

Numbers and figures requested for Prelim report

2020-12-30

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library(here)

## here() starts at /Users/kenwosu/Dropbox/R/yaounde_serocovpop
source(here("scripts/load.R"))

##
## These are designed for R-Studio

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##   # ... with 105 more columns
## )

## See spec(...) for full column specifications.

## New names:
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## * meaning -> meaning...9
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## * meaning -> meaning...12
## * `` -> ...13
## * ...

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1 Specific numbers requested

- Date of first survey: 14 October
- Date of last survey: 26 November, 2020
- Number of households surveyed: 192
- Number of individuals surveyed: 1007

- Mean number of adults per household: 4.6
- Mean number of children per household: 1.8
- Number of household where the head was not interviewed: 15
- Percentage of household where the head was not interviewed: 7.8%
- Number of households where the breadwinner was interviewed: 0
- Percentage of households where the breadwinner was interviewed: 0%
- Percentage of households in which the father is the breadwinner: 55.7%
- Percentage of households in which the mother is the breadwinner: 36.5%
- Top four occupations: Student, Small trader, Businessperson, Unemployed
- Percentage of households where there has been a death since March 1st: 5.7
- Mean age of those who died since March 1st: 69.5454545
- Number of households where a prior positive test was reported: 6
- Number of individuals who have reported any COVID-like symptoms: 302
- Percentage of individuals who have reported any COVID-like symptoms: 30
- Percentage of individuals who are completely or partially complying with social distancing: 57.8%
- Number seropositive (either IgG or IgM): 328
- Number seronegative (both IgG and IgM): 642

2 Respondent characteristics

2.1 Sociodemographic characteristics of the final sample

Below is the sample table. Still needs lots of work: More variables, percentages. A similar table that is faceted by seropositivity instead of sex may also be good.

Table 1

Characteristic	Female	Male	Total
n	570	437	1007
Num. household heads	77	101	178
Mean Age (SD)	29.6 (17.4)	28.5 (17.6)	29.1 (17.5)
Mean BMI (SD)	27.3 (26.7)	23.2 (6.26)	25.5 (20.6)
<i>Age groups, n (% of sex in each group)</i>			
30 - 44	135 (23.7%)	83 (19%)	218 (21.6%)
5 - 14	128 (22.5%)	120 (27.5%)	248 (24.6%)
15 - 29	195 (34.2%)	144 (33%)	339 (33.7%)
45 - 64	84 (14.7%)	72 (16.5%)	156 (15.5%)
65 +	28 (4.9%)	18 (4.1%)	46 (4.6%)
<i>Education Level, n (% of sex in each group)</i>			
Secondary	258 (45.3%)	184 (42.1%)	442 (43.9%)
Primary	191 (33.5%)	137 (31.4%)	328 (32.6%)
University	76 (13.3%)	81 (18.5%)	157 (15.6%)
No formal instruction	35 (6.1%)	18 (4.1%)	53 (5.3%)
Doctorate	7 (1.2%)	13 (3%)	20 (2%)
Other	3 (0.5%)	4 (0.9%)	7 (0.7%)
<i>Profession, n (% of sex in each group)</i>			
Student	216 (36.5%)	202 (43.3%)	418 (39.5%)
Small trader	86 (14.5%)	136 (29.1%)	222 (21%)
Businessperson	81 (13.7%)	50 (10.7%)	131 (12.4%)
Home-maker	74 (12.5%)	0 (0%)	74 (7%)
Unemployed	52 (8.8%)	21 (4.5%)	73 (6.9%)
Salaried worker	38 (6.4%)	22 (4.7%)	60 (5.7%)
Retired	18 (3%)	17 (3.6%)	35 (3.3%)
Other	17 (2.9%)	15 (3.2%)	32 (3%)
Farmer	10 (1.7%)	4 (0.9%)	14 (1.3%)
<i>Chronic conditions, n (% of sex with that condition)</i>			
Hypertension	25 (4.3%)	12 (2.7%)	37 (3.6%)
Respiratory illness	9 (1.6%)	8 (1.8%)	17 (1.7%)
Diabetes	7 (1.2%)	4 (0.9%)	11 (1.1%)
Cardiovascular illness	0 (0%)	3 (0.7%)	3 (0.3%)
Chronic neurologic disease	1 (0.2%)	2 (0.5%)	3 (0.3%)
HIV	1 (0.2%)	1 (0.2%)	2 (0.2%)
Cancer	0 (0%)	1 (0.2%)	1 (0.1%)
No response	0 (0%)	1 (0.2%)	1 (0.1%)
Tuberculosis	0 (0%)	1 (0.2%)	1 (0.1%)
Other	22 (3.8%)	19 (4.3%)	41 (4%)

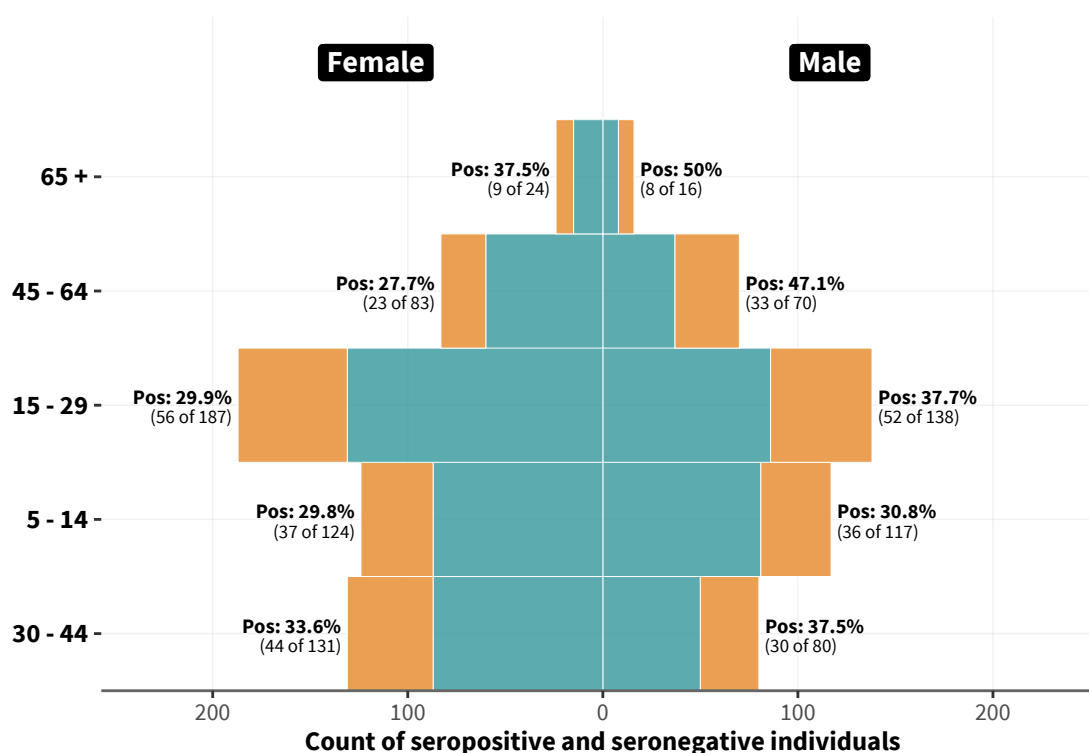
3 Seroprevalence estimates

3.1 Seropositivity of respondents by test type



3.2 Seropositivity in each age-sex stratum.

Positive cases include individuals positive for either IgG or IgM antibodies. Inconclusive results are not included in the denominator for the percentages.



3.3 Population-weighted and test-adjusted seroprevalence estimates

Table 2

	n	Seropos.	Seroprevalence (95% confidence interval)		
			Crude	Weighted	Weighted, test-adjusted
Total	971	302	31.1% (28.3 - 34.1)	31.3% (28.4 - 34.3)	33.7% (29.5 - 38.0)
Female	549	154	28.1% (24.5 - 32.0)	28.0% (24.4 - 31.9)	30.1% (25.4 - 35.3)
Male	422	148	35.1% (30.7 - 39.7)	34.6% (30.2 - 39.3)	37.4% (32.4 - 44.2)
30 - 44	212	69	32.5% (26.6 - 39.1)	32.7% (26.7 - 39.3)	35.3% (28.0 - 43.2)
5 - 14	241	69	28.6% (23.3 - 34.6)	28.7% (23.3 - 34.7)	30.8% (24.3 - 38.1)
15 - 29	325	98	30.2% (25.4 - 35.4)	30.7% (25.9 - 35.9)	33.1% (26.6 - 39.0)
45 - 64	153	51	33.3% (26.4 - 41.1)	34.1% (27.0 - 41.9)	36.8% (27.8 - 45.4)
65 +	40	15	37.5% (24.2 - 53.0)	39.4% (25.8 - 54.8)	42.6% (25.6 - 58.6)

Table 3

	n	Seropos.	Seroprevalence (95% confidence interval)		
			Crude	Weighted	Weighted, test-adjusted
Total	953	32	3.4% (2.39 - 4.7)	3.4% (2.43 - 4.8)	
Female	549	17	3.1% (1.94 - 4.9)	3.0% (1.90 - 4.8)	
Male	404	15	3.7% (2.26 - 6.0)	3.8% (2.32 - 6.1)	
30 - 44	211	7	3.3% (1.62 - 6.7)	3.9% (2.02 - 7.5)	
5 - 14	241	5	2.1% (0.89 - 4.8)	2.1% (0.89 - 4.8)	
15 - 29	325	12	3.7% (2.12 - 6.3)	3.6% (2.07 - 6.2)	
45 - 64	152	6	3.9% (1.82 - 8.3)	4.1% (1.94 - 8.6)	
65 +	24	2	8.3% (2.32 - 25.8)	8.3% (2.32 - 25.8)	

3.4 Risk factors for seropositivity

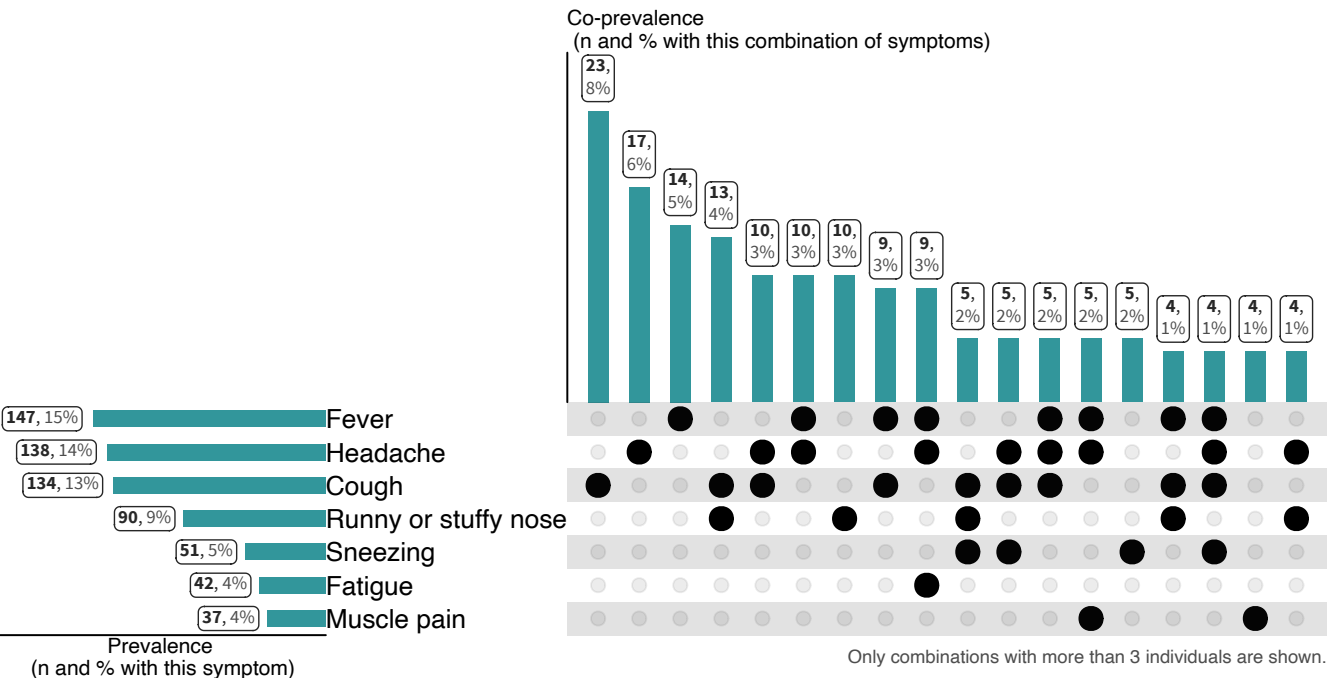
(Only regressors where the p-value for at least one factor level was below 0.1 are shown.)

Variable	n	Pos.	% Pos.	Univariate OR (95% CI)	Univariate OR plot	Multivariate OR (95% CI)	Multivariate OR plot
Sex							
Female	545	167	30.6	Reference		Reference	
Male	420	159	37.9	1.4 (1.1 - 1.7)	■ *	1.6 (1.29 - 1.9)	■ *
Age							
5 - 14	239	72	30.1	0.83 (0.40 - 1.3)	■	0.99 (0.43 - 1.5)	■
15 - 29	324	108	33.3	0.93 (0.53 - 1.3)	■	1.1 (0.69 - 1.5)	■
30 - 44	210	73	34.8	Reference		Reference	
45 - 64	152	56	36.8	1.09 (0.62 - 1.6)	■	1.03 (0.54 - 1.5)	■
65 +	40	17	42.5	1.50 (0.76 - 2.2)	■	1.4 (0.65 - 2.2)	■
BMI group							
< 18.5 (Underweight)	160	46	28.7	0.86 (0.43 - 1.3)	■	0.81 (0.27 - 1.4)	■
18.5 - 24.9	399	126	31.6	Reference		Reference	
25 - 30 (Overweight)	246	91	37	1.28 (0.92 - 1.6)	■	1.36 (0.97 - 1.8)	■
> 30 (Obese)	160	63	39.4	1.46 (1.05 - 1.9)	■ *	1.73 (1.25 - 2.2)	■ *
Contact with international traveler							
No contact with traveler	802	266	33.2	Reference		Reference	
Recent contact with traveler	103	32	31.1	0.86 (0.37 - 1.4)	■	0.73 (0.21 - 1.3)	■
Unsure about traveler contact	60	28	46.7	1.88 (1.29 - 2.5)	■ *	1.8 (1.17 - 2.4)	■ *
Contact with COVID case							
No COVID contact	700	221	31.6	Reference		Reference	
Recent COVID contact	35	16	45.7	2.0 (1.2 - 2.7)	■ *	1.83 (1.04 - 2.6)	■ *
Unsure about COVID contact	230	89	38.7	1.4 (1.1 - 1.8)	■ *	1.35 (0.99 - 1.7)	■
Health zone							
Cité Verte	72	19	26.4	Reference		Reference	
Nkomkana	74	20	27	1.1 (0.19 - 2.0)	■	0.9 (-0.01 - 1.8)	■
Mokolo	94	27	28.7	1.1 (0.32 - 2.0)	■	0.91 (0.05 - 1.8)	■
Carriere	235	73	31.1	1.3 (0.58 - 2.0)	■	1.2 (0.45 - 1.9)	■
Ekoudou	190	68	35.8	1.6 (0.87 - 2.3)	■	1.44 (0.68 - 2.2)	■
Tsinga	81	29	35.8	1.7 (0.82 - 2.5)	■	1.52 (0.66 - 2.4)	■
Tsinga Oliga	66	24	36.4	1.7 (0.81 - 2.6)	■	1.59 (0.66 - 2.5)	■
Briqueterie	106	45	42.5	2.2 (1.39 - 3.0)	■ *	1.83 (1.02 - 2.6)	■ *
Messa	47	21	44.7	2.5 (1.58 - 3.5)	■ *	2.69 (1.69 - 3.7)	■ *
Number of household members							
1 - 2	20	2	10	Reference		Reference	
3 - 5	238	72	30.3	4.1 (2.5 - 5.6)	■ *	4.06 (2.46 - 5.7)	■ *
> 5	707	252	35.6	5.5 (3.9 - 7.0)	■ *	6.29 (4.71 - 7.9)	■ *

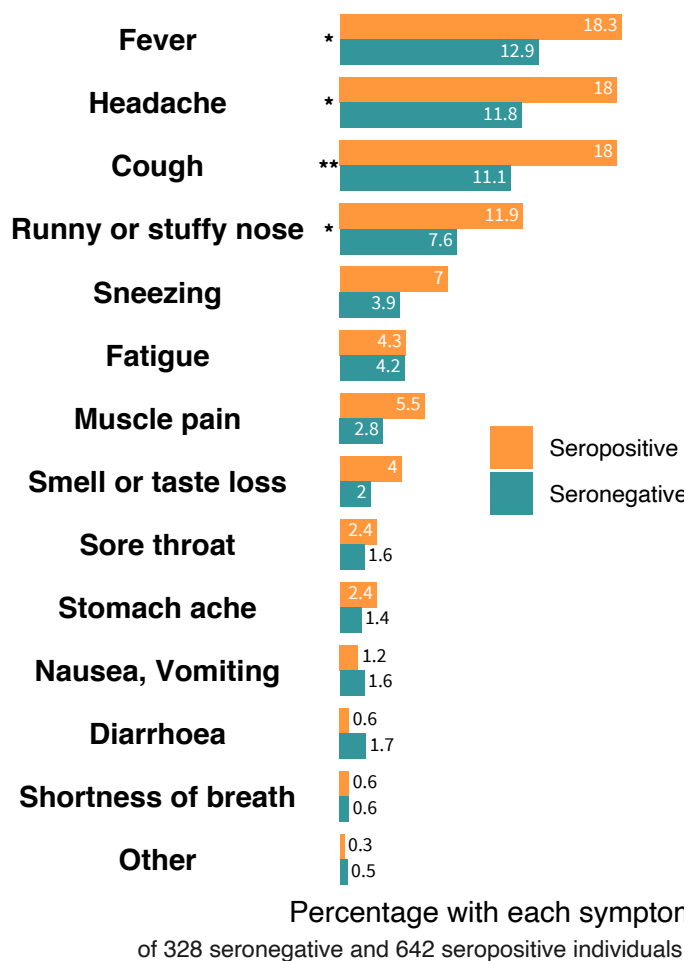
Based on 965 individuals. 42 were dropped due to variable missingness.

4 COVID-19 related Symptoms

4.1 Symptoms among all symptomatic individuals

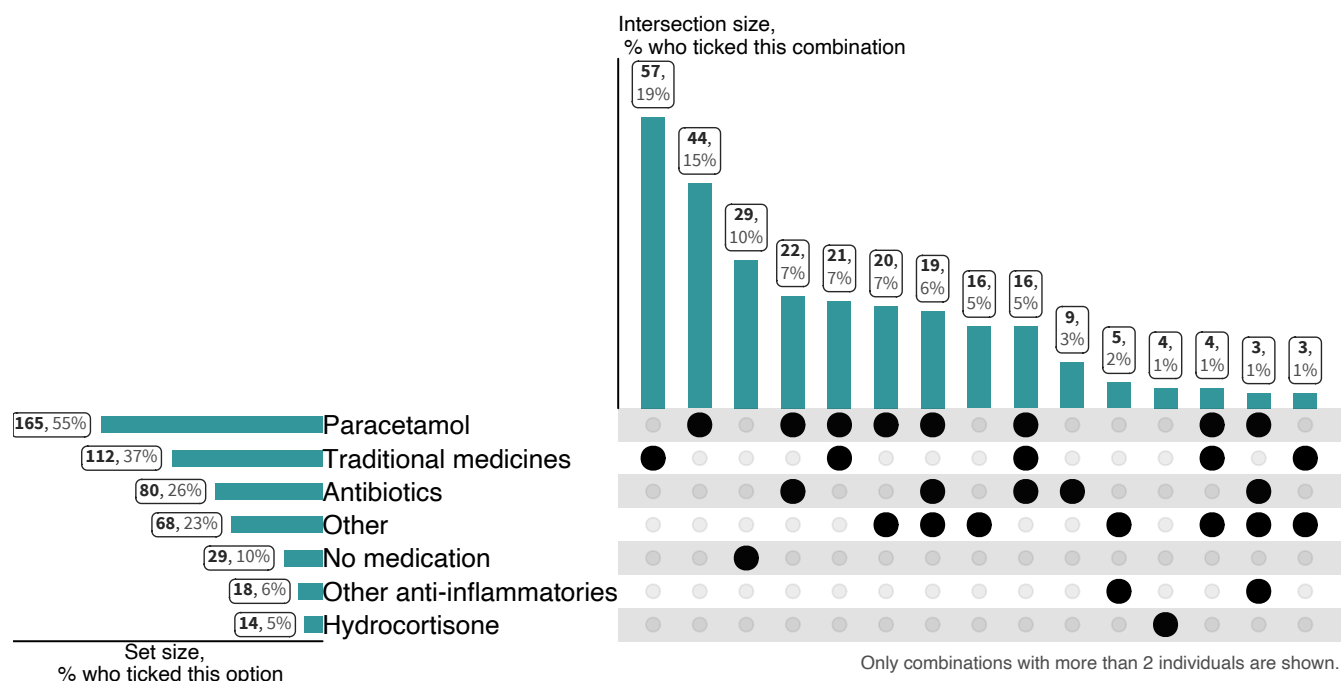


4.2 Common symptoms in seropositive and seronegative individuals



4.3 Have you taken one or several medications for symptoms characteristic of COVID-19?

(Denominator of percentages is those who reported at least one symptom compatible with COVID-19)



4.4 Risk factors for symptomatic COVID-19

COVID-19 symptoms are defined as:

- anosmia OR ageusia; or
- cough AND fever; or
- at least THREE of cough, fever, fatigue, headache, muscle pain, sore throat, runny/stuffy nose, shortness of breath, nausea, diarrhoea.

Table 4

Seropositivity	No COVID symptoms	Has COVID symptoms	Percent with Symptoms
Positive	277	51	15.6
Negative	578	64	9.97
No test	33	4	10.8

(Only regressors where the p-value for at least one factor level was below 0.1 are shown.)

Variable	n	Symp.	% Symp.	Univariate OR (95% CI)	Univariate OR plot	Multivariate OR (95% CI)	Multivariate OR plot
Sex							
Female	166	23	13.9	Reference		Reference	
Male	158	27	17.1	1.3 (0.68 - 1.9)		1.1 (0.42 - 1.8)	
Age							
5 - 14	72	9	12.5	0.50 (-0.39 - 1.4)		0.57 (-0.4 - 1.5)	
15 - 29	107	15	14	0.57 (-0.21 - 1.3)		0.59 (-0.24 - 1.4)	
30 - 44	72	16	22.2	Reference		Reference	
45 - 64	56	8	14.3	0.58 (-0.35 - 1.5)		0.46 (-0.57 - 1.5)	
65 +	17	2	11.8	0.47 (-1.11 - 2.0)		0.45 (-1.21 - 2.1)	
Do you smoke?							
Non-smoker	281	38	13.5	Reference		Reference	
Ex-smoker	30	7	23.3	1.9 (1.0 - 2.9)		2.05 (1.02 - 3.1)	
Smoker	13	5	38.5	4.0 (2.8 - 5.2)		4.21 (2.82 - 5.6)	

Based on 324 individuals. 683 were dropped due to variable missingness.

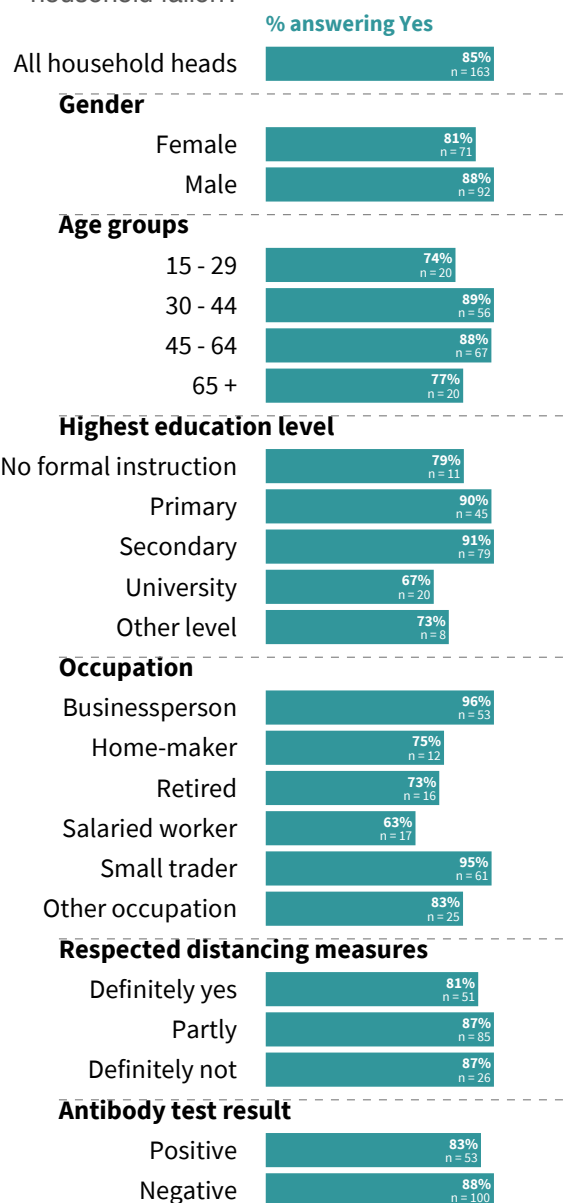
5 Impact on households

5.1 3.5 Since March 1st, has the revenue of the household diminished?

(results only shown for the answers from household representatives)

Revenue decrease during the pandemic

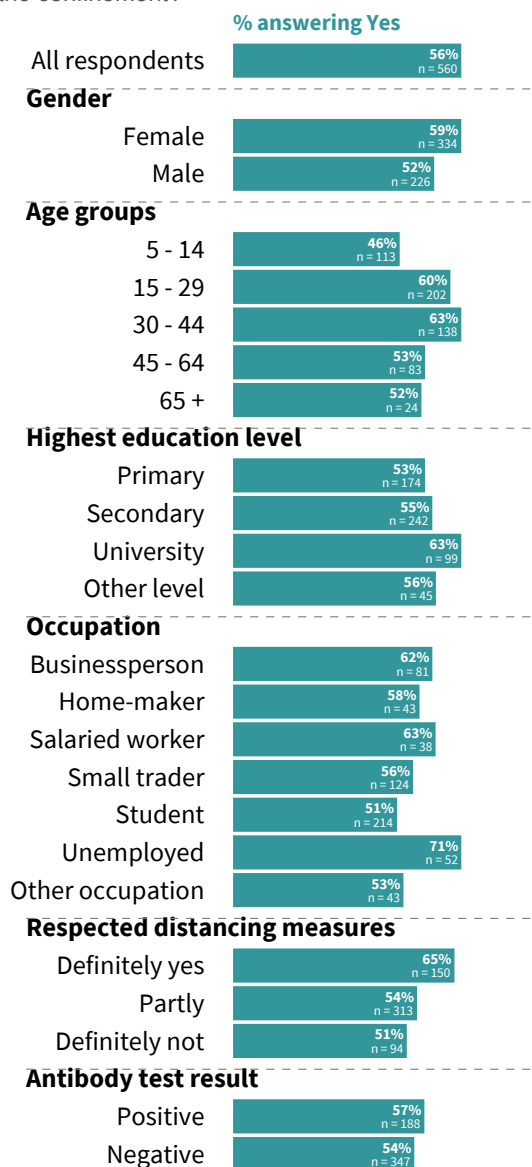
"Since March 1st, has the revenue of the household fallen?"



5.2 14.1 Unable to carry out daily activities (other than work), such as visiting family, making meals, taking care of the children.

Disruption of daily activities

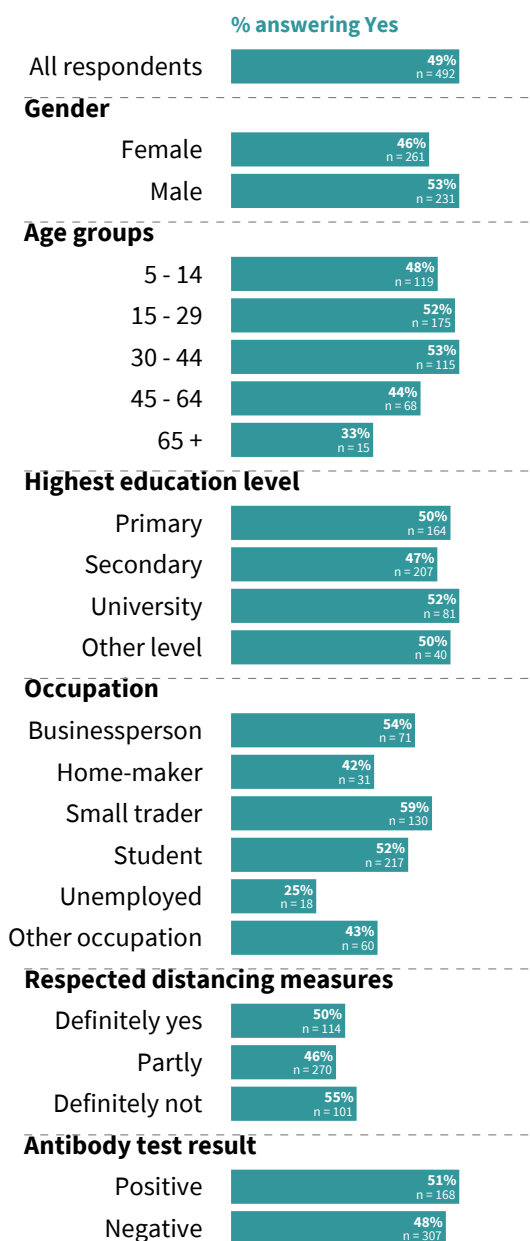
"Apart from work, have you been unable to carry out other daily activities (such as visiting family, making meals, taking care of the children) due to the confinement?"



5.3 14.2 Have you stopped working or stopped one of your jobs due to the confinement?

Disruption of work

"Since March 1st, have you stopped working or stopped one of your jobs due to the confinement?"

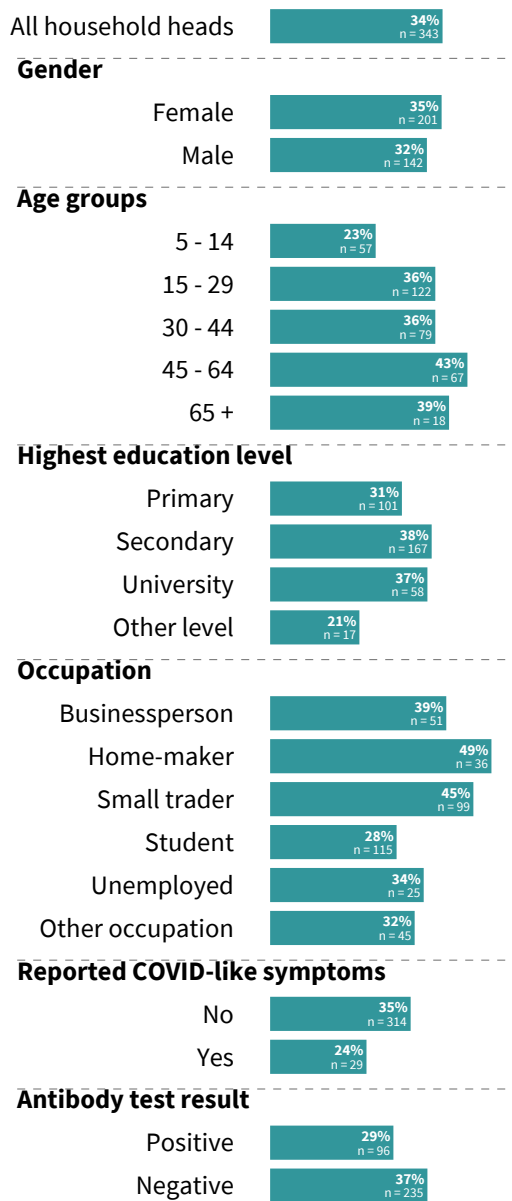


5.4 14.4 Within your household, have you faced any physical or psychological violence since March 1st?

Violence in the household

"Since March 1st, have you faced any physical or psychological violence in your household?"

% answering Yes



5.5 Seropositivity breakdown table 1

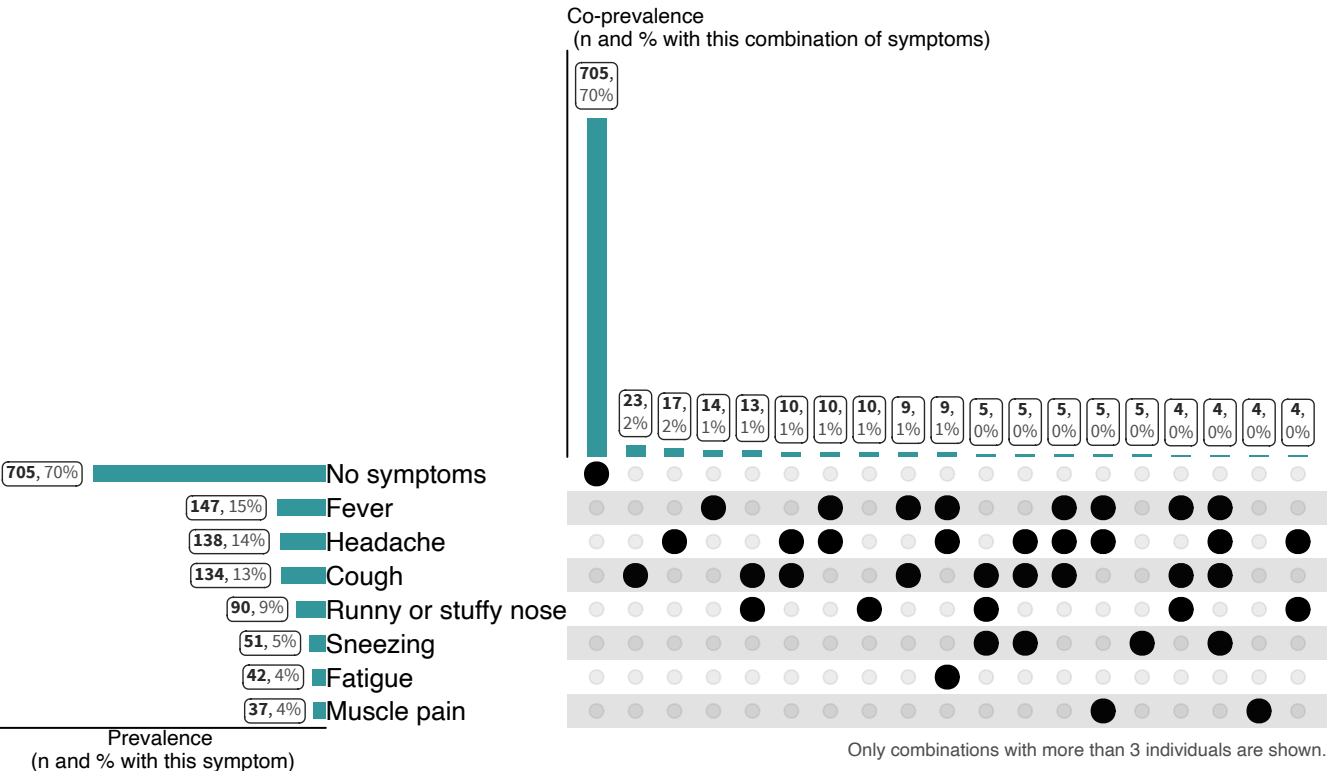
(see next page)

Table 5

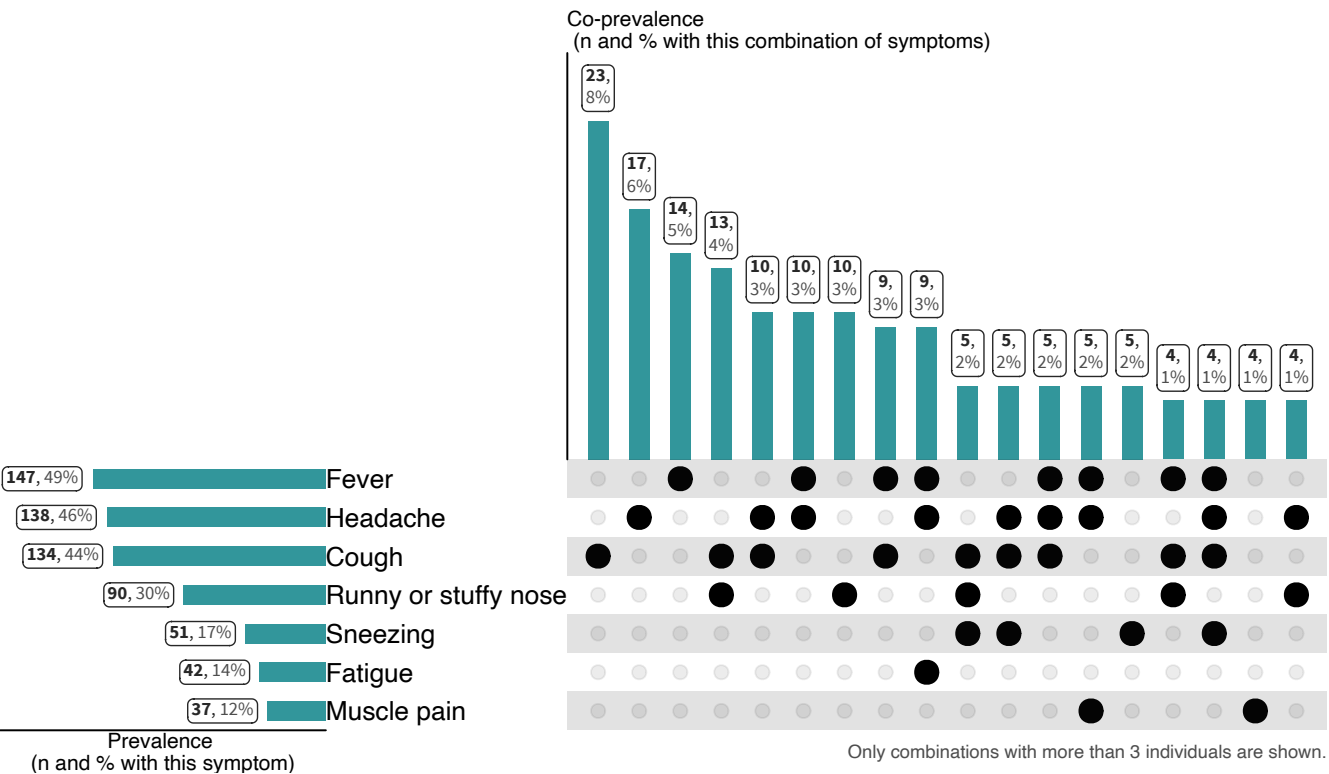
Characteristic	Positive	Negative
n	328	642
Mean Age (SD)	30.6 (18)	28.2 (17)
Mean BMI (SD)	27.3 (32.5)	24.6 (10.9)
<i>Age groups, n (% of all positive/negatives that are of each sex)</i>		
Female	169 (51.5%)	380 (59.2%)
Male	159 (48.5%)	262 (40.8%)
<i>Age groups, n (% of all positive/negatives that are in each age group)</i>		
5-15	79 (24.1%)	179 (27.9%)
16-29	102 (31.1%)	206 (32.1%)
30-45	77 (23.5%)	145 (22.6%)
46-65	53 (16.2%)	89 (13.9%)
above 65	17 (5.2%)	23 (3.6%)
<i>Education Level, n (% of all positive/negatives that are in each education class)</i>		
Secondary	138 (42.1%)	294 (45.8%)
Primary	117 (35.7%)	201 (31.3%)
University	54 (16.5%)	91 (14.2%)
No formal instruction	12 (3.7%)	40 (6.2%)
Doctorate	6 (1.8%)	11 (1.7%)
Other	1 (0.3%)	5 (0.8%)
<i>Profession, n (% of all positive/negatives that are in each profession class)</i>		
Student	129 (39.3%)	273 (42.5%)
Small trader	79 (24.1%)	139 (21.7%)
Businessperson	44 (13.4%)	84 (13.1%)
Home-maker	26 (7.9%)	48 (7.5%)
Unemployed	25 (7.6%)	45 (7%)
Salaried worker	21 (6.4%)	33 (5.1%)
Retired	9 (2.7%)	23 (3.6%)
Other	9 (2.7%)	20 (3.1%)
Farmer	5 (1.5%)	9 (1.4%)
<i>Symptoms, n (% of all positive/negatives that reported each symptom)</i>		
No symptoms	212 (64.6%)	463 (72.1%)
Fever	60 (18.3%)	83 (12.9%)
Headache	59 (18%)	76 (11.8%)
Cough	59 (18%)	71 (11.1%)
Runny or stuffy nose	39 (11.9%)	49 (7.6%)
Sneezing	23 (7%)	25 (3.9%)
Fatigue	14 (4.3%)	27 (4.2%)
Muscle pain	18 (5.5%)	18 (2.8%)
Smell or taste loss	13 (4%)	13 (2%)
Sore throat	8 (2.4%)	10 (1.6%)
Stomach ache	8 (2.4%)	9 (1.4%)
Diarrhoea	2 (0.6%)	11 (1.7%)
Nausea, Vomiting	4 (1.2%)	10 (1.6%)
Shortness of breath	2 (0.6%)	4 (0.6%)
Other	1 (0.3%)	3 (0.5%)

5.6 Symptoms reported (since March 1st)

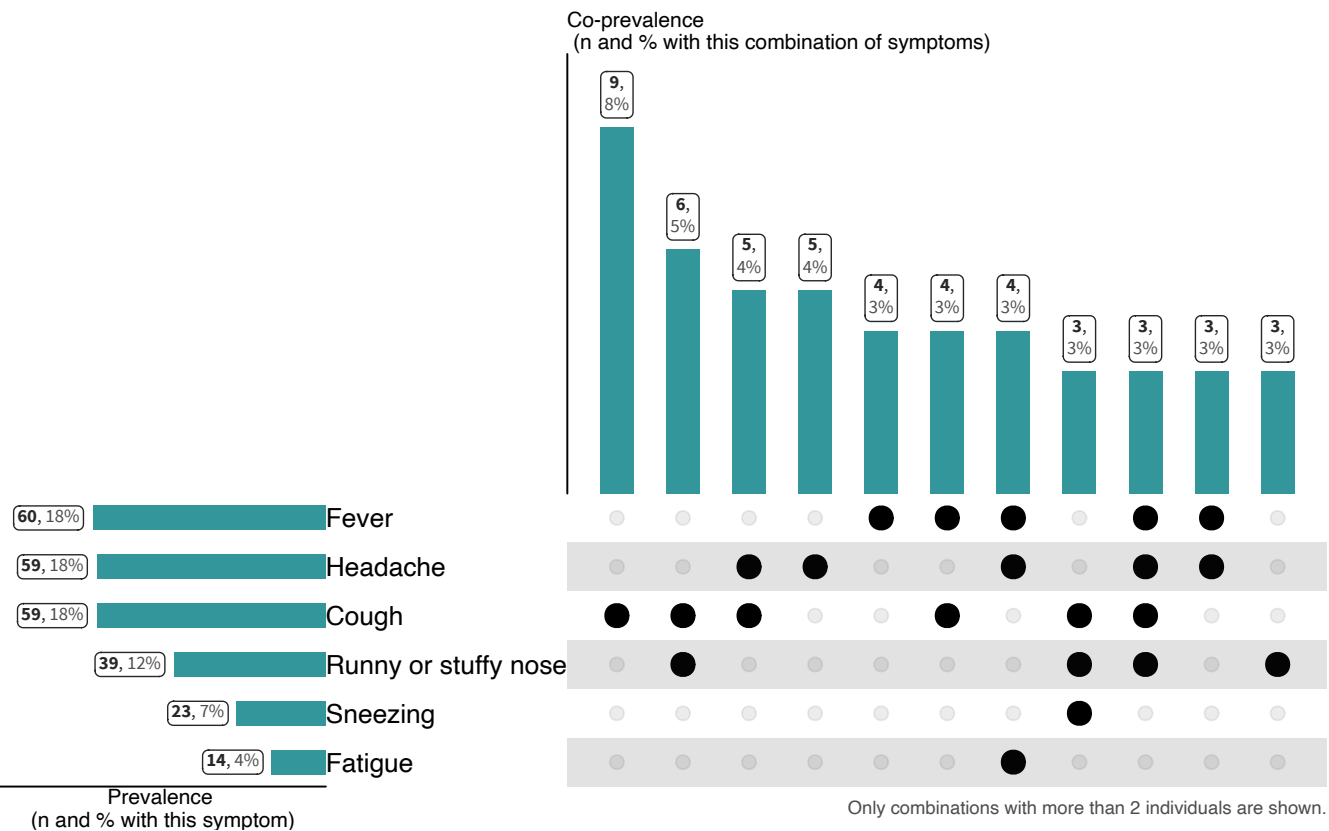
All respondents. Denominator of percentages is everyone who was surveyed.



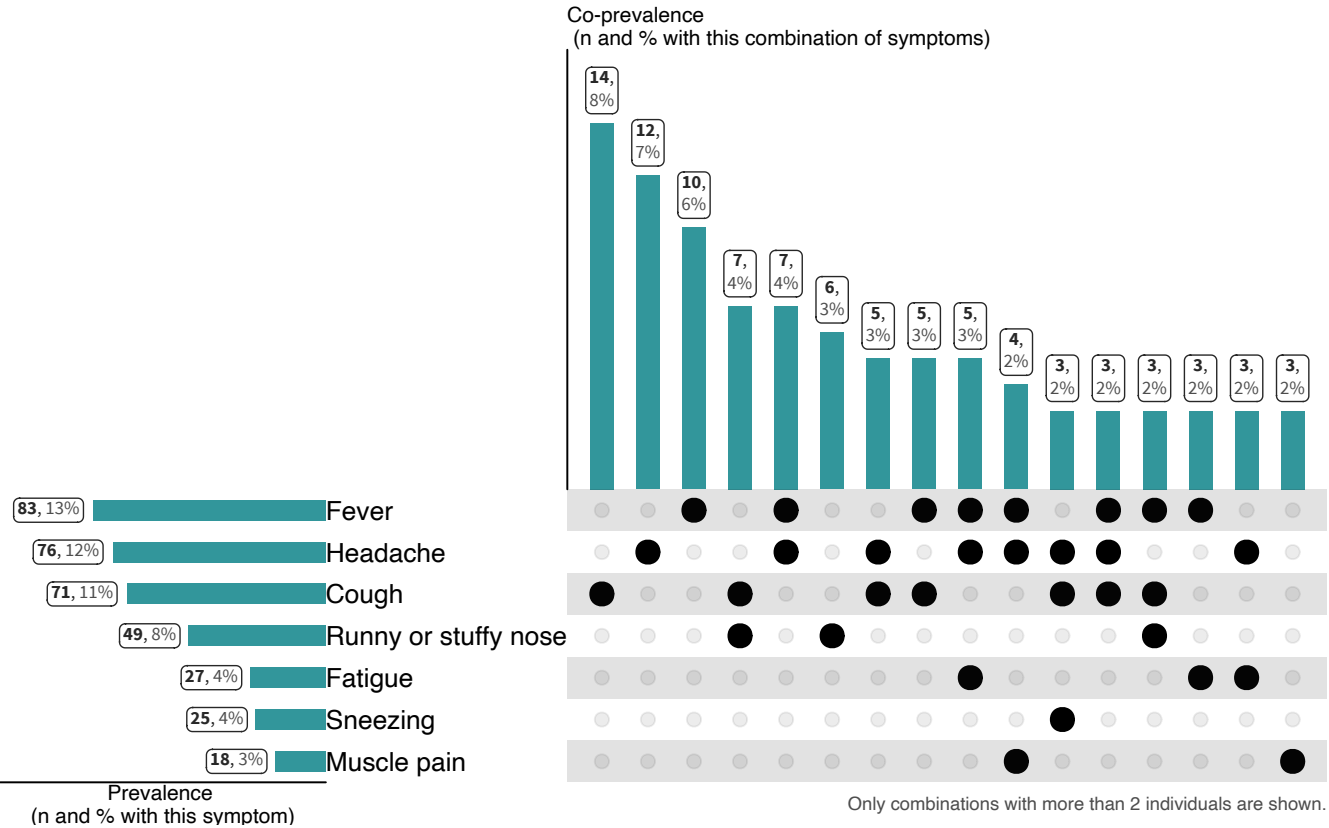
Subset of those who have had symptoms. Denominator of percentages is everyone who was surveyed.



Subset of those who had a positive IgG or IgM test and have reported symptoms. Denominator of percentages is everyone who was seropositive.



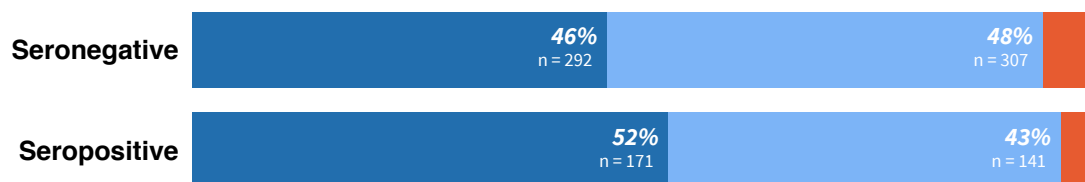
Subset of those who had negative test results for both the IgG and IgM and have reported symptoms. Denominator of percentages is everyone who was seronegative



5.7 Questions on respect of hygiene behavior

Do you follow the basic hygiene protocols (wash hands frequently, sneeze in your elbow, use a disposable tissue, etc.)

■ Definitely yes
 ■ Partly
 ■ Definitely not



Do you follow social distancing rules (avoid handshakes or hugs, avoid unnecessary outings, etc.)



Since March 1st, have you stayed confined?

