

# The scenario of healthcare sector during covid-19 pandemic in Bangladesh: service perspectives

## Abstract

The study investigated the scenario of the healthcare sector during the COVID-19 pandemic. A survey questionnaire was developed to collect 203 respondents. A five-rating Likert Scale and open-ended questions were applied to collect data from respondents. A non-probability convenience type sampling technique was applied to collect respondents' opinions about COVID-19 effects on healthcare. Due to the coronavirus pandemic, people maintain lockdown, isolation, and social distance for their health concerns. By maintaining lockdown, people lose their jobs, which create a negative impact on their income and expense capabilities. During pandemic periods, patients were less likely to visit hospitals for their treatment. Patients are preferring home treatment due to the corona pandemic. Patients are taking telehealthcare services because of fear of infection by the coronavirus. The research paper provides applied guidelines for patients, doctors, nurses, and pharmacy technicians to adjust to the current pandemic situation and any future pandemic situations. The findings of this study influenced doctors to provide telehealthcare services to patients. The research paper is one of the first in Bangladesh that has been supported by an intact research area, providing pragmatic proof regarding the belongings of the scenario of the healthcare sector during the COVID-19 pandemic.

**Keywords:** Bangladesh, corona pandemic, lockdown, telehealth, home treatment, paired samples t-test

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## Introduction

Novel coronavirus has resulted in an embodied palliation in financial performance types all over the world. The first patient of COVID-19 was indicted in December in Wuhan, China, and the rapid coronavirus spread around the globe.<sup>1</sup> The World Health Organization (WHO) pronounced that coronavirus is a pandemic. This pandemic situation has caused voluminous lockdowns in all forms of economic activity and stopped the education of people who are infected with coronavirus as well as different forms of the disease.<sup>2</sup> There are two reasons why the situation in Bangladesh is critical. The first reason is that the exact number of coronavirus infected patients is still unclear for the reason that it is very low in Bangladesh. The second reason is that ICU facilities are highly inefficient for coronavirus infected patients. Dhaka city has the maximum number of ICU beds at 79. Patients nowadays take online-based suggestions and treatment for their safety and security.<sup>3</sup>

A new coronavirus (COVID-19) alters consumer behavior in the services sector. Patients', tourists', and passengers' behavior changes because of the corona pandemic. People maintain social distance, lockdown, home quarantine, fear of coronavirus-infected people, safety and security, mental pressures, government rules and regulations, and health concerns have changed the behavior of the consumer. These variables change the consumer's income, expenses, participating in class, visiting hospitals and tourism spots, participating in various online courses, and using mask and telehealth services.

The patient's behavior has changed during the corona pandemic. Patients take telehealthcare services from home due to the corona pandemic. Due to the coronavirus pandemic, patients are adopting social distancing practices, specifically recommending that health care facilities and providers offer clinical services through virtual means such as telehealth.<sup>4</sup> The patients are now used to taking preventive measures or home treatment.<sup>5</sup> This paper might help the medical authorities, physicians, doctors, and nurses to understand changing

consumer behavior due to the coronavirus pandemic. During the COVID-19 pandemic and after the Corona pandemic, doctors should use telemedicine services for their patients.

The main objective of this research paper is to measure the scenario of healthcare sector during COVID-19 pandemic in Bangladesh. The specific objectives are to identify the shifts in patient behavior due to the corona pandemic and find out the changes in patients' behavior (income, expense, visiting, telehealth, home treatment) in pre and during the corona pandemic.

There are given the following research hypotheses:

- H1: There is change in respondents' income in the context of the corona pandemic.
- H2: There is change in the respondent's budget for healthcare in the context of the corona pandemic.
- H3: The proportion of respondents visiting hospitals has changed in the context of the corona pandemic.
- H4: There is change in respondents' telehealth in the context of the corona pandemic
- H5: There is change in respondents' home treatment in the context of the corona pandemic.

## Research methodology

### Research Area

The study was conducted in Dhaka and the Chattogram Division in Bangladesh.

### Research design and sample size

The research design was applied when the collection of data and analysis of data processed by combining them were used in the

research.<sup>6</sup> This study was carried out based on quantitative data, and the researchers used a self-administration questionnaire, also called an open-ended questionnaire, to analyze the scenario of the healthcare sector during the COVID-19 pandemic.

### Methods of research data collection

The research paper applied primary and secondary data to prepare the study and make it more presentable. Primary data was collected via a survey and developed questionnaire. Business market research might use a questionnaire technique to collect consumer and customer opinion.<sup>7</sup> Primary data was collected through questionnaires from patients, doctors, nurses, students, service holders, and so on. This research paper also used secondary data that was collected from articles, books, and newspapers.

### Method of sampling

Sampling Unit: Population with similar attitudes and behavior toward a thing as the entire population.<sup>8</sup> These people used social media and their age was above 15 years old. They are considered the population of this study.

Sampling Technique: In this study, convenience sampling techniques and non-probability sampling methods were used to select respondents for the study. The researcher collected data by distributing the questionnaire through Google Form Link and sharing this link with different convenient people.

Sample Size: The sample (N = 203) was collected from the Dhaka and Chattogram divisions among eight divisions of Bangladesh.

### Measurement scale

The study used the Nominal Scale, Ordinal Scale, Likert Scale (5 ratings), and open-ended questions. The nominal scale and ordinal scale are used for demographics like age, gender, occupation, and so on. The Likert Scale is used for respondents' individual opinions about the scenario of the healthcare sector during the COVID-19 pandemic. Open-ended questions about known customers' opinions about buying behavior before and during the corona pandemic.

### Data quality assurance

Enumerators and supervisors learned about this study objective, data collection technique, questionnaire, and scale. On a daily basis, the data is gathered correctly by supervisors and the data extensiveness and reliability are tested before input to SPSS version 23 for more treatment as well as analysis.

## Results and findings

### Respondent's demographic characteristics

Among these, 65% of respondents were men and 35% of respondents were women in this study. Married respondents comprised 32.5% of the sample, while unmarried respondents comprised 67.5%. Among these, age groups 26 to 30 and 36 to 40 were respondents, 38% and 18%, respectively. Among these, 9%, 8%, 18%, 24%, 33%, and 8% of respondents were from SSC, HSC, Under-graduate, Graduate, Post-graduate, and PhD respectively. Among 203 respondents, 24%, 20%, 12%, 21%, 14%, and 19% of respondents were students, teachers, nurses, service holders, unemployed, and others, respectively (Table 1).

### Descriptive statistics analysis

The healthcare sector is affected by the corona pandemic. Among these, 58.6% and 21.2% of respondents agree and strongly agree

that consumer medicine demands are increasing due to the corona pandemic. COVID-19 increases health awareness among consumers; this statement 57.1% and 27.6% of respondents agree and strongly agree, respectively, and 64.5% agree that consumers are less trusting of private hospitals for their faulty activities. 68.5% and 19.2% of respondents agree and strongly agree that patients prefer home treatment during the corona pandemic (Table 2).

**Table 1** The demographic characteristics of the respondents

Gender	Frequency	Percent
Men	132	65
Women	71	35
Marital Status	Frequency	Percent
Married	66	32.5
Unmarried	137	67.5
Age	Frequency	Percent
15 to 20	19	9
21 to 25	29	14
26 to 30	76	38
31 to 35	19	9
36 to 40	36	18
41 to up	24	12
Educational Qualification	Frequency	Percent
Secondary School Certificate (SSC)	17	9
Higher Secondary Certificate (HSC)	16	8
Under Graduate	27	18
Graduate	49	24
Post-Graduate	67	33
PhD	17	8
Occupation	Frequency	Percent
Student	50	24
Teacher	40	20
Nurse	24	12
Services Holder	42	21
Unemployed	28	14
Others	19	19
Total	203	100

Source: Software output

### Paired sample T-Test

The dependent t-test, also called the paired sample t-test in SPSS Statistics, compares the mean between two related groups on the same continuous, dependent variable. There are four assumptions about the paired sample t-test. Assumption-1: A continuous scale is used for measuring the dependent variable, Assumption-2: An independent variable must be composed of two connected categories. Assumption 3: The deviation between two related groups should not vary significantly. Assumption-4: The difference between two connected categories of the dependent variable is approximately normally distributed.

The above table (Table 3) specifies that the COVID-19 impact on the healthcare sector compares between before the corona pandemic and during the corona pandemic. To test the hypothesis that consumer income means before the Corona pandemic (M = 18960) and during the Corona pandemic (M = 10581),  $t(202) = 5.243$ ,  $r = (.697)$  and the significant level p-value is less than (.05). So, the null hypothesis is rejected and the alternative hypothesis (H1) is accepted. Consumer monthly healthcare budgets before and during the Corona pandemic (M = 936.90 and M = 1283.3),  $t(202) = -5.042$ , and the significant level

p = (.000) is less than the significant level (.05). So, the null hypothesis is rejected and the alternative hypothesis (H2) is accepted. The mean value of patients' visits to hospitals before the corona pandemic (M = 2.4581) and during the corona pandemic (M = 2.1232), correlation r = .539, and the p-value (.110) is more than the significant level (.05). So, the null hypothesis is not rejected and the alternative hypothesis (H3) is not accepted. Patients' visits to hospitals increased during the corona pandemic. The mean value of patients' use of telehealth before

the corona pandemic (M = 1.7389) and during the corona pandemic (M = 3.9064), correlation r = .455, and the p-value (.000) is more than the significant level (.05). So, the null hypothesis is rejected and the alternative hypothesis (H4) is accepted. The mean value of patients' take home treatment before the corona pandemic (M = 3.1182) and during the corona pandemic (M = 9.4729), the correlation r = .299, and the p-value (.000) is more than the significant level (.05). So, the null hypothesis is rejected and the alternative hypothesis (H5) is accepted.

**Table 2** Descriptive statistics analysis

S,L	Item	F&P	SD	D	N	A	SA	Total	Mean
1	The demand for medicine	Frequency	13	14	14	119	43	203	
		Percent	6.4	6.9	6.9	58.6	21.2	100	3.8128
2	COVID-19 increases health awareness among people	Frequency	4	4	23	116	56	203	
		Percent	2	2	11.3	57.1	27.6	100	4.064
3	Online medication is getting popular nowadays	Frequency	8	22	16	126	22	150	
		Percent	3.9	10.8	7.9	62.1	15.3	100	3.7389
4	Private hospital nowadays less reliable faulty activities	Frequency	1	11	36	131	24	203	
		Percent	0.5	5.4	17.7	64.5	11.8	100	3.8177
5	People avoid visiting the hospital	Frequency	3	16	21	119	44	203	
		Percent	1.5	7.9	10.3	58.6	21.7	100	3.9113
6	Rarely go to the hospital for financial problem	Frequency	7	21	51	103	21	203	
		Percent	3.4	10.3	25.1	50.7	10.3	100	3.5419
7	Home treatment	Frequency	12	10	3	139	39	203	
		Percent	5.9	4.9	1.5	68.5	19.2	100	3.9015
8	Increased people expenditure on medication	Frequency	3	18	27	117	38	203	
		Percent	1.5	8.9	13.3	57.6	18.7	100	3.8325
9	Doctor and nurse are avoiding corona virus-infected patient	Frequency	13	22	27	88	53	203	
		Percent	6.4	10.8	13.3	43.3	26.1	100	3.7192

Source: Software output

**Table 3** Paired sample T-Test on the impact in healthcare sector before and during corona pandemic

Item	Before Corona Pandemic	During Corona Pandemic	Mean Difference	Standard Deviation	Correlation (r)	t	Sig. (2-tailed)
	Mean	Mean					
Monthly income	18960	10581	8379	22768	0.697	5.243	0
Monthly budget for healthcare	936.9	1283.3	-346.4	978.78	0.792	-5.042	0
Visit hospital	2.4581	2.1232	0.33498	2.57676	0.539	1.852	0.11
Use telehealth	1.7389	3.9064	-2.16749	4.28577	0.455	-7.206	0
Take preventive measure/home treatment	3.1182	9.4729	-6.35468	8.71906	0.299	-10.38	0
Overall Mean & Std. Devi	3253.64	1948.52	1305.18	2319.93			

Source: Software output

## Discussion

In light of the analysis and findings, it is clear that the coronavirus pandemic has a relationship with healthcare. Consumers' medicine demands are increasing because of the corona pandemic, and people are more health-conscious. Consumer expenses are increasing to purchase medicine, and patients prefer home treatment to hospital visits. Consumer income is decreasing but the healthcare budget is increasing due to the corona pandemic. There has been no significant difference between consumers visiting hospitals before and during the corona pandemic. Due to the corona pandemic, patients are more likely to take telehealth and preventive measures/home treatment. So, COVID-19 impacted the healthcare sector in Bangladesh.

## Literature review

### Lockdown/ Isolation

Coronavirus recently revealed that it's a disease that can be transferred from one person to another. The governments of different countries took steps like isolation, lockdown, and quarantine to minimize COVID-19's negative effects. People who maintain quarantine are facing mental stress and financial hardship. With the decline in interpersonal agreement and community functions, different psychological complications have emerged and perversities are being reported.<sup>9</sup> The novel coronavirus 2019 pandemic has shifted health care, faced problems with supply limitation and fright of shipment.

We announced the clinical habit model shifts in a head and neck surgery unit of a tertiary cancer epicenter and practiced the expression outskirts of a different form of care during the corona pandemic.<sup>10</sup> The novel coronavirus is a bit challenging in the present situation around the globe. With no annotation and insufficient medical facilities to treat coronavirus-infected patients, non-pharmaceutical interventions (NPI) are the primary strategy for containing the COVID-19 pandemic. Infrequent world travel abridgments, as well as home quarantine command, are creating a greater acute breakdown of the world economy than since World War II.<sup>11</sup> Because of the corona pandemic, lockdowns, isolations, and government rules and regulations have had a significant impact on consumer income and consumption.<sup>12</sup> Due to the corona pandemic, consumers faced problems like mental stress, depression, and physical stress, and so on (H1, H2).<sup>13</sup>

### Social distance

People's social distance, government rules and regulations, and consumer behavior are changing due to the corona pandemic. The article emphasized consumer safety and security.<sup>14</sup> During the corona pandemic, people may suffer from mental stress from maintaining social distance, isolation, and home quarantine in the early and late stages of quarantine.<sup>15</sup> Our social behaviors have been changed because of the ongoing corona pandemic situations. In corona pandemic time, media reports have shown vivid changes in constituent use, physical movement, diet, and sleep, which may create consequent downstream psychological health consequences (H3).<sup>16</sup>

### Health concerns/ safety and security

Signs of a corona pandemic might be light. The improvement of conceited strategies for health carefulness labors who have respiratory disease ought to be delivered. Healthcare workers should be taken care of and give treatment to corona-affected patients when they are tested. Vaccination facilities are available. Workforce safety is necessary for caring for patients. During the corona pandemic, doctors were giving telemedicine and suggestions for the corona-infected patients and also infected others.<sup>17</sup> Cross-infection amongst patients decreased to the lowest point by properly embodied inpatient and outpatient units. Personal protection elements should be present when surgery is performed by doctors. Apropos the corona pandemic threats adequately, incredible shifts in the arrangement of outpatient and inpatient units, and handling accommodations are essential and also increase the demands for personal protection equipment significantly during the corona pandemic situation.<sup>18</sup> People are concerned about coronavirus and that creates mental pressure and emotional exposure because of their fear of diseases and infections by coronavirus. Another study claimed that females are more stressed, frightened and anxious about the corona pandemic than males.<sup>19</sup> Due to the coronavirus pandemic, humans faced a threat that turned into a pandemic. From previous expertise prevalence, we know that our clinical activities should be more elaborate than before the corona pandemic and also properly utilize our medical equipment.

Coronaviruses impact our physical and psychological behavior.<sup>20</sup> During the corona pandemic, general people faced depression and anxiety in the early stages of the disease, and pregnant patients' mental stress increased, but they are trying to adjust to pandemic situations.<sup>21</sup> There is significant inactivity for people's health to backpedal the corona pandemic. They have to give even-driving pharmaceutical care, learning people about infection prevention and providing drugs for patients.<sup>22</sup> During a pandemic, whether it is striking in developing or developed countries, to meet the large demands of PPE, the authorities should increase the distribution and production in response.<sup>23</sup> Due to the corona pandemic, consumer behaviors are

changing like demographic factors and depression, anxiety, and sleep disorders. Due to the coronavirus pandemic, doctors, patients, and physicians faced a big problem as well, as they have been changed in medical activity (H4, H5).<sup>24</sup> (Figure 1)

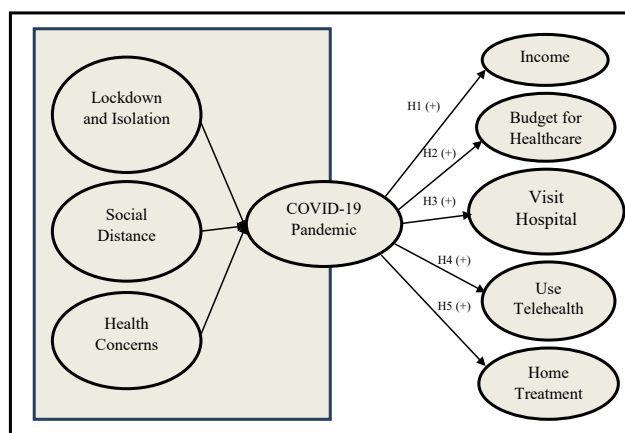


Figure 1 Conceptual framework.

Source: Author's Development

## Limitations and future research

There are a few limitations we have faced while preparing this research paper. The most significant limitations are: this research topic is new; the articles related to the scenario of the healthcare sector during the COVID-19 pandemic; and convenience sampling is used in this research paper, so biases may occur in our study. There are some guidelines given for future research so that they will overcome this study limitation. Future research will consider a large sample size and experimental design. Future research may consider collecting sample sizes from different platforms and cultures.

## Conclusion and implications

The findings have shown that the Corona pandemic impacts the behavior of consumers, patients, doctors, nurses, and others who are directly related to the healthcare sector. Government rules and regulations, social distance, isolation, health concerns, and psychological stress impact the healthcare sector. Consumer income and purchasing capability were reduced for the jobless due to the corona pandemic. Patients are now preferring home treatment and preventive measures for healthcare. The hospital does not have sufficient ventilators, a coronavirus test kit, and personal protective equipment (PPE) for the treatment of coronavirus affected patients. During COVID-19, patients receive more home treatment and telehealth services than normal. Consumer expenditure is increasing for medication due to the corona pandemic. The study will help consumers, patients, doctors, nurses, hospital authorities, and retailers to understand how the coronavirus pandemic is impacting healthcare.

## Recommendations

Due to the coronavirus pandemic, people have been attacked by the coronavirus. So, hospital authorities should provide better services and expand their capacity to treat COVID-19 patients with sufficient primary supplies. They should also ensure adequate ventilators, personal protective equipment (PPE), and test kits. Hospital authorities should not engage in any faulty activities with patients so that patients have no negative perception of them.



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## Conflicts of interest

The authors declare that there is no conflict of interest.

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