Household Survey to Estimate the Seroprevalence of SARS-CoV-2 Infection in the City of São Paulo, Brazil

Pilot study conducted in the São Paulo neighborhoods of Pari, Belém, Água Rasa, Morumbi, Bela Vista, and Jardim Paulista between May 4 and 12, 2020

SARS-CoV-2 Mapping Group

Preliminary results of the descriptive analysis

Approved by the CEP/CONEP system under Brazilian Ethics Certification of Human Studies number: 31032620.9.0000.5474

Seropositivity I

Weighted prevalence of seropositivity among participants and cohabitants				
	n	Seropositives	Weighted Prevalence	$CI_{95\%}$
Participants	299	16	4.8	2.6–7.0
Coinhabitants	218	11	5.2	1.6–8.8
Total	517	27	5.0	3.0–7.0

Seropositivity II

Weighted Prevalence of Seropositivity According to Sociodemographic and Clinical Characteristics				
Characteristic		Weighted Prevalence	$CI_{95\%}$	p Value*
Sex	male	5.6	3.2–9.8	0.8678
	female	4.5	2.3–8.4	
Age range	18 to 44 years	4.7	2.7–8.1	0.7468
	45 years and +	5.3	3.2–8.7	
Any work in the healthcare area	Yes	5.5	1.7–16.47	0.8678
	No	4.9	3.1–7.6	
Any self-reported symptoms in the last 14 days	Yes	6.8	3.9–11.6	0.0908
	No	3.8	2.2–6.3	
Area	More cases	4.1	1.9–9.0	0.851
	More deaths	5.6	3.5–8.7	
*chi-square test with Rao-Scott correction for complex samples				

12 of the 27 seropositive people, 45.6% ($CI_{95\%}$ 29.0 to 63.3), reported no symptoms in the last 14 days

Frequency of Seropositive and Seronegative (number, Percentage, and Confidence Interval), According to the Referred Symptoms.							
Symptoms	Seropositives			Seronegatives			p Value*
	n	%	$CI_{95\%}$	n	%	$CI_{95\%}$	
Had a fever	2	7.1	1.5–27.5	1	2.1	0.9–5.0	0.3369
Experienced fatigue	5	19.9	8.8–39.1	32	6.4	4.0-10.0	0.0205**
Had body pain or aches	6	19.5	8.7–38.0	46	9.3	6.5–13.2	0.0524
Had a sore throat	3	9.6	7.6–12.0	46	8.1	2.5–23.4	0.0781
Had a cough	6	21.8	10.2–40.6	79	16.1	13.0–19.9	0.417
Had any difficulty breathing	2	7.1	1.5–27.5	24	5.2	3.1–8.5	0.5775
Had diarrhea	4	14	5.7–30.6	28	6	4.0–8.8	0.1919
Had a loss of taste	6	20.4	8.9–40.4	14	3.1	1.7–5.4	<0.0001**
Had a loss of smell	6	20.4	8.9–40.4	15	3.1	1.8–5.4	0.0001**
Had a runny nose	7	28.3	14.8–47.2	107	21.6	17.7–26.1	0.741
*chi-square test with Rao-Scott correction for complex samples							
** less than 0.05							

1.There are statistically significant differences between the frequencies of self-reported symptoms: fatigue, loss of taste, and loss of smell in the seropositive and seronegative populations.
2.Of the reported symptoms, only fatigue, loss of taste, and loss of smell showed statistically significant differences between seropositive and seronegative.
3. There are only significant statistical differences for self-reported symptoms – fatigue, loss of taste, and loss of smell – between the seropositve and seronegative populations.

A second seropositive person was only identified in 2 of the 25 households with more than one person tested.

Number of households by number of people tested within the household	
	n of residences
Residences with 1 person tested	137
Residences with 2 people tested	122
Residences with 3 people tested	28
Residences with 4 people tested	9
Residences with 5 people tested	2
Residences with 6 people tested	1
Of the 27 seropositive people:	
10 were in households with one person that had tested positive	
10 were in households with two people tested and one person was positive	
3 were in households with three people tested and one person was positive	
4 were in households with two people that had tested positive	
	In one household, both coinhabitants were positive and the participant was negative
	In one residence, the participant and the coinhabitant were positive

Six IgM positive and IgG negative individuals were identified. 3 IgG negative and indeterminate IgM individuals were also identified

Everyone Tested

IgM and IgG Results in all 517 People Tested

	IgM Positive	IgM Negative	IgM Indeterm.
IgG Positive	1	18	2
IgG Negative	6	479	3
IgG Indeterm.	0	8	0

Classified as seropositive

Classified as seronegative

Participants

IgM and IgG Results in 299 People Tested

	IgM Positive	IgM Negative	IgM Indeterm.
IgG Positive	1	10	1
IgG Negative	4	278	0
IgG Indeterm.	0	5	0

Classified as seropositive

Classified as seronegative

Coinfected participants

IgM and IgG Results in 218 People Tested

	IgM Positive	IgM Negative	IgM Indeterm.
IgG Positive	0	8	1
IgG Negative	2	201	3
IgG Indeterm.	0	3	0

Classified as seropositive

Classified as seronegative

SARS-CoV-2 Mapping Group

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