

# Why COVID-19 symptomatic patients did not seek healthcare service in Bangladesh: Evidence from a cross-sectional study

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## Research Article

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# Abstract

**Background:** During an outbreak, the health-seeking behaviour (HSB) of patients plays a vital role to mitigate the disease spread. Poor HSB may significantly increase mortality and complicate contact tracing. In our study, we aimed to assess the status of HSB among the educated young adults of Bangladesh.

**Methods:** A cross-sectional study was conducted online in June-July 2020 when the country was under strict social distancing measures. A snowball sampling method was employed to capture the suspected COVID-19 patients who did not undergo the COVID-19 test. Descriptive and inferential analyses were performed with statistical significance defined as  $p < 0.05$ .

**Results:** Among the 390 participants, more male (79.5%) and urban-dwelling residents (80.3%) participated in the study. About 45% of the participants had a bachelor's degree followed by 25.9% of post-graduation degrees such as master's and Ph.D. Common symptoms included fever (77.7%), cough (50.5%), headache (46.2%), body pain (36.4%), sore throat (35.6%), anosmia (31.3%), anorexia (13.8%), diarrhea (11.4%) and dyspnea (11.3%). Compared to females, males were more likely to self-medicate. The odds of male participants considering COVID-19 infection as harmless was 3.2 times higher (AOR: 3.2, CI: 1.28-7.98) than the female participants. Smokers were more likely to use government hotlines for support and take drugs at home. Participants from rural areas were 2.5 times more likely to purchase drugs from nearby stores. The most common reasons for not taking the COVID-19 test were limited testing facilities (48%), risk of infection from the test centre (46%), fear of social stigma (19%), belief that COVID-19 will not cause any harm (18%) and fear of forced quarantine (5%). Respondents having higher monthly income were less likely to fear forced quarantine (AOR: 0.27, CI: 0.4-2.02) but more likely to consider the risk of being infected from the test centre (AOR: 1.75, CI: 0.88-3.49).

**Conclusion:** Non-compliance with public health guidelines by educated people in the epidemic reflects the absence of health literacy and distrust in the healthcare system. Along with enhanced infrastructure, improved public health risk communication and health literacy efforts are needed to rebuild public trust in the healthcare system.

## Introduction

The emergence of the COVID-19 pandemic has put extraordinary pressure on the global healthcare system. Developing countries such as Bangladesh bear a disproportionate share of the burden due to scarce healthcare resources and high population density. The country detected its first COVID-19 case on March 8, 2020, and subsequently recorded more than 300,000 cases in the following six months [1]. During this period, strained medical services combined with widespread panic among people posed a unique challenge to the healthcare system[2]. People's confidence in the existing system and the willingness to seek medical assistance are also put to test in times of crisis. In general, health-seeking behavior (HSB) is considered as any action taken by a patient who is at risk of illness in the hope of

receiving an appropriate remedy[3]. The main drivers of HSB in a community are the level of awareness, knowledge, and perceptions of people regarding various health issues[4]. The HSB influences the population's health outcomes and is potentially influenced by the timing and the type of healthcare service used[5].

In Bangladesh, healthcare resource is concentrated in urban secondary and tertiary hospitals whereas 70% of the population inhabit rural areas[6]. According to the estimates of the Ministry of Health and Family Welfare, there are only 3.05 physicians and 1.07 nurses per 10,000 population[6]. Dealing with the COVID-19 pandemic, Bangladesh initially lacked the capacity and a skilled workforce to perform the RT-PCR tests[7]. The unwanted decline in COVID-19 mass testing was also fueled by inadequate testing centres, testing scams, people's low trust in the healthcare system, and high costs for testing at private facilities[8]. While the majority of people in developed countries visit health clinics or family physicians when they have a health issue, in resource-limited settings like Bangladesh, a variety of contextual factors and obstacles might influence the access to and use of such health care services[9, 10].

The recent findings in health-seeking behaviour during the COVID-19 pandemic showed a high proportion of social stigma and fear of being marginalized that led to a decrease in people's willingness to pursue medical care[11]. There were incidences of mass panic, racial abuse, family relationship breakdown, and graveyards refusing to bury COVID-19 patients[2, 12]. In a major health hazard like the COVID-19, various social factors can abruptly alter people's behaviour towards receiving medical care and undergoing diagnostic tests. Study shows that poor health-seeking behavior may significantly increase mortality[13]. Understanding the health-seeking behaviour is very critical for containing the disease spread, contact tracing, and minimizing the gap in public health risk communication. In our study, we aimed to assess the status of health-seeking behaviour among young adults and the educated segment of society. We hypothesize that our target population is more educated and conscious about health issues during COVID-19 and therefore likely to opt for the COVID-19 test and seek medical advice.

## **Methods And Materials**

### **Study design and participants**

A cross-sectional study was conducted online among the suspected COVID-19 patients between 22 June 2021 and 7 July 2021 when a country-wide strict social distancing measure was imposed to contain the spread of the virus transmission [1]. An age-stratified (at least 18 years) snowball sampling method was utilized to convey invitations describing the nature and purpose of the survey with a self-guided hyperlink to our research electronic data capture (REDCap) server through Facebook. The snowball sampling relies on the referral of the initial respondents and is particularly useful to locate hidden populations [14]. The initial respondents were asked to forward the questionnaire to someone they know who was having COVID-19 like symptoms. Facebook was chosen as the platform for our internet-based survey for two main reasons: (1) it is accessible to more than 46 million people in Bangladesh[15], and (2) it was the only viable platform to conduct this study during the COVID-19 restriction. Moreover, the non-probabilistic

sampling method allowed us to quickly record patients in line with our strict inclusion criteria during the early phase of the epidemic. The inclusion criteria of our study included that the participants had to (i) be a smartphone/feature phone user, (ii) have access to internet (iii) have at least a high school diploma, and (iv) have symptoms that are similar to COVID-19 but (v) they had not been tested.

## **Questionnaire**

The questionnaire was developed by a team of multidisciplinary expertise considering the prevailing practices of healthcare-seeking behaviors in Bangladesh. In contrast to developed countries, Bangladesh lacks a systematic referral system. Patients seek medical advice from drugstore employees and also practice self-medication [16, 17]. In a pilot study, the questionnaire was tested on 15 participants which were excluded from the final analysis. In the final version, socio-demographic variables included: age, sex, and the highest level of education (12<sup>th</sup> grade/Bachelor/Masters/Ph.D.), occupation, current residence (urban/semi-urban/rural), monthly family income, and smoking habit. Participants were asked about underlying medical conditions or comorbidities. The questionnaire included the most common symptoms of COVID-19 reported in the literature [18, 19]. Participants were asked why they did not opt for SARS-CoV-2 diagnostic test despite having COVID-19 like symptoms and the options to choose from included: lengthy testing process, insufficient sample collection booths, fear of being quarantined, fear of being socially stigmatized if tested positive, fear of being infected during sampling, and nothing would happen if infected. Self-reported patients were also asked what measures they took after having COVID-19 symptoms; the options included: took treatment at home, treated at a hospital, consulted with a medical doctor in a private chamber physically, sought advice from family or known medical doctor through telemedicine, consulted with nearest drug seller, asked advice from call centre set by the government, self-medicated, did not ask any advice. Participants were also asked whether they took alternative medicines, maintained social distance, followed lockdown restrictions, and if they have any family member having similar COVID-19 like symptoms within the last two weeks of the survey.

## **Statistical analyses**

Completed data were managed using REDCap electronic data capture tool hosted at BRF[20]. The data were analyzed using IBM SPSS (Statistical Package for the Social Sciences) version 25.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics including frequency and percentage were done to describe the demographic characteristics; the percentage was done to describe the symptomatic clinical profile and patterns of HSB of COVID-19 symptomatic individuals. Inferential statistics including binary logistic regression model was done to describe the associations between socio-demographic variables and HSB of the study sample. Exposure variables having  $P < 0.05$  level of significance in bivariate analysis were entered to construct the final model of multivariable logistic regression analysis. Adjusted odds ratio (AOR) was obtained by clustering variables at the individual level. AOR and CI (Confidence Interval) were presented with the P-value set at  $< 0.05$ .

## **Ethical approval**

Ethics approval and formal permission for data collection for this study was obtained from Biomedical Research Foundation, Bangladesh (Ref. no: BRF/ERB/2020/003)

## Results

A total of 390 self-reported symptomatic patients were enrolled who did not opt for the COVID-19 diagnostic test. The majority (75.6%) of participants was between the age of 18 to 30 years and only 6.7% belonged to the age group of 40 years and above. More male (79.5%) and urban-dwelling residents (80.3%) participated in the survey. About 45% had a bachelor's degree followed by 25.9% of post-graduation degrees such as master's and Ph.D. and 29.2% with higher secondary degree (up to 12 grade). About half of the participants (49.2%) were students, followed by service holders (31.8%), and businessmen (5.9%). Less than one-fifth (13.1%) were without jobs or retired or housewives. Interestingly, about 90% of the respondents reported that they do not smoke. **Table 1** shows the detailed demographic data.

**Table 1:** Demographic characteristics of the participants

Variable	Frequency (n)	Percentage (%)
<b>Age</b>		
18 to <30	295	75.6
30 to <40	69	17.7
40 and over	26	6.7
<b>Sex</b>		
Female	80	20.5
Male	310	79.5
<b>Dwelling</b>		
Urban	313	80.3
Rural	77	19.7
<b>Education</b>		
Up-to 12 grade	114	29.2
Bachelor	175	44.9
Masters and PhD	101	25.9
<b>Profession</b>		
Jobless/Housewife/Retired	51	13.1
Student	192	49.2
Business	23	5.9
Service	124	31.8
<b>Income</b>		
<15k	73	18.7
15k -25k	100	25.6
25k - 50k	106	27.2
50k and above	111	28.5
<b>Smoking</b>		
Yes	42	10.8
No	348	89.2

The symptomatic participants described fever as being the most common symptom (77.7%), followed by cough (50.5%), cold (48.2%), tiredness (46.7%), headache (46.2%), body pain (36.4%), sore throat (35.6%), and anosmia or smell loss (31.3%). A minority of participants reported anorexia (13.8%), diarrhea (11.4%), and breathing difficulty or dyspnea (11.3%). **Figure 1** illustrated the symptomatic clinical profile of the participants.

**Figure 1:** Symptomatic clinical profile of the participants

Most of the study participants took medication at home (68%); some reported taking advice from a personal network (38%), and others took medicines from personal experience (37%). About 11% of the respondents did not receive any type of medical care. Only 4% took advice over the phone from the government hotline number, and 4% visited a doctor's chamber. **Figure 2** illustrated the pattern of medical care sought after having covid-19 like symptoms.

**Figure 2:** Pattern of medical care sought after having COVID-19 like symptoms

There was a significant association between the sex of the participants and taking advice over the phone from personal networks ( $p < 0.007$ ). The income range was also associated with taking advice over the phone ( $p < 0.005$ ). Self-medication from personal experience was significantly associated with sex ( $p < 0.01$ ), dwelling place ( $p < 0.01$ ), and the income range ( $p < 0.01$ ). Age, type of profession, or educational qualification were not associated with any type of medical care pursued after having COVID-19 like symptoms (**Supplementary Table 1**).

**Table 2** shows the factors associated with seeking different types of medical care. Study participants who had the habit of smoking were more likely to seek advice over the phone from govt. hotline numbers (AOR: 8.78, CI: 1.98-38.89) and take medications at home (AOR: 2.20, CI: 0.98-4.95). Similar findings regarding taking medications at home were observed in the case of profession for the service holders (AOR: 3.30 CI: 0.30-36.17) compared to those who did not have a job or were retired or homemakers. Males were more likely to visit doctor's chambers (AOR: 3.02, CI: 0.36-25.12) as well as self-medicate (AOR: 1.92, CI: 1.04-3.5) than females. Participants from rural areas were 2.5 times more likely to purchase drugs from nearby stores (AOR: 2.54, CI: 1.15-5.62) and they had 89% of a higher chance of practicing self-medication (AOR: 1.89, CI: 1.08-3.31) compared to the urban dwellers.

**Table 2:** Factors associated with seeking different types of medical care

Variables	Take Medication at home	Doctors' chamber	Over phone advice from personal network	Over the phone from govt. hotline	Nearby drug store	Got Medications	Taken no medicine
	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)
<b>Age</b>							
18 to <30							
30 to <40	1.80(.87-3.71)	.25(.03-2.47)	1.41(.72-2.75)	.85(.09-8.30)	.59(.17-2.01)	.76(.38-1.56)	1.01(.38-2.70)
40 and over	.87(.33-2.27)	1.46(.19-11.01)	1.48(.58-3.79)	0.10(0.00-0.20)	.36(.04-3.54)	1.89(.71-5.01)	.54(.11-2.76)
<b>Sex</b>							
Female							
Male	.74(.41-1.36)	3.02 (.36-25.12)	.56(.32-.97)	.23(.06-.92)	.49(.21-1.16)	1.92(1.04-3.5)	1.08(.45-2.58)
<b>Dwelling</b>							
Urban							
Rural	.49(.28-.86)	1.74(.45-.6.59)	.58(.31-1.07)	.31(.03-2.9)	2.54(1.15-5.62)	1.89(1.08-3.31)	1.16(.51-2.64)
<b>Smoking</b>							
No							
Yes	2.20(.98-4.95)	2.09(.51-8.50)	.85(.41-1.78)	8.78(1.98-38.89)	.28(.06-1.32)	.74(.36-1.52)	.37(.08-1.67)
<b>Education</b>							
Up-to 12 grade							
Bachelor	1.29(.75-2.23)	.24(.06-1.05)	.97(.56-1.68)	.69(.19-2.49)	.57(.27-1.23)	1.03(.60-1.78)	.73(.33-1.62)
Masters and Ph.D.	1.36(.66-2.83)	.84(.16-4.36)	.93(.45-1.89)	0.01(0.00-0.11)	.36(.11-1.24)	.60(.28-1.25)	.63(.22-1.80)
<b>Profession</b>							
Jobless/HW/Retired							
Student	1.43(.71-2.91)	1.58(.18-14.31)	2.29(1.07-4.89)	1.83(.18-18.37)	2.81(.61-13.1)	1.16(.56-2.42)	.53(.20-1.37)
Business	.67(.23-1.98)	1.56(.10-28.5)	2.51(.82-7.69)	0.20 (0.11-0.50)	7.53(1.08-52.45)	.46(.13-1.60)	1.49(.37-6.06)
Service	.91(.43-1.96)	1.8(.17-19.7)	2.04(.92-4.54)	3.30(.30-36.17)	5.41(1.03-	2.57(1.17-	.81(.28-

					28.42)	5.66)	2.35)
Income							
<15k							
15k -25k	1.09(.57-2.13)	.80(.15-4.38)	.51(.25-1.03)	1.59(.16-16.34)	1.03(.43-2.50)	1.43(.75-2.73)	.46(.17-1.25)
25k - 50k	1.19(.59-2.37)	1.4(.26-7.54)	1.49(.76-2.9)	3.38(.36-31.46)	.54(.19-1.52)	.69(.34-1.38)	.84(.33-2.12)
50k and above	1.22(.59-2.49)	1.61(.28-9.35)	0.02(0.00-0.31)	1.19(.10-14.17)	.322(.10-1.08)	.68(.32-1.38)	.54(.19-1.52)
HW= Housewife/Homemaker							

The most common reasons for not choosing to go through COVID-19 testing was that the process was perceived by the respondents as time-consuming and complex (52%), followed by inadequate facilities for testing (48%), risk of being infected from the test centre (46%), fear of being socially stigmatized (19%), the consideration that COVID-19 will not cause any type of harm (18%) and being fearful of forced quarantine if tested positive (5%). **Figure 3** illustrated the reasons for not pursuing the COVID-19 test.

**Figure 3:** Reasons for not pursuing COVID-19 diagnostic test

A significant difference was found between male and female participants regarding the consideration that COVID-19 infection will not cause any harm ( $p < 0.005$ ). A similar association was found for the income range ( $p < 0.05$ ) and those who live in an urban area ( $p < 0.01$ ). The type of profession was significantly associated with the fear of social stigma ( $p < 0.01$ ), the consideration that there is an inadequate facility for testing ( $p < 0.01$ ), and that the testing process is lengthy and complicated ( $p < 0.03$ ) (**Supplementary Table 2**).

**Table 3** shows the risk factors associated with not opting for the COVID-19 test. The odds of male participants considering COVID-19 infection as harmless was 3.2 times higher (AOR: 3.2, CI: 1.28-7.98) than the female participants. Participants with an age range of 40 and over were more likely to consider the fear of social stigma (AOR: 2.45, CI: .88-6.83), the complexity of the testing procedure (AOR: 2.71, CI: 1-7.35), and the fear of forced quarantine (AOR: 4.07, CI: 0.76-21.69) as impediments to opt for COVID-19 test. Respondents with an income of 50,000 BDT or above were less likely to fear forced quarantine (AOR: 0.27, CI: 0.4-2.02) but more likely to consider the risk of being infected from the test centre (AOR: 1.75, CI: 0.88-3.49).

**Table 3:** Risk factors associated with not pursuing COVID-19 test

Variables	Time consuming and complex process	Inadequate facilities for testing	Fear of social stigma	Fear of forced quarantine of tested positive	Risk of getting infected from the test centre	If infected nothing will happen
	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)	Adj. OR (95% CI)
<b>Age</b>						
18 to <30						
30 to <40	1.69 (.88-3.25)	.79 (.41-1.5)	.59 (.24-1.44)	.92 (.21-3.97)	1.05 (.55-2.03)	1.31 (.54-3.15)
40 and over	2.71 (1-7.35)	1.08 (.42-2.74)	2.45 (.88-6.83)	4.07 (.76-21.69)	.77 (.3-1.97)	.4 (.08-2)
<b>Sex</b>						
Female						
Male	.83 (.48-1.143)	1.81 (1.05-3.13)	1.42 (.68-2.97)	1.1 (.27-4.43)	.73 (.43-1.26)	3.2 1.28-7.98
<b>Dwelling</b>						
Urban						
Rural	.99 (.57-1.72)	.64 (.37-1.11)	1.16 (.58-2.28)	1.54 (.5-4.72)	.47 (.26-.85)	1.79 (.95-3.4)
<b>Smoking</b>						
No						
Yes	.67 (.34-1.33)	.81 (.41-1.59)	.6 (.21-1.64)	1.28 (.32-5.13)	.9 (.45-1.78)	0.52 (.2-1.37)
<b>Education</b>						
Up-to 12 grade						
Bachelor	.61 (.34-1.33)	1.12 (.67-1.87)	.56 (.28-1.08)	.56 (.19-1.71)	1.02 (.6-1.7)	.59 (.31-1.1)
Masters and PhD.	.67 (.34-1.31)	1.32 (.68-2.64)	.86 (.38-1.98)	.47 (.1-2.17)	.68 (.34-1.35)	.28 (.11-.73)
<b>Profession</b>						
Jobless/HW/Retired						
Student	.76 (.39-1.48)	.84 (.43-1.63)	.33 (.16-1.89)	.6 (.13-2.8)	1.78 (.88-3.57)	.57 (.24-1.33)
Business	1.01 (.35-2.89)	.98 (.35-2.77)	.57 (.17-1.89)	1.73 (.26-11.39)	1.17 (.39-3.49)	0.55 (.14-2.21)
Service	1.41 (.68-2.91)	1.65 (.8-3.41)	.4 (.17-.93)	1.53 (.31-7.56)	1.84 (.87-3.89)	.78 (.3-2)
<b>Income</b>						
<15k						
15k -25k	1.3 (.69-2.46)	1.29 (.68-2.45)	.84 (.38-1.85)	1.75 (.45-6.77)	1.43 (.74-2.76)	.84 (.4-1.8)
25k - 50k	1.56 (.81-3)	1.39 (.72-2.68)	.94 (.42-2.1)	1.17 (.253-5.42)	1.54 (.79-2.99)	.54 (.23-1.27)
50k and above	1.01 (.51-2.01)	.85 (.43-1.69)	.63 (.26-1.53)	.27 (0.4-2.02)	1.75 (.88-3.49)	1.15 (.51-2.61)
HW= Housewife/Homemaker						

## Discussion

To the best of our knowledge, this study is the first of its kind in Bangladesh to investigate the health-seeking behaviour of symptomatic patients during the COVID-19 epidemic and to describe why people chose not to undergo COVID-19 diagnostic testing or seek medical care despite being symptomatic.

Males comprised of the majority of the participants in this study which was expected since there are more male Facebook users (68.4%) in Bangladesh[21]. The higher percentage of male participants was also in line with the disproportionate case ratio observed in Bangladesh. Nearly 71% of COVID-19 cases and 77% of deaths occurred in the male population[1]. This is similar to what has been observed in studies conducted around the world[22, 23]. One particular exception is the case of India where males shared the higher burden of COVID-19 infection, but females recorded a significantly higher death rate[24]. Interestingly, compared to females, male participants in this study were more confident about recovering from COVID-19, which might result in negligence to comply with personal safety guidelines. Among our study participants, all of whom were symptomatic, was in the age range of 18 to 30 indicating the previous findings that young were predominantly more affected in COVID-19 infection[1]. One initial study conducted in the UK showed that young men were more likely to show non-compliance to lockdown measures which may contribute to a higher infection proportion[25]. However, it is important to note that participants in our study, despite being highly educated, did not comply with the government-directed health guidelines. It is thus highly plausible that people with limited education may have more antagonistic behaviour towards seeking health. Since health service utilization is directly influenced by health literacy, it is an urgent need to invest more in health literacy programs[26].

The symptomatic profile of the participants in this study corresponds to another study conducted among Bangladeshi patients and is also similar to findings observed in China, Japan, Spain, Italy, and the USA as fever being the most common symptom whereas studies from Australia, the UK, Iceland, and a few other European countries showed cough as the most prevalent symptom[27, 28]. A recent study showed that there is no significant association between the SARS-CoV-2 new variants and the symptoms, which indicates that the variation in symptoms across different geographic regions is likely due to outcomes of complex host-pathogen interactions[29].

Self-medication was highly prevalent among the participants and they received advice mostly from personal networks. By contrast, a smaller number of people visited doctors or used the govt. hotline telehealth service. Smokers, however, were found more likely to take medications at home and seek advice via govt. telehealth service. This might be explained by media news about smokers being more susceptible to respiratory diseases and COVID-19. Among the most common medicines, ivermectin, azithromycin, and doxycycline were reported[30]. Self-medication was also more apparent in rural areas where people have a general lack of awareness about COVID-19. One study assessed that people in rural areas are better communicated with through direct discussion over the phone compared to text messages [31]. The authors also noted a higher proportion of women complying with the COVID-19 safety guidelines than men.

The most important findings of our study are the reasons why people refrained from COVID-19 diagnostic testing despite being symptomatic. The process was considered time-consuming and complex by the majority of the participants. One study reported that the average number of days between testing and receiving the result was 5 days in Sylhet to 10 days in Khulna[32]. The study also described the lack of a skilled workforce to run the RT-PCR tests, and the regional disparity in the availability of the testing centre as major hurdles in increasing the test numbers. For instance, only 30 out of 64 districts had testing facilities as of June 30, 2020, whereas Dhaka city alone had 42 out of 68 operating testing centres[32]. This centralized healthcare facility was perhaps the second most reason why participants in our study considered that there were inadequate facilities for testing. If the testing was done at a more improved rate, as one study reported, the number of positive cases would have increased by nearly 3.7 times[7].

Interestingly, people with a higher income range were less likely to fear forced quarantine than people with the low- and middle-income range. This indicates a sharp disparity in the social hierarchy as people with secured income or savings found it easy to abide by the stay-at-home orders or forced quarantine. This finding has important implications for lockdowns measures and their effect on people with lower income. According to the findings of the Hrishipara Daily Financial Diaries project, the low-income households suffered measurably due to lockdowns to the extent of witnessing of total disappearance of monthly income[33]. Families that were clients of microfinance providers (MFIs) found it difficult to obtain a loan or withdraw savings since MFIs were shut down during lockdown[34]. A study from BRAC revealed that people living in the rural areas had had considerably higher net income loss than their urban counterparts during the first phase of the pandemic[35].

Social stigma during the early phase of the pandemic also played a vital role in preventing people to test for COVID-19. Social stigma is a common occurrence in an epidemic as it has been observed during SARS and HIV[36]. However, the extent to which stigmatization presented itself during COVID-19 was remarkable as the infectious disease generated widespread panic among everyone. People chose not to test for COVID-19 because testing positive in the COVID-19 test would force them to leave their rented apartment, stay away from family, or lose jobs[37]. Hatred, xenophobia, and denial of treatment were widespread to the extent of hospitals rejecting patients with flu, cough, or breathing difficulties[37]. The infodemic and disinformation regarding COVID-19 were, in part, contributed by yellow journalism and social media influencers. It is recommended that more research should be conducted on how to prepare for a future epidemic and to make better use of public health risk communication.

Our study has a few limitations. Firstly, due to its online nature, the collected data were dependent upon the honesty and recall ability of the participants. Secondly, the use of a non-probable sampling method implies that our findings are context-specific and are not grossly generalizable. Thirdly, we were unable to recruit a large number of people because the survey was done over a short period to capture the early stages of the epidemic. However, given the paucity of research done in this area, we believe our work establishes a baseline for future studies to construct evidence-based guidelines to improve the health-seeking behaviour of patients during epidemics.

## Conclusion

Understanding how people seek medical help during epidemics is critical for preventing disease spread. Our study has revealed that, despite having higher education, the health-seeking behaviour of people can be in stark contrast to national guidelines. People were hesitant to take the COVID-19 test or seek medical advice from government emergency numbers due to the lack of availability and complexity of the testing process, as well as fear of social stigma and the risk of becoming infected. The refusal of the educated class of the society to comply with the public health guidelines infers a general lack of trust in the healthcare service during the pandemic. In addition to infrastructural improvements, effective public health risk communication and improved health literacy measures are essential for restoring public confidence in the healthcare system.

## List Of Abbreviations

HSB = Health seeking behaviour

RT-PCR = Reverse transcription polymerase chain reaction

REDCap = Research Electronic Data Capture

BRAC = Bangladesh Rural Advancement Committee

MFI = Microfinance Institution

## Declarations

### Ethics approval and consent to participant

Ethics approval and formal permission for data collection for this study was obtained from Biomedical Research Foundation, Bangladesh (Ref.no: BRF/ERB/2020/003)

### Consent for publication

Not applicable

### Availability of data and materials

Not applicable

### Competing interests

The authors declare that they have no competing interests

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### **Authors' contributions**

MHBS drafted the manuscript, MMH and MMR conducted the statistical analyses, RRR contributed to manuscript drafting, MSH conceptualized, designed, and supervised the study.

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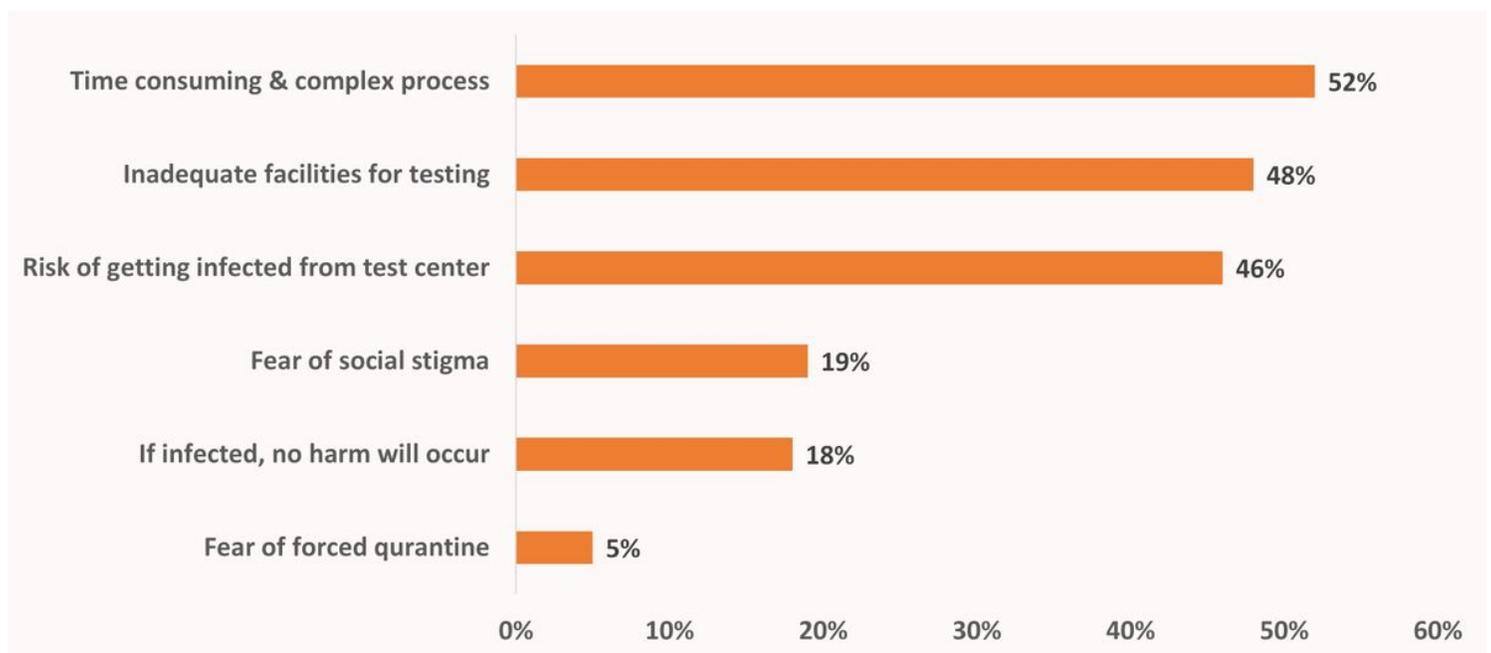
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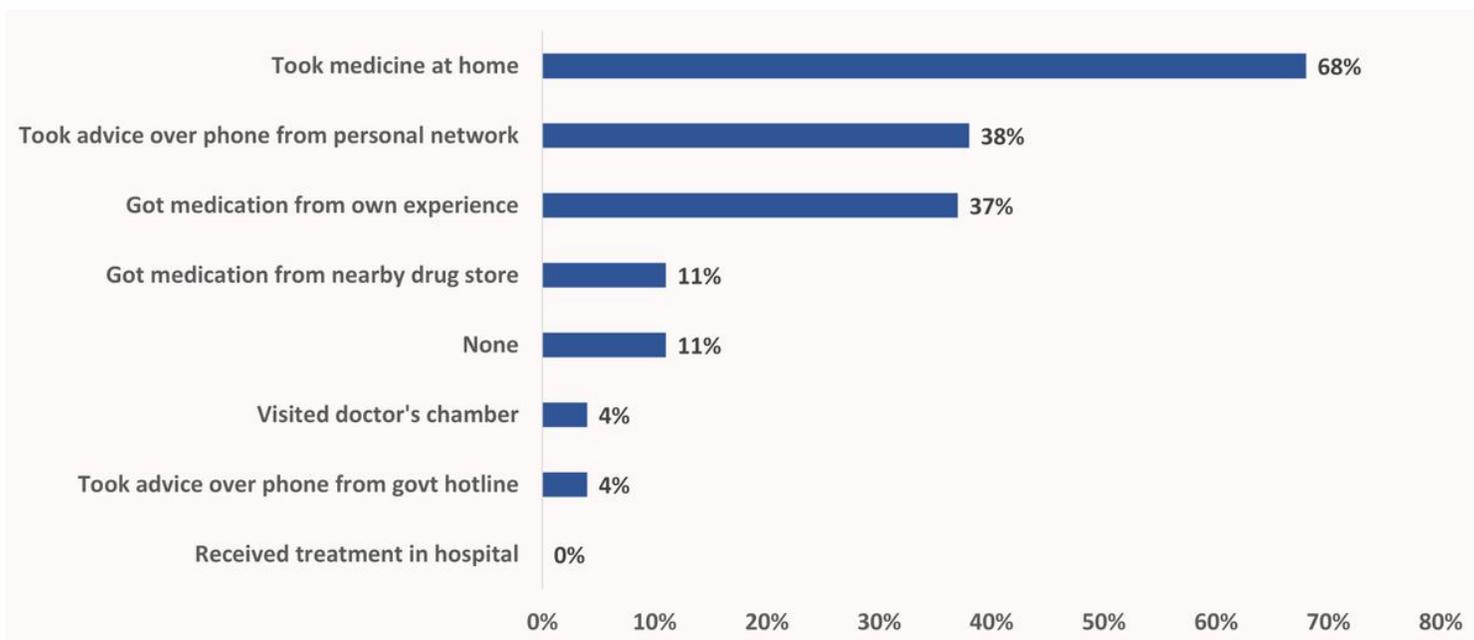
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## Figures



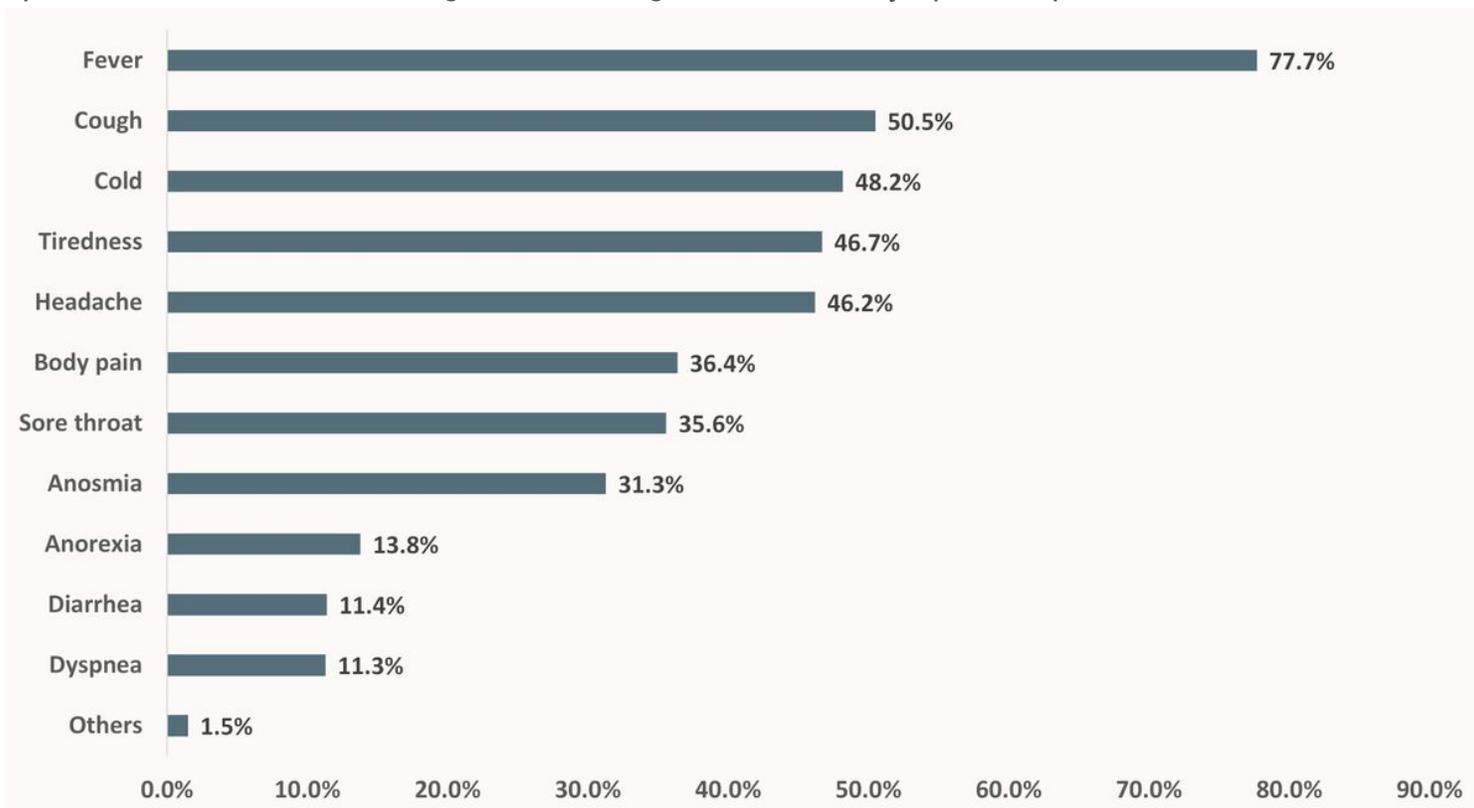
**Figure 1**

<p>Symptomatic clinical profile of the participants</p>



**Figure 2**

Pattern of medical care sought after having COVID-19 like symptoms



**Figure 3**

Reasons for not pursuing COVID-19 diagnostic test

## Supplementary Files

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