

Time till viral clearance of SARS-CoV-2 is similar for asymptomatic and non-critically symptomatic individuals.

Background: Despite extensive modelled estimations of the burden of asymptomatic spread, the duration of viral positivity and infectiousness of SARS-CoV-2 remains understudied.

Objective: The objective of the present study was to estimate and compare the time till viral clearance of SARS-CoV-2 in asymptomatic and non-critical symptomatic individuals.

Methods: We studied individuals who arrived in Bahrain from Iran and Egypt between 25 February 2020 and 14 March 2020 and tested positive for SARS-CoV-2 upon mandatory COVID-19 screening, which involved nasopharyngeal swab testing for SARS-CoV-2 using reverse transcriptase–polymerase chain reaction (RT-PCR) test. RT-PCR prior to entering the country. Time until viral clearance was ascertained by testing the individuals every 2 days till viral clearance occurred. Any individuals who developed symptoms while undergoing quarantine were counted as symptomatic. Odds of being symptomatic were estimated using a multiple logistic regression model and hazards of viral clearance were estimated using a Cox proportional hazards model.

Results: 184 SARS-CoV-2 positive participants, of whom 145 were asymptomatic. After adjusting for age and sex, symptomatic individuals were found to have a median time till viral negativity of 11 days [interquartile range (IQR): 8,14], which was not significantly different from symptomatic individuals (median: 11 days, interquartile range IQR: 9,14) after controlling for age and sex.

Conclusion: Time till viral clearance is similar for subclinical and overt SARS-CoV-2 infections after controlling for age and sex. This has implications for understanding the period of infectivity for SARS-CoV-2 and planning public health measures to control the community spread.

Table 2: Median Time till Viral Clearance

	N (184)	Hazards of Viral Clearance ^a [HR (95% CI)]	Time till Viral Clearance [Median(IQR)]	p value - Log rank test
Sex				
Males	69	1.1 (0.7-1.5)	11 (8 – 14)	0.622
Females	115	Reference group	12 (10 – 14)	
Age group				
0-29	25	Reference group	11 (8 – 13)	0.265
30-39	23	0.7 (0.4-1.3)	11 (8 – 13)	
40-49	39	0.8 (0.5-1.4)	11 (8 – 13)	
50-59	56	0.7 (0.4-1.2)	12 (9 – 14.5)	
60+	41	0.6 (0.4-1.0)	13 (9 – 14)	
Symptoms				
Asymptomatic	145	Reference group	11 (8 - 14)	0.491
Symptomatic	39	1.08 (0.7-1.5)	11 (9 – 14)	

a - Adjusted for all predictor variables