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Supplementary Information for

Asymptomatic SARS-CoV-2 infection: a systematic review and meta-analysis.

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This PDF file includes:

Table S1. Keywords for systematic search.

Database	Search terms
PubMed	("COVID-19"[All Fields] OR "2019-nCov"[All Fields] OR "SARS-CoV-2"[All Fields] OR "novel coronavirus"[All Fields] OR "coronavirus 2019"[All Fields] OR "COVID-2019"[All Fields] OR "COVID 2019"[All Fields]) AND ("asymptomatic"[All Fields] OR "presymptomatic"[All Fields] OR "no symptoms"[All Fields] OR "without any symptoms"[All Fields] OR "without symptoms"[All Fields] OR "paucisymptomatic"[All Fields] OR "sub-clinical"[All Fields] OR "silent transmission"[All Fields] OR "silent infection"[All Fields]")
Embase	(("COVID-19" OR "2019-nCov" OR "SARS-CoV-2" OR "novel coronavirus" OR "coronavirus 2019" OR "COVID-2019" OR "COVID 2019").mp. AND (("asymptomatic" OR "presymptomatic" OR "no symptoms" OR "without any symptoms" OR "without symptoms" OR "paucisymptomatic" OR "sub-clinical" OR "silent transmission" OR "silent infection").mp.)[mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
Web of Science	ts = (("COVID-19" OR "2019-nCov" OR "SARS-CoV-2" OR "novel coronavirus" OR "coronavirus 2019" OR "COVID-2019" OR "COVID 2019") AND ("asymptomatic" OR "presymptomatic" OR "no symptoms" OR "without any symptoms" OR "without symptoms" "paucisymptomatic" OR "sub-clinical" OR "silent transmission" OR "silent infection")
WHO Global Research Database on COVID-19	tw:("asymptomatic" OR "presymptomatic" OR "no symptoms" OR "without any symptoms" OR "without symptoms" OR "paucisymptomatic" OR "sub-clinical" OR "silent transmission" OR "silent infection")

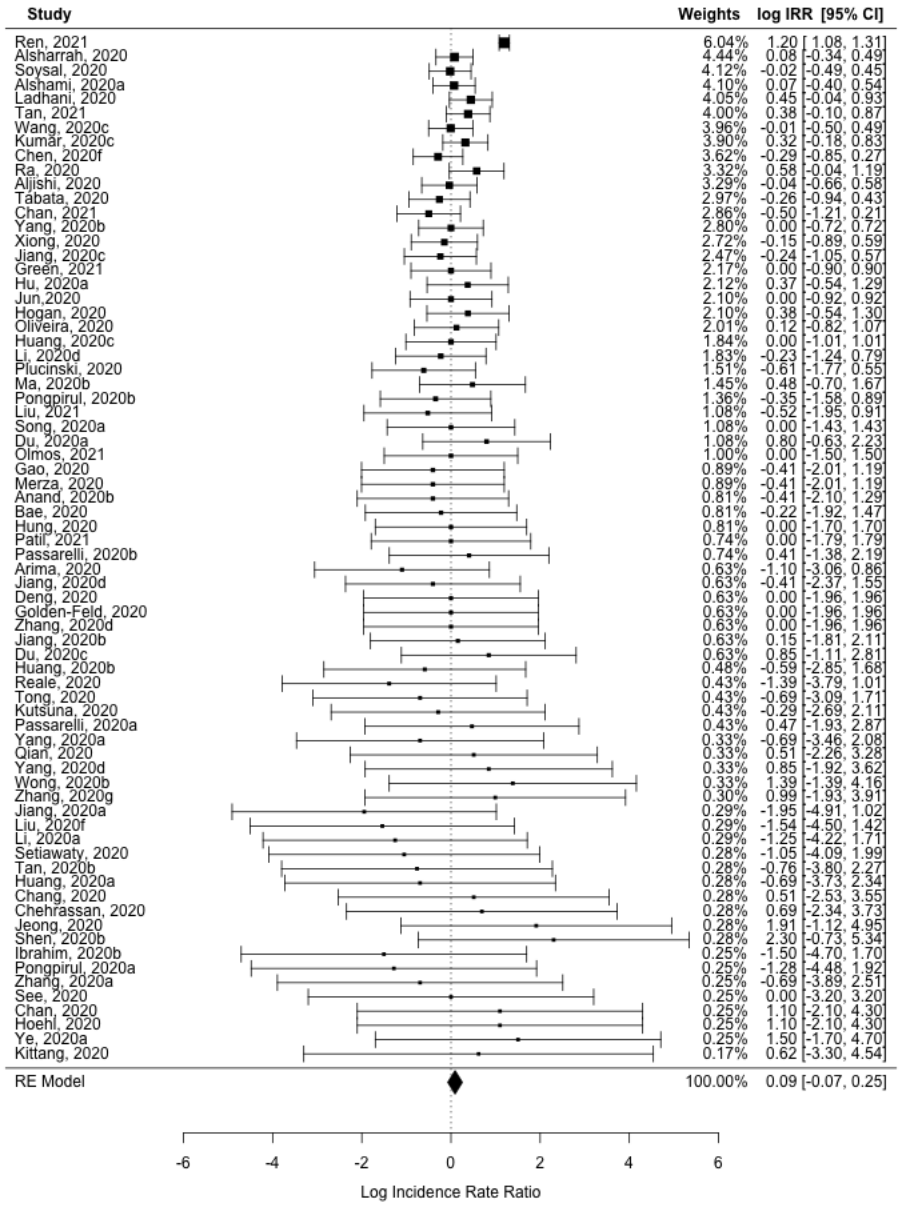

Fig. S1. Meta-analysis of sex differences in asymptomaticity. The size of black squares is proportional to the weight assigned to each study. IRR = Incidence rate ratio of males relative to females, RE=Random effects and CI=Confidence intervals.

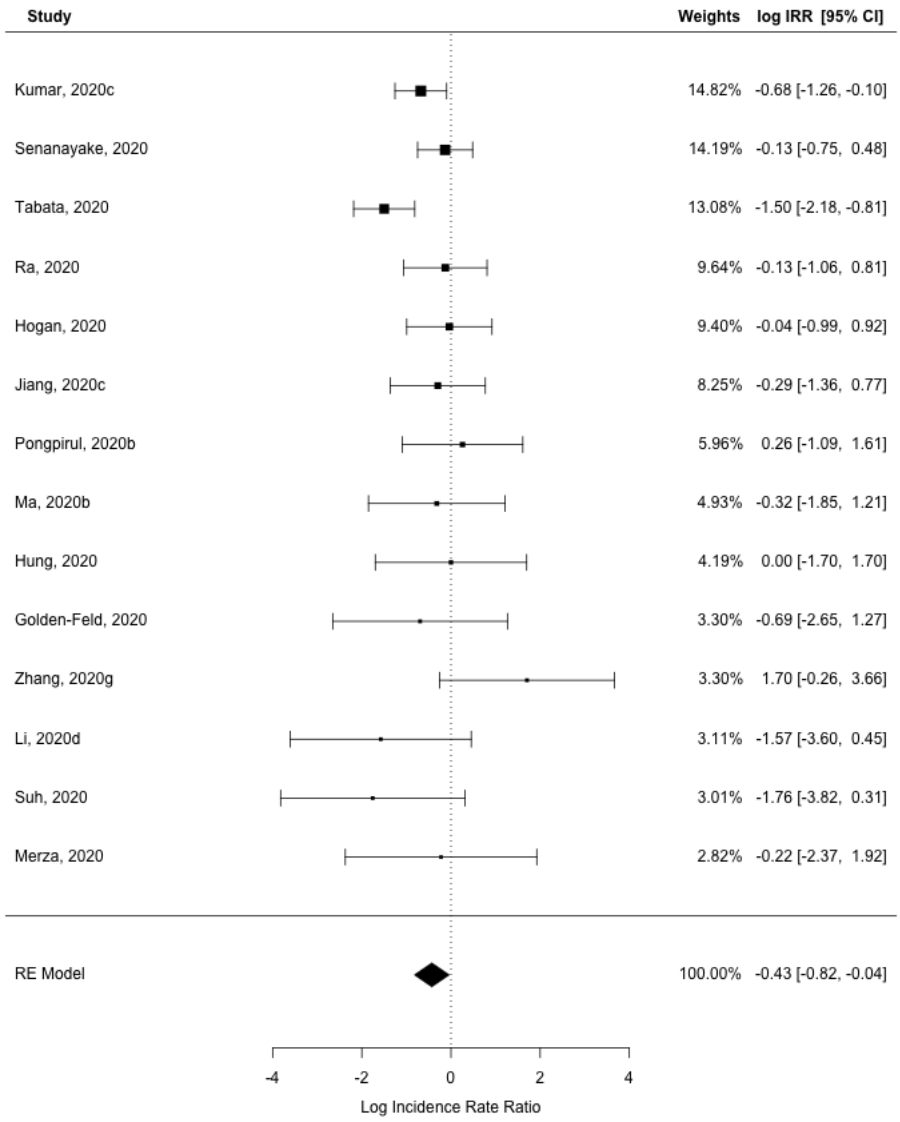

Fig. S2. Meta-analysis of asymptomaticity with respect to comorbidities. The size of black squares is proportional to the weight assigned to each study. IRR = Incidence rate ratio of cases with comorbidities relative to cases that had no comorbidities, RE=Random effects and CI=Confidence intervals.

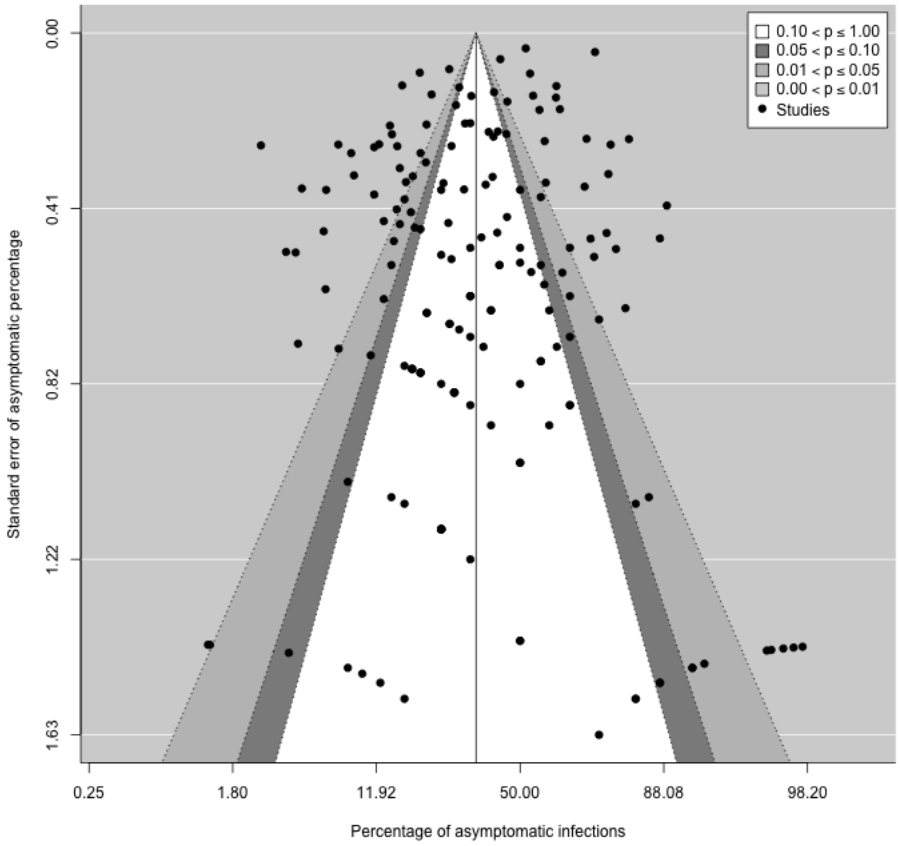

Fig. S3. Contour-enhanced funnel plot to assess small study effects for the asymptomatic percentage. Dots represent individual studies. Background shading indicates the level of statistical significance of the studies. The funnel plot is centered at the asymptomatic percentage of 35.1% (vertical line), the estimate resulting from our primary analysis. Asymmetry in the dot placement within the white region relative to the center line indicates possible areas of publication bias.

Table S2. Characteristics of studies included in the meta-analysis. Index cases are the first symptomatic case within a cluster of infections. Silent infections are those which displayed no symptoms at or prior to the time of testing. Presymptomatic are those which were silent at the time of testing and developed symptoms at a later time point. Asymptomatic are those which were silent at the time of testing and did not develop symptoms within the follow-up period. For categorization of age class, children are 0-18y, adults are 19-59y, and elderly are above 60y. Studies with cross-sectional or screening design were considered to have zero index cases since in these studies there were no sample selection bias arising from higher participation among those experiencing symptoms. For studies with population screening design, 22% reported at least one index case preceding the implementation of COVID-19 screening. NR = not reported; NA = not applicable.

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Abeysuriya, 2020[1]	7	0	6	NR	NR	7/20	adults	cross-sectional	other	UK
Abraha, 2021[2]	2,617	0	2423	488	1935	03/2021	mixed	population screening	health care facility	Ethiopia
Adetola, 2020[3]	9	0	5	NR	NR	10/20	children	prospective cohort	health care facility	Sierra Leone
Adorni, 2020[4]	856	0	118	NR	NR	9/20	mixed	cross-sectional	community	Italy
Aherfi, 2020[5]	53	6	9	NR	NR	8/20	mixed	prospective cohort	community	France
Al-Qahtani, 2020[6]	188	0	144	27	117	11/20	mixed	population screening	community	Bahrain
Al-Shamsi, 2020b[7]	32	0	25	19	6	11/20	mixed	population screening	health care facility	UAE
Albalate, 2020[8]	37	0	15	NR	NR	4/20	mixed	prospective cohort	health care facility	Spain
Almadhi, 2021[9]	1,289	0	1127	NR	NR	02/2021	mixed	contact tracing	community	Bahrain
Almazeedi, 2020[10]	1,096	0	508	35	473	7/20	mixed	population screening	community	Kuwait

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Alsharrah, 2020[11]	134	23	94	3	91	11/20	children	retrospective cohort	health care facility	Kuwait
Alvarado, 2020[12]	736	0	NR	NR	146	10/20	adults	population screening	other	USA
An, 2020[13]	25	3	25	9	16	4/20	mixed	retrospective cohort	health care facility	China
Anand, 2020b[14]	7	0	6	0	6	9/20	children	population screening	health care facility	India
Andrikopoulou,	158	0	63	NR	NR	8/20	adults	prospective cohort	other	USA
Arima, 2020[16]	12	0	6	2	4	4/20	adults	population screening	community	Japan
Arnold, 2021[17]	103	0	38	NR	NR	1/21	mixed	population screening	health care facility	USA
Arons, 2020[18]	48	0	27	24	3	5/20	elderly	population screening	nursing facility	USA
Ashahrani, 2020[19]	18	0	12	0	12	12/20	mixed	population screening	health care facility	Saudi Arabia
Aslam, 2020[20]	65	0	41	3	38	10/20	NR	population screening	health care facility	USA
Atakla, 2020[21]	36	23	11	NR	NR	12/2020	children	retrospective cohort	health care facility	Guinea
Atalla, 2020[22]	111	0	47	37	10	12/20	elderly	population screening	nursing facility	USA
Bae, 2020[23]	7	0	7	1	6	8/20	mixed	population screening	community	South Korea
Baggett, 2020[24]	147	0	129	NR	NR	4/20	mixed	population screening	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Bai, 2020a[25]	6	1	1	NR	NR	2/20	mixed	prospective cohort	household	China
Bai, 2020b[26]	7	1	5	NR	NR	2/20	mixed	population screening	household	China
Bayle, 2020[27]	32	0	24	NR	NR	12/20	NA	population screening	other	France
Beiting, 2021[28]	172	0	69	19	50	03/2021	elderly	population screening	nursing facility	USA
Bender, 2020[29]	8	0	8	3	5	9/20	adults	population screening	other	USA
Bender, 2021[30]	53	0	7	NR	NR	02/2021	mixed	contact tracing	community	Germany
Berghoff, 2020[31]	4	0	2	NR	NR	8/20	mixed	prospective cohort	health care facility	Austria
Berry, 2021[32]	91	0	56	NR	NR	02/2021	mixed (children and adults)	cross-sectional	other	USA
Bi, 2020[33]	87	0	17	NR	NR	4/20	mixed	cross-sectional	community	China
Bigelow, 2020[34]	507	153	281	NR	NR	7/20	NA	population screening	nursing facility	USA
Blain, 2020a[35]	38	0	NR	NR	6	6/20	elderly	population screening	nursing facility	USA
Blain, 2020b[36]	38	0	3	3	0	10/20	elderly	population screening	nursing facility	France
Blain, 2021[37]	161	0	28	14	14	02/2021	elderly	population screening	nursing facility	France
Blitz, 2020[38]	64	0	45	NR	NR	8/20	adults	population screening	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Blumberg, 2020[39]	7	0	6	NR	NR	7/20	children	retrospective cohort	health care facility	USA
Brandstetter, 2020[40]	31	1	1	NR	NR	5/20	mixed	population screening	health care facility	Germany
Cabraal, 2021[41]	78	26	43	NR	NR	03/2021	children	retrospective cohort	health care facility	Sri Lanka
Camara, 2020[42]	189	0	99	NR	NR	12/20	children	cross-sectional	health care facility	Guinea
Campbell, 2020[43]	30	0	22	NR	NR	5/20	adults	population screening	other	USA
Cardona-Hernandez, 2020[44]	11	2	6	NR	NR	11/20	children	prospective cohort	community	Italy
Carroll, 2020[45]	310	0	209	NR	NR	10/20	mixed	cross-sectional	community	Ireland
Cattelan, 2020[46]	395	0	109	NR	NR	8/20	mixed	population screening	health care facility	Italy
Cesilia, 2021[47]	6	1	4	NR	NR	01/2021	mixed (children and adults)	contact tracing	household	Malaysia
Chan, 2020[48]	6	2	1	0	1	1/20	mixed	population screening	household	China
Chan, 2021[49]	568	0	58	43	15	03/2021	mixed (adults and elderly)	retrospective cohort	other	USA
Chang, 2020[50]	217	0	75	NR	NR	5/20	mixed	cross-sectional	community	South Korea
Chau, 2020[51]	14	1	7	0	7	6/20	adults	prospective cohort	health care facility	Vietnam

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Chehrassan, 2020[52]	7	0	6	3	2	4/20	mixed	population screening	health care facility	Iran
Chekhlabi, 2020[53]	15	0	5	NR	NR	4/20	children	retrospective cohort	health care facility	Morocco
Chen, 2020[54]	141	51	32	NR	NR	6/20	mixed	retrospective cohort	health care facility	China
Chen, 2020a[55]	90	0	29	NR	NR	4/20	adults	retrospective cohort	health care facility	China
Chen, 2020c[56]	132	0	22	NR	NR	5/20	NR	cross-sectional	community	China
Chen, 2020d[57]	16	0	6	NR	NR	7/20	adults	population screening	flight	China
Cheng, 2020[58]	22	0	4	NR	NR	5/20	mixed	prospective cohort	community	Taiwan
Chiu, 2020[59]	4	0	1	NR	NR	4/20	mixed	prospective cohort	household	Taiwan
Choudhury, 2020[60]	6	0	1	0	1	10/20	adults	prospective cohort	health care facility	India
Clarke, 2020[61]	129	0	52	NR	NR	9/20	mixed	prospective cohort	health care facility	UK
Coppeta, 2020[62]	12	0	1	1	0	12/20	NR	population screening	health care facility	Italy
Corcorann, 2020[63]	10	2	4	1	3	8/20	elderly	prospective cohort	health care facility	USA
Cosma, 2020[64]	14	0	6	0	6	7/20	adults	population screening	other	Italy
Crameri, 2020[65]	145	0	77	NR	NR	9/20	adults	prospective cohort	other	Switzerland

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Cruz-Lemini, 2021[66]	279	0	NR	NR	174	1/21	adults	population screening	other	Spain
D'Ambrosi, 2020[67]	6	0	2	NR	NR	10/20	adults	population screening	other	Italy
da Cunha, 2020[68]	38	0	5	NR	NR	7/20	elderly	retrospective cohort	health care facility	Spain
da Silva, 2020[69]	5	1	1	NR	NR	7/20	mixed	retrospective cohort	household	Brazil
Danis, 2020[70]	13	1	1	0	1	4/20	mixed	prospective cohort	community	France
Dbeido, 2021[71]	46	0	17	NR	NR	02/2021	mixed	cross-sectional	health care facility	USA
de Jesus, 2020[72]	7	1	2	NR	NR	8/20	mixed	prospective cohort	household	Brazil
Dhuyvetter, 2020[73]	23	0	10	NR	NR	10/20	mixed	population screening	other	USA
Diaz-Corvillon,	37	0	16	NR	NR	9/20	mixed	population screening	other	Chile
Dixon, 2021[75]	368	0	91	NR	NR	03/2021	mixed	cross-sectional	community	USA
Donahue, 2020[76]	241	0	78	NR	NR	8/20	mixed	cross-sectional	other	USA
Dora, 2020[77]	19	1	14	8	6	5/20	elderly	population screening	nursing facility	USA
Du, 2020a[78]	14	0	NR	NR	8	4/20	children	retrospective cohort	health care facility	China
Du, 2020b[79]	182	4	55	NR	NR	6/20	children	retrospective cohort	health care facility	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Du, 2020c[80]	10	0	5	1	4	5/20	children	retrospective cohort	health care facility	China
Duan, 2020[81]	31	3	4	NR	NR	4/20	children	retrospective cohort	health care facility	China
Edlow, 2020[82]	64	0	23	NR	NR	12/20	adults	prospective cohort	other	USA
El-Sokkary, 2021[83]	77	0	7	NR	NR	1/21	NA	cross-sectional	health care facility	Egypt
Eythorsson, 2020[84]	178	0	38	13	25	12/20	mixed	population screening	community	Iceland
Fakhim, 2021[85]	21	0	14	NR	NR	01/2021	NA	cross-sectional	health care facility	Iran
Felice, 2020[86]	18	0	6	NR	NR	5/20	mixed	cross-sectional	health care facility	Italy
Fusco, 2020[87]	4	0	2	1	1	6/20	mixed	population screening	health care facility	Italy
Gao, 2020[88]	15	1	NR	NR	6	4/20	mixed	retrospective cohort	community	China
Gaur, 2020[89]	26	1	8	NR	NR	7/20	mixed	retrospective cohort	health care facility	India
Golden-Feld, 2020[90]	6	0	4	0	4	11/20	elderly	retrospective cohort	other	Israel
Goldfarb, 2020[91]	20	0	9	NR	NR	5/20	adults	prospective cohort	other	USA
Gonfiotti, 2020[92]	5	1	1	0	1	8/20	elderly	prospective cohort	health care facility	Italy
Gong, 2020[93]	14	3	2	NR	NR	8/20	mixed	prospective cohort	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Graham, 2020[94]	126	0	54	NR	NR	6/20	elderly	prospective cohort	nursing facility	UK
Grechukhina, 2020[95]	141	0	44	NR	NR	10/20	adults	prospective cohort	other	USA
Green, 2021[96]	22	0	22	0	22	1/21	mixed	population screening	nursing facility	UK
Greiner, 2020[97]	9	0	1	NR	NR	12/20	adults	prospective cohort	health care facility	Germany
Grijalva, 2020[98]	102	0	61	27	34	10/20	mixed	population screening	household	USA
Gruskay, 2020[99]	16	0	9	NR	NR	6/20	mixed	population screening	health care facility	USA
Gudbjartsson,	100	0	31	NR	NR	6/20	mixed	cross-sectional	community	Iceland
Guo, 2020[101]	341	131	20	NR	NR	8/20	children	retrospective cohort	health care facility	China
Gupta, 2020b[102]	19	0	19	0	19	12/20	children	population screening	health care facility	India
Gupta, 2021[103]	127	0	75	3	72	02/2021	NA	population screening	community	India
Gutman, 2021[104]	7	0	NR	NR	4	03/2021	adults	population screening	health care facility	USA
Han, 2020[105]	91	19	38	18	20	8/20	children	retrospective cohort	health care facility	South Korea
Han, 2020b[106]	10	3	2	NR	NR	7/20	mixed	prospective cohort	other	South Korea
Han, 2020c[107]	311	70	49	NR	NR	10/20	mixed	prospective cohort	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Handal, 2021[108]	2	0	1	1	0	02/2021	NA	population screening	health care facility	Norway
Harada, 2020[109]	73	0	38	5	33	10/20	mixed	population screening	health care facility	Japan
Hasanoglu, 2020[110]	60	45	15	0	15	11/20	mixed	prospective cohort	health care facility	Turkey
Hcini, 2020[111]	137	0	103	16	87	11/20	NR	population screening	other	French Guiana
He, 2020a[112]	94	48	2	0	2	4/20	adults	retrospective cohort	health care facility	China
He, 2020c[113]	35	7	7	NR	NR	12/20	children	retrospective cohort	health care facility	China
Hempel, 2020[114]	78	0	75	NR	NR	10/20	mixed	cross-sectional	health care facility	Germany
Herraiz, 2020[115]	2	0	1	NR	NR	7/20	adults	retrospective cohort	other	Spain
Hijnen, 2020[116]	12	1	2	NR	NR	5/20	adults	prospective cohort	other	Germany
Hoehl, 2020[117]	2	0	2	1	1	3/20	mixed	population screening	community	Germany
Hogan, 2020[118]	26	0	26	6	20	11/20	NR	population screening	health care facility	USA
Hong, 2020[119]	41	25	15	NR	NR	11/20	mixed	retrospective cohort	health care facility	China
Hu, 2020a[120]	24	0	24	5	19	3/20	mixed	prospective cohort	community	China
Hu, 2020b[121]	7	0	1	NR	NR	7/20	adults	prospective cohort	other	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Hu, 2021[122]	471	0	104	NR	NR	03/2021	mixed	contact tracing	community	China
Hua, 2020[123]	43	3	10	0	10	6/20	children	retrospective cohort	health care facility	China
Huang, 2020a[124]	7	1	4	2	2	4/20	mixed	retrospective cohort	household	China
Huang, 2020b[125]	8	1	4	0	4	6/20	mixed	retrospective cohort	household	China
Huang, 2020c[126]	16	0	16	0	16	9/20	mixed	population screening	health care facility	China
Huete-Perez,	122	0	67	NR	NR	1/21	mixed	population screening	health care facility	Nicaragua
Hung, 2020[128]	9	0	7	1	6	6/20	mixed	population screening	other	Hong Kong
Ibrahim, 2020b[129]	5	1	1	0	1	5/20	children	retrospective cohort	health care facility	Nigeria
Ing, 2020[130]	128	1	104	NR	NR	5/20	mixed	prospective cohort	other	Argentina
Inui, 2020[131]	104	0	76	NR	NR	3/20	mixed	retrospective cohort	other	Japan
Isoldi, 2021[132]	15	0	4	NR	NR	02/2021	children	population screening	health care facility	Italy
Jani, 2021[133]	34	1	28	NR	NR	02/2021	NA	population screening	other	USA
Jatt, 2020[134]	78	2	22	NR	NR	6/20	mixed	population screening	health care facility	USA
Jeong, 2020[135]	40	13	7	5	2	9/20	mixed	retrospective cohort	health care facility	South Korea

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Jiang, 2020a[136]	8	2	5	2	3	4/20	mixed	prospective cohort	household	China
Jiang, 2020b[137]	13	1	4	0	4	4/20	mixed	population screening	household	China
Jiang, 2020d[138]	10	0	4	0	4	10/20	children	retrospective cohort	health care facility	China
Jones, 2020[139]	20	0	7	2	5	6/20	mixed	population screening	health care facility	UK
Jones, 2021[140]	87	0	24	NR	NR	1/21	NA	population screening	community	USA
Joshi, 2020[141]	25	0	25	0	25	10/20	NR	population screening	health care facility	India
Jui-Yao, 2020[142]	55	23	9	NR	NR	12/20	mixed	retrospective cohort	community	Taiwan
Jung, 2020[143]	3	1	1	0	1	6/20	mixed	prospective cohort	health care facility	South Korea
Just, 2020[144]	40	15	14	NR	NR	12/20	mixed	retrospective cohort	health care facility	Germany
Kamiya, 2020[145]	544	1	314	NR	NR	8/20	mixed	prospective cohort	other	Japan
Kang, 2020[146]	7	0	2	0	2	12/20	children	retrospective cohort	health care facility	China
Karout, 2020[147]	76	0	76	64	12	9/20	mixed	population screening	community	USA
Kassem, 2020[148]	16	0	10	NR	NR	7/20	adults	prospective cohort	health care facility	Egypt
Ke, 2020[149]	25	7	8	NR	NR	7/20	children	prospective cohort	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Kenelly, 2020[150]	710	0	NR	NR	193	9/20	NR	population screening	nursing facility	Ireland
Khalil, 2020[151]	9	0	8	NR	NR	5/20	adults	prospective cohort	other	UK
Khondaker, 2020[152]	26	0	7	NR	NR	12/20	children	population screening	health care facility	Bangladesh
Ki, 2020[153]	28	16	3	NR	NR	2/20	mixed	retrospective cohort	health care facility	South Korea
Kimball, 2020[154]	23	0	13	10	3	4/20	elderly	population screening	nursing facility	USA
Kirshblum, 2020[155]	7	0	7	5	2	7/20	mixed	population screening	health care facility	USA
Kittang, 2020[156]	40	3	9	9	0	6/20	elderly	retrospective cohort	nursing facility	Norway
Koizumi, 2020[157]	103	74	21	NR	NR	6/20	mixed	retrospective cohort	other	Japan
Kong, 2020a[158]	28	18	3	NR	NR	2/20	mixed	retrospective cohort	community	South Korea
Kristiansen, 2021[159]	187	75	21	NR	NR	1/21	mixed	population screening	community	Denmark
Krone, 2021[160]	80	1	31	0	31	1/21	elderly	population screening	nursing facility	Germany
Kruger, 2021[161]	27	0	11	4	7	1/21	mixed	population screening	health care facility	Germany
Kute, 2020[162]	250	139	15	NR	NR	12/20	mixed	retrospective cohort	health care facility	India
Kute, 2021[163]	75	52	17	NR	NR	03/2021	NA	retrospective cohort	health care facility	India

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Kutsuna, 2020[164]	11	0	6	3	3	6/20	mixed	population screening	community	Japan
LaCourse, 2020[165]	5	0	1	NR	NR	5/20	adults	population screening	other	USA
Ladhani, 2020[166]	158	0	97	25	72	9/20	mixed	population screening	nursing facility	UK
Lai, 2020[167]	110	0	3	NR	NR	5/20	adults	prospective cohort	health care facility	China
Lamichhane,	9	1	5	3	2	03/2021	mixed (children and adults)	contact tracing	household	Canada
Lavezzo, 2020[169]	81	0	34	NR	NR	6/20	mixed	cross-sectional	community	Italy
Le, 2020[170]	12	6	1	NR	NR	4/20	mixed	prospective cohort	community	Vietnam
Lee, 2020b[171]	694	201	NR	NR	80	7/20	mixed	retrospective cohort	health care facility	South Korea
Letizia, 2020[172]	51	0	46	NR	NR	12/20	adults	prospective cohort	other	USA
Lewis, 2020b[173]	6	0	3	NR	NR	7/20	mixed	cross-sectional	health care facility	USA
Li, 2020a[174]	18	4	9	6	3	7/20	mixed	prospective cohort	health care facility	China
Li, 2020b[175]	252	114	74	NR	NR	6/20	mixed	retrospective cohort	health care facility	China
Li, 2020c[176]	7	0	6	NR	NR	7/20	mixed	retrospective cohort	health care facility	China
Li, 2020d[177]	39	2	19	4	15	9/20	children	prospective cohort	health care facility	Singapore

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Li, 2020e[178]	52	36	9	NR	NR	12/20	mixed	retrospective cohort	health care facility	China
Liao, 2020a[179]	46	35	4	2	2	5/20	mixed	retrospective cohort	health care facility	China
Lin, 2020[180]	161	122	6	NR	NR	10/20	mixed	retrospective cohort	health care facility	China
Liu, 2020b[181]	45,561	0	45,561	NR	NR	2/20	mixed	cross-sectional	community	China
Liu, 2020c[182]	321	0	11	NR	NR	5/20	mixed	prospective cohort	community	Taiwan
Liu, 2020d[183]	24	12	3	NR	NR	5/20	mixed	retrospective cohort	health care facility	China
Liu, 2020e[184]	625	310	24	NR	NR	8/20	mixed	retrospective cohort	health care facility	China
Liu, 2020f[185]	5	2	4	1	3	7/20	mixed	population screening	household	China
Liu, 2020g[186]	77	1	21	NR	NR	6/20	mixed	prospective cohort	community	China
Liu, 2020j[187]	41	11	11	NR	NR	12/20	mixed	retrospective cohort	community	China
Liu, 2021[188]	209	140	16	8	8	03/2021	mixed	retrospective cohort	health care facility	China
Lokken, 2020[189]	46	0	3	NR	NR	5/20	adults	retrospective cohort	other	USA
Lombardi, 2020[190]	139	1	28	11	17	6/20	mixed	population screening	health care facility	Italy
London, 2020[191]	68	0	22	NR	NR	8/20	adults	retrospective cohort	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Lopez, 2020[192]	7	0	4	NR	NR	9/20	children	retrospective cohort	other	USA
Lu, 2020a[193]	171	17	27	NR	NR	3/20	children	retrospective cohort	health care facility	China
Lu, 2020b[194]	619	0	318	NR	NR	2/20	mixed	prospective cohort	other	Japan
Luo, 2020a[195]	127	0	NR	NR	8	8/20	mixed	population screening	community	China
Luo, 2020b[196]	6	1	5	0	5	4/20	mixed	population screening	household	China
Ly, 2020[197]	226	37	46	NR	NR	12/20	mixed	retrospective cohort	nursing facility	France
Lytras, 2020[198]	40	0	39	4	35	4/20	mixed	population screening	community	Greece
Ma, 2020b[199]	47	12	NR	NR	11	5/20	mixed	retrospective cohort	health care facility	China
Macartney, 2020[200]	18	0	NR	NR	5	8/20	NR	prospective cohort	other	Australia
Maechler, 2020[201]	333	0	12	NR	NR	8/20	mixed	cross-sectional	community	Germany
Maggiolo, 2020[202]	55	15	10	NR	NR	7/20	adults	prospective cohort	health care facility	Italy
Malagon-Rojas, 2020[203]	16	0	NR	NR	13	09/2020	NA	population screening	other	Colombia
Malheiro, 2020[204]	98	0	12	NR	NR	9/20	mixed	retrospective cohort	community	Portugal
Maltezou, 2020a[205]	68	23	16	NR	NR	8/20	mixed	prospective cohort	household	Greece

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Maltezou, 2020b[206]	203	67	111	NR	NR	10/20	children	prospective cohort	community	Greece
Mao, 2020[207]	226	67	41	NR	NR	10/20	mixed	Contact tracing	community	China
Marcus, 2021[208]	20	8	6	NR	NR	1/21	mixed	retrospective cohort	health care facility	Israel
Marcus, 2021b[209]	403	0	199	NR	NR	02/2021	NA	cross-sectional	other	USA
Marks, 2021[210]	449	0	421	181	240	02/2021	NA	contact tracing	community	Spain
Marossy, 2020[211]	146	0	115	NR	NR	9/20	mixed	cross-sectional	nursing facility	UK
Martin, 2020[212]	41	0	31	NR	NR	6/20	adults	cross-sectional	health care facility	Belgium
Martinez-Fierro,	34	0	5	0	5	10/20	adults	population screening	community	Mexico
Martini, 2020[214]	32	0	11	NR	NR	12/20	NR	retrospective cohort	health care facility	Italy
Massarotti, 2020[215]	7	0	6	NR	NR	8/20	adults	cross-sectional	other	Italy
Matin-Villares , 2021[216]	157	0	11	NR	NR	1/21	NA	prospective cohort	health care facility	Spain
Meena, 2020[217]	8	1	4	NR	NR	9/20	NR	prospective cohort	health care facility	India
Melgosa, 2020[218]	16	0	3	NR	NR	5/20	children	retrospective cohort	health care facility	Spain
Menachemi, 2020[219]	3,605	0	1593	NR	NR	7/20	mixed	cross-sectional	community	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Menting, 2020[220]	11	0	2	NR	NR	10/20	mixed	prospective cohort	health care facility	Germany
Merza, 2020[221]	15	5	NR	NR	6	5/20	mixed	prospective cohort	health care facility	Iraq
Meyers, 2020[222]	81	0	81	23	58	6/20	mixed	population screening	community	USA
Meyers, 2021[223]	86	0	86	19	67	1/21	mixed	prospective cohort	community	USA
Migisha, 2020[224]	54	20	25	5	20	11/20	mixed	prospective cohort	community	Uganda
Miller, 2020[225]	23	0	10	NR	NR	5/20	adults	prospective cohort	other	USA
Min, 2021[226]	74	0	17	NR	NR	1/21	mixed	population screening	health care facility	China
Miyahara, 2021[227]	453	306	67	NR	NR	02/2021	mixed	prospective cohort	household	Japan
Mostafa, 2020[228]	170	0	116	NR	NR	10/20	mixed	cross-sectional	health care facility	Egypt
Myles, 2020[229]	8	0	4	NR	NR	11/2020	NA	cross-sectional	health care facility	Australia
Nakajo, 2021[230]	36	1	12	NR	NR	02/2021	NA	contact tracing	community	Japan
Namal, 2020[231]	28	0	25	NR	NR	12/20	mixed	prospective cohort	health care facility	Turkey
Negro, 2021[232]	118	0	78	NR	NR	01/2021	NA	cross-sectional	health care facility	Spain
Ng, 2020a[233]	3	0	1	1	0	3/20	mixed	population screening	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Nicolas, 2020[234]	590	293	134	45	89	12/2020	NA	prospective cohort	health care facility	Spain
Nishiura, 2020[235]	8	0	5	NR	NR	2/20	NR	prospective cohort	community	Japan
Njuguna, 2020[236]	71	0	32	3	29	7/20	mixed	population screening	other	USA
Norsa, 2020[237]	19	0	11	NR	NR	8/20	mixed	cross-sectional	health care facility	Italy
Oduro-Mensah , 2020[238]	275	107	142	NR	NR	12/2020	mixed	retrospective cohort	health care facility	Ghana
Olmos, 2021[239]	14	0	14	7	7	1/21	NA	population screening	health care facility	Chile
Ornahgi, 2020[240]	51	0	13	NR	NR	9/20	adults	prospective cohort	other	Italy
Ossareh, 2020[241]	27	0	21	NR	NR	9/20	mixed	prospective cohort	health care facility	Iran
Oster, 2020[242]	43	0	5	NR	NR	8/20	NR	cross-sectional	community	Israel
Panagiotakopoulos,	105	43	50	NR	NR	9/20	mixed	retrospective cohort	other	USA
Park, 2020a[244]	97	2	8	4	4	4/20	mixed	population screening	other	South Korea
Park, 2020b[245]	30	2	8	4	4	12/20	mixed	population screening	community	South Korea
Parri, 2020a[246]	130	67	17	NR	NR	6/20	children	retrospective cohort	health care facility	Italy
Parri, 2020b[247]	170	100	29	NR	NR	12/20	children	retrospective cohort	health care facility	Italy

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Passarelli, 2020a[248]	9	0	9	6	3	8/20	mixed	population screening	health care facility	Brazil
Passarelli, 2020b[249]	6	0	6	1	5	10/20	mixed	population screening	health care facility	Brazil
Patberg, 2020[250]	77	0	67	NR	NR	10/20	NR	retrospective cohort	other	USA
Patel, 2020a[251]	35	1	14	1	13	6/20	elderly	population screening	nursing facility	USA
Patel, 2020b[252]	2	0	1	NR	NR	8/20	children	population screening	health care facility	USA
Patil, 2021[253]	5	0	5	0	5	01/2021	children	population screening	health care facility	USA
Pavli, 2020a[254]	48	2	NR	NR	7	6/20	mixed	prospective cohort	community	Greece
Pavli, 2020b[255]	5	0	2	NR	NR	9/20	mixed	prospective cohort	community	Greece
Payne, 2020[256]	238	0	44	NR	NR	6/20	adults	prospective cohort	other	USA
Petersen, 2020[257]	115	0	88	NR	NR	10/20	NR	cross-sectional	community	UK
Pham, 2020[258]	270	53	120	31	89	8/20	mixed	prospective cohort	community	Vietnam
Pirnay, 2020[259]	9	0	4	NR	NR	8/20	adults	cross-sectional	other	Belgium
Plucinski, 2020[260]	66	0	NR	NR	14	8/20	mixed	population screening	other	USA
Pollan, 2020[261]	3,054	0	992	NR	NR	7/20	mixed	cross-sectional	community	Spain

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Pongpirul, 2020a[262]	11	4	1	0	1	4/20	mixed	prospective cohort	health care facility	Thailand
Prabhu, 2020[263]	70	0	42	NR	NR		adults	prospective cohort	other	USA
Pray, 2020[264]	78	1	1	NR	NR	10/20	mixed	prospective cohort	other	USA
Puylaert, 2020[265]	18	0	NR	NR	2	7/20	mixed	population screening	health care facility	Netherlands
Qian, 2020[266]	8	1	2	0	2	3/20	mixed	population screening	household	China
Qiang, 2020b[267]	52	15	5	NR	NR	5/20	mixed	prospective cohort	household	China
Qin, 2020[268]	80	20	15	4	11	7/20	mixed	retrospective cohort	community	China
Qiu, 2020a[269]	36	4	10	NR	NR	3/20	children	retrospective cohort	health care facility	China
Qiu, 2020b[270]	104	22	NR	NR	5	5/20	mixed	prospective cohort	health care facility	China
Rajme-Lopez, 2021[271]	111	0	31	14	17	02/2021	mixed (adults and elderly)	population screening	health care facility	Mexico
Ralli, 2020[272]	12	0	9	0	9	12/20	NR	population screening	other	Italy
Randremanana, 2021[273]	5,553	0	3311	NR	NR	02/2021	mixed	cross-sectional	community	Madagascar
Reale, 2020[274]	18	7	11	8	3	8/20	mixed	retrospective cohort	health care facility	Italy
Reale, 2021[275]	93	0	80	NR	NR	1/21	NA	population screening	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Reid, 2020[276]	5	0	3	3	0	12/20	NA	population screening	health care facility	Canada
Ren, 2021[277]	30	0	NR	NR	6	05/2020	mixed (adults and elderly)	population screening	health care facility	UK
Rincon, 2020[278]	36	22	14	5	9	7/20	mixed	population screening	health care facility	Spain
Rivera, 2020[279]	61	0	61	7	54	8/20	mixed	population screening	health care facility	USA
Rivett, 2020[280]	30	0	NR	NR	6	5/20	mixed	population screening	health care facility	UK
Roberts, 2021[281]	30	0	20	5	15	1/21	NA	population screening	health care facility	USA
Rogers, 2020[282]	29	0	21	NR	NR	9/20	mixed	cross-sectional	community	USA
Roxby, 2020[283]	6	0	4	NR	NR	5/20	elderly	prospective cohort	nursing facility	USA
Sabetian, 2021[284]	273	0	97	NR	NR	03/2021	NA	cross-sectional	health care facility	Iran
Sacco, 2020[285]	41	3	3	NR	NR	6/20	elderly	retrospective cohort	nursing facility	France
Saeed, 2020[286]	28	0	16	0	16	12/20	NR	population screening	health care facility	UK
Saenz, 2020[287]	29	0	24	NR	NR	6/20	mixed	prospective cohort	other	Peru
Saidy, 2020[288]	3	0	3	0	3	6/20	mixed	population screening	health care facility	Germany
Sakowicz, 2020[289]	101	0	24	NR	NR	8/20	adults	retrospective cohort	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Saluja, 2020[290]	406	140	244	NR	NR	5/20	mixed	retrospective cohort	health care facility	India
Samrah, 2020[291]	81	2	37	NR	NR	7/20	mixed	retrospective cohort	health care facility	Jordan
Sanchez, 2020[292]	1,207	0	461	NR	NR	7/20	elderly	prospective cohort	nursing facility	USA
Sastry, 2020[293]	79	0	12	NR	NR	7/20	mixed	cross-sectional	health care facility	USA
Saurabh, 2020[294]	48	0	44	NR	NR	10/20	mixed	prospective cohort	community	India
Saviron-Cornudella,	6	0	4	NR	NR	11/20	adults	population screening	other	Spain
Saviron-Cornudella , 2021[296]	22	0	20	NR	NR	02/2021	NA	cross-sectional	other	Spain
Scheier, 2021[297]	68	0	8	NR	NR	1/21	mixed	cross-sectional	health care facility	Switzerland
Schwierzeck,	12	1	6	4	2	4/20	mixed	population screening	health care facility	Germany
See, 2020[299]	4	1	2	1	1	3/20	children	prospective cohort	health care facility	Malaysia
Senanayake,	53	0	41	0	41	10/20	mixed	population screening	health care facility	Sri Lanka
Setiawaty, 2020[301]	11	0	2	0	2	10/20	mixed	prospective cohort	community	Indonesia
Sharma, 2020c[302]	121	7	87	NR	NR	12/20	children	prospective cohort	health care facility	Nepal
Sharma, 2021a[303]	125	0	88	NR	NR	01/2021	NA	prospective cohort	other	India

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Sharma, 2021b[304]	2	0	2	0	2	02/2021	children	population screening	health care facility	India
Shen, 2020a[305]	9	0	2	NR	NR	4/20	children	retrospective cohort	health care facility	China
Shen, 2020b[306]	3	1	2	0	2	12/20	mixed	population screening	household	China
Shi, 2020a[307]	146	0	66	45	21	8/20	elderly	population screening	nursing facility	USA
Shi, 2020b[308]	245	96	1	NR	NR	11/20	mixed	retrospective cohort	health care facility	China
Shmakov, 2020[309]	66	0	15	NR	NR	11/20	adults	population screening	other	Russia
Singer, 2020[310]	18	0	6	NR	NR	8/20	mixed	retrospective cohort	health care facility	USA
Singh, 2021[311]	132	0	86	NR	NR	02/2021	mixed (children and adults)	cross-sectional	other	India
Son, 2020[312]	108	0	12	8	4	6/20	mixed	population screening	community	South Korea
Song, 2020a[313]	16	4	NR	NR	8	4/20	children	retrospective cohort	health care facility	China
Soriano-Arandes, 2021[314]	756	0	400	NR	NR	03/2021	children	prospective cohort	community	Spain
Soysal, 2020[315]	237	29	70	0	70	12/20	children	retrospective cohort	health care facility	Turkey
Stadler, 2021[316]	26	0	6	NR	NR	02/2021	NA	cross-sectional	health care facility	Switzerland
Stessel, 2021[317]	14	0	6	3	3	02/2021	mixed	population screening	health care facility	Belgium

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Stock, 2020[318]	19	0	9	2	7	8/20	adults	population screening	health care facility	USA
Sugano, 2020[319]	108	1	23	NR	NR	8/20	mixed	retrospective cohort	other	Japan
Suh, 2020[320]	161	102	27	17	10	8/20	mixed	retrospective cohort	health care facility	South Korea
Sun, 2020a[321]	74	0	22	NR	NR	6/20	children	retrospective cohort	health care facility	China
Sutton, 2020[322]	33	0	29	NR	NR	5/20	adults	prospective cohort	other	USA
Szegedi, 2020[323]	1	0	1	0	1	12/20	NR	population screening	health care facility	Austria
Tabata, 2020[324]	104	0	43	10	33	6/20	mixed	population screening	other	Japan
Tambe, 2020[325]	197	140	45	NR	NR	6/20	mixed	population screening	health care facility	India
Tan-Loh, 2021[326]	46	0	NR	NR	6	1/21	NA	retrospective cohort	health care facility	Malaysia
Tan, 2020a[327]	13	0	2	NR	NR	4/20	children	retrospective cohort	health care facility	China
Tan, 2020b[328]	10	0	NR	NR	2	4/20	children	retrospective cohort	health care facility	China
Tan, 2021[329]	199	10	146	43	103	03/2021	mixed	retrospective cohort	health care facility	Malaysia
Tang, 2020b[330]	752	0	424	NR	NR	10/20	elderly	retrospective cohort	nursing facility	USA
Tariq, 2020[331]	67	0	17	NR	NR	8/20	mixed	prospective cohort	health care facility	Saudi Arabia

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Tawar, 2021[332]	27	2	19	NR	NR	01/2021	NA	contact tracing	community	India
Taylor, 2020[333]	255	38	126	110	16	9/20	mixed	prospective cohort	nursing facility	USA
Temel, 2020[334]	81	1	21	5	16	12/20	children	retrospective cohort	health care facility	Turkey
Thangaraj, 2020[335]	17	1	16	8	8	6/20	mixed	population screening	community	India
Thiel, 2020[336]	43	0	NR	NR	11	10/20	mixed	prospective cohort	community	Liechtenstein
Thompson, 2020[337]	51	1	14	NR	NR	10/20	NR	prospective cohort	health care facility	USA
Tian, 2020a[338]	262	86	13	NR	NR	2/20	mixed	retrospective cohort	health care facility	China
Tompkins, 2021[339]	431	0	350	NR	NR	04/2021	mixed	cross-sectional	other	USA
Tong, 2020[340]	6	1	3	0	3	5/20	mixed	population screening	household	China
Trahan, 2020[341]	10	0	8	NR	NR	11/20	adults	retrospective cohort	other	Canada
Tsou, 2020[342]	100	78	NR	NR	10	7/20	mixed	prospective cohort	community	Taiwan
Venkataram, 2020[343]	8	0	7	NR	NR	9/20	mixed	population screening	health care facility	India
Villa, 2021[344]	70	0	34	NR	NR	03/2021	NA	cross-sectional	health care facility	USA
Wadhwa, 2020[345]	19	0	12	4	8	12/20	adults	population screening	other	USA

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Wang, 2020c[346]	279	0	NR	NR	63	5/20	mixed	retrospective cohort	community	China
Wang, 2020e[347]	12	0	2	0	2	11/20	adults	prospective cohort	health care facility	China
Wang, 2020f[348]	1,369	1,112	209	NR	NR	12/20	children	retrospective cohort	health care facility	China
Wang, 2021[349]	5	1	2	NR	NR	1/21	mixed	prospective cohort	household	China
Wanwan, 2020[350]	189	0	54	NR	NR	6/20	mixed	prospective cohort	household	China
Wi, 2020[351]	111	0	25	18	7	7/20	mixed	prospective cohort	community	China
Wong, 2020a[352]	138	0	58	42	16	5/20	NR	population screening	community	Brunei
Wong, 2020b[353]	5	1	3	1	2	5/20	mixed	prospective cohort	community	Malaysia
Wu, 2020c[354]	83	35	NR	NR	8	5/20	mixed	population screening	household	China
Wu, 2020e[355]	23	6	3	NR	NR	4/20	children	retrospective cohort	health care facility	China
Wu, 2020f[356]	58	19	13	6	7	10/20	NR	retrospective cohort	health care facility	China
Xi, 2020[357]	18	14	7	7	0	5/20	mixed	retrospective cohort	health care facility	China
Xie, 2021[358]	73	20	4	NR	NR	02/2021	NA	contact tracing	household	China
Xiong, 2020[359]	131	0	NR	NR	28	7/20	elderly	population screening	health care facility	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Xu, 2020b[360]	32	3	11	NR	NR	5/20	children	retrospective cohort	health care facility	China
Xu, 2020c[361]	5	0	4	NR	NR	7/20	mixed	prospective cohort	health care facility	China
Yan, 2020[362]	65	0	6	NR	NR	4/20	adults	retrospective cohort	other	China
Yang, 2020a[363]	6	1	2	0	2	5/20	mixed	prospective cohort	household	China
Yang, 2020b[364]	78	0	NR	NR	33	5/20	mixed	prospective cohort	health care facility	China
Yang, 2020c[365]	37	0	6	NR	NR	7/20	mixed	prospective cohort	community	China
Yang, 2020d[366]	10	0	2	0	2	7/20	adults	population screening	community	China
Yao-Ling, 2020[367]	115	10	61	NR	NR	4/20	children	retrospective cohort	health care facility	China
Yassa, 2020[368]	23	0	12	NR	NR	7/20	adults	prospective cohort	other	Turkey
Yau, 2020[369]	11	1	6	3	3	7/20	elderly	population screening	health care facility	Canada
Yayla, 2020a[370]	220	3	55	NR	NR	8/20	children	retrospective cohort	health care facility	Turkey
Yayla, 2020b[371]	77	1	19	NR	NR	10/2020	children	retrospective cohort	health care facility	Turkey
Ye, 2020a[372]	5	1	4	3	1	3/20	adults	population screening	household	China
Ye, 2020b[373]	33	0	4	NR	NR	5/20	mixed	prospective cohort	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Yilmaz, 2020[374]	105	14	59	NR	NR	9/20	children	retrospective cohort	health care facility	Turkey
Yombi, 2020[375]	10	0	6	NR	NR	9/20	NR	population screening	other	Belgium
Yue, 2020[376]	86	50	16	NR	NR	7/20	mixed	retrospective cohort	health care facility	China
Zamzuri, 2020[377]	214	52	84	NR	NR	11/20	mixed	retrospective cohort	community	Malaysia
Zhan, 2020[378]	405	343	12	NR	NR	8/20	mixed	retrospective cohort	health care facility	China
Zhang, 2020a[379]	5	1	2	1	1	3/20	adults	population screening	household	China
Zhang, 2020d[380]	12	0	4	0	4	5/20	mixed	population screening	community	China
Zhang, 2020e[381]	10	0	2	0	2	6/20	mixed	prospective cohort	community	China
Zhang, 2020f[382]	33	3	8	NR	NR	6/20	children	retrospective cohort	health care facility	China
Zhang, 2020g[383]	13	7	4	0	4	7/20	mixed	population screening	household	China
Zhang, 2020h[384]	424	0	148	NR	NR	9/20	mixed	retrospective cohort	health care facility	China
Zhang, 2020i[385]	22	3	14	0	14	11/20	mixed	prospective cohort	household	China
Zhao, 2020b[386]	160	122	38	11	27	8/20	mixed	population screening	health care facility	China
Zheng, 2020b[387]	307	132	17	9	8	6/20	mixed	prospective cohort	community	China

Study	Cases	Index cases	No symptoms	Presymptomatic	Asymptomatic	Publication date	Age class	Study design	Study setting	Country
Zhiqiang, 2020[388]	27	1	1	NR	NR	9/20	NR	prospective cohort	community	China
Zhou, 2020b[389]	9	3	5	NR	NR	3/20	children	retrospective cohort	health care facility	China
Zou, 2020[390]	18	14	1	NR	NR	2/20	mixed	prospective cohort	community	China

Table S3. Risk of bias assessment with modified ROBINS-I checklist

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Abraha, 2021	low	low	low	low	low	low	low	low
Al-Qahtani, 2020	low	low	low	low	low	low	low	low
Al-Shamsi, 2020b	low	low	low	low	low	low	low	low
Almazeedi, 2020	low	severe	low	low	low	low	low	severe
Alsharrah, 2020	low	low	low	low	low	low	low	low
Alvarado, 2020	low	low	low	low	low	low	low	low
An, 2020	moderate	severe	severe	low	low	low	low	severe
Anand, 2020b	low	low	low	low	low	low	severe	severe
Arima, 2020	moderate	low	low	low	low	low	low	moderate
Arons, 2020	low	low	low	low	low	low	moderate	moderate
Ashahrani, 2020	low	low	low	severe	low	low	severe	severe
Aslam, 2020	moderate	low	low	low	low	low	low	moderate
Atalla, 2020	low	low	low	low	low	low	low	low
Bae, 2020	low	severe	low	low	low	low	low	severe
Beiting, 2021	low	low	low	moderate	low	low	low	moderate
Bender, 2020	low	severe	low	low	low	low	low	severe
Blain, 2020a	low	low	low	low	low	low	low	low
Blain, 2020b	low	low	low	moderate	low	low	low	moderate
Blain, 2021	low	low	low	low	low	low	low	low
Chan, 2020	severe	low	low	low	low	low	low	severe
Chan, 2021	low	low	low	low	low	low	low	low

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Chang, 2020	low	low	low	severe	low	low	low	severe
Chau, 2020	low	low	low	low	low	low	low	low
Chehrassan, 2020	low	low	severe	low	moderate	severe	low	severe
Choudhury, 2020	severe	low	low	low	low	low	low	severe
Coppeta, 2020	low	low	low	low	low	low	low	low
Corcorann, 2020	low	low	low	severe	low	low	low	severe
Cosma, 2020	low	low	low	severe	low	low	low	severe
Cruz-Lemini, 2021	low	severe	low	low	low	low	low	severe
Danis, 2020	low	low	low	severe	low	low	severe	severe
Dora, 2020	low	low	low	severe	low	low	low	severe
Du, 2020a	low	low	low	low	low	low	low	low
Du, 2020c	low	low	low	low	low	low	low	low
Eythorsson, 2020	low	low	low	severe	low	low	low	severe
Fusco, 2020	low	severe	low	moderate	low	low	low	severe
Gao, 2020	severe	low	low	moderate	low	low	low	severe
Golden-Feld, 2020	low	low	low	low	low	low	low	low
Gonfiotti, 2020	low	low	severe	low	low	low	low	severe
Green, 2021	low	low	low	low	low	low	low	low
Grijalva, 2020	low	low	low	severe	low	low	low	severe
Gupta, 2020b	low	low	severe	low	low	low	low	severe
Gupta, 2021	low	low	low	low	low	low	low	low
Gutman, 2021	low	severe	low	low	low	low	low	severe
Han, 2020	low	low	low	low	low	low	low	low

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Handal, 2021	low	low	low	moderate	severe	severe	severe	severe
Harada, 2020	low	low	low	low	low	low	low	low
Hasanoglu, 2020	low	low	low	low	low	low	low	low
Hcini, 2020	low	low	low	severe	low	low	low	severe
He, 2020a	low	low	low	low	low	low	low	low
Hoehl, 2020	low	low	low	low	low	low	low	low
Hogan, 2020	low	severe	low	severe	low	low	low	severe
Hu, 2020a	low	severe	low	low	low	low	severe	severe
Hua, 2020	low	low	low	low	low	low	low	low
Huang, 2020a	low	low	low	low	low	low	low	low
Huang, 2020b	low	low	low	low	low	low	low	low
Huang, 2020c	low	severe	low	low	low	severe	moderate	severe
Hung, 2020	low	low	low	low	low	low	low	low
Ibrahim, 2020b	low	low	low	low	low	low	low	low
Jeong, 2020	low	low	low	low	low	low	low	low
Jiang, 2020a	low	low	low	severe	low	low	low	severe
Jiang, 2020b	low	low	low	low	low	low	low	low
Jiang, 2020d	low	low	low	low	low	low	low	low
Jones, 2020	low	low	low	low	low	low	low	low
Joshi, 2020	low	low	low	low	low	low	low	low
Jung, 2020	low	low	low	low	low	low	low	low
Kang, 2020	low	low	low	low	low	low	low	low
Karout, 2020	low	low	low	low	severe	severe	low	severe

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Kenelly, 2020	low	low	low	low	low	low	low	low
Kimball, 2020	low	low	low	low	low	low	low	low
Kirshblum, 2020	low	low	low	low	low	low	low	low
Kittang, 2020	low	low	low	low	low	low	low	low
Krone, 2021	low	low	low	low	low	low	low	low
Kruger, 2021	low	low	low	low	severe	severe	moderate	severe
Kutsuna, 2020	low	low	low	low	low	low	low	low
Ladhani, 2020	low	low	low	low	low	low	low	low
Lamichhane, 2021	low	low	moderate	severe	low	low	low	severe
Lee, 2020b	low	low	low	low	low	low	low	low
Li, 2020a	low	low	low	low	low	low	low	low
Li, 2020d	low	low	low	low	low	low	low	low
Liao, 2020a	low	low	low	severe	low	low	low	severe
Liu, 2020f	low	low	low	low	low	low	low	low
Liu, 2021	low	low	low	low	low	low	low	low
Lombardi, 2020	low	low	low	low	low	low	low	low
Luo, 2020a	low	low	low	severe	low	low	severe	severe
Luo, 2020b	low	low	low	low	low	low	low	low
Lytras, 2020	low	low	low	severe	low	low	low	severe
Ma, 2020b	low	low	low	low	low	low	low	low
Macartney, 2020	low	severe	low	severe	low	low	low	severe
Malagon-Rojas, 2020	low	low	low	moderate	low	low	low	moderate
Marks, 2021	low	severe	low	severe	low	low	low	severe

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Martinez-Fierro, 2020	severe	low	low	severe	low	low	severe	severe
Merza, 2020	low	low	low	low	low	low	low	low
Meyers, 2020	low	severe	low	severe	low	low	severe	severe
Meyers, 2021	low	severe	low	severe	low	low	low	severe
Migisha, 2020	low	low	low	low	low	low	low	low
Ng, 2020a	low	low	low	low	low	low	low	low
Nicolas, 2020	low	low	low	moderate	low	low	low	moderate
Njuguna, 2020	low	low	low	severe	low	low	low	severe
Olmos, 2021	low	low	low	low	low	low	low	low
Park, 2020a	low	low	low	low	low	low	low	low
Park, 2020b	low	low	low	severe	low	low	severe	severe
Passarelli, 2020a	low	low	low	low	severe	severe	severe	severe
Passarelli, 2020b	severe	low	low	low	low	low	low	severe
Patel, 2020a	low	low	low	low	low	low	low	low
Patil, 2021	moderate	low	low	low	low	low	low	moderate
Pavli, 2020a	low	low	low	severe	severe	low	severe	severe
Pham, 2020	low	low	low	severe	severe	severe	moderate	severe
Plucinski, 2020	low	low	low	severe	low	low	low	severe
Pongpirul, 2020a	severe	low	low	low	low	low	low	severe
Puylaert, 2020	low	severe	low	severe	low	low	low	severe
Qian, 2020	moderate	low	low	low	low	low	low	moderate
Qin, 2020	low	low	low	low	severe	severe	moderate	severe
Qiu, 2020b	low	low	low	low	low	low	low	low

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Rajme-Lopez, 2021	low	low	low	severe	low	low	low	severe
Ralli, 2020	low	low	low	low	low	low	severe	severe
Reale, 2020	low	low	low	low	severe	low	severe	severe
Reid, 2020	low	severe	low	low	severe	severe	severe	severe
Ren, 2021	low	low	low	low	low	low	low	low
Rincon, 2020	low	low	low	low	low	low	low	low
Rivera, 2020	low	severe	low	low	low	low	low	severe
Rivett, 2020	low	low	low	severe	severe	severe	moderate	severe
Roberts, 2021	low	low	low	severe	low	low	low	severe
Saeed, 2020	low	low	low	severe	severe	severe	moderate	severe
Saidy, 2020	low	low	low	low	low	low	low	low
Schwierzeck, 2020	low	low	low	low	low	low	low	low
See, 2020	low	low	low	low	low	low	low	low
Senanayake, 2020	low	low	low	low	low	low	low	low
Setiawaty, 2020	severe	low	low	low	low	low	low	severe
Sharma, 2021b	low	low	low	low	moderate	moderate	moderate	moderate
Shen, 2020b	low	low	low	severe	low	low	low	severe
Shi, 2020	low	low	severe	low	low	low	severe	severe
Son, 2020	low	low	low	moderate	severe	severe	moderate	severe
Song, 2020a	low	low	severe	low	low	low	low	severe
Soysal, 2020	low	low	low	low	low	low	low	low
Stessel, 2021	low	low	low	severe	low	low	low	severe
Stock, 2020	low	severe	low	low	low	low	low	severe

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Suh, 2020	low	low	low	low	low	low	low	low
Szegedi, 2020	low	low	low	low	low	low	low	low
Tabata, 2020	low	low	low	low	severe	severe	low	severe
Tan-Loh, 2021	low	low	low	low	low	low	low	low
Tan, 2020b	low	low	low	low	low	low	low	low
Tan, 2021	low	low	low	low	low	low	low	low
Taylor, 2020	low	low	low	low	low	low	severe	severe
Temel, 2020	low	low	low	severe	low	severe	low	severe
Thangaraj, 2020	low	low	low	low	low	low	low	low
Thiel, 2020	low	low	low	severe	low	low	low	severe
Tong, 2020	low	low	low	severe	low	low	low	severe
Tsou, 2020	low	low	low	low	low	low	low	low
Wadhwa, 2020	low	low	low	severe	low	low	low	severe
Wang, 2020c	low	severe	low	low	severe	severe	severe	severe
Wang, 2020e	low	low	severe	low	low	low	low	severe
Wi, 2020	low	low	low	low	low	low	low	low
Wong, 2020a	low	low	low	low	low	low	severe	severe
Wong, 2020b	severe	low	low	low	low	low	low	severe
Wu, 2020c	low	low	low	low	low	low	low	low
Wu, 2020f	low	low	low	low	severe	severe	low	severe
Xi, 2020	low	low	low	low	low	low	low	low
Xiong, 2020	low	low	low	low	low	low	severe	severe
Yang, 2020a	severe	low	low	low	low	low	low	severe

Study	Item 1*	Item 2*	Item 3*	Item 4*	Item 5*	Item 6*	Item 7*	Overall score
Yang, 2020b	low	low	low	low	severe	severe	severe	severe
Yang, 2020d	severe	low	low	low	low	low	severe	severe
Yau, 2020	severe	low	low	low	low	low	low	severe
Ye, 2020a	low	low	low	low	severe	severe	low	severe
Zhang, 2020a	low	low	low	low	severe	severe	low	severe
Zhang, 2020d	low	severe	low	low	low	low	low	severe
Zhang, 2020e	severe	low	low	severe	low	low	low	severe
Zhang, 2020g	low	low	low	low	low	low	low	low
Zhang, 2020i	severe	low	low	low	low	low	low	severe
Zhao, 2020b	low	low	low	low	low	low	low	low
Zheng, 2020b	low	low	low	low	low	low	low	low

*(1) Enrollment of all patients satisfying the criteria for inclusion, (2) enrollment of cases regardless of symptom status, (3) confirmation of cases using RT-PCR, (4) symptoms monitored by clinicians rather than self-reporting, (5) symptom assessment at the end of the follow-up period, (6) symptom follow-up duration of at least seven days, (7) loss to follow-up less than 5%.

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