Factors Associated to Decrease in Quality of Life After Mild-Moderate COVID-19: A Cross-Sectional Study

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Background: Post-COVID-19 alterations have been recognized even after mild disease.
Aim: To assess which factors are the main contributors to a decrease in quality of life(QOL) of patients with different times elapsed from the COVID-19 diagnosis.
Methods: A cross-sectional study from January 2021 to April 2021 in a Referral Center in Mexico City. Patients were invited for a follow-up visit in which a structured questionnaire about symptoms, the EQ-5D-5L QOL for QOL, and an objective olfactory evaluation with The Sniffin' Sticks Screening 12 test.
Results: We included 179 patients, 64% were female with a median age of 33 years. The median time since COVID-19 diagnosis until the evaluation was 219 days (IQR, 94-255). Persistent symptoms were present up to in 158/179 (88%), fatigue, pain/discomfort and cognitive alterations were present in 61%, the median EQ-5D-5L index value preCOVID-19 was 1 (IQR, 0.94-1) and post- COVID-19 was 0.87 (IQR, 0.80-0.94), P< 0.001. There were 101/179 (56%) patients with decreased QOL; In the multivariate analysis, post-COVID-19 pain (aOR, 2.5; P= 0.01), anxiety (aOR, 13; P= 0.03), and the persistence of three or more symptoms (aOR, 2.6; P= 0.05) were factors associated with decreased QOL.
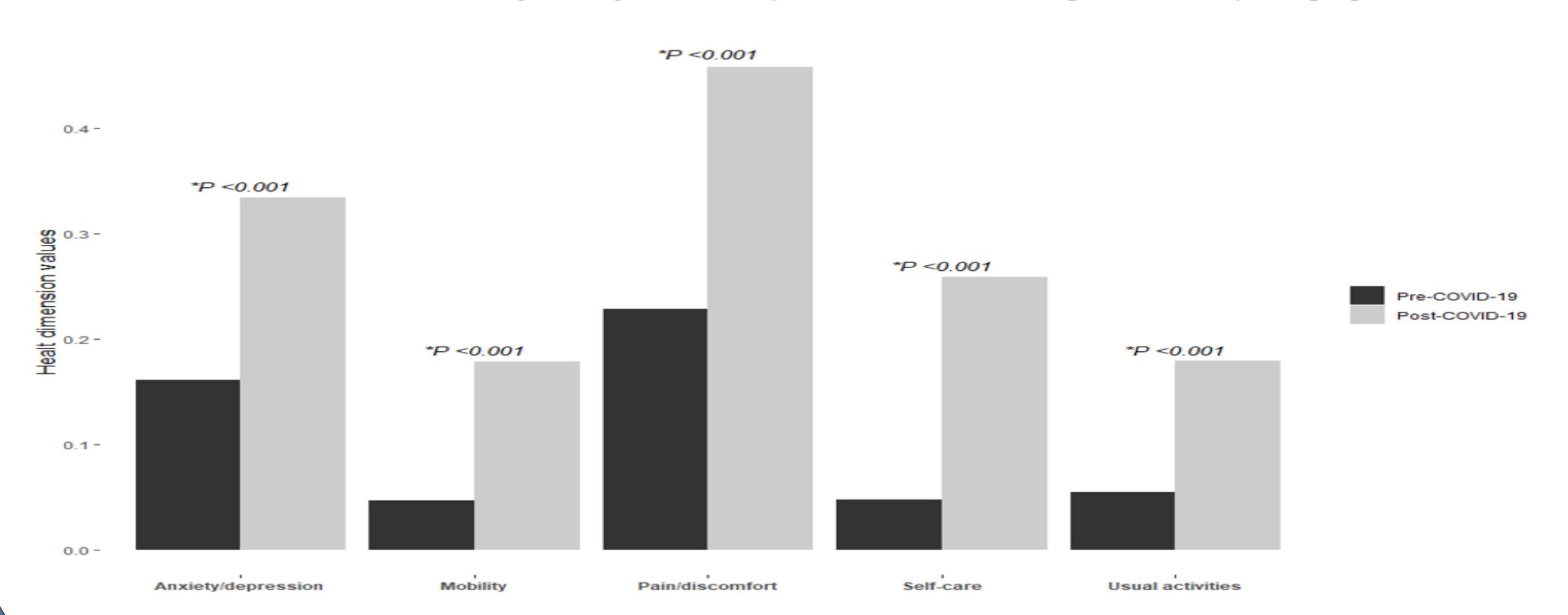
Conclusions: Within the post- COVID-19 alterations, psychological and physical factors such as Pain/discomfort, anxiety, and persistent symptoms explained the decreased QOL in the post-COVID-19 patient. These alterations were present as early as 30 days to more than eight months.

Table 1. Characteristics and post–covid evaluation according to QOL of post-COVID-19 patients

Characteristics of patients	All patients (n=179)	No decrease QOL (n=78)	Decrease QOL(n=101)	P-Value
Sex, female	114 (64)	52 (66)	62 (61)	0.56
Age, median (IQR), years	33 (27-46)	29 (26-46)	36 (29-46)	0.07
Comorbidities	38 (21)	13 (17)	25 (25)	0.25
Systemic hypertension	21 (12)	6 (8)	15 (15)	0.21
Type 2 Diabetes	9 (5)	4 (5)	5 (5)	1
Days until evaluation, median, IQR	219 (94–255)	179 (87–256)	226 (125-255)	0.3
Index Pre-COVID	1 (0.94–1)	1 (0.94–1)	1 (0.94–1)	0.58
Index Post-COVID, median (IQR)	0.87 (0.80-0.94)	0.93 (0.86-1)	0.83 (0.76-0.90)	<0.001
Hospitalization	25 (14)	9 (12)	16 (16)	0.54
Euro Q-5D-5L				
Post-COVID mobility	1 ±0.02	1.43± 0.71	1.75± 0.79	0.01
Post-COVID Self-care	1 ±0.02	1.05± 0.27	1.25± 0.64	0.005
Post-COVID normal activities	1 ±0.03	1.35± 0.66	1.77± 0.74	<0.001
Post-COVID pain	1 ±0.04	1.57± 0.71	2.1± 0.85	<0.001
Post-COVID ansiety	1 ±0.04	1.70± 0.79	2.13± 0.91	<0.001
Persistent Symptoms	158 (88)	65 (83)	93 (92)	
1 Symptom	75 (59)	40 (51)	35 (35)	0.03
2 symptoms	53 (41)	19 (24)	34 (34)	0.23
3 or more	30 (23)	6 (8)	24 (24)	0.007
Symptoms				
Fatigue	46 (26)	14 (18)	32 (32)	0.055
Anxiety	12 (7)	5 (6)	7 (7)	1
Headache	27 (15)	11 (14)	16 (16)	0.91
Cough	5 (3)	4 (5)	1 (1)	0.16
Gastrointestinal	17 (9)	8 (10)	9 (9)	0.96
Pain or discomfort	33 (18)	12 (15)	21 (21)	0.46
Dyspnea	13 (7)	5 (6)	8 (8)	0.92
Cognitive alteration*	31 (17)	12 (15)	19 (19)	0.68
Sniffing evaluation				
Subjective olfatory performance				
Anosmic	14 (8)	4 (5)	10 (10)	0.27
Hyposmic	66 (37)	23 (29)	43 (43)	0.1
Psychophysical stratification				
Anosmia	25 (14)	13 (17)	12 (12)	0.48
Hyposmia	101 (57)	38 (49)	63 (63)	0.09

Abbreviations: QOL, quality of life; EQ-5D-5L, European Quality of Life-5 Dimensions-5 levels; IQR, interquartile range
*Short–term memory deficit, specific decline in attention, confused thoughts.

Table 2. Bivariate and multivariate analysis of factors associated with decreased QOL in post-COVID-19 patients

Factor	Unadjusted odds ratio (95% CI)	P-value	adjusted odds ratio (95% CI)	P-value
Sex, Female	0.79 (0.43,1.47)	0.46		
Age	1.01 (0.99,1.04)	0.33		
Scholarship	0.56 (0.28,1.11)	0.09	0.58 (0.28-1.19)	0.14
Smoking	1.16 (0.53,2.52)	0.71		
Hospitalization	1.44 (0.6,3.47)	0.4		
Days until evaluation	1.00 (0.99,1.005)	0.16		
Post-COVID movility	15.02 (1.64,13.71)	0.013	0.36 (0.11-21.34)	0.92
Post-COVID self-care	15.39 (1.57-150.21)	0.002	7.89 (0.15-17.19)	0.11
Post-COVID normal activities	57.31 (5.89-557.07)	0.001	3.22 (0.60-9.68)	0.14
Post-COVID pain	2.26 (1.77-18.99)	0.001	2.5 (1.66-9.68)	**0.01**
Post-COVID ansiety	11.88 (2.99-47.22)	0.001	13 (1.44.-17.23)	**0.03**
Persistent Symptoms				
1 Sympton	0.50 (0.28,0.92)	0.025	0.69 (0.360-1.33)	0.27
2 symptoms	1.58 (0.81,3.05)	0.17		
3 or more	3.74 (1.45,9.68)	0.003	2.68 (0.96-7.47)	**0.05**
Fatigue*	1.86 (0.92,3.76)	0.079	1.48 (0.70-3.13)	0.29
Cognitive alteration+*	2.47 (0.35-5.78)	0.43		
Hyposmia/Anosmia*	1.37 (0.72,2.61)	0.33		

+Short-term memory deficit, specific decline in attention, confused thoughts.
* These variables were included in the logistic regression analysis because they were in a higher percentage of affected patients.
Comorbidities were not included in logistic regression analysis because those were present in very low proportion.