Treatment Seeking Behavior among Post-COVID-19 Patients in Bangladesh

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Abstract:

The COVID-19 pandemic continues its devastating reign over the world, and Making effective strategies for determining and containing the virus has grown more crucial. Although developed nations can effectively control the spread and severity of the pandemic, less developed countries have difficulty implementing similar measures because of various issues such as understanding, attitudes, and behaviour for covid-19 intervention. Similarly, Bangladesh experience challenges in executing contagious virus management due to different intervention seeking knowledge and behaviour. This study explored the intervention-seeking behaviour of the Covid-19 treatment protocol who recovered from this deadly virus in Bangladesh. This quantitative study adopted a cross-sectional design, whereas a convenient sampling approach was utilized to collect data from 54 adult residents of Rajshahi and Chittagong in Bangladesh and conducted face-to-face or telephone-based depth interviews. Among 54 participants, males were n=40 (74.1%), and their mean age was 42.02 years. Common symptoms were cold n=12 (22.2%), fatigue n=8 (14.8%), fever n=7 (13%), coughing n=4 (7.4%) due to COVID-19 infection. The maximum isolation length was 8-14 days, n=30 (55.6%), and the mean was 15.24 days. Regarding intervention, Medicine was prescribed among n=35 (64.8%), and only n=2 (3.7%) received respiratory physiotherapy; home remedies n=25 (46.3%). While using Medicine, n=22 (40.7%) was highly concerning treatment behaviour among people with recovered from Covid-19. Medicine-taking is a popular and convenient method for intervention-seeking behaviour among people affected by Covid-19 in Bangladesh. The finding suggests that combating the covid-19 pandemic requires education and awareness about treatment-taking behaviour because only Medicine cannot decline the negative health impact of post-covid-19. Besides, proper rehabilitation is crucial in promoting the quality of life of the person with post-covid-19.

Key Words: Post Covid-19, Treatment, Seeking Behaviour.

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1.0 Introduction:

Following the identification of a group of patients with respiratory problems likely to be caused by a novel coronavirus in December 2019 in Wuhan, China called SARS-2 Covid, further known as COVID-19, arose as a new type of Coronavirus [1]. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic [2].

One important factor in determining a population's healthcare-seeking behavior (HSB) and, consequently, a nation's socioeconomic development, is health. A person's inaction, delay, or action after realizing they are no longer in excellent health or have a specific health issue and need to find a suitable solution to improve their health are all included in HSB. Many other low- and middle-income nations, lower-middle-income populations tend to have poorer healthcare-seeking behavior. Given that delaying care has been linked to higher patient morbidity, mortality, and health outcomes, poor health-seeking behavior is predicted to worsen with the COVID-19 pandemic [3].

2.0 Literature Review:

Historically, the term coronavirus disease 2019 (Covid-19) has been described by the World Health Organization (WHO), is a highly transmitted infectious disease which spreads through cough, breath, sneezing, speaking, and a droplet of the virus, while the causative agent is the SARS-CoV-2 virus [4]. In addition, The COVID-19 outbreak that first appeared in Wuhan, China, came as an unpleasant shock to the entire world [5]. Recent statistics revealed that the episode of the epidemic has been continuing in every nation. On September 23, 2022, the virus killed 6.5 million people and infected almost 614 million more, and Brazil, India, Europe and the United States were most badly impacted [7]. The increasing incident and death toll was the biggest concern of a global pandemic, and WHO declared that public health emergency all over the planet on March 11, 2020 [8].

Similarly, Low-income countries had the strongest hit by covid-19 in the health and economic sectors because of population density, overcrowding places, health inequalities, and lack of health care facilities [9]. At this point, Bangladesh is a more vulnerable country, whereas, on March 8, 2020, there was a report of the first confirmed case. Moreover, The Institute of Epidemiology, Disease Control and Research (IEDCR) report that on June 1, 2020, Bangladesh has 49,534 confirmed cases, 10,597 of which were successfully treated and 672 (1.36%) of which resulted in associated deaths [10]. Notably, according to IEDCR, 68% of COVID-19-positive cases were found in adults between the ages of 21 and 50. In contrast, initially recognized that the age distribution was more than 50 years which was the most life-threatening with [11] comorbidities like hypertension, diabetes, and heart disease [12]. Consequently, it is responsible for organ injury, shock, pulmonary lung infections, acute respiratory distress syndrome (ARDS), deep vein thrombosis, and pulmonary embolism [13].

Another significant aspect is that addressing and responding to Novel coronavirus is extremely difficult due to rapid transmission, recurrent infection, and reproductive frequency. Furthermore, vaccines or treatments have been clinically proven not efficacious [14]. Interventions protocol has been applied based on previous diseases such as malaria, Ebola, Middle East respiratory syndrome (MERS), severe acute respiratory syndrome (SARS), influenza and acute respiratory distress syndrome (ARDS), where medications, ICU, Home remedy, Respiratory Physiotherapy has a significant role in combating with it [15]. Nevertheless, regarding to public health experts, prevention is better than cure and implementing a prevention policy was a tremendous challenge in Bangladesh [17]; cause of a lack of knowledge, attitude and practice about disease and intervention, which are related to behavioral factors [14]. One population-based study explored that only 48% population had knowledge about covid-19 [10], but people's perception and knowledge of choosing an intervention have a crucial role in promoting health. In previous, plenty of evidence have done on knowledge, attitude and practice about covid-19 transmission, lockdown importance, social distance, and facial mask [10, 13, 14], but there has been limited research on intervention-seeking behavior among Covid-19 patients in Bangladesh.

3.0 Objectives of the Study:

i. To determine the intervention-seeking behavior attitude among adults who recovered from covid-19
ii. To identify socio-economic factors and correlations with intervention-seeking behavior.
iii. To analyze the knowledge of covid-19-related treatment approaches.

4.0 Limitations of the Study:

i. The sample size was insufficient to generalize the study findings.
ii. As this study was about the recent incident of covid, so there was lack of information's as the facts of covid 19 was still on process.
iii. The period of conducting this study period was short.

5.0 Methodology of the Study:

5.1 Study design:

To achieve the objectives, a descriptive cross-sectional study was conducted in the closest district in the Dhaka, Rajshahi and Chittagong divisions from 15th October 2020 to 15th February 2021.

5.2 Settings and participants:

54 individuals who resided in various districts within the Dhaka, Rajshahi and Chittagong divisions gave their approval to take part in the study. The research populations were those who had COVID-19 and recovered after taking medication, spent at least 14 days in hospital isolation, or were quarantined at home.

5.3 Data collection:

Before taking data, every participant was informed about informed consent and ethical issues that it did not harm them and that their information will only be used for research purposes and was kept secure to researchers only. The data was collected with a pre-piloted structured questionnaire in the native language for getting accurate information through both telephone and face to face (by maintaining ethics) interviews and from hospital data records through four Parts. Part 1 data was about on sociodemographic characteristics of patient's age, education, monthly income, BMI status, habituation to smoke etc. Part 2 collected the data on treatment related variables of covid 19 including its symptoms, treatment, diagnosis, duration etc. Part 3 data collected on medicines have taken along with their daily doses and duration and part 4 on recovery related variables. As soon as the data was obtained, it was recorded in Microsoft 2010 using a password-protected file and data input by independent data entry personnel to reduce bias. It protected both soft and hard copies by primary investigators and guaranteed the confidentiality of the data. Result has been expressed on table value. Inclusion criteria were all age group people, both male and female; those are mentally stable and undergo tests and were affected by COVID-19. People who wouldn't take part in the study or hadn't taken the COVID-19 test were excluded.

6.0 Analysis, Result & Discussion of the Study:

6.1 Data analysis:

A skilled statistician helped to analyze the data and associate the analysis. Data was analyzed with the updated version of SPSS and Microsoft Office Excel. Chi-square test were performed to find out the correlations among the variables. Additional research investigating for associations using odds ratios (OR) with 95% confidence intervals (CI) and including bivariate and multivariate unconditional logistic regression.

6.2 Result:

Regarding the study, among 54 participants male was n=40 (74.1%) and female n=14 (25.9%), the mean age of the participants was 42.02 years, most of the participants were from urban area n=39 (72.2%) rather than rural area n=15 (27.8%). Among the participants, n=47 (87%) was married, rest of them were unmarried n=6 (11.1%) and widowed n=1 (1.9%). Study showed that there were about n=32 (59.3%) participants from extended families and others from nuclear families n=22 (40.7%). The mean income was monthly 22481.48 BDT. The education status was higher secondary level in most of the participants as n=16 (29.6%) and higher educated was n=13 (24.1%). Among them n=33 (61.1%) had government job, n=9 (16.7%) was private job holder, n=5 (9.3%) was housewife and rest of the participants were either student

n=3 (5.6%) or did odd jobs n=3 (5.6%). The study also showed that less participants were habituated to smoke and mean BMI of participants was 23.57 (Table-1).

The common symptoms were cold n=12 (22.2%), fatigue n=8 (14.8%), Fever n=7 (13%), coughing n=4 (7.4%) due to COVID-19 infection. Among them n=33 (61.1%) went to get diagnostic test by themselves within <3 days n=13 (24.1%) of symptoms appears. Those were COVID-19 positive; they took isolation at hospital n=39 (72.2%), at Own house n=13 (24.1%) and in office n=2 (3.7%). Maximum isolation length was 8-14 days n=30 (55.6%) and mean were 15.24 days. Those who were affected, they were received medicine n=52 (96.3%) and the rest of all took home remedy n=7 (13%) and self-medication n=51 (94.9%). Only n=2 (3.7%) was advised for physiotherapy (breathing exercise) (Table-2).

Among the affected persons common drugs administration were Azithromycin n=46 (85.2%), Remdesivir n=44 (81.5%), Vitamic-C n=33 (61.1%), paracetamol n=35 (64.8%) (n=35), antihistamin n=20 (37%), Montelukast n=9 (16.7%), Sulbutamol n=2 (3.7%), Hydroxychloroquin n=1 (1.9%) and others drugs were n=21 (38.9%) (Table-3).

Those were affected among them some were maintained all treatment related advices n= 52 (96.3%) and n=2 (3.7%) did not maintain at all and among the participants, n=37 (68.5%) had very strong psychological status (mentality), whereas n=26 (48.1%) was afraid about treatment consequence/death. Those were recovered from COVID=19 among them believed that home remedy n=25 (46.3%) and taking medicine n=22 (40.7%) were the best methods of recovery within average (mean) 15.24 days. Among them n=19 (35.2%) was suffering from other chronic disease whereas n=35 (64.8%) wasn't and n=33 (61.1%) was feeling stress for further infections and n=21 (38.9%) did not. (Table-4).

Table-1: Sociodemographic Characteristics

Variables	Percentage and Frequency	
Age (year)		
<25 26-35 36-45 46-55 >55	11.1% (n=6) 31.5% (n=17) 7.4% (n=4) 33.3% (n=18) 16.7% (n=9)	Mean±sd 42.02±14.86
Education		
Illiterate Primary Secondary Higher secondary B.Sc/M.Sc Others (PhD, Postdoc, MPhil, MPH)	3.7% (n=2) 9.3% (n=5) 24.1% (n=13) 29.6% (n=16) 24.1% (n=13) 9.3% (n=5)	
Monthly income		
No income 1-20000bdt 20000-40000bdt >40000bdt	18.5% (n=10) 27.8% (n=15) 38.9% (n=21) 14.8% (n=8)	Mean±sd 22481.48±17187.90
Habituated to smoking		
Yes No	27.8% (n=15) 72.2% (n=39)	
BMI status		

Underweight <18.5 Normal weight (18.5–24.9) Pre-obesity (25.0–29.9) Obesity (30.0–34.9)	9.3% (n=5) 55.6% (n=30) 29.6% (n=16) 5.6% (n=3)	Mean±sd 23.5669±3.78

Table-2: Treatment related variable

Variables	Frequency (n)	Percentage (%)
Symptoms arises due to covid-19 infection		
Yes	22	40.7
No	32	59.3
Symptoms due to Covid-19 infection		
Fever	7	13.0
Cold	12	22.2
Sneezing	4	7.4
Coughing	4	7.4
Breathing difficulty	1	1.9
Sore throat	4	7.4
Fatigue	8	14.8
Others	4	7.4
Days of seek treatment after symptoms		
<3 days	13	24.1
4-7 days	6	11.1
>7 days	3	5.6
Advised from anyone to have diagnostic test		
Yes	21	38.9
No	33	61.1
Person advised to have diagnostic test		
Boss	13	24.1
Doctor	8	14.8
Self	33	61.1
Length of isolation		
1-7 days	1	1.9
8-14 days	30	55.6
15-21 days	18	33.3
22-30 days	5	9.3
		Mean±sd 15.24±4.71
Received medicine or a Prescription		
Received all medicine	35	64.8
Received some medicine	1	1.9
Only prescription	9	16.7
Did not receive anything	9	16.7
Advise from Physiotherapy Professionals (Respiratory)		
Yes	2	3.7
No	52	96.3
Therapeutic exercise		
Breathing exercise	2	3.7
Mechanical ventilation		
Yes	2	3.7
No	52	96.3
Satisfaction over health service providers behavior		
Very much	13	24.1
Much	12	22.2
Somewhat	5	9.3
Low	1	1.9
Very low	23	42.6

Table-3: medicines have taken along with their daily doses and duration (multiple responses)

Medication	Frequency (n)	Percentage (%)	Dose			Duration		
			Daily Dose	Frequency	Percentage	Days	Frequency	Percentage
Paracetamol	35	64.8	Once	3	5.6	2-7	21	38.9
			Twice	14	25.9	8-14	10	18.5
			Thrice	16	29.6	15-20	4	7.4
			Fourth	2	3.7	--		
Anti-histamine	20	37.0	Once	12	22.2	2-7	13	24.1
			Twice	8	14.8	8-15	7	13.0
Salbutamol	2	3.7	Once	1	1.9	7	1	1.9
			Twice	1	1.9	30	1	1.9

Montelukast	9	16.7	Once Twice Thrice	4 4 1	7.4 7.4 1.9	3-7 8-14 15-20 60	3 3 2 1	5.6 5.6 3.7 1.9
Vitamin c	33	61.1	Once Twice Thrice Fourth Fifth	9 17 5 1 1	16.7 31.5 9.3 1.9 1.9	3-7 8-14 15-21 22-30	6 15 6 6	11.1 27.8 11.1 11.1
Remdesivir	44	81.5	Once Twice	7 37	13.0 68.5	<7 8-14 15-21 >21	16 10 5 13	29.6 18.5 9.3 24.1
Hydroxy-chloroquine	1	1.9	Twice	1	1.9	5	1	1.9
Azithro-mycin	46	85.2	Once Twice Thrice	12 30 4	22.2 55.6 7.4	3-7 8-14 15-17	27 16 3	50.0 29.6 5.6
Others drug	21	38.9	-------	--------	--------	----------	--------	----------

Table No.-4: Recovery related variables

Variables	Frequency (n)	Percentage (%)
Evaluating mental state as recovered		
Very strong Strong Weak Very weak	37 6 5 6	68.5 11.1 9.3 11.1
Afraid of the treatment consequences or death		
Yes No	26 28	48.1 51.9
How much information did you have about your disease		
Very much Much Somewhat Low Very low	28 8 3 1 14	51.9 14.8 5.6 1.9 25.9
Any symptom produced		
Yes No	9 45	16.7 83.3
Specific symptoms		
Fever Cold Coughing Sore throat Others	4 5 1 2 1	7.4 9.3 1.9 3.7 1.9
Most effective method for recovery		
Taking medication Prayers Home remedy Others	22 6 25 1	40.7 11.1 46.3 1.9
Days required for complete recovery from covid-19		
1-7 days 8-14 days 15-21 days 22-30 days	1 30 18 5	1.9 55.6 33.3 9.3
Mean±sd	15.24±4.71	
Feel shame from expression of your disease		
None Very much Much Somewhat Low Very low	35 10 4 3 1 1	64.8 18.5 7.4 5.6 1.9 1.9

Would you say your health is		
Excellent	34	63.0
Very good	11	20.4
Good	6	11.1
Fair	2	3.7
Poor	1	1.9
Satisfaction with sleep		
Very	18	33.3
satisfied	4	7.4
Satisfied	9	16.7
Neither		
satisfied	7	13.0
nor	16	29.6
dissatisfied		
Dissatisfied		
Very		
dissatisfied		
Satisfaction with health		
Very	32	59.3
satisfied	10	18.5
Satisfied	10	18.5
Neither		
satisfied	1	1.9
nor	1	1.9
dissatisfied		
Dissatisfied		
Very		
dissatisfied		

6.3 Discussion:

Ages of affected individuals range from one month old to over 90 years old, while fewer occurrences have been noted in infants and children [17]. Males make up 59%-68% of reported cases, with the greatest population having an average age of 55.5 [18]. Similar findings were made in this study, which indicated that 74.1% of the afflicted population was male and that their average age was 42.02, indicating that men in Bangladesh have a higher likelihood of finding love than women. The COVID-19 pandemic has a number of issues, one of which is the variety of disease symptoms and potential patient presentations. While some symptoms are actually rather severe, others are so minor that they make patients seem asymptomatic [19].

In this study, there are n=32 (59.3%) instances in Bangladesh that are asymptomatic and n=22 (40.7%) cases that are symptomatic. Patients with mildly affected may begin to improve during the first week, although others may still have chronic symptoms or may quickly deteriorate again after that [20].

In severe cases, the typical pattern of illness development takes place. Following virus exposure, the most typical COVID-19 symptoms—fever, muscle discomfort, headache, cough, sore throat, and loss of taste or smell tend to manifest themselves between 2 and 14 days later [21].

Pneumonia-related breathing difficulties can be emergency signals in severe instances due to overwhelming lung infection [22]. This study discovered that among those who were afflicted, colds (n=12; 22.2%), fatigue (n=8; 14.8%), fever (n=7; 13.3%), and coughing (n=4; 7.4%) are among the most prevalent symptoms of COVID-19 infection. Within three days of the onset of symptoms, n=33 (61.1%) of them went to get diagnostic testing on their own. n=13 (24.1%) of them. Those who tested positive for COVID-19 were isolated in hospitals (n = 39; 72.2%) and homes (n = 13; 24.1%). Maximum isolation lasted 8 to 14 days, with a mean of 15.24 days (n=30, or 55.6%). Among those affected, 35 (64.8%) received prescription medication, and the remaining patients used home remedies. Physiotherapy was recommended for only n=2 (3.7%) patients (breathing exercise). Beyond supportive care, there are currently few therapeutic alternatives for SARS-CoV-2, a constraint that is made more difficult by the difficult occupational challenges faced by healthcare personnel. Comorbid infection control strategies and prevention or therapy are now used in clinical care. The latter consists of additional oxygen as well as mechanical ventilatory assistance or extracorporeal membrane oxygenation, if needed [23]. Several repurposed medications with known or unknown therapeutic efficacies in treating patients with COVID-19 disease have been licensed for the treatment of SARS-CoV-2. The antiviral drugs remdesivir, hydroxychloroquine, chloroquine, lopinavir, favipiravir, and oseltamivir are only a few examples [24]. Azithromycin, corticosteroids, dexamethasone, and IL-6 antagonists were among the additional drugs employed, with varying degrees of success [25]. The use of remdesivir in emergencies and

supportive and preventative treatment are currently all that are needed [26].

In this study, we discovered that individuals who had COVID-19 infections had taken medication. Among them, Azithromycin was administered n=46 (85.2%), Remdesivir n=44 (81.5%), Vitamic-C n=33 (61.1%), paracetamol n=35 (64.8%), antihistamine n=20 (37%), Montelukast n=9 (16.7%), Sulbutamol n=2 (3.7%). Wuhan has seen a rise in anxiety and sadness as a result of the intense pressure to practice proper hygiene and protection. This is especially accurate when it comes to medical professionals that treat COVID-19 patients [27]. Due to the rising rates of anxiety, depressive symptoms, insomnia, denial, rage, and dread of SARS-CoV-2, psychological intervention teams were sent to Wuhan to support the local medical community [28]. The majority of subjects reported having positive attitudes, indicating that they thought COVID-19 could be controlled and contained [29] which showed similarities to this study's findings that showed that among those affected, treatment-related advice was maintained by n=52 (96.3%), they had very strong psychological status (mentality), n=37 (68.5%), and n=26 (48.1%) was concerned about treatment side effects or death. The individuals who had recovered from COVID=19 thought that using home remedies n=25 (46.3%) and taking medications n=22 (40.7%) were the most effective ways to do so in an average (mean) time of 15.24 days.

7.0 Findings:

i. The chances of poor health-seeking behavior depended on the level of education, here it was discovered that those with no formal education were more vulnerable.
ii. The prominent seeking behavior is taking medication to resolve the existing problem
iii. COVID-19 negatively influenced the treatment-seeking behavior of the patients which led to more patients indulging in self-medication, mostly by consuming home remedies

8.0 Recommendation:

i. To strengthen the existing capacity of the health care system to admire the overcome barriers to health-seeking behavior.
ii. Health education and literacy are employed in the COVID-19 pandemic control efforts in Bangladesh to increase access to health information. Here, they can set up neighborhood information networks using the media and customize instructive messages for the locals.
iii. Introduce other treatments like chest physiotherapy and other rehabilitation services for those admitted to Hospital and establish a booklet or guidelines about preventive measures.

9.0 Conclusion:

COVID-19 is affecting firstly and in widespread pandemic situations throughout the globe. In Bangladesh those who recovered from COVID-19 explained their symptoms and experiences of their treatment behavior including both medication and physiotherapy interventions. According to the study's findings, COVID-19 patients enjoy taking medications, which indicates that this is their true behavior when seeking treatment.

Ethical consideration: ERC was taken from Bangladesh Physiotherapy Association (BPA)

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