the pandemic and the earning members of society were the worst victims at the micro-level which is likely to trickle down and affect those who are dependent on the earning family members.

This study did not assess respondents' COVID-19 knowledge, rather they reported their self-assessed knowledge level. Those who claimed to be more knowledgeable were found to experience greater life disruption but had higher trust in the government's immunisation performance. There are a few hypotheses for this. They could be aware of global disruptions and relate to that with their lifestyle. They could be more aware of the success of the Bangladesh government's previous immunisation campaigns, praised worldwide, which could have given them a greater faith in future vaccination programs (at the time of the survey no vaccination was conducted).[45] However, it is certainly a contradictory finding that graduate or more educated respondents had less faith in the government's immunisation performance, which makes the insights from the variable 'self-assessed knowledge on COVID-19' questionable.

Participants who lived in group housings and were earning members of the family were found to be less trusting on the government's immunisation capability. Many of these responses can be potentially linked to the series of disruptions happened during the pandemic in Bangladesh. Although the survey was conducted prior to start of vaccination campaign in Bangladesh, the government faced with several setbacks including shortage of vaccine, over-reliance on one source and no local reliable production capacity.[46] Group housing refers to university hostels or private boarding houses which provides a cheaper housing for students, unemployed or temporary residents as well as single unmarried job holders. Given the current housing crisis in metropolitan Bangladesh,[47] the residents in such housing are hardly happy with the government's progress on this issue. Such discontent among this cohort could explain their lack of faith on the government's campaigns. The respondents who are financially active, on the other hand, would be on the receiving end of the government's failure on job protection, business venture bailouts and inefficient planning prior to viral containment measures such as lockdowns.[40] With the ongoing fragile state of democracy and healthcare infrastructure in Bangladesh,[48] there is a lack of citizen trust in public health campaigns run by the government.

The highly educated (graduates and postgraduates) were less trusting of the government's immunisation capability than those who completed high school level education or less. Bangladesh's health system has hardly ever lived up to its expectations. With 72% of the health expenditure coming from out-of-pocket spending, leading to financial impoverishment of 3.4% as of 2015 amounting to 5.3 million people for meeting their health needs, such unfavourable conditions would render the public to put very little faith in the system.[49] The educated guess from many would be that the immunisation campaign might be another failure compounded by the growing misconceptions regarding vaccines, the limited availability of vaccination involving the adult population at a mass scale and the perennial hesitancy to accept vaccines.

While this study was one of the first ones to assess opinion on COVID-19 pandemic life disruption and people's faith in the government immunization performance in Bangladesh, there were a few limitations. First, this study used a snowball sampling procedure based on internet survey tools and it was thus not completely randomized. The study was skewed towards the urban privileged class, particularly those with access to the internet. Due to public health constraints, face-to-face data collection was not applicable which limited the sampling frame. Second, due to online data collection, responses were self-reported and cannot be verified. Moreover, some variables such as 'Financial contribution to family' can be subjective and require a mixed methods (quantitative and qualitative) approach. While these could not be done during the pandemic, future studies can utilize qualitative measurement for a validated measure of personal finance and trust in government services. Third, there were no established scales for 'life disruption' or 'trust in the government' were used in this study, which could compromise study reproducibility to some extent. Even though, in the event of limited vaccine availability and global vaccine diplomacy, efficient procurement from multiple sources in maintaining the immunization continuum are expected to be a challenge. However, the incorporation of vaccine availability from multiple resource will potentially garner an ambiguous response which was difficult to incorporate with the developed structured questionnaire with simpler terminologies. Hence, we also recommend future studies specifically measuring vaccine procurement should provide a heightened focus on vaccine purchasing and co-financing arrangements. Finally, the study is cross-sectional, so there was no baseline to compare life disruption from a pre-pandemic period.

6 | CONCLUSION

The study revealed that half of the respondents reportedly had their lives disrupted by the pandemic, largely in the financial aspect and only one in 10 had faith in the government's mass immunisation capability. The impact of the pandemic seemed to be quite high despite the on-paper continued economic development in the form of gross domestic product growth. The lack of trust in the government might, stemming from both the erosion of democratic system as well as poor pandemic governance could jeopardise the government's attempt at probable upcoming and ongoing public health interventions such as mass vaccination and imposition of health guidelines. Effective risk communication and timely display of data-driven decision-making efforts seem to be the most reliable strategies in regaining the public trust before the ever-required consolidated plans for public health interventions such as lockdowns with economic compensations are employed. These are key factors in ensuring greater cooperation from the public and getting traction in extensive campaigns aimed at making people believe that a successful immunisation operation can be run in Bangladesh.

CONFLICT OF INTEREST STATEMENT

There was no conflict of interest among the authors. All authors read the final manuscript and approved it.

DATA AVAILABILITY STATEMENT

In accordance with the UniSQ Human Research Ethics Committee (H17REA157), authors cannot publicly disclose the data for ethical issues. The data that support the findings of this study are available on request from the corresponding author.

ETHICS STATEMENT

All procedures performed in studies involving human participants were in accordance with international ethical standards. Ethical approval was taken from The UniSQ Human Research Ethics Committee (H17REA157). The participation to the study was voluntary and informed consent was obtained from all patients for being included in the study.

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