

# Electronic Supplementary Material

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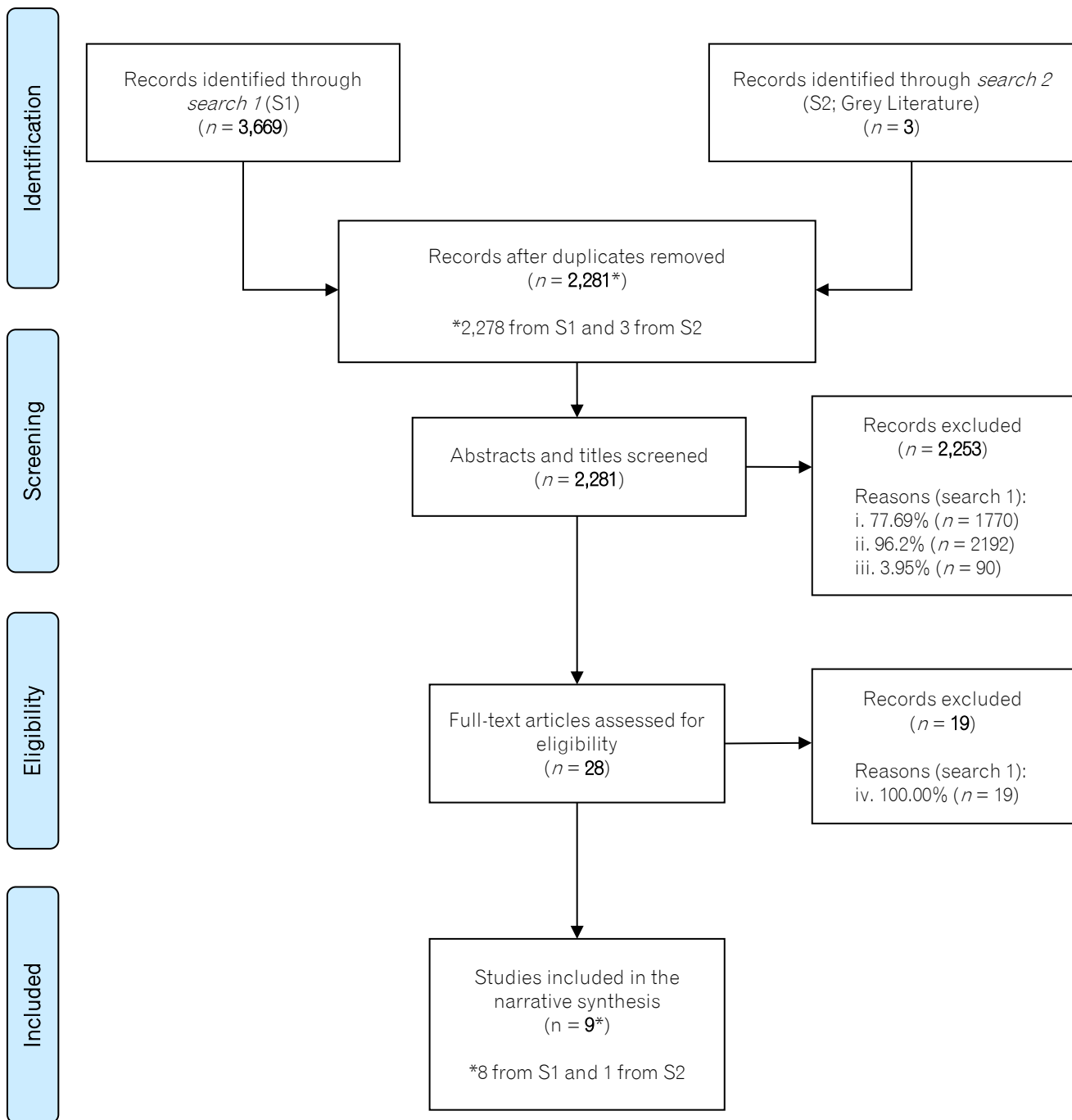
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## **Full List of Research Questions**

The research questions guiding this systematic review include: 1) Does exposure to an infectious disease-related public health emergency result in different levels of risk: (a) across age groups (adolescents and young adults; adults; older adults), (b) by sex and gender, (c) across different socio-demographic and economic groups, (d) in people who have been infected compared to those who have not, and (e) in those with pre-existing health conditions (including mental health disorders); (f) does the literature report other groups with increased risk of suicide after an infectious disease-related public health emergency? 2) What can we learn from previous infectious disease-related public health emergencies about the likely impact of the COVID-19 pandemic on the incidence of suicidal behavior, suicidal thoughts, and self-harm? 3) What can we learn from previous infectious disease-related public health emergencies about the likely effectiveness of different interventions to mitigate the impact of the COVID-19 pandemic on the incidence of suicidal behavior, suicidal thoughts, and self-harm?

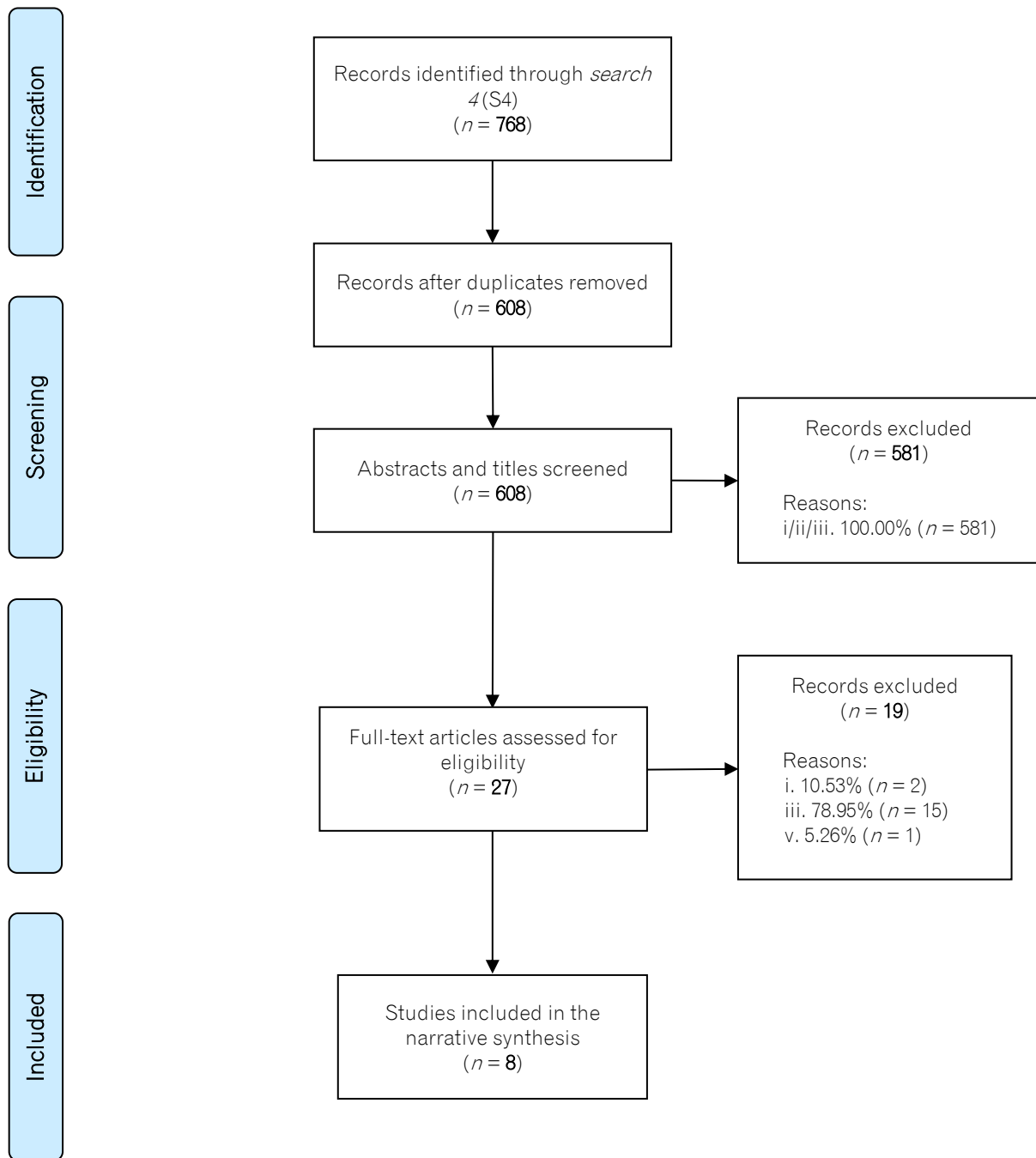
## PRISMA Diagrams

Figure A. PRISMA Diagram for Search 1 (S1) and Search 2 (S2)



Search 1 and 2 (S1 and S2) PRISMA Diagram: Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram. Reasons for exclusion: (i) the publication did not focus on suicidal behaviour, suicidal ideation and/or self-harm; (ii) the publication did not focus on any infectious disease-related public health emergency; (iii) The publication was excluded due to its publication type (not a primary study, systematic review, or meta-analysis); (iv) The publication did not contain empirical data eligible for data extraction and quality assessment; and (v) the publication was a duplicate of another in the study pool, missed in the initial duplicate removal.

**Figure B. PRISMA Diagram for Search 4 (S4)**



Search 4 (S4) PRISMA Diagram: Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram. Reasons for exclusion: (i) the publication did not focus on suicidal behaviour, suicidal ideation and/or self-harm; (ii) the publication did not focus on any infectious disease-related public health emergency; (iii) The publication was excluded due to its publication type (not a primary study, systematic review, or meta-analysis); (iv) The publication did not contain empirical data eligible for data extraction and quality assessment; and (v) the publication was a duplicate of another in the study pool, missed in the initial duplicate removal.

# Full Search Strategy

## Searches

### Main search

MEDLINE and EMBASE were searched using keywords and the appropriate subject headings:

MEDLINE (Ovid) Search History

<input type="checkbox"/>	1	exp Suicide/ or suicide.mp.	85129	Advanced
<input type="checkbox"/>	2	suicides.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	7879	Advanced
<input type="checkbox"/>	3	exp Self-Injurious Behavior/ or self-harm.mp.	72295	Advanced
<input type="checkbox"/>	4	("self-injurious behavior" or "self injurious behavior" or "self-injurious behaviour" or "self injurious behaviour").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	8570	Advanced
<input type="checkbox"/>	5	"self harm".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	5597	Advanced
<input type="checkbox"/>	6	self-injury.mp.	2928	Advanced
<input type="checkbox"/>	7	"self injury".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	2928	Advanced
<input type="checkbox"/>	8	suicidal ideation.mp. or exp Suicidal Ideation/	12947	Advanced
<input type="checkbox"/>	9	self-poisoning.mp.	1705	Advanced
<input type="checkbox"/>	10	"self poisoning".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1705	Advanced
<input type="checkbox"/>	11	suicidal poisoning.mp.	176	Advanced
<input type="checkbox"/>	12	suicidal.mp.	29469	Advanced
<input type="checkbox"/>	13	("suicidal overdose" or "intentional overdose" or "intentional drug overdose").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	326	Advanced
<input type="checkbox"/>	14	automutilation.mp.	102	Advanced

<input type="checkbox"/>	15	auto-mutilation.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	21	Advanced
<input type="checkbox"/>	16	self mutilation.mp. or exp Self Mutilation/	3823	Advanced
<input type="checkbox"/>	17	self-mutilation.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	3823	Advanced
<input type="checkbox"/>	18	parasuicide.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	486	Advanced
<input type="checkbox"/>	19	suicidal thoughts.mp.	2583	Advanced
<input type="checkbox"/>	20	suicidal thought.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	85	Advanced
<input type="checkbox"/>	21	self-cutting.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	182	Advanced
<input type="checkbox"/>	22	"self cutting".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	182	Advanced
<input type="checkbox"/>	23	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	103016	Advanced
<input type="checkbox"/>	24	pandemic.mp. or Pandemics/	29306	Advanced
<input type="checkbox"/>	25	pandemics.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	10064	Advanced
<input type="checkbox"/>	26	epidemic.mp. or exp Epidemics/	99581	Advanced
<input type="checkbox"/>	27	epidemics.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	29897	Advanced
<input type="checkbox"/>	28	outbreaks.mp. or exp Disease Outbreaks/	124672	Advanced
<input type="checkbox"/>	29	outbreak.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	58600	Advanced
<input type="checkbox"/>	30	public health emergency.mp.	1647	Advanced
<input type="checkbox"/>	31	"public health emergencies".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	785	Advanced
<input type="checkbox"/>	32	24 or 25 or 26 or 27 or 28 or 29 or 30 or 31	232905	Advanced
<input type="checkbox"/>	33	influenza.mp. or exp Influenza, Human/	110126	Advanced
<input type="checkbox"/>	34	Influenza A Virus.mp. or exp Influenza A virus/	46436	Advanced
<input type="checkbox"/>	35	influenza pandemic.mp.	3352	Advanced
<input type="checkbox"/>	36	H2N2.mp.	672	Advanced
<input type="checkbox"/>	37	H3N2.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	7721	Advanced
<input type="checkbox"/>	38	exp Influenza Pandemic, 1918-1919/ or Spanish flu.mp.	307	Advanced
<input type="checkbox"/>	39	Asian flu.mp.	44	Advanced
<input type="checkbox"/>	40	Hong Kong flu.mp.	30	Advanced
<input type="checkbox"/>	41	exp Ebolavirus/ or exp Hemorrhagic Fever, Ebola/ or Ebola.mp.	9132	Advanced
<input type="checkbox"/>	42	exp SARS Virus/ or SARS.mp. or exp Severe Acute Respiratory Syndrome/	13542	Advanced
<input type="checkbox"/>	43	"Severe acute respiratory syndrome".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	10036	Advanced
<input type="checkbox"/>	44	exp Coronavirus Infections/ or exp Coronavirus/ or Coronavirus.mp.	24815	Advanced
<input type="checkbox"/>	45	MERS.mp. or exp Middle East Respiratory Syndrome Coronavirus/	4675	Advanced



<input type="checkbox"/>	46	"Middle East Respiratory Syndrome".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	2206	Advanced
<input type="checkbox"/>	47	Covid.mp. or exp Betacoronavirus/	17705	Advanced
<input type="checkbox"/>	48	Betacoronavirus.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	2569	Advanced
<input type="checkbox"/>	49	covid-19.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	11328	Advanced
<input type="checkbox"/>	50	Swine flu.mp.	956	Advanced
<input type="checkbox"/>	51	exp Zika Virus Infection/ or exp Zika Virus/ or zika.mp.	7790	Advanced
<input type="checkbox"/>	52	Arbovirus.mp. or exp Arboviruses/	9334	Advanced
<input type="checkbox"/>	53	Arboviruses.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	5816	Advanced
<input type="checkbox"/>	54	Dengue.mp. or exp Dengue/ or exp Severe Dengue/ or exp Dengue Virus/	22867	Advanced
<input type="checkbox"/>	55	Yellow Fever/ or Yellow fever.mp.	6871	Advanced
<input type="checkbox"/>	56	Hemorrhagic fever.mp.	13929	Advanced
<input type="checkbox"/>	57	Haemorrhagic fever.mp.	2098	Advanced
<input type="checkbox"/>	58	exp Encephalitis/ or Encephalitis.mp.	66978	Advanced
<input type="checkbox"/>	59	exp Plague/ or Plague.mp.	10458	Advanced
<input type="checkbox"/>	60	Bubonic plague.mp.	555	Advanced
<input type="checkbox"/>	61	exp Smallpox/ or Smallpox.mp.	9866	Advanced
<input type="checkbox"/>	62	"small pox".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	735	Advanced
<input type="checkbox"/>	63	H1N1.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	20940	Advanced
<input type="checkbox"/>	64	H7N9.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1920	Advanced
<input type="checkbox"/>	65	SARS-CoV-3.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	2	Advanced
<input type="checkbox"/>	66	exp Chikungunya virus/ or exp Chikungunya Fever/ or Chikungunya.mp.	5489	Advanced
<input type="checkbox"/>	67	Cholera.mp. or exp Cholera/	27528	Advanced
<input type="checkbox"/>	68	("Crimean-Congo haemorrhagic fever" or "Crimean Congo haemorrhagic fever" or "Crimean-Congo hemorrhagic fever" or "Crimean Congo hemorrhagic fever").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1394	Advanced
<input type="checkbox"/>	69	Hendra virus.mp. or exp Hendra Virus/	473	Advanced
<input type="checkbox"/>	70	Lassa fever.mp. or exp Lassa Fever/	1029	Advanced
<input type="checkbox"/>	71	exp Marburgvirus/ or exp Marburg Virus Disease/ or Marburg.mp.	2356	Advanced
<input type="checkbox"/>	72	Meningitis.mp. or exp Meningitis/	75429	Advanced
<input type="checkbox"/>	73	MERS-CoV.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1766	Advanced
<input type="checkbox"/>	74	exp Monkeypox virus/ or exp Monkeypox/ or Monkeypox.mp.	801	Advanced
<input type="checkbox"/>	75	Nipah virus.mp. or exp Nipah Virus/	892	Advanced
<input type="checkbox"/>	76	Rift valley fever.mp. or exp Rift Valley Fever/	1974	Advanced
<input type="checkbox"/>	77	exp Tularemia/ or Tularaemia.mp.	3486	Advanced

<input type="checkbox"/>	78	Tularemia.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	4114	Advanced
<input type="checkbox"/>	79	33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78	376006	Advanced
<input type="checkbox"/>	80	23 and 32 and 79	59	Advanced
<input type="checkbox"/>	81	23 and 79	362	Advanced
<input type="checkbox"/>	82	80 or 81	362	Advanced

### EMBASE (Ovid) Search History

<input type="checkbox"/>	1	exp suicide/ or Suicide.mp.	112332	Advanced
<input type="checkbox"/>	2	"suicides".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]	10398	Advanced
<input type="checkbox"/>	3	self-harm.mp. or exp automutilation/	21146	Advanced
<input type="checkbox"/>	4	Self-injurious behaviour.mp.	567	Advanced
<input type="checkbox"/>	5	self-injury.mp.	3649	Advanced
<input type="checkbox"/>	6	("self harm" or "self injurious behaviour" or "self-injurious behavior" or "self injurious behavior").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]	9792	Advanced
<input type="checkbox"/>	7	Suicidal Ideation.mp. or exp suicidal ideation/	23700	Advanced
<input type="checkbox"/>	8	self-poisoning.mp. or exp self poisoning/	3038	Advanced
<input type="checkbox"/>	9	("self poisoning" or "suicidal poisoning").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]	3318	Advanced
<input type="checkbox"/>	10	"suicidal".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]	52319	Advanced
<input type="checkbox"/>	11	("suicidal overdose" or "intentional overdose" or "intentional drug overdose").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]	537	Advanced
<input type="checkbox"/>	12	("auto mutilation" or "auto-mutilation" or "self mutilation" or "self-mutilation").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]	2076	Advanced
<input type="checkbox"/>	13	parasuicide.mp.	678	Advanced
<input type="checkbox"/>	14	("suicidal thoughts" or "suicidal thought").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]	3462	Advanced
<input type="checkbox"/>	15	self-cutting.mp.	244	Advanced
<input type="checkbox"/>	16	self cutting.mp.	244	Advanced
<input type="checkbox"/>	17	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	148859	Advanced
<input type="checkbox"/>	18	exp pandemic influenza/ or exp pandemic/ or pandemic.mp.	33973	Advanced
<input type="checkbox"/>	19	"pandemics".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]	4036	Advanced
<input type="checkbox"/>	20	epidemic.mp. or exp epidemic/	186709	Advanced
<input type="checkbox"/>	21	"epidemics".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]	26367	Advanced
<input type="checkbox"/>	22	outbreak.mp.	68760	Advanced
<input type="checkbox"/>	23	"outbreaks".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]	54783	Advanced
<input type="checkbox"/>	24	public health emergency.mp.	1748	Advanced
<input type="checkbox"/>	25	"public health emergencies".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]	775	Advanced
<input type="checkbox"/>	26	18 or 19 or 20 or 21 or 22 or 23 or 24 or 25	282275	Advanced
<input type="checkbox"/>	27	exp influenza/ or Influenza.mp. or exp influenza A/	163099	Advanced
<input type="checkbox"/>	28	"influenza pandemic".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]	3862	Advanced



<input type="checkbox"/>	29	H2N2.mp. or exp "Influenza A virus (H2N2)"/	1695	Advanced
<input type="checkbox"/>	30	H3N2.mp. or exp "Influenza A virus (H3N2)"/	10509	Advanced
<input type="checkbox"/>	31	spanish flu.mp. or exp Spanish influenza/	654	Advanced
<input type="checkbox"/>	32	"spanish influenza".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]	655	Advanced
<input type="checkbox"/>	33	asian flu.mp. or exp Asian influenza/	443	Advanced
<input type="checkbox"/>	34	hong kong flu.mp. or exp Hong Kong influenza/	263	Advanced
<input type="checkbox"/>	35	("asian influenza" or "hong kong influenza").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]	957	Advanced
<input type="checkbox"/>	36	ebola.mp. or exp Ebola hemorrhagic fever/	11671	Advanced
<input type="checkbox"/>	37	SARS.mp. or exp severe acute respiratory syndrome/	16466	Advanced
<input type="checkbox"/>	38	"severe acute respiratory syndrome".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]	11795	Advanced
<input type="checkbox"/>	39	Covid.mp.	7105	Advanced
<input type="checkbox"/>	40	coronavirus.mp. or exp Coronavirinae/	26244	Advanced
<input type="checkbox"/>	41	"Covid-19".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]	7050	Advanced
<input type="checkbox"/>	42	MERS.mp.	4894	Advanced
<input type="checkbox"/>	43	middle east respiratory syndrome.mp. or exp Middle East respiratory syndrome/	3006	Advanced
<input type="checkbox"/>	44	swine flu.mp. or exp swine influenza/	1984	Advanced
<input type="checkbox"/>	45	"swine influenza".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]	3108	Advanced
<input type="checkbox"/>	46	exp Zika virus/ or zika.mp. or exp Zika fever/	10344	Advanced
<input type="checkbox"/>	47	Arbovirus.mp. or exp Arbovirus/	9399	Advanced
<input type="checkbox"/>	48	Dengue.mp. or exp dengue/ or exp Dengue virus/ or exp severe dengue/	32632	Advanced
<input type="checkbox"/>	49	yellow fever.mp. or exp yellow fever/	10142	Advanced
<input type="checkbox"/>	50	hemorrhagic fever.mp. or exp hemorrhagic fever/	25962	Advanced
<input type="checkbox"/>	51	"haemorrhagic fever".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]	2864	Advanced
<input type="checkbox"/>	52	encephalitis.mp. or exp encephalitis/	136154	Advanced
<input type="checkbox"/>	53	exp plague/ or plague.mp.	13519	Advanced
<input type="checkbox"/>	54	"bubonic plague".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]	646	Advanced
<input type="checkbox"/>	55	smallpox.mp. or exp smallpox/ or exp Smallpox virus/	14934	Advanced
<input type="checkbox"/>	56	"small pox".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]	400	Advanced
<input type="checkbox"/>	57	("H1N1" or "H7N9" or "SARS-COV-3").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]	30803	Advanced
<input type="checkbox"/>	58	chikungunya.mp. or exp Chikungunya virus/ or exp chikungunya/	8143	Advanced
<input type="checkbox"/>	59	exp cholera/ or cholera.mp.	33314	Advanced
<input type="checkbox"/>	60	Hendra virus.mp. or exp Hendra virus/	677	Advanced
<input type="checkbox"/>	61	Lassa Fever.mp. or exp Lassa fever/	1289	Advanced
<input type="checkbox"/>	62	exp Marburg hemorrhagic fever/ or Marburg.mp. or exp Marburg virus/	3723	Advanced

<input type="checkbox"/>	63	exp meningitis/ or meningitis.mp.	122368	Advanced
<input type="checkbox"/>	64	"MERS-CoV".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]	1831	Advanced
<input type="checkbox"/>	65	Monkeypox.mp. or exp monkeypox/ or exp Monkeypox virus/	1148	Advanced
<input type="checkbox"/>	66	Nipah Virus.mp. or exp Nipah virus/	1314	Advanced
<input type="checkbox"/>	67	Rift Valley Fever.mp. or exp Rift Valley fever/	2498	Advanced
<input type="checkbox"/>	68	Tularemia.mp. or exp tularemia/	5187	Advanced
<input type="checkbox"/>	69	"tularaemia".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]	846	Advanced
<input type="checkbox"/>	70	27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69	552000	Advanced
<input type="checkbox"/>	71	17 and 26 and 70	122	Advanced
<input type="checkbox"/>	72	17 and 70	1393	Advanced
<input type="checkbox"/>	73	71 or 72	1393	Advanced

A keyword search was conducted in PsycInfo, PsycArticles, CINAHL, Scopus, and Web of Science (including Web of Science Core Collection, BIOSIS Citation Index, BIOSIS Previews, CABI: CAB Abstracts, Current Contents Connect, Data Citation Index, Derwent Innovations Index, KCI-Korean Journal Database, Russian Science Citation Index, SciELO Citation Index, Zoological Record) using the following search strategy:

- Concept #1: Suicide.

Suicide OR suicides OR self-harm OR "self harm" OR "self injury" OR self-injury OR "self-injurious behavior" OR "self-injurious behaviour" OR "self injurious behavior" OR "self injurious behaviour" OR "self cutting" OR self-cutting OR "suicide ideation" OR "suicidal ideation" OR "self poisoning" OR self-poisoning OR "suicidal poisoning" OR suicidal OR "suicidal overdose" OR "intentional drug overdose" OR "intentional overdose" OR automutilation OR auto-mutilation OR "self mutilation" OR self-mutilation OR parasuicide OR "suicidal thought" OR "suicidal thoughts"

- Concept #2: Pandemic.

Pandemic OR Pandemics OR Epidemic OR Epidemics OR Outbreak OR Outbreaks OR "Disease outbreaks" OR "Public health emergency" OR "Public health emergencies"

- Concept #3: Viruses and other infectious diseases.

Influenza OR "influenza A virus" OR "influenza pandemic" OR h2n2 OR h3n2 OR "Spanish flu" OR "Asian flu" OR "hong kong flu" OR ebola OR sars OR "severe acute respiratory syndrome" OR coronavirus OR "coronavirus infection" OR mers OR "middle east respiratory syndrome" OR covid OR betacoronavirus OR covid-19 OR "swine flu" OR zika OR arbovirus OR arboviruses OR dengue OR "yellow fever" OR "hemorrhagic fever" OR "haemorrhagic fever" OR encephalitis OR plague OR "sars virus" OR "zika virus" OR "zika virus infection" OR "bubonic plague" OR smallpox OR "small pox" OR h1n1 OR h7n9 OR chikungunya OR cholera OR "Crimean-congo hemorrhagic fever" OR "Crimean-congo haemorrhagic fever" OR "Crimean congo hemorrhagic fever" OR "Crimean congo haemorrhagic fever" OR "Hendra virus" OR "lassa fever" OR Marburg OR meningitis OR mers-cov OR monkeypox OR "nipah virus" OR "rift valley fever" OR tularaemia OR tularemia

*Strategy* = (Concept #1 AND Concept #2 AND Concept #3) OR (Concept #1 AND Concept #3).

## Grey literature search

A complementary search of preprints on the current pandemic was conducted in *PsyArXiv*, *medRxiv*, and *bioRxiv*.

- Concept #1: Suicide.

Suicide OR Suicides OR Self-harm OR Self-injury OR "Self-injurious behaviour" OR "Self-injurious behavior" OR "Suicidal ideation" OR Self-poisoning OR "Self poisoning" OR "Suicidal poisoning" OR automutilation OR "suicidal overdose" OR "Self harm" OR "Self injury" OR "Self mutilation" OR Self-mutilation OR Parasuicide OR "Intentional drug overdose" OR "Suicidal thoughts" OR "Suicidal thought" OR Self-cutting OR "Self cutting"

- Concept #2: COVID-19.

covid-19 OR coronavirus OR 2019-ncov OR sars-cov-2 OR cov-19

*Strategy* = (Concept #1 AND Concept #2)

## Inter-rater Reliability Analysis

**Table A. Cohen's kappa estimates**

Stage 1 - Titles and abstracts screening							
Pair	<i>n</i> Abstracts	<i>Z</i>	<i>p</i>	<i>Cohen's kappa</i>	95% CI	% agree	Judgement
1	242	0.88	0.187	0.39	−0.28; 1.07	98.7	Fair
2	229	4.30	< 0.0001	0.55	0.37; 0.73	90.8	Moderate
3	223	3.25	< 0.0001	0.64	0.40; 0.88	96.4	Substantial
Stage 2 - Full text screening							
Pair	<i>n</i> Papers	<i>Z</i>	<i>p</i>	<i>Cohen's kappa</i>	95% CI	% agree	Judgement
4	10	–	–	–	–	100	Full agreement
5	10	–	–	–	–	100	Full agreement
6	9	1.15	0.124	0.61	−0.09; 1.33	90	Substantial

*Note:* Pairs: 1 = CB & MMT; 2 = NEE & HMc; 3 = MJ & PC; 4 = EA & ROC; 5 = NEE & PL; 6 = SH & YC. Judgement: The judgement for the estimated kappa about the extent of agreement (Landis & Koch, 1977): If *kappa* is less than 0, "No agreement", if 0–0.2, "Slight agreement", if 0.2–0.4, "Fair agreement", if 0.4–0.6, "Moderate agreement", if 0.6–0.8, "Substantial agreement", if 0.8–1.0, "Almost perfect agreement".

All disagreements at stage 1 were resolved through discussions between pairs. A third referee (CB) assessed the eligibility of one publication that remained in disagreement for pair 6 (Falster et al., 2009), and decided upon its exclusion: the paper is outside of the scope of infectious disease-related public health emergencies, and suicide is not a primary condition.

# Data Extraction Tool

**Table B. Data extraction tool**

Title:	
Authors:	
Journal:	Year:
Keywords:	
Aims:	
Study Design:	

*Sample:*

N:	Mean age & age range:	Country:	Gender: M =	F =	Other =
Sample:					
Inclusion criteria:					
Exclusion criteria:					
Ethnicity:					
Sexuality:					
Study period (not the publication date):					

*Measures:*

Suicidal thoughts and behaviors (including fatal Suicide attempt)

What was measured? (Constructs): (1) Suicide; (2) Suicidal thoughts/ideation; (3) Non-fatal self-harm (including suicide attempts).

Instrument: (1) Self-administered; (2) Experimenter/Interviewer Administered; (3) Surveillance/routine data?:

Self-harm (including fatal Self-harm)

What was measured? (Constructs): (1) Self-harm; (2) Self-harm thoughts/ideation

Instrument: (1) Self-administered or (2) Experimenter/ Administered?:

Public Health Emergency

What was it?

How was it assessed?

Main public health responses:

*Results:*

Main findings:

Effect sizes (specify type of effect size):

Potential mechanisms/Pathways to suicide/self-harm/other mental health co-morbidities:

Author's Interpretations:

Author's Limitations:

Reviewer's comments:



## Quality Assessment Framework

**Table C. Quality assessment form**

	Not adequate (Score = 0)	Adequate (Score = 1)	Very good (Score = 2)	Score
<b>Research design</b>	Cross-sectional; Case study or other brief comment material;	Longitudinal (retrospective); Observational;	Longitudinal (prospective); Randomized Controlled Trial;	
<b>Measurement of suicide-related outcome</b>	Non-validated scale or other means of self- report (e.g. single question)	Hospital admission where intent has not been established; suicide items from a validated diagnostic/ mood rating scale (e.g. HDRS, BDI, SADS).	Clinical interview; validated suicide scale (e.g. SIS, SAS); hospital admission where intent has been established; death certificate/cause of death register	
<b>Relationship between public health emergency and outcome</b>	Poor quality evidence  No baseline; No control for confounders	Good quality of evidence.  Has baseline; No control for confounders	Very good quality evidence  Consideration for temporal relationship	
<b>Study sample</b>	Unrepresentative of target population	Representative of target population (at baseline)	Representative of target population (throughout data collection phase of study, consideration of attrition)	
<b>Are the analyses sufficiently powered/is power relevant</b>	No.  Insufficiently powered; Power is not reported	Yes  Power is reported and acceptable	-	
<b>Total</b>				

Note. Adapted from O'Connor and colleagues (2016).

## Additional Publications on the COVID-19 Pandemic and Suicide-Related Outcomes

### Preprint

Our complementary search of grey literature identified one preprint (Ammerman, Burke, Jacobucci, & McClure, 2020) (publication under peer-review; Table D). The results suggest that physical safety concerns and general distress due to COVID-19 were associated with increased past-month suicidal ideation, whereas changes to daily routine resulting from COVID-19 social distancing policies were associated with decreased past-month suicidal ideation. COVID-19-related experiences, such as general distress or the effects of social distancing policies, were associated with increased past-month attempted suicide (adjusted for age, gender, ethnicity, and past-month suicidal ideation). The investigators also reported that individuals who intentionally exposed themselves to COVID-19 were more likely to report past-month suicidal ideation and past-month suicide attempt(s).

**Table D. Characteristics of included pre-print.**

Study, Country, and study period	Population		Public Health Emergency		Suicide / Self-harm	Main findings	Quality assessment
	Sample / Source	Sex / Age	Exposure / Measures	Main public health responses	Outcomes / Measures		
Ammerman et al. (2020) [USA] Study period: 3-4 April 2020.	N = 907 General population via Amazon Mechanical Turk.	Gender: M = 511; F = 387. Age: Mean = 36.43 (18-74).	Exposure: COVID-19 pandemic. Measures: COVID-19-related experiences (e.g., exposure, distress about the disease, etc.) and intentional COVID-19 exposure.	Social distancing, stay-at-home orders.	Outcomes: Suicidal ideation, suicide attempt. Measures: Self-report items (two modified, face-valid items from the Self-Injurious Thoughts and Behaviors Interview by Nock et al. (2007).	Physical safety concerns and general distress due to COVID-19 were positively associated with past-month suicidal ideation ( $r = 0.45$ , $p < 0.01$ ). Daily routine impacts due to COVID-19 social distancing policies were negatively associated with past-month suicidal ideation. 45% of participants endorsing past-month suicidal thoughts reported their thoughts were explicitly linked to COVID-19. Individuals who intentionally exposed themselves to COVID-19 were more likely to report past-month suicidal ideation ( $\chi^2(1) = 64.16$ , $p < 0.001$ , $V = 0.27$ ) and past-month suicide attempt(s) ( $\chi^2(1) = 224.83$ , $p < 0.001$ , $V = 0.50$ ).	3

### **COVID-19 Case Studies**

Our search also identified a small number of case reports whose findings do not yet appear to have been replicated in well-designed trials but are nevertheless included here for completeness. These reports document additional potential associations between the COVID-19 pandemic and both suicide deaths and suicide attempts.

Four unique publications presenting ten cases of suicide-related outcomes in the context of epidemics were identified. One such report in India (Goyal, Chauhan, Chhikara, Gupta, & Singh, 2020) found that an individual took his own life after being informed by his doctor that he had contracted a viral illness, which he wrongly associated with COVID-19. In another report by Griffiths and Mamun (2020), a series of six cases (four from India, one from the Bangladesh, and one from the USA) illustrated suicidal behaviour among couples and suicide pacts from the press. The cases described were retrieved from the media, and involved couples who attempted or died by suicide in contexts associated with the COVID-19 pandemic, such as economic recession, psychological suffering, and movement restriction. The authors described some of the motivating factors for COVID-19-related suicides, including fear of infection, financial constraints resulting from economic recession associated with national lockdowns, harassment or victimization by others for having (or being thought to have) COVID-19, and the stress of being in isolation or quarantine.

In another report, Mamun and Griffiths (2020) described the case of a Bangladeshi man who thought he was infected with COVID-19 and took his own life after suffering severe prejudice and social avoidance by his village members. Two other cases of emergency department presentation due to attempted suicide in India were described by Sahoo and colleagues (2020), both related to apprehension of developing COVID-19, information overload, and psychological distress (anxiety and depressive symptoms). These reports highlight the role of the media (social media platforms, newspapers, radio/telecommunication services) in exacerbating fears around infection and a sense of panic among vulnerable populations.

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