

Health-related Quality of Life and Characteristics of patients with COVID-19 one month after discharge from the largest COVID-19 dedicated hospital

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EQ-5D

EUROQOL INSTRUMENTS



Health-related Quality of Life and Characteristics of patients with COVID-19 one month after discharge from the largest hospital Bangladesh dedicated for COVID-19

Short title: HRQoL of COVID-19 patients after discharge

Authors

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Introduction:



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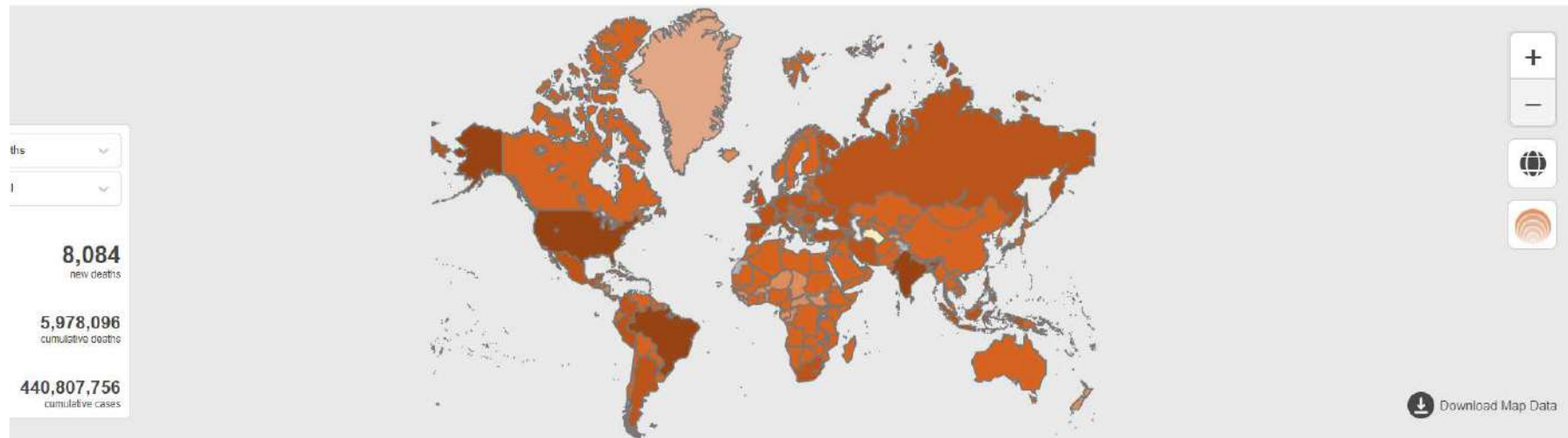
WHO Coronavirus (COVID-19) Dashboard

[Overview](#)

Measures

Data Table

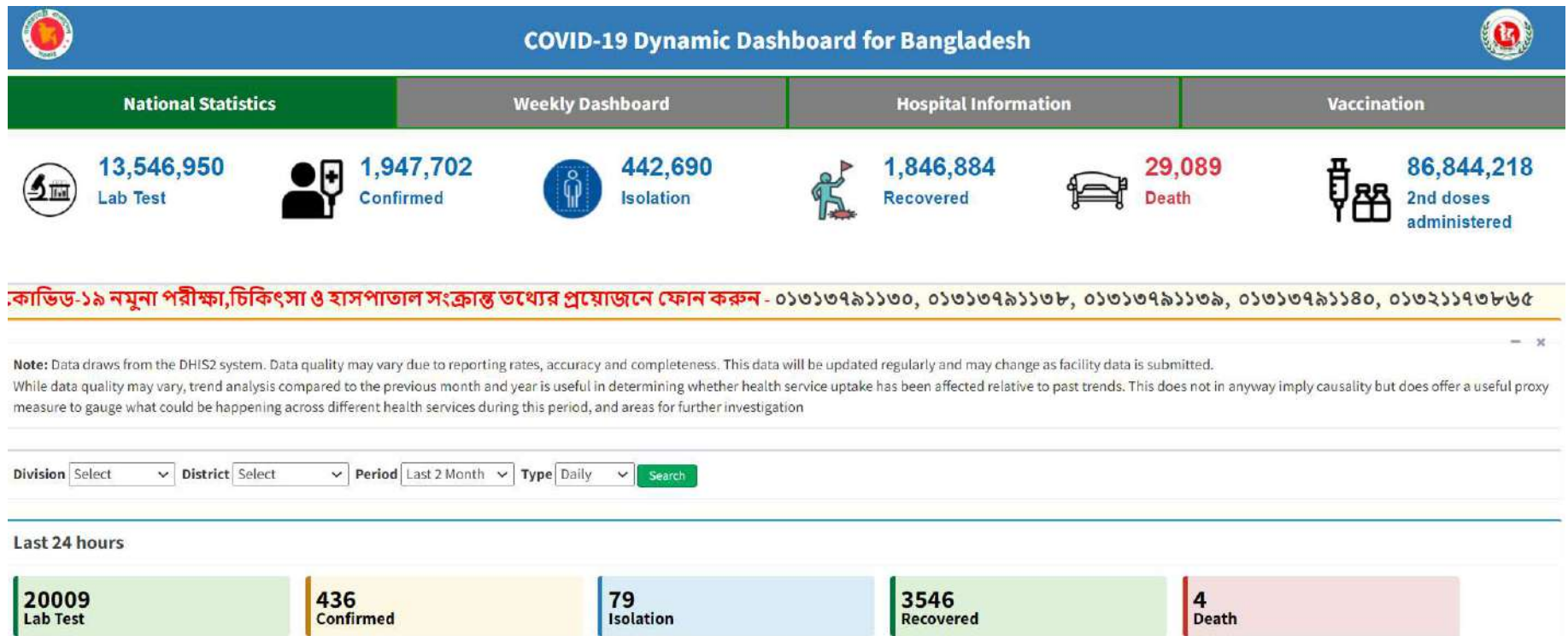
Explore

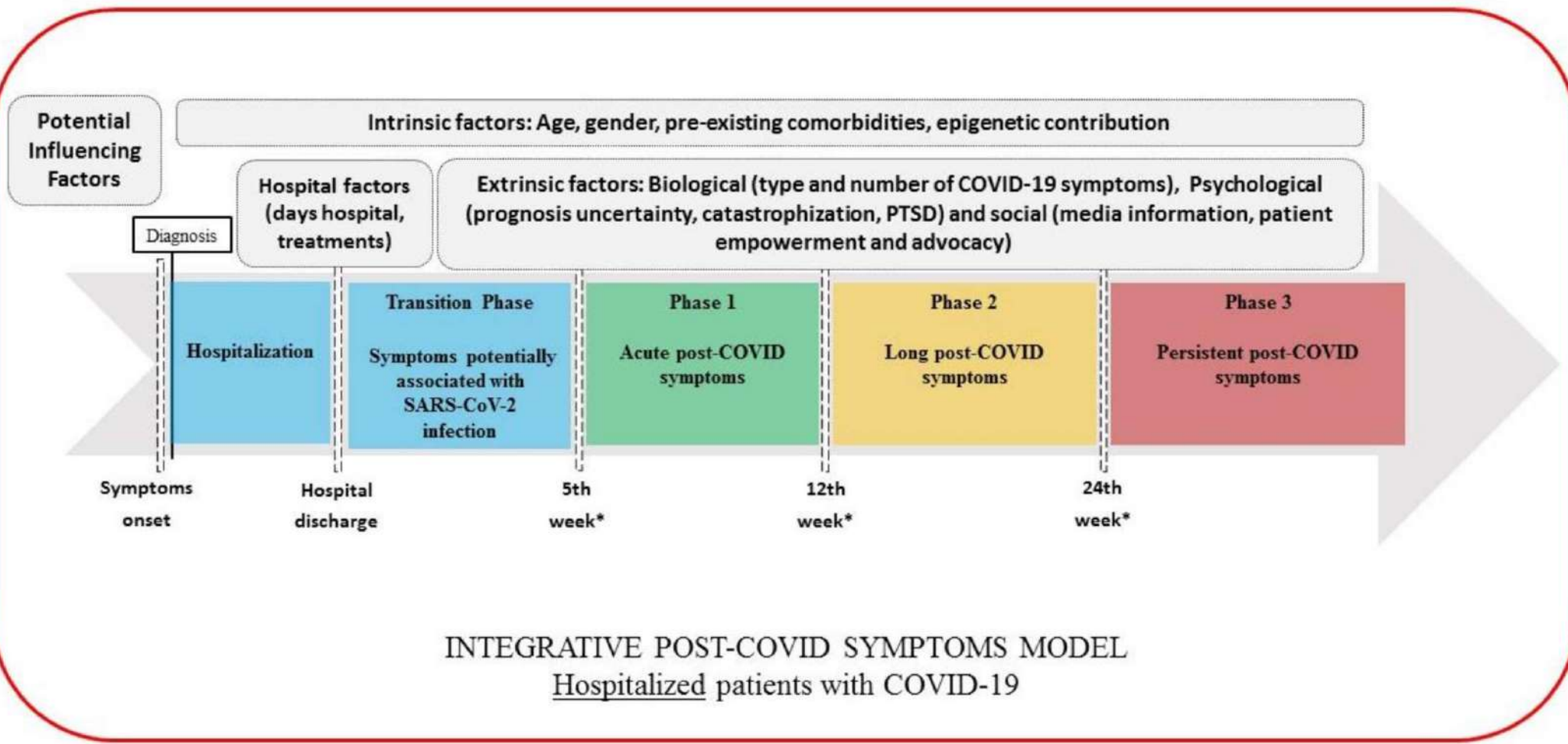


Globally, as of 5:18pm CET, 4 March 2022, there have been 440,807,756 confirmed cases of COVID-19, including 5,978,096 deaths, reported to WHO. As of 5 March 2022, a total of 10,704,043,684 vaccine doses have been

[WHO Coronavirus \(COVID-19\) Dashboard](#)

Bangladesh





- Fernández-de-Las-Peñas C, Defining Post-COVID Symptoms (Post-Acute COVID, Long COVID, Persistent Post-COVID): An Integrative Classification. *Int J Environ Res Public Health*. 2021 Mar 5;18(5):2621. doi: 10.3390/ijerph18052621. PMID: 33807869; PMCID: PMC7967389.

Materials and methods

- Study design: Prospective observational study
- Study site: Dhaka Medical College Hospital
- Study population: Patients who presented to Post-Acute Care and Follow up Clinic in DMCH who was hospitalized for COVID 19.
- Sample Size: 385

Materials and methods

- **Sampling technique:** Convenient sampling in where every patient was included
- **Study Period:** Seven months from 1st January to 30th June 2021.
- **Subject selection criteria:**

Inclusion Criteria:

- a. Age: \geq 18 years
- b. Both gender
- c. Patients hospitalized for COVID 19 presenting to Post-Acute care and Follow Up Clinic in DMCH

Exclusion criteria:

Patients decline for consent

Variables of the study: Socio-demographic, Clinical and Quality of Life assessment

Study Instrument

Under each heading, please tick the ONE box that best describes your health TODAY.

MOBILITY

- I have no problems in walking about
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

SELF-CARE

- I have no problems washing or dressing myself
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself

USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

PAIN / DISCOMFORT

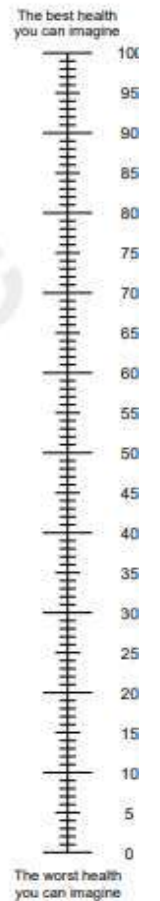
- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort

ANXIETY / DEPRESSION

- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed

- We would like to know how good or bad your health is TODAY.
- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine.
0 means the worst health you can imagine.
- Please mark an X on the scale to indicate how your health is TODAY.
- Now, write the number you marked on the scale in the box below.

YOUR HEALTH TODAY =



Approval for use in Bangla Language



The EuroQoL Group

Certified Translation: EQ-5D-5L Bengali version for India

This is to certify that qualified translators recruited locally in India by Oxford Outcomes and under contract to the EuroQoL Group Foundation translated the EQ-5D-5L from the UK English 'source' version to Bengali for India in 2012. Oxford Outcomes specialize in the cultural adaptation and linguistic validation of Patient Reported Outcome Instruments and have considerable experience in this area in a wide range of therapeutic areas.

The translation followed established EuroQoL Group translation methodology¹, which was developed with the aim of achieving semantic equivalence to the original and to ensure the new version would be easily understandable to members of the target population.

The methodology requires two independent forward translations into the target language by native speakers, production of a reconciled version of the two forward translations, and two independent back-translations of the reconciled version by native English speakers who are fluent in the target language. A second reconciled version is produced after the back translation stage. This version was tested on 8 Bengali-speaking respondents, with a spread of socio-demographic characteristics and including both patients and healthy individuals.

All translation steps were taken in full cooperation with members of the EuroQoL Group's translation review team, who reviewed reports provided by Oxford Outcomes after each stage of the process. All translation work was performed by members of the Bengali translation team to the best of their abilities as native speakers of Bengali (or English in the case of the back-translators), and as translators and researchers experienced in the field of health-related quality of life research. This translation is, to the best of my knowledge, a valid and accurate translation of the corresponding original document.

Name: Rosalind Rabin

On behalf of the Version Management Committee

Signature:

Date: July 2012

¹ Herdman M, Fox-Rushby J, Rabin R, Badia X, Selai C. Producing other language versions of the EQ-5D. In: Brooks R, Rabin R, de Charro F (eds). The measurement and valuation of health status using EQ-5D: A European perspective. Kluwer Academic Publishers, 2003.

Result:

Table 1. Characteristics of respondents and EQ-5D index and visual analogue (VAS) score

Characteristics	n (%)	EQ-5D-5L Index Mean (SD)	p-value	EQ-5D-5L VAS Mean (SD)	p-value
Total	563	0.78 (0.19)		70.26 (11.13)	
Age (years), Mean (SD)	51.18 (13.49)				
Age groups					
18 – 29	29 (5.23)	0.87 (0.14)	<0.001	77.06 (8.40)	<0.001
30 – 39	84 (15.14)	0.84 (0.18)		73.86 (9.29)	
40 – 49	106 (19.10)	0.79 (0.17)		69.88 (10.77)	
50 – 59	167 (30.09)	0.78 (0.18)		69.19 (10.30)^{a,b}	
60+	169 (30.45)	0.73 (0.22)^{a,b}		68.86 (12.73)^{a,b}	
Sex					
Male	315 (55.95)	0.81 (0.01)	<0.001	71.82 (11.92)	<0.001
Female	248 (44.05)	0.75 (0.01)		68.31 (9.70)	

Table 1. Characteristics of respondents and EQ-5D index and visual analogue (VAS) score (Cont.)

Characteristics	n (%)	EQ-5D-5L Index Mean (SD)	p-value	EQ-5D-5L VAS Mean (SD)	p-value
Urban	341 (63.86)	0.80 (0.19)	0.009	71.22 (11.26)	0.004
Rural	65 (12.17)	0.75 (0.18) ^a		68.00 (12.02)	
Peri-urban	128 (23.97)	0.75 (0.17)		67.97 (8.57) ^a	
Body Mass Index (kg/m ²), Mean (SD)	25.25 (4.62)				
Body Mass Index Categories					
Underweight (< 18.5)	36 (8.39)	0.67 (0.21)	<0.001	64.72 (14.24)	<0.001
Normal (18.5 – 22.9)	81 (18.88)	0.75 (0.19)		67.71 (10.78)	
Overweight (23.0 – 27.5)	189 (44.06)	0.82 (0.17) ^{a,b}		72.74 (9.86) ^{a,b}	
Obese (>27.5)	123 (28.67)	0.75 (0.19) ^c		69.02 (10.36) ^c	
Smoking habit					
Nonsmoker	371 (73.90)	0.78 (0.20)	0.673	69.94 (10.88)	0.158
Ex-smoker	109 (4.38)	0.78 (0.18)		67.75 (10.10)	
Current smoker	22 (21.71)	0.81 (0.17)		70.45 (10.46)	
Comorbidities					
Present	344 (61.10)	0.76 (0.19)	<0.001	68.76 (10.95)	<0.001
Absent	219 (38.90)	0.83 (0.19)		72.64 (11.01)	
COVID-19 severity ¹					
Mild	548 (97.34)	0.78 (0.01)	0.285	70.23 (0.47)	0.623
Severe	15 (2.66)	0.73 (0.05)		71.67 (3.37)	

Table 2: The proportion of participants reporting the problem in five dimensions of EQ-5D

Characteristics	Mobility			Self-care			Usual activities			Pain/discomfort			Anxiety/depression		
	No	Slight to extreme	<i>p value</i>	No	Slight to extreme	<i>p value</i>	No	Slight to extreme	<i>p value</i>	No	Slight to extreme	<i>p value</i>	No	Slight to extreme	<i>p value</i>
Total	54.23	45.77		49.01	50.99		47.21	52.79		44.86	55.14		37.84	62.16	
Age (years)															
18 – 29	75.86	24.14	<0.001	65.52	34.48	0.005	65.52	34.48	0.003	65.62	34.48	0.001	41.38	58.62	0.012
30 – 39	66.67	33.33		61.90	38.10		61.90	38.10		60.71	39.29		54.76	45.24	
40 – 49	56.60	43.40		49.06	50.94		49.06	50.94		43.40	56.60		32.08	67.92	
50 – 59	54.49	45.51		49.10	50.90		41.32	58.68		41.92	58.08		35.33	64.67	
60+	42.60	57.40		39.64	60.36		41.42	58.58		37.28	62.72		34.91	65.09	
Sex															
Male	59.37	40.63	0.012	57.46	42.54	<0.001	56.51	43.49	<0.001	52.70	47.30	<0.001	46.35	53.64	<0.001
Female	48.79	51.21		39.11	60.89		35.48	64.52		35.08	64.92		28.23	71.77	

Multivariable logistic regression analysis:

- **Mobility dimensions:** 60+, rural and peri-urban settings, and being underweight
- **Self-care:** Peri-urban setting and being overweight
- **Usual activities:** Female sex, and being overweight
- **Pain discomfort:** Participants living in peri-urban areas and with co-morbidities
- **Anxiety/depression:** retired and peri-urban settings urban settings

Table 3: Comorbidities of participants (n=563)

Comorbidities	n	%
Diabetes Mellitus	228	40.50
Hypertension	170	30.20
Bronchial Asthma	42	7.46
Ischemic Heart Disease	36	6.39
Hypothyroidism	27	4.80
Chronic Kidney Disease	21	3.73
Chronic Obstructive Pulmonary Disease	15	2.66
Stroke	5	0.89
Parkinsonism	1	0.18
Osteoarthritis of knee	1	0.18
Myelofibrosis	1	0.18

Table 4. Clinical features of participants (n=563)

Characteristics (Symptoms)	n	%
Cough	191	33.93
Dyspnoea	150	26.64
Chest pain	130	23.09
Fatigue	128	22.74
Anorexia	121	21.49
Sleep disturbances	105	18.65
Fever	69	12.26
Palpitation	58	10.30
Joint pain	41	7.28
Headache	39	6.93
Bodyache	27	4.80
Limb pain	28	4.97
Vertigo	26	4.62
Weight loss	17	3.02
Skin rash	16	2.84
Abdominal pain	15	2.66
Dizziness	8	1.42
Altered bowel habit	6	1.07
Dysgeusia	9	1.60
Dysosmia	6	1.07
Vomiting	3	0.53
Hemoptysis	2	0.36
Sensory disturbance	2	0.36
Convulsion	2	0.36
Hair loss	2	0.36
Hearing loss	2	0.36

Table 5: Investigation profile of participants

Investigation	n	Mean (SD)	Min-Max
Hemoglobin (g/dl)	124	12.46 (1.68)	8.10 – 16.36
ESR (mm)	71	35.94 (27.13)	2 – 120
Neutrophil (%)	116	60.46 (10.85)	35.40 – 89.90
Lymphocyte (%)	116	32.15 (10.34)	6.90 – 57.10
Platelet (x10 ⁶ /mm ³)	111	297.51 (114.84)	10.00 – 704.00
CRP	34	24.53 (52.48)	0.56 – 250
Serum creatinine (mg/dl)	95	1.14 (0.70)	0.45 – 6.2
Serum sodium (mmol/l)	81	139.92 (3.70)	132 – 148
Serum potassium (mmol/l)	81	4.07 (0.56)	2.40 – 6.50
Serum chloride (mmol/l)	64	103.17 (4.50)	94.00 – 117.00
Serum ALT (U/L)	24	46.53 (38.40)	12 – 168
Serum ferritin (ng/ml)	11	295.55 (157.25)	64.11 – 501.00
Serum D-Dimer (µg/ml)	11	1.03 (1.47)	0.12 – 4.30

Discussion

- The average EQ-5D index score (SD) was 0.78 (0.19), and the average VAS score (SD) was 70.26 (11.13) which is higher than that reported by Meys *et al.* in the Netherlands

Discussion

- Our analysis revealed that the EQ-5D index and VAS score were significantly lower in 60+ years old patients
- Female patients were more likely to have a significantly lower index and VAS score than males
- Cough and dyspnea were present in more than one-quarter of the patients, and chest pain and fatigue persisted in nearly one-quarter of the patients

Limitation and strength

- **Single-center study**
- **Long-term follow-up of patients was not possible.**
- **Follow-up investigation of all patients could not be done due to limited resources.**
- **However, this is one of the few studies to evaluate the persistence of symptoms and quality of life in COVID-19 patients one month after discharge from the hospital.**

Conclusion

- The quality of life of COVID-19 patients one month after discharge from the hospital was dependent on age, sex, occupation, setting, body mass index, and comorbidities.
- Cough, dyspnea, chest pain, and fatigue were persistent in nearly one-quarter of patients.
- **COVID-19 patients go through the recovery phase, specific management and rehabilitation strategies tailored to address the factors should be planned to improve their quality of life.**

Thank You ALL



**COVID-19 Post-Acute Care and Follow-up Clinic
Dhaka Medical College Hospital**